# Heating System Evaluation - Tanks & Vessels

## 1 Client Information

Company: _____ Phone Number: _____

Contact Name: _____ Email: _____

## 2 Heating Medium Type

○ Steam ⟶ Supply Pressure: _____

○ Water/Glycol ⟶ Supply Temperature: _____

○ Hot Oil

○ Other: _____
(if liquid provide supply temperature)

## 3 Process Information

Process Name: _____

Process Phase: ○ Vapor ○ Liquid Process Liquid Level: _____

## 4 Thermal Need/Objective

○ Maintain Bulk Process Temperature ○ Heat Exchanger ○ Freeze Protection (winterization)

○ Maintain Tank/Vessel Wall Temperature ○ Melt-out ○ CSI To Recommend

Required Maintenance Temperature: _____ Other Info: _____

## 5 Vessel & Tank Details

Is it acceptable for CSI to weld bosses/clips to tank or vessel? ☐ Tank/Vessel Material: _____

Diameter: _____ Tangent-to-tangent length/height: _____ Wall thickness: _____

Insulation type: _____ Insulation thickness: _____

Venting method: ○ Single Vent ○ Natural convection/multiple vents ○ PVRV ○ N2 Purge

○ Ejector/blower driven ○ Sealed ○ Unknown

Vapor space exchange rate: _____ Flat bottom directly on ground/pad? ☐

Comments: _____

## 6 Vessel Only Details

Orientation: ○ Vertical ○ Horizontal

Left/bottom head style/shape: _____ Left/bottom head take-out: _____

Right/top head style/shape: _____ Right/top head take-out: _____

Support method (skirt; saddles; lugs; legs; other) _____

## 7 Additional Process Information (Optional)

Minimum Acceptable Process Temperature: _____ Limited By: _____

Maximum Acceptable Process Temperature: _____ Limited By: _____

Process Properties:

Density: _____ Viscosity: _____

Thermal Conductivity: _____ Specific Heat: _____

Volumetric Coefficient of Thermal Expansion: _____

Latent Heat of Fusion: _____

## 8 Additional Heating Medium Information (Optional)

Hot Oil Brand/Model: _____

Hot Oil Properties at Supply Temperature:

Density: _____ Viscosity: _____

Thermal Conductivity: _____ Specific Heat: _____

Glycol Type:    ○  Ethylene Glycol            ○  Propylene Glycol            ○  Other: _____

Water/Glycol Mix Ratio: _____

Oil/Water/Glycol Operating Pressure - Supply Header: _____ Return Header: _____

Oil/Water/Glycol Maximum Available Flow Rate: _____

Steam Condensate Return Header Operating Pressure: _____

Steam Trap Style: _____

## 9 Equipment & Environment Information (Optional)

Reference material: (attach P&IDs, BOM, line list, PFDs, plant specifications, process simulation output, etc.)

Installation Country: _____ Installation City: _____

Installation Environment:      ○ Outdoors                    ○ Indoors                    ○ Covered

Ambient Temperature Minimum: _____ Temperature Maximum: _____

Special Material Requirements (standard ControTrace material is SA-178): _____

Special Design Requirements (standard ControTrace design P/T is 150 psi at 400°F): _____

Will the heating system be installed before or after the tank/vessel is installed?:_____

Additional Information: