



Job Detail Transaction Report

Service Request Number	1-85166230275
LOB / SR Type / Subtype	HVAC-Equipment / L&M / Custom Quote
Service Site	DUPONT EXPERIMENTAL STATION DUPONT EXPERIMENTAL

Report Date 06/09/2019

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SERVICE REQUEST (SR):

Status: Closed
Substatus: Closed
Hold Reason Code:
Hold Effective Date:
Agreement #:
Entitlement:
Priority: Routine
Requester: Cozza, Raul
Service Address: RT 141 LANCASTER PIKE
WILMINGTON, DE, 19880-0000
Main Phone: (302) 218-9257
Work Phone: (302) 695-7842
Mobile Phone: (302) 218-9898
Email Address: raul.j.cozza@dupont.com

Branch: JOHNSON CONTROLS SALISBURY
WILMINGTON CB - 0N28
Team: 260 Delmarva North Team SVC
SR Owner: Dolphin, Lynn
Created By: Dolphin, Lynn

Bill To Account: E I DUPONT DENEMOURS CO
AR Number: 1325779
PO #: 2600050895
Blanket PO #:
Work Order #:
Authorization #:
Tracking #:
Quoted Amount: \$18,996.00

FINANCIAL SUMMARY	
Work In Progress (WIP)	
WIP - Labor	\$0.00
WIP - Expense	\$0.00
WIP - Materials	\$0.00
WIP - SubContract	\$0.00
WIP - Fee Charges	\$0.00
Total WIP	\$0.00
Cost of Goods Sold (COGS):	
COGS - Labor	\$10,644.71
COGS - Expense	\$0.00
COGS - Materials	\$585.38
COGS - SubContract	\$0.00
COGS - Fee Charges	\$62.40
Total COGS	\$11,292.49
Revenue \$	\$18,996.00
Margin \$	\$7,703.51
Margin %	41%

(Note: The revenue and margin section are populated if revenue has been posted)

2600050895
CHILLER #7 ANNUAL MAINTENANCE (2019 YEAR-START)

Service Requested:

REFRIGERANT LEAK TEST Chiller and DOCUMENT LEAKS found (repair "minor" leaks, if possible)
TAKE an ADDITIONAL Refrigerant Sample for Analysis to Confirm High Moisture Content Discovered by the Original Sample taken
TRANSFER R-134A Charge to Storage Tank & Record Total Weight (Leaving 5psi on Chiller)
ASSIST DuPont's Instrumentation Techs with the REMOVAL, CALIBRATION, & REINSTALLATION of CHILLER's Pressure Transducers & RTD Temp Sensors
FURNISH and INSTALL Compressor Oil Filters, and ALL REFRIG FILTER-DRIERS
FURNISH and INSTALL Gearbox Oil Filters and Oil (*Gear/Motor Oil furnished by DuPont*)
INSPECT Gears and Internal Gearbox Components
DISASSEMBLE Motor Coupling, CLEAN, MEASURE/RECORD Cold Alignment
REPACK Motor Coupling with Grease and REASSEMBLE
DISASSEMBLE Compressor Coupling and CLEAN
MEASURE/RECORD Compressor Axial Thrust & Coupling Cold Alignment, REASSEMBLE Coupling
VACUUM out Compressor Motor
BRUSH CLEAN all Oil Cooler Tubes (Gear & Compressor)
PERFORM Maintenance/Calibration on VANE ACTUATOR, INTERSTAGE, & HOT GAS Valves
TRANSFER R-134A Charge back into Chiller & RECORD Quantity of Transfer
DOCUMENT all Tasks and Provide DuPont with a Comprehensive Report

SERVICE PERFORMED SUMMARY:



