1. Where does HDice vent under normal operations and under upset conditions

2. What is the HDice helium inventory both in operation and under fill conditions

Maximum LHe volume = 50L in the target, 500L buffer dewar, 1000L fill dewar

3. Does HDice have any other ODH gases being used?

No

4. How are fills done for HDice and are there any other "unusual" evolutions where we should be concern about creating an ODH situation?

5. What is the 1/4 CM He inventory?

Per literature, 400L

6. Where do the 2 reliefs for the 1/4 CM vent to?

7. What is the source term for He when CTF is in operation - how does it respond to a CM vent?

8. There is N2 in the room - how is its flow controlled/restricted?

9. I think there is SF6 in the room - how much?

From John Hansknecht: the volume of the SF6 tank will be ~25 cubic feet (707 liters).  The SF6 charge will be 70 psi.  This is 53.7 pounds of SF6….how to convert to cubic feet of gas…?

Dick Owen calculated that in the existing Test Cave with 9140 cubic feet of volume,

the 144 cubic feet of SF6, if uniformly mixed would reduce the oxygen content to 20.7%. But it will not be uniformly mixed, it will accumulate at the floor, which should further reduce the problem in terms of ODH

10. Are there transition periods where conditions might be changing or folks are taking accesses that we need to be worried about?

We imagined entering cave when it was cold….

11. What are the dimensions of the cave?

Injector spaces (volumes provided):

Existing test cave: 9,140 cubic feet

New HDIce extension: 16,564 cubic feet

Total: 25,704 cubic feet

No “door”, rather there will be a gate

12. What is ventilation like/controlled - are there fans?

Yes, two exhaust fans, one to outside and one to high bay. 30” diameter ports approx. 7’ above floor.

13 Are there open penetrations on the ceiling of the cave and if so how many in2 are they?

Yes, in Cave 1 there are six 10” diameter penetrations. Cables will pass through some. There are also three rectangular penetrations, one will house waveguides.

14 Are there racks on the roof of the cave that will have open penetrations leading into them during normal operations?  or during shutdowns but with the CM cold?

The racks are displaced from the penetrations. Racks do not sit directly above penetrations