

**SECOND AMENDMENT TO AGREEMENT FOR GOODS AND SERVICES
(Magnetically Actuated 38kV 12/2000A Outdoor Vacuum Circuit Breaker)**

THIS SECOND AMENDMENT (“Amendment”) is made as of November 15, 2021, by and between the **City of Lake Worth Beach**, Florida, a municipal corporation of the State of Florida (“CITY”) and **ABB, Inc.** (“CONTRACTOR”).

WHEREAS, on September 13, 2018, the CITY and CONTRACTOR entered into an Agreement for Goods and Services (Magnetically Actuated 38kV 12/2000A Outdoor Vacuum Circuit Breaker) (“Agreement”); and

WHEREAS, the term of the Agreement was for two (2) years with option for two (2) one (1) year renewal options that may be exercised by the City Manager; and

WHEREAS, on April 7, 2021 the City exercised its first option to renew the Agreement through September 13, 2021 (“First Amendment”); and

WHEREAS, the CITY and the CONTRACTOR wish to amend the Agreement to extend the term of the Agreement for one (1) additional year; and

WHEREAS, the CITY has reviewed the CONTRACTOR’s proposed increased rate schedule, which is attached hereto as Exhibit “A”, and determined that the increase is fair and reasonable; and

WHEREAS, the CITY finds amending the Agreement as set forth herein is in the best interest of the CITY and serves a valid public purpose.

NOW, THEREFORE, in consideration of the mutual promises contained herein, the sufficiency of which is hereby acknowledged by each party hereto, the CITY and the CONTRACTOR agree to amend the Agreement, as follows:

1. **Recitals.** The above recitals are true and correct and are incorporated herein by reference.
2. **Term of Agreement.** The parties agree that the term of the Agreement is hereby extended to September 12, 2022 unless earlier terminated as stated in the Agreement.
3. **Compensation.** The parties agree that the compensation to be paid by the CITY to the CONTRACTOR under this Amendment is set forth in **Exhibit “A”**, which is attached hereto and incorporated herein.
4. **Amount Not To Exceed.** The maximum amount to be paid by the CITY to the CONTRACTOR under this Amendment shall not exceed \$450,000.00 (Four Hundred Thousand Fifty Thousand Dollars).

5. **Entire Agreement.** The CITY and the CONTRACTOR agree that the Agreement, First Amendment and this Amendment set forth the entire agreement between the parties, and that there are no promises or understandings other than those stated herein. None of the provisions, terms and conditions contained in this Amendment may be added to, modified, superseded or otherwise altered, except by written instrument executed by the parties hereto. All other terms and conditions of the Agreement and First Amendment, except as amended herein, remain in full force and effect.

6. **Counterparts.** This Amendment may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument. Either or both parties may sign this Amendment via facsimile, email or electronically and such signature is as valid as the original signature of such party.

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the parties hereto have made and executed this Second Amendment to the Agreement for Goods and Services (Magnetically Actuated 38kV 12/2000A Outdoor Vacuum Circuit Breaker) on the day and year first above written.

CITY OF LAKE WORTH BEACH, FLORIDA

By: _____
Betty Resch, Mayor

ATTEST:

By: _____
Melissa Ann Coyne, City Clerk

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

APPROVED FOR FINANCIAL
SUFFICIENCY

By: _____
Glen J. Torcivia, City Attorney

By: _____
Bruce T. Miller, Financial Services Director

CONTRACTOR: ABB, INC.

[Corporate Seal]

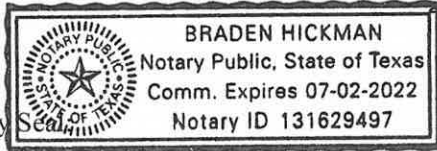
By: Nathaniel Meredith

Print Name: Nathaniel Meredith

Title: Complex Proposals Manager - ELDS Products

STATE OF Texas)
COUNTY OF Collin)

THE FOREGOING instrument was acknowledged before me by means of • physical presence or • online notarization on this 15 day of November 2021, by Nathaniel Meredith, as the Manager [title] of ABB, Inc., a Florida Corporation, who is personally known to me or who has produced Drivers License as identification, and who did take an oath that he or she is duly authorized to execute the foregoing instrument and bind the CONTRACTOR to the same.



Notary Seal

[Signature]
Notary Public Signature

Exhibit "A"
(Contractor's rate proposal, 12 Pages)



Commercial and Technical Tender
ABB Negotiation Number:QT-21-01887510.A
Equipment: R-MAG® Outdoor Dead Tank Breaker

1/27/2021

This proposal offers the market leading circuit breaker, the ABB R-MAG. ABB's R-MAG has over 10 years of field proven experience and over 16,000 installations. ABB is the only company to offer a full medium voltage portfolio with magnetic actuation, from 15 to 38 kV. The R-MAG is designed to provide the most reliable breaker in the market, minimizing downtime, improving SAIDI measurements, and significantly decreasing maintenance costs over the lifetime of the product. ABB's R-MAG delivers quantifiable value in the following areas:

Increased reliability

- Optimized durability with the ability to achieve 10,000 operations, five times greater than the ANSI requirement, over a temperature range of -50 to +70°C
- Minimized potential points for failure by having only one moving part in the magnetic actuator operating system, as opposed to spring-charged mechanisms that house over 100 moving parts
- Unparalleled performance of internal components
 - ABB magnetic actuator is rated for 100,000 operations for the 15 and 27 kV R-MAGs and 50,000 operations for the 38 kV R-MAG
 - ABB's world leading vacuum interrupters are rated for 30,000 full load operations

Reduced O&M

- NO MAINTENANCE is required on the magnetic actuator, as opposed to spring-charged mechanisms that are dependent on periodic maintenance to ensure proper operation.
 - Minimal maintenance is required every 2,000 operations, four times the ANSI standard of 500 operations between servicing
 - Shorter maintenance times as there are no coils or motors to replace and there is no gas or oil used
 - Easy plug and play design of the ED2 electronic control board for rapid replacement in the field
-



Average maintenance costs savings over an estimated 30 year service life ¹

Spring mechanism breaker

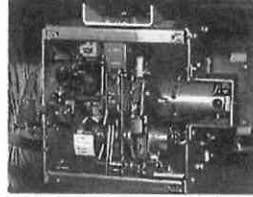


ABB R-MAG breaker



Operating mechanism maintenance cost	\$6,850.00	\$0.00
General maintenance costs	\$475.00	\$142.50
Electronic control replacement costs	\$7,290.00	\$3,915.00
Lifetime maintenance costs	\$14,615.00	\$4,057.50
Lifetime O&M savings per R-MAG Breaker	\$10,557.50	

ABB's R-MAG has over 10 years of proven experience with over 16,000 installations. The R-MAG comes with a 5-year comprehensive warranty and 24 hour / 7 day a week customer service.

ABB is ready to support this proposal with technical application experts, spare parts, training, and support services to ensure the ease of installation and the reduction of the total cost of ownership. Thank you in advance for considering this proposal. Please do not hesitate to contact ABB with any questions

Best Regards,

Ismael Castillo
ABB Inc.
655 Century Point
Lake Mary, , 32746-2137 United States
Phone:
Email: ismael.castillo@us.abb.com

¹ For additional information on cost savings calculations, see the 'Example R-MAG Cost Savings' section below.



Commercial and Technical Tender

ABB Inc.
655 Century Point
Lake Mary, FL 32746
Tel: 407-732-2000

Date:	10/29/2021
Tender ID:	QT-21-01887510.A5
Account manager:	
Valid through:	10/29/2022
Specifications:	
Revision:	A5

Prepared for:
CITY OF LAKE WORTH BEACH

7 N Dixie Hwy
Lake Worth Beach Florida, 33460-3725

Prepared by:
Ismael Castillo
ABB Inc.
655 Century Point
Lake Mary,
32746-2137
United States
Email: ismael.castillo@us.abb.com



Pricing

Standard Line Item:


