

# PURCHASE ORDER

## Columbia Pulp

164 East Main Street  
Dayton, WA 99328  
Phone 509-288-4892

P.O. NO. 17-0019  
DATE: DECEMBER 6, 2017

**VENDOR** WESCO Distribution, Inc.  
2025 E Trent Ave  
Spokane, WA 99202  
**CONTACT:** Mike Chilton  
Phone: 509-456-7501  
Email: mchilton@wescodist.com

**SHIP TO** Ralph Raymond  
Columbia Pulp  
1351 Highway 261  
Starbuck, WA 99359  
Phone: 253-468-8722

SHIPPING METHOD	SHIPPING TERMS	DELIVERY DATE
Truck	FOB Point of Shipment - Freight Prepaid and Added	As stated

QTY	ITEM #	DESCRIPTION	JOB	UNIT PRICE	LINE TOTAL
2	1	750 HP VFD marked as item 0001 of proposal number MGD10736RB#2 Dated Nov 22, 2017			474,815
2	2	750 HP 720 RPM filtered motor marked as item 0006 of proposal number MGD10736RB#2 Dated Nov 22, 2017			
1	3	Startup & commissioning of 750 HP VFD Item 0001 (travel included) 5 x 10 hour day(s) (Tech 4 rate) for 4160V VFDs			13,300
1	4	9 Cell - 140A VFD Recommended Spare Parts, marked as item 0003A			17,863
1	5	9 Cell - 140A VFD Additional Spare Parts, marked as item 0003B			3,272
2	6	Motors Start-Up & Commissioning Support			18,116
2	7	Bearing RTDs (2) 100 Ohm Platinum (Option Code R79)			2,528
2	8	Stator RTDs (6) 100 Ohm Platinum (Option Code R65)			1,372
		Attachments: <ul style="list-style-type: none"> <li>Allnorth Material Requisition 15NA0050-ES-028-1</li> <li>Siemens/WESCO Distribution Bid MGD10736RB#02 dated 11-22-2017</li> <li>Master Supply Agreement - WESCO - Columbia Pulp Terms and Conditions of Sale, Nov 1, 2017</li> <li>Wesco offer letter - Starbuck Facility Pricing dated September 22, 2017</li> </ul>			

This Purchase Order is directed to: Siemens Industry, Inc. 7000 Siemens Road Wendell, NC 27591					
Terms of Delivery: The Plant is site at 1351 State Highway 261, Starbuck, WA. All deliveries are to be coordinated through Ralph Raymond, Pacific Civil and Infrastructure Project Manager (Phone: 253-468-8722, email: rraymond@paccivil.com) No deliveries will be accepted without the prior consent to delivery time and date from Ralph Raymond.					
Terms of Payment - Invoice 50% of total upon order acceptance and confirmation of ship date. Invoice 50% of total upon shipment. Payment within 30 days of invoice date.					
All Engineering Information must be sent to: Allnorth Consultants Ltd. Attention: Erin Branchi, Document Control Email: ebranchi@allnorth.com Ph: 250-753-7472 Note - Please quote project number 15NA0050 in the subject line of any e-mail submissions					
Columbia Pulp - WESCO Master Supply Agreement terms and conditions of sale apply to this purchase order. These terms and conditions supersede and replace all other terms and condition in other documents.  The Lyons Ferry Straw Pulp Plant Project is sales tax exempt in the state of Washington. Columbia's Manufacturer's Sales and Use Tax Exemption Certificate is available upon request.					

SUBTOTAL \$531,266.00

SALES TAX Non-Taxable

TOTAL \$531,266.00

1. Please send two copies of your invoice.
2. Enter this order in accordance with the prices, terms, delivery method, and specifications listed above.
3. Please notify us immediately if you are unable to ship as specified.
4. Send all correspondence to:  
Loren Monroe, Controller; and,  
Larry Tantalio, Project Manager  
Columbia Pulp, LLC  
164 E Main St  
Dayton, WA 99328

  
Authorized by

12/6/17  
Date



## MATERIAL REQUISITION

<b>Equipment:</b>	Medium Voltage Variable Frequency Drive and Motors
<b>Client:</b>	Columbia Pulp
<b>Project Name:</b>	Lyons Ferry Straw Processing Plant
<b>Project Number:</b>	15NA0050
<b>Requisition Number:</b>	15NA0050-ES-028-1
<b>Date:</b>	11/30/2017
<b>Vendor:</b>	Wesco Distribution
<b>Contact:</b>	Mike Chilton P: 509-456-7501 <a href="mailto:mchilton@wesco.com">mchilton@wesco.com</a> 2025 E Trent Ave, Spokane WA 99202

<b>Requisition for:</b>	<input type="checkbox"/> Quote <input checked="" type="checkbox"/> Purchase <input type="checkbox"/> Change Order
<b>Total Cost:</b>	\$ 531,266.00
<b>Shipping Terms</b>	FOB WESCO
<b>3rd Party Inspection:</b>	None
<b>Attachments:</b>	<input type="checkbox"/> Datasheets <input type="checkbox"/> Specifications <input type="checkbox"/> Drawings <input type="checkbox"/> Scope of Work <input type="checkbox"/> Sole Source Justification

Line	Qty	Description	Unit Price	Subtotal
1	2	750 HP VFD marked as Item 0001 of Proposal Number MGD10736RB#02 Dated November 22, 2017		\$ 474,815.00
2	2	750HP 720RPM Filtered Motor marked as Item 0006 of Proposal Number MGD10736RB#02 Dated November 22, 2017		
3	1	Startup & commissioning of 750 HP VFD Item 0001 (travel included) 5 x 10 hour day(s) (Tech 4 rate) for 4160V VFDs	\$ 13,300.00	\$ 13,300.00
4	1	9 Cell - 140A VFD Recommended Spare Parts, marked as item 0003A	\$ 17,863.00	\$ 17,863.00
5	1	9 Cell - 140A VFD Additional Spare Parts, marked as item 0003B	\$ 3,272.00	\$ 3,272.00
6	2	Motors Start-Up & Commissioning Support	\$ 9,058.00	\$ 18,116.00
7	2	Bearing RTDs (2) 100 Ohm Platinum (Option Code R79)	\$ 1,264.00	\$ 2,528.00
8	2	Stator RTDs (6) 100 Ohm Platinum (Option Code R65)	\$ 686.00	\$ 1,372.00
			<b>Total Cost:</b>	\$ 531,266.00

### Approvals

<b>Initiator:</b>	Christopher Mathie, P. Eng	Date:	11/30/2017
<b>ACL Approval:</b>	Jaco Krüger, P.Eng	Date:	11/30/2017
	Ryan Sinclair, P.Eng	Date:	11/30/2017
<b>Client Approval:</b>		Date:	



SIEMENS



Siemens MV Drive and Refiner MV Motor Proposal

## Columbia Pulp

Date: 11/22/2017



WESCO Distribution, Inc. terms and conditions apply.

[usa.siemens.com/COMPAS](http://usa.siemens.com/COMPAS)

# Pricing Summary

## VFD and Motor Equipment Pricing Summary

Item	Quantity	Description	
0001 VFD	2	750 HP VFD	
0001 Motor	2	750HP 720RPM Unfiltered MG1	
0006 Motor	2	750HP 720RPM Filtered	
			<b>Total</b>
<u>Option 1: 0001 VFDs and 0001 Motors</u>			<u><b>\$522,592</b></u>
<u>Option 2: 0001 VFDs and 0006 Motors</u>			<u><b>\$474,815</b></u>

## VFD Accessories Pricing Summary

Item	Quantity	Description	
0002	1	Cell Lifter for 40 - 260A 6SR4202 Drives	Included with VFDs

## VFD Spare Parts Pricing Summary

Item	Quantity	Description	Base Unit	Total
0003A	1	9 Cell - 140A VFD Recommended Spare Parts		\$17,863
0003B	1	9 Cell – 140A VFD Additional Spare Parts		\$3,272

## Startup and Technical Service Agreement (TSA) Summary

Item	Quantity	Description	Total
0005	2	Startup & commissioning of 750 HP VFD Item 0001 (travel included) 5 x 10 hour day(s)	\$16,074 <sup>6</sup>
0009	1	Potential Standby Day	See Notes

### Notes:

1. All prices exclude taxes and duties.
2. All prices are in U.S. dollars.
3. Freight charges, if not quoted, will be prepaid and added to invoice.
4. Equipment pricing is valid for 90 days from date of proposal, for delivery within 12 months from date of purchase order.
5. All Standby days are added based on the total number of days the FSR remains in the local area but not at the site. Cost is based on 8 hour days w/Per Diem Living Expenses included. \$1,375 per day Monday through Saturday, \$2,750 Sundays and Holidays.
6. Start-Up price does not include motor start-up please note start-up pricing in motor section

### Additional Notes for Startup and TSAs:

1. Pricing for labor and living expenses is based on comments and scope-of-work described above, as well as completion of Customer Pre-Startup Checklist prior to the arrival of the Siemens FSR.
2. Any additional actions or site delays that are beyond Siemens control or outside the above scope are billable to the Customer in accordance with Siemens CS published Rate Sheet, LV-NKN-CS-0003.
3. Pricing is based on local FSR. Four (4) weeks notice is required to schedule the service.
4. Startup and Commissioning of VFD includes Technical Service Agreement services for one year from Startup.
5. Discounted Spare Parts pricing above is valid when purchased with Startup and commissioning of the drive(s).
6. Pricing above not applicable to offshore, nuclear sites, or locations outside the continental U.S.



# Table of Contents

Pricing Summary .....	2
Proposed Scope of Supply .....	4
Variable Frequency Drive Specifications.....	5
Options .....	5
Data Sheet.....	6
Standard Components and Features .....	7
SINAMICS PERFECT HARMONY GH180 VFD Benefits .....	8
Spare Parts .....	9
Environmental Conditions.....	10
Motor Specifications and details.....	11
Customer Services for ANEMA Motors.....	16
Support Services .....	17
Technical Service Agreement .....	18
Comments & Clarifications to Specifications .....	19
Commercial Items.....	21
Export Compliance Clause.....	21
Shipments .....	23
Warranty .....	24
Service Rate Schedule .....	25
Shipping, Handling, & Storage Requirements .....	26



*Designed,  
Built and  
Supported in  
America.*



# Proposed Scope of Supply

Description	Quantity
Variable Frequency Drive	2
VFD Accessories	1
VFD Recommended Spare Parts	1
VFD Additional Spare Parts	1
Siemens Motor	2
Startup and Commissioning of VFD	1

**Application Description:**

- Refiner

Revision	Date
AB	11/22/2017

# Variable Frequency Drive Specifications

## Variable Frequency Drive

Item	Quantity	Description
0001	2	750 HP GH180 AC, Variable Frequency Drive with dry-type, phase-shifting, isolation transformer

## VFD Accessories

Item	Quantity	Description
0002	1	Cell Lifter for 40 - 260A 6SR4202 Drives

## Item 0001 Included Standard Options

G47 - Ethernet port connector mounted on door

K69 - Control voltage 120 VAC by Siemens

G28 - Ethernet Modbus

N35 - Motor space heater control

U03 - CSA certification

D76 - Documentation in English

T76 - Rating plate and warning labels in english/english

Z01 - Door mounted E-stop

K31 - Off-local-remote selector

M08 - Superior mechanical door interlocks

L55 - Anti-condensation heaters for cabinet

A60 - TecSystem RTD monitor

U11 - Cell bypass

N94 - Grounding Studs

V06 - Motor voltage 4160 V

Z02 - Customer interface keypad display

**Service Time: 5 x 10 hour days**



# Variable Frequency Drive Specifications

## Item 0001 VFD Data Sheet

Basic Drive Data	
Siemens Configuration Identifier	6SR4202-0SD41-0AJ0
Power Rating	750 HP
Transformer Winding	Copper
Type of Cooling for Transformer	Forced air
Estimated Dimensions (H x W x D)	109.27 x 78 x 42 in.
Estimated Weight	8374 lbs
Input Technical Data	
Supply Voltage	13800V
Supply Voltage Tolerance	+10%, -5% (-10% can be achieved by means of voltage tap)
Supply Frequency	60 Hz
Number of Phases	3
Output Technical Data	
VFD Output Voltage	4.16 kV
VFD Output Current	140 A
Continuous Overload	100%
Short Term Overload	110% 1 min / 10 min
Performance	
Voltage Cut Ride Though Duration	5 cycles
Transient Voltage Dip (5 cycle ride through w/ trip-free operation)	30%
Input Power Factor	0.95 throughout the operating speed
Speed Regulation (closed-loop vector control with a 1024 PPR encoder)	±0.1%
Speed Regulation (open-loop vector control without an encoder)	±0.5% of rated
Service Factor	1.15
Torque Pulsations Across Speed Range	≤ 1% of rated without over-modulation ≤ 3.5% of rated with over-modulation
Technology	
Topology	Voltage Source
Microprocessor-Based Multi-Level Switching	Multi-Level PWM
Rectifier Device	Diode
Inverter Device	IGBT
Number of Cells	9
Number of Pulses	18
Quadrant of Operation w/ Vector Control	2
Cooling	Air
Environmental Conditions	
Ambient Temperature Operating Range	5 °C min to 40 °C max
Altitude	≤ max 1000m / 3300ft
Humidity (non-condensing)	95%
Control	
I/O Signal Voltage	120 VAC, 1 A max
Auxiliary Feed	120 V to 230 VAC
Auxiliary Power Requirements	460 VAC 3 phase 60 Hz by customer
Miscellaneous	
Manuals Provided in Language	English

# Variable Frequency Drives

## Siemens SINAMICS PERFECT HARMONY GH180 VFD Standard Components and Features

- 6SR4202 Air-cooled units have an IP21 (NEMA 1) rating, force ventilated enclosure with gasketed doors and filter media mounted to the air inlets.
- Distribution class surge arrestors on the incoming MV feeder.
- Modular, trouble-free power cell design.
- Door mounted e-stop and customer interface keypad / display which provides digital indication of various parameters such as speed, A, V, kW, kW Hours, and elapsed run time.
- Short circuit and ground fault protection.
- Motor-friendly PWM output eliminates VFD induced torque pulsations and the requirement for an associated torsional analysis.
- Sinusoidal output eliminates harmonic motor heating and can be used with a standard AC induction motor without de-rating.
- Electronic motor and VFD overload protection.
- Common-mode voltage protection allows the use of a standard motor, eliminating the need for special high-voltage insulation.
- Motor inherently protected from high-voltage dV / dT stress for cable distances less than or equal to 2 km (~ 1.6 mi); therefore, output filters are not required.
- Siemens SINAMICS PERFECT HARMONY GH180 VFD inherently fulfills the requirements of the IEEE 519-2014 standard for both current and voltage distortion on any power system; thus, input harmonic filters are not required.

Parent Standard	Applicable Locations	Compliant Products
IEC 61800-5-1	All	All drives
IEC 61800-3	All	All drives
UL 347A-2008	Pittsburgh PA US	Air-cooled drives
CSA C22.2 No.14 (2010)	Pittsburgh PA US	All drives (except 6SR325-HA)
ANSI / IEEE 519	Pittsburgh PA US	All drives
EPRI TR-102323R3	Pittsburgh PA US	6SR325-HA drives

Siemens core products comply with the standards listed above, as specified by the product type and manufacturing location. As a result, Siemens core products comply with all the applicable normatively referenced standards, as required by the parent standards contained in the above list, and specific to the particular product design. A full list of all the product specific standards, their specific normative references, and general ambient conditions for storage, transport, and operation are available upon request.

Standards compliance of engineered to order (ETO) projects must be determined and agreed to by contract. However, this is generally restricted to the above list. Additional costs will be incurred to evaluate Siemens SINAMICS PERFECT HARMONY GH180 VFD against standards not contained within the above list.

