



### Secondary Glycol Commissioning Check List V.5

|                           |                    |                   |
|---------------------------|--------------------|-------------------|
| Unit Model:               | Unit Serial:       | Unit Voltage:     |
| Date(s) of Commissioning: | NAP Technician(s): | Refrigerant Type: |

Important Notes:

1. The refrigerant type must come from the contractor or compressor racks. Do not reference the nameplate or drawings.
2. Any specific setpoint/parameter change(s), that deviates from RAE's standard, must be detailed in the "Check List Notes" at the end of this check list.
3. \*If there are any superheat setpoint/refrigerant changes in the Carel, you must verify that it changed in the Emerson Controller.
4. Any contractor misses or specific changes must be detailed in the "Check List Notes" at the end of this check list.
5. A copy of this check sheet is to be sent to Rocklin Pankhurst and Daniel Kinzer. All RAE nonconformances must be detailed in the Trip Report.

| <u>Binder<br/>Page<br/>Location</u> | <u>Sequence</u> | <u>Check Points</u>                                                                                                                                                                                                                                                                                                     | <u>Response</u>                                                          |
|-------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|                                     | 1.              | Verify refrigerant receiver level is acceptable. <i>Get with contractor or technician on this. Receiver will be located inside the rack house.</i>                                                                                                                                                                      | Yes/No<br>Receiver %:                                                    |
|                                     | 2.              | Report and document any damage to equipment.                                                                                                                                                                                                                                                                            | Good/Damaged                                                             |
|                                     | 3.              | Verify there are no leaks on the equipment.                                                                                                                                                                                                                                                                             | Yes/No                                                                   |
|                                     | 4.              | The correct stickie drawings are inside the door. The model number on the drawings, nameplate, voltage, and commissioning form should match. ☐                                                                                                                                                                          | Yes/No                                                                   |
| 20-21                               | 5.              | VFD parameters are setup correctly.                                                                                                                                                                                                                                                                                     | Yes/No                                                                   |
| 22                                  | 6.              | *Emerson controller parameters are setup correctly.                                                                                                                                                                                                                                                                     | Yes/No                                                                   |
|                                     | 7.              | Are all hand valves, ball valves, and triple duty valves 100% open? Emergency inlet/outlet connections are the only valves that should be closed. <u>Does not include manual bypass valve.</u>                                                                                                                          | Yes/No                                                                   |
|                                     | 8.              | Verify all transducer valves are open. Packing nuts should be tight.                                                                                                                                                                                                                                                    | Yes/No                                                                   |
|                                     | 9.              | Verify suction transducers are mounted on the correct circuit. <i>You should be able to unplug the harness from the transducer. An alarm will initiate on the Emerson Controller.</i>                                                                                                                                   | Yes/No                                                                   |
|                                     | 10.             | Verify EEV's are mounted on the correct circuit. <i>You should be able to unplug the harness from the EEV. An alarm will initiate on the Emerson Controller.</i>                                                                                                                                                        | Yes/No                                                                   |
|                                     | 11.             | Low glycol pressure switch is set correctly per the electrical drawings.                                                                                                                                                                                                                                                | Yes/No                                                                   |
|                                     | 12.             | Expansion tank set correctly – <i>Reference the "Expansion Tank Charge/Static Loop Charge Matrix" on the Walmart Support Page. Make sure to isolate your expansion tank if any air needs to be bled out of the bladder.</i>                                                                                             | Yes/No<br><br>Exp. Tank PSI:                                             |
|                                     | 13.             | Verify strainer/suction guide screens have been cleaned. <i>This information/work will come from the contractor.</i>                                                                                                                                                                                                    | Yes/No                                                                   |
|                                     | 14.             | Verify operation, rotation, and amps of both pumps. <i>After you verified one pump is running correctly, shut off that pump circuit breaker. The Carel will switch to the next pump. After verifying operation, turn on the pump circuit breaker. <u>Check pump amps on the LINE side of the VFD, not the LOAD.</u></i> | Yes/No<br>Pump-1 Amps<br>L1    L2    L3<br>Pump-2 Amps<br>L1    L2    L3 |
|                                     | 15.             | Upload new program in Carel. <i>You may take photos of the adjustable parameters/setpoints before uploading a new one.</i>                                                                                                                                                                                              | Yes/No                                                                   |



