



# Air Cooled and Remote Condensing unit Coil Cleaning

## Scope of Work

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### Overview

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This scope of work (SOW) has been developed to aid the refrigeration contractor field technicians in ensuring a complete and thorough cleaning of all refrigeration related condenser coils.

Primary duty is to complete coil cleaning unit operations and complete inspections of **Air-Cooled Condensers, Air-Cooled Fluid Coolers, Evaporative Condenser Coils, and Remote Condensing Units.**

It will be the technician's responsibility to ensure that the refrigeration condenser coils have been cleaned using industry standard (clean from the top down when applicable) methods, and the coil is free of all dirt and debris.

### Target Expectation

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Target Refrigeration Operations Technical Lead Team expects technicians to follow these basic guidelines:

- Ensure all unit's part of the coil cleaning scope of work are thoroughly cleaned and turned back on.
- WO #2 to be scheduled at vendors discretion within the LOS time period after TL proposal approval
- Upon TL proposal approval, WO #2 shall be dispatched as first call of the day utilizing a single high-level technician (if two techs are required for safety reasons, provide detailed notes in WO Long Description)
- Complete WO #2 in as few of trips as possible
  - **No overtime is allowed on any PM Program**
- It will be the technician's responsibility to become familiar with all written SOW's related to the CCC program

### Scope

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#### Prework and Planning:

- Vendor will receive store list and corresponding schedule dates (Cycles) for all stores at the beginning of the fiscal year. Store schedule is subject to change and will be communicated to the vendor on an as needed basis.
- Vendors will receive work orders from Target at least 2 weeks before LOS start date.
- Refrigeration vendor is responsible to:
  - Contact Property Management Lead using the following email address convention:  
[TXXXX.PML@target.com](mailto:TXXXX.PML@target.com) (where XXXX is the four-digit location number) with the date & time of the scheduled service with a request that the PML respond to acknowledge receipt.
    - **Additionally, contact any other parties impacted by the program due to uniqueness of sites (malls, downtown areas/high-rises etc.)**
    - **Scheduled services shall be performed Monday through Friday starting during normal business hours.**
      - **Overtime is not allowed for this program.**
      - Coordinate in order to determine a new schedule as soon as possible.
  - **Target is not responsible for any cost incurred due to schedule conflicts.**

## Technical Execution:

1. Check All PPE
  2. Lock out – Tag out the Unit
  3. Prep coil with cleaner in & out of unit
- Technician is to inspect condenser prior to cleaning for deterioration and corrosion to ensure coil can be cleaned.
  - Turn unit Off/On as needed to allow for cleaning.
    - Any equipment that is going to be fully shutdown requires a phone call to FMOC to put specific equipment in the system in test mode prior to shut down. Calling FMOC to place specific equipment in test mode will prevent any work orders being created due to alarms.
    - Once service is complete on the specified equipment that has been shut down for service, call FMOC to take specific equipment out of test mode.
    - FMOC phone number: 1 888 888 0304
  - a. Clean section of coil with fans shut down as per the process/procedure listed in the below **Coil Cleaning Execution section.**
  - b. **Refrigeration vendor will then restart fans on cleaned section and shut down fans on the next section; process will be completed on the air-cooled condenser until the unit has been thoroughly cleaned.**
- Ensure all fans and split condenser valves are operational by verifying the sequence of operation and programming. If Einstein program is not set for Target ROG, contact your service manager to reach out to Target HQ Refrigeration Ops.
  - Ensure all fan cages are attached and secured.
  - Inspect the following components and evaluate for replacement or repair. The items listed below should be proposed on WO2:
    - a. Fan contactors
    - b. Terminal blocks-inspect for proper torque and corrosion
    - c. Fan blades
    - d. Fan motors
    - e. Back up Fan cycling controls and pressure hoses (Most of our condensers no longer have back up fan cycling controls. If found, propose on WO2 to remove pressure controls and pressure hoses, seal pressure tap, and rewire fans for Einstein control only) Please note does not include single remote condensing units.
    - f. Coil for refrigerant leaks **(If leak is found repair immediately and note on WO2)**
    - g. Fan brackets for potential failures (cracks or deteriorating mounting hardware)
    - h. Fan motor mounts for potential failures (cracks or deteriorating mounting hardware)
    - i. Unistrut clamps for cracks, deteriorating or missing hardware
  - **Inspection should be performed in conjunction with work order 1 and the replacement or repair of any items should be included on work order 2 (WO 2)**

## Washing

### Step 1 – Clean the inside

- Wash the inside, one side at a time.
- Up and down, section by section starting at the top in the far corner working towards the access panel
- After initial pass (left to right / inside-out), go over again (right to left / outside-in). Make sure water is passing through the coil

### Step 2 – Clean the outside

- Wash the outside, one side at a time
- Up and down the coil, section by section
- After initial pass (left to right / inside-out), go over again (right to left / outside-in)

REPEAT STEPS 1 & 2 ON BOTH SIDES OF THE COIL.

