



AGENDA ITEM EXECUTIVE SUMMARY

Agenda Item:	Approve purchase of two (2) Siemens Variable Frequency Drives for Reverse Osmosis Units at Water Treatment Facility		
Presenter & Title:	Bob VanGyseghem, Superintendent of Water and Wastewater.		
Date:	6/27/2019		
Please Check Appropriate Box:			
<input checked="" type="checkbox"/>	Committee of the Whole Meeting		Special Committee of the Whole Meeting
<input checked="" type="checkbox"/>	City Council Meeting		Special City Council Meeting
	Public Hearing		Other -
Associated Strategic Plan Goal/Objective: EMS-II			
Estimated Cost: \$65,496	Budgeted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other Funding? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Executive Summary:			
<p>On June 17, 2019 the Variable Frequency Drive, VFD, that controls pressure through Reverse Osmosis Unit #1 failed and must be replaced. The unit cannot be operated without the VFD. Staff has worked to obtain quotes for the replacement of the Siemens VFD. The only quote staff has been able to obtain is a direct replacement of the Siemens VFD. Other manufacturers have been contacted but either have not responded or do not have a model that can be cross referenced. Staff is requesting authorization for the purchase of two Siemens VFD's. One to be used as the replacement and one as a spare due to the 13-week lead time. Staff will continue to search for other compatible VFD manufacturers. The cost for the two VFD's will be paid for within the existing budget and be reflected in a future budget amendment if necessary.</p>			
Attachments: <i>(please list)</i>			
<ul style="list-style-type: none"> • Resolution • Quote 			
Voting Requirements:			
<p><i>This motion requires <u> 7 </u> affirmative votes for passage.</i></p> <p><i>The Mayor may vote on three occasions: (a) when the vote of the aldermen or trustees has resulted in a tie; (b) when one half of the aldermen or trustees elected have voted in favor of an ordinance, resolution, or motion even though there is no tie votes; or (c) when a vote greater than a majority of the corporate authorities is required by state statute or local ordinance to adopt an ordinance, resolution, or motion.</i></p>			
Recommendation / Suggested Action: <i>(how item should be listed on agenda)</i>			
Staff requests that the City Council waive the competitive bid process and authorize the City Administrator to purchase two (2) Siemens VFD's from Steiner Electric at a cost not-to-exceed \$65,496.00.			

RESOLUTION NO. 2019-70

**RESOLUTION AUTHORIZING EXECUTION OF
Purchase of two (2) Siemens Variable Frequency Drives**

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GENEVA, KANE COUNTY, ILLINOIS, as follows:

SECTION 1: That the City Administrator is hereby authorized to execute, on behalf of the City of Geneva, purchase agreement with Steiner Electric, for two (2) Siemens Variable Frequency Drives used at the Water Treatment Facility.

SECTION 2: This Resolution shall become effective from and after its passage as in accordance with law.

PASSED by the City Council of the City of Geneva, Kane County, Illinois, this 15th day of July, 2019.

AYES: __ NAYS: __ ABSENT: __ ABSTAINING: __ HOLDING OFFICE: __

Approved by me this 15th day of July, 2019.

Mayor

ATTEST:

City Clerk



January 23, 2019

Siemens Reference Number: LV19260 rev 1

On behalf of Siemens, I would like to thank you for providing us the opportunity to submit this proposal. The SINAMICS Low Voltage Variable Speed Drives offered in this proposal will more than meet your expectations on reliability and performance. As one of the world's largest electrical companies, Siemens provides a global experience base in industrial drive solutions. Thank you for taking the time to consider our proposal for your project. We look forward to working with you.

Should you need additional information, please contact me at (770) 329-9206.

Sincerely,

Barry May
Siemens Industry, Inc.
100 Technology Drive
Alpharetta, GA, 30005

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Designed,
Assembled,
Tested and
Supported
in America.

