



County of El Paso Purchasing Department
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ADDENDUM 4

To: *All Interested Bidders*

From: *Lucy Balderama, Inventory Bid Technician*

Date: *April 10, 2013*

Subject: *BID# 13-018, Smoke Evacuation Exhaust System for the El Paso County Jail Annex*

This addendum has been issued to notify the vendors of the following questions and modifications:

- ***The deadline for questions has been extended to April 17, 2013 at 12:00 p.m.***

1. *Can we schedule a walk through?*

Response: *A walk through was held on April 4, 2013 at 9:00 a.m. Please see addendum 2 on our website at www.epcounty.com for walk through information.*

2. *Can we extend the deadline for questions and bid opening?*

Response: *Yes. The bid opening has been extended to Monday, April 29, 2013 at 2:00 p.m. as stated on addendum 3. The deadline for questions has been extended to April 17, 2013 at 12:00 p.m.*

3. *Is the system automatic?*

Response: *Yes it is automatic and needs to be in compliance with TCJS.*

4. *What trips it off?*

Response: *Smoke is what trips it off, as per TCJS.*

5. *Is that part of the fire control system?*

Response: *Yes, as per TCJS.*

6. *Is the equipment to be installed going to be tied into that systems?*

Response: *The smoke extraction/exhaust system for the holding cells must tie into our current smoke extraction/exhaust system as per TCJS.*

7. *Do you need another POC or new programming?*

Response: *You will need to program what you put in. We want it to go off only in case of a fire or when smoke is detected as per TCJS.*

8. *If so how will it tie in?*

Response: *It will tie into our current smoke extraction/exhaust system.*

9. *How many rooms?*

Response: *There are 12 rooms.*

10. *Is there any conduit that we are going to have to add on or boxes?*

Response: *You as vendors will decide during the walk through.*

11. *Are the fans one or two speeds?*

Response: *The current fans are single speed. We need two-speed fans as per TCJS.*

12. *How often do you test this system?*

Response: *We test monthly as per TCJS.*

13. *How is testing done?*

Response: *It is tested with smoke.*

14. *Do we do one cell at time?*

Response: *It depends on how many can be done at one time; contractors have to be escorted to and from areas. It will be discussed with awarded vendor.*

15. *May we have any electrical and/or electronic schematics related to the exhaust system? The schematics should show in detail all voltages and signals from electrical panels, switches, PLC cabinets and any other sources.*

Response: Yes. All interested vendors may view the documents at the Purchasing Department located at 800 E. Overland, Room 300, El Paso, Texas, 79901.

16. Will you provide any information available about the GE EST 3 Fire Control PLC panel and program?

Response: Yes. Please view question #15.

17. Please provide all contractors with the state requirements pertaining to the required fan speeds at your facility.

Response: This should be a two speed fan and provide a minimum of 20 or higher air exchanges per hour during purge mode(TCJS) See TCJS rule on Smoke Management attached?

18. What voltages are required on the roof to run the exhaust fans?

Response: They are 120 volts.

19. Would the County entertain recommendations and options for a more reliable smoke evacuation systems?

Response: We need smoke evacuation/exhaust systems for the holding cells that tie into our current smoke evacuation system which evacuates smoke from the housing area cells.

20. Is there an engineer estimate for this project? If not, do you anticipate this project to be over \$50,000?

Response: No. Project should be engineer designed.

21. Would you like for us to submit pricing for 120v and a 480v?

Response: Pricing for a 120v is will do.

Per TCJS:

- **They will need to ensure a minimum of 15 air exchanges per hour under purge. (systems are usually designed at 20 or higher air exchanges per hour to get that 15 exchanges) If the smoke evacuation system is part of the HVAC and shares the same ducts, you will need 2 speed fans, low speed for normal air exchanges and high speed for the air exchanges under purge to remove the smoke.**
- **There must be an air and balance report and certification.**
- **For the smoke tests the smoke introduced must be twice the cubic feet of the room.**
- **There is a 60 second detection requirement to initiate the system.**

- *The system has a 15 minute reset and the smoke must be clear by the time of reset.*
- *Remind the vendors to watch the differentials between the air supply vents and air exhaust vents. If they are too close together the system will not work.*

Texas Administrative Code

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TITLE 37	PUBLIC SAFETY AND CORRECTIONS
PART 9	TEXAS COMMISSION ON JAIL STANDARDS
CHAPTER 263	LIFE SAFETY RULES
SUBCHAPTER E	LIFE SAFETY AND EMERGENCY EQUIPMENT
RULE §263.51	Smoke Management

(a) **General**

Jails shall have a sufficient means of managing smoke from a fire to permit orderly movement of inmates from the area of a fire incident. Smoke management shall limit the exposure of staff to untenable conditions when responding to a fire emergency. The means of smoke management shall be a combination of compartmentation, control of smoke migration from the affected area, and means of removing smoke to the exterior of the building. The smoke management system shall include the consideration of:

- (1) automatic and manual fire detection;
- (2) automatic and manual fire alarm;
- (3) automatic and manual smoke control system activation;
- (4) automatic and manual fire suppression;
- (5) maintenance of safe means of egress;
- (6) movement of inmates from affected area to an area of safety;
- (7) containment of smoke to space of fire origin;
- (8) automatic and manual removal of smoke.