Item	Qty	Image	Product Type	Net Price Each (USD)	Item Total (USD)
2	1		ANSI Dead Tank Vacuum Magnetic Circuit Breaker R-MAG	36,724.00	36,724.00

ABB Product ID:
MB3015DMMSH5KBZ4

Key ratings:
ANSI outdoor magnetically actuated vacuum circuit breaker R-MAG®
Customer Product ID:
Primary Voltage: 38
Current: 1250A
BIL: 200
Interrupting current: 31.5

Standard lead time*
• 20 weeks with approval drawings
• 15 weeks without approval drawings and an existing bill of material
*See full details in the Delivery section in the Terms and Conditions

3	1		ANSI Dead Tank Vacuum Magnetic Circuit Breaker R-MAG	38,998.00	38,998.00
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ABB Product ID:
MB3025DUUSH5KBZ4

Key ratings:
ANSI outdoor magnetically actuated vacuum circuit breaker R-MAG®
Customer Product ID:
Primary Voltage: 38
Current: 2000A
BIL: 200



Interrupting current: 31.5

Standard lead time*

- 20 weeks with approval drawings
- 15 weeks without approval drawings and an existing bill of material

*See full details in the Delivery section in the Terms and Conditions

Total sale price (USD)

75,722.00



Technical Data Sheet

Item 2 (Standard Line Item)

ABB Product ID: MB3015DMMSH5KBZ4

Type	R-MAG
Types Rating	MB3015 - 38 kV 1250 Amp 200 kV BIL 31.5 kA
Voltage	38 kV
BIL	200 kV BIL
Current	1250A
Interrupting Current	31.5
Power Frequency	60 Hz
Auxiliary Switches	D - (2) 16 deck snap action rotary switch
CTs 1-3-5	M - 2 Set 1200/5 C400 TR 2.00 (8.24")
CTs 2-4-6	M - 2 Set 1200/5 C400 TR 2.00 (8.24")
Material Type	Stainless Steel
Enclosure Material	S-SSTL Cab (38kV 1250/2000A)
BCT Shorting Type	Standard shorting type terminal blocks
BCT Wiring	#10 AWG; All taps wired to term block
ED2.0 board	H - 85-264 VAC or 77-280 VDC High Voltage Board (38 kV)
Control Voltage	5 - 125 VDC Operating Voltage
Circuit Protection	K - Fused knife switches provided for control circuits
Bushing Creep	Standard Creep Bushing
Bushing Type	Standard Bushing (38 kV, 1200/1250 Amp, 200 kVBIL)
Bushing Terminal Connectors	4 - 4 Hole NEMA Pad (1200/1250 Amp)
Control Type	B - Basic Unit
Panel Configuration	Z - Special panel
Control Wiring	#14 AWG; Control Wire (Standard)
Control Wiring Lugs	Insulated Lugs (Standard)
Control Terminal Blocks	Standard terminal blocks as required.
Heaters	Special Heater Two 100W, 230 VAC continuously operated cabinet heaters
Local/Remote Switch	(1) Standard local/remote switch provided
Test Switches	No test switches provided
Digital Meters	No digital meters provided
Thermostats	(1) Standard thermostat included. Operating Range: 70°F to 80°F
Wire Markers	Brady wire marker sleeves as required.
Control Switch	No Control Switch Provided
Legacy Material	No
Special Final Assembly	Special Final Assembly None
Shipping Special	Special Shipping Requirements No
Seismic Option	None

DYNAMIC ACCESSORIES

Dynamic Accessories	120 VAC relay cabinet light mounted inside relay control cabinet
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	(Qty 1)
Dynamic Accessories	120 VAC, 1 phase GFI utility outlet mounted inside the relay control cabinet. (Qty 1)
Dynamic Accessories	Ground Clamps (#4 - 4/0) (Qty 1)
Dynamic Accessories	Device Nameplates (Qty 1)
Dynamic Accessories	External Bushing Identification Stickers (Qty 1)
Dynamic Accessories	Cap discharge switch (Qty 1)
Dynamic Accessories	No vented door