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ACTIVITY - SCHEDULED DATE:	Assigned Technician	Activity #	Service Provided	Asset ID	Customer Tag	Serial Number	Model Number
03/18/2019	Kevin Fraze	1-134HU502	<p>CHILLER #7 ANNUAL MAINTENANCE (2019 YEAR-START) JCI QUOTE#: 1-13001ZDN</p> <ul style="list-style-type: none"> • Prepped for job & ordered necessary material • Removed Refrigerant Sample from Evaporator while Chiller was running (04/02/2019). Shipped out to Lab for Chemical Analysis in order to confirm the High Moisture content (132 PPM) indicated by the Original Sample taken (12/28/2018) • 2nd Sample Report came back on 04/10/2019. Refrigerant Condition was reported as Normal and Moisture content (35 PPM) is well within the acceptable limit • REFRIGERANT LEAK TESTED the entire Chiller with Electronic Detector & Soap Bubbles (Static Refrigerant Pressure was approximately 70 PSIG) <p>LEAKS FOUND: [1] 1/2" Threaded Piping in Comp. Disch. Line for Transducer & Guage - Replaced w/ New Piping & Appropriate Sealant [2] Liquid Refrig Filter Drier Inlet & Outlet Angle Valve Packings - Cleaned Stems, Tightened Packings, Leaking Stopped [3] Evaporator 6" Sight Glass Packing Gland - Sight Glass will need to be replaced</p> <ul style="list-style-type: none"> • Performed Transfer of Chiller Charge into YORK Central Recovery Tank - TOTAL DESIGN CHARGE: 8,970 LBS - TOTAL R-134A RECOVERED: 8,030 LBS (04/19/2019) - DEFICIT = 940 LBS (10.47% LOW) - LAST DATE OF CONFIRMED FULL CHARGE: 01/18/2018 (457 Days) • Removed all of the Chiller's ASHCROFT Pressure Transducers & delivered to DuPont's Instrumentation Techs for Annual Calibration 	1-EIZYN96	CHILLER #7	MRP6269 04	OM3000
03/21/2019	Kevin Fraze	1-134ZLCPV	<ul style="list-style-type: none"> • Isolated Main Liquid Refrigerant Filter-Driers. Removed & Replaced w/ Sporlan RC10098 Cores • Replaced Head Gasket. Pressure Tested w/ Nitrogen. • Evacuated Canister & left a Nitrogen Holding Charge until Chiller Evacuation was performed • Replaced Oil Return Line Filter, and the Compressor Oil Filter used last season • Replaced Gearbox Oil Charge (Oil furnished by DuPont) • Replaced the Gearbox Oil Filter used last season • Inspected Oil Return System Components • Disassembled Low Speed Coupling Guard & Degreased Area • Disassembled Low Speed Coupling • Removed Old Grease, Cleaned Hubs & Sleeves, Inspected O-Ring and Gasket Seals • Removed HIGH Speed Coupling Guard • Disassembled, Inspected, & Cleaned the 3" YORK-FLEX Coupling 	1-EIZYN96	CHILLER #7	MRP6269 04	OM3000
03/25/2019	Kevin Fraze	1-134ZOOJ2	<p>Started DRIVELINE INSPECTION:</p> <ul style="list-style-type: none"> • COMPRESSOR AXIAL THRUST= 0.013" @ 0 PSIG • H.S. AXIAL SHIMS= 0.191" (0.096" + 0.095") 	1-EIZYN96	CHILLER #7	MRP6269 04	OM3000

