

**CITY OF WILSON  
WILSON, NORTH CAROLINA**

**SPECIFICATIONS AND BID DOCUMENTS FOR  
15 kV CIRCUIT BREAKERS FOR THE  
CITY OF WILSON**

**FORM OF PROPOSAL**

*(Provide one original and one copy)*

Respectfully submitted this 31 day of March, 2020

<b>OWNER:</b>	<b>BIDDER:</b>				
City of Wilson 1800 Herring Avenue E Wilson, NC 27893-6727  Contact: Mr. Daniel Gillen Phone: 252-296-3308 Email: <a href="mailto:dgillen@wilsonnc.org">dgillen@wilsonnc.org</a>	ABB Inc.				
	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">NAME</td> <td style="width: 50%;">TITLE</td> </tr> <tr> <td>Ismael Castillo</td> <td>Proposals Specialist</td> </tr> </table>	NAME	TITLE	Ismael Castillo	Proposals Specialist
	NAME	TITLE			
	Ismael Castillo	Proposals Specialist			
	STREET ADDRESS	655 Century Point			
	CITY/STATE/ZIP	Lake Mary, FL 32746			
	PHONE:	407 639 8859			
	FAX:				
E-MAIL:	ismael.castillo@us.abb.com				
SIGNATURE					
<b>SUPPLIER OF PROPOSED EQUIPMENT</b>					
MANUFACTURER	ABB Inc.				
STREET ADDRESS	655 Century Point				
CITY / STATE / ZIP	Lake Mary, FL 32746				



**AFFIDAVIT OF BIDDER**

The final payment of retained amount due the Bidder on account of the Purchase Order shall not become due until the Bidder has furnished to the Owner through the Engineer an affidavit signed, sworn, and notarized to the effect that all payments for Material, services, or any other reason in connection with this Purchase Order have been satisfied and that no claims or liens exist against the Bidder in connection with this Purchase Order. In the event that the Bidder cannot obtain similar affidavits from Subcontractors to protect the Bidder and the Owner from possible liens or claims against the Subcontractor, the Bidder shall state in his affidavit that no claims or liens exist against any Subcontractor, and if any liens or claims appear afterward, the Bidder shall save the Owner harmless on account thereof.

**ABB Inc.**

Bidder: \_\_\_\_\_

By: **Ismael Castillo** \_\_\_\_\_

Date: **4/6/2020** \_\_\_\_\_

**FORM OF EXCEPTIONS**

*Instructions to Bidders, Paragraph 2.6 and Section 7.0 Award of Purchase Order*

BIDDER: ABB Inc,

OWNER: City of Wilson  
Wilson North Carolina

PROJECT DESCRIPTION: 15 kV CIRCUIT BREAKERS FOR THE  
CITY OF WILSON

**INSTRUCTIONS:** The following is a list of exceptions to the Bidding Documents and/or Technical Specifications pertaining to the furnishing of the subject materials. Bidders shall identify each exception by Specification page and paragraph number on this form. The omission of exception implies complete compliance with Plans and Specifications.

**BID DOCUMENT/  
SPECIFICATION  
PAGE NO. AND  
PARAGRAPH**

**EXCEPTION/VARIATION**

- 7.7.1 Three-pole, high voltage single-throw circuit breaker, electromechanically operated with weatherproof combination mechanism housing and cabinet mounted on a painted steel framework. Paint shall be applied to minimum thickness of 5 mils. ABB standard is 3 mil.
  - 7.8.9 Manual maintenance closing device. If applicable.  
N/A
  - 7.9.2 The circuit breaker(s) shall be designed in such a way that they are considered "Arc Resistant"  
ABB RMAG is not ARC resistant
- \_\_\_\_\_
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CITY OF WILSON

**MV CIRCUIT BREAKER SPECIFICATIONS**

**DATA SHEET**

Booth Contact: John Sidebotham

email: [sidebothamjb@booth-assoc.com](mailto:sidebothamjb@booth-assoc.com)

**Drawing Stamp:** Wilson 15kv 1200A Feeder Breaker

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**Required Delivery Date:** August 15, 2020

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**Circuit Breaker Rating Information**

Nominal Breaker Rating	<u>15</u> kV
Maximum Breaker Rating	<u>15.5</u> kV
Breaker BIL	<u>110</u> kV
Continuous Current Rating	<u>1,200</u> Amps
Interrupting Current Rating	<u>25,000</u> Amps
Rated Interrupting Time	<u>3</u> Cycles
Closing and Latching Capability	<u>104</u> kA, rms
Low Freq. 1 Minute Dry rms	<u>50</u> kV
Low Freq. 10 Second Wet rms	<u>45</u> kV
Two microsecond chopped wave impulse peak	<u>142</u> kV
Minimum Creepage Distance Of External Insulation to Ground	<u>9.84</u> Inches
Frequency	<u>60</u> Hz
Minimum Ambient Temp.	<u>-30</u> °C
Max. Ambient Temp.	<u>50</u> °C
Humidity Rating	<u>100</u> %
Max. Altitude	<u>3,300</u> Feet

**Station Power Information**

Station Power Voltage (AC)	<u>120/240</u> VAC
Station Power Frequency (Hz)	<u>60</u> Hz
Station Control Voltage (DC)	<u>48</u> VDC

**Equipment Details**

Tripping and Closing Voltage	<u>48</u> VDC
DC Control Contact Ratings	<u>48</u> VDC
Alarm Contact Voltage	<u>48</u> VDC
Motor Voltage	<u>120/240</u> VAC
Actuator Style	<u>Magnetic</u>