Siemens takes exception to all other standards specified in full; however, specific requirements not resolved or governed by the above list can be addressed on an individual basis. Additional costs may be incurred to evaluate non-product specific standards for Siemens core products.

# Variable Frequency Drives

## Siemens SINAMICS PERFECT HARMONY GH180 VFD Benefits

### Clean Power Input

The SINAMICS PERFECT HARMONY GH180 drive:

- Meets the most stringent IEEE 519-2014 requirements for voltage and current harmonic distortion, even when the source capacity is no larger than the drive rating.
- In most cases, eliminates the need for costly and inefficient harmonic filters and the associated resonance problems.
- Protects other online equipment from harmonic disturbance.

### Power Quality Output

The SINAMICS PERFECT HARMONY GH180 drive:

- Reduces common mode voltage on the motor stator windings.
- Minimizes drive induced torque pulsations and the requirement for an associated torsional analysis compared to other medium voltage topologies, by using a motor friendly pulse width modulation (PWM) for its output.
- Offers sinusoidal output that eliminates additional losses due to harmonics and can thus be used with new or existing motors without derating.

### Maximized Availability

The SINAMICS PERFECT HARMONY GH180 drive:

- Remains operational in the event of a cell failure by using the cell bypass option which removes the faulted cell from the output circuit.

### Extended Reliability

The SINAMICS PERFECT HARMONY GH180 drive provides an integrated transformer which offers the following additional advantages:

- Simple and robust way to cancel input current harmonics without the need for input harmonic filters or a complex active front end.
- Protects power converter semiconductors against line transients.
- Improves ride-through capabilities.
- Completely protects the motor in case of a ground fault in the converter, the motor cabling or insulation.
- Negligible common mode voltage allows the use of a standard motor eliminating the need for special high-voltage insulation.
- Limits the fault energy into the converter in the unlikely event of a fault.
- The incoming service voltage doesn't have to match the motor voltage.

### System Testing

SINAMICS PERFECT HARMONY GH180 drives undergo extensive testing before leaving the factory. Factory test offers the following advantages:

- Each transformer and converter are tested as a complete unit at full load prior to delivery.
- Factory testing allows accurate efficiency measurements to ensure that drive performance meets customer specifications.
- Verification of sequence of operation and protection functions can be performed at the factory and results in shorter commissioning time.

### Installation and Maintenance

SINAMICS PERFECT HARMONY GH180 drives are easy to install and maintain

- Customer provides three power cables in and three power cables out. There is no customer site cabling required to connect the assembled sections.
- Power cells can be removed easily for maintenance due to their reduced weight and front accessible connections.
- Sophisticated microprocessor-based diagnostics pinpoint the location of any defects.

# Variable Frequency Drives

## Item 0003A 9 Cell - 140A VFD Recommended Spare Parts Package

Part	Quantity
DCR Box	1
Input Fuse	1
Keypad	1
NxG Power Supply	1
Power Cell	1

## Item 0003B 9 Cell - 100A VFD Additional Spare Parts for Advanced Cell Bypass Only

Part	Quantity
Bypass Contactor Assembly	1
Bypass Power Supply	1
Bypass Power Supply Fuse	1
PCA Bypass Control	1



# Variable Frequency Drive Specifications

## Environmental Conditions

This data relates to the operating conditions of the drive. Other conditions such as transport and storage are not included in the scope of this chart.

Siemens SINAMICS PERFECT HARMONY GH180 drives are classified as class 2B1, 3S1, and 3C1.

## Chemical Conditions

Description	Unit	Value
Flora	None	No
Fauna	None	No
Sand (Air-Cooled)	mg/m3	No
Sand (Water-Cooled)	mg/m3	<300
Dust (Suspension)	mg/m3	<0.01
Dust (Sedimentation)	mg/(m2 – h)	<0.4
Sea Salts	None	No
Sulfur Dioxide	mg/m3	<0.1
Hydrogen Sulfide	mg/m3	<0.01
Chlorine	mg/m3	<0.1
Hydrogen Chloride	mg/m3	<0.1
Hydrogen Fluoride	mg/m3	<0.003
Ammonia	mg/m3	<0.3
Ozone	mg/m3	<0.01
Nitrogen Oxides	mg/m3	<0.1

**\*Expressed in the equivalent of nitrogen dioxide.**

**Sales Quote No.:**

**Proposal No.:** SNP01653-UlreKR  
**Factory No.:** AGT631890 Rev. 1

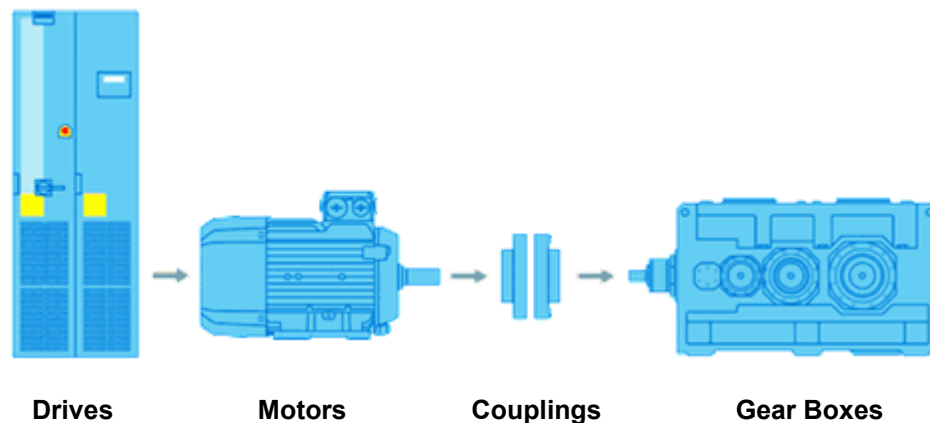
**Project Name/Location:** Lyons Ferry Straw Pulp Plant  
**End User:** Columbia Pulp

<b>To:</b>	<b>From:</b>
Allnorth/Columbia Pulp	WESCO Distribution, Inc.
ATTN: Chris/Neil/Larry	

Thank you for your inquiry. Siemens Industry, Inc. is pleased to offer the following AC squirrel-cage induction motor(s). If you have any additional questions or comments, please do not hesitate to contact us at the address above.

Siemens is an international electrical and electronic equipment manufacturer and is a fully active corporate citizen in the United States marketplace.

**Integrated Drive Systems by Siemens**



Siemens dedication to the motor market involves domestic design, research, product development and manufacturing. Our commitment to our customer is to provide them with practical solutions that increase product efficiency and business productivity.

	Download the Siemens Industry Online Support app to access motor data sheets, dimension prints, manuals, and even request service.
	Siemens Industry Inc. is on social media. Join the conversation!



## Sales Quote No.:

Proposal No.: SNP01653-UlreKR

Project Name/Location: Lyons Ferry Straw Pulp Plant

Factory No.: AGT631890 Rev. 1

End User: Columbia Pulp

## Summary of Motor Ratings

Item	1	6
<b>Motor-Title</b>	Refiner Motors NEMA MG1 Part 31 compliant	Refiner Motors Filtered VFD operation
<b>Quantity</b>	2	2
<b>Orientation</b>	Horizontal	Horizontal
<b>Mounting</b>	Foot	Foot
<b>Enclosure</b>	TEFC (IP54)	TEFC (IP54)
<b>Power</b>	750HP	750HP
<b>RPM</b>	720	720
<b>Ph/Hz/Voltage</b>	3/48/4000	3/48/4000
<b>S.F.</b>	1.15	1.15
<b>Temp. Rise C/By/At</b>	80/Res/1.0	80/Res/1.0
<b>Estimated Frame</b>	880S	SH450
<b>Rotor Construction</b>	Copper	Copper
<b>Stator Winding</b>	Form	Form
<b>Bearing</b>	Anti-Friction	Anti-Friction
<b>Bearing Lubrication</b>	Grease	Grease
<b>DBA*</b>	85	85

<b>Category</b>	3	2
<b>Total Lead Time in Weeks**</b> (add 3 weeks if ordered as HFDA)	26	19

### Software Package

<b>Lead Time in Weeks**</b>	7	4
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NEW – Optional Start-Up & Commissioning price per motor is \$9,058.

Details are located in the Customer Services ANEMA Motors Section (United States Only)

*\*DBA is typical sound pressure level at 1 meter, no load, free field on sine wave input. For guaranteed level at no load, add 2 DBA.*

**\*\*Total Lead Time is for the first motor, exclusive of any options, and includes the Software Package Lead Time unless the order is Hold for Drawing Approval (HFDA). Refer to Lead Time Details and Documentation section for additional information.**

**Progress Payments apply on orders over \$500,000. Refer to Commercial Terms section for Terms of Payment and for Shipment Terms & Packaging.**

**Proposal Validity:** This proposal is valid for 90 days.

## Sales Quote No.:

Proposal No.: SNP01653-UIreKR  
 Factory No.: AGT631890 Rev. 1

Project Name/Location: Lyons Ferry Straw Pulp Plant  
 End User: Columbia Pulp

## Motor Details

**Service Conditions:**

Ambient Range From 0 deg. C to 40 deg. C  
 Altitude 3300 Feet Max.  
 Non-hazardous, Non-classified Area

**Shared Features:**

L27 Bearing: NDE Bearing Insulated  
 R45 Miscellaneous: 300 Series Stainless Steel Hardware  
 S09 Miscellaneous: C5 Coreplate  
 R40 Miscellaneous: Space Heaters 120V/240V low surf. temp. 200 deg. C  
 R86 Paint: Standard 2-Part Epoxy Finish, standard color Motor Blue (Munsell 8.3B 3.54/1.9)  
 S05 Stator: Class F VPI insulation  
 R16 Stator: Stator Thermostats, (2) Klixons, Normally Closed (NC) Contacts  
 Q10I Technical/Commercial: Standard Warranty - 24 months from date of manufacture  
 S48 TEFC Feature: Aluminum Fan  
 U93 Terminal Box - Main: Ground Lug  
 U74 Terminal Box - Main: NEMA 4X and IP55 equivalent  
 U79 Terminal Box - Main: NEMA Type I, Cast Iron (CI2 - 2620 cu.in. volume)  
 ----- Test/Inspection: Routine Test

**Additional Feature(s) For Item 1**

----- Stator Insulation Compliant with NEMA MG-1 Part 31  
 ----- Suitable for VFD Duty. Expected operation is constant HP between 600 & 900 rpm.

**Additional Feature(s) For Item 6**

----- Suitable for filtered VFD producing dv/dt (sine) wave. Expected operation is constant HP between 600 & 900 rpm.

Optional Features				
Optional Features are not included in motor price, add as required. Prices indicated are net each motor.				
Option Code	Description	Price	Additional Lead Time in Weeks	For Line Item(s)
R79	Bearing RTDs (2) 100 Ohm Platinum (0.00385 TCR) DIN Std, single-element, 3-wire, 1/brg, Stick	\$1,267		1, 6
R65	Stator RTDs (6) 100 Ohm Platinum DIN Standard, 2/phase, 3-wire	\$686		1, 6

## Sales Quote No.:

Proposal No.: SNP01653-UIreKR

Project Name/Location: Lyons Ferry Straw Pulp Plant

Factory No.: AGT631890 Rev. 1

End User: Columbia Pulp

## Comments and Clarifications

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List of Applicable Specifications. Only specifications listed on this quote are considered in scope of motor supply and therefore, Siemens hereby disclaims any and all specifications including specifications within listed specifications, not listed under an applicable specification section as referenced herein.

- Allnorth Motor Spec 15NA0050-14S43-001, dated Oct 27, 2017

Comments and Clarifications to Inquiry:

General

1. Per customer input, motor is designed to drive a single-disc refiner which will operate between 600 and 900rpm and require 750HP through that range.
2. Motor intended for VFD operation only, no bypass.
3. Motor data, including temperature rise and sound level, are based on 60 hz sine wave input power.
4. Extended Warranty Terms are under the Commercial Terms section located elsewhere in this proposal.
5. **For Item 6:** Motor is designed with standard 4200V phase to phase stator insulation and 2400V phase to ground insulation and (1) insulated bearing. The VFD should be design and supplied with a filtered output to minimize inherent voltage spike and common mode voltage. The VFD vendor needs to confirm their offering is suitable with this proposed motor.

Allnorth Motor Spec 15NA0050-14S43-001, dated Oct 27, 2017

1. **For Item 6:** Para 2.1.5 - Motor quoted with standard 4200V class insulation as it is part of a Siemens motor-drive package for which special insulation is not necessary and adds unnecessary cost and possibly increase the frames size.
2. Para 2.1.2 - Motor quoted with bearing RTDs, however, thermocouples can be supplied for the same price, as long as this is clarified no later than at order entry.

# Lead Time Details and Documentation

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## I. Lead Time

- Lead Time does not begin until the factory has received all required technical and commercial information and complete release to manufacture. This may involve clarification of any technical or commercial discrepancies between the proposal and purchase order including Hold for Drawing Approval orders.
- Lead Time is subject to prior sale and availability of factory loading at time of order.
- Production is not scheduled during factory shut-downs, which are typically the first week in July, the week of Thanksgiving, and the week between Christmas and New Year's. Add 1 to 3 weeks to the above lead time if the order period contains a shut down.
- Lead Time does not include any transit time.
- Lead Time does not include time for preparation, review and return of approval drawings, if required. Hold for Drawing Approval must be indicated on the purchase order at the time of order.
- Lead Time does not include optional items which may require additional time (e.g. witness testing, hold points, optional features which increase the motor Category number, etc.)
- Lead Times are for the shipment of the first unit for all frames, except 500 or 580 frames that are Category 1 or 2, which are valid for up to 3 pieces total between the two frames. Consult the factory for Lead Time confirmation for all other quantities, Categories and frames.

## II. Software and Documentation

Software will be in our standard format and submitted electronically in the medium indicated unless expressly negotiated and entered as a separate line item on the purchase order. Our standard software package includes the following in \*.pdf format.

- a) Motor outline drawing
- b) The calculated motor electrical performance data including speed vs. torque, speed vs. current, and thermal limit curves
- c) Motor instruction manual
- d) Our standard commercial test report

<b>Additional Software Lead Time Factors</b>	<b>Calendar Weeks</b>
PDF Dimensional Print with Cert. Block	Available upon request only
CAD Dimensional Print <sup>(1)</sup>	Available upon request only
Paper Submittal in Lieu of Electronic	1
Customer-specific Data Sheet Complete	1
Shaft Torsional Data / Drawing	1
Drawing Changes <sup>(2)</sup>	2

### NOTES:

- (1) The standard CAD format is Native UniGraphics (\*.prt). AutoCAD (\*.dwg) is also available. Please indicate the specific format required on the order.
- (2) The lead time for drawing changes is dependent upon the complexity of the change. However, most drawing changes can be re-submitted within 10 working days. There will be additional charges for production-order drawing changes.

## III. Hold For Drawing Approval (HFDA) Process Details

- Software will be submitted in the lead time mentioned on the Summary of Motor Ratings page.
- Lead time is subject to the approval drawings/software being returned in 3 weeks from when they were sent out. If they are not submitted within the 3 week time period, the original ship date will be lost. The new ship date will be based on factory loading at the time of the revised release.
- Options for drawing/software approval and acceptance:
  - Release order to production with no changes. Original ship date is held and confirmed.
  - Release order to production with "minor" changes. Original ship date is held and confirmed. Additional charges may apply. (Minor changes – direction of rotation, paint color, F1/F2 box location,
  - Release order to production with "major" changes. Original ship date is no longer valid. Requested changes will be quoted with price and lead time impact. With customer acceptance, a new ship date will be determined and confirmed.
  - Cancel order – A charge of 15% of the order value could be invoiced.
  - Request changes (minor or major) and leave order on HFDA. Original ship date is lost. Requested changes will be quoted with price and lead time for a new drawing/software submittal.
- "Minor" changes may include the following:
  - Direction of rotation

# Lead Time Details and Documentation

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- F1/F2 terminal box location

- Addition of simple accessories (space heaters, stator or bearing RTDs, RTD shielding, velometers or accelerometers)
  - Paint color
  - Separation of auxiliary boxes
  - Addition of flood lube or constant level oilers
- "Major" changes may include the following:
  - Motor performance (torque values, efficiency, power factor, locked rotor current, starting conditions)
  - Rotor construction (aluminum diecast or copper)
  - Bearing arrangements (anti-friction, sleeve)
  - Shaft (dimensions, tapers, etc.)
  - Addition of complex accessories (proximity probes, tachometers, key phasors, ground brushes, coupling guards, etc.)
- Any change to the motor rating (HP, speed, voltage, frequency, etc.), enclosure type (WPII, TEWAC, TEAAC, TEFC, TEAO, etc.) will need to be requested with new pricing and lead time.

# Customer Services for ANEMA Motors

## Start-Up & Commissioning (United States Only)

**\$9,058.00**

- Price is based on (1) Motor at an allowance of 2 man-days on-site for startup and commissioning, and includes travel expenses. Additional man-days will be invoiced on a time & expense basis at Siemens Large Drive Technical Service Rate Schedule Motor Specialist Level 1. Please contact Siemens for additional pricing for multiple units.
- Work scope and travel hours are to be performed during straight time hours, Monday thru Friday, non-holidays, unless otherwise stated. Should work require alternate scheduling, additional charges will be made to cover overtime costs.
- Siemens assumes all equipment will be made available/accessible upon arrival of Siemens personnel. Delays due to circumstances beyond the control of the Siemens Industrial Services field personnel will be subject to additional billing.
- This proposal does not include site specific safety training and/or security badging. If required, additional charges may apply.
- A separate line item for Start-up & Commissioning is required to be added to the purchase order.

In order to achieve your equipment's best performance, Siemens offers the following additional Services:

- Spare Parts
- 24/7 Technical Support
- On-site Field Service
- ANEMA Motor Repairs (In-house or Siemens certified facility)
- Customized On-site Training
- Retrofits and Upgrades
- Service Agreements
- Motor Storage

If any of the services are required or for more details on these services, please contact the Siemens Technical Support Communication Center at 1-800-333-7421.

Please fax Service and Repair purchase orders directly to 513-841-3245.

### **Siemens MotorCare Supplemental Service Agreement for Extended Operational or Deferred Warranties:**

Please refer to the Siemens Supplemental Warranty Policy for AboveNEMA motors. The applicable Siemens Industry, Inc. Standard Terms and Conditions shall apply subject to the following modifications to validate the extended operational or deferred warranty.

An additional 12 months operational or deferred warranty period can be purchased per Table 1 as long as the following conditions are met. For longer warranty periods, please call (800) 333-7421 for additional pricing options.

Table 1 –Extended Operational or Deferred Warranty Period	
Jobsite Location	Adder per motor
NAFTA Region	7.5%
Outside NAFTA Region	Call (800) 333-7421
Minimum Billing	\$ 7,000

The pricing above will cover a Siemens or Siemens-authorized Service Specialist (including travel, meals and lodging costs) who will provide the following services. This inspection must take place within thirty (30) days prior to initial operation. Access to the motors must be given to the Siemens Service Specialist.

1. Thorough inspection of the motor to ascertain that said apparatus is in "as shipped" condition. This inspection (the "Extended Warranty Inspection") will include, but not be limited to, the following:
  - (a) Megger test of winding insulation;
  - (b) Internal inspection to determine that the winding has not been damaged and that the apparatus is clean and dry;
  - (c) Inspection of the bearings to determine that they have not been damaged by moisture in the oil reservoirs or bearing cavities;
  - (d) External inspection to determine that no damage has been done; and
  - (e) Review of the motor storage and maintenance records to ensure compliance with Company's requirements as stated in the applicable motor instruction, operation, and maintenance manual.

**If the motor(s) has (have) been in storage, the Purchaser shall also be obligated to provide Siemens with maintenance reports indicating that the motor(s) has (have) been maintained in accordance with Siemens storage procedures.**

2. Purchaser shall make any and all corrections which the Extended Warranty Inspection reveals to be needed to ensure that the motor is in "as shipped" condition. Any and all corrections that are required because of storage conditions shall be made at Purchaser's sole cost and expense.
3. Adjustable Frequency Drive Applications: Any application utilizing a motor operated by an adjustable frequency drive shall be reviewed and approved by Company prior to start-up. Failure to submit said application for Company's review and approval shall void the applicable Extended Warranty.
4. Please consult the applicable Siemens Industry, Inc. Standard Terms and Conditions of Sale for additional details about the warranty policy.



# Support Services

The following chart outlines for the various GH180 Drive Types the list prices for a fixed scope-of-work package for Startup/Commissioning and for FSR Travel Services.

Siemens Certified Field Service Representatives (FSR) perform all Startup/Commissioning.  
Siemens Service Project Managers (SPM) support each Startup/Commissioning service.  
Each site is supplied a Customer Pre-Commissioning Checklist determining site readiness and help minimize additional costs.

Request individualized quotes for other services like splitting startup/commissioning services, installation supervision, pre-startup or follow-up Customer site visits of FSR or SPM.

Scheduling requires four-weeks notice, any shorter notice may require Remote FSR assignment with additional charges applied.  
Any site delays due to reasons out of Siemens' control may also have additional charges applied. Siemens Customer Service (CS) requests separate line items on the purchase order for the onsite FSR startup labor services and the FSR travel expenses.

## Startup for 750 HP VFD Item 0001

Quantity	Description	Time
2	<b>Startup and Commissioning of VFD</b> <b>Startup Checklist Categories</b> <ul style="list-style-type: none"><li>- Installation Checks</li><li>- Control Interface Checks</li><li>- Drive / Motor Startup Checks</li><li>- Final Commissioning Checks</li></ul> <b>Package Pricing for one Drive only</b> <ul style="list-style-type: none"><li>- Based on 10 and/or 12 hour days</li><li>- Per Diem Living Expenses Included</li><li>- Travel included</li></ul>	<b>1-FSR 5 days onsite</b>
1	<b>Traveling and Living</b> <ul style="list-style-type: none"><li>- Includes Travel To-From Site based on 8 hour travel days</li><li>- Includes Airline Charges and Rental Car</li><li>- Per Diem Living Expenses Included</li></ul>	<b>Per FSR Trip</b>
1	<b>Potential Standby Day</b> <ul style="list-style-type: none"><li>- Based on FSR remaining in local area but not at site</li><li>- Based on 8 hour days w/Per Diem Living Expenses Included</li></ul>	<b>See Notes</b>

# Technical Service Agreement

## TECHNICAL SERVICE AGREEMENT (TSA)\*

When Start-up and Commissioning of VFD(s) is purchased, the Technical Service Agreement (TSA) services described below will be included for a period of one year from the date of start-up.

### PRIORITY TECHNICAL SUPPORT

Your SINAMICS PERFECT HARMONY GH180 Drive includes standard Technical Support services at no charge. Technical Support representatives provide assistance on issues pertaining to the operation, basic functionality and installation of our products. All support requests are handled in the order in which they are received, and the target response time for standard support is 2 hours.

The TSA includes the addition of our 24/7/365 Priority Technical Support. This enhanced support provides the following features:

- Move to the front of the line: your call moves to the front of the queue rather than being processed in the order it is received
- Priority response time target of 30 minutes or less during normal business hours (8:00 AM to 5:00 PM EST/EDT)
- Priority response time target of 60 minutes or less for calls outside of normal business hours

Priority Support Requests must be made via phone to the Siemens Industry Customer Care Center at 1-800-333-7421. Standard Support Requests can be made via the same number or on line at <http://www.siemens.com/automation/support-request>.

### DEDICATED SERVICE ADVISOR

A dedicated Service Advisor is included in the TSA for the purchased equipment. The Service Advisor provides consulting and guidance on all aspects of your covered equipment's lifecycle support and provides the connection between your company's staff and the Siemens global support organization. The Service Advisor ensures effective response and continuous communication on the status of all your requests, from design questions to maintenance and retrofit activity. The Service Advisor will conduct, via teleconference, a minimum of two meetings annually with your staff to review and assess the performance of covered equipment, provide information on current operation, maintenance and service recommendations and ensure satisfactory resolution of open questions or items. Additional meetings will be held as necessary based on customer need and site findings.

*Note: The above activities will be handled via teleconference. However, on-site visit(s) can be added to this program for an additional charge.*

### PREFERRED FIELD SERVICE REPRESENTATIVE (FSR) SELECTION

Field Service Representatives (FSRs) are normally assigned in the order in which the request is received. However, the SIEPRO TSA entitles you to Preferred FSR Selection where you can reserve the FSR of your choice, subject to availability, for any scheduled work on the covered equipment during the term of this agreement. A valid purchase order, or authorization to charge your Blanket Purchase Order (BPO) as described below, is required, and firm work dates must be issued at least eight weeks in advance of the desired dates to be eligible for Preferred FSR Selection.

### EXTENDED LABOR WARRANTY

The SIEPRO TSA extends the labor warranty for all services performed on the covered equipment from our standard 90 days to 12 months from the actual date the service is completed.

### REPAIR CENTER EVALUATION FEE WAIVER

Without a SIEPRO TSA, all items returned to our repair center for service require a purchase order for the evaluation fee before a Return Material Authorization (RMA) number is issued. The evaluation fee is determined based on the type of part and can range up to \$3000, and the fee is applicable even if you decide not to move forward with the repair or if no problem is found.

The SIEPRO TSA includes a waiver of all repair center evaluation fees for the covered equipment. It provides the benefit of an expedited repair process, and even if you decide not to move forward with the repair or if no problem is found, you still do not pay an evaluation fee. Repair services can easily be charged to your Blanket Purchase Order, as described below.

### BLANKET PURCHASE ORDER (BPO) - OPTIONAL

An optional feature of the SIEPRO TSA is the establishment of a Blanket Purchase Order (BPO) to allow for expedited processing of all service requests and deployment of an FSR or shipment of parts during after-hours or emergency situations.

# Comments & Clarifications to Specifications

## Applicable Specifications

No specifications have been taken into consideration; therefore we propose to supply the standard Siemens SINAMICS PERFECT HARMONY GH180 drive with features indicated in this proposal.

## General Comments

- Cabling between the VFD and motor, incoming power and motor cable termination lugs, as well as anchor bolts, are the responsibility of the purchaser.
- An upstream tripable device is required for the VFD to trip by means of a dry contact. Minimal device delay (i.e. relays) is preferred.
- The VFD is normally configured for top entry of aux power; bottom entry is also available upon request.
- The VFD is configured with 120 V AC / 24 V DC internal control. Unless agreed to prior to the order placement, customer control interface is 120 V AC input and output dry contact with 1 A max. rating.
- When the option for space heaters control is provided, the power source is by customer.
- One electronic copy of Siemens standard documentation will be provided within 4-6 weeks after shipment. Hard copies are available upon request but will result in a price adder.
- The typical drawings supplied with this proposal are for reference only and are not to be used for construction.
- Documentation and software will be to Siemens standard format unless expressly negotiated and entered as a separate line item on the purchase order.
- Equipment quoted has not been designed to be arc flash resistant. Siemens makes no claim of conformance to any arc flash requirements or specifications, as no standard exists for VFDs.
- Specifically not included in this proposal are: special crating, offloading at jobsite, storage, installation and testing equipment, foundations, anchor bolts, templates, system controls, external wiring, field testing, independent analysis, seismic calculations and video taping of seminars. NOTE: These items are the sole responsibility of the purchaser.
- Siemens Industry is acting as an equipment supplier only, not as a contractor or subcontractor. The listed specifications, (see Applicable Specifications of this proposal) are applicable only to the extent of the Siemens LD "Equipment Provider" scope of supply as described.
- If motor details are not supplied by the customer, then the drive will be sized according to industry standard motor power factor and efficiency performance data.
- Unless otherwise indicated, the drives are to be used for standard, on-shore, non-hazardous, industrial applications. Drive must be stored in a climate controlled indoor environment at all times.
- Unless specified by the customer, the drive and its accessories will be manufactured using parts and components per Siemens common practice and standard core design in effect at the time of manufacturing.
- In the event there is a change required to the scope of this project after the purchase order is received and accepted by Siemens, each change will need to be evaluated for its impact on schedule and price following the Siemens change order request and evaluation process. It is Siemens' recommendation that any change be communicated and finalized as soon as possible, but no later than two weeks after purchase order acceptance by Siemens so price and schedule impacts can be minimized. If changes are requested after the two-week period, the impacts could include, but are not limited to, price changes, cancellation charges for material on order and a change in the drawing submittal and shipping schedule because of holds placed on subcontractors and manufacturing. Siemens will make every effort to work with the customer to incorporate the desired changes. However, Siemens will not be responsible for additional pricing and delays due to these changes or liquidated damages, if applicable.
- Airflow switches are not provided for control of the redundant blowers, if supplied. Our established backup switchover control system has been reliable on all units and automatically changes over to the redundant fan in the event of a fan trip / failure.
- Spare parts can be purchased according to the enclosed list. If planning an order for the VFD and spares, please list the equipment and spare parts as two separate line items on the purchase order.
- Field service can be purchased according to the attached rate schedule. If planning an order for the VFD and service, please list the equipment and service as two separate line items on the purchase order.
- All drives are provided with mechanical keyed interlocks as a safety precaution by Siemens. An additional interlock is also provided to be installed on the upstream disconnect device should it not be provided as part of this order by Siemens. This interlock is to be

# Comments & Clarifications to Specifications

installed by the customer to maintain the safety precautions taken by Siemens. The interlocks provided by Siemens can only be removed if they are being replaced with mechanical keyed interlocks provided by others.

- The VFDs are provided with Siemens standard system operating procedure (SOP) and tested according to Siemens standard factory acceptance tests (FAT). The SOP and FAT are not specific to each customer application.
- Four digital inputs (DI) and 5 digital outputs (DO) have been assigned. The 4 DI are Remote Inhibit, Remote Start, Remote Stop, and Fault Reset. The 5 DO are Speed Demand in Local, Ready to Run, Drive Running, Drive Alarm, and Drive Faulted.
- If a customer specific SOP, FAT plan, and/or I/O are requested at order entry, then the drive will fall outside of the Fast Track program and will need to be re-quoted (both pricing and lead time) to include the required changes.
- If a customer specific SOP, FAT plan, and/or I/O are requested after the VFD has been shipped to site, please contact customer service at 1-800-333-7421 for pricing details on the required changes.
- The Purchaser of the VFDs is responsible for informing the End User of the above scope within which the drives are supplied.

## EXPORT COMPLIANCE CLAUSE

Purchaser acknowledges that Siemens Industry is required to comply with applicable export laws and regulations relating to the sale, exportation, transfer, assignment, disposal, and usage of the equipment / services provided under the contract, including any export license requirements. Purchaser agrees that such equipment / services shall not at any time directly or indirectly be used, exported, sold, transferred, assigned, or otherwise disposed of in a manner which will result in non-compliance with such applicable export laws and regulations. It shall be a condition of the continuing performance by Siemens Industry of its obligations hereunder that compliance with such export laws and regulations be maintained at all times.

## PURCHASER AGREES TO INDEMNIFY AND HOLD SIEMENS LD HARMLESS FROM ANY AND ALL COSTS, LIABILITIES, PENALTIES, SANCTIONS AND FINES RELATED TO NON-COMPLIANCE WITH APPLICABLE EXPORT LAWS AND REGULATIONS.

