



## TECHNICAL SPECIFICATION

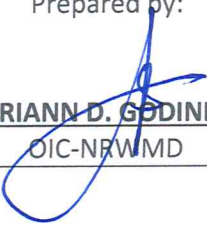
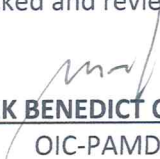

Supply, Delivery and Commissioning of the following Leak Detection Equipment

A.	<b>Supply, Delivery and Commissioning of the REAL-TIME CORRELATOR SYSTEM</b>	
ITEM	SPECIFICATION	QUANTITY & UNIT
	<b>Inclusion (Standard Accessories)</b>	
	a.) Android Tablet	1 unit
	b.) Sensor Extension Cables	1 set
	c.) Magnetic Vehicle Mount Antenna	1 set
	d.) Measuring Wheel	1 unit
	<b>Specifications</b>	
	Time delay range :	±2500ms
	Frequency response :	3Hz – 5000Hz
	Signal Sampling : 16 bit	
	Maximum Distance :	Iron pipe: 3000 meter PVC pipe: 1300 meter
	Multiple pipe entry :	PVC, Steel, CLCS, ACP, PE, CI (Maximum six materials)
	Noise Suppression :	Yes
	Coherence Function :	Yes
	Velocity correction function :	Yes
	<b>Receiver</b>	
	Radio frequency range :	407 – 472MHZ
	Battery :	7.2VDC 3.2Ah 23-25Wh – not user replaceable
	Battery operating time :	approx. 7 hours
	<b>Transmitter</b>	
	Radio frequency range :	407 – 472MHZ
	Power Output :	0.5 W / 50Mw
	Battery operating time :	Up to 12 hours
	Altitude:	2000m max
	<b>Sensors</b>	
	Cable length :	2 meters
	Sensitivity:	10 V/g
	Frequency response :	0 -2400Hz
	Protection rating :	IP68
	Transport case :	Ruggedized with in-case battery charging

B.	<b>Supply, Delivery and Commissioning of the ELECTRONIC GROUND MIC WITH CORRELATOR</b>	
ITEM	SPECIFICATION	QUANTITY & UNIT
	<b>Inclusion (Standard Accessories)</b>	
	a.) High Performance Sensor with Cable Ball	1 unit
	b.) Processor Unit	1 unit
	c.) Processor Neck Strap	1 unit
	d.) High Performance Acoustic Headphones	1 unit
	e.) Test Rods	1 unit
	f.) Ground Plate + Isolating Foam	1 set
	g.) Battery Charger	1 unit
	h.) Backpack	1 unit
	<b>Specifications:</b>	
	<b>Sensor</b>	
	Sensor type :	Ceramic piezoelectric
	Sensitivity :	10V/g
	Frequency Response :	15 -5000 Hz
	Protection Classification :	IP68
	<b>Processor</b>	
	Operation :	Listening + minimum noise display and filter control
	High pass :	15, 60, 100, 200, 350, 500 Hz
	Low pass :	600, 1000, 1500, 2000, 3500, 5000 Hz
	Display type :	Graphic
	Display of leak noise :	Minimum noise or log modes
	Operating life :	Minimum of 10 hours continuous use from full charge
	Water ingress protection:	IP65 (headphone cover in place)

<b>C. Supply, Delivery and Commissioning of the MULTIPOINT CORRELATOR WITH 10 LOGGERS</b>		
ITEM	SPECIFICATION	QUANTITY & UNIT
	<b>Inclusion (Standard Accessories)</b>	
	a.) High-end Service Laptop	
	<b>Sensor</b>	
	Type	Integral Accelerometer
	Sensitivity	30 V/g
	Frequency Range	1 Hz - 2500 Hz
	Attachment	Integral Magnet
	<b>Sampling</b>	
	Measurement Period	One period per night + up to 7 periods multiday correlation
	Resolution	12-bit
	Data Memory	Minimum of 8Mb Static Ram or better
	<b>Programming</b>	
	Type	Infrared
	Programming	Via Communications Module
	<b>Communications</b>	
	Transmission	GPRS
	"Transmission frequency (audio+data)"	At least once per day
	Antenna	Penta band
	<b>Power</b>	
	Type	Lithium Battery
	Operating Life	Minimum of 5 years
	<b>PHYSICAL</b>	
	Waterproof rating	IP 68 Submersible
	Operating temperature range	-20°C or lower to 50°C
	<b>Correlation Result</b>	
	Data Storage	.WAV or mp3 audio files stored locally or in Cloud
	Platform / Data Access	Via Web Application
	Software Features	Remote leak listening
		Storing of GPS Location
		Multi-point correlation
		Synchronize time
		Detailed Noise Histogram

<b>D.</b>	<b>Additional Requirements</b>
	1. Must submit an original copy of catalog/brochure of the leak detection equipment.
	2. Must submit an original or a computer-generated copy of the leak detection equipment manual.
	3. The Supplier must have Manufacturer Authorization Certificate.
	4. The supplier and Manufacturer must have a valid ISO 9002:2015 Certificate.
	5. The Manufacturer should have a valid ISO 27001 certificate for Information Security Management System.
	6. The Manufacturer should have a valid ISO 14001 certificate for Environmental Management System.
	7. The Manufacturer should have a valid Cyber Essentials Certificate for cybersecurity.
	8. The Supplier must have a Type Approval Certificate for the correlator from NTC.
<b>E.</b>	<b>Testing &amp; Commissioning</b>
	In the presence of owner, the necessary field testing should be conducted by the qualified technician of the supplier in leak detection.
<b>F.</b>	<b>Training</b>
	Supplier should conduct personnel trainings on equipment usage, handling and maintenance with actual deployment on site for seven (7) days.
<b>G.</b>	<b>Warranty</b>
	All items shall be guaranteed against defects in workmanship and materials for a period of one (1) year from the date of acceptance. Defective parts discovered within the warranty period shall be replaced without charge upon its return to the manufacturer/supplier.

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