SPEAKING THE SAME LANGUAGE

TECHNOLOGY PERPETUALLY ENHANCES the structural steel design, fabrication and erection industry, and the AISC *Code of Standard Practice* (ANSI/AISC 303-16, available at **www.aisc.org/specifications**) must change to reflect innovations as they come into being and evolve.

A significant advancement in recent years has been the steady incorporation of digital 3D models into the construction workflow. In 2005, the *Code* added Appendix A, Digital Building Product Models, to offer an easily referenced method for engineers, fabricators and erectors to use and exchange digital models—and digital model use has become more prevalent ever since. For this reason, Appendix A has been removed from the 2016 version and model-related language has been incorporated directly into the main text of the *Code*. This language includes new terminology recognizing the current industry transition from drawings to models and the fact that a combination of both is used on many projects, a trend that will likely continue for quite some time.

Design Phase

In exploring this new terminology, let's start with the design phase. These terms are intended to help clarify communications and contracts so that an engineer can expect an equivalent project whether they issue drawings, a model or both:

➤ *design documents.* These are *design drawings* or, where the parties have agreed in the *contract documents* to provide digital model(s), the *design model.* A combination of drawings and digital models may also be provided

➤ *design model.* A dimensionally accurate 3D digital model of the structure that conveys the structural steel requirements given in Section 3.1 for the building

The definition of *contract documents* has not changed:

➤ *contract documents.* The documents that define the responsibilities of the parties are involved in bidding, fabricating and erecting structural steel. These documents normally include the *design documents*, the specifications and the contract.

Section 1.4 of the *Code* also clarifies the identification of the controlling document. This section states: "When the design drawings and a design model are both provided, the *owner's designated representative for design* shall specify which document is the controlling contract document."

➤ *owner's designated representative for design.* The owner or the entity that is responsible to the owner for the overall structural design of the project, including the structural steel frame. This is usually the structural engineer of record.

Additional Terminology

While many new *Code of Standard Practice* terms are defined in this article, several terms from past versions of the *Code* have also been referenced:

➤ *Contract documents.* The documents that define the responsibilities of the parties that are involved in bidding, fabricating and erecting structural steel. These documents normally include the design documents, the specifications and the contract.

➤ *Design drawings.* The graphic and pictorial portions of the *contract documents* showing the design, location and dimensions of the work. These documents generally include, but are not necessarily limited to, plans, elevations, sections, details, schedules, diagrams and notes.

➤ *Embedment drawings.* Drawings that show the location and placement of items that are installed to receive structural steel.

➤ *Erection drawings.* Field-installation or member-placement drawings that are prepared by the fabricator to show the location and attachment of the individual structural steel shipping pieces.

➤ *Shop drawings.* Drawings of the individual structural steel shipping pieces that are to be produced in the fabrication shop.

When design documents are issued for construction, the structural engineer of record must communicate whether

the drawings or the model shall be used to complete the fabrication and erection documents, and Section 3.3 of the *Code* deals with discrepancies. To clarify which document governs, the following wording was added to this section: "When discrepancies exist between the design drawings and the design model, the governing document shall be as identi ed per