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CONTRACT PROPOSAL

PROPOSAL NUMBER: P18-877 REVISION B

TO SUPPLY: ONE (1) CALORIS FORCED CIRCULATION MECHANICAL VAPOR RECOMPRESSION EVAPORATOR SYSTEM

FOR PROCESSING: CANOLA AND PEA PROCESS WASTE WATER

QUOTED TO: MERIT FUNCTIONAL FOODS
BOX 53053 SOUTH ST. VITAL
WINNIPEG, MANITOBA R2N 3X2

ATTENTION: RANDY WILLARDSEN
SENIOR VP PROCESS ENGINEERING

CONTRACT PROPOSAL SUBMITTED: SEPTEMBER 13, 2019
BY CALORIS ENGINEERING, LLC

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I. GENERAL PROJECT PARAMETERS

A. PURPOSE

With this proposal, Caloris Engineering, LLC (herein "Caloris" or "Seller") is pleased to offer to Merit Functional Foods (herein "Merit Foods" or "Buyer") a Caloris MVR Heated Forced Circulation Evaporator System for concentrating waste water from the processing of Canola and Pea products at their facility in Winnipeg, MB, Canada.

Design of the Caloris Forced Circulation MVR Evaporator System consists of individually proven unit operations that offer very flexible performance capabilities and high overall energy efficiency, utilizing state-of-the-art rotary-lobe compressor technology for MVR heating with electrical power that offers significant operating flexibility. Further, the overall system is executed to be highly compact and require minimal costs for facility preparation and installation labor to achieve a complete installation.

B. DESIGN CONCEPT

Please refer to Process Flow Diagram (PFD) P877-8166 Rev B for the Caloris MVR Heated Forced Circulation Evaporator offered with this proposal (*Attachment A*).

We offer supply of an MVR evaporator system in a unique, compact design. With a nominal rated water evaporation capacity of 2,000 Kg/hr (evaporating water from water), the offered evaporator system will be capable of concentrating Canola or Pea process waste water at the Merit Foods facility by a factor of 2x from 16% TS to approximately 48% TS.

MVR compressors generate heating vapors by compression of the water vapors evaporated from the product. Total energy consumption for the offered evaporator system is minimized by utilizing an efficient MVR rotary-lobe compressor driven by electrical power to achieve the water evaporation duty. A nominal quantity of additional heating energy from steam supplied to the evaporator by the Buyer's steam boiler is required for preheating the feed product during startup and maintaining an overall positive evaporator system energy balance during steady state operation.

The compact design of the Caloris Forced Circulation MVR Evaporator system is achieved by integrating the control system, MVR rotary-lobe compressor, pumps, vapor separator, pre-heaters and flooded-tube heat exchanger into one compact assembly. The system will delivered to the Buyer's installation site with major components pre-assembled and pre-piped as much as practical onto a structural base frame, requiring a level surface for installation with a perimeter footprint of approximately 4.5 m. L x 4.5 m. W and a clear ceiling height of 6 m. Some system components (such as the vapor separator and vapor outlet ducting) will need to be shipped separate from the main skid assembly to avoid damage during transit. After install of loose-ship components onto the base frame, and installation of any connection of site utilities and electrical power wiring to all system

motors (from Buyer's MCC/VFD's), the evaporator system can begin commissioning for operation.

The waste water feed to the evaporator system, to be supplied at a temperature of ~60°C, will first pass through a pre-heater assembly to regeneratively heat the feed against the hot vapor condensate discharging from the evaporator system.

Note: It is understood by Seller that the feed to the evaporator system will be generally free of entrained suspended solids that might cause plugging problems inside the evaporator system, or dissolved non-condensable gases that would diminish the performance and operating capabilities of the evaporator system. The presence of non-condensable gases inside an evaporator operating under partial vacuum conditions displaces condensable water vapors (steam) away from the heat exchanger surfaces, diminishing the effectiveness of evaporator. These non-condensable gases are particularly "poisonous" inside an energy efficient MVR heated evaporator system, which operates with an energy balance that is just slightly positive, as compared to a steam heated evaporator system that expels much more waste heat and can more readily accommodate expelling non-condensable gases with waste heat vapors.

