

NOTE: EXHIBIT B-1 MANDATORY TECHNICAL REQUIREMENTS INCLUDES ONLY CATEGORY 8 AND CATEGORY 10 REVISIONS.

8. CATEGORY: TEST EQUIPMENT **NO BID**

8.1 TEST EQUIPMENT SUB-CATEGORY: MULTIFUNCTION RADIO TEST SET

Sub-Category Definition: *Specialized high-accuracy multi-function test instrument for the testing of two-way radios. Includes: portable instruments, rugged field service instruments, laboratory instruments, along with related test adapters and accessories.*

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) — Compact multifunction instrument for testing and alignment of two-way radios (AKA: Radio Service Monitor).

The following specifications and equipment configuration describes requirements for the example products above. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**TestEquipSubCategory-8.1**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

Note: Symbols for less-than (<) or greater-than (>) shall be interpreted to include equal-to the specified value. The symbol for approximate (~) indicates an imprecise or nominal value where variations will be acceptable.

Manufacturer: Click or tap here to enter text. **Product Model Name:** Click or tap here to enter text. **Product Number:** Click or tap here to enter text.

ITEM NO.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	SUMMARY OF FUNCTIONS		
1.1.	AM/FM/P-25 Monitor		
1.2.	AM/FM/P-25 Generator		
1.3.	Duplex Generator		
1.4.	Signal Strength Meter		
1.5.	RF Power Meter		
1.6.	Spectrum Analyzer		
1.7.	Tracking Generator		

1.8.	RF Cable Fault Locator		
1.9.	RF Frequency Counter		
1.10.	Frequency Error Meter		
1.11.	AM Modulation Meter		
1.12.	FM Deviation Meter		
1.13.	SINAD/Distortion Meter		
1.14.	Audio Synthesizer		
1.15.	Oscilloscope		
1.16.	Digital Voltmeter		
2.	RF GENERATOR (RECEIVER TEST)		
2.1.	Port Input Protection		
2.1.1.	GEN Port: +20 dBm (Input Power Alarm Typical)		
2.1.2.	T/R Port: +49 dBm CW (Input Power Alarm Typical)		
2.1.3.	T/R Port: >+90° C (Temperature Alarm Typical)		
2.2.	Frequency		
2.2.1.	Support Public Safety LMR Frequencies		
2.2.2.	Resolution = 1 Hz		
2.3.	Output Level.		
2.3.1.	Range – T/R Port: -50 to -125 dBm – GEN Port: -5 to -65 dBm		
2.3.2.	Accuracy = +-2 dB or better.		
2.3.3.	Resolution = 1 dB		
2.4.	Modulation Types		
2.4.1.	1 kHz Tone		
2.4.2.	CTCSS		
2.4.3.	Digital Coded Squelch		
2.4.4.	Single Tone		
2.4.5.	DTMF		
2.4.6.	Paging - Two-Tone & 5/6 Tone		

2.4.7.	External microphone & input connector		
2.5.	FM Modulation		
2.5.1.	Deviation Range = 0 to 75 kHz or greater		
2.5.2.	Total Harmonic Distortion < 3%		
2.5.3.	Resolution < 10 Hz		
2.5.4.	Accuracy < ±10% (2 kHz to 50 kHz deviation)		
2.6.	AM Modulation		
2.6.1.	Range = 0 to 90%		
2.6.2.	Resolution < 1%		
2.6.3.	Total Harmonic Distortion < 3% (20% to 90% mod)		
2.6.4.	Accuracy < 10% of setting (20% to 90% mod)		
3.	RF RECEIVER (TRANSMITTER TEST)		
3.1.	Port Input Protection		
3.1.1.	ANT Port: +20 dBm (Input Power Alarm Typical)		
3.1.2.	T/R Port: +49 dBm CW (Input Power Alarm Typical)		
3.1.3.	T/R Port: >+90° C (Temperature Alarm Typical)		
3.2.	Frequency		
3.2.1.	Support Public Safety LMR Frequencies		
3.2.2.	Accuracy = Same as Time-base		
3.2.3.	Provision for external 10 MHz Time-Base Input		
3.2.4.	Resolution = 1 Hz		
3.3.	Input Amplitude		
3.3.1.	Sensitivity with pre-amplifier – ANT: -110 dBm for 10 dB SINAD – T/R: -40 dBm for 10 dB SINAD		
3.3.2.	Minimum Level Receiver Measurements with pre-amplifier – ANT: -80 dBm for RF Error Meter – T/R: -40 dBm for RF Error Meter		
3.3.3.	DEMODO Meters – Modulation – Distortion		

