SECTION 23 55 23 – GAS FIRED RADIANT HEATERS

 GENERAL

 SUBMITTALS

 Action Submittals:

 Product Data: Manufacturer’s descriptive data and product attributes including heat output and heat distribution area, control components and connections, mounting hardware, and installation instructions.

 Closeout Submittals:

 Operation and Maintenance Data.

 Portable Heater Covers: Heater covers for each Tungsten portable heater, handed to the Owner at Substantial Performance.

 QUALITY ASSURANCE

 Installer Qualifications:

 Journeyman tradesmen licensed to install gas fired equipment.

 Regulatory Requirements: Radiant heaters and installation are to be in accordance with requirements of:

* + - 1. ANSI Z83.26/CSA 2.37, Gas Fired Outdoor Infrared Patio Heaters
			2. NFPA 54/ANSI Z223.1, National Fuel Gas Code
			3. ANSI/IEC 60529, Degrees of Protection by Enclosures (IP Code)
			4. State or Municipal requirements.

 WARRANTY

 Manufacturer’s standard warranty against parts failure.

 PRODUCTS

 MANUFACTURERS

 Contract documents are based on Bromic Heating [www.bromic.com](http://www.bromic.com/)

 Substitutions: [Refer to Division 01.] [Not permitted.]

 OUTDOOR SURFACE MOUNTING GAS RADIANT HEATERS AND CONTROLS

 Heater: Bromic “PLATINUM SMART-HEAT Series weatherproof heaters for outdoor wall bracket mounting or ceiling pole mounting, ANSI/IEC 60529 IPX4 rated, [500 Series Model 39,800 BTU output] [300 Series Model 23,600 BTU output] for use with [natural gas] [propane gas] and equipped with:

 Stainless steel framework and enclosure with ceramic burner head and black fascia

 Heat deflector where scheduled/indicated.

 Mounting bracket/control box with a Honeywell electronic gas burner control system with gas control valve, pressure regulator, electric spark ignition, and flame monitoring with 100% safety shut-down.

 Wall mounting assembly with pivot bracket for heater angle adjustment 20deg left/right, permanent position.

 Surface ceiling mounting pole accessory (minimum 10’-4” ceiling height required) suitable for a sloped ceiling with pole remaining 100% vertical, [41.18”, 33.31”, 25.43”, 17.56”, 13.62”, 9.69” pole length] and capable of mounting two heaters back-to-back to a single ceiling pole to minimize visual obstructions.

 Control Components: “Smart-Heat” 110/230 VAC 4-channel controllers supplied loose, each capable of wireless ON/OFF control of [2 gas heaters] [4 gas heaters] in groups of 2 per output within a 100-foot range.

 Heater: Bromic “TUNGSTEN SMART-HEAT Series weatherproof heaters for outdoor wall bracket mounting or ceiling pole mounting, ANSI/IEC 60529 IPX4 rated, [500 Series Model 43,000 BTU output] [300 Series Model 26,000 BTU output] for use with [natural gas] [propane gas] natural or propane gas and equipped with:

 Stainless steel framework and enclosure with ceramic burner head and black fascia

 Heat deflector where scheduled/indicated.

 Mounting bracket/control box with a Honeywell electronic gas burner control system with gas control valve, pressure regulator, electric spark ignition, and flame monitoring with 100% safety shut-down.

 Wall mounting assembly with pivot bracket for heater angle adjustment, 20deg left/right, permanent position.

 Surface ceiling mounting pole accessory (minimum 10’-4” ceiling height required) suitable for a sloped ceiling with pole remaining 100% vertical, [41.18] [33.31] [25.43] [17.5] [13.62] [9.69] inch pole length and capable of mounting two heaters back-to-back to a single ceiling pole to minimize visual obstructions

 Control Components: “Smart-Heat” 110/230 VAC 4-channel controllers supplied loose, each capable of wireless ON/OFF control of [2 gas heaters] [4 gas heaters] in groups of 2 per output within a 100-foot range.

 OUTDOOR PORTABLE GAS RADIANT HEATERS AND CONTROLS

 Heaters: Bromic “TUNGSTEN SMART-HEAT”, ANSI/IEC 60529 IPX4 rated, portable, outdoor, weatherproof, free-standing, ETL approved heater for use with [piped natural gas] [[20] [30] pound [bottled propane gas]]and equipped with:

 Black, enameled, 85-inches high assembly with 19 x 27-inch wheeled base.

 Ventilated bottom storage area.

 Top, angled, 27-inch wide black honeycomb burner head with heat deflector.

 A control box with gas valve, spark ignition, flame failure and anti-tilt shut-down controls.

 Propane gas supply pressure requirements of minimum 11-inch w.c, maximum 14- inch w.c.

 Natural gas supply pressure requirements of minimum 6-inch w.c., maximum 14-inch w.c.

 Heater assembly contoured arm mounted adjustable heat controls

 A protective cover supplied loose

 EXECUTION

 INSTALLATION OF OUTDOOR SURFACE MOUNTING GAS RADIANT HEATERS

 Provide outdoor surface mounting gas fired radiant heaters where shown.

 Install all heaters in accordance with the manufacturer’s published instructions and NFPA 54/ANSI Z223.1 requirements. In particular, maintain required clearances.

 Wall and Ceiling Mounted Heaters: Ensure that proper flexible gas piping connects each heater wall bracket/control box. Adjust heater angles to the Owner’s requirements. Ensure that all heaters are protected from the elements.

 Test all gas piping connections for leakage.

 Provide wireless controllers where indicated.

 Coordinate electrical connections to controllers and heaters with the electrical work.

 INSTALLATION OF PORTABLE GAS RADIANT HEATES

 Provide outdoor portable gas radiant heaters where indicated. Provide a new 20 or 30 pound filled bottle of propane for each heater.

 Store propane bottles in heater storage areas. Ensure that proper flexible gas piping connects each heater control box.

 Adjust heater angles to the Owner’s requirements.

 Test all gas piping connections for leakage.

 Provide wireless controllers where indicated.

 Coordinate electrical connections to controllers and heaters with the electrical work.

 START-UP

* + 1. After heater and control installation is complete, start each heater and test and confirm proper operation of all phases of heater operation.

 Commissioning

* + 1. Commission the heaters in accordance with specified commissioning requirements.

 Demonstration and Training

* + 1. Include for 2 hours of on-site operation and maintenance demonstration and training for 2 groups of 4 people.

END OF SECTION