Quotation Summary

Item	Qty	Power (HP)	Voltage (V)	Application	Description	Lead Time (wks) after approved drawings	Unit Pricing	Total
1	2	250hp	480	Pump	Sinamics Robicon W150CP 18-pulse VFDs clean power	13	\$32,748.00	\$65,496.00
2	1				Warranty 12/18 months		included	
3	1				Startup: Included for 3 days on site , all expenses		included	
4	1				Shipping FCA factory		included	

Total Package Price - \$65,496.00

Optional adders – not included unless added to the PO: none

Note: The operator panel can display Voltage and current.

Revision - Prior to Order	Description of Change(s)	Date
1	First Issue	01/23/2019
2		MM/DD/YY
2		MM/DD/YY
4		MM/DD/YY

Change Order – Post Order	Description of Change(s)	Date
1		
2		
3		

- NOTES**
- All prices exclude taxes and duties and are in U.S. dollars.
 - Freight charges, if not quoted, will be prepaid and added to invoice. FCA Factory packaged for domestic shipment.
 - Equipment pricing is valid for 90 days from date of proposal, for delivery within 12 months from date of purchase order.
 - Standard Warranty is 12 months from date of commissioning or 18 months from date of shipment, for all enclosed air-cooled drives, or 30 months from date of shipment, when purchased with a Siemens motor. If an extended warranty beyond Siemens standard is required, please consult the factory.
 - The above prices are Firm in US \$ for shipment in accordance with the stated shipment schedule.

- ADDITIONAL NOTES FOR COMMISSIONING**
- All standby days are added based on the total number of days the Field Service Representative (FSR) remains in the local area but not at the site. Cost is based on 8 hour days with per diem living expenses included. \$1250 per day Monday through Saturday, \$2500 Sundays and holidays.
 - 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.
 - 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.
 - Pricing is based on one local FSR. Four (4) weeks’ notice is required to schedule the service.
 - Pricing above not applicable to offshore, nuclear sites, or locations outside the continental U.S.

DRAWINGS

Upon Siemens Industry acceptance of the Purchase Order, a typical drawing submittal will be provided within 4 to 6 weeks. The following level of customer approval has been selected for this proposal:

- A3 –release to manufacturing of long-lead power components, control logic subject to customer approval

Further details of each approval level are available upon request.

MILESTONE / PAYMENT SCHEDULE

Please note that the below payment milestone percentages represent portions of the total purchase order value, if total package price is greater than \$300K.

Description	%	Notes
Net 30 Days with Order	10	
Net 30 Days Upon Issuing Drawings for Approval	20	
Net 30 Days Upon Release to Manufacturer and Purchase of Major Components	30	
Net 30 Days from Date of Shipment	40	
Per ZRG		

CANCELLATION CHARGES

Prior to or at the time of issuance of submittals	Cancellation charges are 10%
After approval of submittals and release to manufacturer	Cancellation charges are 10%, plus reasonable charges for labor and non-reusable material
After notice of ready-to-ship	Cancellation charges are 100%

SUBMITTAL or APPROVAL DRAWINGS

As a standard practice, Siemens Industry, Inc. will supply Approval Drawings and Submittal packages in electronic format. Up to three (3) CD's for Approval Drawings can be provided without cost, when requested. Additional copies may be purchased at the rate of \$100.00 per CD and \$500.00 per set of hard copies.

CHANGE ORDERS

For all change orders that occur after receipt of a customer Purchase Order, a minimum charge of \$1000.00 will apply. No work will commence on the requested change (Engineering, Drawings, Material Purchase or Assembly) without receipt of the updated customer Purchase Order. Often changes are discussed, but only the changes with a customer PO will be considered approved.

SHIPMENTS

Shipment is contingent upon when an acceptable purchase order is received by Siemens Industry, Inc., 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.

All equipment is domestically packed per Siemens standard practices with no freight or crating unless otherwise stated. Freight is prepaid by Siemens and added to customer's invoice. Siemens Shipping & Handling Guidelines shall apply. 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.

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.

Item 1

ROBICON 18-Pulse Variable Frequency Drives

Part No.

6SL3710-3GJ33-1AS3-Z
+L56+K90+E86+E87+K20+K21+L96+D02+D14+X30.1

Qty.