CITY OF WILSON

On Board Relay YES  
Relay Manufacturer Schweitzer  
Relay Model Number 751502CCCCC7085A671 - 751#K882  
Test Switches YES  
TS1 ABB type FT-1 S#837A407G01  
TS2 ABB type FT-1 S#991AM28G01  
TS3 ABB type FT-1 S#129A528G01

Input and outputs IN101: Breaker 52a contact.  
IN102: Supervisory Trip input contact  
IN103: Supervisory Close input contact.  
IN104: Breaker Loss of DC alarm contact (normally closed).  
IN105: External Lockout Relay (86) contact.  
IN106: Trip Coil Monitor (wired to monitor breaker trip coils).  
OUT101: Breaker Trip contact (by SEL-351S pushbutton).  
OUT102: Breaker Close contact (by SEL-351S pushbutton).  
OUT103: 52CS Close supervision  
OUT104: Breaker Alarm output contact.  
OUT105-OUT106: Not defined.  
OUT107: Programmed Alarm Output  
ALARM: Wired to terminals for remote use.

Separate Control Switch YES  
Control Switch Electroswitch Part # 24PB57D

Separate Indicating Lights YES  
Red Light 116B6708G2-R  
Green Light 116B6708G2-G

Breaker shall be of arc resistant design

**Bushings 1, 3, and 5 CT Ratings**

Number of CT's per bushing: 1  
CT ratings and placement:  
Top CT (X): Ratio: 1200 /5 MR Accuracy Class: C400 Thermal Rating: 2  
Center CT (Y): Ratio: N/A MR Accuracy Class:            Thermal Rating:             
Bottom CT (Z): Ratio: N/A Accuracy Class:            Thermal Rating:           

**Bushings 2, 4, and 6 CT Ratings**

Number of CT's per bushing 1  
CT ratings and placement:  
Top CT (X): Ratio: 1200 /5 MR Accuracy Class: C400 Thermal Rating: 2  
Center CT (Y): Ratio: N/A MR Accuracy Class:            Thermal Rating:             
Bottom CT (Z): Ratio: N/A Accuracy Class:            Thermal Rating:

**BID BOND**

KNOW ALL MEN BY THESE PRESENT, THAT WE ABB Inc.

as Principal, and Federal Insurance Company

as Surety, who is duly licensed to act as Surety in North Carolina, are held and firmly bound unto the City of Wilson of Wilson North Carolina, as Obligee, in the penal sum of Five Percent of the Amount Bid \_\_\_\_\_ DOLLARS (\$5% of Bid Amount) (5% Bid Bond), lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

SIGNED, Sealed and dated this 27th day of March, 2020.

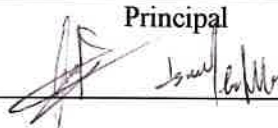
WHEREAS, the said Principal is herewith submitting a Proposal for

**15 KV CIRCUIT BREAKERS FOR THE  
CITY OF WILSON**


and the Principal desires to file this Bid Bond in lieu of making the cash deposit as required by the bidding documents contained herein;

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such that if the principal shall be awarded the Purchase Order for which the bid is submitted and shall accept the Purchase Order within ten (10) days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so accept such Purchase Order as required by the bidding documents contained herein, the Surety shall, upon demand, forthwith pay to the Obligee the amount set forth in the first paragraph hereof, and upon failure to forthwith make such payment, the Surety shall pay the Obligee an amount equal to double the amount of this Bid Bond as set forth in the first paragraph hereof. Power of Attorney from the Surety to its Attorney-in-Fact is attached hereto.

ABB Inc.

Principal  
By  (SEAL)

Federal Insurance Company

Corporate Surety  
By  (SEAL)  
Patricia A. Rambo, Attorney In Fact

# CHUBB

## Power of Attorney

### Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents, That **FEDERAL INSURANCE COMPANY**, an Indiana corporation, **VIGILANT INSURANCE COMPANY**, a New York corporation, and **PACIFIC INDEMNITY COMPANY**, a Wisconsin corporation, do each hereby constitute and appoint Kimberly G. Sherrod of Columbus, Ohio; George Gionis, Vicki Johnston, Kaitlyn Malkowski, Elizabeth Marrero, Jaquanda Martin, Wayne G. McVaugh, Sara Owens, Patricia A. Rambo, Lori S. Shelton and Joanne C. Wagner of Philadelphia, Pennsylvania; Cathy H. Ho, Justin Johnson and Barbara L. Rutter of Pittsburgh, Pennsylvania

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** have each executed and attested these presents and affixed their corporate seals on this 11<sup>th</sup> day of April, 2019.

*Dawn M. Chloros*

Dawn M. Chloros, Assistant Secretary

*Stephen M. Haney*

Stephen M. Haney, Vice President



STATE OF NEW JERSEY

County of Hunterdon

SS.

On this 11<sup>th</sup> day of April, 2019, before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that she signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that she is acquainted with Stephen M. Haney, and knows him to be Vice President of said Companies; and that the signature of Stephen M. Haney, subscribed to said Power of Attorney is in the genuine handwriting of Stephen M. Haney, and was thereto subscribed by authority of said Companies and in deponent's presence.

Notarial Seal



ROSE CURTIS  
NOTARY PUBLIC OF NEW JERSEY  
No. 50072400  
Commission Expires November 22, 2022

*Rose Curtis*  
Notary Public

#### CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
- (2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
- (3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
- (ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this **March 27, 2020**



*Dawn M. Chloros*

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:  
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com



**FEDERAL INSURANCE COMPANY**  
**STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS**

Statutory Basis

DECEMBER 31, 2018

(in thousands)

<b>ASSETS</b>		<b>LIABILITIES AND SURPLUS TO POLICYHOLDERS</b>	
Cash and Short Term Investments	\$ (360,335)	Outstanding Losses and Loss Expenses	\$ 6,523,482
United States Government, State and Municipal Bonds	5,738,426	Reinsurance Payable on Losses and Expenses	1,490,981
Other Bonds	3,916,616	Unearned Premiums	1,914,190
Stocks	100,774	Ceded Reinsurance Premiums Payable	405,271
Other Invested Assets	<u>959,127</u>	Other Liabilities	<u>565,865</u>
<b>TOTAL INVESTMENTS</b>	<b><u>10,354,608</u></b>	<b>TOTAL LIABILITIES</b>	<b><u>10,899,789</u></b>
Investments in Affiliates:		Capital Stock	20,980
Great Northern Ins. Co.	384,987	Paid-In Surplus	2,711,474
Vigilant Ins. Co.	333,743	Unassigned Funds	<u>2,057,388</u>
Chubb Indemnity Ins. Co.	176,202	<b>SURPLUS TO POLICYHOLDERS</b>	<b><u>4,789,842</u></b>
Chubb National Ins. Co.	176,647		
Chubb European Inv. Holdings, SLP	120,469		
Other Affiliates	99,299		
Premiums Receivable	1,281,368		
Other Assets	<u>2,762,308</u>		
<b>TOTAL ADMITTED ASSETS</b>	<b><u>\$ 15,689,631</u></b>	<b>TOTAL LIABILITIES AND SURPLUS</b>	<b><u>\$ 15,689,631</u></b>


Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. At December 31, 2018, investments with a carrying value of \$566,806,856 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA  
COUNTY OF PHILADELPHIA

John Taylor, being duly sworn, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a true and correct statement of the said Company's financial condition as of the 31 st day of December, 2018.

Sworn before me this March 19, 2019

  
\_\_\_\_\_  
Senior Vice President

  
\_\_\_\_\_  
Notary Public

August 8, 2019  
My commission expires

COMMONWEALTH OF PENNSYLVANIA  
**NOTARIAL SEAL**  
Diane Wright, Notary Public  
City of Philadelphia, Philadelphia County  
My Commission Expires Aug. 8, 2019  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

STATE OF NORTH CAROLINA DEPARTMENT OF INSURANCE

LICENSE

NUMBER: 0786

Initial Effective Date: June 29, 1918

Federal Insurance Company

an Insurance Company Domiciled in Indiana

Federal Insurance Company has complied with the necessary requirements pursuant to Chapter 58 of the North Carolina General Statutes to transact, subject to all provisions of the laws of this State, the following kinds of insurance as defined in N.C.G.S. 58-7-15:

03a	04	05a	06a	06b	07
08	09	11	12a	12b	13a
13b	14a	15	16	19a	19b
19c	19d	19e	20a	20b	21

This license shall continue in force and in effect, subject to timely payment of the annual license continuation fee in accordance with N.C.G.S 58-6-7 and subject to any other applicable provision of the insurance laws of this state.



*James E. Long*  
 Commissioner of Insurance



**Commercial and Technical Tender**  
ABB Negotiation Number:QT-20-01780705.A  
Equipment: R-MAG® Outdoor Dead Tank Breaker

3/25/2020

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 <sup>1</sup>**

Spring mechanism breaker

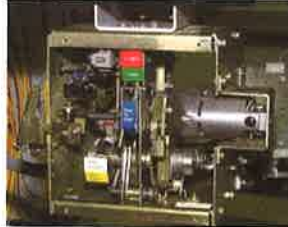


ABB R-MAG breaker



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,

Steve Stroud  
ABB Inc.  
204 Fire Tower Road  
LaGrange, , 28277 United States  
Phone:  
Email: [steve.stroud@powertechllc.com](mailto:steve.stroud@powertechllc.com)

<sup>1</sup> 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

<b>Date:</b>	3/25/2020
<b>Tender ID:</b>	QT-20-01780705.A
<b>Account manager:</b>	
<b>Valid through:</b>	4/24/2020
<b>Specifications:</b>	
<b>Revision:</b>	A


**Prepared for:**  
City of Wilson  
  
112 Goldsboro St Sw  
Wilson North Carolina, 27893-6727

**Prepared by:**  
Steve Stroud  
ABB Inc.  
204 Fire Tower Road  
LaGrange,  
28277  
United States  
Email:  
steve.stroud@powertechllc.com



## Pricing

### Standard Line Item:

Item	Qty	Image	Product Type	Net Price Each (USD)	Item Total (USD)
1	3		<b>ANSI Dead Tank Vacuum Magnetic Circuit Breaker R-MAG</b>  ABB Product ID: MB11140LLML4PMZ4  Key ratings: ANSI outdoor magnetically actuated vacuum circuit breaker R-MAG® Customer Product ID: Primary Voltage: 15.5 Current: 1250A BIL: 110 Interrupting current: 25  Standard lead time* <ul style="list-style-type: none"><li>• 19 weeks with approval drawings</li><li>• 17 weeks without approval drawings and an existing bill of material</li></ul> *See full details in the Delivery section in the Terms and Conditions	<b>28,416.00</b>	<b>85,248.00</b>
<b>Total sale price (USD)</b>					<b>85,248.00</b>