The product temperature in the evaporator system will be approximately 100-102°C, with a modest increase in product temperature possible as total solids concentration increases and imparts a boiling point elevation. The evaporator system will operate with a generous flow of recirculated product to ensure the heat transfer tubes remain flooded at all times.

While not currently included as part of the offered evaporator system scope of supply, upon request Seller can offer optional pricing for supply of the following additional equipment scope and its integration into the evaporator system:

- Insulation and cladding of major evaporator system components.
- An A/C unit for cooling the PLC cabinet.

II. PROCESS PERFORMANCE

A. PRODUCT SPECIFICATIONS

The selection of the Caloris MVR Heated Forced Circulation Evaporator System offered with this proposal is based on the Merit Foods specification to process the "reference product" waste water, achieving a water evaporation rate of 2,000 Kg/hr while concentrating the waste water from 16%TS to approximately 48%TS, with the understanding that the feed water water at 16%TS will contain ~1.4 wt.% Ash, of which ~1.0 wt.% TS is Sodium Chloride (NaCl).

It is understood by Merit Foods that Caloris has not conducted any pilot testing to concentrate samples of the reference waste water in-order to establish any qualitative or quantitative data or characteristics for the concentration of this reference waste water, and the selection of the proposed 25 evaporator system is based solely on the objective for achieving 2,000 Kg/hr of water evaporation capacity.

As it pertains to the operation and performance of the proposed evaporator system, Buyer understands that the reference product is to be generally free of entrained suspended solids that might cause plugging problems inside the evaporator system. Screening of suspended particulate to a minimum 35 Mesh, and preferably 100 Mesh, is recommended.

B. SYSTEM PERFORMANCE

Seller guarantees that the evaporator system offered with this proposal will be capable of evaporating 2,000 Kg/hr of water from water. The operating parameters and mass balance specifications given under *Section V*, of this proposal are offered as expected performance parameters on the reference product.

Noted performance guarantee is subject to adjustment in the event that the system design is substantially modified at Buyer's request.

C. PERFORMANCE TEST

A system performance test at the installation site may be conducted (at Buyer's request) to document achievement of performance guarantees. Of primary emphasis are the water removal rate, energy consumption and CIP performance of the system.

Such test will be supervised by Seller's representative and requires normal staffing by Buyer's operating personnel, inclusive of a responsible supervisor. Buyer will further make available all lab personnel and testing services as specified by the test procedure. All materials for collecting and measuring product, condensate and other parameters will also be supplied by Buyer.

Upon notice from Buyer of desire to test performance, Seller will furnish a written test procedure, which must be mutually agreed prior to commencing with the performance test.

Upon completion of the test, the results shall be binding.

In the event that the system fails to meet performance guarantee upon initial test and solely due to Seller's responsibility, Seller will investigate deficiencies and implement solutions as required under this agreement.

In such case, all cost associated with subsequent performance tests will be at Seller's expense unless alternate agreements are made between Buyer and Seller to reflect shared responsibility for failure of initial performance test.

III. SPECIFIC CONSTRUCTION STANDARDS

NOTE: It is the understanding of Caloris that the process design parameters and operating conditions for each individual component of the evaporator system offered with this proposal will not require that they must be designed and/or specified to comply with any Canadian Electrical or Pressure Regulations or Codes (CRN)

Should Caloris be advised by the Buyer, or by any Canadian authority, that any components need to satisfy or comply with any Canadian Electrical or Pressure Regulations, Standards or Codes, then any costs that Caloris would incur to modify the design and/or execution of the offered evaporator system to satisfy any such requirements would need to be authorized by Merit Foods under a Change Order and would be billable to Merit Foods as an adder at cost.

All equipment specified and provided under this proposal will be designed, fabricated and supplied according to the following standards.

A. ELECTRICAL STANDARDS

All current requirements as stipulated by the National Electrical Code (NEC) will be satisfied.

IV. TERMS OF SALE

A. PROJECT SCHEDULE

1. CALORIS MVR EVAPORATOR WITH PLC CONTROL PANEL

Notification of readiness to ship the skid mounted MVR Evaporator System, inclusive of the pre-wired and pre-programmed PLC control system.

Approximately twenty-eight (28) weeks from Seller's receipt of Buyer's written Purchase Order and Down Payment, to be confirmed at time of order.

2. TRANSPORTATION TIME ALLOWANCE

Evaporator System: One (1) week from the notification of readiness to ship.

3. INSTALLATION

Time for mechanical installation of this system based upon an uninterrupted and continuous installation schedule.

Approximately two (2) weeks on an uninterrupted schedule following arrival of the MVR Evaporator System.

4. COMMISSIONING AND OPERATOR TRAINING

Time for functional testing of all equipment, set-up of the control parameters and training the operating personnel on an uninterrupted schedule.

Approximately two (2) weeks following completion of installation.

B. PRICES

1. CALORIS MVR EVAPORATOR WITH PLC CONTROL PANEL

As per scope specified in *Section X* of this proposal. Included are all residual engineering services as specified in *Section XI* of this proposal. Excluded are items as specified in *Section XIV* of this proposal. Price below is offered F.O.B. Points of Manufacture.

Firm Price: $ 1,140,000 US Dollars
(One Million One Hundred Forty Thousand US Dollars)

2. ESTIMATED FREIGHT COSTS

For the complete Caloris MVR Evaporator system via ground transport F.O.B Seller's System Assembly Shop to Buyer's facility in Winnipeg, MB. Actual costs for freight and insurance during shipment will be pre-paid by Seller and invoiced to Buyer at cost plus 10% handling fee.

Cost Estimate: $ 20,000
(Twenty Thousand Dollars)

3. ESTIMATED INSTALLATION SUPERVISION COSTS

For Installation Supervision of Buyer's mechanical installation labor crew(s) at Buyer's site as specified in *Section XIII.C* of this proposal, but without the exclusions made in *Section XIV* of this proposal.

Cost Estimate: $ 10,000
(Ten Thousand Dollars)

4. ESTIMATED COMMISSIONING AND OPERATOR TRAINING

For one (1) Caloris representative on an uninterrupted schedule of two (2) weeks including validation of performance and enabling three (3) pre-qualified operators and one (1) pre-qualified supervisor to perform commercial operation of the system.

Cost Estimate: $ 20,000
(Twenty Thousand Dollars)

5. RECOMMENDED SPARE PARTS FOR SELLER SUPPLIED PROCESS EQUIPMENT

a) One (1) Spare Rotary Lobe Compressor (Blower) and Motor

For supply of a spare rotary lobe compressor (blower) assembly and spare 100 HP compressor motor, as described in Section X.A.5 of this proposal, excluding the associated water spray control panel scope.

Firm Price: $ 61,000 US Dollars
(Sixty-One Thousand US Dollars)

C. SALES AND USE TAXES AND DUTY

Sales and use taxes and V.A.T. taxes and import duty (if any) are not included in the above prices. If Seller is to pay these taxes and duty, then they will be billed as incurred to be paid net ten (10) days, according to applicable federal, state or provincial regulations. If Buyer provides Seller with a Sales Tax Exemption certificate provided by the appropriate agency that is accepted by suppliers, then no sales taxes will be billed to Buyer.

D. TERMS OF PAYMENT

1. PROCESS EQUIPMENT, MACHINE MOUNTED SENSORS AND CONTROLS

20%	Payable net ten (10) days after date of Seller's receipt of Buyer's Purchase Order (PO) for Process Equipment.
20%	Payable net thirty (30) days ten (10) weeks after date of Buyer's PO for Process Equipment.
20%	Payable net thirty (30) days twenty (20) weeks after date of Buyer's PO for Process Equipment.
20%	Payable net thirty (30) days upon notification of readiness to ship the Caloris MVR Evaporator System.
10%	Payable net thirty (30) days upon completion of mechanical installation of the Caloris MVR Evaporator System sufficient for Caloris to begin system commissioning and Buyer to begin routine commercial system operation on product if product were available.
10%	Payable net thirty (30) days upon final acceptance of the system, but no more than one hundred twenty (120) days after delivery of the Caloris MVR Evaporator System in case installation and/or acceptance are delayed due to no fault of Seller.

Note: Acceptance of the system will be deemed to have occurred when the system is demonstrated to be capable of achieving 2,000 Kg/hr of water evaporation capacity (water from water), and otherwise can generally achieve processing of the reference product as per the Mass Balance *Section V.A.* Specific amounts of money may be retained against completion of punch list items that are the responsibility of Seller, if Seller has access to the equipment within a reasonable period of time to complete those items.

2. FREIGHT COSTS

Freight cost will be billed as incurred plus a handling fee of 10%, to be paid net thirty (30) days from date of Seller's billing.

3. MECHANICAL INSTALLATION COSTS

Should Buyer contract with Seller to supply any on-site mechanical installation services, any such installation costs contracted by Seller on behalf of Buyer will be billed as incurred plus a fee of 15% for subcontracted services and purchased items.

4. INSTALLATION SUPERVISION, COMMISSIONING AND OPERATOR TRAINING

On-site services supplied by Seller for Installation Supervision, Commissioning and Operator Training will be billed as incurred and as per Seller's rate sheet valid at the time of service. Subcontracted services will be billed as incurred plus a fee of 10%.

5. SALES AND USE TAXES AND DUTY

If Seller is to pay these taxes and import duty, then any and all Sales and Use incurred by Seller will be billed as incurred, to be paid ten (10) days from date of billing.

E. VALIDITY OF QUOTATION

This proposal is valid for a period of thirty (30) days from the date of issuance.

F. GENERAL TERMS AND CONDITIONS

Caloris Engineering, LLC Standard Terms and Conditions (*Attachment B*) are made part of this proposal.

V. CAPACITY AND OPERATING DATA

A. MASS BALANCE

Reference Product			**Canola and Pea Process Waste Water**
Evaporator Feed	- Rate	(Kg/hr)	3,000
	- Concentration	(% TS)	~ 16
	- Temperature	(°C)	~ 60
Evaporator Discharge 1,000	- Rate	(Kg/hr)	
	- Concentration	(% TS)	~ 48
	- Temperature	(°C)	~ 102
Water Evaporation	- Rate	(Kg/hr)	2,000
Condensate Discharge	- Rate	(Kg/hr)	2,000
	- Temperature	(°C)	~ 5°C hotter than feed temp

Note: If Buyer requires a maximum discharge temperature for the vapor condensate stream, Seller can offer an optional expansion section for the plate heat exchanger to cool the vapor condensate against a plant coolant liquid.

B. STEAM CONSUMPTION AND PRESSURE

Start-up steam will be required for initial system heat-up to product boiling temperature, with a nominal amount of steam required during steady-state operation to maintain a net positive system heat balance. A supply of ~ 500 Kg/hr of clean saturated steam should be provided at 2 Barg for system start-up, with potentially 100 Kg/hr required during operation.

C. INDICATIVE EVAPORATION TEMPERATURES

Heating	- Temperature	(°C)	116
Product Boiling	- Temperature	(°C)	102
Vapor	- Temperature	(°C)	100

D. ELECTRIC POWER CONSUMPTION

All consumption figures are at the drive shaft and as occurring during normal production for reference operating case. "[ ]" Signifies connected HP.

Rotary Lobe Compressor	- KW [HP]	~ 70	[100]
Feed Pump	- KW [HP]	~ 7	[10]

Condensate Pump	- KW [HP]	~ 7	[10]
Recirculation pump	- KW [HP]	~ 55	[75]
Total	- KW [HP]	~ 139	[195]

E. COOLING TOWER WATER CONSUMPTION

No cooling tower water supply is required for operation of the offered evaporator system.

F. WATER TO FEED BALANCE TANK (ON DEMAND ONLY)

Flow Rate	- m^3/hr	4
Temperature	- (°C)	~ 21 (as available)

G. SEAL WATER

No seal water is required to the various pumps of the evaporator system, which operate at atmospheric pressure.

H. INSTRUMENT AIR

No instrument air supply is required for operation of the offered evaporator system components.

I. DEFOAMER

Addition	- PPM	(TBD)

VI. UTILITY PEAK REQUIREMENTS

A. STEAM

This proposal is based upon the availability of clean saturated steam at a minimum pressure of 2 Barg at the connection point.

B. ELECTRIC POWER

Electric power will be required for the evaporator system. A supply of 460 volts, 3 phase, 60 Hz is required, at a rating of 139 KW, not including any pumps not specified in this proposal.