For routed shipments (Incoterms, EX works, or FCA), the buyer or buyer's forwarder is responsible for coordinating export of goods. Since this is the case, Siemens requires the following statement on the buyer letterhead signed:

"We undertake to determine any export license requirements, to obtain any export license or other official authorization, and to carry out any customs formalities for the export of goods received from you, our supplier. This certification remains in effect unless specifically revoked in writing."

## SOFTWARE

The Software "Perfect Harmony Drive Control – NXGPro", the Altera Software embedded in the Altera Devices, and the IntervalZero runtime software embedded within this control software are governed by the enclosed Siemens General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office Outside of Germany Status August 2011. Siemens hereby grants you a "Single License (One Off License, Copy License)" pursuant 2.1 of these conditions. Relating to the IntervalZero runtime software, the following terms apply additionally to the foregoing conditions. In case of any inconsistency or contradiction between the foregoing conditions and these terms, these terms shall prevail over the foregoing conditions.

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## DRAWINGS

Upon Siemens Industry acceptance of the Purchase Order, typical drawing submittal will be agreed upon per approval level attached at end of this proposal.

Motor drawings will be to Siemens standard format unless expressly negotiated and entered as a separate line item on the purchase order. The standard Siemens motor drawing package includes a) motor outline drawing, b) the calculated motor electrical performance data including speed vs. torque, speed vs. current, and thermal limit curves, and c) motor instruction manual, and d) Siemens standard commercial test report.

# Commercial Items

## MILESTONES / PAYMENT SCHEDULE

For orders less than \$250K, payment terms are 100% Net 30 Days from Date of Shipment.

For orders \$250K and greater, payment terms are:

Description	%	Planned Date	Notes
Upon Siemens Acceptance of PO	50	TBD	
Net 30 Days from Date of Shipment	50	TBD	

## CANCELLATION CHARGES

If order is cancelled after release to manufacture, then cancellation charges are 100%.



# Commercial Items

## SHIPMENTS

Shipment is contingent upon when an acceptable purchase order is received by Siemens LD USA, when drawings approval is completed and / or when the customer releases the job to start manufacturing the equipment.

Actual ship dates are subject to factory availability at the time the order is entered. Partial shipments shall be allowed.

Equipment	Freight Term	Delivery from Customer Release
VFD Item 0001	FCA, New Kensington, PA	8-10 working weeks from release to manufacturer
VFD Item 0002	FCA, New Kensington, PA	8-10 working weeks from release to manufacturer

### Note:

All equipment is domestically packed per Siemens standard practices with no freight or crafting unless otherwise stated. Also, freight is prepaid by Siemens and added to customer's invoice.

Freight prices, if quoted, are based on means of transport selected by Siemens. Special means of transport directed by customer purchase order will incur additional freight charges.

In the event that the customer's designated forwarder has not taken possession of the equipment within one week after Siemens notification that such equipment is ready for pick-up, the following additional fees will be assessed: a one-time fee of \$5,000 (to cover administrative costs) and a monthly charge of \$1,000 plus 1.5% of the equipment value (to cover storage fees and cost of capital).

Siemens requires the unpacking of the equipment at customer's destination, as well as, visual inspection by customer. Siemens requires that any claims for transportation damage be reported, in writing, within 5 business days from receipt at the named destination and/or title/risk transfer point per contractual INCO terms. Claim must include written documentation of the damage, as well as, supporting photographic evidence. Any claims issued after the 5 day period mentioned above will not be the responsibility of Siemens. Once equipment is received at named facility and inspection is completed, the equipment then becomes the responsibility of the customer which includes risk of any other damage or loss from that point forward until the equipment reaches its final destination.

## STORAGE

Provisions must be made by the receiving party for storage in a clean, dry, temperature controlled facility immediately after conducting a thorough receiving inspection. In the event purchaser is unable to accept shipment upon notification of Siemens readiness to ship, goods shall be placed in suitable storage by Siemens. Storage charges, escalation charges (if applicable), and any charges for re-inspection by Q.A., will be accrued to the account of purchaser.

Should the customer decide prior to or at the time of the scheduled ship date to have any equipment placed in storage, Siemens will provide the storage as requested at the customer's expense. Please note that once the drive is placed in the storage facility, the customer takes ownership of the drive and assumes risk of loss.

Attached is Siemens storage and handling guidelines. The customer is responsible to meet these conditions. If these conditions are not met, then the customer is responsible for all rework costs to bring the equipment to an acceptable level (as deemed by Siemens), and Siemens reserves the right to void the warranty if the customer chooses not to pay to repair the equipment.

## WARRANTY

Standard Warranty is 24 months from date of shipment for all air-cooled drives, or **60 months** when paired with Norwood motor.

Standard warranty includes all labor and expenses directly associated with the specific warranty issue for drives located in the continental US. Standard warranty includes all labor directly associated with the specific warranty issue for drives located outside the continental US. Warranty is limited to the value of the Siemens LD supplied equipment. For parts being returned to the Siemens Pittsburgh for repair, customer will only incur the cost of initial shipment back to Pittsburgh. This is to ensure the most expedited shipping process. Parts shipping back to the customer site are the responsibility of Siemens. RMA is still required for all parts returns. A purchase order will not be required unless item is determined not to be under warranty during initial inspection upon receipt in Pittsburgh.

If an extended warranty beyond Siemens standard is required, please consult the factory.

## TERMS AND CONDITIONS

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The standard Siemens Industry USA Standard Terms and Conditions of Sale apply to any purchase order resulting from this proposal unless other terms and conditions are specifically negotiated in written form and signed as acceptable by Siemens Industry. Please visit <http://www.industry.usa.siemens.com/topics/us/en/standard-tandc/Pages/terms-and-conditions.aspx> for details on Siemens Industry USA Standard Terms and Conditions of Sale (includes Product, Services, Joint, and Software).

**IN NO EVENT WILL CONSEQUENTIAL AND / OR LIQUIDATED DAMAGES BE ACCEPTED BY SIEMENS INDUSTRY.**

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# Service Rate Schedule

## LARGE DRIVES TECHNICAL SERVICE RATE SCHEDULE

Technical Service and Support: 1-800-333-7421

Prices are effective January 1, 2017 and supersede any previous Service Rate Schedules or Pricing Agreements and are subject to changes without notice. Standard Terms and Conditions of Siemens Service apply (SII CS Division General T&Cs).

Medium Voltage Drive Service Types	Standard Rates <sup>1</sup>	Low Voltage Drive Service Types	Standard Rates <sup>1</sup>	Motor Service Types	Standard Rates <sup>1</sup>
MVD Specialist — NAM (Technician Level 4)	\$266.00/hr	Lead Field Specialist (Technician Level 4)	\$266.00/hr	Motor Specialist — NAM (Technician Level 1)	\$232.00/hr
MVD Specialist — (Offshore) (Technician Level 4)	\$312.00/hr	<b>Service Project Management</b>	<b>Standard Rates<sup>1</sup></b>	Motor Specialist — (Off-shore) (Technician Level 4)	\$266.00/hr
Engineering Specialist (Technician Level 4)	\$347.00/hr	SPM Specialist (Technician Level 2)	\$266.00/hr		
<b>Other Charges/Adjustments for Special Conditions</b>					
Overtime Rate <sup>2</sup>		Standard Rate times 1.50			
Premium Time Rate <sup>3</sup>		Standard Rate times 2.00			
Travel Time Rate <sup>4</sup>		At applicable Rate for Day of Week			
Standby/On-Call/Holdover Time Rate <sup>5</sup>		At applicable Rate for Day of Week			
Travel & Living Expenses		Actual & Per Diem costs + 15%			
Mileage		\$.85/mile			

### Notes and Clarifications:

- Standard Rate** applies to all time worked or traveled during a normal eight hour workday. The normal eight-hour workday is defined as any consecutive eight-hour day shift period (Monday through Friday – Holidays excluded) between the hours of 7am and 7pm, with an allowance for lunchtime.
- Overtime Rate** applies to all work or travel time in excess of 8 hours per day on normal weekdays and up to 8 hours on Saturday.
- Premium Rate** applies to all work or travel time on Sundays and Holidays.
- Travel Time Rate** is based on portal-to-portal time for each Specialist per appropriate rate for weekday of travel. If site location circumstances require lodging to be obtained outside of a 50 mile radius of the site facility, charges for daily Travel Time To-From the site facility will be charged per the applicable rate schedule for the time and day of the travel.
- Standby, On-Call, and Holdover Time** provided at the Customer's request or due to circumstances beyond Siemens' control will be invoiced as work time per the applicable rate schedule for the time and day of the service.

**Travel & Living Expenses:** Expenses are not included in service work rates. Expenses include but are not limited to the following: Travel Expenses include air and ground transportation, permits, customs fees, mileage, parking fees, and tolls. Living expenses include lodging and meals based on the IRS General Services Administration Per Diem Rates defined for the city closest to the equipment location (<http://www.gsa.gov/portal/category/100120>). No additional lodging or meal receipts are available or will be supplied.

**Purchase Order:** A hard copy purchase order with terms and conditions of sale is required before dispatching of Specialist to the job site. Purchase Orders received require Siemens Financial and Contract Review approval prior to dispatching of Specialist. If a Customer has an active Blanket Purchase Order (BPO), dispatching can occur when the Customer responds with the required release documentation.

**Qualifications and/or Special Training:** Customer is responsible to notify Siemens prior to dispatching of Specialist of any Industry or Site specific qualifications or training. Customer will be invoiced for work hours, expenses, fees, and charges to meet these requirements.

**Special Administration Fee:** When a particular job requires special administration procedures, forms, invoicing, etc. to be supplied, an administration fee of 1% of order price or \$50.00 per hour (whichever is greater) may be charged for the administration time.

**Service Project Management (SPM):** SPM Specialist support and coordination of site services will be invoiced at the SPM Specialist Standard Rate.

**International Service Support:** For support and coordination of site services outside of the U.S.A. or U.S. waters, please contact your local Siemens Service Organization for proposal and dispatch coordination.

# Shipping, Handling, & Storage Requirements

This is high voltage electrical equipment with imbedded electronics. Due to the nature of the equipment, precautions must be taken to minimize the risk of exposure to water and moisture.

While Siemens references IEC 60721-3-2 2M1 standards, the equipment is designed for ocean transport. Siemens equipment meets all 2M2 conditions except free fall and pitch and roll.

Climatic conditions for transport follow IEC 60721-3-2 2K2. Low air temperature is -25° C and high temperature (unventilated) is +60° C. The guidelines are based on a maximum transit time of eight weeks.

## Truck Transport

1. Where available, air ride trailers are required.
2. If uncrated, completely cover in plastic (minimum 4 mil) and stretch wrap seal around the sides.
3. Use full length tarps to completely cover the load (crated or uncrated)
4. If securing over the top of uncrated cabinets, positioning of the straps should be toward the four corners of the shipping split to prevent bending.
5. If using chains through the fork pockets, chain protectors should be used to minimize damage to the finish/paint.

## Ocean Transport

1. Follow the above guidelines for transport to and from the port.
2. Large crates are not stackable.
3. Cargo shipping via open top container, flat rack, mafi, or breakbulk must be stowed below deck.
4. The crates cannot be breached or altered when securing.

**Rail Transport** (Siemens should be notified prior to the design phase if rail transport will be used).

1. Crates should be fully tarped while in transit.

## Handling

1. Lifting and handling equipment is not provided by Siemens.
2. If a Fork Lift Truck is used, the customer assumes all responsibilities for subsequent damages. Refer to the product manual for additional guidelines.
3. For uncrated cabinets, follow the lifting guidelines posted on the cabinets.
4. For crated pieces, follow the lifting marks and notations marked on the crates. (notations may include: spreader bar required)
5. Siemens may require periodic inspections of equipment in storage.

## Variable Frequency Drive Storage Requirements

AFTER THE INITIAL INSPECTION, THE EQUIPMENT SHOULD BE PROPERLY MOVED TO ITS FINAL POSITION OR TO A DRY, INDOOR STORAGE AREA.

- Climatic conditions for storage follow IEC 60721-3-1 1K2. Low air temperature is +5° C and high temperature (unventilated) is +40° C.
- Avoid Exposure to corrosive gasses particularly, but not exclusively, hydrogen sulfide and Chlorine.
- Avoid exposure to excessive moisture, i.e. relative humidity greater than 95% steam and condensation.
- Avoid Exposure to conductive dust such as coal dust, metal dust, etc.
- Avoid exposure to abrasive dust, oil vapor, explosive mixtures, explosive gases and salt air.
- Avoid exposure to vibration, shocks, or tilting as it may result in the early failure of components. All Siemens Industry, Inc drives have been designed to withstand shocks/vibrations to a displacement amplitude of 1.5 MM (2 to 9Hz), an acceleration amplitude of 5 M/S<sup>2</sup> (9 to 200 Hz) and a shock response value of 40 M/S<sup>2</sup>.
- Avoid exposure to magnetic fields, nuclear radiation and high levels of FRI from communication transmitters
- No condensation is permitted.
- Drives must be completely clean and dry before commissioning.

FAILURE TO FOLLOW THESE GUIDELINES WILL VOID YOUR SIEMENS INDUSTRY, INC. WARRANTY COVERAGE. IF UNSURE OF THE REQUIREMENTS, CONTACT SIEMENS INDUSTRY, INC.



WESCO Distribution, Inc. terms and conditions apply.

## Sales Quote No.:

Proposal No.: SNP01653-UlreKR

Project Name/Location: Lyons Ferry Straw Pulp Plant

Factory No.: AGT631890 Rev. 1

End User: Columbia Pulp

## Summary of Motor Ratings

Item	1	6
<b>Motor-Title</b>	Refiner Motors NEMA MG1 Part 31 compliant	Refiner Motors Filtered VFD operation
<b>Quantity</b>	2	2
<b>Orientation</b>	Horizontal	Horizontal
<b>Mounting</b>	Foot	Foot
<b>Enclosure</b>	TEFC (IP54)	TEFC (IP54)
<b>Power</b>	750HP	750HP
<b>RPM</b>	720	720
<b>Ph/Hz/Voltage</b>	3/48/4000	3/48/4000
<b>S.F.</b>	1.15	1.15
<b>Temp. Rise C/By/At</b>	80/Res/1.0	80/Res/1.0
<b>Estimated Frame</b>	880S	SH450
<b>Rotor Construction</b>	Copper	Copper
<b>Stator Winding</b>	Form	Form
<b>Bearing</b>	Anti-Friction	Anti-Friction
<b>Bearing Lubrication</b>	Grease	Grease
<b>DBA*</b>	85	85

<b>Category</b>	3	2
<b>Total Lead Time in Weeks**</b> (add 3 weeks if ordered as HFDA)	26	19

### Software Package

<b>Lead Time in Weeks**</b>	7	4
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NEW – Optional Start-Up & Commissioning price per motor is \$9,058.

Details are located in the Customer Services ANEMA Motors Section (United States Only)

*\*DBA is typical sound pressure level at 1 meter, no load, free field on sine wave input. For guaranteed level at no load, add 2 DBA.*

**\*\*Total Lead Time is for the first motor, exclusive of any options, and includes the Software Package Lead Time unless the order is Hold for Drawing Approval (HFDA). Refer to Lead Time Details and Documentation section for additional information.**

**Progress Payments apply on orders over \$500,000. Refer to Commercial Terms section for Terms of Payment and for Shipment Terms & Packaging.**

**Proposal Validity:** This proposal is valid for 90 days.

## Sales Quote No.:

Proposal No.: SNP01653-UIreKR  
 Factory No.: AGT631890 Rev. 1

Project Name/Location: Lyons Ferry Straw Pulp Plant  
 End User: Columbia Pulp

## Motor Details

**Service Conditions:**

Ambient Range From 0 deg. C to 40 deg. C  
 Altitude 3300 Feet Max.  
 Non-hazardous, Non-classified Area

**Shared Features:**

L27 Bearing: NDE Bearing Insulated  
 R45 Miscellaneous: 300 Series Stainless Steel Hardware  
 S09 Miscellaneous: C5 Coreplate  
 R40 Miscellaneous: Space Heaters 120V/240V low surf. temp. 200 deg. C  
 R86 Paint: Standard 2-Part Epoxy Finish, standard color Motor Blue (Munsell 8.3B 3.54/1.9)  
 S05 Stator: Class F VPI insulation  
 R16 Stator: Stator Thermostats, (2) Klixons, Normally Closed (NC) Contacts  
 Q10I Technical/Commercial: Standard Warranty - 24 months from date of manufacture  
 S48 TEFC Feature: Aluminum Fan  
 U93 Terminal Box - Main: Ground Lug  
 U74 Terminal Box - Main: NEMA 4X and IP55 equivalent  
 U79 Terminal Box - Main: NEMA Type I, Cast Iron (CI2 - 2620 cu.in. volume)  
 ----- Test/Inspection: Routine Test

**Additional Feature(s) For Item 1**

----- Stator Insulation Compliant with NEMA MG-1 Part 31  
 ----- Suitable for VFD Duty. Expected operation is constant HP between 600 & 900 rpm.

**Additional Feature(s) For Item 6**

----- Suitable for filtered VFD producing dv/dt (sine) wave. Expected operation is constant HP between 600 & 900 rpm.

Optional Features				
Optional Features are not included in motor price, add as required. Prices indicated are net each motor.				
Option Code	Description	Price	Additional Lead Time in Weeks	For Line Item(s)
R79	Bearing RTDs (2) 100 Ohm Platinum (0.00385 TCR) DIN Std, single-element, 3-wire, 1/brg, Stick	\$1,267		1, 6
R65	Stator RTDs (6) 100 Ohm Platinum DIN Standard, 2/phase, 3-wire	\$686		1, 6



## Sales Quote No.:

Proposal No.: SNP01653-UIreKR

Project Name/Location: Lyons Ferry Straw Pulp Plant

Factory No.: AGT631890 Rev. 1

End User: Columbia Pulp

## Comments and Clarifications

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List of Applicable Specifications. Only specifications listed on this quote are considered in scope of motor supply and therefore, Siemens hereby disclaims any and all specifications including specifications within listed specifications, not listed under an applicable specification section as referenced herein.

- Allnorth Motor Spec 15NA0050-14S43-001, dated Oct 27, 2017

Comments and Clarifications to Inquiry:

General

1. Per customer input, motor is designed to drive a single-disc refiner which will operate between 600 and 900rpm and require 750HP through that range.
2. Motor intended for VFD operation only, no bypass.
3. Motor data, including temperature rise and sound level, are based on 60 hz sine wave input power.
4. Extended Warranty Terms are under the Commercial Terms section located elsewhere in this proposal.
5. **For Item 6:** Motor is designed with standard 4200V phase to phase stator insulation and 2400V phase to ground insulation and (1) insulated bearing. The VFD should be design and supplied with a filtered output to minimize inherent voltage spike and common mode voltage. The VFD vendor needs to confirm their offering is suitable with this proposed motor.

Allnorth Motor Spec 15NA0050-14S43-001, dated Oct 27, 2017

1. **For Item 6:** Para 2.1.5 - Motor quoted with standard 4200V class insulation as it is part of a Siemens motor-drive package for which special insulation is not necessary and adds unnecessary cost and possibly increase the frames size.
2. Para 2.1.2 - Motor quoted with bearing RTDs, however, thermocouples can be supplied for the same price, as long as this is clarified no later than at order entry.

## Sales Quote No.:

Proposal No.: SNP01653-UIreKR

Project Name/Location: Lyons Ferry Straw Pulp Plant

Factory No.: AGT631890 Rev. 1

End User: Columbia Pulp

## Commercial Terms

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**Price Policy Clause:** Prices are firm for our quoted lead time if the order is placed within the Proposal Validity period. For customer shipment requests beyond our quoted lead time or customer-initiated delays, price escalation at the rate of one-half percent (1/2%) per month shall apply through the shipment date. Orders which are held for drawing approval (HFDA) in excess of 6 months may be subject to a price increase.

**Terms and Conditions (including Warranty):**

Siemens Standard Terms and Conditions of Sale for Products (July 1, 2016) are attached hereto, are incorporated by reference, and shall apply, except to the extent that this proposal contains a contrary term or condition, in which case the term specified in the proposal shall govern. Company hereby objects to any additional or different terms set forth in Purchaser's request for proposal, specifications, purchase order, or any other document of Purchaser. Acceptance of additional or different terms must be specifically assented to in writing by Company.

Unless otherwise stated in this proposal, all Norwood-built, AboveNEMA motors have a 24 month warranty from date of manufacture. Please refer to Siemens AboveNEMA Motors Supplemental Warranty Policy (7/1/2011) for details. For extended or deferred warranty periods, please refer to Siemens MotorCare Service Agreement.

In the event that Siemens has completed the Goods in compliance with this Agreement, and shipment is delayed by Customer for any reason, including but not limited to Customer's late submission of a Change Order, Customer's failure to timely inspect the Goods, Customer's failure to supply necessary components (i.e. couplings), Customer's inability to provide a suitable carrier vehicle to transport the Goods if the Customer is routing the shipment or if the Customer is unable to accept shipment, Siemens will invoice Customer and transfer the title of the Goods to Customer, and Customer agrees to pay such invoice in accordance with the payment terms herein.

**Extended Warranty Terms**

Siemens Industry, Inc. Standard Warranty Terms and Conditions of Sale shall apply subject to the following modification:

Company's total warranty period shall be a period of the number of months from the date of manufacture. The Extended Warranty shall be valid only if Purchaser complies with each and every one of the following conditions:

1. Within thirty (30) days prior to initial operation, and again during the 13th and 25th month of operation (if motor is still within the extended warranty period), Purchaser shall hire a Company Service Engineer (at Company's standard rates) to thoroughly inspect the apparatus to ascertain that said apparatus is in 'as shipped' condition. This inspection (the 'Extended Warranty Inspection') will include, but not be limited to, the following: (a) megger test of winding insulation, (b) internal inspection to determine that the winding has not been damaged and that the apparatus is clean and dry, (c) inspection of the bearings to determine that they have not been damaged by moisture in the oil reservoirs or bearing cavities; (d) external inspection to determine that no damage has been done, and (e) review of the motor storage and maintenance records to ensure compliance with Company's requirements as stated in the applicable motor instruction, operation, and maintenance manual.

Purchaser shall also be obligated to hire a Company Service Engineer to perform an Extended Warranty Inspection during the 19th and 31st months of storage if the motor has yet to be put into service at that time and if the motor is still within the extended warranty period.

2. Purchaser shall make any and all corrections which the Extended Warranty Inspection reveals to be needed because the apparatus has been in storage or standing idle. Any and all corrections that are required because of storage conditions shall be made at Purchaser's sole cost and expense.

3. Adjustable Frequency Drive Applications: Any application utilizing a motor operated by an adjustable frequency drive shall be reviewed and approved by Company prior to start-up. Failure to submit said application for Company's review and approval shall void the applicable Extended Warranty.

**Terms of Payment:** 30 Days Net for all invoices. Progress Payments are required for any given individual order or the sum of orders for a project with a total value of \$500,000 USD or greater as follows: 10% on drawing submittal, 40% when 50% of lead time is reached, and 50% net 30 days on shipment. Purchase Orders entered by any customer affiliate located outside the US may require an irrevocable letter of credit which will be used for progress billing and final invoicing.

**Shipment Terms & Packaging:** Standard Shipment Terms are FCA Loaded, Norwood, OH factory, freight collect with our standard domestic packaging only. Contact factory for other Incoterms.

**Sales Quote No.:****Proposal No.:** SNP01653-UIreKR**Project Name/Location:** Lyons Ferry Straw Pulp Plant**Factory No.:** AGT631890 **Rev. 1****End User:** Columbia Pulp**Proposal Validity:** This proposal is valid for 90 days.**Norwood Customer Inspection Policy:**

- Pre-award meetings and pre-manufacturing release meetings (including specification reviews) are offered at the Norwood, Ohio facility no charge to its customers.
- Plant tours and on-site schedule reviews are offered at no charge to its customers.
- Surface inspection of a finished motor is offered at no additional charge when scheduled at least 8 weeks prior to shipment. Add 5 working days to the quoted lead time or scheduled shipment date if this option is required. Inspections requests initiated within 8 weeks prior to shipment are offered for \$500 USD per inspection. In the event of the motor(s) being finished, but an inspector is not available within 5 working days, Siemens reserves the option to cancel the inspection and proceed to ship the motor(s).
- Component or material inspections on motor content are \$1,500 USD + 5 additional working days per inspection.
- Witnessing of a manufacturing procedure (i.e. final assembly, shaft machining) is \$1,500 USD per day + 5 additional working days per inspection period.

**Note:** Customer travel expenses are not paid for by Siemens Norwood.**Other Terms:** All prices in this proposal are in U.S. Dollars and exclude any taxes.

Siemens standard ISO 9001-2000 approved quality assurance system shall apply.

Motors are designed to applicable sections of IEEE and NEMA standards.

# Lead Time Details and Documentation

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## I. Lead Time

- Lead Time does not begin until the factory has received all required technical and commercial information and complete release to manufacture. This may involve clarification of any technical or commercial discrepancies between the proposal and purchase order including Hold for Drawing Approval orders.
- Lead Time is subject to prior sale and availability of factory loading at time of order.
- Production is not scheduled during factory shut-downs, which are typically the first week in July, the week of Thanksgiving, and the week between Christmas and New Year's. Add 1 to 3 weeks to the above lead time if the order period contains a shut down.
- Lead Time does not include any transit time.
- Lead Time does not include time for preparation, review and return of approval drawings, if required. Hold for Drawing Approval must be indicated on the purchase order at the time of order.
- Lead Time does not include optional items which may require additional time (e.g. witness testing, hold points, optional features which increase the motor Category number, etc.)
- Lead Times are for the shipment of the first unit for all frames, except 500 or 580 frames that are Category 1 or 2, which are valid for up to 3 pieces total between the two frames. Consult the factory for Lead Time confirmation for all other quantities, Categories and frames.

## II. Software and Documentation

Software will be in our standard format and submitted electronically in the medium indicated unless expressly negotiated and entered as a separate line item on the purchase order. Our standard software package includes the following in \*.pdf format.

- a) Motor outline drawing
- b) The calculated motor electrical performance data including speed vs. torque, speed vs. current, and thermal limit curves
- c) Motor instruction manual
- d) Our standard commercial test report

<b>Additional Software Lead Time Factors</b>	<b>Calendar Weeks</b>
PDF Dimensional Print with Cert. Block	Available upon request only
CAD Dimensional Print <sup>(1)</sup>	Available upon request only
Paper Submittal in Lieu of Electronic	1
Customer-specific Data Sheet Complete	1
Shaft Torsional Data / Drawing	1
Drawing Changes <sup>(2)</sup>	2

### NOTES:

- (1) The standard CAD format is Native UniGraphics (\*.prt). AutoCAD (\*.dwg) is also available. Please indicate the specific format required on the order.
- (2) The lead time for drawing changes is dependent upon the complexity of the change. However, most drawing changes can be re-submitted within 10 working days. There will be additional charges for production-order drawing changes.

## III. Hold For Drawing Approval (HFDA) Process Details

- Software will be submitted in the lead time mentioned on the Summary of Motor Ratings page.
- Lead time is subject to the approval drawings/software being returned in 3 weeks from when they were sent out. If they are not submitted within the 3 week time period, the original ship date will be lost. The new ship date will be based on factory loading at the time of the revised release.
- Options for drawing/software approval and acceptance:
  - Release order to production with no changes. Original ship date is held and confirmed.
  - Release order to production with "minor" changes. Original ship date is held and confirmed. Additional charges may apply. (Minor changes – direction of rotation, paint color, F1/F2 box location,
  - Release order to production with "major" changes. Original ship date is no longer valid. Requested changes will be quoted with price and lead time impact. With customer acceptance, a new ship date will be determined and confirmed.
  - Cancel order – A charge of 15% of the order value could be invoiced.
  - Request changes (minor or major) and leave order on HFDA. Original ship date is lost. Requested changes will be quoted with price and lead time for a new drawing/software submittal.
- "Minor" changes may include the following:
  - Direction of rotation

# Lead Time Details and Documentation

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- F1/F2 terminal box location

- Addition of simple accessories (space heaters, stator or bearing RTDs, RTD shielding, velometers or accelerometers)
  - Paint color
  - Separation of auxiliary boxes
  - Addition of flood lube or constant level oilers
- "Major" changes may include the following:
  - Motor performance (torque values, efficiency, power factor, locked rotor current, starting conditions)
  - Rotor construction (aluminum diecast or copper)
  - Bearing arrangements (anti-friction, sleeve)
  - Shaft (dimensions, tapers, etc.)
  - Addition of complex accessories (proximity probes, tachometers, key phasors, ground brushes, coupling guards, etc.)
- Any change to the motor rating (HP, speed, voltage, frequency, etc.), enclosure type (WPIL, TEWAC, TEAAC, TEFC, TEAO, etc.) will need to be requested with new pricing and lead time.

# Purchase Order Requirements Checklist

When submitting your purchase order for the products in this quotation, please be sure to include the following information and ensure that it matches this offer:

✓	<b>Information</b>
	<b>Commercial Terms</b>
	1. Purchase Order commercial terms per the most current Siemens quote
	2. Applicable Siemens quote is referenced in the Purchase Order
	3. Ship-To location
	4. Net Price: With optional adders, i.e. Accessories and additional testing
	5. Quantity
	6. Payment Terms
	7. INCO / Shipment Terms
	8. Requested Ship date
	9. State if order is Hold For Drawing Approval (HFDA). Note that lead time starts after drawings are approved
	<b>Technical Terms</b>
	10. Direction of motor rotation ( CW or CCW facing shaft extension)
	11. Main Terminal box and Accessory Box Location (Left side F-1 or Right side F-2 facing shaft extension)
	12. Starting Condition Load Curve (Starting Curve required if less than 90% voltage start with WK2) or if Auto transformer or VFD start
	13. Identify Application /Driven equipment
	14. All referenced specifications & Siemens quoted exceptions. Please note that any additional specifications that are added to the purchase order that were not included in this offer may result in a delay of processing the order.
	15. Details on any supplied material (i.e. Couplings, Sheaves or Bushing)
	16. Shaft requirements (i.e. template for tapered shafts, Keyless shaft, special shaft dimensions required)
	17. If duplicate of previous order, specify what must stay the same: Form = Mounting & box dimensions; Fit = Shape and size; interface points; Function = nameplate performance

# Customer Services for ANEMA Motors

## Start-Up & Commissioning (United States Only)

**\$9,058.00**

- Price is based on (1) Motor at an allowance of 2 man-days on-site for startup and commissioning, and includes travel expenses. Additional man-days will be invoiced on a time & expense basis at Siemens Large Drive Technical Service Rate Schedule Motor Specialist Level 1. Please contact Siemens for additional pricing for multiple units.
- Work scope and travel hours are to be performed during straight time hours, Monday thru Friday, non-holidays, unless otherwise stated. Should work require alternate scheduling, additional charges will be made to cover overtime costs.
- Siemens assumes all equipment will be made available/accessible upon arrival of Siemens personnel. Delays due to circumstances beyond the control of the Siemens Industrial Services field personnel will be subject to additional billing.
- This proposal does not include site specific safety training and/or security badging. If required, additional charges may apply.
- A separate line item for Start-up & Commissioning is required to be added to the purchase order.

In order to achieve your equipment's best performance, Siemens offers the following additional Services:

- Spare Parts
- 24/7 Technical Support
- On-site Field Service
- ANEMA Motor Repairs (In-house or Siemens certified facility)
- Customized On-site Training
- Retrofits and Upgrades
- Service Agreements
- Motor Storage

If any of the services are required or for more details on these services, please contact the Siemens Technical Support Communication Center at 1-800-333-7421.

Please fax Service and Repair purchase orders directly to 513-841-3245.

### **Siemens MotorCare Supplemental Service Agreement for Extended Operational or Deferred Warranties:**

Please refer to the Siemens Supplemental Warranty Policy for AboveNEMA motors. The applicable Siemens Industry, Inc. Standard Terms and Conditions shall apply subject to the following modifications to validate the extended operational or deferred warranty.

An additional 12 months operational or deferred warranty period can be purchased per Table 1 as long as the following conditions are met. For longer warranty periods, please call (800) 333-7421 for additional pricing options.

Table 1 –Extended Operational or Deferred Warranty Period	
Jobsite Location	Adder per motor
NAFTA Region	7.5%
Outside NAFTA Region	Call (800) 333-7421
Minimum Billing	\$ 7,000

The pricing above will cover a Siemens or Siemens-authorized Service Specialist (including travel, meals and lodging costs) who will provide the following services. This inspection must take place within thirty (30) days prior to initial operation. Access to the motors must be given to the Siemens Service Specialist.

1. Thorough inspection of the motor to ascertain that said apparatus is in "as shipped" condition. This inspection (the "Extended Warranty Inspection") will include, but not be limited to, the following:
  - (a) Megger test of winding insulation;
  - (b) Internal inspection to determine that the winding has not been damaged and that the apparatus is clean and dry;
  - (c) Inspection of the bearings to determine that they have not been damaged by moisture in the oil reservoirs or bearing cavities;
  - (d) External inspection to determine that no damage has been done; and
  - (e) Review of the motor storage and maintenance records to ensure compliance with Company's requirements as stated in the applicable motor instruction, operation, and maintenance manual.

**If the motor(s) has (have) been in storage, the Purchaser shall also be obligated to provide Siemens with maintenance reports indicating that the motor(s) has (have) been maintained in accordance with Siemens storage procedures.**

2. Purchaser shall make any and all corrections which the Extended Warranty Inspection reveals to be needed to ensure that the motor is in "as shipped" condition. Any and all corrections that are required because of storage conditions shall be made at Purchaser's sole cost and expense.
3. Adjustable Frequency Drive Applications: Any application utilizing a motor operated by an adjustable frequency drive shall be reviewed and approved by Company prior to start-up. Failure to submit said application for Company's review and approval shall void the applicable Extended Warranty.
4. Please consult the applicable Siemens Industry, Inc. Standard Terms and Conditions of Sale for additional details about the warranty policy.

## INDUCTION MOTOR DATA

Siemens Industry, Inc.  
Norwood, Ohio

Customer : NORTHWEST MOTOR SERVICES  
Quote Number : AGT631980  
Revision : AB

### SPECIFIED REQUIREMENTS

Horsepower : 750  
Service Factor : 1.15  
Voltage : 4160  
Number of Phases : 3  
Corner Frequency, hertz : 48  
Ambient, °C : 40  
Enclosure : TEFC  
Synchronous Speed, RPM : 720  
Percent Starting Voltage : 90  
Maximum Elevation (ft) : 3300

### FRAME DATA

Frame : SH450  
Type : CGZ  
Rotor Construction : Fabricated Copper Bar  
Load Inertia (wk2), lb-ft2 : -  
Rotor Inertia (wk2), lb-ft2 : 1580  
Rotor Weight, lbs : 3792 (approximate)  
Motor Weight, lbs : 13600 (approximate)  
Insulation Class : F-VPI  
Bearing Type : Anti-Friction

### PERFORMANCE DATA @ CORNER FREQUENCY

Full Load Speed, RPM :	716	Full Load Torque, lb-ft :	5501
Current, Amps :	113	Starting Torque, %FLT :	121
Locked Rotor Current, %FLA :	743	Breakdown Torque, %FLT :	292
kVA/Hp :	8.07	NEMA Design :	-
kVA Code :	K		

	0.25 <u>Load</u>	0.50 <u>Load</u>	0.75 <u>Load</u>	Full <u>Load</u>	1.15 <u>Load</u>	No <u>Load</u>	Locked <u>Rotor</u>
Percent Efficiency :	89.7	93.6	94.5	94.7	94.6	N/A	N/A
Percent Power Factor :	31.7	52.9	65.5	72.5	75.1	3.3	19.2
Current, Amps :	68.3	78.4	94.1	113.1	125.7	60.6	840

	<u>100</u>	<u>90</u>	<u>% Voltage</u>
Safe Stalled Time, Motor Hot :	24	33	Seconds
Safe Stalled Time, Motor Cold :	29	38	Seconds
Acceleration Time :	-	-	Seconds

Time Constants : 0.803 Seconds Open Circuit  
0.064 Seconds Short Circuit (AC)  
X/R Ratio : 14.641

Frequency (Hz)	Voltage (V)	Current (A)	Torque (lb-ft)	Breakdown Torque (lb-ft)
40	3467	130	6620	16086
60	4160	106	4406	10221

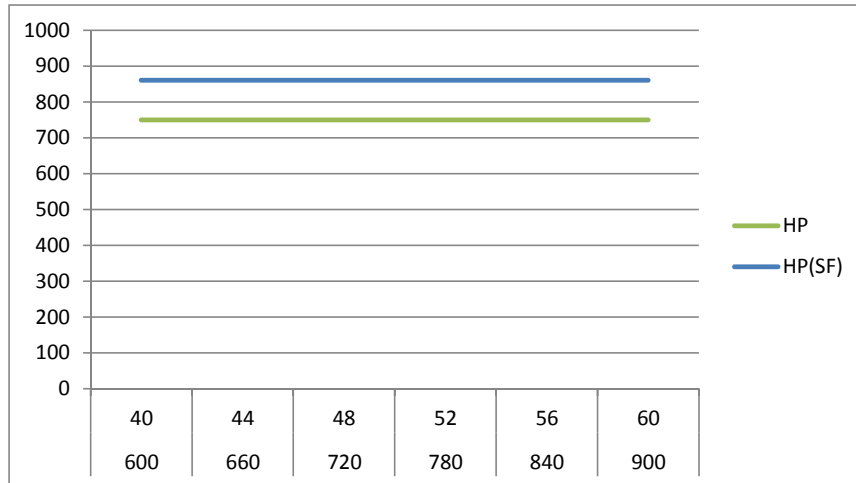
Prepared by M NORDMEYER on 11/21/17

Please Note : 1. Guaranteed values are indicated in (GUAR).  
2. VFD Operation 40 To 60 Hz Constant Power

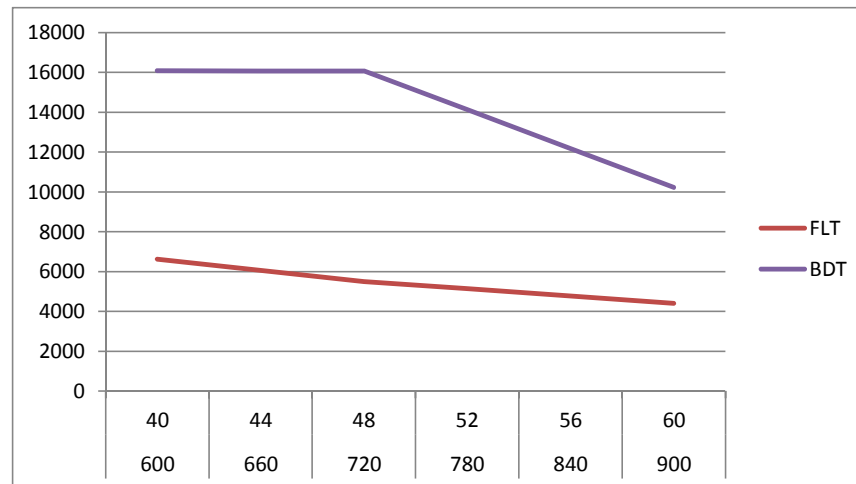


# AGT631890: 750HP SH450 for refiner service

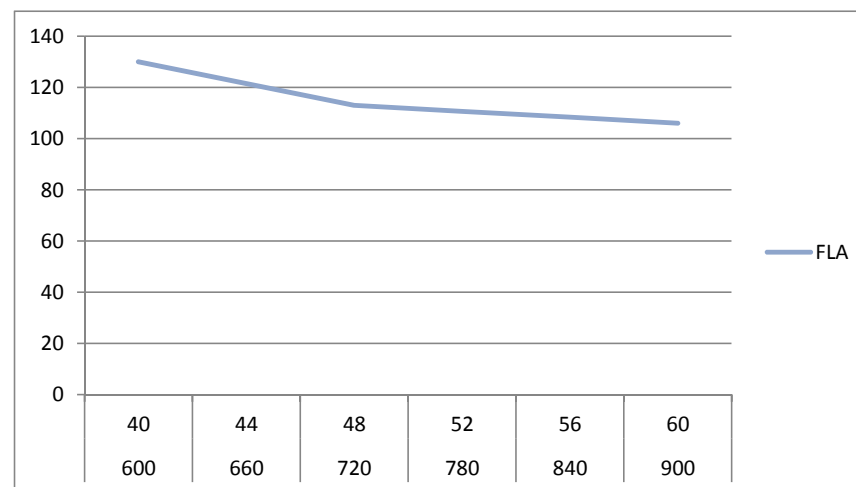
HP vs. freq & speed



Torque vs. freq & speed



Current vs. freq & speed



Motor can operate at 15% over rated power indefinitely  
(temperatures will approach Class F as opposed to Class B rise)

Motor can operate up to BDT level for brief <1min excursions ~every 10 min

Torques exceeding BD will cause motor to stall. Stall conditions exceeding Safe Stall Times will result in physical motor damage.

**1. WESCO'S Terms and Conditions Control the Agreement.**

A. These terms and conditions are incorporated into and made a part of the agreement or proposal ("Agreement") by WESCO Distribution, Inc. and any of its domestic subsidiaries, unincorporated divisions or affiliates ("WESCO") to sell to the named Buyer the goods referenced on the face of this document ("Goods") and services (including, without limitation, any material management, assembly and kitting services, and engineering and design services (whether performed by WESCO or a subcontractor)) referenced on the face of this document ("Services"). The Agreement expressly limits Buyer's acceptance to these terms and conditions. Buyer may reject the Agreement by not ordering or receiving any Goods or Services. The Agreement does not constitute an acceptance by WESCO of any offer or counteroffer of Buyer, and WESCO hereby rejects any additional, different, or inconsistent terms, conditions or limitations contained in or incorporated by reference in any forms, purchase orders or other documents of Buyer that already have been or hereafter may be presented to WESCO with respect to the Agreement.

B. If Buyer has submitted or will submit additional and/or different terms and conditions to WESCO, or submit a counteroffer to WESCO, WESCO's subsequent performance will not be construed as either acceptance of Buyer's additional and/or different terms and conditions or Buyer's counteroffer, nor will WESCO's subsequent performance be viewed as a willingness to accept any provision of the Uniform Commercial Code, as adopted by any State or Commonwealth, that is contrary or in addition to any of the terms and conditions hereof.

**2. Prices.**

A. Unless otherwise agreed to by WESCO in writing, WESCO's prices for the Goods and Services will be the prices stated on the face of this document or WESCO's standard prices for such Goods and Services as of the date hereof, provided that, where standard prices for Goods in the quantities ordered as calculated by WESCO extend beyond two decimal places, WESCO shall round such prices for Goods to the nearest two decimal places for purposes of determining Buyer's payment obligation with respect to such Goods; provided, however, that WESCO may change the price for the Goods and Services in accordance with any change to its standard pricing for such Goods and Services prior to the date of shipment of Goods or performance of Services, as the case may be.

B. The prices of any and all Goods and Services shall be confidential, and Buyer shall not disclose such prices to any unrelated third party. WESCO and Buyer acknowledge and agree that money damages for any and all breaches of Buyer's obligation not to disclose the price of any Goods or Services is both incalculable and insufficient and that any such breach would irreparably harm WESCO. Therefore, in the event of an actual or prospective breach of the obligation of Buyer not to disclose the prices of any Goods and Services, WESCO shall be entitled to a permanent and/or a preliminary injunction to prevent or remedy such breach and shall have the right to specific enforcement of this Agreement against Buyer in addition to any other remedies to which WESCO may be entitled at law or in equity.

**3. Specifications.** Unless WESCO has expressly agreed otherwise in writing, it is Buyer's responsibility to ensure that the Goods and Services are the ones that it has requested and that all specifications and quantities are correct. **WESCO HEREBY EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES THAT GOODS AND SERVICES CONFORM TO ANY SPECIFICATIONS, DRAWINGS, DESIGNS, OR SAMPLES.**

**4. Shipment of Goods; Performance of Services.**

A. Shipment of all Goods shall be made F.O.B. point of shipment (Ex Works WESCO's facility per INCOTERMS 2000 for international shipments). Buyer shall bear the risk of loss and damage to Goods after delivery to the point of shipment.

B. Any shipping dates for Goods or performance dates for Services given in advance of actual shipment of Goods or performance of Services are WESCO's best estimates for informational purposes only, and deliveries of Goods and performance of Services will be made subject to prior orders on file with WESCO. Unless otherwise agreed to by WESCO in writing, WESCO may, in its sole discretion, use any commercial carriers for shipment of the Goods. WESCO will use its reasonable efforts to comply with Buyer's requests as to method and route of transportation, but WESCO reserves the right to use an alternate method or route of transportation, whether or not at a higher rate.

C. Unless otherwise agreed to by WESCO in writing, Buyer will pay all insurance costs in connection with delivery of the Goods, if any, and be responsible for filing and pursuing claims with carriers for loss of, or damage to, Goods in transit.

D. Buyer is responsible for obtaining at its sole cost and expense any and all necessary licenses and permits for the Goods and Services, including, without limitation, any licenses and permits for transportation.

E. If Buyer is unable to receive the Goods when they are tendered, Buyer will be liable to WESCO for any losses, damages, or additional expenses incurred or suffered by WESCO as a result of Buyer's inability to receive the Goods.

F. Buyer immediately will inspect all Goods upon its receipt of them and will be deemed to accept the Goods upon receipt. Any claims for shortages or discrepancies will be waived by Buyer unless made in writing to WESCO within five days of receipt of the Goods.

G. WESCO may cancel in whole or in part any order for Goods or Services under the Agreement at any time.

H. Until Buyer has fully and finally paid all amounts owed to WESCO for any Goods, Buyer shall hold such Goods in trust for WESCO, and WESCO may repossess them if Buyer fails to pay for them in a timely fashion.

**5. Payment.**

A. All payments for Goods and Services must be made in United States currency unless specified in writing by WESCO. Payments for Goods and Services will be made by such means as WESCO may specify, such as by check or wire transfer, provided that WESCO may refuse, in its sole discretion, payment by any means, including, without limitation, credit cards.

B. Payment for Goods and Services is due within 30 days from the date of WESCO's invoice; provided, however, that WESCO reserves the right, in its sole discretion, to require full payment in cash before order entry, shipment, or delivery.

C. WESCO shall have the right to offset any and all amounts due and owing from WESCO to Buyer under this Agreement, including, without limitation, any chargebacks or rebates, against any amounts due and owing from Buyer to WESCO under this Agreement.

D. If Buyer defaults in payment, Buyer will be liable for all collection costs incurred by WESCO including, but not limited to, attorneys' and collection agency fees, and all related disbursements.

E. If Buyer does not pay when payment is due, past due amounts are subject to service charges of one and a half percent (1 ½%) per month or the maximum percentage rate permitted by law, whichever is less.