## Technical Data Sheet

### Item 1 (Standard Line Item)

**ABB Product ID:** MB11140LLML4PMZ4

Type	R-MAG
Types Rating	MB1114 - 15.5 kV 1250 Amp 110 kV BIL 25 kA
Voltage	15.5 kV
BIL	110 kV BIL
Current	1250A
Interrupting Current	25 kA
Power Frequency	60 Hz
Auxiliary Switches	0 - (1) 20 deck snap action rotory switch
CTs 1-3-5	L - 1 Set 1200/5 C400 TR 2.00 (4.12")
CTs 2-4-6	L - 1 Set 1200/5 C400 TR 2.00 (4.12")
Material Type	Mild Steel
Enclosure Material	M - Std Cabinet with galvanized legs & provisions for ground lugs (15kV, 1200A)
BCT Shorting Type	G.E. EB27 shorting type terminal blocks
BCT Wiring	#10 AWG; All taps wired to term block
ED2.0 Board Selection	L - 20.4-52.8 VAC or 16.8-75 VDC Low Voltage Board (15.5 kV)
Control Voltage	4 - 48 VDC Operating Voltage
Circuit Protection	P - Fused pullouts provided for control circuits
Bushing Creep	Standard Creep Bushing
Bushing Type	Standard Bushing (15.5 kV, 600/800/1200 A, 110 kVBIL, BB&MB)
Bushing Terminal Connectors	4 - 4 Hole NEMA Pad (1200/1250 Amp)
Control Type	M - Relay (Microprocessor) 751502CCCCC7085A671
Panel Configuration	Z - Special panel Separate Indicating Lights YES Red Light 116B6708G2-R Green Light 116B6708G2-G
Control Wiring	#14 AWG; Control Wire (Standard) type SIS
Control Wiring Lugs	Insulated Lugs (Standard)
Control Terminal Blocks	12 point G.E. EB25 type terminal blocks
Heaters	240 VAC Heater 375 Watt
Local/Remote Switch	No local/remote switch provided
Test Switches	Special Test Switch TS1 ABB type FT-1 S#837A407G01 TS2



	ABB type FT-1 S#991AM28G01 TS3 ABB type FT-1 S#129A528G01
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	Special Control Switch Control Switch Electros witch Part # 24PB57D
Legacy Material	No
Special Final Assembly	Special Final Assembly None
Shipping Special	Special Shipping Requirements No
Seismic Option	None

#### DYNAMIC ACCESSORIES

Dynamic Accessories	Copper ground bus bar (Qty 1)
Dynamic Accessories	Ground Clamps (#4 - 4/0) (Qty 1)
Dynamic Accessories	Special Accessory 1 (Qty 500) Latch-checking switch.
Dynamic Accessories	Cap discharge switch (Qty 1)
Dynamic Accessories	External Bushing Identification Stickers (Qty 1)
Dynamic Accessories	120 VAC, 1 phase GFI utility outlet mounted inside the relay control cabinet. (Qty 1)
Dynamic Accessories	Special Accessory 3 (Qty 1) A single-throw disconnect switch shall be installed on all fuseholders or incorporated into the fuseholder itself. If separate fuseholders are to be utilized then fuseholders shall be Marathon RF30AXS (X = 2 for 2 poles, 3 for 3 poles, etc.) series fuseblocks with hard-gripping fuse clips (reinforcing member) and straight slotted silicon bronze screws on each terminal, or approved equivalent.
Dynamic Accessories	120 VAC relay cabinet light mounted inside relay control cabinet (Qty 1)
Dynamic Accessories	Device Nameplates (Qty 1)
Dynamic Accessories	Loss of DC Relay (48 VDC) (Qty 1)
Dynamic Accessories	Special Accessory 2 (Qty 1) A minimum of twelve (12) spare terminal points shall be provided for Owner's use.

#### 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 Wilson.

- 7.7.1 Three-pole, high voltage single-throw circuit breaker, electromechanically operated with weatherproof combination mechanism housing and cabinet mounted on a painted steel framework. Paint shall be applied to minimum thickness of 5 mils.  
ABB standard is 3 mil.
- 7.8.9 Manual maintenance closing device. If applicable.  
N/A
- 7.9.2 The circuit breaker(s) shall be designed in such a way that they are considered "Arc Resistant"  
ABB RMAG is not ARC resistant

## Revision History

Rev #	Date	Description of Change	Handled By

## Example R-MAG Cost Savings

### Operating mechanism maintenance cost savings

		Mechanism	
		Spring charged <sup>2</sup>	Magnetic actuator
<b>Estimated service life (years)<sup>3</sup></b>		<b>30</b>	<b>30</b>
<b>Number of years between maintenance</b>		<b>2</b>	<b>Not applicable</b>
<b>Cost per maintenance event</b>		<b>\$685.00</b>	<b>Not applicable</b>
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
<b>Lifetime maintenance costs</b>		<b>\$10,275.00</b>	<b>\$0.00</b>

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

<sup>2</sup> 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.

