

PRODUCT DEVELOPMENT

BEST PRACTICES REPORT

October 1995

Volume 2 Issue 10



DESIGN REVIEWS: THE RIGHT WAY

*Bradford L. Goldense, CMfgE, CPIM, CCP
President, Goldense Group, Inc.*

Design Reviews are proven approaches that will help improve the "product development hygiene" in your company and reduce time-to-market. They also result in higher-quality products. One of the oldest known techniques for debugging designs, preventing errors from getting downstream, they are also one of the most misapplied tools commonly used by development professionals.

One major area of misapplication results from confusing Project and/or Program Reviews with Design Reviews. Design Reviews focus exclusively on the design of the product. The purpose of design reviews is to review the overall design, or a specific aspect of a design, during any point in the development of a new or existing product. Discussions about project schedule, development cost, staffing, and other project-related issues should not be discussed in design review meetings...only design is allowed.

Design review techniques are also misapplied when the team members get together without external reviewers to review the design of the product they are currently working on. Robust design review processes will always involve independent teams of reviewers meeting with the members of the team designing the product.

A third misapplication: design reviews often occur after the fact. Models, breadboards, and prototypes are built and the design is then reviewed. Design reviews should be "reviews of design," and not "reviews of as-built." The whole idea is to get the bugs out on paper before building the physical product.

Key Learnings

To get the greatest value from design reviews:

- Stick to the topic of design during design reviews.
- Be careful to have external reviewers present when the design team does its review.
- Be careful to do design reviews when they're supposed to happen, not after the fact.

Finally, design review processes at many companies are monolithic and not well constructed or positioned to add value. Good design review is multi-faceted by nature. Best practices typically involve several flavors of design reviews. The population of formal reviews for a given development effort will contain early requirements, specification, and architecture reviews; focused serviceability, manufacturability, and reliability reviews; and comprehensive feature and function performance reviews.

Numerous informal reviews will take place. Depending on the complexity of the product, these review techniques may be applied at a component, subassembly, subsystem, and/or system level.

The proper application of design review techniques can pay significant benefits. In addition to producing higher quality products, some companies' experience leads them to believe that design reviews alone have reduced time-to-market by as much as fifty percent.^{P, D}

To contact Goldense Group, Inc., call 617-876-6776