**6. Taxes.** The purchase price of the Goods and Services does not include transportation taxes and sales, use, excise, import or any similar tax or other governmental charge arising pursuant to or in connection with the sale, purchase, processing, delivery, storage, use, consumption, performance or transportation of the Goods and Services. Buyer is responsible for payment of any transportation taxes, and any present or future sales, use, excise, import or any similar tax or other governmental charge applicable to the Agreement and to the sale and/or furnishing of the Goods and Services.

**7. Cancellation.** Buyer may cancel its order for Goods and/or Services, but only if WESCO agrees to such cancellation in writing and only after Buyer pays reasonable charges for expenses already incurred and commitments made by WESCO in connection with the placement of such order(s).

**8. Disclaimer of Warranties.** WESCO HEREBY EXPRESSLY DISCLAIMS AND EXCLUDES ANY AND ALL REPRESENTATIONS AND WARRANTIES, WHETHER WRITTEN OR ORAL, WHETHER EXPRESS OR IMPLIED, WHETHER ARISING BY CONTRACT, AT LAW, IN EQUITY, BY STRICT LIABILITY OR OTHERWISE, WITH RESPECT TO THE GOODS AND SERVICES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY AGAINST DEFECTS IN DESIGN, MATERIALS AND WORKMANSHIP, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ANY WARRANTY AGAINST REDHIBITORY DEFECTS, ANY WARRANTY OF GOOD TITLE, AND ANY WARRANTY AGAINST INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY, INCLUDING, WITHOUT LIMITATION, ANY PATENTS, TRADEMARKS, OR COPYRIGHTS. WESCO shall, however, if given prompt written notice by Buyer of any claim of alleged patent, trademark or copyright infringement with respect to any Goods use its reasonable efforts to secure for Buyer such indemnity rights as the manufacturer may offer with respect to such Goods.

**9. Exclusive Remedy.** Buyer's **EXCLUSIVE** remedy against WESCO for any claim for, or arising out of, any Good tendered to Buyer is the repair or replacement of the Good, or alternatively, at WESCO's sole election, a refund of the purchase price of the Good. Buyer's **EXCLUSIVE** remedy against WESCO arising out of any defect in, or in connection with, any Service provided hereunder is the re-performance of that Service or, at WESCO's sole election, a refund of the purchase price of the Service. These remedies only will only be available to Buyer for one year after the Good is tendered or Service is provided to Buyer, and WESCO's obligations under this Section 9 will be void unless Buyer provides WESCO with notice of the defect in the Good or Service within 30 days of discovery of the defect. Any Good returned to WESCO for repair, replacement or refund under this Section 9 will be returned by Buyer in accordance with WESCO's return material authorization procedures then in effect.

**10. Limitation of Liability.** NOTWITHSTANDING ANYTHING ELSE CONTAINED HEREIN TO THE CONTRARY, IN NO EVENT WILL: (A) WESCO BE LIABLE TO BUYER FOR ANY CIRCUMSTANTIAL, CONSEQUENTIAL, CONTINGENT, EXEMPLARY, INCIDENTAL, INDIRECT, LIQUIDATED, MATERIAL, PUNITIVE, SPECIAL, SPECULATIVE OR OTHER DAMAGES, INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOST PROFITS, SALES OR REVENUES, COST OF REPLACEMENT GOODS, LOST BUSINESS OR BUSINESS INTERRUPTIONS, OR ATTORNEYS FEES OR COURT COSTS ARISING IN ANY MANNER PURSUANT TO OR IN CONNECTION WITH THE AGREEMENT, THE GOODS OR THE SERVICES (EVEN IF WESCO IS MADE AWARE OF THE POTENTIAL FOR SUCH DAMAGES); AND (B) WESCO'S TOTAL LIABILITY RELATED TO ANY GOOD OR SERVICE EXCEED THE PURCHASE PRICE OF SUCH GOOD OR SERVICE.

**11. Indemnification.**

A. Upon prompt notice by Buyer of any claim of U.S. patent, copyright, or trademark infringement with respect to any Goods or Services, WESCO will use its reasonable efforts to secure for Buyer such indemnity rights as the manufacturer may customarily give with respect to such Goods. This Section 11 sets forth Buyer's sole and exclusive remedy against WESCO regarding the infringement by any Goods or Services of any third party intellectual property rights, including, without limitation, any patents or trademarks.

B. Buyer will indemnify, defend and hold harmless WESCO, its shareholders, officers, directors, employees, agents and representatives from and against all losses, damages, liabilities, costs, and expenses including, but not limited to, property damage, loss of profits or revenue, loss of use of any property, cost of capital, cost of purchased or replacement power or temporary equipment, personal or bodily injury, or death ("Losses"), that may arise pursuant to or in connection with the Agreement, the Goods, or the Services (including, without limitation, Losses arising in connection with the performance of Services on Buyer's premises by WESCO's employees, representatives, agents, or subcontractors), regardless of whether such Losses are suffered directly by Buyer or arise pursuant to or in connection with a third-party suit, claim, counterclaim, demand, judgment or other action (each a "Claim") and regardless of whether or not WESCO or any third-party is proportionately negligent with respect to such Losses and/or Claim, provided that Buyer need not indemnify WESCO for WESCO's obligation, if any, to Buyer under Section 9 above. For the avoidance of doubt and without limitation, this indemnification obligation requires Buyer to pay any judgments against WESCO or any other indemnified party resulting from any Claim, any court costs of WESCO or any other indemnified party in connection with any Claim, and any reasonable attorneys' fees and disbursements incurred by WESCO or any other indemnified party in WESCO's defense of any Claim. WESCO will have the sole and exclusive right to conduct the defense of any Claim at Buyer's sole and exclusive cost and expense. Buyer's indemnification obligation does not depend on the truth or accuracy of any allegations made against WESCO, Buyer or any third party.

**12. Product Suitability.** Goods sold by WESCO are designed to meet stated U.S. safety standards and regulations. Because local safety standards and regulations may vary significantly, WESCO cannot guarantee that the Goods meet all applicable requirements in each locality. Buyer assumes responsibility for compliance with such safety standards and regulations in the localities in which the Goods will be shipped, sold and used. Before purchase and use of any Goods, Buyer should review the product application, and national and local codes and regulations, and verify that the use and installation of the Goods will comply with them.

**13. Ownership.** WESCO shall have and retain all right, title, and interest in and to any and all trade secrets, technical data, sales service and product plans, methodologies, techniques, designs, molds, tools, samples, systems, know-how, expertise and other proprietary information that it may use pursuant to or in connection with any Services, and Buyer shall not obtain a license to, or any other property rights in, any such WESCO property pursuant to or in connection with this Agreement.

**14. Export Controls; Availability; Laws.**

**A.** Certain Goods may be subject to export controls under the laws, regulations and/or directives of the United States and various other countries. Buyer must comply with such laws and regulations and not export, re-export or transfer these Goods to any country to which such export, re-export, or transfer is forbidden or without first obtaining all required authorizations or licenses.

**B.** Due to government regulations and product availability, not all goods sold by WESCO may be available in every area.

**C.** Buyer hereby warrants and represents that it will comply with any and all Laws with respect to the purchase, use, and operation of any and all Goods and Services. For purposes hereof, "Laws" means any international, multinational, national, foreign, federal, state, municipal, local (or other political subdivision) or administrative laws, constitutions, statutes, codes, ordinances, rules, regulations, requirements, standards, policies or guidances having the force of law, treaties, judgments or orders of any kind or nature whatsoever, including, without limitation, any judgment or principle of common law.

**15. Interpretation of the Agreement.** None of WESCO's or Buyer's shareholders, directors, officers, partners, managers, employees, agents or representatives have any authority to orally modify or alter in any way the terms and conditions of the Agreement. The terms, conditions, and limitations set forth in the Agreement can be modified, altered, or added to only by a subsequent written instrument signed by an authorized representative of WESCO or by language included on the face hereof. Regardless of how many times Buyer purchases, or has purchased, goods and services from WESCO by whatever means, each time Buyer accepts the Agreement, Buyer and WESCO enter into a separate agreement that will be interpreted without reference to any other agreement between Buyer and WESCO, or what Buyer may claim to be a course of dealing or course of performance that has arisen between Buyer and WESCO. No inconsistent usage of trade or industry custom, if any, prior to, contemporaneous with or subsequent to the making of the Agreement will waive, vary, serve to explain or serve to interpret any of the terms, conditions and limitations of the Agreement. The Agreement is the sole and exclusive agreement with respect to the matters discussed herein and the provision of Goods and Services hereunder, (except for any contemporaneous writing agreed to in writing by WESCO expressly modifying the terms and conditions hereof, which is hereby incorporated herein by reference and made a part hereof) and supersedes all prior and contemporaneous agreements and understandings, negotiations, inducements, representations or conditions, whether oral or written, whether express or implied, with respect to such matters. Failure by WESCO to enforce any of the terms, conditions and limitations of the Agreement will not constitute a waiver of those terms, conditions and limitations or a waiver of any other terms, conditions or limitations of the Agreement, and the failure of WESCO to exercise any right (whether provided by the Agreement, law, equity, or otherwise) arising from Buyer's default under the Agreement will not constitute a waiver of that right or any other rights.

**16. Force Majeure.** WESCO will not be liable for its failure to perform under the Agreement (including, without limitation, the failure to deliver any Goods or perform any Services) due to circumstances beyond its control, including, without limitation, fire, flood, earthquake, pestilence or similar catastrophe; war, act of terrorism, or strike; lack or failure of transportation facilities, shortage of suitable parts, materials or labor; any existing or future law, rule, regulation, decree, treaty, proclamation, or order of any governmental agency; inability to secure fuel, materials, supplies, equipment or power at reasonable prices or in sufficient amounts; act of God or the public enemy; or any other event or cause beyond WESCO's reasonable control, including, without limitation, any delay caused by Buyer (each, a "Force Majeure Event"). If any Force Majeure Event prevents WESCO's performance of any of its obligations under the Agreement, WESCO will have the right to (a) change, terminate or cancel the Agreement, or (b) omit during the period of the Force Majeure Event all or any portion of the quantity of the Goods deliverable during that period, whereupon the total quantity deliverable under the Agreement will be reduced by the quantity omitted. If WESCO is unable to supply the total demands for any Goods to be delivered under the Agreement due to a Force Majeure Event, WESCO will have the right to allocate its available supply among its customers in whatever manner WESCO deems to be fair and equitable. In no event will WESCO be obligated to purchase materials from other than its regular sources of supply in order to enable it to supply Goods to Buyer under the Agreement. No change, cancellation or proration by WESCO will be deemed to be a breach of any clause, provision, term, condition, or covenant of the Agreement.

**17. Choice of Law; Choice of Venue.** The negotiation, execution, performance, termination, interpretation and construction of the Agreement will be governed by the law of the Commonwealth of Pennsylvania, except for Pennsylvania's choice of law rules, and expressly excluding the United Nations Convention on Contracts for the International Sale of Goods. If either WESCO or Buyer brings a lawsuit or any other action arising out of the Agreement against the other party, such party must file its lawsuit or other action in a state or federal court located in Pittsburgh, Pennsylvania. WESCO and Buyer expressly submit to the exclusive jurisdiction of those courts and consent to venue in those courts, and WESCO and Buyer consent to extra-territorial service of process on WESCO and Buyer. In the event of litigation pertaining to any matter covered by the Agreement, each of WESCO and Buyer hereby agree to waive any right that it may have to a jury trial of any or all issues that may be raised in such litigation. Nothing contained in the Agreement will be construed to limit or waive any rights of WESCO under applicable United States federal, state, or local laws. Any provision of the Agreement held to be invalid, illegal or unenforceable will be ineffective to the extent of such invalidity, illegality or unenforceability without affecting the validity, legality and enforceability of the remaining provisions hereof.

**18. Binding Authority.** Any director, officer, employee, representative, or agent of Buyer signing or otherwise entering into this Agreement hereby represents and warrants that he or she is duly authorized to execute and enter into this Agreement on behalf of Buyer.

## **MASTER SUPPLY AGREEMENT**

**THIS MASTER SUPPLY AGREEMENT (“Agreement”)** is dated November 1, 2017 (“**Effective Date**”) and is between WESCO Distribution, Inc. (“**WESCO**”) and Columbia Pulp, LLC (“**Buyer**”).

### **RECITALS**

**WHEREAS**, WESCO is primarily in the business of selling electrical goods (“**Goods**”) and providing services related to the supply, maintenance and operation of such Goods (“**Services**”);

**WHEREAS**, Buyer purchases Goods and/or Services for use in the conduct of its business; and

**WHEREAS**; WESCO desires to sell to Buyer, and Buyer desires to purchase from WESCO, certain Goods and/or Services subject to the terms and conditions set forth in this Agreement.

**NOW, THEREFORE**, in consideration of the mutual warranties, representations, promises and covenants contained in this Agreement and intending to be legally bound hereby, the parties agree as follows:

#### **1. Term and Termination.**

**1.1** Unless otherwise terminated in accordance with this section, this Agreement shall have a term of two (2) years from the Effective Date (the “**Term**”).

**1.2** During the Term, either party may terminate this Agreement upon the occurrence of any of the following events: (i) if a party is in material breach of its representations, warranties, duties or obligations under this Agreement, the other party has provided written notice of such breach to the breaching party, and the breaching party has not cured within 30 days of its receipt of such notice; (ii) for its convenience after providing 60 days prior written notice to the other party; or (iii) immediately upon the institution by or against the other party of proceedings under bankruptcy, insolvency, or any other procedures for the settlement of debts; upon the other party’s making an assignment for the benefit of its creditors; upon the appointment of a receiver for the other party or its property; or upon the other party’s voluntary or involuntary dissolution or liquidation.

**1.3** In the event of termination for any reason, in addition to other rights and remedies provided for at law, Buyer shall pay WESCO for all outstanding invoices and all costs and expenses associated with orders placed by Buyer up to the date of termination.

#### **2. Supply and Purchase of Goods and Services.**

**2.1** During the Term of this Agreement, WESCO shall sell to Buyer Goods or Services that Buyer may order, subject to the terms of this Agreement.

**2.2** The parties acknowledge and agree that “Columbia Pulp, LLC – WESCO Distribution, Inc., Lyons Ferry Straw Pulp Plant Purchase Order Terms and Conditions,” attached hereto and incorporated herein as Annex A, shall govern and control all transactions between the parties except as otherwise provided for in this Agreement or mutually agreed upon in writing.

#### **3. Miscellaneous.**

**3.1** The parties are and shall remain independent contractors. No provision of this Agreement creates or contemplates any association, partnership, joint venture, agency, or employment relationship between the parties. Neither party shall have any authority to employ any person as an employee or agent for or on behalf of the other party or to take any action binding or purporting to bind the other party.

**3.2** This Agreement may not be amended, supplemented, changed or modified in any manner, orally or otherwise (including, without limitation, by prior course of dealing or course of performance between the parties, industry custom or usage of trade), except by an instrument in writing of subsequent date, signed by a duly authorized representative of each party.

**3.3** This Agreement (including any and all Annexes) constitutes the entire agreement between the parties with respect to the matters specified in this Agreement and supersedes all prior and contemporaneous agreements, negotiations, inducements or representations. While this Agreement is in effect, additional or conflicting terms and conditions contained in quotations, purchase orders, order acknowledgements or other like documents that may be exchanged between the parties shall have no force or effect.

**IN WITNESS WHEREOF**, the parties hereto have caused this Agreement to be signed and delivered by their duly authorized officers, as of the Effective Date.