C. COOLING TOWER WATER

No cooling tower water supply is required for operation of the offered evaporator system.

D. WATER

The water supply should be sized to cover short-term peak consumptions of up to 4 m^3/hr. Temperature should be ~ 21°C, and pressure should be a minimum of 1.5 Barg.

E. SEAL WATER

No seal water is required to the various pumps of the evaporator system.

F. INSTRUMENT AIR

No instrument air is required for operation of the offered evaporator system.

VII. CONDENSATE QUALITY

Condensate is generated on the exterior of heat transfer tubes as the result of condensation of vapors removed from the product. This represents the majority of all condensate and is referred to as "vapor condensate."

The quality of condensate is dependent upon the combined effect of evaporator entrainment losses and distillation of volatiles from the product during evaporation.

Since the evaporator design can only influence condensate quality with regard to entrained solids, while distillation products may vary significantly, no guarantees for condensate quality can be made.

In recognizing the high priority of most users of evaporation equipment to produce a good quality condensate, our design includes conservative internal velocities and generous sizing of the vapor separator to insure a practical minimum of entrainment of product into the condensate.

VIII. CIP (CLEAN-IN-PLACE)

The evaporator will be designed for CIP. To CIP this system, both caustic and acid solutions may be required. The optimum CIP chemical sequence and procedure will have to be established after start-up and adjusted accordingly. Normally, such an evaporator is cleaned effectively after a water flush of residual product solids with a caustic wash, followed by an acid wash, or in reversed sequence for some product applications.

CIP of the evaporator system will take place in sequence once the solutions are prepared in the Feed Balance Tank, where the entire procedure typically requires no longer than four (4) hours.

The CIP procedure will be activated and sequenced by the evaporator control system.

IX. EQUIPMENT SPECIFICATIONS

A. MATERIALS OF CONSTRUCTION

All product contact equipment supplied will be fabricated with the following general material specifications.

1.	CALANDRIA, VAPOR SEPARATOR AND TUBULAR HEATERS	
	Heat Exchanger Tubing and Product Contacted Parts	Duplex 2205
	Other Parts	304 SS
2.	BASE FRAME AND CHECKER PLATE	304 SS
3.	FEED BALANCE TANK	316 SS
4.	PRODUCT LINES	Duplex 2205
5.	CONDENSATE AND VENT LINES AND VENT CONDENSER	304
6.	CONCENTRATE AND PRODUCT CIRCULATION PUMPS	Duplex 2205
7.	CONDENSATE PUMP	316 SS
8.	ROTARY-LOBE COMPRESSOR	
	Rotors	Ductile Iron
	Housing	Cast Iron

B. EXTERNAL SURFACE FINISH

All primary evaporator components will be mill finish on the visible exterior surfaces. All tubing for product, condensate, CIP, venting, utility and potable water will be mill finish.

C. INTERNAL SURFACE FINISH

All primary evaporator components will be of a mill finish with welds ground to remove burrs and rough edges.

D. INSULATION

Insulation of evaporator system components is excluded from the Seller's scope of supply.

X. EQUIPMENT SCOPE OF SUPPLY

A. PROCESS SYSTEM COMPONENTS

1. ONE (1) FEED BALANCE TANK (FBT 01)

Tank is of ~0.3 m^3 holding volume and fitted with overflow and required inlet/outlet connections for product, CIP chemicals, water and condensate. Included are connections for instruments.

2. ONE (1) PLATE HEAT EXCHANGER (PHX 01)

Single stage plate heat exchanger (AGC or equal) for regenerative pre-heating of incoming feed from the Feed Balance Tank against hot vapor condensate discharging from the forced circulation heat exchanger.

The frame is stainless steel, with six (6) stainless steel tie-bolts for even closure. The gaskets are of the snap-in type.

3. ONE (1) FORCED CIRCULATION TUBE AND SHELL HEAT EXCHANGER (PH 01)

Horizontal shell and tube type. Product on the tube side and saturated vapors on the shell side. Heater is of a multiple tube, multi-pass design with removable heads on each end for inspection of tubes.

Heat transfer tubes are welded into the tube sheets with tube supports for the tube bundle within the exchanger shell.

The exchanger includes all necessary connections for product, heating medium, venting, condensate removal and instruments. Sight glasses are provided for general observation purposes.

4. ONE (1) VAPOR SEPARATOR (FV 01)

For efficient separation of liquid droplets from evaporated vapors, a vertical vapor separator of centrifugal design is utilized for a low pressure drop and a practical minimum of entrainment losses.

The vapor separator includes all necessary connections for vapor, product outlet, and instruments. Sight glasses are provided for observation purposes.

The vapor separator also includes a mist eliminator positioned at the top (vapor outlet end) of the vapor separator vessel. The mist eliminator can be accessed for inspection, removal and cleaning by opening the bolted manway on the side of the vapor separator vessel.

5. ONE (1) ROTARY-LOBE MVR VAPOR RECOMPRESSOR (MVC 01)

Rotary lobe blower (Tuthill or equal) for compression of saturated water vapor from the vapor separator to an elevated pressure suitable for heating the calandria shell and providing the thermal driving force for evaporation.

Blower is of durable design for vertical vapor flow with plugged rotors, Kalrez "O" rings on the mechanical seals, chamber vented to a collection drain, motor slide base, (2) flanged vapor inlet/outlet flexible connectors, and fabricated base with legs and vent drain to collection vessel. Also includes a water injection kit (for compressor cooling, including valves and tubing mounted within a panel. Blower consists of cast iron housing and ductile iron rotors.

Blower is belt driven by a motor specified for inverter duty and wash down service.

6. ONE (1) SOUND REDUCTION ENCLOSURE

A aluminum insulated sound enclosure is provided for the Rotary Lobe compressor to reduce radiant sound by approximately 20 dBA, including a forced circulation cooling fan and side panels with handles.

7. ONE (1) CENTRIFUGAL FEED PUMP (PP 01)

Centrifugal pump (Flowserve or equal) including close-coupled TEFC motors suitable for variable frequency drive and integral single mechanical shaft seal. Pump motor to be painted, specified for premium efficiency and wash down service.

8. ONE (1) CONDENSATE DISCHARGE PUMP (CP 01)

Centrifugal pump (Flowserve or equal) including close-coupled TEFC motors suitable for variable frequency drive and integral single mechanical shaft seal, to discharge vapor condensate from the evaporator system. Pump motor to be painted, specified for premium efficiency and wash down service.

9. ONE (1) PRODUCT RECIRCULATION PUMP (PP 02)

Centrifugal pump (Flowserve or equal) including close-coupled TEFC motors suitable for variable frequency drive and integral single mechanical shaft seal, to recirculate concentrating product through the primary forced circulation heat exchanger. Pump motor to be painted, specified for premium efficiency and wash down service.

10. MISCELLANEOUS COMPONENTS (LOT)

a) One (1) stainless steel skid frame for support of all evaporator system components.

b) One (1) stainless steel grate access platform (approx. 1.5 m x 1 m) for inspection access to the vapor separator manway, inclusive of 304 stainless steel access ladder. [Note: Per Buyer's request, the access ladder will be designed to stand at a 15-degree angle (from vertical).]

c) One (1) condensate collection tank to provide stable conditions for condensate water discharge pump. Made entirely of stainless steel with one (1) sight glass.

11. PIPING, HAND VALVES AND FITTINGS (LOT)

All vapor and venting ducts are supplied to interconnect primary components. Most connections are welded.

12. PRODUCT AND CIP ELECTRIC-ACTUATED VALVES (LOT)

Electric-actuated throttling and shut-off valves are included for remote actuation from the control panel.

13. PLC CONTROL SYSTEM FIELD WIRING AND CONDUITS

System is supplied complete with control system wiring between the PLC control system panel mounted to the base frame and field instruments/devices.

B. CONTROL SYSTEM COMPONENTS

Seller will supply all machine-mounted sensors and instruments, as well as a PLC control system for operation of the evaporator system.

All machine mounted output devices (primarily electric-actuated control valves) will be supplied by Seller as are all local gauges. The PLC hardware, software and programming are included in Seller's scope as is the required control panel (designed for indoor installation location). Seller's control system scope shall include one (1) fully pre-programmed Allen-Bradley PLC and PanelView OIT mounted to the face of the NEMA 12 PLC panel enclosure.

Note: Caloris scope of supply for the offered MVR evaporator system (*Pricing Section IV.B.1*) excludes supply of all VFD's/Motor Starters required for all Seller supplied motors and electrical power consumers, as well as supply and installation of all power wiring and conduits from all evaporator system motors and electrical power consumers to the Buyer's supplied VFD/MCC panel(s).

XI. ENGINEERING SERVICES

A. ENGINEERING

Seller will provide all process and mechanical engineering services as required to design and fabricate the system.

Additionally, Seller has included project management and procurement services as necessary to expedite this project and coordinate schedules and related activity with Buyer until mechanical completion.

Buyer is expected to assign a project manager to handle Buyer's obligations and to coordinate with Seller.

B. DOCUMENTATION

Seller will furnish:

- System flow diagram
- Equipment arrangement drawings
- Operating instruction manual
- Recommended spare parts list
- Purchased equipment manuals as furnished by OEM's

C. SOFTWARE FOR CONTROL SYSTEM

Seller will provide programming for the offered evaporator system's control system PLC and HMI.

XII. INSTALLATION SERVICES

A. INSTALLATION SEQUENCE

The proposed system largely consists of one freestanding assembly that will be set on a clean, level surface. This is accomplished by a forklift (approx. 5,000 Kg capacity) supplied by Buyer.

As the system is set and fixed in final position, Buyer can install specific system components that may have shipped loose to avoid damage during transit, and then proceed to connect power supply to all system motors, product feed, and concentrate and condensate discharge lines to the respective terminal points in accordance with Seller's instructions.

No final architectural work should be undertaken to avoid congestion and damage. Specifically, no final painting or floor finishing work is to be done until the system is mechanically complete.

B. INSTALLATION MATERIALS

All crane services, forklifts and scaffolding required for installation of the equipment is to be provided by Buyer at Buyer's expense. All other hardware, tools, installation equipment and expendable materials needed to complete the installation are supplied by the Buyer's sub-contracted installation services provider.

C. INSTALLATION SUPERVISION

With *Pricing Option IV.B.3*, Seller will provide one (1) site supervisor to manage all site activities associated with the proposed evaporator system installation, commencing with arrival of the equipment and supervision of its unloading, terminating with mechanical completion and completing the punch list of residual mechanical items.

D. INSTALLATION LABOR

Should Buyer contract with Seller for subcontracting of Installation Services, Seller will provide qualified installation labor of sufficient quantity to complete the installation services proposed within the projected time period. Seller reserves the right to obtain qualified installation labor from sources of its choosing, based upon past experience and local requirements. It is further understood that this proposal is made on the basis of non-union labor rates and that there are no known restrictions concerning labor to be utilized. All extra costs that may arise out of externally imposed labor restrictions will be at Buyer's added expense.

Buyer may directly contract the installation services with a provider of Buyer's preference.

E. INSTALLATION CONDITIONS

Installation will commence only upon Buyer achieving a satisfactory stage of process area preparation to receive the equipment.

Buyer will be responsible to arrange for off-loading all equipment upon arrival with supervision by Seller. It is understood by Buyer that the installation site is to be ready and prepared for installation of the major fabricated equipment upon its arrival.

Buyer will provide Seller with dry, clean and secure storage space on site for staging of equipment prior to installation, to the extent necessary.

Buyer is to provide adequate lighting and utilities to permit an uninterrupted installation sequence to take place.

Any installation personnel contracted by Seller will observe all plant and local safety codes in the diligent execution of their work.

Installation personnel contracted by Seller will be responsible to clean the jobsite of construction debris resulting from work performed by those Seller contracted personnel, upon completion of their work.

Seller's installation personnel shall not be impaired by ongoing processing operations or adverse conditions (e.g. heat, noise) created by ongoing operations. Should such conditions exist or occur, Buyer is responsible to make Seller aware of such and mutual agreements shall be made concerning reasonable adjustments of such conditions.

F. DELAYS

All delays caused solely by Seller will be at Seller's expense and inconvenience. This particularly includes interruptions in the areas of materials, labor and installation supervision.

