

**THE NEW SURREY HOSPITAL**

**AND**

**BC CANCER CENTRE PROJECT**

**Schedule 1 – Statement of Requirements**

**Appendix 1Q – Acceptable Manufacturers List**

## Appendix 1Q – Acceptable Manufacturers List

EQUIPMENT TYPE / SYSTEM	EQUIPMENT/SYSTEM MANUFACTURER
<b>PART 1. MECHANICAL(Division 21 – 25)</b>	
Air Flow Measuring Air Monitor, Air Stations	Air Monitor, Ebtron, Sentinel
Air Handling Units – Custom Built	Haakon, Scott Springfield, Hunt Air, Xnrgy
Air Handling Units – Packaged	Trane, McQuay, Engineered Air
Air Separator	Armstrong, Bell & Gossett, Spirotherm
Air Terminals – Hospital OR	SLD Technology
Air Terminals – Supply Air	EH Price, Krueger, Swegon, Titus, Tuttle & Bailey
Boilers Hydronic – Electric (High Mass)	Cleaver Brooks
Boilers Steam – Electric (High Mass – Fire Tube)	Cleaver Brooks
Chillers – Water Cooled, Centrifugal	Trane, York (JCI), Daikin
Heat Recovery Screw Chillers – Water Cooled	Trane, York (JCI), Daikin
Cooling Towers	Marley, BAC, Evapco
Dampers – Control	Ruskin, Tamco
Deaerator	Cleaver Brooks
Dust Collectors	A.A.F, AQC, Donaldson, Murphy, Sternvent, Kraemer
Emergency Equipment (Eye Wash, Showers)	Haws, Guardian, Bradley, Acorn Speakman
Emergency Equipment – Thermostatic Mixing Valves	Guardian, Haws, Bradley Acorn, Speakman
Fans – general use	Greenheck, Loren Cook, TwinCity
Fans – Lab (high plume, dilution)	Strobic, Loren Cook
Fans – Parkade Transfer	Systemair, Zoo Fans
Fan Coil Units	Carrier, Daikin, Dunham Bush, Engineered Air, Enviro Tec, Johnson Controls, Trane, Williams
Faucets	As per FHA Faucet and Sink Guideline
Filters - Air - Containment Housings - Bag-In / Bag Out	AAF, Camfil, Contamination Technology Corp., Tri-Dim
Filters - Air - Electric	Dynamic
Filters - Air - Mechanical	AAF, Cambridge, Camfil, Flanders, Pacific, Viledon

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Filters – Domestic Water - Self Cleaning	Orival, Judo, Forstra Filters
Filters – Hydronic – Side Stream	Axiom Industries, AMF Cuno, Guthrie, Summit
Flow Meters – BTU Meter	Onicon
Flow Meters – Electromagnetic Meter	Onicon
Flow Meters – Incline Electromagnetic Meter	Onicon
Flow Meters – Sat Steam Meter	Onicon
Flow Meters – Ultrasonic Meter	Onicon
Gauges - Air	Dwyer, Magnehelic
Heat Exchangers	Armstrong, Bell & Gossett, Alpha Laval
Heat Exchangers – Brazed Plate	Armstrong, Bell & Gossett, Alpha Laval
Humidifiers – Adiabatic	Armstrong, Dri-Steam, Neptonic, Pure, Vapac, WeeFog
Hydronic Pumps centrifugal (heating, cooling, domestic water)	Armstrong, Bell & Gossett, Grundfos, Taco
Insulation – Acoustic – Duct – Fibre Free	K-flex, Armacell, Evonik (Solcoustic)
Insulation – Canvas Jacket	Robson, Fattal, Tai-Can
Insulation – Fabric Adhesive Coatings	Robson, Bakor, Childers, Epolux, Foster
Insulation – Low to Intermediate Temp Pipe and Fitting Insulation	Owens Corning, Roxul, Johns Manville, Manson
Insulation – PVC and Metal jacket – Pipe and Fittings	Speedline, Proto, Zeston, Shur-Fit, Belform
Insulation – Thermal – Duct	Johns Manville, Owens Corning
Insulation – Thermal – Pipe and Fittings	Johns Manville, Owens Corning, Shur-Fit
Insulation - Vapor Barrier Jacket Adhesive	Bakor, Epolux, Nacan, Foster, Childers
Insulation - Vapor Barrier – Jacket	Knauf ASJ, Kingspan ASJ, Mason ASJ, Johns Manville AP-T Plus, Owens Corning ASJ, Rocul ASJ, Venture Wrap 1555U
Interceptor - Grease	Mifab, Green Turtle
Interceptor - Oil	Mifab
Medical gases (medical air, instrumentation air and vacuum systems)	AMICO, Class 1, VitalAir

