DEPARTMENTAL INPUT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Rev 1

[ ] New contract	[ ] OTR	[ ] CO	[X] SS	[ ] BW	[ ] Emergency	Previous Contract/Project No:	

[ ] Re-Bid [ ] Other

LIVING WAGE APPLIES: ___YES _X_ NO

Requisition/Project No: RQME1300001

TERM OF CONTRACT: ONE TIME PURCHASE

Requisition/Project Title: AMAZON SL PACKAGE

Description: The agreement (the "Agreement") between Miami-Dade County (the "County") and Bruker Daltonics Inc. (the "Contractor") to contract for the purchase of an Amazon SL Basic System, Dionex Basic LC System and on-site training for the Medical Examiner's Department in accordance with the terms and conditions as stated herein. This Agreement contains the entire agreement between the parties as to all matters contained herein.

User Department(s): MEDICAL EXAMINER
Issuing Department: INTERNAL SERVICES DEPARTMENT PROCUREMENT MANAGEMENT DIVISION
Contact Person: MARTHA GAROFOLO Phone: 305-375-4265
Estimated Cost: $179,528
Funding Source: FEDERAL FUNDS / GRANT SEE ATTACHED

ANALYSIS

Commodity/Service No: 175 **SIC:**

Trade/Commodity/Service Opportunities

Contract/Project History of Previous Purchases For Previous Three (3) Years
Check Here____if this is a New Contract/Purchase with no Previous History

	EXISTING	2ND YEAR	3RD YEAR
Contractor:			
Small Business Enterprise:			
Contract Value:			
Comments:			

Continued on another page (s): _____Yes _____No

RECOMMENDATIONS

SBE	Set-Aside	Sub-Contractor Goal	Bid Preference	Selection Factor
		%		
		%		
		%		
		%		

Basis of Recommendation:

Signed: Martha Garofolo

Date to SBD: November 1, 2012

Date Returned to ISD: _____

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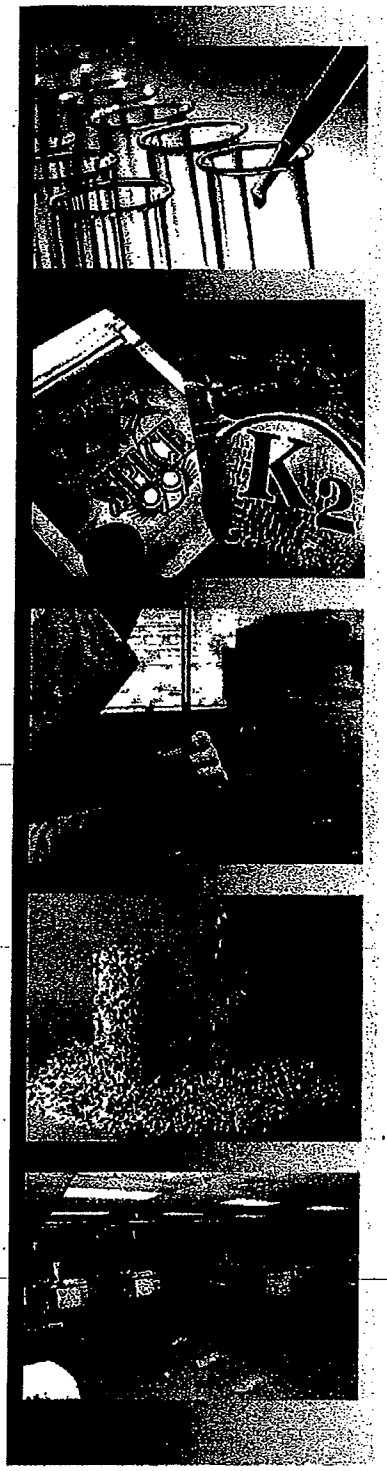
2012 NOV -2 AM 8:45



DETECTION OF DESIGNER DRUGS AND POTENT COMPLEX PHARMACEUTICALS IN DEATH INVESTIGATIONS

Paul Coverdell Forensic Science Improvement Grants Program
CFDA No. 16.742
MAY 4, 2012

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MIAMI-DADE COUNTY

MIAMI-DADE COUNTY MEDICAL EXAMINER TOXICOLOGY LABORATORY

U.S. Dept. of Justice
Office of Justice Programs
National Institute of Justice
CFDA No. 16.742

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PROJECT ABSTRACT (COMPETITIVE FUNDING)

One of the most widespread and increasingly complicated challenges facing postmortem forensic toxicology in the 21st century across the entire nation and especially in South Florida is the detection of designer drugs and potent complex pharmaceuticals in death investigations. Toxicologists are charged with the daunting task of effectively screening and measuring these "new" drugs at low levels in human fluids and tissues in order to best guide the medical examiner in determining the cause of death.

The Miami-Dade County (Florida) Medical Examiner Department, an operation that has been serving the entire South Florida area for more than 50 years, is requesting grant funding support for the purchase of a high tech liquid chromatograph ion trap mass spectrometer (LCMSMS) capable of MS^n analysis to replace antiquated technology that is currently being used by its team of toxicologists. The new technology will significantly improve the quality and timeliness of the medical examiner services and facilitate the elimination of a backlog in the postmortem forensic toxicology analysis. The increased demand on the Miami-Dade County toxicology laboratory (the "Laboratory") is overwhelming with the surge in drug-related deaths (pharmaceutical and illicit designer) representing more than 80% (1,600) of the 2,000 cases processed last year and with more than 35% of cases requiring extensive analysis/further tests due to the complex combinations of drugs.

The Laboratory will acquire and incorporate the LCMSMS technology into its testing protocols methods to achieve the following program objectives:

- Detect, identify, and measure low concentrations of complex pharmaceuticals in blood and tissue.
- Detect, identify and measure low concentrations of the cathinone phenethylamines, piperazines, tryptamines and atypical amphetamine phenethylamines; including stimulants normally associated with "bath salts"
- Detect, identify and measure low concentrations of cannabinoid analogs normally found in products labeled as "K2" and "Spice".
- Reduce testing procedures (currently 6 to 10 tests per case) and reduce the turnaround time required to process these complicated cases (currently from 35 to 65 days).

The new technology will yield several positive outcomes, which are tracked in performance measures, including: (1) improved throughput and reduced turnaround; (2) excellent quality of results; and (3) decrease cost for materials. The new technology has an extremely fast scan speed and robust sensitivity yielding the best results in simultaneous identification and quantification. This reduces the need for additional analyses (tests) and improves the overall processing time. Reduced preparation time, comprehensive screening and quantification, and the elimination of redundant analyses are all essential to reducing case turnaround and backlog. The overall characteristics and benefits of this technology make it the optimal choice for meeting the needs of the project.

U.S. Dept. of Justice
Office of Justice Programs
National Institute of Justice
CFDA No. 16.742

STATEMENT OF PROBLEM

One of the most widespread and increasingly complicated challenges facing postmortem forensic toxicology in the 21st century across the entire nation and especially in South Florida is the detection of designer drugs and potent complex pharmaceuticals in death investigations. The challenge has really intensified the need for improving the quality and timeliness of medical examiner services in the areas of technology and research. The toxicology laboratory (the "Laboratory") of the Miami-Dade County Medical Examiner Department in South Florida, located in one of the major metropolitan areas of the nation, has and continues to experience the impact of increasingly complex death investigations. The Laboratory is at the forefront among all Medical Examiner Offices around the state for accumulating extensive experience with drug-related deaths and poisonings. Several factors that are unique to Miami-Dade County's area contribute to that including: its size (7th most populous County in the nation), the lure of year-round recreation, the vast cultural and ethnic diversity, and its global location (an international nexus) where the flow of international passenger traffic ranks number one in the nation, and being the choice destination for South and Central Americans purchasing vacation homes.

The constant surge in new complex pharmaceuticals and designer drug use in South Florida and the resulting deaths are creating both a burden on the quality and timeliness of medical examiner services and an increase in the backlog of unfinished cases. Compounding the problem are inadequate antiquated instruments that do not have the ability to perform the type of analyses suitable for detecting and measuring

today's "designer drugs" in an efficient manner. This creates further delays for toxicologists serving a huge two-county area (both Miami-Dade County – District 11 and Collier County – District 20) in the state of Florida. The challenge facing the Laboratory and its team is to effectively screen and measure these "new" drugs at low levels in human fluids and tissues in order to best guide the medical examiner in determining the cause of death.

PHARMACEUTICAL DRUGS

During the past 10 years, South Florida has experienced an increase in the number of deaths associated with the abuse of pharmaceutical drugs such as opiates (oxycodone, hydrocodone), benzodiazepines (alprazolam, clonazepam, and lorazepam), sedatives, and hypnotics. The incidence of drug involved cases from Districts 11 and 20 represents more than 80% (1,600) of the 2,000 cases processed each year. The number of cases requiring extensive analysis due to combinations of prescription drugs (3 or more drugs) has increased more than 35% over that same time period. This surge is evident from the yearly statistical report issued by the Florida Department of Law Enforcement's *"Medical Examiner Report on Drugs Identified in Deceased Persons – 2010 Report"*. Although many of the drugs outlined in the report have been marketed for some time, the most recent and disturbing trend is the abuse of the drugs in fatal combinations. Measurements of these drugs in the blood may reveal therapeutic or slightly above therapeutic levels of each, but in combination can result in death due to a "poly-drug" overdose. Further complicating the issue is the emergence of new potent and effective drugs for the treatment of mental illness, sleep disorders,

depression, erectile dysfunction, chronic and widespread pain, epilepsy, heart disease, diabetes and addiction. These drugs are complex and often measured in blood at levels in the parts-per-billion or parts-per-trillion range. The challenge to every modern postmortem toxicology laboratory is to effectively screen and measure these drugs. It is from these determinations that a clear understanding of toxicity and lethality is gained regarding the true nature of these therapeutic agents especially when used alone or in combination with other drugs. Based on the accumulation of methods and current instrumentation along with the well-experienced staff, the following list of many of the drugs of interest has been compiled as follows. This list is indicative of the widespread problem with tracking the increasing variety and availability of pharmaceuticals.

PHARMACEUTICALS OF CONCERN	
Chemical Drug	**Brand Name**
Aripriprazole	Abilify
Ziprasadone	Geodon, Zeldox
Resperidone	Risperdal
Zolpidem	Ambien
Zaleplon	Sonata, Starnoc
Zopiclone	Imovane, Lunesta
Quetiapine	Seroquel
Duloxetine	Cymbalta, Ariclaim, Xeristar, Yentreve, Duzela
Bupropion	Wellbutrin
Lamotrigine	Lamictal
Levetiracetam	Keppra
Tapentadol	Nucynta, Palexia
Buprenorphine	Subutex, Suboxone, Temgesic, Buprenex, Norspan and Butrans
Trazodone	Desyrel
Oxcarbazepine	Trileptal
Sildenafil	Viagra
Tadalafil	Cialis, Adcirca
Vardenafil	Levitra, Staxyn

DESIGNER DRUGS

As previously stated, an added problem facing all postmortem forensic toxicology laboratories is an increase in the volume of cases involving newer illicit designer drugs. Two classes of compounds recently in the forefront are the synthetic cathinones and the synthetic cannabinoids. The synthetic cathinones are more commonly known as "bath salts" and are sold legally in the United States under various names, such as "Ivory Wave" and "Vanilla Sky". Abusers typically experience stimulant effects similar to those induced by amphetamines, including increased blood pressure, increased heart rate, agitation, hallucinations, extreme paranoia, and delusions. Other side effects reported include acute liver failure, myocardial inflammation, and even death. The magnitude of the problem is documented by the American Center for Poison Control which reported more than 2,000 calls received across the United States in 2011, as opposed to 300 in 2010.

Another set of compounds collectively known as the synthetic cannabinoids pose a similar problem in terms of drug abuse and misuse. The synthetic cannabinoids, sold as "K2" or "Spice" are blends of herbs and spices spiked with a growing variety of synthetic cannabinoid-like chemicals that, when consumed, mimic the effects of cannabis. In 2011, poison control centers reported handling over 7,000 calls, nearly double the number of calls received in 2010. The less severe side effects of synthetic cannabinoids include sleepiness, relaxation, and reduced blood pressure; however the more severe side effects are similar to the cathinones and can include agitation, vomiting, hallucinations, and heart attacks. The synthetic cathinones and synthetic cannabinoids are considered "legal highs" due to their availability in retail shops (gas

stations, head shops, and adult stores) and more readily through the internet. Because these substances are so readily accessible, the frequency of reported cases by emergency rooms involving overdose and toxicity is on the rise. In fact, their abuse potential is so great that it has prompted Florida to designate many of these compounds as Schedule I controlled substances.

One of the major issues regarding these two classes of compounds is that they are emerging mostly as analogs or precursors of well-known drugs of abuse, amphetamines and cannabis. Oftentimes, their abuse potential is complicated by the fact that these products do not contain what is on the label, but instead contain mixtures of drugs and impurities that may be toxic or lethal. These compounds also present a unique analytical challenge to forensic laboratories in that they are often missed in routine toxicology testing. This phenomenon is not limited to the synthetic cathinones and synthetic cannabinoids, but can also be applied to other emerging drugs within the community, including the piperazines and the hallucinogenic tryptamines. The illicit drugs of interest to the laboratory are listed below.

