



WRITTEN INQUIRIES AND RESPONSES TO THE FOLLOWING RFP

Nanophotonics Cleanroom

Purchasing Agent: Elevate Quantum
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BID DUE DATE AND TIME: 24, January, 2025, 5:00 PM (Mountain Time)

SCHEDULE OF ACTIVITIES	DATE	TIME (MT)
RFP Publication	20, December, 2024	
Written Inquiry Deadline	14, January, 2025	3:00 PM
Publication of Responses to Written Inquiries	No later than 22, January, 2025	5:00 PM
RFP Submission Deadline	3, February, 2025	5:00 PM

QUESTIONS:

The following questions have been submitted from vendors related to this RFP and are being provided with responses (**in red**) to all interested parties:

1. The RFP lists two dates for an information session, 1/9 and 1/8. Could you please tell me which date it is, and what the details are? Is it in person or via Zoom/Teams?
 - a. January 8th will be the date of the information session. The session will be held virtually. Meeting and login details will be sent out on January 3rd. Slides from the info session are included in Appendix I
2. What is the overhead clearance of the existing building to where the Cleanroom is going to sit?
 - a. TBD. Not designed yet, if cleanroom vendor requires specific space, please specify in RFP response.
3. Air Handlers are to be located in the Utility Area across the main hall?
 - a. Location TBD with input from cleanroom vendor. For the purposes of bidding, assume ductwork to go up and over Main Hall to the cleanrooms.
4. Where are the outdoor condensing units to live? (DX split systems)
 - a. Bidders to propose DX or chilled water. If DX, condensing units would be outside the building at grade
5. -or- Is chilled water available for CW Air Handlers? If so, what is the water temp (Would need to be below)
 - a. Bidders are to propose DX or chilled water. If chilled water, bidder to propose appropriate chilled water temperature to meet cooling and dehumidification requirements

6. Is DI or RO water available for the Humidifiers?
 - a. Bidders to provide DI or RO as necessary for humidification
7. A condensate drain in the Mechanical area?
 - a. Assume that condensate will have a place to drain in the mechanical area.
8. This project has an approximate budget of \$2.0m for the cleanroom and process engineering of a clean room space. Does this refer to engineering only? If not please elaborate.
 - a. \$2M is the turn key budget for the design, procurement, and installation of the clean room.
9. Page 5 notes this scope of work is ONLY for the cleanroom design and associated process engineering and the scope of work cleanroom section seems to show a number of the equipment skids such as PCW but these are listed as part of the “building”/core and shell scope so is it safe to assume all of those house and process skids will be done by others for engineering and design WITH input from the cleanroom design team. The section seems to show the CR designer would be responsible for the dedicated air handlers for serving ONLY the cleanroom. It’s typical that the cleanroom and HPM areas require dedicated exhaust depending on quantities and HPM types. NOTE: The HPM and related equipment seems to be part of the Building scope as well. The lines of scope separation need some additional clarification, particularly with demark lines between the cleanroom and building scopes on the design and documents.
 - a. Cleanroom vendor is only responsible for cleanroom air; all other areas (HPM, etc.) are parent building.
10. Bidders Requirements- A schedule Gantt chart is required but the cleanroom is only part of the overall fab building effort. Wouldn’t it make more sense for this to be provided by the fab building design team and the cleanroom bidder can align their proposal to the established timeframe for the overall project? It doesn’t make sense to have the cleanroom designer driving the master schedule. Based on the table in Section 8, this effort looks like it’s from programming/conceptual design to the end of the CA phase since it makes notes about as-builts and project close-out.
 - a. Bidders should provide a Gantt chart for the fastest design and installation of the clean room. Coordination of the clean room schedule with the building construction schedule will be conducted with the selected team. If any assumptions need to be made by the bidder please just highlight those assumptions in the bid or Gantt chart
11. Is it possible to get an extension on the proposal submission due date?
 - a. We have extended the submission deadline. The new deadline is 5pm MT on 2/3/2025.
12. Is there an expected timeline for when this cleanroom project could start based on what the new Fab building is projecting finishing the core/shell for this area?
 - a. Our expected timeline is for the cleanroom project to start within 4 weeks of the award date. At this point the CR vendor will coordinate with our Fab vendor for design and construction. We estimate construction on the cleanroom to begin Q4 of 2025.