All delays caused solely by Buyer will be at Buyer's expense and inconvenience. This particularly includes readiness of installation site, equipment unloading, crane, forklift and scaffolding services and working conditions at the installation site.

In case a delay is caused solely by Buyer, Seller will make all reasonable efforts to minimize the cost of rescheduling labor and services as practical. Buyer will be responsible to pay all unavoidable costs associated with the delay, including travel and stay expenses for personnel, extra labor expenditures, including overtime and related installation expenses. Seller will provide documentation for all added costs and invoice such charges promptly as incurred.

In case of shared responsibility, Seller and Buyer will agree on a cost distribution schedule, prior to occurrence of expenditures related to delays.

XIII. COMMISSIONING AND OPERATOR TRAINING SERVICES

A. SCOPE OF SERVICES

Complete commissioning and operator training services will be provided by Seller, as offered under *Pricing Option IV.B.4*, immediately following completion of installation of all electrical power wiring and conduits, piping, etc., by Buyer.

Seller will provide one (1) or more qualified process engineers (as determined necessary by Seller) for a period of approximately two (2) weeks to perform the following activities:

- Mechanical function test for all equipment prior to operation
- Function test of complete control system
- Start-up on water
- Start-up on product
- CIP
- Operator training – three (3) pre-qualified operators and one (1) pre-qualified supervisor to be made available by Buyer

Should performance testing be requested, such test will generally involve at least one (1) twenty-four (24) hour operating period and such period is to be scheduled as part of the one (1) week commissioning period.

B. DELAYS

All delays caused solely by Seller will be at Seller's expense and inconvenience. This particularly includes mechanical problems, process problems and delays caused by Seller's subcontractors.

All delays caused solely by Buyer will be at Buyer's expense and inconvenience. This particularly includes unavailability or interruptions of product, utilities and any personnel provided by Buyer and its subcontractors. In case a delay is caused solely by Buyer, Seller will make all reasonable efforts to minimize the cost of rescheduling labor and services as practical. Buyer will be responsible to pay all unavoidable costs associated with the delay, including travel and stay expenses for personnel, extra labor expenditures, including overtime and related commissioning expenses. Seller will provide documentation for all added costs and invoice such charges promptly as incurred.

In case of shared responsibility, Seller and Buyer will agree on a cost distribution schedule, prior to occurrence of expenditures related to delays.

XIV. SCOPE LIMITATIONS

A. TERMINAL POINTS

To be defined as part of Seller's detailed engineering process.

B. EXCLUSIONS

1. All building and architectural work, foundations, structural steel, support structures, access stairways, facility lighting, heating, ventilation systems, sewers and hose stations, except as otherwise specified as being supplied by Seller in this proposal.

2. All cranage, forklifts, manlifts, scaffolding and rigging for unloading and installation of equipment.

3. Supply and installation of all VFD's/MCC required for all evaporator system motors, and supply and installation of all power wiring (and related conduits) to all Seller supplied motors.

4. All utility piping, valving and related accessories external of terminal points specified in *Section XIV. A above*.

5. Supply and installation of insulation and cladding, except as specified in this proposal.

6. Bulk, concentrated CIP chemical storage and supply/metering systems required to deliver CIP chemicals to the evaporator system.

7 CIP chemical reclaim systems and tanks.

8. Design and/or component execution modifications for the offered Caloris MVR Evaporator System components (if any) as may be required to satisfy Canadian Electrical and/or Pressure Regulations, Standards or Codes.

9. Spare parts.

10. Final painting of mild steel components (if any).

11. Condensate storage systems.

12. Special permits.

13. Sales, Use and V.A.T taxes.

14. Any item not specifically specified in this proposal.

XV. ATTACHMENTS

A. PFD P877-8166 Rev B - Caloris MVR Heated Forced Circulation Evaporator

B. GA G877-8178 Rev B - Caloris MVR Heated Forced Circulation Evaporator

C. Caloris Engineering, LLC Standard Terms and Conditions

D. Caloris Engineering LLC Field Service Rates – 2019

Contract Proposal Submitted
On September 13, 2019
By Caloris Engineering, LLC

Sincerely,

Bruce Skinner

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