ILLEGAL DRUGS OF CONCERNS	
Synthetic Cathinones	**Common/Street Name(s)**
Methylenedioxypyrovalerone	MDPV, Bath Salts, Ivory Wave, Plant Fertilizer, Vanilla Sky
Methcathinone	Cat, Meow, Bathtub Speed, Meth's Cat, Kitty
4-methylmethcathinone	Mephedrone, 4-MMC, Meow Meow, M-Cat, Bounce, Bubbles, Mad Cow
4-methoxymethcathinone	Methedrone
3,4-methylenedioxy-N-methylcathinone	Methylone, M1, Explosion, Ease
4-fluoromethcathinone	Flephedrone, 4-FMC
Naphthylpyrovalerone	Naphyrone, NRG-1, Energy-1, o-2482
4-Methyl-N-ethylcathinone	4-MEC
Tryptamines	**Common/Street Name(s)**
Alphamethyltryptamine	AMT, Spirals
5-Methoxy- alphamethyltryptamine	5-MeO-AMT, Foxy, Foxy Methoxy

5-Methoxy-dimethyltryptamine	5-MeO-DMT
Dimethyltryptamine	DMT
Piperazines	**Common/Street Name(s)**
Trifluoromethylphenylpiperazine	TFMPP, Molly
Benylpiperazine	BZP, A-2, Legal E, Legal X
meta-Chlorophenylpiperazine	mCPP
Psychedelic Phenethylamines	**Common/Street Name(s)**
4-Bromo-2,5 dimethoxyphenethylamine	2C-B, Nexus, 2's, Bees, Venus, Bromo, Toonies
2,5-Dimethoxy-4-bromoamphetamine	DOB, Snoball
2,5-Dimethoxy-4-dimethylphenethylamine	DOM, STP (stands for "Serenity, Tranquility, Peace"
4-Iodo-2,5-dimethoxyphenethylamine	2C-I, i
2,5-Dimethoxy-4-ethylphenethylamine	2C-E
2,5-Dimethyoxy-4-(i)-propylthiophenethylamine	2C-T-4
2,5-Dimethoxy-4-(n)-propylthiophenethylamine	2C-T-7, Blue Mystic, T7, Beautiful, Tripstay, Tweety Bird Mescaline
2,5-Dimethoxy-4-ethylamphetamine	DOET, DOE
Synthetic Cannabinoids	**Common/Street Name(s)**
JWH-018, -073, -0200	K2, Spice, Chronic Spice, Spice Gold, Spice Silver
CP47, 497	Pulse, Black Mamba, Mystery, Red X Dawn, Mr. Nice Guy, K3
CP47, 497 C8 (Cannabicyclohexanol)	K3 Legal, Earthquake, Genie
HU-210, -211	Yucatan Fire, Skunk

Overall, the isolation and detection of newer potent pharmaceuticals and the illicit designer drugs has become of extreme importance to the forensic toxicology community. Unfortunately, analytical methods combined with the laboratory's instrument capabilities cannot sufficiently identify or detect such a broad range of substances/chemical components. The result is the laboratory's inability to address what is often required, which is a comprehensive screen capable of detecting a broad range of complex pharmaceuticals and illicit drugs in a methodical, efficient, and thorough process. The consequence is longer turnaround times and greater backlogs of cases. For the Laboratory, the result is an increase in the number of testing procedures to resolve a case (from 6 to 10 tests) and an increase in turnaround time

(from 35 to 65 days). Increased turnaround time presents a major problem with regard to department and laboratory accreditation. The National Association of Medical Examiner (NAME) accreditation standard requires a pathologist to complete 90% of their cases within 90 days of beginning the investigation. The current completion rate for Miami Dade County Medical Examiner cases is less than 70%. If the completion rate of cases continues to decline, the Department will not meet the necessary criteria and will jeopardize re-accreditation. Consequently, any steps the laboratory can take to minimize the delay will help to reduce the processing time for the pathologist's case investigation.

PROJECT/PROGRAM DESIGN AND IMPLEMENTATION

The Miami-Dade County Medical Examiner Department is proposing the utilization of new technology to be implemented as part of its current program design that will enhance and strengthen the process to combat the formidable challenge of detecting designer drugs and potent complex pharmaceuticals in death investigations. The Laboratory has completed a thorough search and review for the most innovative and affordable technology and has identified a system (liquid chromatograph ion trap mass spectrometer) that will create a solid and scientifically sound approach to improving the quality of forensic services, reduce the backlog of cases, and increase the capacity of the forensic toxicologists.

Utilizing innovative instrumentation such as hyphenated mass spectrometric techniques will enable the laboratory to develop broader and more sensitive screening tools to address these more complex drug and drug mixtures. Specifically, hyphenated

mass spectrometric techniques, such as liquid chromatography-mass spectrometry (LCMSMS), offer an advantage over immunoassay or colorimetric testing due to its ability to discriminate between chemical analogs and isomers. LCMSMS, because of its nature, offers shorter analysis time with less sample preparation and the ability to provide qualitative as well as quantitative results. Also, the use of screening panels by LCMSMS when confronted with a death of undetermined causes will reduce the processing time substantially and allow the case to be resolved in a reasonable time period.

PROJECT OBJECTIVES

The program design incorporating the new technology will include the following objectives:

1. The development of multiple comprehensive screening techniques utilizing LC/MS/MS to detect, identify and measure low concentrations of complex pharmaceuticals in blood and tissue.
2. The development of comprehensive screening techniques utilizing LC/MS/MS to detect, identify and measure low concentrations of the cathinone phenethylamines, piperazines, tryptamines and atypical amphetamine phenethylamines; including stimulants normally associated with "bath salts"
3. The development of comprehensive screening techniques utilizing LC/MS/MS to detect, identify and measure low concentrations of cannabinoid analogs normally found in products labeled as "K2" and "Spice".

4. Utilizing more targeted and comprehensive screening methods to improve the services to other medical examiners and outside agencies by reducing testing procedures and therefore reducing the turnaround time required to process these complicated cases.
5. Improving case turnaround and reducing the backlog of cases to enable the Miami-Dade County Medical Examiner Department to meet the National Association of Medical Examiner standards a requirement to retain accreditation

IMPLEMENTATION

The implementation of the program design incorporating the new technology will include the following:

- Purchasing and installing a Bruker Model AmaZon SL Liquid Chromatograph Ion Trap Mass Spectrometer.
- On-site training conducted by Bruker engineers for all the toxicology laboratory scientists in the operation and maintenance of the instrument.
- Developing and validating eight new comprehensive screening methods for the detection and measurement of the drugs listed in the proposal in blood and tissue.
- Implementing the new methods to evaluate medical examiner cases.
- Evaluating turnaround time improvement by maintaining records of cases processed using these new methods.
- Publishing findings regarding cases successfully processed using this new methodology in scientific journals and at national meetings.

CAPABILITIES/COMPETENCIES

The Toxicology Laboratory of the Miami Dade County Medical Examiner Department, established in 1956, is already at the forefront among Medical Examiner Offices in the state of Florida for its wealth of experience in managing investigations of drug-related deaths and poisonings. The Laboratory's operations are structured on the Forensic Toxicology Laboratory Guidelines established by the Society of Forensic Toxicologists and recognized by the American Board of Forensic Toxicologists (ABFT). The Laboratory is also currently pursuing accreditation from ABFT.