	- SINAD - AF Counter		
3.4	Signal Purity		
3.4.1	Port VSWR < 1.5:1 (all ports)		
3.4.2	SSB Phase Noise = -90 dBc/Hz at 20 kHz offset		
3.4.3	Spurious - Harmonics = -20 dBc maximum, - Non-Harmonics = -35 dBc maximum (±20 kHz offset from carrier; 0 to 1 GHz)		
3.4.4	Residual FM - <20 Hz rms in 300 Hz to 3 kHz BW		
3.4.5	Residual AM <1% rms in 300 Hz to 3 kHz BW		
3.5.	IF Bandwidth		
3.5.1.	FM: 6.25 kHz to 25 kHz		
3.5.2.	AM: 6.25 kHz to 25 kHz		
3.6.	RF Frequency Error Meter		
3.6.1.	Units = Hz, PPM		
3.6.2.	Range = ±200 kHz, ±1000 PPM		
3.6.3.	Resolution = 1 Hz		
3.6.4.	Accuracy = Time-base ±1 Hz		
3.7.	RF Power Meter (RF Power Into T/R Port)		
3.7.1.	Maximum Input Level = 100 watts or better		
3.7.2.	Input RF Power Alarm = +49 dBm		
3.7.3.	Temperature Alarm > +90° C		
3.7.4.	Meter Range = +20 to +53 dBm		
3.7.5.	Display Units = Watts, dBm		
3.7.6.	Resolution = 0.01 W, 0.1 dBm		
3.7.7.	Accuracy < 10% of reading		
3.8.	FM Deviation Meter		
3.8.1.	Range = ±500 Hz to ± 75 kHz		
3.8.2.	Meter Type = Peak+, Peak-, (Peak-Peak)/2, RMS		

3.8.3.	Resolution = 1 Hz		
3.8.4.	Accuracy < ±5% of reading, 1 kHz to 10 kHz Dev.		
3.9.	AM Percent Meter		
3.9.1.	Range = 5% to 100%		
3.9.2.	Meter Type = Peak+, Peak-, (Peak-Peak)/2, RMS		
3.9.3.	Resolution = 1%		
3.9.4.	Accuracy = ±5% of reading		
3.10.	SINAD Meter		
3.10.1.	Measurement Sources = Audio IN, DEMOD		
3.10.2.	Audio Frequency Notch = 1 kHz		
3.10.3.	Reading Range = 0 dB to 60 dB		
3.10.4.	Resolution = 0.1 dB to .0.1 dB		
3.10.5.	Accuracy < ±1.5 dB,		
3.11.	Distortion Meter		
3.11.1.	Measurement Sources = AUD IN, DEMOD		
3.11.2.	Audio Frequency Notch = 1 kHz		
3.11.3.	Reading Range = 0% to 100%		
3.11.4.	Resolution = 0.1% or Better		
3.11.5.	Accuracy = ±10% of reading		
3.12.	Audio Frequency Counter		
3.12.1.	Measurement Sources = AUD IN, DEMOD		
3.12.2.	Frequency Range = 15 Hz to 20 kHz		
3.12.3.	Resolution = 0.1 Hz		
3.12.4.	Accuracy < ± 1 Hz		
3.13.	Audio Frequency Level Meter		
3.13.1.	Measurement Sources = AUD IN, SCOPE		
3.13.2.	Input Range = – Audio In Range = 3 V, 30 V – Scope Range = 2 VDC, 40 VDC		
3.13.3.	Frequency Range = 200 Hz to <5 kHz		

3.13.4.	Accuracy < ±5% AUD IN Port		
3.14.	Oscilloscope		
3.14.1.	Source = SCOPE, AUD IN, DEMOD		
3.14.2.	Bandwidth = 5 kHz or greater		
3.15.	Digital Multimeter (DMM)		
3.15.1.	Functions: AC/DC Voltmeter		
3.15.2.	Accuracy < ±5% AC, < ±2% DC		
3.16.	Power		
3.16.1.	AC Power and/or a vehicle adapter.		
3.16.2.	DC Input Voltage Range = 12 to 32 VDC (12-24 nominal)		
3.17.	Environmental — tested in accordance with MIL-PRF-28800F, Class 3		
4.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
5.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
6.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.		
ADDITIONAL PRODUCTS FOR CONSIDERATION <i>(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder's offering)</i>			
PRODUCT MODEL NAME/NUMBER		DESCRIPTION	

WARRANTY OPTIONS

(Warranty options listed below and may be considered upon award and included in Bidder's offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)

WARRANTY OPTION	DESCRIPTION
TWO-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty".</i>
THREE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty".</i>
FOUR-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".</i>
FIVE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".</i>

8.2 TEST EQUIPMENT SUB-CATEGORY: SPECIALIZED RF INSTRUMENTS

NO BID

8.2.1 WATT METERS AND POWER METERS

Definition: Power and Watt Meters used to measure the RF output power of radio equipment including portable and mobile radios and repeaters. Meters can be stand alone or used in conjunction with a computer (i.e., a laptop).