<sup>3</sup> 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
<b>Estimated service life (years)</b>		<b>30</b>	<b>30</b>
<b>Number of years between maintenance</b>		<b>5</b>	<b>5</b>
<b>Cost per maintenance event</b>		<b>\$47.50</b>	<b>\$47.50</b>
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
<b>Lifetime maintenance costs</b>		<b>\$285.00</b>	<b>\$285.00</b>

**Lifetime general maintenance cost savings: \$0.00**

**ED2.0 electronic control board cost savings**

		Spring mechanism change-out cost	R-MAG ED2 board change-out cost
		<b>Estimated service life (years)</b>	
<b>Number of years between replacement</b>		<b>10</b>	<b>10</b>
<b>Cost per replacement event</b>		<b>\$2,780.00</b>	<b>\$1,655.00</b>
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)
<b>Lifetime maintenance costs</b>		<b>\$8,340.00</b>	<b>\$4,965.00</b>

**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.



## **General Terms of Sale**

### **Price**

Prices are firm for shipment quoted, and do not include federal, state, or local taxes of any kind.

### **Payment**

Payment terms are Due in 30 days invoice date.

All returns are subject to a restocking fee of no more than 30% of the amount of the order.

ABB reserves the right to review and revise quotes based on cost of material fluctuation.

### **Cancellation Charges**

Cancellation of the contract will be subject to penalties depending on the time the cancellation occurs.

ABB's standard cancellation charges are 10% after receipt of order, 20% after drawings issued to customer for approval or if order has been engineered, 45% after release to order major material, 75% after receipt of major material, and 100% after start of fabrication.

### **Change Notices**

Changes after order entry related to engineering, drawings, or parts could be subject to additional charges and may impact shipment schedule.

### **Warranty**

The equipment is warranted for a period of 12 months from delivery from date of energization, but not to exceed 18 months max.

### **Delivery Terms**

Proposed delivery terms will be Free Carrier.

Extra Information:Origin.

Quoted lead times are based on current production levels. Actual lead times are dependent on available production space at time of order entry and/or release to manufacturing.

Please add 3 weeks for drawing approvals, if required. To ensure the quoted lead-time please return approval drawings to ABB within 2 weeks of receipt. ABB will make every effort to maintain a short delivery schedule.



### **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.



## Terms and Conditions

### Form 50-490 General Terms and Conditions of Sale

- 1. General.** The terms and conditions contained herein, together with any additional or different terms contained in ABB's Proposal, if any, submitted to Purchaser (which Proposal shall control over any conflicting terms), constitute the entire agreement (the "Agreement") between the parties with respect to the order and supersede all prior communications and agreements regarding the order. Acceptance by ABB of the order, or Purchaser's acceptance of ABB's Proposal, is expressly limited to and conditioned upon Purchaser's acceptance of these terms and conditions, payment for or acceptance of any performance by ABB being acceptance. These terms and conditions may not be changed or superseded by any different or additional terms and conditions proposed by Purchaser to which terms ABB hereby objects. Unless the context otherwise requires, the term "Equipment" as used herein means all of the equipment, parts, accessories sold, and all software and software documentation, if any, licensed to Purchaser by ABB ("Software") under the order. Unless the context otherwise requires, the term "Services" as used herein means all labor, supervisory, technical and engineering, installation, repair, consulting or other services provided by ABB under the order. As used herein, the term "Purchaser" shall include the initial end use of the Equipment and/or services; provided, however, that Paragraph 13(a) shall apply exclusively to the initial end user.
- 2. Prices.**

  - (a) Unless otherwise specified in writing, all Proposals expire thirty (30) days from the date thereof.
  - (b) Unless otherwise stated herein, Services prices are based on normal business hours (8 a.m. to 5 p.m. Monday through Friday). Overtime and Saturday hours will be billed at one and one-half (1 1/2) times the hourly rate; and Sunday hours will be billed at two (2) times the hourly rate; holiday hours will be billed at three (3) times the hourly rate. If a Services rate sheet is attached hereto, the applicable Services rates shall be those set forth in the rate sheet. Rates are subject to change without notice.
  - (c) The price does not include any federal, state or local property, license, privilege, sales, use, excise, gross receipts, or other like taxes which may now or hereafter be applicable. Purchaser agrees to pay or reimburse any such taxes which ABB or its suppliers are required to pay or collect. If Purchaser is exempt from the payment of any tax or holds a direct payment permit, Purchaser shall, upon order placement, provide ABB a copy, acceptable to the relevant governmental authorities of any such certificate or permit.
  - (d) The price includes customs duties and other importation or exportation fees, if any, at the rates in effect on the date of ABB's Proposal. Any change after that date in such duties, fees, or rates, shall increase the price by ABB's additional cost.
- 3. Payment.**

  - (a) Unless specified to the contrary in writing by ABB, payment terms are net cash, payable without offset, in United States Dollars, 30 days from date of invoice by wire transfer to the account designated by ABB in the Proposal.
  - (b) If in the judgment of ABB the financial condition of Purchaser at any time prior to delivery does not justify the terms of payment specified, ABB may require payment in advance, payment security satisfactory to ABB, or may terminate the order, whereupon ABB shall be entitled to receive reasonable cancellation charges. If delivery is delayed by Purchaser, payment shall be due on the date ABB is prepared to make delivery. Delays in delivery or nonconformities in any installments delivered shall not relieve Purchaser of its obligation to accept and pay for remaining installments.
  - (c) Purchaser shall pay, in addition to the overdue payment, a late charge equal to the lesser of 1 1/2% per month or any part thereof or the highest applicable rate allowed by law on all such overdue amounts plus ABB's attorneys' fees and court costs incurred in connection with collection.