(b) **Coverage**

(1) Smoke management shall be provided throughout all detention and support areas within the security perimeter.

(2) Mechanical smoke control systems and smoke removal systems shall be provided for all inmate housing areas, including cells, day rooms, dormitories, and special purpose cells.

(3) For the purpose of smoke control and smoke removal systems, the affected area shall be deemed to be the compartment consisting of a cell, day room, dormitory, or special purpose cell, in which the fire incident originates. Where open grating or mesh walls are used, the affected area shall be restricted to the cell(s) and the adjacent day room.

(c) **Compartmentation**

Smoke barriers shall be provided in accordance with the Life Safety Code, NFPA 101 14.3 concerning Subdivision of Building Spaces.

(d) **Control of Smoke Migration.**

- (1) The fire detection system shall promptly detect smoke within the affected area.
- (2) Upon detection, an alarm system shall automatically alert the control station(s) and initiate the automatic smoke control system.
- (3) The smoke control system shall automatically, by pressure differential and/or air flow, contain smoke in the area of fire origin.
- (4) Smoke control systems shall be designed so that smoke is restricted from entering the means of egress during the evacuation of inmates by providing sufficient air flow through exit access doors, when open.
- (5) A manual override capability shall be provided in the event of detection failure and for testing purposes.

(e) **Smoke Removal**

- (1) All jails shall be provided with smoke removal capability, except as provided under subsection (g) of this section, relating to exceptions.
- (2) The smoke removal system shall have the ability to remove smoke from the affected area to the exterior of the building using fixed mechanical equipment. Existing facilities (in operation prior to December 23, 1976) may be exempt from using fixed equipment when portable equipment is provided.
- (3) During smoke removal, smoke shall not migrate from the affected area to other areas of the building.
- (4) Smoke removal systems shall be designed to develop airflow patterns within the affected area which contribute to the dilution and removal of smoke. Air devices for supply and exhaust shall be separated by a distance of not less than 75% of the horizontal dimensions of the compartment and so arranged to provide airflow coverage of at least 50% of the vertical dimension of the compartment. Alternate air device configurations which have demonstrated effectiveness by field-testing or mock-up testing may be approved.
- (5) Capacity of the smoke removal system shall be sufficient to comply with subsection (f) of this section relating to smoke testing. Facilities in operation or initiated prior to March 31, 1991, which are not provided with a complete smoke management system (as required by this section) shall provide smoke removal capability, being automatically activated by the smoke detection system when utilizing fixed equipment, meeting the smoke testing criteria established by the commission on September 27, 1989. Designs for smoke removal systems which provide air change rates of less than 15 air changes per hour shall not be utilized. Design consideration shall be given to system configuration, friction loss, pressure drops and differentials, air leakage, and other construction characteristics, which may necessitate safety factors being included in design calculations.
- (6) A manual override capability shall be provided in the event of detection failure and for

testing purposes.

(f) **Testing**

(1) General Testing of the smoke management systems in all facilities shall be in compliance with the requirements of this section.

(2) Functional Testing.

(A) Air Balancing Certification. Prior to any other testing of new smoke management systems, an air balance report prepared in accordance with nationally recognized practices shall be submitted to the county. Such report shall bear certification that the smoke control and removal systems meet the engineer of record's design requirements with respect to pressure differentials achieved and air flow rates necessary to meet the intended smoke management operation. A copy of the air balance report shall be maintained at the facility and made available to the commission's inspector during all tests and inspections. An air balance report on an existing system may be required by the Texas Commission on Jail Standards when there is evidence that the smoke management system has been impaired due to modifications to the system or inadequate maintenance.

(B) System Operation. A test of smoke management system's initiating devices and control systems' output shall be performed. Such testing shall verify that, upon activation of a smoke detector, water flow indicating device, manual fire alarm station, or other smoke management system initiating device, the smoke management system components will automatically commence operation. The engineer of record shall provide a "cause and effect" chart to indicate the appropriate smoke management operating mode for all affected equipment based on the operation of each initiating device. Acceptance of functional testing shall be predicated upon all input and output devices performing as indicated by the "cause and effect" chart.

(3) Smoke Testing

(A) General smoke testing of the smoke management systems shall be accomplished in accordance with this section. The smoke management system shall be tested in both normal and emergency power modes.

(B) Smoke Detection. Artificial smoke shall be introduced into the space to be tested. The rate of introduction of smoke shall be two times the volume of the space to be tested. The commission may establish a minimum amount of smoke to be introduced into a space. The smoke detection system shall alarm and initiate the smoke control and removal system(s) within 60 seconds of the beginning of smoke introduction.

(C) Smoke Migration. The smoke management system shall be deemed to be controlling smoke migration if smoke from the detection test does not migrate from the affected area for a period of ten minutes from the time of detection and activation of the

smoke control system. The inspector may conduct the smoke migration test with the compartment exit door open or closed.

(D)Smoke Removal. Utilizing the procedure for testing smoke detection, smoke removal shall be completed in the space to be tested within fifteen minutes from the time of system activation.

(4) Maintenance and Retesting. The smoke management systems shall be regularly maintained to assure consistent performance. The smoke management systems shall be operationally tested quarterly and may be tested by the commission's inspector on an annual basis utilizing the smoke testing procedures.