MANAGING THE PROJECT

The full-time staff includes a Laboratory Director and Assistant Director, nine bench forensic toxicologists and a secretary. The grant will allow for two or more forensic toxicologists to be fully trained by the vendor in the operation and maintenance of the new technology. Product warranties and troubleshooting (if needed) is also included through the contract for the new technology. The program design requires that all forensic toxicologists to become trained and be able to utilize the new technology properly to process cases. All staff will understand the project design and corresponding objectives. Analytical methods will be developed over time to encompass groups of drugs and their detection in human blood and tissue to improve the efficiency in screening and to reduce the overall time required to complete a case. All staff will be responsible for implementing the proposed plan and collecting the required data in each of their investigations. The Laboratory Director and Assistant Director will provide program oversight and will monitor results using the prescribed

performance measures that are discussed in the "Impact/Outcomes and Evaluation Plan" section of this narrative.

DEMONSTRATED ABILITY

Currently, the Laboratory processes approximately 32,000 tests annually and the team of highly qualified and experienced forensic toxicologists has developed a solid repository of up-to-date knowledge of local and national drug patterns as well as the emergence of new pharmaceuticals. The Laboratory already provides forensic toxicology services to two Districts in the state of Florida and is often called up for assistance from outside agencies including federal, state, and local law enforcement. Cases completed by the Laboratory have been studied by epidemiologists and scientists from various academic institutions; the Center for Disease Control; and the law enforcement agencies such as the Florida Department of Law Enforcement, Federal Bureau of Investigations, and the United States Drug Enforcement Agency.

PAST PERFORMANCE

In 2008, the Miami-Dade County Medical Examiner department was successful in obtaining a competitive Paul Coverdell Forensic Science Improvement Grant in the amount of $95,000 for an "Automated Screening of Body Fluids for Drugs and Poisons" project. The grant helped with the purchase of technology that is currently being used today which has provided invaluable results in the last 4 years. The Laboratory would not have been able to acquire the technology at the time without the support of the grant. There grant was managed successfully with no findings. In 2010, the

department submitted a grant to USDOJ under the Forensic Science Training Development and Delivery Program but was not selected for a grant award.

BUDGET DETAIL WORKSHEET

A. Personnel-- There will be no personnel costs charged to this grant. All personnel costs will be covered by Miami-Dade County Medical Examiner Department's annual operating budget.

Name/Position	Computation Amount per unit	(define unit)	# units	Cost
NONE				$0.00

TOTAL $0.00

B. Fringe Benefits--There will be no fringe benefits charged to this grant. All fringe benefits will be covered by Miami-Dade County Medical Examiner Department's annual operating budget.

	Amount of Personnel for basis		% of Amount of Personnel	Cost
NONE				$0.00

TOTAL $0.00

C. Travel--There is no travel involved in this grant as the training being provided will be provided on-site and has been negotiated in the cost for the new technology.

Purpose of Travel	Location	Item	Cost	# Individuals	Cost
NONE					$0.00

TOTAL $0.00

D. Equipment-- The amaZon SL Basic system will be purchased and includes the ESI-Ion source, data system with 24" wide screen LCD monitor and Laser printer, OS Win XP. The Dionex Basic LC will also be purchased to provide the quaternary analytical pump, mixer kit, autosampler column compartment and SF-3000 solvent rack that is needed for to properly equip and operate the new technology. A discount has been negotiated with the supplier for $22,500 for the trade-in of the current Thermo LCQ system. ***(See Budget Narrative for Complete Information)***

Item	Cost	# Units	Cost
Amazon SL Basic System	$147,512.00	1	$147,512.00
Dionex Basic LC	$26,818.00	1	$26,818.00
Trade-in of Thermo LCQ (Discount Offered)	-$22,500.00	1	-$22,500.00

TOTAL $151,830.00

E. Supplies--There will be no supplies charged to the grant. Any supplies needed will be covered by Miami-Dade County Medical Examiner Department's annual operating budget.

Supply Items	Cost per unit		# Units	Cost
NONE				$0.00

TOTAL $0.00

F. Construction--There is no construction applicable to this project.

Purpose	Description of Work	Cost
NONE		$0.00

TOTAL $0.00

G. Consultants/Contracts - There are no consultants being charged to the grant. All contracts are equipment related and the Miami-Dade County official procurement policies and procedures are being adhered to.

Name of Consultant	Service Provided	Computation Cost per unit	Cost
NONE			$0.00
			$0.00
		TOTAL	$0.00

H. Other Costs--The costs for two software packages that are needed in order to operate the new technology are being charged to the grant. The packages include: TargetAnalysis and Compass OpenAccess. Training in the applications is being offered on-site as part of the purchase of the new technology. ***(See Budget Narrative for Complete Information.)***

Description	Computation Cost per unit	(define unit)	# Units	Cost
Software Package TargetAnalysis	$9,998.00		1	$9,998.00
Software package Compass OpenAccess	$9,700.00		1	$9,700.00
On-site Training Course	$8,000.00		1	$8,000.00
				$0.00
			TOTAL	$27,698.00

I. Indirect Costs-- Indirect costs are not applicable to the Miami-Dade County Medical Examiner Department for this project.

Description	Computation	Cost
NONE		$0.00
	TOTAL	$0.00

Budget Summary:

Budget Category	
A. Personnel	$0.00
B. Fringe Benefits	$0.00
C. Travel	$0.00
D. Equipment	$151,830.00
E. Supplies	$0.00
F. Construction	$0.00
G. Consultants/Contracts	$0.00
H. Other	$27,698.00
Total Direct Costs	$179,528.00
I. Indirect Costs	$0.00
TOTAL PROJECT COSTS	$179,528.00

Federal Request	$175,000.00
Non-Federal Amount	$4,528.00

BUDGET NARRATIVE

The total cost of the project is $179,528 which includes the hardware, software/data system, shipping, installation, and training for the needed technology. The total amount requested through the grant is $175,000. The Miami-Dade County Medical Examiner Department will provide $4,528 to cover the total cost and adhere to Miami-Dade County's official procurement policies and procedures. Additionally the Laboratory was able to negotiate a deal to trade-in the current system to receive a discount of -$22,500. The immediate and long-term benefits of the investment to obtain the new technology will be invaluable. It has been the experience of the laboratory that the life-span of this type of technology is approximately 10 years. Manufacturer's technical and maintenance support typically continues for a minimum of 8 years from the last date of manufacturing of an instrument model. It has been the experience of the laboratory that instrument turn-over has never been less than 10-12 years which negates the benefits of lease-purchases that typically last for five years and are meant to replace instruments with newer technology in a shorter period of time. Cost savings will be realized in other areas such as the overall decrease (estimated -25%) in the need to run other additional tests per case (the new technology broadens the range of drugs that can be analyzed in a single run). There will be a reduction in the use of costly certified reference standards, petroleum based organic solvents, high purity specialty gases, and extraction supplies. The estimated annual savings will be as much as 10% in the Laboratory's operating budget.

