

# FY13 LAW ENFORCEMENT EQUIPMENT-ONLY PROJECTS Addendum

Submission Instructions: email to [cjapplications@nctcog.org](mailto:cjapplications@nctcog.org) by February 24, 2012  
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**Agency Name:** Collin County Medical Examiner's Office  
**Application title:** Radiological and Photographic Imaging Equipment  
**Application #:**

## **1. NEEDS STATEMENT (up to 30 points):**

- 1a. Describe the need of your agency as it relates to this equipment request.
- 1b. Describe how the absence of this equipment negatively impacts your community.

The Collin County Medical Examiner's Office (CCMEO) is attempting to secure equipment which will enhance the performance of essential tasks associated with death investigation while increasing efficiency, environmental friendliness, and conforming to technological trends in the business. Evidence preservation/ drying equipment, autopsy lighting, biohazard respirators, and radiography and photo imaging equipment are sought to achieve these goals.

Collin County ranks as one of the top growth areas in the state and the nation. In the past decade, the county's population grew 59.1%. The CCMEO provides death investigation and related services to a county population of 782,341, including the cities of Plano, Allen, McKinney, Frisco, portions of Richardson and Dallas and numerous rural areas. Contract services are also provided for two adjacent counties (Fannin, pop. 33,915 and Grayson, pop. 120,877) and numerous law enforcement agencies.

This population increase has resulted in an increased case load for the CCMEO, and thus an increase in processing time. There was a 10% increase in the number of deaths reported to the CCMEO from FY 2010 to FY 2011. From FY 2010 to FY 2011, the total number of cases accepted (bodies examined by CCMEO) increased by over 13%. Estimated overtime from FY 2010 to FY 2011 increased by 12%. With the addition of the equipment requested below to improve death investigation efficiency and effectiveness, pathologists and investigators can improve turnaround times for each case.

## **2. PROJECT DESCRIPTION (up to 55 points):**

- 2a. Describe how this equipment will be used. Include quantity to be purchased.
- 2b. What does the equipment do?

- 2c. Who will use it?
- 2d. How often do you believe the equipment will be used?
- 2e. What training, if any, will be needed to use this equipment?
- 2f. Describe agency's plan to maintain equipment during and after grant period.

**Computed Radiography Device and Picture Archival Communications System (Digital Radiologic Imaging Equipment), quantity = 1 each:**

Analog radiographs of decedents are taken in most cases involving gunshots, projectiles or sharp trauma, deaths involving infants and children, traumatic and/ or suspicious deaths, and unidentified remains cases. When a radiograph is taken, the radiograph machine is warmed up for approx. 1.5 hours. Two films must be passed through the machine twice daily (regardless of use). A radiograph cassette is placed under the decedent, and the exposure is made. The film is manually processed by exposing it to several different chemical solutions for controlled periods of time. In 2011, the CCMEO took 350 analog radiographs, a 62% increase from 2010, and used 30 gallons of fixer, 30 gallons of developer chemicals, over 200 radiograph films and with an annual maintenance cost of over \$1500. At times, multiple exposures were made to achieve optimal quality.

Supplementing the current analog radiograph machine with a digital Computed Radiography (CR) device and Picture Archival Communications System (PACS) will allow the CCMEO to digitally generate, store, and archive radiographs. Radiographs could be transmitted to other parties instantly, reducing the need for the pathologist to consult off-site with colleagues by eliminating the need to meet in person to view film radiographs. Additionally, pre-death radiographs, such as dental bite wings, could be instantly and easily compared to postmortem radiographs on a computer monitor to expedite positive identification of remains and notification of next-of-kin. Elimination of radiographic film and chemicals will benefit the environment, reduce exposure to employees, and substantially decrease maintenance time. Digital radiograph equipment will streamline workflow; improve information sharing and dissemination; accelerate location of projectiles, iatrogenic items, and detection of trauma; and reduce time on routine maintenance of a film processor, increasing overall efficiency and allowing staff to spend more time on other aspects of death investigation.

It is intended that the pathologists operate the equipment with instruction given by the equipment vendor, and Collin County will provide for the ongoing maintenance costs. Equipment will be compatible with existing analog machine and consist of CR reader which can process 25 plates per hour and imaging/archival station.