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Lab - Nitrogen Generation System	PEAK Scientific, Parker (Canada Division), ON Site Gas Systems
Anesthesia Gas Scavenging System	Air Liquide, Amico
BMS and Energy Centre Controls contractor	ESC (Delta Controls), Schneider (Struxureware), Spartan Controls (Delta V)
Fire Protection Couplings, Fittings, Valves, PRVs, devices, fire-packs , flex drops, flex drops with M.O.H. (made on heads),sprinkler heads and Vortex dual agent extinguishing system	Victaulic, Bermad
Variable Frequency Drives	ABB
Mechanical Joint/Grooved manufacturers – Domestic/Hydronic, AGSS, HHR, Storm, Sanitary and Compressed/Utility Air	Victaulic
Press joint manufacturers	Victaulic
Grooved couplings, valves, fittings, strainers, check valves, valves, 2 way/3-way control valves, vibration isolation pump and air handling unit drops and accessories – Domestic and Hydronic	Victaulic, Bermad
Expansion compensators/Joints and Anchors – Grooved – Domestic and Hydronic	Victaulic
Flex Connectors – Grooved	Victaulic
Pump Accessories – Grooved	Victaulic
Other Flexible Connections	Flex – Tend
Hose Reels	Reelcraft
Piping - PEX	Uponor (Wirsbo), Rehau, Viega
Piping - PVC Perforated for Footing Drains	IPEX, Napco
Piping - Reverse Osmosis - 316 Stainless Steel Tubing	Swagelok, Associated Tube Canada, Vallex
Piping – Reverse Osmosis	High Purity PEX, Uponor (Wirsbo)
Hydronic, Fire, Plumbing Piping - Settlement and Seismic Swing Joints	Victaulic
Plumbing - Backflow Preventers	Watts, Wilkins, Conbraco
Plumbing Fixtures – Sinks	As per FHA Faucet and Sink Guideline
Plumbing Fixtures – Sinks -Mop	Fiat, Crane, American standard, Mustee