13. The RFP Lists this as a non-profit organization. Is there a tax exemption for this project?
a. This purchase will not be sales / use tax exempt.
14. The Information Session slides have a section about a draft contract being available by 1/13. Can we get a copy of this?
a. Our preference is to use DBIA Contract #530 Standard Form of Agreement Between Owner and Design-Builder – Cost Plus Fee with an Option for a Guaranteed Maximum Price. See version attached to amended RFP.
15. The 8' wide doors at the wipe-down area require adjustments to the wipe-down space, corridor, and part of the chase, increasing their widths by 1' each. Are 8' doors necessary, or would 7' doors be sufficient?
a. 8' wide doors are preferred, but 7' doors are the minimum acceptable
16. Is sketch representation of equipment through walls accurate?
a. We have not yet selected the exact make and model of process tools. This will occur over the next few months. For bidding purposes, we have updated the TUM (column T) to show which tools are likely to require bulkhead through-wall penetrations at equipment location.
17. Does HVAC for cleanroom need to accommodate future spaces?
a. For the purposes of bidding, no.
18. Would a door or removable panel be acceptable ilo knocking down chase wall for future expansion?
a. Yes, however we should account for a minimum of two doors/panels, one in the chase and one in main cleanroom hall.
19. Is AWN part of our scope?
a. No.
20. Is the intention for cleanroom to be raised floor? If so, what are the raised floor requirements?
a. No.
21. Confirm Building is supplying Exhaust and Scrubber System?
a. The parent building will provide exhaust. We are requesting the cleanroom vendor to include an allowance for the scrubber system in their bid.
22. Where are the CR AHU's to be located? Where are CR ACCU's to be located?
a. See response to #3 re AHUs. ACCU's are to be located by cleanroom vendor.
23. On CSM QCO Scope breakdown, what is the connection between Building AHU and CR Ahu? What is the assumed temperature of air between units?
a. No connection. Bidder to provide necessary air temps.
24. What is purpose of airlock at Litho?
a. To help maintain specs for the Class 100 litho space.
25. Please provide overall exhaust cfm by object or by room, then by acid vs general?

- a. The main drivers for exhaust are expected to be the solvent bench and acid bench. We request bidders to make reasonable assumptions for these given a typical 8ft wide bench.

26. Will Acid Exhaust/Scrubber be constant flow?

- a. Yes, except for the possibility of purchasing an acid bench with a variable height sash. In this case the flow may be reduced at times.

27. Where will door for Gowning Supplies lead to?

- a. Into main hall, outside of the cleanroom. Not in scope for this RFP.

28. Noise levels called out in multiple places at 65 and 70db. Need verification to which.

- a. 65 db max allowable within clean process areas.

29. For acid exhaust duct, would PVC be acceptable ilo 316ss?

- a. PVC is not acceptable, however cleanroom vendor may suggest alternatives compatible with acid exhaust.

30. Confirm ceiling heights in Wipe Down, Clean Corridor, Gowning, and Supplies room.

- a. 9' clear

31. What is the height of the building surrounding cleanspace? Height to deck?

- a. TBD, see response to #2.

32. What size windows and how many?

- a. Window size TBD. We want visitors to be able to have clear views of the bays inside of the CR. One window in front of the Litho bay, Etching bay, Deposition bay. One window should also be located inside the gowning area for viewing into the CR.

33. Confirm that Litho area and surrounding chase space needs to be isolated for HVAC? If so, how is that to be accomplished via sketch assuming chases will be return air path?

- a. We are not envisioning the chase around litho to be isolated. Rather return air though the chase will recycle back to the AHU and be reused in the litho bay. If alternative configurations are more cost effective, please describe in the proposal.

34. Is door interlocking required?

- a. No interlocking is required. The litho bay airlock procedure will be enforced by user training.

35. Confirm the building AHU is providing outside air / pressurization air to the CR AHU per pg. 29 of the RFP.

- a. Confirmed

36. Confirm that the Acid and General exhaust is being supplied by the Fab Building contractor per pg. 29 of the RFP.

- a. Confirmed. However ductwork within CR is in scope and needs to connect to building system.

37. Which of the listed chemicals and gases in the RFP require distribution piping? The small quantities of many of the systems seem to indicate point of use within the cleanroom and may not require costly piping distribution.
- a. Silane, dichlorosilane, ammonia between gas room and tools, and GN2 from generator to tools
38. Confirm all environmental permitting is by CSM or Elevate Quantum (air and water permitting, etc.).
- a. Correct, by Mines or Mines consultant.
39. What is the desired cleanliness of the chase space?
- a. ISO 8
40. Please clarify if a house vacuum system is required, or if all vacuum systems are provided with the specific tool? Exhaust out the roof or into central exhaust system?
- a. No house or process vacuum will be provided by any vendor/provider. Any vacuum systems will be part of equipment by others. Exhaust will be through parent building exhaust system.
41. Please confirm that all bidding contractors are required to provide design durations for each SD/DD/CD milestone, procurement durations, and construction install durations. Design milestone shall also include deliverable to the Fab/Shell building team to include the following; floor plan layout, establish minimum size (x, y, z) of the cleanroom (day 1), approach to cleanroom expansion, environmental, vibration, utility demands. Durations need to be based on CR Team award NTP.
- a. Confirmed.
42. Please confirm no CDA required. RFP states there will be no CDA, and all pneumatic needs will be provided with GN2. Clarifying here since the TUM notes CDA for many tools.
- a. For purpose of bidding, all needs are GN2. Tools specifying CDA in the TUM should assume the equivalent quantity/flow of GN2.
43. Are proposing teams allowed to submit with committed trade partners (committed pending award of this RFP)?
- a. Yes
44. Please confirm the attached scope matrix accurately captures the definition and separation of design and construction services for the Cleanroom.
- a. An updated scope matrix will be uploaded with the amended RFP
45. Is a limestone chip neutralization pit assumed to be provided by the base building contractor?
- a. No. Part of process drain system and therefore part of CR vendor scope.
46. Are exhaust fans provided by base building contractor and sized by cleanroom process engineer?
- a. Yes

