



Managing Quality in Architecture

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Integrating BIM, Risk & Design Process

When you have to manage upward – Case studies

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Chapter Reference 11.7

This is additional information for Paul Hinkley's Chapter 11.7: Case Studies for Managing Upward.

Example 1: Precast façade quality

The precast façade on a high-rise tower project was being cast offsite according to a specialized design. Soon after the young project engineer joined the project team, he expressed concern about the casting technique and panel design. The engineer discussed his concern with the PM, a person of some senior standing, and suggested an alternative. The PM did not welcome the initiative, saying that any change would cause schedule delays and additional cost.

Given that the panels were by this stage being fixed on the building many levels above the street, the engineer became quite concerned and considered whistle-blowing by going over the PM's head to the company Directors. Instead he prepared a cost-benefit study. The analysis showed rationally that by changing the design and construction technique, the quality would be improved.

Further, the additional cost could potentially be offset by schedule gains. The PM was finally convinced and the change implemented. A significant time saving eventuated.

It was too late to do anything about the panels already in position. Within ten years of the building being completed, small – but dangerous – pieces of concrete were separating from the building and falling to street level. The pieces were found to be coming from the lower part of the building, below the level at which the change had been physically implemented.

The client was required to construct unattractive public protection measures over the sidewalks.

The rest of this story does not need recital, except that the young engineer found that his relationship with the PM soured and his trouble-shooting was neither recognized nor rewarded.

Example 2: Major distribution facility

The facility was housed in a large long-span portal frame warehouse building clad in metal sheeting, with an adjacent office. Internally it comprised an arrangement of multi-level stacks and a semi-automated materials-handling system of conveyors. The project start had been delayed, so the client requested an accelerated program but without quality being comprised.

As the client did not have a formal project brief document, the project manager prepared one and got client sign-off. The brief included a client decision list including all quality-related decisions, with timing based on a critical path schedule. At the same time as design commenced, the project manager jointly engaged his company's quality department and the client's to initiate a design-construct quality system.

The client decided to retain management of the procurement and installation of the materials-handling system within its own organization.

Nonetheless, the project manager attempted to include all the critical functional and detail quality issues of the system on his client decision action list, not the least to ensure that the system and the ancillary work were well-coordinated. He was told to mind his own business. And he did.

The building and engineering works were designed and constructed within the accelerated schedule and with minimal quality problems. On the other hand, problems with the materials-handling system persisted for years after the facility was completed.

We can conclude that if the same process of managing up had been applied to the materials-handling system, as had been applied to the building and engineering works, the chances of the system working efficiently would have been greatly increased.