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Plumbing Fixtures – Flush Valves	Sloan, Zurn, Crane, Chicago, Toto
Pumps – Condensate Packages	Bell & Gossett, Paco, Plad, Skidmore, Spirax Sarco
Pumps - Deaerators and Boiler Feed	York Shipley, Cleaver Brooks, Duro
Pumps - Domestic Water Booster	Armstrong, Bell & Gossett, Grundfos, Plad, Quantum Flo
Pumps – Fuel Oil	Roto King, Viking, Worthington
Pumps - Horizontal Base Mounted	Armstrong, Grundfos, Hevvy Pumps, Peerless Pumps
Pumps - In-Line Circulators	Armstrong, Bell & Gossett, Grundfos, Taco, Wilo
Pumps - Mechanical Seals	A.R. Thomson
Pumps - Sump	Bell & Gossett, Monarch, Barnes, Hydromatic, Myers, Zoeller, Plad, Liberty
Pumps - Vertical In-Line	Armstrong, Bell & Gossett, Grundfos, Taco, Wilo
RO water generation system (s) – Dialysis	Canadian Water Technologies
RO water generation system (s) – Non Dialysis	Evoqua, Kinetico, Culligan
Steam – Filter Elements	Parker #200-75SR
Steam – Filter Housings	Parker 23/75R
Steam – Separators	Spirax Sarco model SC4
Steam – Traps	Spirax Sarco, Armstrong
Tanks - Boiler Blowdown	Cleaver Brooks, Penn Separator, York Shipley
Tanks - Domestic Hot Water Storage	PVI, Niles
Tanks – Hydronic Buffer	Clemmer, Enermax Fabricators, Hanson Tank, Laars, Niles Steel Tank, Taco, Wessels, Wheatley
Terminal Units - CV & VAV	E.H. Price, Titus, Trane
Terminal Units – Fume Hood Venturi Valve	Phoenix Controls, Critical Room, Accutrol
Valves – Balancing - Hydronic – Manual and Pressure Independent c/w control valve	Tour Andersson, IMI, Victaulic
Valves – Check – Swing	Bonney Forge, Crane, Hattersley, Kitz, NCI Canada, Nibco, Red-White/Toyo
Valves – Gate	Bonney Forge, Crane, Hattersley, Kitz, NCI Canada, Nibco, Red-White/Toyo, Victaulic
Valves – Globe	Bonney Forge, Crane, Hattersley, Kitz, NCI Canada, Nibco, Red-White/Toyo

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Valves - Thermostatic Balancing – Domestic	Tour Andersson, IMI
Valves - Control 2-way & 3-way - Grooved	Victaulic
Valves - Differential Pressure Control (DPCV)	Tour Andersson, Victaulic
Valves – Isolation – 2½” and over weld/flanged (valves 4” and larger to be gear operated butterfly valves)	Keystone, Bray, DeZurik
Valves - Isolation – ½” to 36” Pressed or Grooved (Valves 6” and larger to be Gear Operated) Domestic and Hydronic	Victaulic
Valves - Pressure Reducing - Domestic	Bermad, Victaulic
Valves – Stainless Steel for Reverse Osmosis and High Purity Water Systems	Swagelok, Valex
Vibration isolation devices	Mason
Welding Exhaust System	Engwald, Micro Air, Nederman, Plymovent
Fire Pumps	Armstrong
Jockey Pumps	Armstrong
<b>PART 2. ELECTRICAL (Division 26)</b>	
High Voltage Emergency Generator Set	MTU, Cummins
High Voltage Generator Integration	To match generator manufacturer
High Voltage Automatic transfer switches	Schneider, Siemens
High voltage Switchgear	Schneider, ABB, Siemens, Prime Engineering, Industrial Electric Mtg.
High Voltage Service Entrance Switchgear	Schneider, ABB, Siemens, Prime Engineering, Industrial Electric Mtg.
Low voltage equipment (including switchgear, MDPs, CDPs, panelboards)	Schneider
Metering	Schneider Struxureware
Power Transformers	Eaton, Schneider, Delta
Distribution transformers	Delta, Hammond, Square D, Eaton
UPS system	Eaton-Powerware
UPS system batteries (lithium ion)	Eaton-Powerware
Receptacles and Cover plates	Hubbell, Leviton

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Lighting - Exterior	Signify, Bega, BK, AWL, Hubbell, Hydrel, Lithonia, Holophane, KLIK, Lumenpulse
Lighting – Clinical and Patient Care Areas	Viscor, Newstar, Alva, HEW, Innerscene, Insight, Color Kinetics, Beta Calco, Selux, Nulite, Healthwerx, Cree, Kenall, Pinnacle, Amico, Paco, Hubbell, C3 Lighting, Balanced Care, CoeLux, FailSafe
Lighting – Back of House and Offices	Viscor, Signify, HE Williams, Vision Engineering, Healthwerx, Cree, Metalux, Acuity, Eureka, Lightheaded, Oracle Lighting, Cooper
Exit Signs and Emergency Battery Packs	Beghelli, Emergilite, Lumacell
Low Voltage Lighting Control	Douglas, Hubbell, Leviton, Philips, Cooper, Encelium, Lutron
Line Voltage Lighting Control	Douglas, Hubbell, Leviton
<b>PART 3. IM/IT AND LOW TENSION SYSTEMS</b>	
IP Video Surveillance/security	Avigilon
Public Address system	TOA
Nurse call system	Austco
Fire alarm system	Simplex, Siemens
Access control system	Lenel
<b>PART 4. OTHER SYSTEMS</b>	
Elevators	KONE, Otis, Thyssenkrupp, Richmond Elevators