47. Is energy recovery required for this project? If so, is this the responsibility of the Cleanroom contractor to design & install?
- No.
48. Page 17 calls for a pre-action system. Who provides the pre-action valve?
- For the purposes of bidding, assume that the pre-action valve is by others.
49. In section 5.1 Confirm "Vendor" is intended to be EQ/Octave's tool & equipment installation vendors and is not part of the Cleanroom Team's scope.
- Elements listed in 5.1 for equipment provided by cleanroom vendor is in cleanroom vendor scope. See #16 for response about cutouts required for bulkhead tools.
50. In section 5.1 define "Parent Building"
- Parent building refers to the larger building that houses the cleanroom. Cleanroom vendor shall provide pipe supports for cleanroom vendor pipes including any utility runs necessary to connect to parent building.
51. Once the definition of "parent building" is established, then it needs to be confirmed who owns this scope.
- See scope matrix in Appendix G of the amended RFP.
52. Section 6.1, temp and RH% tolerances are very tight. Please confirm.
- The environmental specifications listed in the RFP are desired for best process control of critical tools. If this is prohibitive cost-wise given the budget, bidders may propose relaxed tolerances as an approach to value engineering.
53. Please confirm flooring within the cleanroom should be the responsibility of the Cleanroom Contractor's scope so the base building (Fab) contractor does not have any responsibility to perform work within the cleanroom.
- Confirmed. ESD Epoxy flooring is to be included.
54. Section 6.2.1 - Confirm this is the wall around the Litho Bay.
- Confirmed.
55. Section 6.2.1 "Outside the fabrication area envelop in the utility area" should this read "outside of the Cleanroom area envelope in a utility space provided by part of the base building (Fab) contractor's scope"?
- Yes.
56. Section 6.2.1 Are there three separate AHU's and a MAU? There is a building AHU, and a clean room AHU.
- The building AHU is available to provide makeup air to the clean room AHU. Cleanroom air handling design is the responsibility of the cleanroom vendor per the requirements of the RFP.
57. Section 6.2.1 – Paragraph 3 - Confirm that "Vendor" = CR Team.
- Confirmed.

58. What requirements are there (if any) for AMC (Airborne Molecular Contamination) concerns?
- a. **We are not specifying any requirements for AMC in this RFP**
59. Section 6.4 confirm intent to pipe these solvents to the lime chip pit). Confirm these solvents should be drained to local collection (carboy) for manual haul-off). These benches are on opposite sides of bay 3 so does this imply lift station?). If lift station is needed, please confirm piping material/type (double-containment?).
- a. **Solvents to be collected locally and hauled. No lift station intended local collection at tool only.**
60. Section 6.4 - Confirm that "Vendor" = CR Team.
- a. **Confirmed.**
61. Section 6.4 - Fan to be engineered by CR Team, furnished & installed by Fab contractor?
- a. **Yes.**
62. Section 6.5 Is "Exterior Building" intending to be referring to the base shell "Fab" building, or another building all together?
- a. **Exterior Building refers to the shell (or parent) building. These are used interchangeably.**
63. Section 6.5 Allowances are only for the equipment, or equipment + distribution?
- a. **For PCW and electrical, this should be distribution only. For UPW and limestone chip pit, this should cover the complete system. Regarding nitrogen, for purposes of bidding please include an allowance for both the distribution and generation equipment.**
64. Section 6.5 Assume that a vacuum pump is a tool/equipment and therefore will be the responsibility of EQ/Octave. Does there need to be any design & engineering, and does there need to be piping distribution?
- a. **Vacuum pumps are not in scope for this RFP. Any required piping connections between pumps and the process tools will be made by others.**
65. Section 6.5 Who provides the pre-action valve? Is this located within the Cleanroom team's scope?
- a. **See response to #50.**
66. Section 6.5 Will floor drains be required at the Emergency Showers?
- a. **For the purposes of bidding, no.**
67. Section 6.6.3 Where is this control room?
- a. **TBD but outside of the cleanroom. For bidding purpose, assume in SW corner of purple area shown on sketch.**
68. Section 6.2.1 identifies a "Utility Area" where the Cleanroom AHUs & MAUs will be located. Will this "Utility Area" be located in the purple space as indicated, on the other side of the H5 2-hr fire rated wall?

- a. No, not in the purple area but will be outside of the cleanroom. For bidding purpose, assume cleanroom side of the rated wall.

69. Confirm there is no connection between the building AHU and the Cleanroom AHU(s)

- a. Confirmed no connection. The building AHU is available to provide makeup air for the cleanroom AHU.

70. Confirm this installation cost includes Cleanroom installation + Process Utility installation.

- a. Confirmed.