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			<ul style="list-style-type: none"> • COMP/GEAR RIM SEPARATION (W/O SPACERS, SHAFTS PUSHED IN)= 0.248" • PINION GEAR FLOAT*= 0.085" • BULL GEAR FLOAT*= 0.050" • MOTOR SHAFT FLOAT*= 0.506" <p>*FLOAT Measurements were taken with BOTH Couplings UNCOUPLED*</p> <p>- CALCULATED AXIAL MISALIGNMENT= -0.002" (Within SPEC of +/- 0.025") - GEARBOX SHAFT RADIAL SEAL CLEARANCES are Currently 0.002"-0.003" over Max Spec of 0.004" (as Noted last year)</p> <ul style="list-style-type: none"> • Visually Inspected Gearbox Gears **Slight Radial Wear (approx 1" wide) on the Forward Side of Bull Gear Teeth remains from last year** **Gearbox Bearing Inspection is Recommended on next Annual** <ul style="list-style-type: none"> • Visually Checked Gear Oil Spray Pattern (Good) (Spray Pressure @ 12 psig) • Set Motor Oil Supply Pressure to 10 psig <ul style="list-style-type: none"> • MEASURED COLD ALIGNMENT of LOW SPEED SHAFT w/ LASER and HIGH SPEED SHAFT w/ DIALS • RECORDED for RECORDS <p>**HOT ALIGNMENT CHECK IS ALWAYS RECOMMENDED FOR BOTH***</p>				
03/28/2019	Kevin Fraze	1-134ZOOK5	<ul style="list-style-type: none"> • Re-Installed all of the Chiller's ASHCROFT Pressure Transducers (Calibration Checked and Recorded by DuPont Instrumentation) • Verified Operation and Calibrated both High Pressure Safety Switches (OPEN @ 185 PSIG on RISE / CLOSE @ 175 PSIG on FALL) • Inspected ALLEN BRADLEY Control System • Performed Maintenance/Calibration on VANE ACTUATOR, INTERSTAGE, & HOT GAS Valves <ul style="list-style-type: none"> • Drained, Cleaned, Flushed, Filled, & Vented Air on all Oil Coolers (Gear & Compressor) 	1-EIZYN96	CHILLER #7	MRP6269 04	OM3000
04/16/2019	Kevin Fraze	1-13FO6G5A	<ul style="list-style-type: none"> • Repacked Low Speed Coupling with Fresh Grease • Reassembled Coupling and Evenly Torqued to Rated Spec (100 Ft/Lbs) • Re-Installed Motor Coupling Guard • Cleaned Motor • Cleaned YORK-FLEX High Speed Coupling, Reassembled, Torqued to Rated Spec (100Ft/lbs) • Re-Installed High Speed Coupling Guard • Drained 5 Gallons of Shaft Seal Oil from Atmospheric Tank CALCULATED SHAFT SEAL LEAK RATE (since last Maintenance) = 3.214 ml/hr • ADDED 5 Gals. of NEW York "K" Oil to Comp. (Customer Supplied) to achieve 1/2 TSG 	1-EIZYN96	CHILLER #7	MRP6269 04	OM3000
05/24/2019	Kevin Fraze	1-13QRP46S		1-EIZYN96	CHILLER #7	MRP6269 04	OM3000
05/31/2019	Kevin Fraze	1-13M3X7NW	** NITROGEN PRESSURE TEST, EVACUATION, & VACUUM HOLD TEST were Performed and covered under SR# 1-85961918063 (" Evap Sight Glass Replacement") **	1-EIZYN96	CHILLER #7	MRP6269 04	OM3000

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			<p>** Due time constraints with the delivery of the New Sight-Glass, DuPont requested the Chiller be re-charged, made operational, and have the Sight Glass replaced at a later date **</p> <ul style="list-style-type: none"> • Transferred Full Design R-134A Charge back into CHILLER (05/22-23/2019) CURRENT TOTAL CHILLER CHARGE = 8,790LBS • DuPont Operators Started Chiller CHILLER STARTUP on 05/23/2019: CHILLER RUNTIME TOTAL= 87,995Hrs (DISPLAYED) / 89,740Hrs (ACTUAL) • CHILLER OPERATION is Currently STABLE <p>*** A more thorough Inspection of Performance is RECOMMENDED when Chiller Load can be increase to Max ***</p>				



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WIP - Work In Progress

WIP Labor

Date	Assigned Technician	Activity #	NxGen Row ID (Time Tracker)	Branch #	Labor Type / Cost Rate / Billing Product	Adjustment	Hours	Ext Amt
TOTAL - LABOR							0.00	\$0.00

WIP Expense

Date	Assigned Technician	Activity #	NxGen Row ID	Branch #	Expense Type	Adjustment	Qty.	Ext Amt
TOTAL - EXPENSE								\$0.00

WIP Material

Date	Vendor / Buy Site	Activity #	Adjustment	Order #	Type of Order	Product	Description	Qty.	UOM	Unit Cost	Ext Amt
TOTAL - MATERIAL											\$0.00

WIP SubContract

Date	Vendor / Buy Site	Activity #	Adjustment	Order #	Type of Order	Product	Description	Qty.	Ext Amt
TOTAL - SUB CONTRACT									\$0.00