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) RF Power Meter used with laptop for testing and verifying P25 radio power output.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**ExhibitB1-TestEquipment 8.2.1**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

Note: Symbols for less-than (<) or greater-than (>) shall be interpreted to include equal-to the specified value. The symbol for approximate (~) indicates an imprecise or nominal value where variations will be acceptable.

Manufacturer: Click or tap here to enter text.

Product Model Name: Click or tap here to enter text.

Product Number: Click or tap here to enter text.

ITEM NO.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	POWER MEASRUEMENTS		
1.1	Power Range: 100mW to >120W (average): >300W (peak)		
1.2	Frequency Range: 100MHz to 1GHz		
1.3	Accuracy: 5% or 0.22dB		
1.4	SWR: max. 1.1		
1.5	Insertion Loss: 0.1dB		
1.6	Supported Modulations: CW, AM, FM, FSK, GMSK, PSK, QAM		
1.7	Multiple Access Modes: Continuous, TDMA (Time Division)		
1.8	Maximum Error Due to Modulation:		
1.8.1	AM: +/- 4% (at 80% modulation index)		
1.8.2	FM, FSK, GMSK: 0%		

1.8.3	PSK; QAM: +/- 3%		
2.	POWER MEASUREMENT METHOD		
2.1	Type: Directional Thru-Line Measurement		
3.	MEASUREMENTS		
3.1	Measurements: Power, Crest Factor, CCDF, PEP (Peak Envelope Power), SWR		
4.	POWER SOURCE		
4.1	AC (100-240 VAC), DC (12-28VDC) or USB Powered		
5.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
6.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
7.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.		
ADDITIONAL PRODUCTS FOR CONSIDERATION (For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder’s offering)			
PRODUCT MODEL NAME/NUMBER		DESCRIPTION	
WARRANTY OPTIONS (Warranty options listed below and may be considered upon award and included in Bidder’s offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)			
WARRANTY OPTION		DESCRIPTION	

TWO-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty".</i>
THREE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty".</i>
FOUR-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".</i>
FIVE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".</i>

NO BID

8.2.2 PORTABLE ANTENNA TEST, CABLE FAULT, RF CABLE TIME DOMAIN REFLECTOMETER (TDR) AND/OR VECTOR NETWORK ANALYZERS (VNA) WITH SPECTRUM ANALYZER CAPABILITY.

Definition: *Portable test instrument that can test and document antenna frequency operating range, cable faults using either TDR or VNA technology with built-in Spectrum Analyzer function.*

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) Vector Network Analyzer (VNA) capable of testing antennas, aligning Duplexers, determining Cable Distance to Fault (DTF), Insertion Loss and performing Spectrum Analysis.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**ExhibitB1-TestEquipment 8.2.2**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

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Manufacturer: Click or tap here to enter text.

Product Model Name: Click or tap here to enter text.

Product Number: Click or tap here to enter text.

ITEM No.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	USER INTERFACE		
1.1	Data storage, Internal and External		
1.2	Daylight Readable Display		
1.2.1	Color Display		
2.	POWER REQUIREMENTS		
2.1	External AC: 110/220 V nominal		
2.2	External DC = 12 V nominal		
2.3	Internal Battery > 3 hours run time		
3.	GENERAL SPECIFICATIONS		
3.1	Frequency Range: 1MHz to 3GHz		
3.2	Frequency Resolution: 10Hz		
3.3	Time base Drift: 1×10^{-6}		