**4. Changes.**

- (a) Any changes requested by Purchaser affecting the ordered scope of work must be accepted by ABB and resulting adjustments to affected provisions, including price, schedule, and guarantees mutually agreed in writing prior to implementation of the change.
- (b) ABB may, at its expense, make such changes in the Equipment or Services as it deems necessary, in its sole discretion, to conform the Equipment or Services to the applicable specifications. If Purchaser objects to any such changes, ABB shall be relieved of its obligation to conform to the applicable specifications to the extent that conformance may be affected by such objection.

**5. Delivery.**

- (a) All Equipment manufactured, assembled or warehoused in the continental United States is delivered F.O.B. point of shipment. Equipment shipped from outside the continental United States is delivered F.O.B. United States port of entry. Purchaser shall be responsible for any and all demurrage or detention charges.
- (b) If the scheduled delivery of Equipment is delayed by Purchaser or by Force Majeure, ABB may move the Equipment to storage for the account of and at the risk of Purchaser whereupon it shall be deemed to be delivered.
- (c) Shipping and delivery dates are contingent upon Purchaser's timely approvals and delivery by Purchaser of any documentation required for ABB's performance hereunder.
- (d) Claims for shortages or other errors in delivery must be made in writing to ABB within ten days of delivery. Equipment may not be returned except with the prior written consent of and subject to terms specified by ABB. Claims for damage after delivery shall be made directly by Purchaser with the common carrier

**6. Title & Risk of Loss.** Except with respect to Software (for which title shall not pass, use being licensed) title to Equipment shall remain in ABB until fully paid for. Notwithstanding any agreement with respect to delivery terms or payment of transportation charges, risk of loss or damage shall pass to Purchaser upon delivery.

**7. Inspection, Testing and Acceptance.**

- (a) Any inspection by Purchaser of Equipment on ABB's premises shall be scheduled in advance to be performed during normal working hours.
- (b) If the order provides for factory acceptance testing, ABB shall notify Purchaser when ABB will conduct such testing prior to shipment. Unless Purchaser states specific objections in writing within ten (10) days after completion of factory acceptance testing, completion of the acceptance test constitutes Purchaser's factory acceptance of the Equipment and its authorization for shipment.
- (c) If the order provides for site acceptance testing, testing will be performed by ABB personnel to verify that the Equipment has arrived at site complete, without physical damage, and in good operating condition. Completion of site acceptance testing constitutes full and final acceptance of the Equipment. If, through no fault of ABB, acceptance testing is not completed within thirty (30) days after arrival of the Equipment at the site, the site acceptance test shall be deemed completed and the Equipment shall be deemed accepted.

**8. Warranties and Remedies.**

- (a) Equipment and Services Warranty. ABB warrants that Equipment (excluding Software, which is warranted as specified in paragraph (d) below) shall be delivered free of defects in material and workmanship and that Services shall be free of defects in workmanship. The Warranty Remedy Period for Equipment (excluding Software, Spare Parts and Refurbished or Repaired Parts) shall end twelve (12) months after installation or eighteen (18) months after date of shipment, whichever first occurs. The Warranty Remedy Period for new spare parts shall end twelve (12) months after date of shipment. The Warranty Remedy Period for refurbished or repaired parts shall end ninety (90) days after date of shipment. The Warranty Remedy Period for Services shall end ninety (90) days after the date of completion of Services.
- (b) Equipment and Services Remedy. If a nonconformity to the foregoing warranty is discovered in the Equipment or Services during the applicable Warranty Remedy Period, as specified above, under normal and proper use and provided the Equipment has been properly stored, installed, operated and maintained and written notice of such nonconformity is provided to ABB promptly after such discovery and within the applicable Warranty Remedy Period, ABB shall, at its option, either (i) repair or replace the nonconforming portion of the Equipment or re-perform the nonconforming Services or (ii) refund the portion of the price applicable to the nonconforming portion of Equipment or Services. If any portion of the Equipment or Services so repaired, replaced or re-performed fails to conform to the foregoing warranty, and written notice of such nonconformity is provided to ABB promptly after discovery and within the original Warranty Remedy Period applicable to such Equipment or Services or 30 days from completion of such repair, replacement or re-performance, whichever is later, ABB will repair or





replace such nonconforming Equipment or re-perform the nonconforming Services. The original Warranty Remedy Period shall not otherwise be extended.

(c) Exceptions. ABB shall not be responsible for providing working access to the nonconforming Equipment, including disassembly and re-assembly of non-ABB supplied equipment, or for providing transportation to or from any repair facility, all of which shall be at Purchaser's risk and expense. ABB shall have no obligation hereunder with respect to any Equipment which (i) has been improperly repaired or altered; (ii) has been subjected to misuse, negligence or accident; (iii) has been used in a manner contrary to ABB's instructions; (iv) is comprised of materials provided by or a design specified by Purchaser; or (v) has failed as a result of ordinary wear and tear. Equipment supplied by ABB but manufactured by others is warranted only to the extent of the manufacturer's warranty, and only the remedies, if any, provided by the manufacturer will be allowed.

(d) Software Warranty and Remedies. ABB warrants that, except as specified below, the Software will, when properly installed, execute in accordance with ABB's published specification. If a nonconformity to the foregoing warranty is discovered during the period ending one (1) year after the date of shipment and written notice of such nonconformity is provided to ABB promptly after such discovery and within that period, including a description of the nonconformity and complete information about the manner of its discovery, ABB shall correct the nonconformity by, at its option, either (i) modifying or making available to the Purchaser instructions for modifying the Software; or (ii) making available at ABB's facility necessary corrected or replacement programs. ABB shall have no obligation with respect to any nonconformities resulting from (i) unauthorized modification of the Software or (ii) Purchaser-supplied software or interfacing. ABB does not warrant that the functions contained in the software will operate in combinations which may be selected for use by the Purchaser, or that the software products are free from errors in the nature of what is commonly categorized by the computer industry as "bugs".

