

Ethanolamines/Glycol Ethers

Tier 3 Procedure

Section Number: 1114
Issue Number: 1.5
Original Date: 10-17-91 **Author:** Anthony Machie
Revision Date: 09-10-96
Title: Momentary Power Failure
References: Glossary Of Equipment Identification (Text # 114)

=====

1114.Momentary Power Failure

1.0 Objective:

1.1 To provide a guide to the actions that should be taken to minimize the affect of a momentary power failure on the plant and/or the environment.

2.0 Responsibility:

2.1 It is the responsibility of the operations supervisor and the senior operations specialist to ensure that this procedure is understood and used in case of a momentary power failure.

2.2 It is the responsibility of the senior operations specialist and the operations specialist to ensure that this procedure is executed in a safe and efficient manner.

3.0 Simulated Conditions:

3.1 Loss of electrical power to the block for a short period of time less than 15 minutes).

3.2 All pumps shutdown and do not restart automatically.

3.3 Shift working days on the weekend and senior operations specialist on vacation.

3.4 Manpower available is one senior operations specialist and two operations specialist.

3.5 Power comes back on after one minute.

4.0 Special Notations:

4.1 Emergency procedures are written with the intention of having in black and white what procedure should be followed under ideal circumstances. They do not take the place of common sense. if there is a fire, we have a fire department to handle it. don't tackle something that could injure you because you don't have the experience or training to handle it. Small trash fires or some insulation fires can be handled by most of us. Don't wind up making the problem worst by getting hurt or rushing in and doing the wrong thing. The same thing applies to spills and other emergencies.

-----use common sense-----

4.2 When the Ethanolamines plant experiences a power failure and cooling tower water is interrupted to E-210 and E-211 the pressure on T-211 and D-210 can rise enough that P-215 can't pump into T-211 which further complicates the pressure rise and ammonia concentration increase. Several things can be done which may help this situation.

4.2.1 First make sure to get the cooling tower water flow started as soon as the power is restored.

4.2.2 Start a cooling tower water fan so that the water does not get too hot.

4.2.3 Manually block in the anhydrous ammonia make up to D-210 and by-pass the condensate flow from D-510 to E-219.

4.2.4 Do not expect everything to fall in order as listed.

4.2.5 In the event that both trains are down, the plant management should be consulted to determine which train to bring on line first. Manpower constraints prevent bringing up both trains simultaneously. The decision will be based on business strategies and demand, as well as seasonal temperatures (cold weather may prompt fast startup of amines due to potential freeze problems regardless of business conditions).

5.0 Board Person Actions:

5.1 At first sign of power loss board person should close oxide, alcohol and aqua ammonia control valves.

5.2 Inform other shift members by intercom that we are experiencing a power failure.

5.3 Block steam control valves to all reboilers.

6.0 Outside and Lab Operators Duties:

6.1 Start the cooling tower water pumps and air compressor.

6.2 Start P-570, P-525, P-511 and FN-500A.

6.3 Start P-210, P-211 and P-215 to establish make-up water flow to T-211 and D-210 (these were the most important pumps in the February 1986 power failure).

6.4 If T-211 and D-210 have pressured up so that P-215 or P-211 will not pump then the pressure and concentration in T-211 and D-210 will have to be lowered.

6.4.1 Whenever D-210 and T-211 are pressured up (possible causes are loss of ctw flow to E-210 and E-211 or by inerts build up in the system) cold condensate should be introduced into the T-211/D-210 system as follows:

Hook up cold condensate flex hose at D-215 to the suction (quick connect) of P-211a. Open the condensate b/v upstream of flex hose and close the P-211a suction b/v. Use P-211a to pump this

condensate into T-211 and D-210 to reduce system pressure. Disconnect after use. This is not a permanent piping system.

6.5 Line up T-230 bottoms to D-215 and start a P-212 flow to the reactor.

6.6 Normal plant start up should proceed.

7.0 Revisions:

Revision No. 1	06-30-92	Changed section 1114.1.1 to reflect environmental concerns.
Revision No. 2	07-14-93	Yearly Review
Revision No. 3	09-26-94	Modified 4.5 on which plant to start-up and modified 6.4.1 to reflect new quick connect piping of condensate to P-215 suction piping.
Revision No. 4	12-13-95	Yearly review
Revision No. 5	09-10-96	Delete 4.4.3, change "senior operations specialist" to board person