***ESR2 Preliminary Design Review***

***June 19, 2019, 8am-2pm***

***Bld 87, Conference Rm 101***

***Committee Charge Questions***

1. ***Does the thermal dynamic refrigerator model meet the experimental hall refrigeration requirements?***
2. ***Have the necessary 4.5K Cold Box refrigerator modifications been identified and defined for detail engineering to proceed?***
3. ***Does the Process Flow Diagrams represent all of the subsystems required for the refrigeration system?***
4. ***Is there a system/device tag Nomenclature developed which allows the merger and integration of past refrigerator device labeling /drawing/maintenance/vendor documentation into the JLab multiple refrigeration plant system documentation without conflict of labeling duplication and software programming conflicts?***
5. ***Has an equipment layout been developed inclusive of control room? Does it account for all major subsystems? Does it allow adequate spacing for operational safety, maintenance and repair?***
6. ***Has Process and Instrumentation Diagrams (P&IDs) been developed for each of the subsystems? Are any P&IDs missing or need further engineering?***
7. ***Is there a preliminary design for electrical, warm helium, cooling water, and cryogenic piping? Is the preliminary design of the Experimental Hall cryogenic interface appropriate?***
8. ***Has long lead procurement items been identified for Q2 FY20?***
9. ***Has the present engineering schedule and status been presented?***
10. ***Has a preliminary Failure Mode Analysis been developed?***
11. ***Are there any additional preliminary engineering which should be addressed by the design team?***
12. ***Does adequate preliminary design exist for the start of detailed engineering?***

***Committee Members:***

***Jonathan Creel,*** ***creel@jlab.org******, Chair***

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***The committee is charged to evaluate the preliminary engineering status for the End Station Refrigeration System 2 in preparation of detailed engineering to be completed by the fall of 2020. Emphasis should be placed on***

1. ***issues of correctness of type and amount of refrigeration to be provided,***
2. ***if all subsystems necessary for the operation/ maintenance/ repair of the refrigeration system has been accounted for***
3. ***Preliminary documentation used as a baseline for final engineering design***