**Photographic Imaging Equipment, quantity = dSLR camera body and lens x1; external flash x2; wide angle to telephoto zoom lens x2:** This office converted to digital photography in 2003 and possesses 3 digital cameras (2 dSLR bodies w/ kit lenses and 1 point & shoot camera). Photographs are taken by investigators at death scenes and by pathologists during the postmortem examinations. An investigator is on-call at all times and can be called to a death scene at any hour and in any number of circumstances. Investigators respond to a variety of death scenes such as motor vehicle fatalities, drug overdoses, industrial accidents, firearm related deaths, structure fires, and any variety of unexplained deaths. It is vital that the investigator is equipped with high-quality photo imaging equipment, such as a single lens with wide angle and telephoto range to ensure sharp pictures without changing lenses and external flash for low-light situations, to clearly document the scene. First-rate scene photography is extremely important for the pathologist to better understand the scene circumstances or aspects difficult to describe in a typed investigation report. Additionally, the pathologists take photographs in the autopsy room on a daily basis. These photographs are important to demonstrate trauma, natural disease, congenital anomalies, etc. to family members and law enforcement. In 2010, almost 9,000 digital images were taken by CCMEO staff; in 2011, the number of images increased over 40% to 12,700. Any of these photographs can potentially be used as evidence in a court of law.

The acquisition of 2 new dSLR camera bodies w/ lenses to replace the current point & shoot camera used by the pathologists, 2 external flashes, and 2 zoom lenses with wide angle to telephoto focal range to supplement the existing digital camera bodies will ensure high-quality scene and autopsy photography. Equipment should be compatible with existing CCMEO cameras. No training will be required, and maintenance will be provided by Collin County.

**Forensic Evidence Drying Cabinet, quantity = 1:** The CCMEO investigates 15-20 homicides per year. Currently, evidence is laid out on butcher paper in a well-ventilated room during business hours to allow for drying at ambient temperature. After hours, the evidence must be moved to smaller, secured areas. The process is repeated the next day and is time consuming, necessitating that law enforcement wait, sometimes for several days, for drying to complete prior to evidence retrieval for further analyses by outside laboratories or agencies. Law enforcement and the District Attorney's Office would be more quickly served if this office possessed a drying cabinet. Drying could be achieved in a fraction of the time, while reducing the possibility of contamination. Additionally, a mobile evidence drying cabinet has a small footprint (30" x 73"), is easily transportable through standard doorways, and will fit in a secured evidence room already in existence at the CCMEO without necessitating further construction cost for storage and/ or venting. Evidence will be hung vertically with hangers and placed on shelves within the cabinet, keeping the evidence secure and handled less, ensuring its integrity. The cabinet will be maintained and cleaned by CCMEO staff between each use. Instruction on cleaning will be carried out by the vendor.

**Autopsy Light and 3-pack Replacement Bulbs, quantity = 1:** The CCMEO autopsy suite contains a single surgical light that has been non-functioning for several years. Multiple attempts have been made to repair the light to no avail. As a pathologist can only document what they can clearly see, the acquisition of an equivalent light and replacement bulbs will greatly benefit the pathologists by providing a bright working area, advanced maneuverability, accurate color temperature, and an even light field. Improved lighting will enhance the pathologists' vision and reduce eye strain and fatigue by providing clear, crisp, natural light during daily autopsies. No training will be required. The replacement light and light track will be installed by the County's Facilities Maintenance Department. After installation, maintenance should only consist of exchanging bulbs when necessary.

**Full-Face Respirators and Cartridge Filters, quantity = 8:** One of the four CCMEO investigators is on-call 24 hours a day, 365 days per year and is expected to respond to death scenes in a variety of conditions. In 2010, CCMEO investigators responded to over 165 death scenes and over 200 in 2011. Investigators are commonly exposed to bloodborne pathogens, pepper spray/tear gas, carbon monoxide, and/ or other irritants. Investigators often enter death scenes knowing little about the decedent's medical history. Investigators are expected to take photographs, interview witnesses and law enforcement, collect evidence, and move human remains in a multitude of adverse conditions. Full-face respirators equipped with filter cartridges capable of providing 99.97% effective respiratory protection against particulates .3µm such as bloodborne pathogens, organic and chemical vapors, and pepper spray/tear gas, will allow investigators and morgue transport personnel to enter a scene that they may normally not be able to work in and carry out scene investigation more quickly with less irritation to the investigator. Respirators will be used 3-5 times per month, and no training will be required. Respirators with replaceable parts will be purchased for ease of future maintenance.

## **ADDENDUM CANNOT EXCEED 3 PAGES BEFORE YOU INSERT THE BUDGET**

3. **BUDGET: INSERT EGRANTS BUDGET HERE. Do not provide additional narrative other than what is included in eGrants budget table. Once the budget is complete in eGrants, click on "printer friendly" link at top right. A new window will open with budget information. Select, copy, and paste the entire budget table here. The budget in this addendum must be identical to the one you placed in eGrants.**
- 3a. All budget line items must have sufficient detail to justify the item to be included in the project. Budget line items should be relevant and reasonable to carrying out the project. (Up to 10 points)
- 3b. The budget must be consistent with proposed activities. (Up to 5 points)

Actual final budget will be inserted after submitted in eGrants – parts copied from previous application entry