2

Description & Standard Options

ROBICON W150CP 18-Pulse NEMA enclosed drive
460-480V +/- 10%, Nominal 250 HP, FLA 310A
Meets IEEE519-1992 THD and TDD limits
Low O/L 250 HP, 302A, 110%/60s or 150%/10s, High O/L 200 HP, 277A, 150%/60s
Circuit breaker disconnect, semiconductor fuses, SCCR per UL 65 kA IC
Operator Panel, PROFIBUS port(250hp and higher)

Options included:

L56 Motor space heater supply
Std. Control Unit with PROFIBUS
E86 Isolation Amplifier for one Analog input
E87 Isolation Amplifier for two Analog outputs
K20 Pilot lights door mounted - Ready, Run, Fault
K21 Additional local controls (L-R & H-O-A, speed pot, Start/Stop p/b)
L96 Input surge protective device
D02 Customer drawings in dxf format
D14 Advance copy of customer documentation (pdf)
X30.1 Control logic equivalent based on original drawings

	Dimensions (in)			Weight (lb)	Heat Loss (kW)
	Height	Width	Depth		
Drive Enclosure	100	54	28	2420	6.9
Option Enclosure	N/A	N/A	N/A	N/A	

Comments / Exceptions:

Storage fees will be charged delays over 1 week beyond the ship date.

Component wiring will be Siemens standard which is done to meet all industry standards.

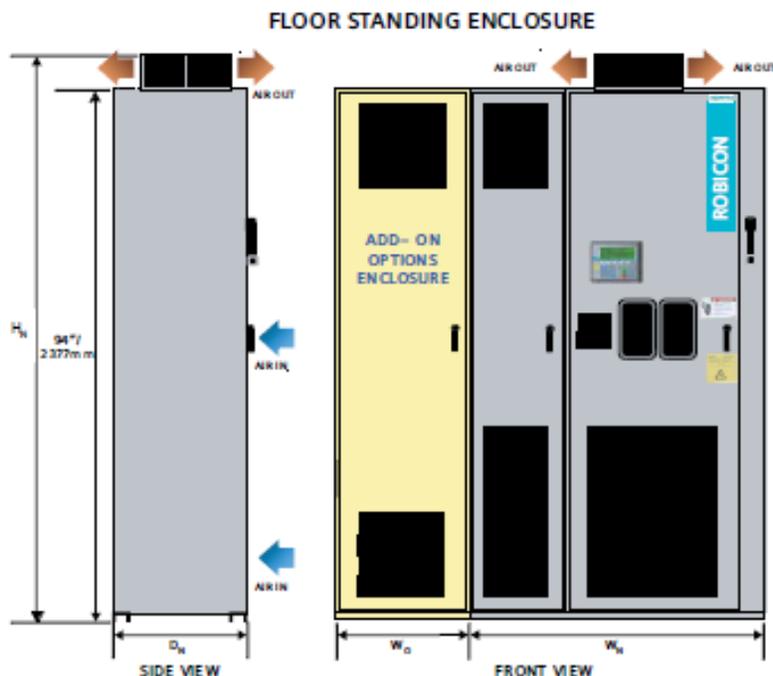
Testing provided is Siemens standard factory testing which includes wire checks, inspections, hi-pot, functional check-out and a no load run with the test bay motor.

Some aspects of the original are not included as newer technology can provide the same features. Control logic will be functionally equivalent.

Our proposal is limited to the items shown on page 2 and 4.

Enclosure Outline

Design Data



Note:

- Dimensions are nominal for enclosure, tolerance 0.5" (12 mm), excluding protruding components. Please refer to drawings for exact details.
- Top hat is shipped as loose item, to be mounted on site. Drive height when shipped is 94" (excluding pallet).

