

Mech 100% To Do

Tuesday, August 18, 2020 8:47 AM

100% submission about 10/20

Reviews about 10/5

Mech

- ☐ 1. **Changes resulting from CFD results Adi**
 - ☒ a. **Generator exhaust stack - higher stack height (4' for now) - Adi - UEP for product details - ran with 8' stack and everything appears to be good.**
 - ☒ b. **Smaller discharge nozzle for EF-2 - Ian/Adi**
 - ☒ c. **EF-2 upsize to 2000 CFM and silencer.**
 - ☒ d. **Meet with Jason and Paul to discuss entrainment before speaking with Todd on Friday**
 - ☐ e. **Run final 4 models with selected Fans**
 - ☐ i. **Waiting on selection for EF-3**
 - ☐ f. **Generator scrubber/aftertreatment - discuss if it should be added**
- ☐ 2. **Exhaust fans - sound attenuators and sound calcs from MBP - Ian**
 - ☒ a. **Different exhaust fan selections for lower discharge noise - waiting on information from Andy**
 - ☐ i. **Rubber isolator pads - HP**
 - ☒ ii. **Confirm fans can support weight of silencers**
- ☐ 3. **Controls Dana**
 - ☐ **Robot exhaust - variable**
 - ☐ **Leak detection - alarm to local panel - add to keynote**
 - ☒ **Meeting with Leah to discuss DTR controls comments**
 - ☐ **Nick Lane (Siemens) for help**
- ☐ **Specifications Noe/Ian**
 - ☐ **Add noise requirements to specs Ian**
 - ☐ **Commissioning spec - DTR comments about including all the equipment - Jason Emagii**
 - ☒ **Hx comments for spec Leah**
 - ☒ **AHU spec for variance Leah**
- ☐ **FCU-D - where is it going? Omar**
 - ☒ **Omar doesn't know - still in the works with the memo sent 8/28 - unofficially moving to penthouse 9/9 - not going to move for the 100% submission. 9/16 update - RFP issued for penthouse. Still not going to be in this submission. 9/23 - will be provided in the 100% Track 3 submission**
 - ☒ **Need to provide sketch to ZGF and Satellite Ian**
 - ☒ **Terminal units, FCUs both located in the penthouse**
 - ☐ **Need penthouse cooling and heating Dana - four pipe FCU**
 - ☐ **Kirlin comments on penthouse sketch Dana**
- ☐ 4. **Leak detection zones for roof penetrations. separate plans? Adi**
 - ☐ **Revise leak detection in autoclave room**
 - ☐ **Notes**
 - ☒ **Check if office side needs leak detection.**
 - ☒ **Add all pipe penetrations - VTR, storm drains**
 - ☒ **6 pipes at open lab**
 - ☒ **Curb for pipe penetrations in mechanical penthouse Leah**
 - ☒ **Need notes for new Optics labs penthouse - similar to other penthouses. Penetrations need to be noted and epoxy floor will extend up the walls.**
- ☐ **Environmental Management System (EMS) design Ian/Dana - Omar what are we monitoring? Freezers and four incubators - not confirmed yet - Confirmed to add this to the design on 9/1/2020. Control panel in the Facility Managers office**
 - ☐ **Spec for system Ian**
 - ☐ **Points list on plans Ian/Dana**
 - ☐ **Temperatures back to panel and alarms out to BAS**

- ☐ Coordination with fire sprinkler piping - need another get together? ~~Haven't heard anything from their group. Leah - send Julie email to see if they have concerns or comments~~
 - ☐ Ian sent email with recommended routing of FP - no changes have been made to FP model - Leah ping Jay, OM ping Coffman. Jay confirmed model was consumed 9/18. 9/29 - Julie is updating their model to match our FP layout as much as possible. Jay to revise clash detection with our FP and our models and ignore FP model for the time being. **Ian**
 - ☒ Coordinate penthouse FP **Leah**
- ☐ Sections/Isos of some more difficult places
 - ☒ Iso of typical open office **Adi**
 - ☐ Iso of lab corridor **Ian**
 - ☐ Lab corridor sections **Ian**
- ☐ BIMTrack **Dana**
 - ☐ Issues
 - ☐ Clash detections - Jay run a new clash report on Thursday 9/24
- ☐ Update Criteria Compliance Log **Leah**
- ☒ Coordinate with electrical **Adi - email/message Steve**
- ☐ Update Elbow Sound Attenuator family to properly schedule length. **Pat**
- ☐ Provide highlighted PDFs of MECH equipment needing power to ELEC. Initial drawings. **Leah**
 - ☐ Finalize pump selections **Leah**
 - ☒ Check 4 pipe FCUs to see if electrical changed - **no changes**
- ☐ Coordinate exhaust fan mounting with RST. **Ian**
 - ☐ EF-1 Dunnage. Dunnage needs to be high enough for someone to crawl under and need to check OSHA requirements for platform, railing, ladder.
 - ☐ EF-2 and 3 - Specify curbs for these fans in schedules.
 - ☒ Where is the VFD mounted? Dunnage or roof? Coordinate with electrical for what they are showing or calling out.
 - ☒ Leah forward Ian latest email for correspondence.
 - ☐ EF-2 new location to eliminate entrainment on Bldg 4. - send location to RS&T
 - ☐ Coordinate stack heights and guy wires with RST & ZGF.
- ☐ Add EF inlet attenuators. One per fan pair (not one per fan). May have to modify roof ductwork or fan locations slightly. If fan locations are moved, need to coord with RST. **Ian**
- ☐ FCU accessories per the manufacturer information on our detail. **Julia/Leah**
- ☐ Crawl Space circulation fan (or multiple) **Dana - two fans**
 - ☐ Need to notify Julie from Coffman **Dana to send pdf showing plan locations to Julie**
- ☐ Update hydronic riser diagrams to show rooms served
 - ☐ FCUs - **Ian**
 - ☐ Terminal Units - **Pat**
- ☐ DTR comments **All - check off as yellow when they have been picked up - by Friday**
 - ☐ Controls
 - ☒ Boiler sizing
 - ☒ HX loop approach
 - ☐ AHU-2 preheat coil
 - ☐ Exhaust for Mothers room 105D (calc, update bod)
 - ☐ Duct roof penetration details for different shapes and insulated vs non insulated
- ☐ Generator Stack **Adi**
 - ☐ Detail
 - ☐ Drawing on M102?
 - ☐ Specification (See 12138 OGR for example spec)
 - ☐ Coordinate with structural for guy-wires, inform architectural
 - ☐ How much for aftertreatment? Yearly and initial cost breakdown. How much "treatment" does this provide?

