1 GENERAL

1.1 SCOPE OF WORK

This Section of the Contract includes all Ice Rink Equipment work called for, or implied, together with all necessary incidentals, whether referred to or not, as will be required to complete the work to the full intent and meaning of the specifications. The work includes, but is not limited to the following:

1. Contractor must be T.S.S.A approved
2. Contractor is to supply and install one (1) 50 HP - Mycom SMART M Reciprocating Compressor package
3. Contractor is responsible for installing a new charge of approved oil
4. Contractor is responsible for any housekeeping pad modifications for the new package unit.
5. Any painting and identification labels.
6. Any ministry Inspections.
7. Start-up and testing.
8. Training.
9. Manuals and as-built drawings (2 copies).
10. Contractor is to provide detailed engineered calculations to illustrate the kWh saved from installing the Mycom SMART M reciprocating compressor.
11. Contractor must be an approved applicant representative to the OPA. This work cannot be outsourced to another company and must be submitted by the Contractor completing the work.
12. Contractor is to provide pre-approval application number validating the amount applied for in the RFP
13. Contractor must include at least 10 previous incentive applications to the save on energy program illustrating the ability to receive incentive funding.

1.2 RELATED WORK

The Ice Rink Contractor shall coordinate all phases of the above Scope of Work with their General Contractor, Electrical and Mechanical Contractors.

1.3 REFERENCED STANDARDS

Comply with all codes and standards (latest versions) applicable to this type of work, including:

1. ANSI B31.5
2. ASHRAE 15 Safety Code for Mechanical Refrigeration.
3. ASME B31.5 Refrigeration Pressure Piping Code.
4. Mechanical Refrigeration Code - CSA-B52-99.
5. Boiler and Pressure Vessels Act.
6. Hydro Electrical Safety Code.
7. WCB Regulations.
8. Any other local or provincial requirements.

2 QUALIFICATIONS

2.1 Executive Summary

Describe in the concise fashion, the Contractor's understanding of the required scope of work for the project including the required equipment and outline requirements of the RFP and responsibilities. This section must summarize the Contractors plan to achieve delivery of the outlined services within the required response time and schedule. Confirmation that the Contractor's key personnel will be available for the duration of the service contract will also be required in this section.

Detailed Scope of Work outlining equipment schedules (list of equipment), materials, and labour to be provided. This Scope of Work shall also detail the specific major tasks including, but not limited to, crane activities, pipe connections, demolition/removal of existing supporting, new support modification, ammonia recovery

2.2 Relevant Experience

Each Contractor shall provide descriptions for 5 relevant ammonia reciprocating compressor installations in last 3 years in the recreation sector in summary table. References may be requested to verify the listed projects. Preference will be given to contractors with the experience installing reciprocating compressors. This should be included:

- Equipment Upgrade Description
- Arena location and address
- Contact information of the client for verbal reference
- Response time for any issues within warranty period

3 EQUIPMENT

50 HP - Mycom SMART M Reciprocating Compressor

3.1 Qty. (1) MYCOM Smart Compressor Package(s) c/w 50 HP Premium Efficiency Motors:

3.2 Refrigeration Capacity: 35 TR each at 1800 RPM

3.3 One (1) new gauge board and stand per compressor which includes all pressure gauges and limit switches (low oil pressure, high oil temp, high discharge pressure, & suction cut in/out) shall be provided and connected to the compressor packages.

3.4 Pressure relief valves shall be included on the compressor package, in compliance with CSA-B52.

3.5 All compressor relief valves shall be connected to the relief header. The contractor shall carry the cost of any supplemental branch piping and fittings to facilitate this connection.

3.6 Contractor to provide new contactors, fuse blocks, starters, and wiring for the installed compressor motors.

3.7 Contractor to provide new appropriately sized belt guards for the equipment.

3.8 Oil Separators: One (1) per Compressor

3.8.1 Oil Separator Size: DOT 8 model or equivalent.

3.8.2 The contractor is to verify that the selected oil separator will function with an operating discharge pressure as low as 130 psig, with no oil management issues.

3.9 Oil Separator Check Valves: One (1) per Compressor

3.9.1 The contractor is to replace all compressor branch piping to the suction and discharge headers. Suction line to be insulated to the compressor isolation valve.

3.10 Suction Valves c/w Seal Cap - One (1) per compressor

3.11 Discharge Valves c/w Seal Cap - One (1) per compressor

3.12 Oil Return Valves - One (1) per compressor

3.12.1 Shell and Tube Oil Coolers

3.12.2 One (1) per compressor package

3.12.3 The interconnecting lines between the oil cooler and compressor jacket shall be nylon reinforced flexible hose. Oil coolers shall be connected to new glycol cooling circuit.

3.13 Heat Exchanger Temperature Sensors/Gauges

3.13.1 Sized to reject all oil heat rejection, at the maximum oil temperature

3.14 Compressor Supports

3.14.1 The contractor shall remove the existing concrete compressor supports to be replaced. Install new steel C-channel supports; concrete with expanding grout shall fill the C-channel section to limit noise and vibration.

3.15 The compressor package shall have an integrated touchscreen interface. This interface shall track:

3.15.1 Energy performance

3.15.2 Provide performance drift alerts

3.15.3 Status alarms

3.15.4 Maintenance alerts

3.15.5 Pre-programmed factory interface design conditions

3.15.6 Pre-programmed operational manuals

3.16 Unit shall seamlessly communicate with other Smart Rink Connect products.

3.17 Unit shall be delivered with factory wired sensors for enhanced monitoring and provide alerts owner in event of a system failure or if system check is required.

3.18 Standard of Acceptance: Mycom SMART M Compressor Package(s) or approved equivalent.

4 INCENTIVE GRANT APPLICATION

All document requirements below must be clearly marked and submitted along with the tender submission.

4.1 Contractor is to provide detailed engineered calculations to illustrate the kWh saved from installing the Mycom SMART M reciprocating compressor.

4.2 Contractor must be an approved applicant representative to the OPA. This work cannot be outsourced to another company and must be submitted by the Contractor completing the work.

4.3 Contractor is to provide pre-approval application number validating the amount applied for in the RFP

4.4 Contractor must include at least 10 previous incentive applications to the save on energy program illustrating the ability to receive incentive funding. Each example must include:

1. Brief description of equipment that was installed
2. Copy of customer pre-approval letter and dollar amount approved for by the Ontario Power Authority.
3. Arena name and location of incentive grant installation
4. Day time contact name and phone number