The Laboratory was able to negotiate the special discount with the supplier for the new technology by agreeing to provide the existing technology (Thermo LCQ

system) as a trade-in for the new LC/MSn ion trap system. This also saves a great deal in costs to properly dispose of the system that is already antiquated. The Laboratory was also able to negotiate on-site training for the new technology for all staff included in the total cost.

The cost effectiveness will also be realized with the marked improvement in the quality of results (spectral information) and the more accurate quantitative results. Long-term savings will also be realized in labor costs as the backlog and timeliness for forensic toxicology services will be decreased with the efficient and state-of-the art technology. Due to budget cutbacks staffing resources has been negatively impacted and the opportunity to hire additional staff to alleviate backlogs and improve timeliness is not a viable option. The cost to hire additional staff would also far exceed the $175,000 investment. A detailed explanation for each budget item is as follows:

1. **Personnel:** There will be no personnel costs charged to the grant.
2. **Fringe Benefits:** There will be no fringe benefits charged to the grant.
3. **Travel:** There will be no travel costs charged to the grant. The Laboratory was actually able to negotiate a total cost for the system that includes on-site training for the new technology.
4. **Equipment:** Total costs for equipment is $151,830 (with discount). Equipment to be purchased will include the Amazon SL liquid chromatograph ion trap mass spectrometer: an easy to use, high performance LC/MS^n system. It includes both an ESI and APCI Ion source, data system with 24" wide screen LCD monitor and laser printer, and Win XP OS. A Dionex Basic LC package will also be purchased that includes the quaternary analytical pump, mixer kit, thermostatted autosampler, and

solvent rack that are needed as the tools to apply the new technology. The instrument is recognized as state-of-the-art in 3-D ion trap mass spectrometers capable of MS^n analysis. Mass peak resolution and accuracy exceeds all other 3-D model ion trap mass spectrometers on the market. The instrument's extremely fast scan speed and sensitivity are considerable advantages. It is a system that includes an automated liquid sampler and advanced data system technology capable of running unattended once the analyst engages a queue of samples. The controlling software also represents state-of-the-art in chromatography data systems (CDS) and mass spectrometry data processing. It is a user-friendly and secure system.

5. **Supplies:** There will be no supplies costs charged to the grant. In fact, the grant will help the Laboratory save money in supplies as there will be a reduced amount of usage due to the new technology.
6. **Construction:** There will be no construction costs charged to the grant.
7. **Consultants/Contracts:** There will be no consultants/contracts charged to the grant. The Miami-Dade County Medical Examiner Department is handling the acquisition and selection of the new technology based on the County's official procurement policy and procedures.
8. **Other Costs:** The additional costs in the sum of $27,698 for the new technology include special software that will be needed for the new system and the training that will be provided. The software packages include: TargetAnalysis 1.2 and Compass OpenAccess 1.3. Additionally, training on the new software applications will be provided onsite at the Laboratory for all toxicologists.

IMPACT/OUTCOMES AND EVALUATION /PLAN FOR COLLECTING DATA FOR PERFORMANCE MEASURES

The impact/outcomes for the project will include:

1. **Improved throughput and reduced turnaround**

   The instrument's ability to generate full spectral analysis along with targeted MRM scanning, while maintaining high sensitivity, will allow for the best in simultaneous identification and quantification. This reduces the need for additional analyses and the overall processing time. Reduced preparation time, comprehensive screening and quantification, and elimination of redundant analyses are all essential to reducing case turnaround and backlog. The expected reduction in average tests performed per case is 25%.

2. **Quality of Results**

   Utilizing LC/MS/MS greatly improves qualitative spectral information while at the same time providing accurate quantitative results. Ion trap mass spectrometry, in particular, allows for full scan data analysis, the preferred method for properly identifying a substance. Liquid chromatography broadens the range of drugs that can be analyzed in a single run, including the more complex substances appearing on the market. Compounds are less likely to degrade or require any type of derivatization. This reduces costs and preparation time and improves sensitivity, accuracy and precision in the analysis.

3. **Cost of Materials**

   An overall decrease in the number of tests performed will ultimately result in a reduction in chemicals and other materials that are routinely used. By combining testing protocols, there will be a reduction in the use of costly certified reference

standards, petroleum based organic solvents, high purity specialty gases, and extraction supplies. The reduction will be as much as 10% in the laboratory operating budget.

The evaluation/plan for collecting data for performance measures is something that is already standard practice at the Miami-Dade County Medical Examiner department. In fact, the department already participates in the County's ASE (Active Strategies Enterprise) system which tracks performance measures for every County department. However, the effectiveness and success of this project will be evaluated by collecting the following data by the Laboratory:

OBJECTIVES	PERFORMANCE MEASURES	DATA GRANTEE PROVIDES
To improve the quality and timeliness of forensic toxicology analysis and substantially reduce case backlog.	Utilize the new technology (ESI LC/MS system) and testing protocol in death investigations involving the detection of designer drugs and potent complex pharmaceuticals.	Number of backlogged cases at the beginning and end of the grant period.
	Reduce turnaround time from an average of 65 to 45 days.	Number of cases successfully completed as a result of the new technology and testing protocol
	Increase in the percentage of cases completed in 90 days to meet the NAME accreditation standards (80%-90%).	Average number of days to process a sample at the beginning and end of the grant period.
	Maintain accurate records of all tests performed using the new protocol.	Report findings in scientific literature and/or present at scientific meetings.
	Review individual cases with the pathologists to determine final outcome.	Monitor operating budget and expenditures for supplies to verify reductions in key supply items.

OTHER

Average annual number of Part I Violent Crimes reported to the Federal Bureau of Investigation by Miami-Dade County (Police Department) for calendar years 2008, 2009, 2010, and 2011 are as follows:

	JAN-DEC 2011	JAN-DEC 2010	JAN-DEC 2009	JAN-DEC 2008
Total Part I – Violent Crimes	**6,608**	**6,622**	**7,508**	**8,472**

FY 2012 Coverdell Forensic Science Improvement Grants Program

Attachment: External Investigations

The "Certification as to External Investigations" that is submitted on behalf of the applicant agency as part of this application certifies that—

> A government entity exists and an appropriate process is in place to conduct independent external investigations into allegations of serious negligence or misconduct substantially affecting the integrity of the forensic results committed by employees or contractors of any forensic laboratory system, medical examiner's office, coroner's office, law enforcement storage facility, or medical facility in the State that will receive a portion of the grant amount.

Prior to receiving funds, the applicant agency (that is, the agency applying directing to the National Institute of Justice) must provide—for each forensic laboratory system, medical examiner's office, coroner's office, law enforcement storage facility, or medical facility that will receive a portion of the grant amount—the name of the "government entity" (or entities) that forms the basis for the certification. Please use the template below to provide this information. (Applicants may adapt this template if necessary, but should ensure that the adapted document provides all required information.)

