

Packaged Air Conditioners, Environmental Control Units and Local Air Coolers



Delivering Safe, Reliable Operations

Nuclear power plants require safety and non-safety-related HVAC components and systems to ensure safe and reliable operations. AREVA is now providing Ellis & Watts custom equipment, which offers complete flexibility on units engineered for critical performance in harsh environments.

With our expertise in your plants, processes and quality requirements, AREVA stands ready to assist you with the right solution to meet your HVAC needs while minimizing your installed costs. Ellis & Watts designs, qualifies, manufactures and tests custom air conditioners (A/Cs), environmental control units (ECUs), and local air coolers (LACs) to provide air temperature control for mission-critical comfort, environmental and process environments.

The equipment can be designed to meet specific project requirements including:

- Air-cooled or water-cooled condensing
- Extreme ambient temperature conditions
- Wide ranges of leaving air temperatures
- Analog, relay-based controls to address qualification, cyber security, EMI/RFI concerns or digital control systems

Special equipment design capabilities include:

- A variety of compressor technologies to optimize efficiency, reliability and life-cycle cost objectives
- Various materials of construction to meet structural integrity, corrosion resistance, weight and cost requirements
- Stringent air pressure and/or leakage capabilities
- Seismically qualified per IEEE 344
- Environmentally qualified per IEEE 323
- Various power supply and controls options
- Designs for hazardous duty applications (explosion proof)
- EMI/RFI suppression and verification testing
- Portable or mobile designs, including shock and vibration isolation
- Factory performance testing at full and part-load conditions to document compliance and assure proper operation
- Self-contained packaged or split-system designs
- Modular construction to address on-site transportation, rigging and installation constraints

Control Systems

Ellis & Watts offers equipment with a variety of component devices and system controllers. For environments or applications where controls qualification, cyber security or EMI/RFI emittance are areas of concern, Ellis & Watts offers **analog, relay-based controls**. In fact, Ellis & Watts can provide an entire control system that is free of software that may even be “hidden” within devices like actuators and valves.

Where desired, Ellis & Watts can provide equipment with a variety of direct digital controls for individual components as well as for the complete system. Ellis & Watts understands that some projects require strict code compliance and has the demonstrated ability to conform to the following codes, including:

- ASME NQA-1
- 10CFR50 Appendix B
- Heat Exchangers to ASME Section VIII or ASME Section III
- Compressors to ASME AG-1 Section RA
- Coils (Refrigerant & Electric) to ASME AG-1 Section CA
- Fans to ASME AG-1 Section BA
- Motors to ASME AG-1, IEEE 323, IEEE 334, IEEE 344 and NEMA MG-1
- Motor wiring to IEEE 383
- Motor insulation to IEEE 117
- Filters to ASME AG-1 Section FB & FC
- Filter Mounting Frames to ASME AG-1 Section FG
- Dampers to ASME AG-1 Section DA
- UL 555 for Smoke and Fire Dampers
- Damper Actuators to IEEE 382
- Housing to ASME AG-1 Section HA
- Instruments to ASME AG-1 Section IA
- Compliance to IEEE 7-4.3.2 Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations

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- Compliance to IEEE 603 Standard Criteria for Safety Systems for Nuclear Power Generating Systems
- Compliance to IEEE 1012 Standard for Software Verification and Validation

Past projects in which Ellis & Watts successfully met stringent air conditioning unit compliance requirements include the global nuclear installed base, NASA, U.S. Corps of Engineers, Army, Navy and Air Force.

With more than 60 years of experience in engineering, manufacturing and servicing custom equipment, Ellis & Watts has more than 1,000 units installed in the nuclear fleet. The equipment is designed and manufactured under a robust quality control program, and is performance tested, resulting in the delivery and installation of the quality products you can depend upon.



Through our commitment to the industry, AREVA continues to bring innovative solutions for special applications.

You can rely on AREVA to provide you with innovative solutions that:

- Increase safety and efficiency
- Resolve emergent issues quickly
- Reduce plant operating costs
- Address obsolescence and reliability issues

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