WIP Fee-Charges

Date	Accounting Event Name	Activity #	NxGen Row ID (Fee Tracker)	Product	Adjustment	Qty.	Ext Amt	
TOTAL - FEE CHARGES							0.00	\$0.00



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COGS - Cost of Goods Sold

COGS Labor

Date	Assigned Technician	Activity #	NxGen Row ID (Time Tracker)	Branch #	Labor Type/Cost Rate/Billing Product	Adjustment	Hours	Ext Amt
03/18/2019	Kevin Frazee	1-134HU502	1-135VEXTG	0N28	Regular / Regular / Chiller Heavy		8.00	\$1,043.11
03/19/2019	Kevin Frazee	1-134HU502	1-1369007Z	0N28	Regular / Regular / Chiller Heavy		6.00	\$782.34
03/21/2019	Kevin Frazee	1-134ZLCPV	1-137468NX	0N28	Regular / Regular / Chiller Heavy		3.00	\$391.17
03/28/2019	Kevin Frazee	1-134ZOOJ2	1-139NXN1F	0N28	Regular / Regular / Chiller Heavy		2.00	\$260.78
04/01/2019	Kevin Frazee	1-134ZOOK5	1-13B1DN0D	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
04/02/2019	Kevin Frazee	1-134ZOOK5	1-13BJ293R	0N28	Regular / Regular / Chiller Heavy		5.00	\$651.95
04/18/2019	Kevin Frazee	1-13FO6G5A	1-13H0T1JY	0N28	Regular / Regular / Chiller Heavy		8.00	\$1,043.11
04/19/2019	Kevin Frazee	1-13FO6G5A	1-13HB6PIJ	0N28	Regular / Regular / Chiller Heavy		-8.50	(\$1,108.31)
04/19/2019	Kevin Frazee	1-13FO6G5A	1-13HB6PIJ	0N28	Regular / Regular / Chiller Heavy		8.00	\$1,043.11
04/19/2019	Kevin Frazee	1-13FO6G5A	1-13HB6PIJ	0N28	Regular / Regular / Chiller Heavy		8.50	\$1,108.31
04/23/2019	Kevin Frazee	1-13FO6G5A	1-13IBZV2E	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
04/29/2019	Kevin Frazee	1-13FO6G5A	1-13KD2QSH	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
05/06/2019	Kevin Frazee	1-13M3X7NW	1-13N0TAMV	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
05/07/2019	Kevin Frazee	1-13M3X7NW	1-13NUV3NB	0N28	Regular / Regular / Chiller Heavy		6.50	\$847.54
05/09/2019	Kevin Frazee	1-13M3X7NW	1-13OC4M1Z	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
05/10/2019	Kevin Frazee	1-13M3X7NW	1-13OQMDX7	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
05/14/2019	Kevin Frazee	1-13M3X7NW	1-13PPTX1X	0N28	Regular / Regular / Chiller Heavy		4.00	\$521.56
05/21/2019	Kevin Frazee	1-13QRP46S	1-13RSL6AJ	0N28	Regular / Regular / Chiller Heavy		2.00	\$259.99
05/23/2019	Kevin Frazee	1-13QRP46S	1-13T1YG2C	0N28	Regular / Regular / Chiller Heavy		4.00	\$536.55
05/31/2019	Kevin Frazee	1-13M3X7NW	1-13W29E7D	0N28	Regular / Regular / Chiller Heavy		1.00	\$134.14
Sub Total - Labor Kevin Frazee							81.50	\$10,644.71
TOTAL - LABOR							81.50	\$10,644.71

COGS Expense

Date	Assigned Technician	Activity #	NxGen Row ID	Branch #	Expense Type	Adjustment	Qty.	Ext Amt
TOTAL - EXPENSE								\$0.00