Accessories

ABB Internal Order Entry Information

CID Code: 9AAC30400486
Source Location Code: 9AAE315900

Item 3 (Standard Line Item)

ABB Product ID: MB3025DUUSH5KBZ4

Type	R-MAG
Types Rating	MB3025 - 38 kV 2000 Amp 200 kV BIL 31.5 kA
Voltage	38 kV
BIL	200 kV BIL
Current	2000A
Interrupting Current	31.5
Power Frequency	60 Hz
Auxiliary Switches	D - (2) 16 deck snap action rotary switch
CTs 1-3-5	U - 2 Sets 2000/5 C400 TR 2.00(4.76")
CTs 2-4-6	U - 2 Sets 2000/5 C400 TR 2.00(4.76")
Material Type	Stainless Steel
Enclosure Material	S-SSTL Cab (38kV 1250/2000A)
BCT Shorting Type	Standard shorting type terminal blocks
BCT Wiring	#10 AWG; All taps wired to term block
ED2.0 board	H - 85-264 VAC or 77-280 VDC High Voltage Board (38 kV)
Control Voltage	5 - 125 VDC Operating Voltage
Circuit Protection	K - Fused knife switches provided for control circuits
Bushing Creep	Standard Creep Bushing
Bushing Type	Standard Bushing (38 kV, 2000 Amp, 200 kVBIL)
Bushing Terminal Connectors	4 - 4 Hole NEMA Pad (2000 Amp)
Control Type	B - Basic Unit
Panel Configuration	Z - Special panel Provide cutout only for Qty. 1 (One) SEL-351S relay 3U and Qty. 2 (Two) FT style isolation switches
Control Wiring	#14 AWG; Control Wire (Standard)



Control Wiring Lugs	Insulated Lugs (Standard)
Control Terminal Blocks	Standard terminal blocks as required.
Heaters	Special Heater Two 100W, 230 VAC continuously operated cabinet heaters
Local/Remote Switch	(1) Standard local/remote switch provided
Test Switches	No test switches provided
Digital Meters	No digital meters provided
Thermostats	(1) Standard thermostat included. Operating Range: 70°F to 80°F
Wire Markers	Brady wire marker sleeves as required.
Control Switch	No Control Switch Provided
Legacy Material	Yes 1VAS000742-0001
Special Final Assembly	Special Final Assembly None
Shipping Special	Special Shipping Requirements No
Seismic Option	None

DYNAMIC ACCESSORIES

Dynamic Accessories	Cap discharge switch (Qty 1)
Dynamic Accessories	120 VAC, 1 phase GFI utility outlet mounted inside the relay control cabinet. (Qty 1)
Dynamic Accessories	External Bushing Identification Stickers (Qty 1)
Dynamic Accessories	Ground Clamps (#4 - 4/0) (Qty 1)
Dynamic Accessories	Device Nameplates (Qty 1)
Dynamic Accessories	120 VAC relay cabinet light mounted inside relay control cabinet (Qty 1)
Dynamic Accessories	No vented door

Accessories

ABB Internal Order Entry Information

CID Code: 9AAC30400486
Source Location Code: 9AAE315900



Clarifications

ABB provides quotation based on the specifications provided by CITY OF LAKE WORTH BEACH.

Revision History

Rev #	Date	Description of Change	Handled By
2	1/27/2021	Quantity updated to 1 (one), L/R switch added in ITEM#1 and ITEM#2	IC
4	9/15/2021	Validity date has been extended	MM
5	11/01/2021	No vented door Note	MM

Example R-MAG Cost Savings

Operating mechanism maintenance cost savings

		Mechanism	
		Spring charged ²	Magnetic actuator
Estimated service life (years)³		30	30
Number of years between maintenance		2	Not applicable
Cost per maintenance event		\$685.00	Not applicable
Cost per event	Labor cost per hour	\$85	Not applicable
	Switching time (hrs)	2	Not applicable
	# of workers required for switching	2	Not applicable
	Time to complete maintenance (hrs)	2	Not applicable
	# of workers required for maintenance	2	Not applicable
Material costs		\$5.00	Not applicable
Lifetime maintenance costs		\$10,275.00	\$0.00

Lifetime operating mechanism maintenance cost savings: \$10,275.00

² The values used for the spring charged mechanism breaker referred to in the 'Example R-MAG Cost Savings' are based on ABB's R-breaker that utilizes a spring charged mechanism.