3.4	Time Base Aging: 1×10^{-6}		
3.5	Maximum DC Voltage: 50 VDC		
3.6	Port VSWR: 1.7:1 Maximum		
4.	CABLE/ANTENNA/RF DEVICE TESTING FUNCTIONS		
4.1	Voltage Standing Wave Ratio (VSWR)		
4.1.1	Termination: 50 Ohms		
4.1.4	Accuracy @ -20dB reflected: 1.0 dB		
4.2	Distance to Fault (DTF)		
4.2.1	Maximum Cable Length: 1250 Meters		
4.3	Directivity: > 40 dB		
4.4	Immunity: +15 dBm		
4.5	Supported Display Formats: DTF, VSWR		
5.	SPECTRUM ANALYZER		
5.1	Tracking Generator Output Level @ 1GHz: -10dBm Minimum		
5.2	Level Accuracy: 1.5dB or better		
5.3	Maximum RF Input: 27dBm		
5.4	SSB Phase Noise at 500MHz or 1GHz (100kHz Offset): < -95 dBc/Hz		
5.5	DANL: -135 dBm		
6.	ENVIRONMENTAL. Tested in accordance with MIL-PRF-28800F, Class 2		
7.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
8.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
9.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the		

	Contractor. All shipping charges will be added as a separate line item to the invoice.		
ADDITIONAL PRODUCTS FOR CONSIDERATION <i>(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder's offering)</i>			
PRODUCT MODEL NAME/NUMBER	DESCRIPTION		
WARRANTY OPTIONS <i>(Warranty options listed below and may be considered upon award and included in Bidder's offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)</i>			
WARRANTY OPTION	DESCRIPTION		
TWO-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty".		
THREE-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty".		
FOUR-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".		
FIVE-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".		

8.2.3 MICROWAVE ANTENNA ALIGNMENT EQUIPMENT

NO BID

Definition: *Portable test instrument for the alignment of microwave antennas.*

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) battery operated, portable instrument that provides the ability to align microwave antenna systems.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**ExhibitB1-TestEquipment 8.2.3**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

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Product Model Name: Click or tap here to enter text.

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ITEM NO.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	GENERAL REQUIREMENTS		
1.1	Ability to align antennas with one or multiple individuals		
1.2	Ability to document both test and target site locations from one location using latitude and longitude coordinates derived from planning documentation or actual site coordinates.		
1.3	GNSS Receiver mandatory (GPS and/or GLONASS)		
2.	TARGET ACQUISITION		
2.1	Ability to input target coordinates and then display deviation from the desired coordinates.		
2.2	Parameters evaluated include Azimuth, Tilt, and roll (for panel antennas)		
3.	PORTABILITY FACTORS		
3.1	Combined kit weight not to exceed 12 lbs.		
3.2	Battery operation – minimum 6 hours operation		

3.3	Transport Case or Backpack		
4.	ENVIRONMENT SPECIFICATIONS		
4.1	Minimum Operating Temperature Range: 0°C to 60° C		
4.2	IP65 Rated for protection against infiltration of dust and water		
5.	TECHNICAL SPECIFICATIONS		
5.1	Azimuth Error: 0.5 Degrees RMS		
5.2	Tilt Error: +/- 0.2 degrees		
5.3	Roll Error: +/- 0.2 degrees		
5.4	GNSS Capable		
6.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
7.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
8.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.		

ADDITIONAL PRODUCTS FOR CONSIDERATION

(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder's offering)

PRODUCT MODEL NAME/NUMBER	DESCRIPTION

WARRANTY OPTIONS

(Warranty options listed below and may be considered upon award and included in Bidder's offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)

WARRANTY OPTION	DESCRIPTION
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TWO-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty".</i>
THREE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty".</i>
FOUR-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".</i>
FIVE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".</i>

NO BID

8.2.4 RADIO SYSTEM REAL TIME OVER THE AIR RF SIGNAL AND/OR WAVEFORM MONITORING

Definition: Specialized high-accuracy long range Over-The-Air radio waveform analyzer for testing of two-way radios.

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) Over-The-Air radio analyzer that identifies and analyzes the alignment characteristics and the field performance of two-way radios on an LMR network in real-time.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**ExhibitB1-TestEquipment 8.2.4**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

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Product Number: Click or tap here to enter text.

ITEM No.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	GENERAL SPECIFICATIONS		
1.1	Systems Supported: P25 Conventional and Trunked		
1.3	Band Supported: VHF, UHF, 700MHz/800MHz, 900MHz		
1.4	Operating Frequency Range: 100MHz to 1GHz		
2.	RECEIVER SPECIFICATIONS		
2.1	Sensitivity: -117dBm or better		
2.2	Radio Detection Range: 10 Miles		
2.3	Frequency Error: 5 Hz from -30 to -90 dBm		
2.4	RF Power Accuracy		
2.4.1	-27 dBm to -50 dBm: +/- 2dB		
2.4.2	-50 dBm to -95 dBm: +/- 1dB		
2.4.3	-95 dBm to -117 dBm: +/- 3dB		
2.5	Demodulation Measurements		