Step 3 – Finish on the inside, going out. DO BOTH SIDES ON THIS FINAL PASS.

- Up and down, section by section
- Depending on the coil condition of dirt this process can be slowed down or done faster, **ensuring CLEAN water is passing through the coil.**
- **Water reclamation is required in the state of California. Proper reclamation of water collected from cleaning must be properly managed by the refrigeration vendor.**

**Please Note:**

- Nozzle must be perpendicular (90 degrees) to the coil the entire time AND NEVER MORE THAN 4 Inches away from the coil
- Make sure the nozzle stays no more than four inches from the coil. You must lean in and move closer, the lower you go.

**Materials:**

Acceptable items on work order 1:

- No materials specified

Acceptable items on work order 2 include

- Contactors
- Fan blades
- Fan motors
- Fan brackets
- Fan motor mounts
- Unistrut hardware
- Fuses
- Non-critical REMS equipment (Examples: CPC Sensors, Control Boards, Transformers) Must be ordered from EMC
- Condenser controller panel disconnects
- Belts and Pulleys
- Sump Floats
- Air baffles
- Spray Bars
- Pumps

This is not limited to items above

**Not In Scope**

- **Any assets not specifically written into this SOW are out of scope (Example, Case Issues, Walk-ins, and Compressor rack issues)**
- Out of scope repair/replace items can be directed to PML who can create a corrective maintenance work order

**Roles and Responsibilities**

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**Vendor**

**Completely responsible for scheduling (see prework and planning) and execution of program SOW within LOS dates provided on work order.**

**Target Refrigeration Team**

- Supply work orders to vendors at least two weeks prior to LOS start date
- Support vendor and store team's technical inquires to program
- Monitor and process work order proposals
- Track all call backs to site for work previously completed under PM SOW
- Monitor program cost and completion of all work orders

**Store team**

- Support check in/check out of vendors

- Assist vendor in locating appropriate parking area for service vehicle
- Assist vendor in locating roof hatch and water outlet (if necessary/available) (PML or LOD)

## **Work order Definitions**

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Two separate work orders are issued to the service vendor in order to support this program.

### **Work order 1 (WO 1)**

- LOS for work order 1 is 21 days
- Work order 1 is issued to service vendor to complete the actions directed at the vendor as outlined in the scope section of this SOW
- Not to Exceed (NTE) is the contracted dollar amount
- There will be **NO NTE adjustments made on WO 1.**
- Utilize catalog labor hours when invoicing WO 1

### **Work order 2 (WO 2)**

- LOS for work order 2 is 45 days
- Proposal on pull through work order (WO 2) can include only parts listed in materials section above but not limited to list above.
- Any other observations for repair should be shared with the PML. Vendor should work with the PML to create a corrective maintenance work order
- Stores that do not require work to be performed on WO #2 should be completed at \$0 based on the following:
  - If no work was needed complete the following steps:
    - Update to \$0
    - Add a note in the long description: "PML validate at \$0 per HQs request – No work needed"
    - Update to VCOMP status
    - DO NOT UNDER ANY CIRCUMSTANCE CANCEL A WORK ORDER (unless directed by Target HQ)
- In the event an error occurs with a work order and cannot be rectified by vendor, a replacement work order can be requested by contacting  
Hikma.Kader2@target.com

### **Invoicing**

- Work orders are to be invoiced within 7 days of work order completion date.
- It is critical to the success and future of this program that the set LOS deadlines are met. Target has provided each vendor with their specific site list as well as scheduled cycle dates prior to the program roll-out.
  - Failure to: Meet the LOS deadlines for WO completion, Pull-through proposal submittal or PT WO completion may result in cancellation of incomplete work orders and/or loss of sites for future cycles
  - All work orders not in VCOMP or COMP statuses in Maximo 30 days after the LOS deadline will be subject to closure

## **Additional Resources**

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Access panel-Remove bolts to access panel for access to coils



When removing bolts to panels-Use hand tool. Do not use an impact wrench or other motor operated tools.



Refrigeration vendor is to remove all bolts and lift panel to allow access for condenser cleaning.



## Revisions

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Version 1- 09/19/2023