

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 Frazee (JCI) | | | | |
| Job Title | YORK Central Recovery Tank Relief Retrofit Project | | | Site Security All Emergencies | 302-695-3131 |
| Location | Powerhouse – E315 | Work Order # | | Contract Order # | |
| Start Date | 05/01/2018 | Completion Date | | Rally point | E315 West Side Parking Lot |
| Company | Johnson Controls | Job Lead | Kevin Frazee | 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)

- Verify TANK is Depressurized & Purged with "House" Nitrogen
- Disassemble & Remove the Two 2" Rupture Disks, allowing for MDAVIS to proceed with Piping Modifications and Installation of the New Relief Header.
- Assist with the installation of the new set of disks. Provide appropriate ring gaskets and torque to design specs.
- Pressurize Tank is Nitrogen & Verify there are No Leaks
- Evacuate Tank & Perform a Vacuum Hold Test
- Record and Document all tests and work

Specialty Tools and Equipment Required

Basic Hand Tools, Vacuum Pump, Electronic Refrigerant Leak Detector

General Conditions and Safety Review

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

Personal Protective Equipment

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

DuPont FS&RE Job Safety Analysis

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

Applicable Permits & Procedures

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