2.5.1	P25: C4FM Modulation Fidelity, Symbol Deviation		
2.6	IF Bandwidths: 6.25kHz, 12.5kHz		
3.	RADIO LOGGING: Radio UID (Radio ID)		
4.	POWER REQUIREMENTS: 100 – 240 ACV @ 50-60 Hz		
5.	OPERATING TEMPERATURE RANGE: 0 °C to +50 °C		
6.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
7.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
8.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.		
ADDITIONAL PRODUCTS FOR CONSIDERATION <i>(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder's offering)</i>			
PRODUCT MODEL NAME/NUMBER		DESCRIPTION	
WARRANTY OPTIONS <i>(Warranty options listed below and may be considered upon award and included in Bidder's offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)</i>			
WARRANTY OPTION		DESCRIPTION	
TWO-YEAR ADDITIONAL OPTION		Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty" .	
THREE-YEAR ADDITIONAL OPTION		Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty" .	

FOUR-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".</i>
FIVE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".</i>

NO BID

8.2.5 COVERAGE MAPPING, INDOOR

Definition: A test system that can determine the RF coverage of Public Safety channels in-building including signal level and percent coverage to ensure proper radio coverage for emergency responders. This tool would identify areas of poor signal quality or coverage to determine if distributed antenna systems (DAS) or signal booster are required. This system would allow verification of in-building coverage to comply with NFPA 1221, IFC 510, and local code requirements for grid testing.

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) product that can map indoor floor plans, assess received RF signal levels and quality and then report on the overall coverage of Public Safety frequencies in the building.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**ExhibitB1-TestEquipment 8.2.5**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

Note: Symbols for less-than (<) or greater-than (>) shall be interpreted to include equal-to the specified value. The symbol for approximate (~) indicates an imprecise or nominal value where variations will be acceptable.

Manufacturer: Click or tap here to enter text.

Product Model Name: Click or tap here to enter text.

Product Number: Click or tap here to enter text.

ITEM No.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	MAPPING CAPABILITIES		
1.1	Ability to Import Indoor Floor Plans form DAS design software such as IBWave or graphic files such as JPEG or PNG		
1.2	Ability to Add Grids to Floor Plans		
1.3	Test and Identify Key Performance Parameters		
1.3.1	RSSI		
1.3.2	Bit Error Rate (BER) for P25 Digital Signals		
1.3.3	Ability to Establish Estimated DAQ 3.4 Equivalents Per TIA Telecommunications System Bulletin 88.1-E		
1.3.4	Ability to Set Pass/Fail Criteria		
1.3.5	Document Coverage Per NFPA 1221, IFC 510		

1.4	Ability to store and playback walk test on PC		
2.	PORTABILITY FACTORS		
2.1	Battery Life: 6 Hours		
2.2	Walk Test Case/Back Pack/Side Pack		
2.2.1	Ability to carry all required components for testing with one person including Receiver, Battery and Display		
2.2.2	Total Kit Weight: < 7lbs		
3.	GRAPHICAL USER INTERFACE		
3.1	Separate Display using PC, Tablet, or Integrated Display		
3.2	Minimum Display Size – 9” Diagonal		
3.3	Ability to Mark Test Location on Map		
4.	RECEIVER		
4.1	Supports FM, P25 and P25 Phase 2 Technology		
4.2	Optional Support for FirstNet LTE Testing		
4.3	Measurements/Decode: SINR, RSSI, BER, Network ID		
5.	MEASUREMENT RANGE: -120 dBm to -20 dBm		
5.1	Spectrum Analysis		
5.1.1	Level Accuracy: 1 dB		
5.3	Maximum RF Input: 10 dBm		
5.4	DANL: -130 dBm (TBD)		
6.	REPORTING		
6.1	Automated Reporting with Pass/Fail results		
6.2	Per NFPA 1221, IFC 510		
6.3	Supports Single Grid Retest without redoing entire test sequence		
6.4	Generates reports by building, by floor, or by channel		
7.	ENVIRONMENTAL SPECIFICATIONS		
7.1	Safety: EN 62368-1 or UL		
7.2	EMC: EN 301 489-1		
7.3	Shock and vibration: MIL-STD-810G, SAE J1455 or MILPRF-28800F Class 2		

7.4	Operating Temperature range: 0°C to 50°C		
8.	FREQUENCY SPECIFICATIONS		
8.1	Frequency Range: 50MHz – 6GHz		
8.2	Frequency Accuracy: 0.1 PPM		
8.3	Level Accuracy: 1 dB		
9.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
10.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
11.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.		
ADDITIONAL PRODUCTS FOR CONSIDERATION <i>(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder's offering)</i>			
PRODUCT MODEL NAME/NUMBER		DESCRIPTION	
WARRANTY OPTIONS <i>(Warranty options listed below and may be considered upon award and included in Bidder's offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)</i>			
WARRANTY OPTION		DESCRIPTION	
TWO-YEAR ADDITIONAL OPTION		Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty" .	
THREE-YEAR ADDITIONAL OPTION		Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty" .	