Category	Sub-Category	Description	CJD	Quantity	Total
Supplies	Hazardous Material Equipment and Accessories	Full-face respirator with silicone face seal, scratch-resistant polycarbonate lens for improved visibility and impact protection, DIN port adapter, and center adapter to direct exhaled breath and moisture downward. Respirator should come in multiple sizes for better fit and be NIOSH approved with replacement parts available for maintenance. These masks will be used by CCMEC investigators and morgue transport personnel to safely enter death scenes by providing respiratory protection against particulates such as bloodborne pathogens, organic and chemical vapors, and pepper spray/tear gas.	\$135	8	\$1,080
Supplies		DIN threaded cartridges with the capability to provide respiratory protection (99.97% effective at .3µm) from bloodborne pathogens, certain organic and chemical vapors, and pepper spray/tear gas will be used in tandem with full-face masks by investigators and morgue transport personnel entering death scenes.	\$215	8 cases 4 pack/cs	\$1,720
Equipment	Specialty Cameras and Accessories	Digital SLR camera body with 18-55mm VR lens and basic accessory kit, including camera bag for transport and storage, UV protection filter, lens cleaning kit, LCD screen protector, and 8GB SDHC memory card. Camera should be compatible with existing CCMEC cameras and include high-resolution 14.2MP DX sensor, 3" LCD, autofocus, built-in pop-up flash, and 420-pixel RGB sensor scene recognition system to automatically optimize exposure, autofocus and white balance, and automatic image sensor cleaning. This camera and lens will be used by the pathologists on a daily basis for autopsy photos.	\$900	2	\$1,800
Equipment		Zoom lens compatible with existing DX-format dSLR CCMEC cameras. Features should include wide angle to telephoto focal range (18-200mm), superior quality ED (extra-low dispersion) elements for sharpness and color correction without distortion at wide apertures, and VR (vibration reduction) image stabilization to enable shooting up to 4 shutter speeds slower (sharper images). Specifications: 76° to 8° angle of view, 20" minimum focus distance, image stabilization, and autofocus. Zoom lenses will be used by CCMEC investigators to clearly document the death scene.	\$950	2	\$1,900
Supplies		External flash compatible with existing CCMEC cameras. Features should include ability to cover 17 – 200 mm lenses, automatically detect DX/FX camera format and adjust accordingly, and tilt -7° to 90° and horizontally 180° for maneuverability. Specifications: GN 111.5 feet, angle of coverage = 104° to 12°, 2.3 second recycle time. External flash will be used by CCMEC investigators in low-light situations to clearly document the death scene.	\$475	2	\$950
Equipment	Laboratory Equipment and Accessories	Digital Computed Radiography (CR) device and Picture Archival Communications System (PACS) compatible with existing CCMEC analog radiograph machine. CR reader should process minimum of 25 plates per hour, have a small footprint, and be user-friendly with touchscreen interface. Image station should allow image adjustments, annotations, measurements, inputs and outputs, be customizable for basic to advanced users, and have DVD backup tool for disaster recovery. CCMEC pathologists will use the system to digitally generate, store, and archive radiographs to make positive identifications, diagnose trauma and locate projectiles and/or iatrogenic items, and observe congenital anomalies.	\$30,000	1	\$30,000

Supplies		Disposable plastic covers for phosphor plates/cassettes, 100/box.	\$60	4	\$240
Contractual		Semi-annual maintenance for Digital Computed Radiography (CR) device and Picture Archival Communications System (PACS)	\$390	2	\$780
Equipment	Laboratory Equipment and Accessories	Mobile forensic evidence drying cabinet, 30" wide x 73" high, heavy duty casters, and filters located at base of cabinet to lower center of gravity for easy mobility through standard doorways. Airflow from top to bottom will bring in clean air from above the unit and exhaust filtered air near bottom of unit. Cabinet will be used by CCMEO investigators to reduce the amount of drying time for evidence in support of local law enforcement and the Collin County District Attorney's Office during homicide investigations.	\$5,000	1	\$5,000
Supplies		Filters for evidence drying cabinet. Carbon filter x1, HEPA filter x1, and pack of 5 intake and 5 main pre-filters.	\$800	1	\$800
Equipment	Laboratory Equipment and Accessories	Single ceiling-mounted surgical/autopsy light with 360° rotation around the vertical axis of the arm-and-mounting-system, Y-shaped design to minimize shadows, and equipped with three 35-watt halogen bulbs to produce 90,000 Lux for a diameter of 1 meter. With a color-rendering index (CRI) of 96 and color temperature of 3700 Kelvin, the light will enhance the pathologists' vision and reduce eye strain and fatigue by providing clear, crisp, natural light during daily autopsies.	\$4,775	1	\$4,775
Supplies		Replacement bulbs (rated for 1400 hour life) for autopsy light, 3 pack.	\$150	1	\$150