ROBICON W150CP Enclosed drive	Output (Light Overload) (at 460V, 60 Hz)	Noise level L _{PA} (1m) at 60 Hz	Cooling air flow demand	Heat loss	Weight approx.		Drive enclosure Nominal size W _N x D _N x H _N	
Model No.	HP	dB(A)	cfm	kW	lb	kg	inch	mm
Floor standing enclosure								
6SL3710-3GJ33-1AS3	250	72	1916	6.9	2420	1098	54 x 28 x 100	1372 x 711 x 2531
6SL3710-3GJ33-8AS3	300	72	1916	8.4	2520	1143	54 x 28 x 100	1372 x 711 x 2531
6SL3710-3GJ35-0AS3	400	72	1916	10.2	2880	1306	54 x 28 x 100	1372 x 711 x 2531
6SL3710-3GJ36-1AS3	500	74	3471	13.1	3270	1483	68 x 32 x 100	1727 x 815 x 2531
6SL3710-3GJ37-5AS3	600	74	3471	14.6	3960	1796	68 x 32 x 100	1727 x 815 x 2531
6SL3710-3GJ38-4AS3	700	75	5431	16.9	6170	2800	100 x 32 x 104	2540 x 815 x 2631
6SL3710-3GJ41-0AS3	800	75	5431	19.9	6600	3000	100 x 32 x 104	2540 x 815 x 2631

Add-on options enclosures	Output (Light Overload)	Enclosure for options L10, L15, L32, L98, L99, M78				Enclosure for option L28 2 contactor bypass		Enclosure for option L29 RVSS bypass		
		Width W _O Inch / mm	L10 Weight lb / kg	L15 Weight lb / kg	L32 Weight lb / kg	L98/99/M78 Weight lb / kg	Width W _O Inch / mm	Weight lb / kg	Width W _O Inch / mm	Weight lb / kg
6SL3710-3GJ33-1AS3	250	24 / 610	595 / 270	1135 / 515	(Base) ¹⁾	(Base) ²⁾	(Base) ³⁾	(Base) ⁴⁾	24 / 610	694 / 315
6SL3710-3GJ33-8AS3	300	24 / 610	595 / 270	1135 / 515	(Base) ¹⁾	(Base) ²⁾	(Base) ³⁾	(Base) ⁴⁾	24 / 610	694 / 315
6SL3710-3GJ35-0AS3	400	24 / 610	595 / 270	1135 / 515	(Base) ¹⁾	(Base) ²⁾	(Base) ³⁾	(Base) ⁴⁾	28 / 711	714 / 324
6SL3710-3GJ36-1AS3	500	24 / 610	772 / 350	NA ¹⁾	530 / 240	485 / 220	24 / 610	639 / 290	40 / 1016	882 / 400
6SL3710-3GJ37-5AS3	600	24 / 610	772 / 350	NA ¹⁾	530 / 240	485 / 220	24 / 610	639 / 290	40 / 1016	882 / 400

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.
- The VFD is normally configured with main incoming power cables and outgoing motor cables for bottom entry. Top entry for incoming power cables can usually be accommodated depending on the horsepower rating, but top motor cable exit requires an additional option code.
- All interior buswork is nickel-plated bus.
- 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 Industry, Inc. "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.

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 INDUSTRY INC. 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."

RECOVERY of VALUE ADDED TAX ("VAT")

Buyer agrees that Seller is providing a product manufactured outside of the U.S. and that VAT taxes will accrue to Seller. Therefore, Buyer will promptly provide required documentation and agrees to assist Seller in its efforts to recover VAT taxes. For product scope made in another country, Seller is liable for Value Added Tax to be paid to that country's Tax Authorities which is calculated as a percentage of the value of the exported item. Current pricing does not include VAT tax. Seller can recover such VAT if proof of Export can be provided to that country's Tax Authorities. Buyer shall

support Seller in its effort to apply for such tax refund and throughout the entire recovery process with any documentation that may be reasonably required.

In particular, Buyer shall provide requested documentation within fifteen (15) calendar days after first export of the item for which VAT will be recovered, such documentation shall include as a minimum:

Original or Copy of the Ocean or Airway Bill of Lading, and one of the following documents:

- a. Copy of freight bill (or)
- b. Statement on customer letterhead that Buyer has arranged shipment and paid the Freight (or)
- c. A shipment order from the freight forwarder showing that the Buyer ordered the freight.

