

ANNIE Water Fill Procedure (Full Tank)

(Assuming filling on Wednesday 4/13/2016)

Tuesday : Prep Day (starting early afternoon)

- Fire Department and FESS will run all hoses (2.5" and 1.75") from hydrant to the Hall and establish hose connections to the skid
 - > They will also lay a ramp to protect the hose from cars
 - > A 15-20 minute flush of the hydrant system will be done

- The water skid and DI bottles will be located just outside of the Hall entrance
 - > John is not worried about nighttime temps falling below freezing

- John V.'s group will connect the nitrogen lines up to the tank
- John V.'s group and Vincent will connect the water recirculation lines up to the tank

- Vincent and Carrie should get a tutorial on the skid monitoring at some point on Tuesday

Wednesday : Fill Day (starting at 6 am!)

—> It is estimated that the fill should take ~8 hours to complete, assuming ~7000-7500 gallons and a fill rate of 15 gals/min.

1. Before filling the tank, make sure that the water system is flushed out again to remove any lingering contaminants.

2. It will be important to continually monitor the water quality using the skid, this should be checked every minute (rotating in shifts)
 - > Watch for the dreaded red light of uncleanness! If the light does come on, we will need to close the valve at the skid to stop water flow immediately (!!) and then ask John's group to close the valve at the 2.5" —> 1.75" connection (**Can we do this ourselves in an "emergency"? If we do, the valve must be closed slowly!**) The second skid will then be set up for us.

- 2.5. We will want to keep a running log of various parameters during filling (flow rate, etc.) and possibly take water samples at different points along the fill. (**Which ones exactly? We will need clean sample containers for water collection.**)

3. As the tank fills, periodically check on the liner, especially near the water pump.
 - > This will require moving the hatch slightly off to the side for the duration of the fill. We will want a tarp to cover when we are not looking in. A plexiglass plate has been suggested, John says that he can find one for us.

4. Once the Davis water pump is covered (and then some), start the recirculation flow using the Davis skid on the second floor.

5. As we fill, we will want to check the health of the PMTs (did they survive up until this point?). To do this, we set the PMT's HV to 50-100 V and check their current (I) status. If a large number of them fail (say 15 PMTs or 25%), we will want to stop filling and address the situation.

6. Fill the tank to just over the Inner Structure's top horizontal platform (this should be about 1' from the top of the tank). We can stop the flow using the skid valve. (How do we prevent overflow?)

7. If a second day is needed, it will begin no earlier than 8 am (Fire Dept. changes shift at 7 am). We will stop the flow during working hours on Wednesday and then start up again Thursday morning.

8. Once the fill is complete, start the nitrogen surface flow and bubbling.

9. Clean up. Equipment returned to MI8.

Other notes :

Ask John who will be helping us with John C. gone?