

Enterprise Imaging & Radiology Assessment & Planning



McKENZIE STEPHENSON, INC.

Appendix

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P.01/04

CALIFORNIA DEPARTMENT OF CORRECTIONS
AND REHABILITATION
STRATEGIC ACQUISITIONS UNIT
1515 S STREET, ROOM 124 SOUTH
SACRAMENTO, CA 95814

FACSIMILE TRANSMITTAL SHEET

TO: Joe Chang FROM: Melanie Costa
 COMPANY: _____ DATE: 9-17-07 (1/1/08)
 FAX NUMBER: 323-6167 fax again 1/1/08 PAGES INCLUDING COVER SHEET: 4
 PHONE NUMBER: 324-6731 SENDER'S PHONE NUMBER: 916-327-0277
 RE: OIG Letter/Xray Equip SENDER'S FAX NUMBER: 916-445-9056
 URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY

NOTES/COMMENTS:



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916 445 9056 P.02/04

Matthew L. Cate, Inspector General



Office of the Inspector General

August 30, 2007

Kingston Prunty, Undersecretary
 California Department of Corrections and Rehabilitation
 1515 S Street, Room 502 South
 Sacramento, California 95814

Bud
 Dear ~~Mr. Prunty~~:

In December 2006, the Office of the Inspector General (OIG) received a complaint from a losing bidder alleging potential contracting irregularities related to the purchase of \$6.5 million in x-ray equipment for 18 prisons, three of which house females. Although we did not substantiate the allegation, our investigation revealed serious deficiencies in the procurement of the equipment, raising doubts about whether the equipment fully meets the contract specifications and more importantly, whether the contract specifications are in line with modern equipment capabilities and personnel safety standards. As a result of these deficiencies, the OIG recommends that the California Department of Corrections and Rehabilitation (CDCR) immediately explore whether the equipment purchased can be returned to Universal Radiographics, Inc., as non-compliant with the contract specifications.

The Department of General Services' bid specification for a radiographic/fluoroscopic x-ray system specifies that the system shall have an automatic collimator with a numeric indicator. The collimator is the portion of the x-ray equipment that is responsible for controlling the length and width of the irradiated area. However, the equipment the CDCR received does not have a numeric indicator on the automatic collimator.

On July 11, 2007, the OIG received a copy of the report entitled "Medical Physicist's Acceptance Test and Image Quality Survey of Medical Imaging Instruments." The report was prepared by Kathleen M. Henner, MS, Medical Health Physicist, for the Central California Women's Facility. In her report, Ms. Henner observed that the collimator located on the Apollo radiographic/fluoroscopic system does not have a numerical indicator that isolates the dimensions of the area to be irradiated. This deficiency poses a safety concern. Edward W. Gloor, Chief of X-ray Inspection, Compliance and Enforcement, California Department of Health Services, confirmed to the OIG that this omission constitutes a violation of the Code of Federal Regulations and would result in a citation to the California Department of Corrections and Rehabilitation.

Arnold Schwarzenegger, Governor

Kingston Prunty, Undersecretary
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In addition, the Department of General Services' bid specification for the x-ray equipment specifies that the system shall have a cassette reader computer workstation with necessary software to read, store, and print digital x-ray images. The system should include the following:

AEC activation, automatic collimation (black borders), & image processing using Dynamic Range Control, Multi-objective Frequency Processing, Energy Subtraction, gradation, pattern enhancement for mammography, spatial frequency, tomographic artifact.

In spite of these specifications, the cassette reader provided by the winning bidder is not designed to read mammography. According to Lillian Robinson of Fujifilm Medical Systems, the Fuji Carbon XL cassette reader that was provided by Universal Radiographics, Inc., was not designed to provide mammography. A more advanced mammography reader, the Fujifilm Medical System Clearview 1M, yields twice the resolution of the Carbon XL, resulting in a resolution level essential to properly read mammography images. Moreover, the Clearview 1M recognizes certain tissue patterns in the mammography, a feature that the Carbon XL lacks. The Clearview 1M price is approximately \$100,000 per unit more than the Caron XL.

In addition, the radiographic/fluoroscopic x-ray equipment supplied by Universal Radiographics, Inc., is designed to be operated from a remote console located outside the x-ray room. Yet, according to experts contacted by the OIG, most hospitals prefer and use non-remote fluoroscopic systems. Fluoroscopic systems provide real-time imagery of internal organs. Consequently, physicians prefer to be next to the patient to ensure the integrity of the examination, resulting images, and ultimate diagnosis.

According to J. Anthony Seibert, Ph.D., a professor in the Department of Radiology at UC Davis Medical Center, remote console fluoroscopic systems are antiquated and are no longer used because they do not permit direct contact between the physician and patient. Dr. Seibert stated that the remote system requires the radiological technologist to assist the patient while the physician views the imagery from the remote console location. This process requires significant communication between the physician and technologist to ensure that the proper image is obtained and appropriate safety measures are employed.

The CDCR's purchase of the remote radiographic/fluoroscopic equipment has also necessitated infrastructure modifications at the institutions to accommodate the remote console's electrical needs. Moreover, some facilities currently lack the larger, lead-lined windows that permit the remote console operator to adequately view the x-ray table and the patient.

Another safety concern is medical professionals' exposure to excess radiation. Dr. Seibert noted that the equipment provided by Universal Radiographics, Inc., incorporates an x-ray tube positioned above the patient as opposed to one located under the table, below the patient. Dr. Seibert cited several studies that have shown that x-ray scatter is

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considerably higher when the x-ray tube is positioned above rather than below the patient. According to Dr. Seibert, when the x-ray tube is installed under the x-ray table, exposure to excessive x-ray scatter is greatly diminished because the x-rays must travel through the table and the patient before they can potentially reach either the physician or the technologist. Dr. Seibert added that the medical community moved away from using overhead x-ray tubes during the 1980s due to the excessive exposure to x-ray scatter for physicians and technologists. Again, the CDCR did not specify that it wanted x-ray equipment with the x-ray tube located under the table.

In addition to recommending that the CDCR immediately explore whether the equipment purchased can be returned, the OIG would appreciate a written response by the department within 45 days that addresses the following questions:

- Why did CDCR specify, under bid specification #6525-06BS-005R3, section 3.2.11, radiological cassette reader technology that is designed to analyze mammography tissue patterns for 18 institutions when only three institutions house female inmates?
- Why did CDCR accept radiographic/fluoroscopic equipment that does not meet the original bid specifications as outlined in bid specification #6525-06BS-005R3, sections 3.1.5 and 3.2.11?
- Why did CDCR purchase radiographic/fluoroscopic equipment that requires further infrastructure modifications?
- Why did CDCR purchase equipment that needlessly exposes medical professionals to excessive x-ray scatter when equipment exists that is designed to minimize exposure to x-ray scatter and is configured to provide a more accurate diagnosis?

Thank you for your consideration and attention to this matter.

Sincerely,



BRETT H. MORGAN
Chief Deputy Inspector General



MCKENZIE STEPHENSON, INC.

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