Buyer will promptly provide the required documentation and agrees to assist Seller in its recovery efforts and shall resume liability for any unrecovered portion of VAT if applicable.

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.

TERMS AND CONDITIONS

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).

Per ZRG

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

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. 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).

Medium Voltage Drive Service Types	Standard Rates ¹
MVD Specialist - NAM (Technician Level 4)	\$234.00/hr
MVD Specialist (Offshore) (Technician Level 4)	\$274.00/hr
Engineering Specialist (Engineering Level 4)	\$305.00/hr

Low Voltage Drive Service Types	Standard Rates ¹
Lead Field Specialist (Technician Level 4)	\$234.00/hr
Service Project Management	Standard Rates ¹
SPM Specialist (Engineering Level 2)	\$234.00/hr

Siemens Motor Service Types	Standard Rates ¹
Motor Specialist - NAM (Engineering Level 1)	\$205.00/hr
Motor Specialist (Offshore) (Engineering Level 2)	\$234.00/hr

Other Charges/Adjustments for Special Conditions	
Overtime Rate ²	Standard Rate times 1.50
Premium Time Rate ³	Standard Rate times 2.00
Travel Time Rate ⁴	At applicable Rate for Day of Week
Standby/On-Call/Holdover Time Rate ⁵	At applicable Rate for Day of Week
Travel & Living Expenses	Actual & Per Diem costs + 15%
Mileage	\$.85/mile

Notes and Clarifications:

1. **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.
2. **Overtime Rate** applies to all work or travel time in excess of 8 hours per day on normal weekdays and all work or travel time on Saturday.
3. **Premium Rate** applies to all work or travel time on Sundays and Holidays.
4. **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.
5. **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.

SINAMICS Model	Customer Requirement	Voltage Class	Construction	Cooling	Motor Amp Range		
					Minimum	Maximum	Extended
DCM	High Performance (DC)	240Vac	Open Chassis	Air	15	1200	
		480Vac	Open Chassis	Air	15	1200	
		575Vac	Open Chassis	Air	1600		2800
		690Vac	Open Chassis	Air	1500		2600
		830Vac	Open Chassis	Air	1500		1900
		950Vac	Open Chassis	Air	2200		2200
DCP	DC / DC Converter	30 - 800Vdc	Open Chassis	Air	10	200	800
G120E	General Purpose (AC)	380-480Vac	NEMA Cabinet	Air	10	240	
G130	General Purpose (AC)	380-480Vac	Open Chassis	Air	210	985	
		500-600Vac	Open Chassis	Air	175	810	
		660-690Vac	Open Chassis	Air	85	810	
S120	High Performance (AC)	380-480Vac	Open Chassis	Air	210	1405	
		500-690Vac	Open Chassis	Air	100	1270	
S120	High Performance (AC)	380-480Vac	Open Chassis	Liquid	210	1405	
		500-690Vac	Open Chassis	Liquid	100	1560	
G150	General Purpose (AC)	380-480Vac	NEMA Cabinet	Air	210	985	1560
		500-600Vac	NEMA Cabinet	Air	175	810	1360
		660-690Vac	NEMA Cabinet	Air	85	810	2752
G120ECP	Clean Power (AC)	380-480Vac	NEMA Cabinet	Air	10	240	
18-Pulse	Clean Power (AC)	380-480Vac	NEMA Cabinet	Air	302	960	
S150	High Performance (AC)	380-480Vac	NEMA Cabinet	Air	210	1405	
		500-690Vac	NEMA Cabinet	Air	85	1270	
S120CM (Modular)	High Performance (AC)	380-480Vac	NEMA Cabinet	Air	210	1405	5000
		500-690Vac	NEMA Cabinet	Air	85	1270	5000
S120CM (Modular)	High Performance (AC)	380-480Vac	NEMA Cabinet	Liquid	605	1405	
		500-690Vac	NEMA Cabinet	Liquid	100	1560	