(e) THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF QUALITY AND PERFORMANCE, WHETHER WRITTEN, ORAL OR IMPLIED, AND ALL OTHER WARRANTIES INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USAGE OF TRADE ARE HEREBY DISCLAIMED. THE REMEDIES STATED HEREIN CONSTITUTE PURCHASER'S EXCLUSIVE REMEDIES AND ABB'S ENTIRE LIABILITY FOR ANY BREACH OF WARRANTY.

**9. Patent Indemnity.**

(a) ABB shall defend at its own expense any action brought against Purchaser alleging that the Equipment or the use of the Equipment to practice any process for which such Equipment is specified by ABB (a "Process") directly infringes any claim of a patent of the United States of America and to pay all damages and costs finally awarded in any such action, provided that Purchaser has given ABB prompt written notice of such action, all necessary assistance in the defense thereof and the right to control all aspects of the defense thereof including the right to settle or otherwise terminate such action in behalf of Purchaser.

(b) ABB shall have no obligation hereunder and this provision shall not apply to: (i) any other equipment or processes, including Equipment or Processes which have been modified or combined with other equipment or process not supplied by ABB; (ii) any Equipment or Process supplied according to a design, other than an ABB design, required by Purchaser; (iii) any products manufactured by the Equipment or Process; (iv) any patent issued after the date hereof; or (v) any action settled or otherwise terminated without the prior written consent of ABB.

(c) If, in any such action, the Equipment is held to constitute an infringement, or the practice of any Process using the Equipment is finally enjoined, ABB shall, at its option and its own expense, procure for Purchaser the right to continue using said Equipment; or modify or replace it with non-infringing equipment or, with Purchaser's assistance, modify the Process so that it becomes non-infringing; or remove it and refund the portion of the price allocable to the infringing Equipment. THE FOREGOING PARAGRAPHS STATE THE ENTIRE LIABILITY OF ABB AND EQUIPMENT MANUFACTURER FOR ANY PATENT INFRINGEMENT.

(d) To the extent that said Equipment or any part thereof is modified by Purchaser, or combined by Purchaser with equipment or processes not furnished hereunder (except to the extent that ABB is a contributory infringer) or said Equipment or any part thereof is used by Purchaser to perform a process not furnished hereunder by ABB or to produce an article, and by reason of said modification, combination, performance or production, an action is brought against ABB, Purchaser shall defend and indemnify ABB in the same manner and to the same extent that ABB would be obligated to indemnify Purchaser under this "Patent Indemnity" provision.

**10. Limitation of Liability.**

(a) In no event shall ABB, its suppliers or subcontractors be liable for special, indirect, incidental or consequential damages, whether in contract, warranty, tort, negligence, strict liability or otherwise, including, but not limited to, loss of profits or revenue, loss of use of the Equipment or any associated equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays, and claims of customers of the Purchaser or other third parties for any damages. ABB's liability for any claim whether in contract, warranty, tort, negligence, strict liability, or otherwise for any loss or damage arising out of, connected with, or resulting from this Agreement or the performance or breach thereof, or from the design, manufacture, sale, delivery, resale, repair, replacement, installation, technical direction of installation, inspection, operation or use of any equipment covered by or furnished under this Agreement, or from any services rendered in connection therewith,



shall in no case (except as provided in the section entitled "Patent Indemnity") exceed one-half (1/2) of the purchase price allocable to the Equipment or part thereof or Services which gives rise to the claim.

(b) All causes of action against ABB arising out of or relating to this Agreement or the performance or breach hereof shall expire unless brought within one year of the time of accrual thereof.

(c) In no event, regardless of cause, shall ABB be liable for penalties or penalty clauses of any description or for indemnification of Purchaser or others for costs, damages, or expenses arising out of or related to the Equipment and/Services.

