

From: [Becker, Emma J](#)
 To: [Holmes, Rachelle A](#)
 Subject: G331906
 Date: Thursday, April 18, 2019 8:45:44 AM

Good morning,

The FY2018 Forensic DNA Laboratory Efficiency Improvement and Capacity Enhancement Program awards grants to eligible DNA laboratories, **through a competitive application process**, with three (3) program objectives:

1. **Enhancing the capacity and increasing the efficiency** of crime laboratories to process, record, screen, and analyze DNA and other forensic evidence.
2. **Decreasing the turnaround time** to process and analyze DNA evidence.
3. **Ensuring continued support for enhancing the quality** of DNA analysis results.

As part of the application process, a laboratory must demonstrate how the awarded funding will accomplish the above objectives. The laboratory must include a project narrative and a Budget Detail Worksheet that specifically lists all intended purchases. Our application included the following wording:

Two Maxwell RSC 48 Extraction Instruments

We currently have six extraction instruments that are capable of processing a maximum of 14 samples at a time, which equates to a maximum of 84 samples at a time. The addition of two extraction instruments which are capable of processing 48 samples each would increase our capacity by almost 115%. This would greatly increase our efficiency and capacity by allowing us to process a much larger number of samples at once.

As you can see, the addition of these two Maxwell RSC 48 Extraction Instruments will increase our current capacity (one of the main objectives of the grant) by almost 115%.

On September 21, 2018 the Columbus Police Crime Laboratory was selected over many other applicants to receive a grant of \$435,000 to purchase the following the specific instrumentation:

D. Equipment					
Item	Computation				
<i>List and describe each item of equipment that will be purchased</i>	<i>Compute the cost (e.g., the number of each item to be purchased X the cost per item)</i>				
	# of Items	Unit Cost	Total Cost	Non-Federal Contribution	Federal Request
EpMotion Liquid Handling Instrument and Validation Service	1	\$97,000.00	\$97,000		\$97,000
Maxwell RSC 48 Extraction Instrument	2	\$55,000.00	\$110,000		\$110,000
Veriti DNA Amplification 96-well thermal cycler	2	\$6,500.00	\$13,000		\$13,000
Leeds Spectral Vision System (LSV2)	1	\$60,000.00	\$60,000		\$60,000
HID DNA Quantitation System (Quant Studio)	3	\$50,000.00	\$150,000		\$150,000
			Total(s)	\$430,000	\$0
Narrative					
<p>The Columbus Police Crime Laboratory is requesting equipment to expand our capacity and increase our efficiency. All purchases will be conducted following applicable City of Columbus purchasing policies and procedures in accordance with any existing contracts with the City of Columbus.</p> <p>EpMotion Liquid Handling Instrument and Validation Service: this instrument, combined with the associated validation service, will enable us to automate several DNA procedures which currently require significant hands-on processing times</p> <p>Maxwell RSC 48 Extraction Instruments: these two instruments will increase our DNA extraction capacity by ~115%</p> <p>Veriti DNA Amplification 96-well thermal cyclers: these two instruments will increase our DNA amplification capacity by 50%</p> <p>Leeds Spectral Vision System (LSV2): this instrument will enable us to combine several time-consuming serological processes and greatly improve our evidence screening efficiency</p> <p>HID DNA Quantitation Systems (Quant Studio): these three instruments will enable us to reduce our current quantification reagent usage and reduce loading times and eliminate the possibility of quantification standard failures.</p>					

Any deviations from the above listed items would require the submission of a Grant Adjustment Notice to NIJ, with uncertain approval.

Additionally, before the grant application was submitted, an internal laboratory study was conducted to determine the performance of comparable DNA extraction instruments. We compared three comparable instruments and the Maxwell 48s consistently produced higher DNA quantification values than the other two instruments. So not only would we be increasing our capacity (which is why we were awarded the grant), but we would also be enhancing the quality of our DNA profiles.

Emma Becker
 DNA Technical Leader/Section Supervisor/CODIS Manager
 City of Columbus Police Department Crime Laboratory
 770 East Woodrow Avenue
 Columbus OH 43207
 (614) 645-2709

