

“Boiler Plate Specifications”: The Use of Templates in The Lighting Design Process

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What is a “boiler plate” and how does the use of a “template” aid and assist a Lighting Designer or Electrical Engineer in producing a valid spec, job by job, and do it effectively to meet the Construction Document time line?

As a Lighting Specification Engineer for GE responsible for driving GE branded specifications in my territory, I often ask the Engineer and Designer “...who is listed in your spec? Which format are you using? How often do you update it?” Many times, the answer is one wrapped in an aura of amazement that I would even raise the question. But invariably, the discussion centers around the wonderment as to whether the spec is even current and second, whether the template really includes valid spec language reflecting new technologies and up to date codes and legislation in effect for the region. Most responses go like this: “...you know, I don’t even know the last time we updated the spec. Let me see if I can find it.”

The use of a boiler plate or template can be a good thing but left to grow stale in a binder or on a hard-drive becomes useless, something to agonize over, knowing it’s out of date and that time spent away from billable hours to update the template can not be justified. Many times, I see relief on the face of the specifier when I offer to look over the template and offer suggested language to get them up to speed.

Definitions

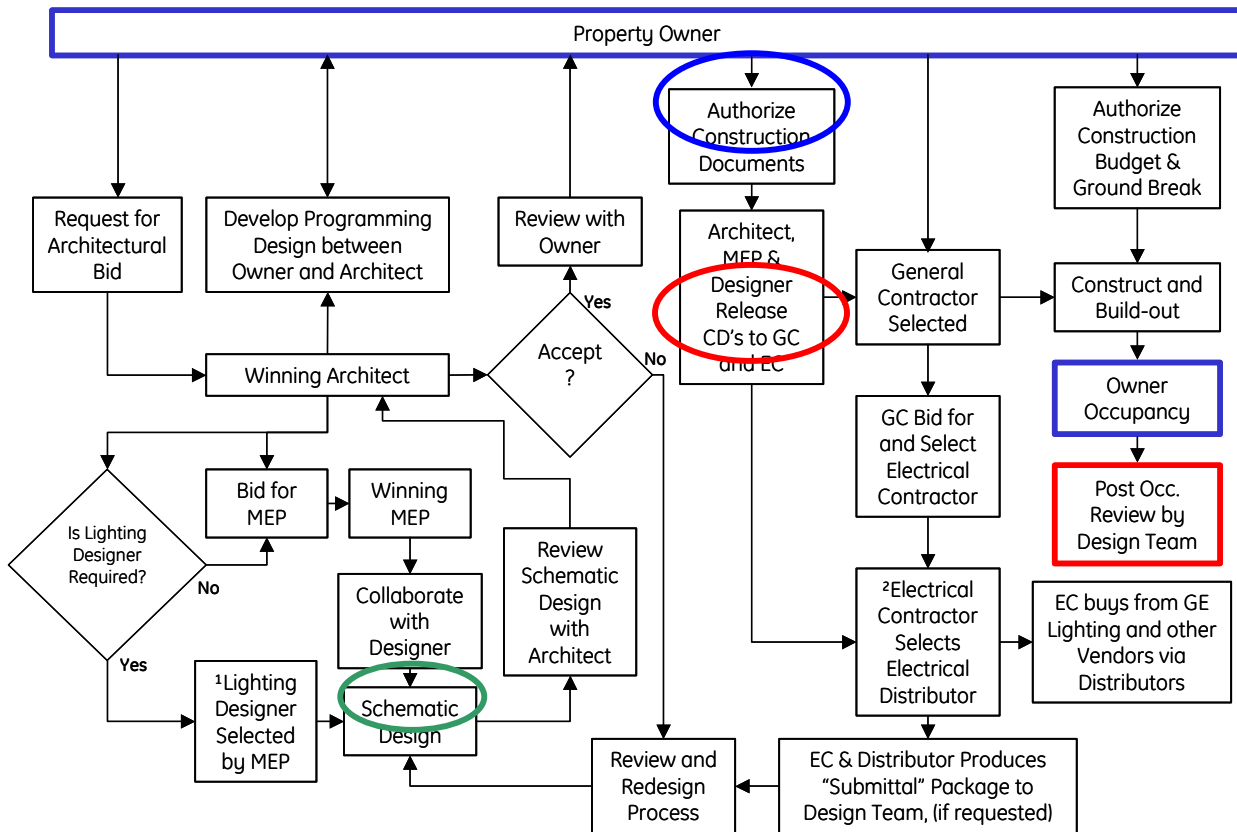
According to Wikipedia, the term “**template**” is often used in the context of software engineering [having] various technical specifications, but is generally identified as any processing element that can be combined with a data model and processed by a template engine to produce a result document. [1> The term “**boiler plate**” other than referring to “a relatively thick sheet of high quality steel, suitable for building boilers” generally means “text (or program code) that can be used in a variety of situations”. “**Boilerplate**” is any text that is or can be reused in new contexts or applications without being changed much from the original. Many computer programmers often use the term “boilerplate code”. A legal boilerplate is a standard provision in a contract. The term boilerplate is adopted by lawyers to describe those parts of a contract that are considered “standard language”, although it is good practice to always read the boilerplates in any contract. [2> More recently in the electrical distribution business, the term “**Guideform Spec**” is sometimes referred to as the document used to generate a standard specification.