FOUR-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".</i>
FIVE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".</i>

8.2.6 INTERFERENCE **NO BID**

Definition: A system that is capable of monitoring Public Safety communication systems frequencies and channel, perform spectrum analysis, record spectrum data, define and monitor individual channels and monitor all channels in a broadband mode encompassing the entire operating channel of the Public Safety communications system. This system will provide the ability to monitor frequencies and channels in real time with the ability to recall and analyze stored spectrum traces for intermittent interference analysis. The system will continuously monitor the assigned spectrum in an autonomous mode. The system will be able to provide additional tools that provides date and time stamped spectrum traces, provides waterfall (Spectrogram) display of the spectrum and the capability to find interfering signals using historical trace data and live spectrum data using multi-lateration techniques.

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) system that incorporates spectrum analysis, waterfall display, multiple channel monitoring and geographic location of potential interference sources either in real time or using historical trace data.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder's responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12-point font labeled "**ExhibitB1-TestEquipment 8.2.7**"). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

Note: Symbols for less-than (<) or greater-than (>) shall be interpreted to include equal-to the specified value. The symbol for approximate (~) indicates an imprecise or nominal value where variations will be acceptable.

Manufacturer: Click or tap here to enter text. **Product Model Name:** Click or tap here to enter text. **Product Number:** Click or tap here to enter text.

ITEM NO.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS AND COMMENTS
1.	SPECTRUM ANALYSIS		
1.1	View frequencies via a spectrum view Graphical User Interface		
1.2	View complete operating frequency bands up to 15MHz wide		
1.3	Ability to perform spectrum analysis		
1.3.1	Set Center Frequency, Start-Stop Frequency, Span, Reference Level		
1.3.2	Ability to set markers that displays actual frequency/power and delta frequency/power level of various signals viewed on the Spectrum display		

1.3.3	Supports Min, Max and Live traces		
1.3.4	Supports user defined number of divisions and dB per division		
1.3.5	Supports Spectrum Averaging, gain and loss of the input signal		
1.3.6	DANL: -145 dBm		
2.	HISTORICAL TRACE STORAGE		
2.1	Supports storing of Spectrum Trace Data to a Database		
2.2	Date and Time Stamped Trace Data for Past Analysis		
2.3	Supports Storing of IQ Samples for Playback and Export		
2.4	Supports Time and Date Filtering of recorded Trace data		
2.5	Supports Frequency and Channel Filtering of Recorded Trace Data		
2.6	Historical Trace Waterfall Display		
3.	RF NETWORK TROUBLESHOOTING CAPABILITIES		
3.1	Supports Two or More Input Ports to monitor, compare and analyze system signals at different points of the RF Network chain to isolate potential problem components		
4.	MULTI-CHANNEL MONITORING		
4.1	Supports User Defined Channel Naming, Frequencies and Bandwidths Up To 1,024 Individual Channels		
4.2	Displays Spectrum for Each Channel		
4.3	For Each Channel, supports Spectrum Analysis as Stated in Sections 1.3.1 through 1.3.4		
4.4	Supports broadband monitoring of Multiple channels up to 15Mhz Wide to View Potential Wide Band Interference Signals		
5.	WATERFALL DISPLAY (SPECTROGRAM)		
5.1	Adjustable color and intensity controls		
5.2	Ability to select specific areas of interest to Determine On-Time, Bandwidth and Date/Time of selected section		
6.	PORTABILITY FACTORS		
6.1	Battery operation for field use: 4 Hours of Operations		
6.2	Hard Transit Case for Protection and Ease of Transport		

