

## **Structural Engineers Required to Check Qualifications of Welded Steel Fabricators and Erectors**

APEGGA's Practice Standards Committee (PSC) has a specific reminder for engineers involved with steel structures and metal building systems. That reminder is: fabrication of welded steel structures and erection of steel structures where field welding is involved must be performed by fabricators and erectors that have been certified by the Canadian Welding Bureau (CWB).

The requirement is contained in the Alberta Building Code 1997 (ABC). Engineers involved in project approval, structural design, review of shop drawings and contractor's submittals, and field review or inspection should be familiar with all aspects of compliance with the building code, including CWB certification. The requirement for CWB certification applies to a fabricator or manufacturer of structural elements of any building where welding is involved, including pre-engineered steel buildings.

Design, fabrication and erection of structural steel buildings must conform to the requirements of Part 4 of the ABC, "Structural Design". Materials must conform to Section 4.3 "Design Requirements for Structural Materials". Specifically, for steel, Section 4.3.4.1 "Design Basis for Structural Steel" requires compliance with CAN/CSA-S16.1 "Limit States Design of Steel Structures" and Section 4.3.4.2 "Design Basis for Cold Formed Steel" requires compliance with CSA S136, "Cold Formed Steel Structural Members." Qualification for fabricators and erectors of welded construction is found in Clause 24.3 of the above CSA Standard which states "Fabricators and erectors responsible for making welds for structures fabricated or erected under this Standard shall be certified by the Canadian Welding Bureau to the requirements of CSA Standard W47.1 (Division 1 or Division 2.1), of CSA Standard W55.3, or both, as applicable."

Building codes set minimum standards to protect public health and safety. The ABC establishes a standard of safety to which construction must conform. Section 2.6 of the ABC sets out the requirements for professional design and review. For each project, a letter of commitment by the Registered Professional of Record is required to be signed and sealed. Schedules B-1 and B-2 are to be submitted with permit applications. Item 2.3 of Schedule B-2, "Summary of Design and Field Review Requirements", specifically lists, under Structural responsibility, "Qualification of welded steel fabricators and erectors".

Specifications for structural steel for buildings often request that the fabricator supply shop and erection drawings for review by the consultant. Copies of the fabricator's CWB certificates are also commonly requested to be provided with the shop drawings.

In a recent instance, a structural engineer of record, registered with APEGGA, issued a letter of certification indicating that the structural steel construction on a project was in compliance with the ABC. However, the firm that had done the welding for the structure, in fact, had not been certified by the CWB. The engineer was subsequently reprimanded. Structural engineers of record involved in buildings constructed with steel are responsible for verifying that fabricators and erectors are certified by the Canadian Welding Bureau if the project is to comply with the Alberta Building Code.