



PROJECT PROFILE

Energy Sciences Building

Building Enclosure Commissioning | Argonne, IL



CLIENT

KJWW / Argonne National Laboratory

BACKGROUND

The Energy Sciences Building (ESB) is located on the campus of the Argonne National Laboratory (ANL) and primarily functions as a laboratory building for energy research. ESB is a four-story plus penthouse, 150,000 square-foot building. The exterior facade of the building is a rainscreen design that features various types of composite metal panel cladding, metal panel cladding, aluminum-framed curtain walls, sloped glazing, and louvers. The roofing consists of an adhered single-ply membrane system. Terrace areas include hot-applied waterproofing with concrete pavers.

WJE was engaged by the project Commissioning Authority, KJWW, to provide Building Enclosure Commissioning (BECx) services to assist in delivering a quality new building for the Argonne National Laboratory, which is a large science and engineering research and technology campus. Building enclosure commissioning is a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined owner objectives and criteria.



SOLUTION

The focus of WJE's BECx services was to deliver an enclosure that was constructible, would manage and prevent water leakage, minimize condensation, and be energy efficient (both in air tightness and thermal transfer) and durable.

WJE services commenced during the design phase in which performance requirements for the enclosure were established and design issues that would affect the performance were identified. WJE developed the BECx specification and performed peer reviews of the design documents. The design was verified by WJE in an on-site mock-up, which was tested for air and water penetration resistance and thermal performance. During the mock-up construction and testing, WJE identified performance issues that were corrected prior to full implementation on the building. WJE also reviewed submittals during the design phase for conformance with the project requirements and industry standards as well as for constructability and coordination with other trades.

BECx services continued through construction, including on-site construction observations to assist in quality control; coordination of air and water leakage testing to verify performance; meetings to resolve issues identified by WJE; and a Close-Out and Maintenance Manual report. A testament to the success of the work, ANL has commended WJE for helping to make their building enclosure perform as intended.