Mech - Completed

- ☒ 1. Redo-AHU-2 relief duct pantlegs or single-sided relief to miss the matelines. Leah
 - ☒ a. Coordinate with Satellite and RST if we can't make this work.
 - ☒ b. Can they have unequal size modules and still stick with two?
 - ☒ c. Conflict with structure in AHU-2 penthouse - flatten supply duct to make it fit or raise the roof.
 - ☒ i. Email RS&T
 - ☒ d. Omar - are we definitely proceeding with the changes described yesterday? Moving the AHU plan north and routing duct on the south? Coordinate with Ace/RST to move the AHU
- ☐ 2. MECH ROOM - Pump pad WRT floor hatch ~~Leah coordinated with Ace before submission~~
- ☐ 3. AHU-2 duct connection to relief hood - section or detail Leah
- ☒ 4. Humidifier drain cooler and open site drain. Leah
 - ☒ a. Is drain cooler integral? Leah
 - ☒ b. Floor drain versus floor sink? Sanitary floor sink Leah
- ☒ 5. Exhaust Entrainment Adi
 - ☒ a. Adi to re-run west model with tighter mesh
 - ☒ b. Run west with new generator and EF-2 stack design
 - ☒ c. Need to add generator exhaust stack and do static pressure calc to make sure allowable backpressure is not exceeded. Do we need the aftertreatment system? Noe/Adi
 - ☒ d. Need to reassess if changes to EF-2 exhaust are needed to avoid bldg 14 entrainment. Ian/Adi
- ☐ 6. Robot exhaust controls Dana/Ian
 - ☐ a. Detail or specify the connection type at the robot
 - ☐ b. Controls are all internal and determined based on heat generated within the robot.
- ☐ 7. Any Kirlin/Siemens comments not picked up?
- ☐ 8. Coordinate Condensate trap size with concrete pad thickness and base rail Leah - check with Sean drain height? 9-3/4" height
- ☒ 9. Optics Rooms - Sound Attenuators and sound calcs from MBP Omar
- ☒ 10. Bluebeam Kirlin comments "need to discuss". Leah/Omar
 - ☒ Sound attenuators coordination with Andy Ian
 - ☒ Rectangular roof penetrations. Jason comments Ian
 - ☒ Air side riser diagram (19037) - Ian - Omar review set
 - ☒ Chilled water piping building entrance Leah
 - ☒ Option 3
- ☐ ~~Crawl space perforated wall confirmation from ZGF - water penetration? Grade slopes away from building.~~
- ☒ Duct Roof Support heights - email to Kirlin Omar
- ☒ Coordinate VAV locations in office area with architectural ceiling panels. Adi
- ☒ Utility Rooms - Consider constant volume for room balance considerations. Ian
- ☒ Add insulation to all piping and ductwork before next clash detection
- ☒ Confirm glycol loop numbers with Will Dargan Leah
- ☒ Coordinate with ZGF penthouse louver location. Leah
 - ☒ 9/23 - They've still got it wrong.
- ☒ 11. Spec all parts of the glycol system Leah
- ☒ 12. Ask MFR to review HX spec Leah
- ☒ 13. Roof Duct support heights. Dana/Omar
- ☒ 14. KDB markups of pipe clashes with structural Jay
 - ☒ 4 pipe FCU selections from Kevin Leah/Ian
 - ☒ Add to plans - Penthouses, penthouse electric rooms Leah
 - ☒ Corrosive cabinets - hook up to laboratory or FH exhaust.
 - ☒ Specify high-quality balancing dampers. Ian
 - ☒ Email Kirlin for ideas or preferences Leah