|       |     |                                                                                                                                                                                                                                                                                                                        |                                                                           |
|-------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|       | 16. | On the Carel, set and record the following. <i>Go to bullseye, unit config, and unit setup.</i><br>1. Store Number.<br>2. Rack Assign (comes from contractor).<br>3. Load (located on the case load PDF).<br>4. Size (This would be the same as the <u>model number</u> ).<br>5. *Refrigerant (comes from contractor). | Yes/No<br>Store Number:<br>Rack Assign:<br>Load:<br>Size:<br>Refrigerant: |
| 8     | 17. | Set the time and date on the Carel. <i>Go to bullseye, settings, date/time.</i>                                                                                                                                                                                                                                        | Yes/No                                                                    |
|       | 18. | Find the IP address. <i>Hold down alarm &amp; enter, go to settings, TCP/IPv4 settings, change enable to "DHCP/AutoIP", update unit config to confirm. Walmart will assign a new IP address that starts with "55". It will automatically update once the controller is whitelisted.</i>                                | Yes/No<br><br>Carel IP Address:                                           |
| 23    | 19. | <b>**Set and record the Target Flow (GPM). Find and locate the GPM on the Case Load PDF and input in Carel. Reference "Setting Differential Pressure Setpoint and Bypass Valve" <u>Step 1</u>.</b>                                                                                                                     | Yes/No<br>Target Flow:                                                    |
| 23-24 | 20. | Set and record the VFD minimum speed. <i>Reference "Setting Differential Pressure Setpoint and Bypass Valve" <u>Step 2</u>.</i>                                                                                                                                                                                        | Yes/No<br>VFD Min Speed:                                                  |
| 24    | 21. | Set the end of line (EOL) bypass valve. <i>Reference "Setting Differential Pressure Setpoint and Bypass Valve" <u>Step 3</u>.</i>                                                                                                                                                                                      | Yes/No                                                                    |
|       | 22. | <b>**If flow needs to be "fine-tuned", adjust DP setpoint. Record DP Setpoint. Go to bullseye, pumps, and scroll up/down till you find "DP stpt".</b>                                                                                                                                                                  | DP Setpoint:                                                              |
|       | 23. | Verify the supply temperature will satisfy cases. <i>Reference the caseloads for air temp.</i>                                                                                                                                                                                                                         | Yes/No<br>Supply Temp:                                                    |
| 25-26 | 24. | Verify temperature approach (°F) is acceptable. <i>Difference between your saturated suction temp (SST) and supply fluid temperature.</i>                                                                                                                                                                              | Yes/No<br>SST:<br>Supply Fluid Temp:                                      |
| 6     | 25. | Verify there are no alarms/faults on the Carel Controller. <i>Go to the alarm page to verify. If there's an alarm you cannot get to go away, you must verify it's okay to leave as-is before leaving the jobsite.</i>                                                                                                  | Yes/No                                                                    |
| 8     | 26. | Once you're happy with everything on the Carel, finalize Commissioning on Carel Controller. <i>Reference "Carel User Guide" and find "Finalize Commissioning". Follow Steps 1-7.</i>                                                                                                                                   | Yes/No                                                                    |
| 9-18  | 27. | Verify operation and commissioning of the Carel Boss Controller. <i>Note: you only need to do this once per store. Note the IP Address that starts with "55".</i>                                                                                                                                                      | Yes/No/Not Applicable<br>Boss IP Address:                                 |



Check List Notes

- 1.
- 2.
- 3.
- 4.
- 5.