IMPORTANT NOTE: If necessary for accuracy, list more than one entity with respect to each intended recipient of a portion of the grant amount. For example, if no single entity has an appropriate process in place with respect to allegations of serious negligence as well as serious misconduct, it will be necessary to list more than one entity. Similarly, if no single entity has an appropriate process in place with respect to allegations concerning contractors as well as employees, it will be necessary to list more than one entity.

Additional guidance regarding the "Certification as to External Investigations" appears in the "Eligibility" section of the program announcement for the FY 2012 Coverdell program.

Name of Applicant Agency (Including Name of State or Unit of Local Government):

Miami-Dade County Medical Examiner Department

Date: April 30, 2012

Name of any forensic laboratory system, medical examiner's office, coroner's office, law enforcement storage facility, or medical facility that will receive a portion of the grant amount	Existing government entity (entities) with an appropriate process in place to conduct independent external investigations
1. Miami-Dade County Medical Examiner	FL. Dept. of Law Enforcement (FDLE) -and- Miami-Dade County Office of Inspector General
2.	

U.S. DEPARTMENT OF JUSTICE
OFFICE OF JUSTICE PROGRAMS
NATIONAL INSTITUTE OF JUSTICE

FY 2012 Coverdell Forensic Science Improvement Grants Program

Certification as to Plan for Forensic Science Laboratories—Application From a Unit of Local Government

On behalf of the applicant agency named below, I certify the following to the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice:

> This unit of local government has developed a plan for forensic science laboratories under a program intended to improve the quality and timeliness of forensic science or medical examiner services provided by the laboratories operated by the applicant unit of local government and any other government-operated laboratories within the State that will receive a portion of the grant amount.

I acknowledge that a false statement in this certification or in the grant application that it supports may be the subject of criminal prosecution, including under 18 U.S.C. § 1001 and 42 U.S.C. § 3795a. I also acknowledge that Office of Justice Programs grants, including certifications provided in connection with such grants, are subject to review by the Office of Justice Programs and/or by the Department of Justice's Office of the Inspector General.

I have authority to make this certification on behalf of the applicant agency (that is, the agency applying directly to the National Institute of Justice).

Signature of Certifying Official

Dr. Bruce A. Hyma
Printed Name of Certifying Official

Director and Chief Medical Examiner
Title of Certifying Official

Miami-Dade County Medical Examiner Department
Name of Applicant Agency
(Including Name of Unit of Local Government)

April 30, 2012
Date

U.S. DEPARTMENT OF JUSTICE
OFFICE OF JUSTICE PROGRAMS
NATIONAL INSTITUTE OF JUSTICE

FY 2012 Coverdell Forensic Science Improvement Grants Program

Certification as to Generally Accepted Laboratory Practices and Procedures

On behalf of the applicant agency named below, I certify the following to the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice:

> Any forensic science laboratory system, medical examiner's office, or coroner's office in the State, including any laboratory operated by a unit of local government within the State, that will receive any portion of the grant amount uses generally accepted laboratory practices and procedures, established by accrediting organizations or appropriate certifying bodies.

I acknowledge that a false statement in this certification or in the grant application that it supports may be the subject of criminal prosecution, including under 18 U.S.C. § 1001 and 42 U.S.C. § 3795a. I also acknowledge that Office of Justice Programs grants, including certifications provided in connection with such grants, are subject to review by the Office of Justice Programs and/or by the Department of Justice's Office of the Inspector General.

I have authority to make this certification on behalf of the applicant agency (that is, the agency applying directly to the National Institute of Justice).

Signature of Certifying Official

Dr. Bruce A. Hyma
Printed Name of Certifying Official

Director and Chief Medical Examiner
Title of Certifying Official

Miami-Dade County Medical Examiner Department
Name of Applicant Agency
(Including Name of State or Unit of Local Government)

April 30, 2012
Date

U.S. DEPARTMENT OF JUSTICE
OFFICE OF JUSTICE PROGRAMS
NATIONAL INSTITUTE OF JUSTICE

FY 2012 Coverdell Forensic Science Improvement Grants Program

Certification as to Use of Funds for New Facilities

On behalf of the applicant agency named below, I certify the following to the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice:

> The amount of the grant (if any) used for the costs of any new facility or facilities to be constructed as part of a program to improve the quality and timeliness of forensic science and medical examiner services will not exceed the limitations set forth at 42 U.S.C. § 3797m(c) and summarized in the FY 2012 Coverdell Forensic Science Improvement Grants Program Announcement.

I acknowledge that a false statement in this certification or in the grant application that it supports may be the subject of criminal prosecution, including under 18 U.S.C. § 1001 and 42 U.S.C. § 3795a. I also acknowledge that Office of Justice Programs grants, including certifications provided in connection with such grants, are subject to review by the Office of Justice Programs and/or by the Department of Justice's Office of the Inspector General.

I have authority to make this certification on behalf of the applicant agency (that is, the agency applying directly to the National Institute of Justice).

Signature of Certifying Official

Dr. Bruce A. Hyma
Printed Name of Certifying Official

Director and Chief Medical Examiner
Title of Certifying Official

Miami-Dade County Medical Examiner Department
Name of Applicant Agency
(Including Name of State or Unit of Local Government)

April 30, 2012
Date

U.S. DEPARTMENT OF JUSTICE
OFFICE OF JUSTICE PROGRAMS
NATIONAL INSTITUTE OF JUSTICE

FY 2012 Coverdell Forensic Science Improvement Grants Program

Certification as to External Investigations

On behalf of the applicant agency named below, I certify the following to the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice:

> A government entity exists and an appropriate process is in place to conduct independent external investigations into allegations of serious negligence or misconduct substantially affecting the integrity of the forensic results committed by employees or contractors of any forensic laboratory system, medical examiner's office, coroner's office, law enforcement storage facility, or medical facility in the State that will receive a portion of the grant amount.

I personally read and reviewed the section entitled "Eligibility" in the Fiscal Year 2012 program announcement for the Coverdell Forensic Science Improvement Grants Program. I acknowledge that a false statement in this certification or in the grant application that it supports may be the subject of criminal prosecution, including under 18 U.S.C. § 1001 and 42 U.S.C. § 3795a. I also acknowledge that Office of Justice Programs grants, including certifications provided in connection with such grants, are subject to review by the Office of Justice Programs and/or by the Department of Justice's Office of the Inspector General.

I have authority to make this certification on behalf of the applicant agency (that is, the agency applying directly to the National Institute of Justice).

