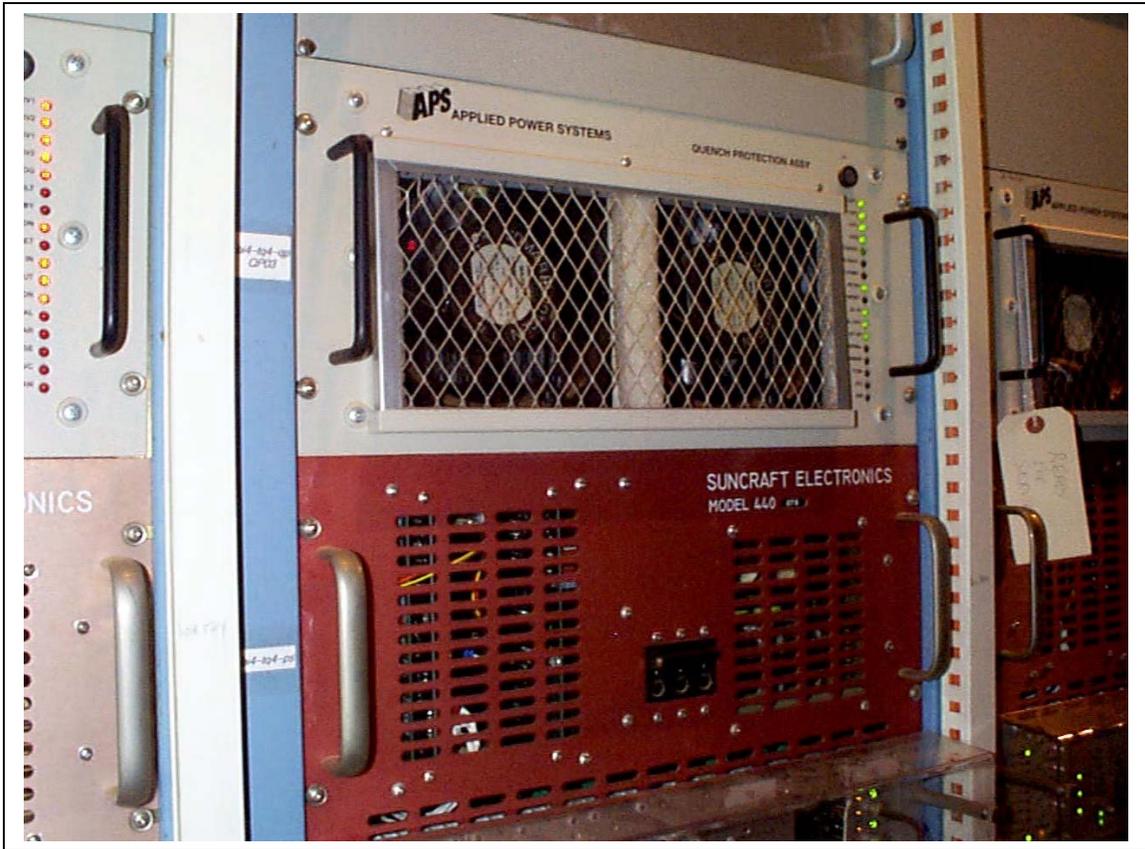


Procedure for replacing a QPA that has a "tq" in the sitewide name

1. If you have labels you should bring them out with you to the QPA. you will be working on. Bring a key to unlock the rack door. Bring a 7/16" socket and socket wrench also to open up the rear door.
2. Go to the QPA. that must be replaced. Confirm that it is a QPA that has a "tq" in the sitewide name. For example if the QPA sitewide name is "yo12-tq5-qp" then it is a tq QPA.
3. Now that you have found the QPA you are interested in you will find there are 3 QPA's and 3 p.s.'s in the same rack that are "tq" type QPA's.
4. Have MCR run the current to zero amps for only these three p.s.'s in the rack you will be working in.
5. After MCR confirms that the current = zero amps, ask MCR to put these three p.s.'s into the STANDBY state.
6. After you see the p.s.'s are now in STANDBY you can manually press the OFF pushbutton on all three p.s.'s so they are in the OFF state.
7. Now turn off the circuit breaker on the front of all three p.s.'s.
8. Now turn off and lockout the 208VAC disconnect feeding this rack. At the top of the rack you will see the name of the rack. This is the name you should look for on the 208VAC disconnect.