**WESCO Distribution, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**Columbia Pulp, LLC**

By: \_\_\_\_\_

Name: Michelle McCarthy

Title: CFO



**Annex A**  
**Columbia Pulp, LLC - WESCO Distribution, Inc.**  
**Lyons Ferry Straw Pulp Plant**  
**Purchase Order Terms and Conditions**

November 1, 2017

**SECTION 1 - DEFINITIONS**

Agreement – shall mean this Purchase Order and these Terms and Conditions, all attachments and exhibits and any changes to this agreement approved according to Section 3.

As Sold Proposal – shall mean the Seller's proposal as attached to the purchase order, if any.

Delivery Point – shall mean Facility Site unloading area located at 1403 State Highway 261, Starbuck Washington, 99359 or, as specified in the Purchase Order.

Delivery Dates – shall mean, collectively, the Drawing and Data Document Delivery Dates and the Equipment Delivery Dates.

Effective Date – shall have the meaning as set forth in Section 9.

Engineering Requisition – shall mean any supplemental requirements or specifications attached to this purchase order and labeled "Engineering Requisition".

Engineering Specification – shall mean the specification attached to the Purchase Order and any attachments thereto.

Equipment – shall have the meaning as set forth in the Purchase Order or in the As Sold Proposal.

Facility – shall mean the Lyons Ferry Straw Pulp Plant near Starbuck, WA.

Notice – shall mean a written correspondence between the Parties. Notices to the Owner shall be presented to:

Columbia Pulp I, LLC  
164 East Main Street  
Dayton, WA 99328

Attention:  
Larry Tantalo  
Phone: 206-940-9527

Email: larry.tantalo@columbiapulp.com

Notices to the Seller shall be presented to the Seller at the address shown under 'Sold By:' in the Purchase Order.

Owner – shall mean the Columbia Pulp, LLC, Lyons Ferry Straw Pulp Plant, its successors and assigns (which may include a lessor of premises upon which the Facility is situated, a lender or its trustee, or a guarantor of loans for the construction of the Facility, or who has entered into contract with the issuer of the Construction Contract to acquire the Facility), who has contracted with Owner to provide a Facility for which Owner is entering into this Agreement with Seller to supply the Work covered by this Agreement.

Party(ies) – shall mean individually and/or collectively the Owner and Seller as named in the Purchase Order.

Agreement Price – shall have the meaning as set forth in the Purchase Order.

Remedy - shall mean correction of a Warranty nonconformity or defect by Seller.

Seller – shall mean the party named in the Purchase Order under 'Sold By'.

Services – shall include start-up and commissioning requirements for the Acceptance Test which shall be billed at Seller's published rates at the date of this contract.

Subcontractors – shall mean Seller's suppliers and subcontractors of any tier.

Warranty – shall mean the Mechanical and Performance warranty terms as presented in the Seller's As Sold Proposal.

Work – shall mean the Equipment and Services for which Owner is entering into this Agreement.

**SECTION 2 - SCOPE OF WORK**

Seller shall furnish, design, fabricate, test, as required, and deliver to the Delivery Point, the goods and services as specified in the Purchase Order and as further detailed in the Engineering Requisition, if attached, (collectively the "Work").

**SECTION 3 - DOCUMENTS AND ORDER OF PRECEDENCE**

The following list of documents shall be the sole documents that comprise this Agreement and contain all of the terms, conditions and provisions of this Agreement. The documents have been listed in order of precedence in the event of a conflict. Any conflict arising in any single document shall be brought to the other Party's attention as soon as practical. In the case of a conflict, the conflicting item(s) having the highest order of precedence shall prevail.

Any Change Order to this Agreement as per Section 12,  
The Purchase Order,  
The Engineering Requisition, if attached,  
These Purchase Order Terms and Conditions,  
Seller's As -Sold Proposal as attached to the Purchase Order  
The Engineering Specification for the Work,

**SECTION 4 – AGREEMENT MILESTONES AND SCHEDULE**

**4.1- Drawing and Data Document Schedule**

Drawing and Data Document Delivery Dates shall be as outlined in the As Sold Proposal.

**4.2- Equipment Delivery**

Equipment Delivery Dates shall be as stated in the As Sold Proposal.

**4.3- Force Majeure:**

Shipment dates are based upon the Seller's commitment at the date of the As Sold Proposal. The Seller will exercise its best efforts to ship on schedule, but shall not be liable for any damages or losses caused by any delay in delivery caused by strikes, floods, fires, accidents or any legislative, administrative or exclusive law, order, or requisition of the Federal Government or any State or Municipal Government or any subdivision, department or office thereof.

**SECTION 5 - AGREEMENT PRICE**

The price to be paid for the Work the Seller is to perform under this Agreement is as shown on the Purchase Order. Shipping and Handling charges between the FOB point, as shown in the Purchase Order, and the Delivery Point will be as shown on the Purchase Order.

The terms of payments shall be as shown in the purchase order, or if not shown, payment of the net invoice amount in 30 days.

**SECTION 6 - DELIVERY**

Seller shall deliver the Equipment F.O.B. point of shipment. Title and risk of loss for Equipment, whether shipped by Seller or direct shipped from the manufacturer, shall transfer to Owner at the time Equipment is delivered to a common carrier or other

delivery service. Seller will use its commercially reasonable efforts to comply with Owner's request as to method and route of transportation, but Seller reserves the right to use any commercial carrier for shipment, or an alternate method or route of transportation.

The facility address for the Lyons Ferry Straw Pulp Plant is:

Facility Site: 1403 Highway 261  
Starbuck, WA 99359

#### 6.4 – Partial Shipments

The Seller will not accept partial shipments made by third parties to the Delivery Point except under the following conditions:

1. The shipment is accompanied by paperwork that clearly identifies the Seller and the component of the Work being shipped.
2. The item(s) being shipped are clearly identified with tags, labels or identifying marks indicating which components of the Work the item(s) are part of.
3. Clear instructions regarding how these components are to be incorporated into the Work including, as appropriate, drawings, lists, installation manuals and/or operating and maintenance manuals.
4. The notice specified in 6.3 above has been given including the origin and shipment method of delivery of the item(s).

### SECTION 7 – INVOICING AND PAYMENT

#### 7.1 Invoicing

Invoice(s) relative to this Agreement shall be identified with Owner's identifying Purchase Order number and directed to  
Columbia Pulp, LLC  
164 E. Main Street  
P.O. Box 183  
Dayton, Washington 99328

Or as directed in the purchase order. Invoices without a Purchase Order number clearly identified will be returned without payment to the Seller.

#### 7.2 Payment

Payment for Goods and Services is due within 30 days from the date of Supplier's invoice. Owner shall pay invoices that are accompanied by documentation that demonstrates that the Work for which payment is requested has been completed. If the Owner cannot confirm that the work has been completed as specified by evidence from the receiving staff at the site or by the Owner's engineer(s), the invoice will be returned to the Seller with and explanation of the deficiencies.

In no event will the Owner pay any interest, late fees or any other additional amounts claimed on invoices arriving without the required documentation.

### SECTION 8 - TERMINATION

The Owner may cancel this Agreement upon the written notice to the Seller. If this Agreement is terminated by the Owner, the Seller is entitled to reasonable cancellation charges including but not limited to labor expended, materials obtained or expended, reasonable overhead and profit.

Seller may terminate upon the occurrence of the following events: (i) if Owner is in material breach of its duties or obligations under this Agreement, and the breach has not been cured within 30 days of written notice of such breach; or (ii) immediately upon the institution by or against the Owner of proceedings under bankruptcy, insolvency, or any other procedures for the settlement of debts; upon the Owner making an assignment for the benefit of its creditors; upon the

appointment of a receiver for the Owner or its property; or upon the Owners voluntary or involuntary dissolution or liquidation.

### SECTION 9 - EFFECTIVE DATE OF THIS AGREEMENT

Effective date of this Agreement shall be the shown on the Purchaser Order and 'P.O. Date', or as modified by the text of the Purchaser Order or any subsequent change orders.

Equipment and documentation schedules shall be predicated upon the Effective Date of this Agreement.

### SECTION 10 - COMPLETION AND ACCEPTANCE

Completion and Acceptance of the Equipment shall be granted to Seller, unless within 5 business days of delivery, Seller receives notice, followed by written confirmation, that Owner does not accept the Equipment. Such notification shall include Owner's reason for non-acceptance, including any defects or damages in the Equipment, and/or any variance in the number and type of Equipment delivered from the number and type of Equipment ordered.

Owner's exclusive remedy with respect to any Equipment that it believes to be, and Seller reasonably determines to be, not in conformity with any applicable warranties set forth herein, shall be, at Seller's election, the repair, replacement, or refund of the purchase price of any such non-conforming Equipment, provided that such remedies shall only be available for 1 year from the date of shipment. With respect to any shortage in the number and type of Equipment delivered in comparison with the number and type ordered, Owner's exclusive remedy shall be Seller's prompt shipment of the number and type of Equipment ordered or, if Equipment of the number and type ordered are not available, the refund of the purchase price, solely to the extent that Equipment of the type and number ordered by Buyer are not available. This Section sets forth Owner's sole and exclusive remedy against Seller with respect to any defective or non-conforming Equipment or any shortages, and Owner expressly waives any and all other applicable rights and remedies with respect to non-conforming Equipment whether arising at law, in equity, or otherwise.

### SECTION 11 - DISPUTE RESOLUTION

Any dispute between the parties shall be handled in the following manner:

- a. Mediation. In the event that any dispute ("Dispute") arises between the parties related to this Agreement, the parties agree to submit the Dispute to non-binding mediation upon either party providing the other with written notice describing the Dispute in detail within 3 days after the Dispute is identified. The parties shall cooperate in selecting the mediator, and the mediation shall occur within 30 days of a party providing written notice to the other party of the Dispute. The mediation shall take place in Seattle, Washington.
- b. Arbitration. If mediation does not take place and resolve the Dispute within 30 days after the notice of the Dispute is given, such Dispute shall be submitted to final and binding arbitration pursuant to the Washington version of the Uniform Arbitration Act (RCW 7.04A). The arbitration shall be conducted pursuant to the American Arbitration Associations Construction Industry Arbitration Rules, and it shall take place in Seattle, Washington. The arbitrator does



not have to be an American Arbitration Association arbitrator. The substantially prevailing party in any such arbitration shall be entitled to recover its reasonable costs and attorney fees.

#### **SECTION 12 – CHANGE ORDERS**

Changes to this Agreement shall be in written form and signed by both the Owner and Seller.

#### **SECTION 13 – MECHANICAL WARRANTY**

The Seller warrants that, upon delivery to the point of shipment, it will convey to Owner good title to any Equipment free and clear of any liens or encumbrances. Seller shall use its best reasonable efforts to obtain from its vendors or manufacturers, for the benefit of both Seller and Owner, such warranties as are normally offered for such Equipment. Seller will assist Owner in the process of filing and pursuing any warranty claims with the third party vendor or manufacturer. Seller warrants that any services will be performed in a competent manner and in accordance with industry standards. EXCEPT FOR THE FOREGOING, SELLER HEREBY DISCLAIMS AND EXCLUDES ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR AGAINST DEFECTS IN DESIGN, MATERIALS AND WORKMANSHIP.

#### **SECTION 14 - SECURITY INTEREST**

Seller hereby grants to Owner a first priority security interest (the "Security Interest") in all of Owner's right, title, and interest in and to the Work and related accessories, including but not limited to all parts, drawings, documents, manuals, inventory, appurtenances or materials relating to the construction, furnishing, designing, fabricating or testing such equipment and accessories, identified by this Agreement (the "Collateral"). From time to time at Owner's request, Seller shall execute and deliver all further instruments and documents and take all further action as may be reasonably necessary to perfect the first priority security interest granted in the Collateral pursuant to this Agreement or to enable the Owner to exercise and enforce its rights and remedies with respect to the aforementioned Collateral. Seller authorizes the Owner or the Owner's Lender to file a financing statement describing the Owner's Security Interest in the Collateral

#### **SECTION 15 - ASSIGNMENT AND COOPERATION WITH COMPANY'S LENDER.**

The Owner may assign its rights or delegate its obligations under this Agreement and its Security Interest in the Collateral to any lender ("Lender") which is financing the Owner's acquisition of the Collateral as collateral security for the performance of the Owner's obligations to the Lender upon prior written notice to Seller. Seller shall cooperate with the Owner and the Owner's Lender in satisfying any reasonable requirements for financing of the Work. Seller shall, upon request, execute in favor of the Owner's Lender a waiver and right of entry to Supplier's premises, permitting the Lender party to inspect Collateral and the Work under construction pursuant to this Agreement and enforce Lender's security interests in the equipment and related accessories to be provided by Seller to the Owner pursuant to this Agreement. Seller shall subordinate Seller's lien rights in and to the equipment and related accessories to the Security Interest and any security interest of the Owner's Lender.

#### **SECTION 16 - TECHNICAL ADVISORY SERVICES**

Seller shall make available and provide, upon request of Owner, the services of competent, qualified field personnel to assist Owner in the unloading, installation/erection and commissioning of the Equipment furnished hereunder. Owner will compensate Seller for said services in accordance with Seller's, and Seller's subcontractors, published rate sheet in effect as of the Effective Date of this contract.

#### **SECTION 17 - TAXES**

This Agreement is exempt from Washington State Sales Tax. Tax Purchase Exemption Certificate will be provided.

#### **SECTION 18 – APPLICABLE LAW**

This Agreement shall be governed by and construed in accordance with the laws of the State of Washington.

#### **SECTION 19 - AGREEMENT ACCEPTANCE**

This Agreement shall be deemed to be accepted by both parties upon signature by authorized representatives of both Parties.

#### **SECTION 20 – Limitation of Liability**

Notwithstanding anything else contained herein to the contrary, in no event shall (i) either Party be liable to the other for any indirect, special, punitive, exemplary, speculative, consequential, contingent, liquidated, incidental or other similar damages, including without limitation, damages for lost revenues, lost profits, lost business or business interruptions arising in any manner pursuant to or in connection with this Agreement, the Equipment or Services; and (ii) Seller's maximum liability, whether such liability is claimed as a result of breach of contract, indemnity, warranty, tort (including negligence), strict liability or otherwise, pursuant to or in connection with any and all claims arising under this Agreement, exceed the purchase price of the Equipment or Service giving rise to the claim.



September 22, 2017

WESCO Distribution  
E 2025 Trent Avenue  
Spokane, WA 99202

COLUMBIA PULP  
164 East main  
Dayton, WA. 99328

Attn: Larry Tantalo

Re: Starbucks Facility Terms/Conditions

Larry,

In regards to the above mentioned topics for the upcoming Starbucks project, as well as future sites please refer the following thoughts:

- Prices established today for Columbia Pulp will not change during the construction of the first project.
- Product with established part numbers will have a discount against published list, that discount will stay consistent with annual increases on November 1<sup>st</sup> annually.
- Products without part numbers (MV/LV/MCC) will have a maximum increase per year of 4%, this is barring any unforeseen change in commodities. This change would be discussed and agreed to in advance of any order.
- Standard designs for any product can be established to reduce lead times and the approval process for subsequent mills.
- Services rates for labor will be negotiated on an annual basis with a maximum rate per hour. Discounting for embedded service, or blocks of hours will be offered per project.
- The same engineering and design capabilities that have been demonstrated to date would be offered for other items such as lighting, cable tray, etc. Firm pricing for items supplied for the first project can be extended, with the exception of commodities.
- Upon selection of agreed upon manufacturers, maximum annual increases can also be obtained.
- The attached WESCO terms and conditions are standard. It would be our intent to negotiate mutually acceptable terms and conditions with Columbia Pulp that would be utilized for this and any subsequent projects.

WESCO appreciates this opportunity to provide the services discussed thus far and any additional that would assist in making this project the success that it is going to be. If you have any questions or concerns feel free to contact me here at the office or on my cell @ 208-512-4276.

Best Regards

Tony Rinaldi  
Account Representative  
Office 509-456-7501, Ext. 16