

## DuPont FS&RE Job Safety Analysis

Post Completed Copy of this Form at Job Site

If still in effect after 7 days, this JSA shall be reviewed and updated

Author	Kevin Fraze (JCI)				
Job Title	CHILLER #10 Refrigerant Leak Repairs			Site Security All Emergencies	302-695-3131
Location	Powerhouse – E315	Work Order #		Contract Order #	
Start Date	04/03/2018	Completion Date		Rally point	E315 West Side Parking Lot
Company	Johnson Controls	Job Lead	Kevin Fraze	Phone	302-353-0315
Building Contact	Raul Cozza	Location	Powerhouse E315 / 204	Phone	302-695-7842
Safety Resource	Anita Sargable	Phone	302-695-3728	Cell Phone	302-250-1293
Reviewed By		Phone		Cell Phone	

### Scope of Work / Job Description

Attached Sketch or Diagram of Work if Required

(If at any time the scope of work changes, a new or revised JSA is required)

- Isolate any Leaks Capable of being Isolated, Transfer Refrigerant into Shell of Chiller & Repair Leaks
- Once Central Recovery System is back online, Transfer complete Refrigerant Charge to Tank & Weigh
- Repair Leaks, Replace O-Ring Seals as necessary
- Remove and Replace Gaskets on both Rupture Disks
- Perform Refrigerant Leak Test with 100 psig of Nitrogen
- Perform Evacuation / Dehydration and Vacuum Hold Test
- Recharge Chiller, Start, and Evaluate Performance
- Assist DuPont with Motor Alignment, as required

### Specialty Tools and Equipment Required

Basic Hand Tools, YORK Coupling Tools, Alignment Tools, Electronic Refrigerant Leak Detector  
Nitrogen Hoses, Vacuum Pump

### General Conditions and Safety Review

<input checked="" type="checkbox"/> Contractor Safety handbook available	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Respectful work environment	<input type="checkbox"/> N/A	<input type="checkbox"/> Sub-Contractors	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Incident Reporting/Injury Mgt.	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Hand Safety	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Hazcom/SDSs	<input type="checkbox"/> N/A
<input type="checkbox"/> Barricading Work Areas	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> Vehicular Safety	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Ergonomics	<input type="checkbox"/> N/A
<input type="checkbox"/> Material Delivery	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> Ladders and Scaffolds	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Housekeeping	<input type="checkbox"/> N/A
<input type="checkbox"/> Smoking	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> Spills	<input type="checkbox"/> N/A		
<input checked="" type="checkbox"/> Refrigerant certification records for HVAC technicians and SUVA awareness in mechanical rooms				<input type="checkbox"/> N/A	
<input type="checkbox"/> Other <input checked="" type="checkbox"/> N/A					

### Personal Protective Equipment

<input checked="" type="checkbox"/> Hard hat	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Safety glasses	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Hearing protection	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Fall protection	<input type="checkbox"/> N/A	<input type="checkbox"/> Respirator	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Goggles	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Hot suit	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Arc flash protection	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> GFCI	<input type="checkbox"/> N/A	<input type="checkbox"/> Face shield	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Cut-off box	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Chemical suit	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Tyvek® suit	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Welding & Burning	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Electrical	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> N/A		

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Hazards Identified	Hazard Elimination or Control	Detail for Hazard Elimination/Control
<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Lock-out plan <input type="checkbox"/> Line break	CHILLER #10 Operation Lock Box
<input type="checkbox"/> Potential to find Chemical hazards	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Lock-out plan <input type="checkbox"/> Line break <input type="checkbox"/> Inspect Area	
<input type="checkbox"/> Utility interruption	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Shut-down of building services	
<input type="checkbox"/> Electrically Hazardous Task	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Limited <input type="checkbox"/> Restricted <input type="checkbox"/> Prohibited	
<input type="checkbox"/> Electrically Classified Area	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Flame/hot work Permit <input type="checkbox"/> Air Monitoring	
<input type="checkbox"/> Asbestos, NARF's, lead	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> NESHAPS (DES)	
<input type="checkbox"/> Explosive Atmospheres	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Flame/hot work Permit <input type="checkbox"/> Air Monitoring	
<input type="checkbox"/> Respiratory irritants	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Respirators	
<input type="checkbox"/> Welding, Burning, Soldering, Dust	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Flame/hot work Permit <input type="checkbox"/> Life Safety Impairment	
<input type="checkbox"/> Confined space	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Permit Required <input type="checkbox"/> Non-Permit Required	
<input type="checkbox"/> Trenching, digging, wall penetrations	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Excavation permit <input type="checkbox"/> Shoring	
<input type="checkbox"/> Contaminated equipment	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Release Tag	
<input type="checkbox"/> Working on roofs	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Roof entry <input type="checkbox"/> Fall protection	
<input type="checkbox"/> Rigging work, hoisting	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Equip. Inspection <input type="checkbox"/> Lift plan	
<input type="checkbox"/> Working in parking lots, roadways, etc.	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Containment High <input type="checkbox"/> Visibility Clothing	
<input type="checkbox"/> Indoor Air Quality (Paint, Adhesives, Odors)	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> After Hour Work <input type="checkbox"/> Proper Ventilation	
<input type="checkbox"/> PSM, animal or food grade areas	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Orientation required <input type="checkbox"/> Special Training	
<input checked="" type="checkbox"/> Elevated Work	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Ladders <input checked="" type="checkbox"/> Scaffolding <input checked="" type="checkbox"/> Fall Prevention	FULL-BODY HARNESS on SCAFFOLDING
<input type="checkbox"/> Work above ceilings	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Hard Hats <input type="checkbox"/> Goggles	
<input checked="" type="checkbox"/> Slips, Trips and Falls	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good housekeeping	
<input checked="" type="checkbox"/> Spills	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Report all Spills to Security	
<input type="checkbox"/> Other	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Lock-out plan <input type="checkbox"/> Line break <input type="checkbox"/> Inspect Area	

### Applicable Permits & Procedures

<input checked="" type="checkbox"/> Lock, Tag, Clear and Try	<input type="checkbox"/> N/A	<input type="checkbox"/> Confined Space Entry	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Line Break	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> Fall Prevention	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Work Permit (JSA)	<input type="checkbox"/> N/A	<input type="checkbox"/> Electrical Shutdown	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Hot Work Permit	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Crane Permit	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Wall / Floor Penetration Permit	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Transfer of Equip. Proprietorship	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Excavation Permit	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Roof Entry	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Decontamination of Equipment	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Life Safety / Fire Protection Shutdown	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Change of Design	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NESHAPS	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Other Permits / Procedures	<input checked="" type="checkbox"/> N/A						

### Employees on the Job

Everyone working within the scope of this JSA must read and sign here before starting work. Attach additional sheets if necessary.

Name	Date	Name	Date	Name	Date
1) KEVIN FRAZE		4)		7)	
2)		5)		8)	
3)		6)		9)	