AZZ Nuclear | NLI is the largest third-party supplier of equipment solely focused on the nuclear industry. NLI is the nuclear industry’s leading supplier of HVAC equipment, including chillers, A/C units, chiller controls, fans, dampers, and more.

Ensuring critical equipment remains operable or making spaces habitable for operators requires reliable HVAC equipment. HVAC, or Heating, Ventilation, and Air Conditioning, is a complex system of chillers, A/C units, heaters, heat exchangers, fans, dampers, and associated controls, sensors, and indicators. NLI offers complete systems, as well as individual components.

This custom chiller has an ASME III water side and was designed to separate into three pieces to fit through a double door.
Chillers

Chillers are refrigeration units specifically designed to remove heat from water. The chilled water circulates and runs through air-handlers located near the rooms being cooled. Chillers may be located inside or outside buildings. Most air-cooled chillers are located outside and water-cooled chillers are located inside.

NLI supplies Trane chillers and has qualified numerous Trane models for safety-related applications. The longstanding relationship with Trane provides access to Trane’s proprietary controls software. Trane supplies NLI standard commercial chillers, which typically will not pass seismic testing. NLI often replaces brackets for control panels, supports for cooling coils and other components and may also place the entire chiller on a more robust base. In fact, NLI’s large 12 foot by 12 foot seismic table was originally built to test an 185 ton rooftop chiller.

NLI may make other modifications to standard chillers based on customer requests. One common example is replacing the heat exchanger heads to provide bolted flange connections rather than the standard grooved pipe coupling. Some customers require ASME III requirements on the chilled water systems requiring the entire water side heat exchanger, piping, pumps and valves to be replaced with those manufactured under NLI’s ASME Section III Certificate of Authorization.

Chiller being seismically tested
Nuclear

**Fans**

NLI supplies both axial and centrifugal fans. In addition to new fans, NLI also offers reverse engineered replacements for obsolete legacy fans or new fans modified to be equivalent replacements for legacy fans. NLI supplies entire fans or spare parts through an alliance with Clarage, a 150 year old fan manufacturer.

Through Clarage, NLI offers complete fan overhaul and repair service. Obtaining spare blades or other parts on obsolete legacy fans can be a challenge, but NLI and Clarage offer reverse engineering services for one blade, hub or an entire fan.

Most fans are oversized for their application and must be throttled back using dampers. This means the fan is doing more work than is needed and the motor is inefficiently consuming too much power. Clarage routinely redesigns fans to right size them for the application. Redesigning critical fans to draw less power not only saves cost, but may assist plants that suffer from emergency diesel generator power demand requirements. The knowledge and experience normally used to reduce a fan’s capacity can also be used to increase the capacity if needed for power uprates.

**Digital Controls**

NLI has upgraded numerous old chillers to modern digital controls. Analog controls are very limited in what they can do, and older poor performing chillers frequently trip offline, which can result in reduced operating conditions and ultimately reactor scrams. Digital chillers can monitor more parameters and take certain actions to keep chillers operating at reduced capacity rather than simply tripping offline. Plants can often add 10 years to the life of an older chiller, which is in good mechanical condition, by simply replacing the controls.

![Trane® Adapтивiew touch screen chiller controls](image)
Centrifugal fan on triaxial seismic simulator for testing
Nuclear

**Dampers and Actuators**

NLI also supplies dampers and actuators. Beck modulated motor driven actuators work especially well in applications where the air flow must be accurately controlled. The QTRCO line of quarter-turn pneumatic actuators is available in a configuration that is a bolt-on replacement for obsolete Contromatics actuators used in numerous damper applications industry-wide.

**Systems or Components**

NLI can supply entire HVAC systems, chiller units, or fans, or can provide spare parts and components for existing HVAC systems. No job is too large or too small.
AZZ Nuclear — Your Single Source

NLI is very well known for the supply of equipment that is difficult to obtain, and HVAC equipment is no exception. None of the major chiller OEMs maintain a nuclear quality assurance program and commercial quality chillers will not pass basic qualification tests, such as seismic. Modifying and qualifying equipment from world-class manufacturers such as Trane is where NLI excels, and is another reason we’re your single source.