



## Friedman Memorial Airport (SUN) Request For Proposals

**June 1, 2021**

### Responses to Vendor Questions

**June 18, 2021**

Question Number	Question	Section Reference	Response
1	"Please define transition / cutover requirements to the vendor, if any?"		The existing ATCT will serve as the safety mitigator during testing, after testing and operational certification cutover/transition from the existing ATCT to the remote tower which is expected to occur over a single night. This will require all connectivity power and communication be in place and tested.
2	"Please provide links or attachments to all referenced documents."		The documents referenced in the RFP are currently under development by the FAA and should be obtained by the vendor from the FAA. Referencing these documents in the RFP was done to advise the vendor that at the time of implementation these documents may be in place.
3	"Would it be possible to submit proposals electronically on July 1st with hardcopies being sent via mail the same day?"	RFP Item 5 Page 3	Yes.
4	"We assume the 50 page limit excludes the cost proposal, the traceability matrix, and resumes. Is this a correct assumption?"	RFP Item 12 Page 5	Yes.
5	"What is the timeframe for ". anticipated annual costs required to ensure the remote tower system maintains operational readiness"?"	RFP Item 12 g5 Page 6	Annual cost pre-certification is during the testing and certification of the system. Post certification O&M should be for a 5 year period.
6	"Under Administrative Documents & Completeness of proposal the first bullet states: The proposal has all the required documents required in Item 10 above "Submission Requirements." - Item 10 above "Submission Requirement" is labeled "Project Cancellation". Can you please clarify?"	RFP Item 13, Item 10 Page 9	Based on the FAA's position on certification of remote tower systems and the vendor fee proposal the Friedman Memorial Airport may elect not to go forward with a remote tower solution.
7	"Please elaborate what you mean by the reference to "track-based surveillance (radar)."	Exhibit A Page 9	Track-based (radar) surveillance refers to a display of primary and secondary radar data that will provide the VFR controllers enhanced situational awareness. It is expected that the data for the display(s) will be STARS data via a SWIM connection and may be supplemented with on-site non-Fed ADS-B radio(s) or other radars. The track-based displays may be integrated into the vendor's automation platform or standalone. The vendor is free to propose other data sources.
8	"Is the equipment for this requirement considered GFE?"	Exhibit A Item 4 Page 11	Yes. The vendor will be required to make provisions for and coordinate equipment placement in the remote tower with the FAA.
9	"What is the intent of the "220+/-" secondary array(s)? How is the "+/-" intended to be applied?"	Exhibit B Item 3b Page 12	The secondary array is intended to supplement and enhance, as required, the controller's visibility of the airfield, local traffic pattern and approach/departure corridor. The "+/-" denotes that the final camera configuration will be determined by a site survey.
10	"Can we assume there is power and a conduit to run comms to each end of the runway for the 220 deg arrays?"	Exhibit B Item 3b Page 12	No. A detailed site survey to include review of airport infrastructure documents will be required to verify power and comm availability.
11	"Clarify who is responsible for the provision of the closed fiber optic network?"	Exhibit B Item 10 Page 12	The vendor will be responsible for installation of the fiber optic infrastructure necessary to support remote tower operation.
12	"Is remote monitoring intended to be from an onsite facility or a facility outside of the boundaries of the airport? Who is performing the remote monitoring?"	Exhibit B Item 14 Page 12	The vendor will monitor the health of the remote tower system onsite as required by the FAA during implementation, testing and certification and remotely monitor the system during times when the vendor is not on site and after certification to provide necessary O&M.
13	"The FAA remote tower order requirements have not been finalized by the FAA. Please identify what requirements we need to propose to satisfy this RFP requirement."	Exhibit B Item 16 Page 12	In the absence of the final FAA Remote Order the requirements in the RFP are the ones to be proposed to. As there currently is not a certified remote tower system in the NAS, the reference to the FAA Order is included to alert the vendor that this document is being prepared based on testing at the Northern Colorado Regional Airport (FNL) and the Leesburg Executive Airport (JYO).
14	"The remote tower system requirements have not been finalized by the FAA. Please identify what requirements we need to propose to satisfy this RFP requirement."	Exhibit B Item 17 Page 13	Same as question 13 above.
15	"Do you require O&M cost only for the remote tower system (first part of Exhibit B - Remote Tower System)?"	Exhibit B Item 19 Page 13	Yes.