11. **Laws and Regulations.** ABB does not assume any responsibility for compliance with federal, state or local laws and regulations, except as expressly set forth herein, and compliance with any laws and regulations relating to the operation or use of the Equipment or Software is the sole responsibility of the Purchaser. All laws and regulations referenced herein shall be those in effect as of the Proposal date. In the event of any subsequent revisions or changes thereto, ABB assumes no responsibility for compliance therewith. If Purchaser desires a modification as a result of any such change or revision, it shall be treated as a change per Article 4. Nothing contained herein shall be construed as imposing responsibility or liability upon ABB for obtaining any permits, licenses or approvals from any agency required in connection with the supply, erection or operation of the Equipment. This Agreement shall be governed by the laws of the State of New York, but excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods and excluding New York law with respect to conflicts of law. Purchaser agrees that all causes of action against ABB under this Agreement shall be brought in the State Courts of the State of New York, or the U.S. District Court for the Southern District of New York. If any provision hereof, partly or completely, shall be held invalid or unenforceable, such invalidity or unenforceability shall not affect any other provision or portion hereof and these terms shall be construed as if such invalid or unenforceable provision or portion thereof had never existed.
12. **OSHA.** ABB warrants that the Equipment will comply with the relevant standards of the Occupational Safety and Health Act of 1970 ("OSHA") and the regulations promulgated thereunder as of the date of the Proposal. Upon prompt written notice from the Purchaser of a breach of this warranty, ABB will replace the affected part or modify it so that it conforms to such standard or regulation. ABB's obligation shall be limited to such replacement or modification. In no event shall ABB be responsible for liability arising out of the violation of any OSHA standards relating to or caused by Purchaser's design, location, operation, or maintenance of the Equipment, its use in association with other equipment of Purchaser, or the alteration of the Equipment by any party other than ABB.
13. **Software License.**
  - (a) ABB owns all rights in or has the right to sublicense all of the Software, if any, to be delivered to Purchaser under this Agreement. As part of the sale made hereunder Purchaser hereby obtains a limited license to use the Software, subject to the following: (i) The Software may be used only in conjunction with equipment specified by ABB; (ii) The Software shall be kept strictly confidential; (iii) The Software shall not be copied, reverse engineered, or modified; (iv) The Purchaser's right to use the Software shall terminate immediately when the specified equipment is no longer used by the Purchaser or when otherwise terminated, e.g. for breach, hereunder; and (v) the rights to use the Software are non-exclusive and non-transferable, except with ABB's prior written consent.
  - (b) Nothing in this Agreement shall be deemed to convey to Purchaser any title to or ownership in the Software or the intellectual property contained therein in whole or in part, nor to designate the Software a "work made for hire" under the Copyright Act, nor to confer upon any person who is not a named party to this Agreement any right or remedy under or by reason of this Agreement. In the event of termination of this License, Purchaser shall immediately cease using the Software and, without retaining any copies, notes or excerpts thereof, return to ABB the Software and all copies thereof and shall remove all machine readable Software from all of Purchaser's storage media.
14. **Inventions and Information.** Unless otherwise agreed in writing by ABB and Purchaser, all right, title and interest in any inventions, developments, improvements or modifications of or for Equipment and Services shall remain with ABB. Any design, manufacturing drawings or other information submitted to the Purchaser remains the exclusive property of ABB. Purchaser shall not, without ABB's prior written consent, copy or disclose such information to a third party. Such information shall be used solely for the operation or maintenance of the Equipment and not for any other purpose, including the duplication thereof in whole or in part.
15. **Force Majeure.** ABB shall neither be liable for loss, damage, detention or delay nor be deemed to be in default for failure to perform when prevented from doing so by causes beyond its reasonable control including but not limited to acts of war (declared or undeclared), Acts of God, fire, strike, labor difficulties, acts or omissions of any governmental authority or of Purchaser, compliance with government regulations, insurrection or riot, embargo, delays or shortages in transportation or inability to obtain necessary labor, materials, or manufacturing facilities from usual sources or from defects or delays in the performance of its suppliers or subcontractors due to any of the foregoing enumerated causes. In the event of delay due to any such cause, the date of delivery will be extended by period equal to the delay plus a reasonable time to resume production, and the price will be adjusted to compensate ABB for such delay.



- 16. Cancellation.** Any order may be cancelled by Purchaser only upon prior written notice and payment of termination charges, including but not limited to, all costs identified to the order incurred prior to the effective date of notice of termination and all expenses incurred by ABB attributable to the termination, plus a fixed sum of ten (10) percent of the final total price to compensate for disruption in scheduling, planned production and other indirect costs.
- 17. Termination.** No termination by Purchaser for default shall be effective unless, within fifteen (15) days after receipt by ABB of Purchaser's written notice specifying such default, ABB shall have failed to initiate and pursue with due diligence correction of such specified default.
- 18. Export Control.**

  - (a) Purchaser represents and warrants that the Equipment and Services provided hereunder and the "direct product" thereof are intended for civil use only and will not be used, directly or indirectly, for the production of chemical or biological weapons or of precursor chemicals for such weapons, or for any direct or indirect nuclear end use. Purchaser agrees not to disclose, use, export or re-export, directly or indirectly, any information provided by ABB or the "direct product" thereof as defined in the Export Control Regulations of the United States Department of Commerce, except in compliance with such Regulations.
  - (b) If applicable, ABB shall file for a U.S. export license, but only after appropriate documentation for the license application has been provided by Purchaser. Purchaser shall furnish such documentation within a reasonable time after order acceptance. Any delay in obtaining such license shall suspend performance of this Agreement by ABB. If an export license is not granted or, if once granted, is thereafter revoked or modified by the appropriate authorities, this Agreement may be canceled by ABB without liability for damages of any kind resulting from such cancellation. At ABB's request, Purchaser shall provide to ABB a Letter of Assurance and End-User Statement in a form reasonably satisfactory to ABB.
- 19. Assignment.** Any assignment of this Agreement or of any rights or obligations under the Agreement without prior written consent of ABB shall be void.
- 20. Nuclear Insurance – Indemnity.** For applications in nuclear projects, the Purchaser and/or its end user customer shall have complete insurance protection against liability and property damage resulting from a nuclear incident to and shall indemnify ABB, its subcontractors, suppliers and vendors against all claims resulting from a nuclear incident.
- 21. Resale.** If Purchaser resells any of the Equipment, the sale terms shall limit ABB's liability to the buyer to the same extent that ABB's liability to Purchaser is limited hereunder.
- 22. Entire Agreement.** This Agreement constitutes the entire agreement between ABB and Purchaser. There are no agreements, understandings, restrictions, warranties, or representations between ABB and Purchaser other than those set forth herein or herein provided.