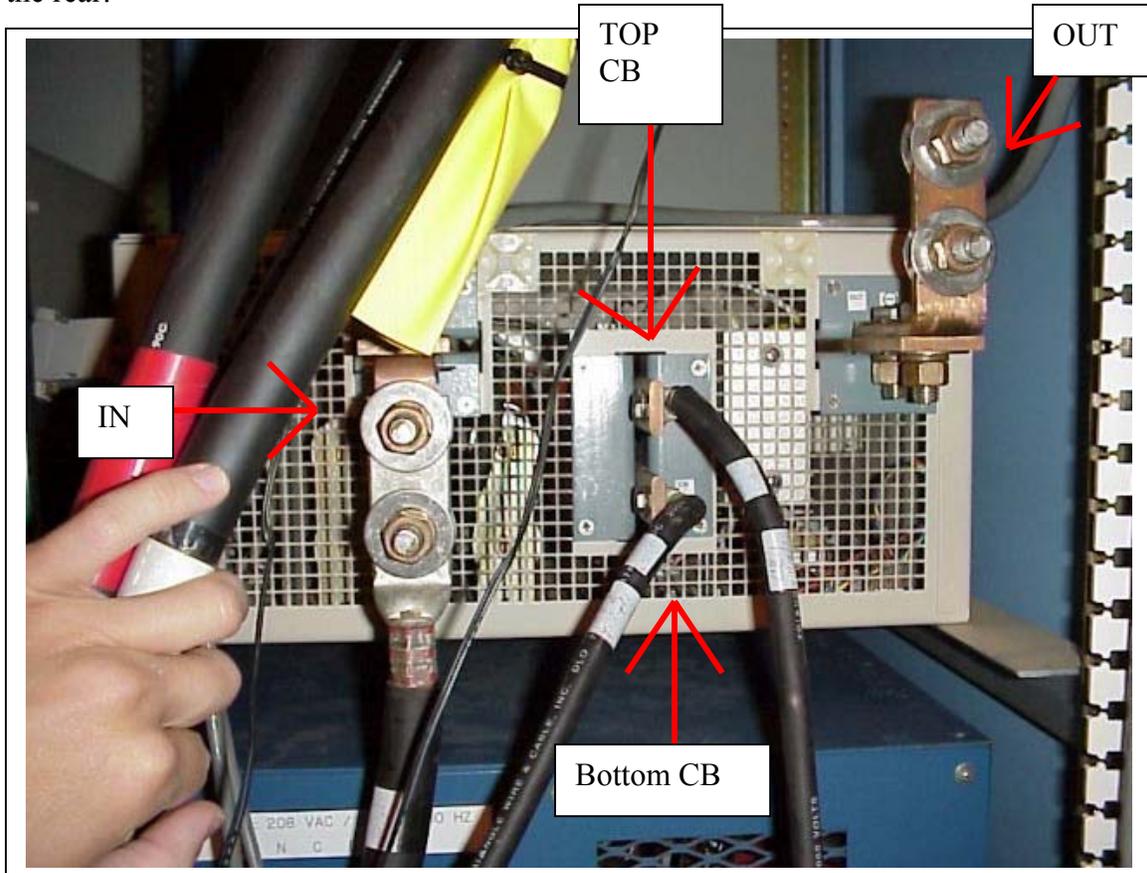
9. The photo below shows you what one type of QPA looks like. The QPA is the white box on the top labeled APS and has the green LED's on the right hand side. The red box under the QPA is a p.s.:



10. Open up the rear door of the rack with a 7/16" socket and rack key if locked. Now unplug the 110V line cord for the QPA you will be replacing. Check that it was plugged into a surge suppression device and make sure it gets plugged into the surge suppression device again when you are done.

11. If you have labels with you then you should label all of the DC cables that get connected to the QPA. If you don't have labels then you should remember how the DC cables get connected to the QPA. The existing labels may not be correct. Look at the labels before you remove the DC cables and mark down where they are connected to on the QPA.

12. There are 4 terminals on the QPA. They are normally labeled “IN”, “OUT”, “CB” and “CB”. Make sure the label you put on the CB cables tells you which CB to re-attach to. The cable that was attached to the top CB terminal should be re-attached to the top CB terminal. The cable that was attached to the bottom CB terminal should be re-attached to the bottom CB terminal. The photo below shows you what a typical QPA looks like on the rear:



13. Once you have written down the existing labels and how the DC cables are connected to the QPA you can remove all of the DC cables. Make sure the cables are removed from all 4 terminals. Be sure to use 2 wrenches on the buses when removing the DC cables so you do not place any stress on the buses and break them off internally.

14. Remove both D connectors on the top left hand side on the rear of the QPA.

15. Next, make sure you remove the screws that screw the QPA into the rack. These are on the front of the QPA. **Do not remove the screws that hold the front panel of the QPA onto the front of the QPA.** You can now unscrew the front of the QPA and slide it out. The QPA is sitting on 2 shelves, it can fall off when you slide it out so be careful. Someone should be in the rear of the rack watching that no cables get hung up on the QPA as you are sliding it out.

16. The spare QPA's are in 1007W. Pick one up and bring it to where you will be installing it. Make sure that the spare QPA you take from 1007W has a label on it that says "READY FOR SERVICE". Make sure you choose the correct model number QPA. It should match the model number of the QPA you are removing.

17. If you look at the top of the QPA there is a square metal tag attached to the top that tells you the model number of the QPA. This photo below shows you the metal tag on the top of this QPA.



18. Slide in the spare QPA. BE CAREFUL NOT TO OVERTIGHTEN THE CONNECTOR SCREWS ON THE D CONNECTOR SHELLS. MAKE SURE YOU USE 2 WRENCHES ON THE BOLTS OF THE DC BUSES.

19. Re-connection list:

- a. D Connectors
- b. DC Cables
- c. Plug in the 110V cord into surge suppressor
- d. Screw in the front of the QPA to the rack

20. Bolt up the rear door when done

21. Unlock and turn on the disconnect for the rack and turn on the circuit breaker for all three of the p.s.'s in this rack. Put the p.s. into LOCAL and STANDBY. You should have only the quench fault on the control card. You can now put the p.s. back into REMOTE and hand it over to main control.