6.3	Rack mount option for install at remote repeater locations		
7.	AUTONOMOUS MONITORING		
7.1	Ability to Monitor via Remote Access Through Networked PC		
7.2	Linux or Windows OS		
7.3	10/100/1000 BASE-T Ethernet Interface		
8.	GPS SYNCHRONIZATION		
8.1	Onboard GPS receiver for Date/Time and Synchronization		
9.	INTERFERENCE LOCATION		
9.1	Integrated Directional Antenna		
9.2	Ability to locate the source of interference using multilateration		
10.	RECEIVER SPECIFICATIONS		
10.1	Frequency range 100MHz to 6GHz		
10.2	RF Input Power Protection +30dBm		
10.3	Dynamic Range: 65dB		
10.4	Level Accuracy: 2dB		
10.5	RF Filtering Types and Bandwidths – to suppress wideband noise		
10.5.1	70-450MHz		
10.5.2	450MHz-700MHz		
10.5.3	700MHz-1.2GHz		
11.	ENVIRONMENTAL		
11.1	Operating Temperature range: 0°C to 45°C		
11.2	IP66 Dust and Water		
11.3	DC Power Supply UL Listed		
12.	REPORTS		
12.1	RFI Resolution		
12.2	SQL Broadband Spectrum Min/Max over time		
12.3	SQL Channel Min/Max over time		
13.	INTERFERENCE LOCATION		
13.1	GPS Synchronized network of Receivers to use multi-lateration to determine location of interference source.		

13.2	Ability to use Network Receiver in Man-Portable mode for isolation of interference using directional antenna		
13.3	ARCGIS or Equivalent Map		
13.4	Target Update rate of < 1 sec		
13.5	Target Location Update on Multiple User Channels		
14.	SERVICE MANUAL - One (1) set system documentation, operations and service manuals, printed or electronic copy, for technician.		
15.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.		
16.	SHIPPING REQUIREMENTS: F.O.B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.		
ADDITIONAL PRODUCTS FOR CONSIDERATION <i>(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder’s offering)</i>			
PRODUCT MODEL NAME/NUMBER		DESCRIPTION	
WARRANTY OPTIONS <i>(Warranty options listed below and may be considered upon award and included in Bidder’s offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)</i>			
WARRANTY OPTION		DESCRIPTION	
TWO-YEAR ADDITIONAL OPTION		Describe in the space provided or submit a separate document describing the two-year warranty option labeled, “Exhibit B-1Category/Sub-CategoryTwo-YearWarranty”.	
THREE-YEAR ADDITIONAL OPTION		Describe in the space provided or submit a separate document describing the two-year warranty option labeled, “Exhibit B-1Category/Sub-CategoryThree-YearWarranty”.	

FOUR-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".</i>
FIVE-YEAR ADDITIONAL OPTION	<i>Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".</i>

10. CATEGORY: FURNITURE, DISPATCH CONSOLE

Category Definition: *Specialized dispatch center workstations, CPU enclosures, and auxiliary furniture such as storage units, printer cabinets, files, and tables.*

For evaluation purposes, all Bidders must offer a product meeting the following example product requirements: Quantity one (1) — 911-Center Dispatch Workstation with partitioned screens.

Please submit a console drawing with 4- 24” monitors in a linear configuration, 2-standard size (8X18X18) CPU’s, 2 Thin Clients (3 1/2”X 10”X10”), 2 standard keyboards with mice. At a minimum, power bar must be provided for monitors, CPU’s, and general console requirements. No personal storage is required. Drawing must clearly delineate how the sample product meets the requirements below for review and evaluation.

The following specifications and equipment configuration describes requirements for the EXAMPLE PRODUCT. It is the Bidder’s responsibility to fully describe or explain how the product offered meets or exceeds each identified requirement. If more space is needed, Bidders may submit additional pages (up to a maximum equivalent of five single-sided pages – 12 point font labeled “**ExhibitB1-ConsoleFurniture**”). For evaluation purposes, only one product may be offered to meet or exceed these specifications on a pass/fail basis. Bidders are encouraged to submit descriptive literature for the product offered confirming its compliance with specifications. Additional products may be offered for consideration upon award as identified below.

For bidding purposes shipping and installation are not included in the example product.

Note: Symbols for less-than (<) or greater-than (>) shall be interpreted to include equal-to the specified value. The symbol for approximate (~) indicates an imprecise or nominal value where variations will be acceptable.

Manufacturer: Ergoflex Systems, Inc. dba Xybix Systems, Inc **Product Model Name:**

Product Number: Click or tap here to enter text.