³ The Estimated Service Life refers to the normally observed useful service life for a product. The estimated service life will vary based on the environment, maintenance and usage of the breaker; ABB offers a standard 5 year limited warranty for its R-Mag product line.



General breaker maintenance costs

		Mechanism	
		Spring charged	Magnetic actuator
Estimated service life (years)		30	30
Number of years between maintenance		5	5
Cost per maintenance event		\$47.50	\$47.50
Cost per event	Labor cost per hour	\$85	\$85
	Time to complete maintenance (hrs)	0.5	0.5
	# of workers required for maintenance	1	1
	Material costs	\$5.00	\$5.00
Lifetime maintenance costs		\$285.00	\$285.00

Lifetime general maintenance cost savings: \$0.00

ED2.0 electronic control board cost savings

		Spring mechanism	R-MAG ED2 board
		change-out cost	change-out cost
Estimated service life (years)		30	30
Number of years between replacement		10	10
Cost per replacement event		\$2,780.00	\$1,655.00
Cost per event	Labor cost per hour	\$85.00	\$85.00
	Time to complete replacement (hrs)	9 (coil and motor)	1.5 (ED2 board)
	# of workers required for replacement	2	2
	Material cost	\$1,250.00 (coil and motor)	\$1,400.00 (ED2 board)
Lifetime maintenance costs		\$8,340.00	\$4,965.00

Lifetime change-out cost savings: \$3,375.00



Optional Services

ABB can support its customers with hands-on, factory authorized training for all new installations. This training is intended for up to 10 technicians on-site to train them on the proper operation and safety requirements of their new gear. The duration and content of the class can be customized based on the experience and background of the attending technicians. The classes are led by a highly skilled, factory trained field service technician. Additional training courses are available based on customer need, such as preventive maintenance, complete refurbishment, relay coordination, etc. ABB will design the program around customer requirements.

ABB offers installation and commissioning, utilizing its factory trained service team, for all its products at competitive rates. ABB works with its customers to determine the level of support and installation schedule to fit their specific needs. ABB will waive the fee for a one day hands-on training when the ABB service team is used to support installation.

ABB also offers a preventive maintenance program at factory recommended intervals to increase the reliability and service life of your new gear. Choosing an ABB preventive maintenance program may allow ABB to extend the warranty on your equipment.



Approval Drawings

Approval drawings, if requested or required, will be supplied within 4 weeks ARO. Manufacturing lead time is based upon timely return of approval drawings from customer within two (2) weeks of receipt of drawings. On orders requiring "hold for release to manufacturing until receipt of approval drawings", the quoted lead time commences on the date ABB receives the approved drawings.

Shipment Schedule

Contract drawings, information submittals, manufacturing, and shipment schedules will follow the outline below and is contingent on customer approval in the time frame indicated:

- I. Orders with Drawing Approval
 - Approval Drawings – 3 weeks after receipt of ABB approved order
 - Customer drawing approval time – 2 weeks to keep order timeline on schedule
 - Product ready for shipment – 15 weeks after return of all approval drawings with customer release for manufacture
 - Delivery – 1-2 weeks
 - Total lead time: 20-21 weeks

- II. Orders with existing bill of material, no bill of material changes and no approval drawings (duplicate orders)
 - Manufacturing time – 15 weeks after receipt of ABB approved order
 - Delivery – 1-2 weeks
 - Total lead time: 16-17 weeks

All customer provided data and requirement must be finalized at the time of purchase order placement. Revision to contract requirements may result in schedule changes and delays. All lead-times are subject to change based on prior sales and loaded factory capacity, please contact factory for actual lead-times at time of order placement.