



INVOICE

Invoice Number: HP43064
 Invoice Date: Dec 1, 2020
 Page: 1

720 South Richfield Road, Placentia, CA 92870
 657.275.9188 v 657.275.9357 f
 CA 683516

Bill To:		Job Information:	
CITY OF GARDEN GROVE ATT: ACCOUNTING DEPT. 11222 ACACIA PARKWAY GARDEN GROVE, CA 92840		SERVICE ORDER 58704/58614 DATE OF SERVICE 11/18/2020	
Customer ID	Customer PO	Payment Terms	Due Date
CGG100	B155314	Net 15 Days	12/16/20

Quantity	Office Code	Description	Unit Price	Amount
1.00		PROPOSAL 1211-174 REPLACE 15HP MOTOR AND VFD ON CT-2 SERVING CITY HALL LABOR AND MATERIALS AS PROPOSED SERVICE ORDER S 58704 DATED 11/18/2020 AND 58614 DATED 11/02/2020	18,978.25	18,978.25

Subtotal	18,978.25
Sales Tax	
Total Invoice Amount	18,978.25
Payment/Credit Applied	
Total	18,978.25

Payment is due in full per the payment terms on the front of the invoice. Invoice not paid as agreed are subject to a finance charge of 1.5% per month until paid in full. Should it become necessary to place this account an attorney for collection, Harbor Pointe shall be entitled to reimburse its actual attorneys fees and costs incurred whether a lawsuit is filed or not, and if it becomes necessary to file suit to collect on the invoice, Harbor Pointe shall be entitled to reasonable attorney's fees, costs monthly finance charges and interest at the legal rate from the date the invoice was due.

DATE: 11/18/2020

P.O. #

JOB # 1211-174



SERVICE ORDER

58704

720 South Richfield Road-Placentia-CA 92870

License No. 683516 Office: 657-275-9188 Fax: 657-275-9357 Toll Free:1-800-377-7911

FACILITY NAME City of Garden Grove	UNIT# C.T. 1	SERVING City Hall
ADDRESS 11222 Acacia Parkway	MFG. Evapco	REFRIGERANT N/A
CITY Garden Grove STATE Ca ZIP 92840	MODEL LSTA493	
	SERIAL# 10402404	
	MOTOR MAKE Web	HP 15

JOB DESCRIPTION: Remove and Replace VFD

DETAILED REPORT:

Located and picked up new VFD. Pre prepped the drive for installation. Shut down the chiller then shut down the drive. Isolate electrical and removed inlet and outlet power. Disconnect all control wiring and EMS wiring, removed the existing drive. Install new drive and secured it to the wall frame. Connected in and out power wires. Connect all EMS and control wires. Power up drive and installed all input motor parameters. Start chiller and drive and checked operation. Unit is now running normal and is back in service.

MAINTENANCE INSPECTION CHECK LIST

Check Filters	Check Boiler/Furnace	Oil/Check Dampers
Change Filters	Clean Air Cool Condensers	Check Exp. Valve Operation
Lube Moving Parts	Check operating pressures of cond. Units	Check Condensate Drains
Tighten Belts	Check Heat/Cool Operation	Check Control Operation
Check Oil Levels	Check Water Treatment	Check Safety Devices
Drain/Flush Tower/Evap. If Necessary	Test For Leaks	Clean Up Equipment

RECORD OF MATERIAL USED

QUAN.	DESCRIPTION	AMOUNT
1	Box #10 x 1-1/2 Tex screws	
1	Box no Med mask	
2	Bi metal set 10 piece.	
1	ACH 550 FVD speed drive/w bypas	
1	Elect tape	
3	Large blue wire nuts	
	combine 30 58614	
	N/ 3058704	
	for total	
	proposal 1211-174.	
	TOTAL	

HOURS

ENGINEER	DATE	STRAIGHT	O' TIME	TOTAL
Bill F.	11/18/2020	4		
Bill F.	11/20/2020	8		
ABOVE ORDER COMPLETED SATISFACTORY BY <u>Mike [Signature]</u>			AMOUNT	
DEPT.			REF. REC.	
SERVICE ENGINEER	BILL F		PM	
			Proposal	
			1211-174	18,978.25
CHANGE ORDER		LABOR		
CHARGE		TRUCK FEE		
CONTRACT		MATERIAL		
WARRANTY		SALES TAX		
		TOTAL		18,978.25

DATE: 11/2/2020



SERVICE ORDER

58614

P.O. # _____

JOB # 1211-173

720 South Richfield Road-Placentia-CA 92870

License No. 683516 Office: 657-275-9188 Fax: 657-275-9357 Toll Free: 1-800-377-7911

