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D-700 PVC Reactors
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III. OPERATING PROCEDURES (CONTINUED)

G. Chem Wash and Rinse

Chem wash and rinse is not done as a matter of routine on all reactors; however, if it has been determined that chem wash is needed, the shift supervisor will inform the lead operator to do so.

After the reactor has been rinsed during the dump cycle, it is ready to be chem washed. The chem wash cycle is necessary to remove polymer buildup from the reactor condenser, walls, baffles, and agitator. If polymer buildup is allowed to remain in the reactor, it continues to grow with each successive charge. Buildups will contribute to high gel, low quality resin, and will make reactor dumping very difficult if they get large enough to break off and plug dump valves and lines.

Operators must exercise caution during chem wash due to the caustic in the solution. If any solution should get on an operator, flush immediately with water. Caustic feels slick to the touch and will start burning the skin just a few seconds after contact. If the solution should spray over the body, immediately get under a safety shower and remove your clothing. If any should get in the eyes, flush eyes for at least fifteen minutes but until all burning stops and report to your supervisor.

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III. OPERATING PROCEDURES (CONTINUED)

G. Chem Wash and Rinse (Continued)

Procedure

1. The lead operator will check and make sure the reactor sewer valve is closed.
2. The lead operator will then place the interlock mode selector switch to "clean and rinse."
3. The lead operator then checks to see that the cleaning solution tank, 45-767, is at least 85 percent full.
4. The lead operator then opens the valves from the cleaning solution pumps, 72-989 or 72-899, to the reactor condenser cleaning nozzle. The atmospheric vent on the reactor should be open. All other reactor valves are closed.
5. The lead operator then opens the suction valves, CV-873, for the cleaning solution pumps, 72-898 or 72-899.
6. The lead operator will check to see that the cleaning solution heater temperature controller is set at 190°F.
7. The lead operator will then turn on one cleaning solution pump 72-898 or 72-899.
8. When 5,000 gallons have been flushed through the reactor condenser (this is a change of about 85 percent in the cleaning solution tank level), the lead operator will:
 - a. Stop the cleaning solution pump.
 - b. Close pump suction valve CV-873 from the cleaning solution tank.

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G. Chem Wash and Rinse (Continued)

Procedure (Continued)

12. The lead operator will then check the cleaning solution tank level indicator to see if all the chem wash solution has returned. If any solution is lost or accidentally dumped to the sewer, notify the utilities supervisor. The spilled solution must be neutralized to avoid upsetting the chemical balance in the lagoons.
13. The lead operator will now close the reactor cleaning valves and open the condenser cleaning valve and the reactor sewer valve.
14. The lead operator will cut on both hot water charge pumps and flush through the condenser to the sewer for ten minutes.
15. The lead operator will then close the condenser cleaning valve, open the reactor cleaning valve, and flush the reactor to the sewer for ten minutes.
16. The lead operator will now close the reactor sewer valve.
17. Because of water dilution and resin accumulation, chem wash solution must be disposed of and fresh caustic pumped to the cleaning solution tank once per week. Follow the procedure outlined under "Used Chem Wash Solution Disposal."

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III. OPERATING PROCEDURES (CONTINUED)

G. Chem Wash and Rinse (Continued)

Procedure (Continued)

- c. Open chem wash return valve on reactor.
- d. Open cleaning solution pump suction valve CV-874 from the reactor.
- e. Close valves to the condenser cleaning nozzle.
- f. Open valves to the reactor cleaning nozzle.
- g. Restart the cleaning solution pump. The chem wash solution should now be circulating from the bottom of the reactor back to the reactor cleaning nozzle.
- h. The reactor agitator remains on.
9. The lead operator will recirculate the chem wash solution through the reactor for five minutes and will then pump the chem wash solution back to the cleaning solution tank by:
 - a. Opening CV-872.
 - b. Closing CV-871. This sends the cleaning solution pump discharge to the cleaning solution tank.
10. The "A" operator should monitor the cleaning solution pump and notify the lead operator when it loses suction (check pressure gauge on pump discharge).
11. The lead operator will now shut off the cleaning solution pump.