ITEM NO.	PERFORMANCE REQUIREMENT	BIDDER COMPLIES Y/N	BIDDER CLARIFICATIONS
1.	CONSOLE FURNITURE		
1.1.	Electric Height Adjustable Desks – This is for height adjustable desks specific to 24/7 mission critical and technology intensive environments.	Y	
1.2.	Console furniture must be available in a linear, cockpit or corner configuration.	Y	
1.3.	Work surfaces shall conform to current industry standard such as; ANSI/BIFMA X5.5 standard.	Y	

1.4	Safety finger clearance must have a manufacturer specified minimum safety gap. Please identify safety gap in the space provided.	Y	1.5"
1.5	Lifting system shall include collision detection technology which will detect sudden changes in load to identify obstructions in the path of the moving surface. Collision detection technology to cause work surface to stop on detection of obstruction and reverse direction approximately 10cm to avoid entrapment of obstruction. Collision detection shall function in both upward and downward directions, and on both surfaces.	Y	
1.6	Surface height must conform to the current industry standard such as; ASNI//HSEF standard.	Y	ANSI - HFES 100 - 2007
2.	MONITOR RACK		
2.1.	Monitor rack must provide an ergonomic viewing distance and angle with all monitors in conformance with industry standard, such as; ANSI/HFES 100 -2007.	Y	
2.2.	Monitor rack shall be available in various sizes to accommodate integrated single and stacked screens, large screens, ultra-wide screens.	Y	
2.3.	Monitor rack platform shall be mounted on a movable platform.	Y	
2.4.	Monitor mounts shall provide for all VESA monitor mount sizes.	Y	
2.5	Monitor rack shall be designed to permit stacking of a single monitor.	Y	
3.	PERIPHERALS must be quickly connected and disconnected easily by end-user.	Y	
4.	CPU – Computers must be stored, not out in the open.	Y	
5.	DRAWERS AND OTHER STORAGE Configuration must conform to current ASNI standard as used in public safety applications.		
6.	WIRING MANAGEMENT. Cabling must be well managed and clean with easy access.	Y	
7.	HOUSING AND FRAMEWORK. Any portion of the furniture must withstand the day to day abuse of a 24/7 mission critical and technology intensive and conform to, current industry standard, such as; ANSI/BIFMA X5.6 and X5.9 industry standard.	Y	

8.	PANEL SYSTEM. Specified to provide for minimal cable management, visual separation of tasks and both sound barrier and sound absorptive functions.	Y	
9.	PERSONAL ENVIRONMENT - Each station shall have a climate and lighting control capability.	Y	
10.	OPTIONAL EQUIPMENT AND ACCESSORIES – The following options are not required		
10.1.	R-56 Grounding	Y	
10.2.	Cup holder which can be placed out of the way to prevent hitting knees.	Y	
10.3.	Status indicator light with options between 1 and 4 total lights. Must be mountable in different places on the station to maximize viewing in the room depending on need.	Y	
10.4.	Clear or smoked acrylic on top of the panel system.	Y	
10.5.	Option of under lit with LED lights. Logo or descriptions can be etched into acrylic.	Y	
11.	DELIVERY, INSTALLATION AND TRAINING		
11.1.	Based on the information provided, please identify vendor lead time for manufacturing and delivery of this product to the project location.	Y	12 weeks for production from time of purchase order
11.2.	Vendor shall schedule a delivery and installation timeline.	Y	
12.	WARRANTY – Minimum one (1) year (standard warranty that includes all firmware and software updates within warranty period). Parts and related software will be free from defects in material and workmanship for one year. If equipment fails because of a defect in workmanship or materials within one year from the date of shipment manufacturer shall repair or replace the equipment or part without charge to purchaser. Provide additional warranty options below.	Y	Xybix warranty is 10 years parts & labor plus a lifetime of the components we build.
13.	SHIPPING REQUIREMENTS: F.O. B. Destination. Shipping charges may be negotiated and mutually agreed between the Purchaser and the Contractor. All shipping charges will be added as a separate line item to the invoice.	Y	
ADDITIONAL PRODUCTS FOR CONSIDERATION <i>(For informational purposes ONLY. Listed items may be considered as additional option(s) upon award and included in Bidder's offering)</i>			

PRODUCT MODEL NAME/NUMBER	DESCRIPTION
WARRANTY OPTIONS <i>(Warranty options listed below and may be considered upon award and included in Bidder's offering. Costs for additional warranty options beyond the minimum one-year warranty will be captured in Exhibit C Bid Price.)</i>	
WARRANTY OPTION	DESCRIPTION
TWO-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryTwo-YearWarranty".
THREE-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryThree-YearWarranty".
FOUR-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFour-YearWarranty".
FIVE-YEAR ADDITIONAL OPTION	Describe in the space provided or submit a separate document describing the two-year warranty option labeled, "Exhibit B-1Category/Sub-CategoryFive-YearWarranty".

