

*If you are using a printed copy of this procedure, and not the on-screen version, then you **MUST** make sure the dates at the bottom of the printed copy and the on-screen version match. The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.*

C-A OPERATIONS PROCEDURES MANUAL

8.31 Checklists for C-A Water Group Systems

Text Pages 2 through 3

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Approved: _____ Signature on File _____
Collider-Accelerator Department Chairman Date

L. Vogt

8.31 Checklists for C-A Water Group Systems

1. Purpose

To provide instructions to Water Systems Technicians for repairs and maintenance on activated water systems, including hoses, fittings, strainers, balancing valves, flow switches, and for draining/filling of cooling systems, barrels and tankers.

2. Responsibilities

Water System Group Personnel shall:

- Perform work effectively and safely
- Minimize waste
- Stop Work if unsafe conditions are encountered

3. Prerequisites

- 3.1 Radiological Worker Training - TLD (Whole Body Dosimetry) and alarming dosimeter required. (Alarming dosimeter required in a High Radiation Area)
- 3.2 Working knowledge of the processes described in this procedure.
- 3.3 C-A Access Training
- 3.4 Contamination Worker Training
- 3.5 Lockout/Tagout Training
- 3.6 Personal Protective Equipment (PPE) to be determined by the Radiological Control Division (RCD) and may include rubber gloves, boots, aprons and tyvek suits for use throughout the task. Use of a faces shield is required whenever there is a chance of splashing such as while draining, disassembling, cleaning, and venting of the components before, and after repairs.

4. Precautions

- 4.1 The RCD is responsible for performing radiological evaluations and determining ultimate disposition of the magnet cooling water. Notification of RCD shall be made in advance of the cleaning to coordinate necessary support.
- 4.2 The draining/filling operation requires that Water Systems Group personnel be in attendance at all times.

- 4.3 A determination will be made by RCD if radiological triggers are exceeded which in turn will require a job specific R.W.P. as outlined in [C-A-OPM 9.5.4](#).
- 4.4 If any drains are within 15ft±, they shall be covered or blocked.
- 4.5 Close all isolation valves for the equipment to be worked on.

5. Procedure

- 5.1 Complete the checklist appropriate to the job. For example: Use [C-A-OPM-ATT 8.31.a “Checklist for General Hose & Fitting Maintenance”](#). See also attachments 8.2, 8.3, 8.4, 8.5, 8.6 and 8.7.

6. Documentation

- 6.1 The Water System Group Leader, or designee, will retain all completed checklists.

7. References

- 7.1 [C-A-OPM-ATT 10.1.d “Operator Response to Water Spills”](#).
- 7.2 [C-A-OPM 9.5.4 "Radiation Work Permit"](#).

8. Attachments

- 8.1 [C-A-OPM-ATT 8.31.a, “General Hose & Fitting Repair/Maintenance Checklist”](#).
- 8.2 [C-A-OPM-ATT 8.31.b, “Bag Filter Maintenance”](#).
- 8.3 [C-A-OPM-ATT 8.31.c, “Deionizer Maintenance”](#).
- 8.4 [C-A-OPM-ATT 8.31.d, “Pump Maintenance”](#).
- 8.5 [C-A-OPM-ATT 8.31.e, “Draining & Filling Systems Checklist”](#).
- 8.6 [C-A-OPM-ATT 8.31.f, "Water Transfer Checklist"](#).
- 8.7 [C-A-OPM-ATT 8.31.g, “Acid Flushing”](#).