



Description:

Without proper comfort conditioning, the temperature inside the stainless and carbon steel legs of the Arch could climb to dangerous highs in the summer and freezing cold in the winter. IFS worked closely with National Park Service staff to develop and implement special safety protocol as they worked inside the Arch legs to keep trams operational, workers safe and visitors comfortable. Simply moving equipment, materials and workers inside the monument was uniquely challenging. Every worker was tied off to prevent falls. Tools and equipment also were secured, safety nets were installed and magnets were used to contain hardware and prevent anything from being dropped down the Arch leg. As a result of the extensive safety precautions, IFS logged zero workplace accident or injury incidents on the complex project. Working inside the narrow, curved structure also created logistical challenges. IFS field measured each of 20 separate worksite locations high within the Arch, then pre-fabricated sheet metal and steel support pieces off-site. Every aspect of this job was a special, out-of-the-ordinary challenge and required careful daily planning of how to move men, material and equipment. We also knew from the beginning that the National Park Service schedule had priority over the construction schedule, so our work hinged on the needs of their staff, Arch visitors and tram usage.

Scope of Work:

IFS has completed the first-comfort HVAC upgrade inside the Gateway Arch in St. Louis. The 50-year-old HVAC dual duct boxes and pneumatic controls in the national monument's 630-foot legs were replaced with new boxes and computerized controls to ensure the comfort and safety of tram passengers on their way to the Arch observation deck.

Solutions Provided:

Twenty dual-duct terminal units for warm and cold air were disconnected and removed one at time. New support steel was installed, followed by new dual-duct VAV boxes with 12" and 14" round duct connections adapted to the original 28" and 30" main duct connections. IFS also installed Direct Digital Control (DDC) sensors and control wiring for Automatic Controls Equipment Systems (ACES).