Bruce A. Hyma

Signature of Certifying Official

Dr. Bruce A. Hyma
Printed Name of Certifying Official

Director and Chief Medical Examiner
Title of Certifying Official

Miami-Dade County Medical Examiner Department
Name of Applicant Agency
(Including Name of State or Unit of Local Government)

April 30, 2012
Date

MIAMI-DADE COUNTY

Rosa Mateos
Bruker Daltonics, Inc
Chemical and Applied Markets
3500 W. Warren Ave
Fremont, California, 94538-6499
Email: rosa.mateos@bruker.com

Re: Contract No.: RQME1300001, Amazon SL Package

Dear Ms. Mateos:

This letter sets forth the terms of the agreement (the "Agreement") between Miami-Dade County (the "County") and Bruker Daltonics Inc. (the "Contractor") to contract for the purchase of an Amazon SL Basic System, Dionex Basic LC System and on-site training for the Medical Examiner's Department in accordance with the terms and conditions as stated herein. This Agreement contains the entire agreement between the parties as to all matters contained herein.

1) Equipment and Training:

The Contractor shall furnish, deliver and install one (1) Amazon SL Basic System, (1) Dionex Basic LC System and (2) days on-site training to the County at the Medical Examiner's Office per the specifications herein. Acceptance of the referenced Equipment will be at the sole discretion of the County's representative.

2) Pricing:

The price of the Amazon SL Basic System, Dionex Basic LC System and (2) days on-site training to the County including all services required for furnishing/delivery/installation is $179,528. The Contractor shall be paid upon approval and acceptance of all items required herein by the County. It is the policy of Miami-Dade County that payment for all purchases by County agencies shall be made in a timely manner and that interest payments be made on late payments. In accordance with Florida Statutes, Section 218.74 and Section 2-8.1.4 of the Miami-Dade County Code, the time at which payment shall be due from the County shall be forty-five (45) days from receipt of a proper invoice.

3) Term of Agreement:

This Agreement is for a one-time purchase and shall become effective upon the date of the purchase order and shall remain in effect until such time as all items purchased in conjunction with this Agreement, have been furnished/delivered/installed and accepted by the County.

4) Shipping Terms and Delivery:

Price is F.O.B. Destination and the Contractor shall hold title to the goods until such time as they are furnished, delivered, installed and accepted by the County at Miami-Dade County Medical Examiner located at 1 Bob Hope Road Miami, Florida between the hours of 8:00 a.m. – 5:00 p.m. weekdays (excluding legal holidays). Delivery and installation shall be no later than one hundred (100) days from the date of the purchase order. All deliveries are to be made in accordance with good commercial practice.

5) Method of Payment: Invoice for Delivery:

The date of the invoice shall not exceed thirty (30) calendar days from the delivery/installation of the equipment. Under no circumstances shall the invoice be submitted in advance of the delivery and acceptance of the equipment. In order for the County to provide payment, the Contractor shall submit a fully documented invoice that shall contain the following basic information:

I. Contractor Information:
- Contractor name
- Date of invoice
- Invoice number
- The Contractor's Federal Identification Number

II. County Information:
- Miami-Dade County Release Purchase Order

III. Pricing Information:
- Unit price of the goods provided
- Applicable discounts

IV. Goods Provided per Contract:
- Description
- Quantity

V. Delivery Information:
- Delivery terms set forth within the Miami-Dade County Release Purchase Order
- Location and date of delivery of goods
- Reference of the corresponding delivery ticket
- Unit serial numbers
- Packing slip number that was signed by an authorized County representative at the time the equipment was delivered and accepted

Invoices and associated back-up documentation shall be submitted in duplicate by the Contractor to the County as follows:

Miami-Dade County
Medical Examiner
1 Bob Hope Road
Miami, Florida 33136
Attention: George Hime
Phone: (305) 547-5746
Email: gwh@miamidade.gov

6) Indemnification and Insurance:

The indemnification and insurance requirements are provided in Attachment 1.

7) Warranty shall be Three Hundred Sixty-Five (365) Calendar Days:

A. Type of Warranty Coverage Required

In addition to all other warranties that may be supplied by the Contractor, the Contractor shall warrant its product and/or service against faulty labor and/or defective material for a minimum period of three hundred sixty-five (365) calendar days after the date of acceptance of the labor, materials and/or equipment by the County.

This warranty requirement shall remain in force for the full period identified above; regardless of whether the Contractor is under contract with the County at the time of defect.

Any payment by the County on behalf of the goods or services received from the Contractor does not constitute a waiver of these warranty provisions. For items supplied but not manufactured by Bruker, the warranty terms of the manufacturer will be transferred to the buyer. The warranty does not cover consumables or wearing parts, such as pump oil, routine pump maintenance, cleaning, oil change, etc. Maldi targets, digital media, solvents, columns, capillaries, needles, etc. Any damage due to misuse is excluded.

B. Correcting Defects Covered Under Warranty

The Contractor shall be responsible for promptly correcting any deficiency, at no cost to the County, within ten (10) calendar days after the County notifies the Contractor of such deficiency in writing. If the Contractor fails to honor the warranty and/or fails to correct or replace the defective work or items within the period specified, the County may, at its discretion, notify the Contractor, in writing, that the Contractor may be debarred as a County Contractor and/or subject to contractual default if the corrections or replacements are not completed to the satisfaction of the County within the time specified. If the Contractor fails to satisfy the warranty within the period specified in the notice, the County may (a) place the Contractor in default of its contract, and/or (b) procure the products or services from another vendor and charge the Contractor for any additional costs that are incurred by the County for this work or items; either through a credit memorandum or through invoicing.

8) Inspector General Reviews:

According to Section 2-1076 of the Code of Miami-Dade County, Miami-Dade County has established the Office of the Inspector General which may, on a random basis, perform audits on all County contracts, throughout the duration of said contracts.

9) Specifications:

The specifications are provided in Attachment 2. **(Bruker quotation #QUO-08336-ZNK4FJ.0)**

10) Audits:

Pursuant to County Ordinance No. 03-2, the Contractor will grant access to the Commission Auditor to all financial and performance related records, property, and equipment purchased in whole or in part with government funds. The Contractor agrees to maintain an accounting system that provides accounting records that are supported with adequate documentation, and adequate procedures.

11) Termination:

The County may at any time, in its sole discretion, with or without cause, terminate this Agreement by written notice to the Contractor. In the event that the County exercises its right to terminate this Agreement, the Contractor will be compensated as stated in the payment Articles herein for the 1) portion of the Services completed in accordance with the Agreement up to the termination date; and 2) non-cancelable deliverables that are not capable of use except in the performance of this Agreement and has been specifically developed for the sole purpose of this Agreement.

12) Vendor Registration and Conflict of Interest:

The Contractor shall be a registered vendor with the County – Internal Services Department, Procurement Management Division, for the duration of this Agreement. Section 2-11.1(d) of Miami-Dade County Code requires that any County employee or any member of the employee's immediate family who has a controlling financial interest, direct or indirect, with Miami-Dade County or any person

or agency acting for Miami-Dade County, competing or applying for a contract, must first request a conflict of interest opinion from the County's Ethics Commission prior to their or their immediate family member's entering into any contract or transacting any business through a firm, corporation, partnership or business entity in which the employee or any member of the employee's immediate family has a controlling financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County. Any such contract or business engagement entered in violation of this subsection, as amended, shall be rendered voidable. For additional information, please contact the Ethics Commission hotline at (305) 579-2593.

13) Local, State and Federal Compliance Requirements:

Contractor agrees to comply, subject to applicable professional standards, with the provisions of any and all applicable Federal, State and the County orders, statutes, ordinances, rules and regulations which may pertain to the performance of this Agreement.

14) Governing Law:

This Agreement, including appendices, and all matters relating to this Agreement (whether in contract, statute, tort (such as negligence), or otherwise) shall be governed by, and construed in accordance with, the laws of the State of Florida. Venue shall be Miami-Dade County.

15) Survival:

The parties acknowledge that any of the obligations in this Agreement will survive the term, termination and cancellation hereof. Accordingly, the respective obligations of the Contractor and the County under this Agreement, which by nature would continue beyond the termination, cancellation or expiration thereof, shall survive termination, cancellation or expiration hereof.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the date herein above set forth.

Contractor	Miami-Dade County
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____
Attest: _____ Corporate Secretary/Notary Public	Attest: _____ Clerk of the Board
Corporate Seal/Notary Seal	Approved as to form and legal sufficiency _____ Assistant County Attorney

Attachment 1

Indemnification and Insurance 10-24-12 PENDING RISK RESPONSE

Contractor shall indemnify and hold harmless the County and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorneys' fees and costs of defense, which the County or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the performance of this Agreement by the Contractor or its employees, agents, servants, partners principals or subcontractors. Contractor shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the County, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. Contractor expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by Contractor shall in no way limit the responsibility to indemnify, keep and save harmless and defend the County or its officers, employees, agents and instrumentalities as herein provided.

The Contractor shall furnish to the Internal Services Department / Procurement Management Services, 111 NW 1st Street, Suite 1300, Miami, Florida 33128-1989, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

A. Worker's Compensation Insurance for all employees of the contractor as required by Florida Statute 440.

B. Commercial General Liability Insurance on a comprehensive basis in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage. **Miami-Dade County must be shown as an additional insured with respect to this coverage.**

C. Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount not less than $500,000 combined single limit per occurrence for bodily injury and property damage.

All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The company must be rated no less than "B" as to management, and no less than "Class V" as to financial strength by Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, subject to the approval of the County Risk Management Division.

or

The company must hold a valid Florida Certificate of Authority as shown in the latest "List of All Insurance Companies Authorized or Approved to Do Business in Florida" issued by the State of Florida Department of Financial Services and are members of the Florida Guaranty Fund.

CERTIFICATE HOLDER MUST READ: MIAMI-DADE COUNTY
111 NW 1st STREET
SUITE 2340
MIAMI, FL 33128

Attachment 2

Specifications

Amazon SL Basic System (Bruker quotation #QUO-08336-ZNK4FJ.0)

1) Amazon SL Basic Systems 294445-LS: High performance ESI LC/MSn ion trap MS system with dual funnel ion guide. Class leading combinations of scan speed and mass resolution in combination with fast polarity switching capability for a wide range of analytical applications including quality control, structural confirmation and screening of complex mixtures. Compatible with UHPLC chromatography. Compass software version 1.3 SR2 for Amazon, the smart and intuitive software for HPLC and MS control providing quick answers to analytical questions with automation tools for calibration, tuning and data post- processing. System to include ESI-ION source, Data system with 24" wide screen LCD Monitor and laser printer, OS Windows XP, including installation and training for up to two persons.

2) Valve Option, 6 Port, Analytical 263424-LS: Amazon solvent switching valve option, 6 port, analytical.

3) APCI II Source for LC Coupling 262721-LS: For all Amazon ion traps, micro TOF, maxis and solarix mass spectrometer. Atmospheric pressure chemical ionization (APCI) accessories for easy and fast switch over from ESI to LC-APCI operation.

   Key features:
   - Coated source surface
   - New robust corona needle
   - Easy switch-over between ESI and APCI without breaking vacuum

   Additional API drain set #267259 is required, for you use with micron TOF series and adapter #269352 is required.

4) API Drain Set DN25 267259-LS: API Drain set for high flow API sources.

5) Rough Pump Housing 258345-LS: Cosmetic cover and noise emission reduction for ESI-Trap and ESI-TOF rough pumps, with oil bilge.

6) Software Package Target Analysis 1.2: Software package target analysis 1.2 for accurate mass high resolution multi-target screening of food, forensic and environmental samples. Includes free libraries for forensic, pesticides and Pharm Tox screening.

7) Software Package Compass Open Acess 1.3: Compass OA/QC is a ready to use client/server solution to every walk up user, whatever their knowledge or experience. Compass Open Acess allows the guided use of LC/MS systems, all under a simple user interface to select appropriate analytical tasks with prepared SOP's. It automatically handles even more advanced analytical tasks on behalf of the user, such as automated analysis of isotopic patterns and evaluation of chemical species using SigmaFit.

   Key features:
   - Walk up LC/MS system for formula generation
   - Reliable and automated LC/MS runs with predefined analytical methods (SOP)
   - Simplest operation with high quality molecular formula results
   - Easy user management
   - No training is required for lab users
   - Result data protection via user name/password
   - Supports all typical lab rules

- Automated post processing and report generation by print-out, pdf file and e-mail notification
- Open entrance import of sample information from LIMS or equivalent

Dionex Basic LC

1) 5040.0031-Dionex: LPG-3400SD Quaternary Analytical Pump

2) 6040.5000-Dionex: Mixer kit to 35 uL mixing volume, RS/SD pumps, 100 MPa

3) 5830.0020-Dionex ACC-300T Autosampler Column Compartment with sample thermostatting:
ACC-300T features a pulled-loop thermostatted auto sampler combined with a column compartment. Equipped with a 250 uL syringe and a 20 uL sample loop as standard. Upgradable with a different syringe (1000 uL) and different sample loops (50,200 uL). Five different sample formats (1.1 mL conical, 1.2 mL, 1.8 mL, 4 mL, 10 mL) are supported. Sample thermosttaing from 8°C to 40°C, with a maximum of 15°C below ambient. Column healing from 5°C above ambient up to 50°C.

4) 5035.9200-Dionex: SR-3000 Solvent rack (without degasser)
Up to nine 1-L bottles or up to four 2.5-L bottles or two 5-L and two 1-L bottles can be placed on a solvent rack without degasser.

5) 282943-LS Two each On site training courses:
Each consisting of Voucher for onsite course BioPharma Compass (#281638)

- Two days at your company or institute
- Installation of BioPharma Compass 1.0
- Set-up of acquisition methods for BioPharma workflows
- Familiarization and applications training
- The number of participants in the training is not limited but should not exceed a reasonable number
- Free of charge if purchase together with S/W#281638 BioPharma Compass 1.0

Trade in Thermo LCQ

1) Trade in of Thermo LCQ –