### Substitutions to Acceptable Manufacturers and Vendors List:

1. Substitutions to the manufacturers or vendors listed in Appendix 1Q [Major Equipment Acceptable Manufacturers List] are not permitted without prior written acceptance from the Authority.
2. Provide a, in a PDF electronic file, for each equipment item for consideration. Each Substitution Request Package will include the following:
3. Document each request with complete data substantiating compliance of proposed substitution with Schedule 1 – Statement of Requirements, referencing relevant sections, as well as list and describe any variances
  - a. Provide name of manufacturer, product name, phone number and web address.
  - b. Provide supporting information including product data sheets, drawings, samples, test reports, conformance to applicable reference standards and regulatory requirements, and specified performance and test data.
4. Provide coordination information, including a list of changes or revisions needed to other parts of the Design and Construction that will be necessary to accommodate proposed substitution.

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5. **Manufacturer Qualifications:** Company specializing in manufacturing the proposed substitute equipment to have not less than five to ten (5 - 10) years documented experience. Provide list of five (5) similar installations for completed projects within the last 5 - 10 years within the Province of BC.
6. **Compatibility of Substitutions:** Investigate and document compatibility of proposed substitution with related equipment, materials and systems. Engage a qualified testing agency to perform compatibility tests where documentation is not available.
7. Provide a letter indicating the reason for requesting substitution and expected reductions to the Contract Price and Project Schedule including operating cost, life-cycle, contract service and licensing fees.
8. **Substitution Conditions:** The Authority will consider request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, the Authority will return requests without action, except to record non-compliance with these requirements:
  - a. Substitution request is fully documented and properly submitted.
  - b. Requested substitution is consistent with the Agreement and exceeds indicated performance results.
  - c. Requested substitution will not adversely affect Project Schedule.
  - d. Requested substitution meets performance, building code and regulatory requirements.
  - e. Requested substitution is compatible with other portions of the Work.
  - f. Requested substitution provides specified warranty.
  - g. If requested substitution involves more than one (1) contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
  - h. Requested substitution does not affect Future Expansion and functional clearances.
  - i. If requested substitution requires Changes to the Work, no additional costs or time extension will be considered acceptable by the Authority.
9. Maintenance and service parts and labour will be locally available for proposed substitution. The technical in-person support will be OEM certified and located within 150 km of the Site.
10. Undersigned further states that function, appearance, and quality of proposed substitution are equivalent or superior to specified item.
11. The Authority will notify the Design-Builder in writing of decision to approve or reject each substitution request. The Authority will, in its discretion:
  - a. respond to indicate that the proposed substitution is acceptable;
  - b. respond to indicate that the proposed substitution is acceptable subject to the Proponent's compliance with any conditions identified by the Authority;
  - c. respond to indicate that the Authority does not consider the proposed substitution to be acceptable;
  - d. request clarification, further information or additional material; or
  - e. not respond to the Enquiry.
12. Substitutions will not be considered when they are indicated or implied on Submittals, without separate written request, or when acceptance will require revision to the Agreement. The Authority's review of Submittals does not constitute acceptance of substitutions.
13. Failure to order the specified equipment type from the equipment manufacture in adequate time to meet the Project Schedule will not be a valid reason to submit a request for substitution. In accordance with the Agreement such delays remain the responsibility of the Design-Builder and will not result in an extension to the Project Schedule or be subject to reimbursement by the Authority.
14. The Design-Builder will pay for changes to building design, including engineering design, detailing and construction costs, caused by requested substitution.