COGS Material

Date	Vendor / Buy Site	Activity #	Adjustment	Order #	Type of Order	Product	Description	Qty.	UOM	Unit Cost	Ext Amt
03/18/2019	PALL CORPORATION / EXTON	1-134HU502		1-85240958265	Vendor PO	Write-In Product	OIL FILTER ELEMENT	2	EACH	\$119.14	\$238.28
03/19/2019	UNITED REFRIGERATION INC	1-134ZOOJ2		1-85250752284	ISP	712700G1	NIMH POWER STICK FOR DTE	1	Each	\$45.00	\$45.00
04/02/2019		1-134ZOOK5		1-85546389527	AOMS PO	Freight		0			\$9.28
04/02/2019		1-134ZOOK5		1-85546389527	AOMS PO	Freight		0			(\$9.28)
04/01/2019	COGS-Materials	1-134ZOOK5				026 20990 000	026 20990 000	1	Each	\$35.06	\$35.06
04/24/2019	UNITED REFRIGERATION INC	1-13FO6G5A		1-86006068095	ISP	RC10098	SPORLAN ACTIVATED DRIER	4	Each	\$66.76	\$267.04
TOTAL - MATERIAL											\$585.38

COGS SubContract

Date	Vendor / Buy Site	Activity #	Adjustment	Order #	Type of Order	Product	Description	Qty.	Ext Amt
TOTAL - SUB CONTRACT									\$0.00

COGS Fee-Charges

Date	Accounting Event Name	Activity #	NxGen Row ID (Fee Tracker)	Product	Adjustment	Qty.	Ext Amt	
03/19/2019	Fee-Charges	1-134HU502	1-135T2A9I	FUEL_X		1.00	\$2.50	
05/06/2019	Fee-Charges	1-13M3X7NW	1-13N0TAQZ	FUEL_X		1.00	\$2.50	
05/24/2019	Fee-Charges	1-13QRP46S	1-13T1YG9B	FUEL_X		1.00	\$2.50	
Sub Total - FUEL_X							3.00	\$7.50



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Date	Accounting Event Name	Activity #	NxGen Row ID (Fee Tracker)	Product	Adjustment	Qty.	Ext Amt
03/19/2019	Mileage	1-134HU502	1-136900BH	Mileage - Company Vehicle		2.00	\$1.80
03/19/2019	Mileage	1-134HU502	1-135T2A88	Mileage - Company Vehicle		10.00	\$9.00
03/21/2019	Mileage	1-134ZLCPV	1-13744G23	Mileage - Company Vehicle		2.00	\$1.80
03/28/2019	Mileage	1-134ZOOJ2	1-139NXN4N	Mileage - Company Vehicle		2.00	\$1.80
04/01/2019	Mileage	1-134ZOOK5	1-13B1DN3L	Mileage - Company Vehicle		5.00	\$4.50
04/03/2019	Mileage	1-134ZOOK5	1-13BJ39GJ	Mileage - Company Vehicle		5.00	\$4.50
04/18/2019	Mileage	1-13FO6G5A	1-13H0UIW9	Mileage - Company Vehicle		10.00	\$9.00
04/19/2019	Mileage	1-13FO6G5A	1-13HB6PLR	Mileage - Company Vehicle		10.00	\$9.00
04/23/2019	Mileage	1-13FO6G5A	1-13IBZVBZ	Mileage - Company Vehicle		5.00	\$4.50
05/06/2019	Mileage	1-13M3X7NW	1-13N0TAQM	Mileage - Company Vehicle		5.00	\$4.50
05/24/2019	Mileage	1-13QRP46S	1-13T1YG5W	Mileage - Company Vehicle		5.00	\$4.50
Sub Total - Mileage - Company Vehicle						61.00	\$54.90
TOTAL - FEE CHARGES						64.00	\$62.40

AR Invoices

Date	Invoice #	Related Invoice #	Revenue	Invoice / Credit Memo Sub - Total	Tax	Ext Amt
05/31/2019	1-86836694956		\$18,996.00	\$18,996.00	\$0.00	\$18,996.00
			\$18,996.00	\$18,996.00	\$0.00	TOTAL - INVOICED \$18,996.00

UnReceived Orders

Date	Vendor / Buy Site	Activity #	Order #	Type of Order	Product	Description	Var. Ord vs. Rec	Qty.	Ext Amt
TOTAL - UNRECEIVED ORDERS									\$0.00