For the lighting industry, or any industry employing a CSI formatted specification, the use of standard language which can be “cut and pasted” eases the work load of the

specifier in efficiently producing valid **Construction Documents (CD's)** for each job. The real task is not altering the spec from job to job, but simply keeping the boiler plate spec language up to date.

If we understand where this document comes into play during **The Design Process**, as outlined in the flow chart below, we can know the real value of the template.

Lighting Design Process



¹Architect uses Lighting Designer if the Architect or MEP is not responsible for doing the lighting layout

²Electrical Contractor sends out for bids from the Electrical Distributors

Using a valid Guideform Spec should occur in the proces as early as the "Schematic Design" step, (green circle). However, in reality, most specs are generated after the Owner authorizes forward progress, usually when a 50% CD review is scheduled (blue circle). However, by the time the designer achieves 90% CD review, the looming deadline leaves little time to truly render a valid spec document and meeting the dead line date overrides any concern that the Guideform Spec is current.

Therefore, let's address the following questions...

1. when should a specifier update the spec language and how often should the template be reviewed?
2. What are the key components of a valid Guideform Spec?

Updating a Specification

The most important milestone driving the need for a spec review and update is the adoption of new electrical codes and the passage of legislation mandating changes in technology. As noted by Stefan Graf, IALD Ypsilanti, MI, USA, Principal, IlluminArt in his article "Importance of Using a Lighting Designer", IALD web page <http://www.iald.org/design/importance.asp>, "Lighting equipment and controls technologies are developing at light speed: hundreds of new products are introduced to the marketplace annually. To provide proper design solutions that make use of the latest, most-cost-effective technologies, lighting professionals must attend national trade shows and continually update product information and samples from hundreds of manufacturers. Keeping abreast of newest weapons in the lighting arsenal has become time intensive and more essential. Independent lighting consultants do not sell or install equipment, nor do they depend on the recommendations of lighting salespersons. So the client receives a lighting design based on research and expertise -- free from conflicts of interest." [3> Right on Stefan!

The key of any successful design is the translation of knowledge gained by the Designer and Engineer in this fast developing industry to the finished project. The translation is manifested through valid communication to the parties that execute the intent of the design. That key document is the written specification, which is normally patterned from a template. Examples of swift changes catching specifiers off guard are the Metal Halide Ballast legislations. In January 2008, Mercury ballasts went away. This year, the efficiencies of Metal Halide Ballast from 150w to 500w were raised effective January 1, 2009, such that most specs calling for Probe Start Ballasts no longer meet the intent of EISA07, the Energy Independence and Security Act of 2007. The code basically forces the designer to call out Pulse Start Ballasts.

Although Specifiers may not update the template often enough, in actuality it's 2-5 years between revisions, most agree an annual assessment and revision is desirable.

Key Components of a Lighting Guideform Specification

Although the Guideform spec is a living document and highly customized to meet the intent of the design or the marketplace severed there are key components, which must be considered as minimum content. Without actually inserting a complete template, here is a brief run down.

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections apply to the work of this Section.

DESCRIPTION OF WORK

QUALITY ASSURANCE

REFERENCES

- NEC Compliance: Comply with the NEC as applicable to the installation and construction of lighting fixtures.
- NEMA Compliance: Comply with applicable requirements of NEMA Standard Pub. Nos. LE-1 and LE-2 pertaining to lighting equipment.
- ANSI/UL Compliance: Comply with ANSI/UL Standards pertaining to interior and exterior lighting fixtures for hazardous locations.
- CBM Labels: Provide fluorescent lamp ballasts that comply with Certified Ballast Manufacturers Association Standards and carry the CBM label.
- NECA Compliance: Comply with NECA's "Standard of Installation".

SUBMITTALS

Submit manufacturer's product data on lighting fixtures, typically found on a Fixture Schedule: Name of manufacturer, descriptive cut sheets, complete photometric information, coefficient of utilization tables, fixture voltage, the number, type and wattage of lamps, ballast manufacturer, ballast factor (BF) and type, lens types, fixture options, fixture mounting details, fixture door types, construction of fixture housing and/or door,

EXTRA MATERIALS

FLUORESCENT BALLASTS

Standard use, Dimming, Emergency Fluorescent Power Packs:

HIGH INTENSITY DISCHARGE BALLASTS

LAMPS

LFL, CFL, HID, CMH, HPS

EXECUTION

Although many details come to bear on the production of a successful Guideform spec, the knowledge imparted will prove to be a key contributor to a viable project. As I said at the opening, the use of a boiler plate or template can be a good thing. As technology continues to be ever changing and the legislative forces drive improvements, your GE Specification is keeping abreast of the industry and stands ready to help and assist the Designer and Engineer with update Guideform Specs and suggested language.

References

- [http://en.wikipedia.org/wiki/Template_\(software_engineering\)](http://en.wikipedia.org/wiki/Template_(software_engineering))
- [http://en.wikipedia.org/wiki/Boilerplate_\(text\)](http://en.wikipedia.org/wiki/Boilerplate_(text))
- <http://www.iald.org/design/importance.asp>