16	"How will the 95% probability of detection for the camera tracking system be validated?"	Exhibit B Item 3 Page 14	The probability of detection may be validated using the track-based display in conjunction with visual observations and Differential GPS in test aircraft. Given the current state of video tracking system development the 95% probability of detection within the local airspace may not be achievable.
17	"What altitude range is the track-based surveillance system covering?"	Exhibit B Item 5 Page 14	Surface to 16,000 feet MSL.
18	"Regarding point #12 Submission Requirements, point g. Cost proposal, 5. Recurring costs, point ii Anticipated annual ongoing costs: is the expectation to include staffing cost estimates for the remote tower controllers in the annual ongoing operation costs? If so, do we assume the same hours of operation and are the insurance requirements provided in Exhibit D?"	RFP Item 12 g 5 ii Page 6	The hours of operation will remain the same as the existing ATCT and vendor should include the cost of additional controller staffing during testing and system certification.
19	"Noting that the solution will include infrastructure - yet with the understanding that the install locations may include locations near existing buildings and amenities, can SUN provide diagrams to show existing network (i.e. any existing fiber lines between buildings and around the airfield) and power infrastructure that can be used for the system?"		There are no existing buildings that are suitable to be modified to accommodate the remote tower facility. SUN will supply all airfield infrastructure drawings as necessary.
20	"What level of coordination is expected to support the FAA in providing the FDIO? Is it just to ensure there is space on the consoles for the FDIO? Or will the vendor need to coordinate for power availability? Data availability? Control systems? Integration? Etc."	Exhibit A Item 4 Page 11	The Vendor is to provide space, location and power to support the FDIO display, keyboard and printer in their console design and coordinate with the FAA. All other elements including the rack will be provided by the FAA. Note that vendor shall provide sufficient space in the equipment room to accommodate Airport, vendor and FAA equipment racks (5-7).
21	"Regarding point #4 of Visual Surveillance System (Ex B): Is it acceptable if the zone of invisibility is covered via PTZ sensors only, or must it be a permanent fixed view?"	Exhibit B Item 4 Page 14	Yes. The vendor may also provide other solutions such as overlapping visual camera coverage, procedures to monitor "zone of silence" with track-based display, etc.
22	"Regarding point #8 of Remote Tower System (Ex B) "IR tracking of non-cooperative targets": Would this refer to the display of bounding boxes around detected objects in the camera view (i.e. "Box&Follow") or rather PTZ automation where an IR PTZ camera can reposition automatically to follow a detected object?"	Exhibit B Item 8 Page 15	This does refer to bounding boxes around detected objects. The IR tracking system should be presented on the video displays at a minimum. While not a requirement, an IR PTZ tracking could be a proposed option.
23	"Regarding point #11 of Track-based Surveillance System (Ex B): What is the expectation for providing proof of certification? Does the statement imply that the system shall only be used as a situational awareness support tool and not to provide runway separation?"	Exhibit B Item 11 Page 15	The track-base surveillance system is to be certified as a non-federal piece of equipment for situational awareness only and not for radar separation. The track-based display shall mimic graphically a STARS display. The vendor will be required to assist in securing system acceptance by the FAA as a situational awareness tool or become certified as a non-federal component.
24	"Regarding point #16 of Remote Tower System (Ex B): Can you confirm whether this refers to RTCA DO287A, or otherwise can it be provided (as we were unable to find a Remote Tower Order on the FAA website)?"	Exhibit B Item 16 Page 15	Refer to question 13 above. In the absence of the final FAA Remote Order the requirements in the RFP are the ones to be proposed to. As there currently is not a certified remote tower system in the NAS the reference to the FAA Order is included to alert the vendor that this document is being prepared based on testing at the Northern Colorado Regional Airport (FNL) and the Leesburg Executive Airport (JYO) .
25	"Regarding point #17 of Remote Tower System (Ex B): "The most current RT Requirements" - does that refer to any specifically published requirements, or should the vendor suggest the requirements?"	Exhibit B Item 17 Page 15	The reference to the " ... most current remote tower requirements" is intended to alert the vendor that the FAA is in the process of developing documents that may affect the Friedman Memorial Airport system.
26	"Regarding the Visual Tracking System: Is it expected that "tracks" are displayed only on the video presentation (as bounding boxes or adaptable symbols), or is it required that they are displayed on the map as well? Are the conditions known by which the displayed symbol will vary (eg. flight status? Detection status? Distance / size of detection?) Is there an expectation of performance related to tracking (over and above the 95% Probably of Detection already specified)? Is there an expectation of fusion of the visual data tracking with the track-based surveillance data?"		The video tracks should be presented as bounding boxes or other symbology on the video display. The display symbols as a function of status has not been determined. There is not expectation of tracking performance over the 95% Probability of Detection (See answer to Question 16 above.) The ability to associate a track-based target with a video track target may be overtaken by events with the display of ADS-B targets.
27	"Are there any cybersecurity requirements in place by SUN or the FAA that would apply?"		Cyber security for the remote tower facility and system shall meet the FAA FCT requirements. System cyber security will be assured by the cameras being on a closed fiber system, as well as any track-based sensors.

28	"Does SUN anticipate or desire to have SUN employees trained to provide support for the system, or is the preference to have the vendor anticipate providing local support contractors when needed?"		The vendor should be prepared to provide training to permit airport staff to perform low level O&M such as replacement of a defective camera, display, or other basic component.
29	"If SUN employees will be trained for support, how many persons will be available to be trained? Are there requirements for training?"		Up to 10 SUN Employees may require training.
30	"Where on the scope between vTWR vs the building infrastructure do the following items fall: equipment racks, power provision (AC, dual circuits, UPS and STS), cooling for rack equipment & control room), Human Factors study (for room rlighting, lines of sight, etc.), Provision of console desks & chairs?"		Equipment racks are the responsibility of the vendor or FAA. All other items are either facility requirements or in the FCT MEL.
31	"Is it expected that CWP machines and VWall machines will need to be KVM-extended, or can be they placed in the control room?"		No KVM extender should be required.
32	"Regarding Exhibit C: can SUN share the details of any existing facilities that are available for use as-is or available for refurbishment? Likewise, any details on the existing power and network infrastructure that is available to support the remote tower system including quantity and locations."	Exhibit C	The Airport has determined that there are no suitable existing facilities that can be refurbished, see response to Question 19. The Airport has existing infrastructure and facility drawings and will provide upon request.
33	"Regarding Exhibit C: Is the expectation for ROM costing for each option proposed by the vendor, or is detailed pricing expected? If detailed pricing is desired, can SUN grant an extension to the current RFP response deadline to allow contractors sufficient time to create quotations."	Exhibit C Page 12	The vendor is not expected to provide detailed pricing at this time, only a rough order of magnitude to be refined after a site study has been performed and subsequent to consultation with the Client.
34	"Can you please confirm that the vendor is required to propose at a minimum <i>one</i> of the three given alternatives, i.e., not required to propose a new facility and at least one of the two other alternatives."		Vendor is required to propose a budgetary cost for at least one of the alternative. As a detailed site study has not been completed the vendor can submit their suggested alternative. Also see response to Question 33 above.
35	"Can you please confirm that an alternative system configuration which centers on a panoramic video wall but does not provide individual displays for each controller working position is acceptable."		It is intention of this RFP to provide the vendor with the maximum flexibility when proposing a remote tower system. There is no expectation any specific display configuration
36	"Can you please provide the referenced "standard contract terms" and "Friedman Memorial Airport Special Provisions" intended to be incorporated into a resulting formal contract."		The Friedman Memorial Airport will not supply "standard contract terms" at this time. The vendor will be supplied with these documents as part of the contract negotiation phase. Upon selection by FMAA as the successful proposer, FMAA will engage the vendor to develop a detailed scope of work and resulting contract. If terms cannot be negotiated with the top ranked vendor, the scoping and contract negotiation process will be initiated with the second ranked vendor.
37	"would the Airport consider amending its RFP to remove the technical specifications of a distributed camera system and a specific frame rate, providing for a performance-based visual surveillance system, and a more level playing field for all vendors?"		The RFP will not be amended. However, the vendor is encouraged to submit alternative system architecture along with benefits of the alternative and benefits that may be specific to SUN.