FACILITY NAME <u>CITY OF GARDEN GROVE</u>	UNIT# <u>1</u>	SERVING <u>CENTRAL PLANT</u>
ADDRESS <u>11222 ACACIA PARKWAY</u>	MFG. <u>EVAPCO</u>	REFRIGERANT _____
CITY <u>GARDEN GROVE</u> STATE <u>CA.</u> ZIP <u>92840</u>	MODEL <u>LSTA 493</u>	SERIAL# <u>10402404</u> MOTOR SERIAL # <u>1054594696</u>
	MOTOR MAKE <u>WEG</u> MODEL <u>01518ET3E254T-SG</u>	HP <u>15</u>

JOB DESCRIPTION: EVAPCO COOLING TOWER FAN MOTOR VFD OVER-AMPING.

DETAILED REPORT:

INSPECTED EVAPCO COOLING TOWER FAN MOTOR FOR OVER-AMPING ALARM FAILURES. DISCOVERED ABB VFD HAD TRIPPED ON A CODE #1210 OVERAMP ALARM. CHECKED VOLTAGE TO THE DRIVE WHICH INDICATED 208 VOLTS. CHECKED MOTOR WINDINGS AND DETECTED A SHORTED L-3 LEG. MEGGARED MOTOR WINDINGS AND CONFIRMED THAT THE WINDINGS WERE SHORTED. ISOLATED ELECTRICAL COMPONENTS AND REMOVED THE MOTOR. REINSTALLED A UPGRADED VFD RATED 15HP DRIPPROOF MOTOR, REPLACED DRIVE PULLEY AND FAN BELTS AS WELL. PERFORMED STARTUP AND RAMPED DRIVE TO FULL LOAD AMPS WHICH IMMEDIATELY FAILED TO OVER-AMP ALARM. ATTEMPTED TO PERFORM RESETS TO THE PROGRAMMING BUT THE ALARMS RE- OCCURED. REMOVED DRIVE PANEL AND DISCOVERED THE L-3 HAD DISINTEGRATED. ISOLATED ELECTRICAL CIRCUITS AND PUT THE SYSTEM IN BYPASS OPERATION. RESTORED THE COOLING TOWER FUNCTION WHICH OPERATED NORMALLY. ACTIVATED THE CHILLER AND ALL OTHER COOLING CONTROLS. WILL CHECK ON MANUFACTURER AVAILABILITY OF A REPLACEMENT DRIVE AND BYPASS.

MAINTENANCE INSPECTION CHECK LIST

Check Filters		Check Boiler/Furnace		Oil/Check Dampers	
Change Filters		Clean Air Cool Condensers		Check Exp. Valve Operation	
Lube Moving Parts	✓	Check operating pressures of cond. Units	✓	Check Condensate Drains	
Tighten Belts	✓	Check Heat/Cool Operation	✓	Check Control Operation	✓
Check Oil Levels		Check Water Treatment		Check Safety Devices	✓
Drain/Flush Tower/Evap. If Necessary		Test For Leaks		Clean Up Equipment	✓

RECORD OF MATERIAL USED

QUAN.	DESCRIPTION	AMOUNT
1	DREM. 4000	
2	15A IVO. 2 TERMINAL	
1	15A IVO. 3 TERMINAL	
1	PK. 1 1X4 LOCKNUTS	
1	PK. 2" X 1 1X4 WASHERS	
1	15 HP FAN MOTOR FR254T	
	RPM 1770 VOLTS 208 3 PHASE	
	AMPS 18.2 SF 1.15	
3	B-81 VBELTS	
1	7 3/8 PULLEY 3B5V70D	
1	B X 1 5/8 BUSHING	
1	PK #6 WIRE TERMINALS (T.S.)	
1	PK. #10 WIRE NUTS (T.S.)	
	TOTAL	

HOURS

ENGINEER	DATE	STRAIGHT	O' TIME	TOTAL
GREG	11/2/2020	8	4	
BILL	11/2/2020	4	4	
ROBERT	11/2/2020	1	4	
BILL	11/3/2020	2		
ABOVE ORDER COMPLETED SATISFACTORY BY <u>X</u> DEPT. SERVICE _____ SERVICE ENGINEER <u>Shea Perry</u>		AMOUNT		
		REF. REC.		
		PM		
		LABOR		
CHANGE ORDER		TRUCK FEE		
CHARGE		MATERIAL		
CONTRACT		SALES TAX		
WARRANTY		TOTAL		

