

**VARIANCE ORDER REQUEST****VTES-6556-0018-0**

VaporTech Energy Services Inc. Request / Approval for changes to a project under design and fabrication

|                           |                          |        |      |        |   |
|---------------------------|--------------------------|--------|------|--------|---|
| PROJECT:                  | CNRL Smith VRU New Units |        |      |        |   |
| CUSTOMER P.O. REFERENCE:  | CTR030426                |        |      |        |   |
| VAPORTECH PROJECT NUMBER: | 6556                     | VOR #: | 0018 | REV #: | 0 |
| PURPOSE:                  | Long Term Storage        |        |      |        |   |
| REQUESTED BY:             | Farhan Khan, P. Eng      |        |      |        |   |

| ITEM                      | DESCRIPTION                    | QTY           | DEDUCT | ADDER        | NET          |
|---------------------------|--------------------------------|---------------|--------|--------------|--------------|
| 1                         | LONG TERM STORAGE PRESERVATION | 6             | \$ -   | \$ 32,290.29 | \$ 32,290.29 |
| 2                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 3                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 4                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 5                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 6                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 7                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 8                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 9                         |                                | 0             | \$ -   | \$ -         | \$ -         |
| 10                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 11                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 12                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 13                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 14                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 15                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 16                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 17                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 18                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 19                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| 20                        |                                | 0             | \$ -   | \$ -         | \$ -         |
| Totals do not include GST |                                | Total for VOR | \$ -   | \$ 32,290.29 | \$ 32,290.29 |

**VAPORTECH APPROVAL**

Generated By:

Shannon Kirtzinger

Print Name

Approved By:

APPROVAL SIGNATURE

Date:

03-21-2024

**CUSTOMER APPROVAL**

Approved By:

Farhan Khan

Print Name

Signature:

APPROVAL SIGNATURE

Date:

March 27, 2024

**NOTES/COMMENTS****PLEASE NOTE**

ALL CHANGES IN SCOPE, APPROVED BY THE CLIENT, WILL BE INVOICED ON APPROVAL AND ARE DUE ON RECEIPT

## **LONG TERM STORAGE PROCEDURES**

### **ROTARY VANE COMPRESSOR PACKAGES FOR NATURAL GAS SERVICE**

---

#### **COMPRESSORS:**

##### **Storage Longer than 6 months:**

- Compressor internals should be manually coated with CORTEC VpCI 322 or equivalent water displacing corrosion inhibitor, making sure good coverage is achieved on the compressor internal cylinder bore and rotors.
- Rotary Vane Compressor blades should be removed, and wrapped with desiccant bags inside polyethylene and taped shut. Blades must be stored on a flat level surface until reinstalled.
- Rotor should manually rotated once a month through 5 complete rotations to ensure bearings are re lubricated and do not develop flat spots.
- Where possible, desiccant bags should be placed in the suction and discharge flanges and replaced every three months.
- At all times, suction and discharge flanges must be fitted with air tight covers or firmly bolted to suction and discharge piping.
- Compressors returned to service after an extended storage period (>6 months) should have their bearings manually inspected and lubricated prior to any subsequent commissioning.

##### **Storage under 6 months:**

- Rotor should manually rotated once a month through 5 complete rotations to ensure bearings are re lubricated and do not develop flat spots.
- Where possible, desiccant bags should be placed in the suction and discharge flanges and replaced every three months.
- At all times, suction and discharge flanges must be fitted with air tight covers or firmly bolted to suction and discharge piping.

#### **ELECTRIC DRIVE MOTORS:**

- Long Term storage for motors should be conducted to the motor manufacturers specification

#### **DRIVE COUPLINGS:**

- All drive couplings containing elastomers should be protected from direct sunlight and high temperatures for extended periods.

#### **INSTRUMENTS AND CONTROLS:**

- All junction boxes and control panels should have desiccant bags installed inside, and replaced every three months.
- Control panels and junction boxes should be tightly wrapped in polyethylene and securely taped in place.
- In conditions of extreme humidity, desiccant bags should be replaced every month.

#### **PRESSURE VESSELS AND PROCESS PIPING:**

- All pressure vessels, process pipe, drain lines and drop legs must be completely drained of any process or hydro test fluids before storage.
- All skid edge, or non connected flanges must have air tight blind flanges bolted tightly in place.

#### **GENERAL PACKAGE STORAGE:**

- The package skid should be stored on a flat and level surface.
- All packages should be protected from the direct effects of wind driven abrasives, intense sunlight and corrosive atmospheres.
- Inactive or stored packages should be manually inspected once a month to remove and evaluate infestation or colonization of indigenous insects or animals.