

Implementing Innovative Ideas in Structural Engineering and Project Management

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# THE ITALIAN LEGISLATION ON PROJECT VALIDATION

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Italy, first in Europe, introduced mandatory validation in building public works: the first years experienced some issues leading to a general updating of the national legislation, differentiating the project verification from the project validation. The former is a formal stage of the construction process committed to the Public Authority (through the Overall Procedure manager), the latter can usefully be performed by an external authority and involves systematic project examination and contractual documentation monitoring. The research critically approaches the modifications in the last decades on public work legislation, from the aged Merloni Act to the current Presidential Decree no. 207/2010. The paper focuses on the improvements on public building in design stage because of the mandatory validation. It also describes how some weak points have been solved and those that are still present in the Italian legislation. Particular attention is given to construction works below a certain threshold of amount.

*Keywords:* Work Management, Project examination, Contractual monitoring, Public Works.

## 1 INTRODUCTION

In Italy the introduction of mandatory verification in public work projects represented a significant turning point in the quality management during the design phase.

Private clients are usually managing the project quality on a trust basis: the appointment of a designer could be a non-traceable and/or hidden process. For example, this is directly based on experiences in previous works, direct acquaintance, reputation, recommendations, etc. Quite often, private clients select a designer and they trust him fully.

On the other hand, a commissioning body should select every public work designer in an open, traceable, and frank process by bidding, invitations, competition, and so on. Here the relationship between client and designer become very different and more formal: the project quality cannot be entrusted on designer's competence only. It has instead to be assessed by objective elements such as a project inspection by a third part body.

## 2 THE MAIN TEXT AND IMPORTANT CONSIDERATIONS

At the end of the Eighties, the Italian situation of public contracts was affected by several variances during the execution phase. Too often, the direct effect was a final

work budget bigger and bigger than the project cost estimate. Besides some fraud incidents, in those times very popular among reporters, the Italian situation suffered from an underestimation of execution costs in public works (Ruggiero, 2005). A theoretical trigger of this underestimation could be the willing of the design team to see their project, completed after months or years of hard work, fulfilled. If the public budget is not enough, the team will be obviously inclined to undervalue the total amount of work expenses. This undervalue will occur via both underrating quantities and misjudging work categories, in order to get the commissioning body to build it. Then, a sequence of spending variance appraisals will cover the extra costs during the construction work. At this point, public authorities have to give an answer to the well-known dilemma “we have begun, shall we finish or shall we waste the money we already spent?”

Therefore, the Italian legislator focused on the issue of controlling the public works’ budgeting through the accurate verify of the project, also with reference to the cost estimation. The core of the renewed legislation on public works is the close expense control and a meticulous check of the project quality (Francisco, 2007). The renewal of this legislation was promoted by Francesco Merloni, Minister of Public Works in those years: this is why the Law No. 109/94 is called also “Merloni-Act”. In this law, first in Europe, Italy introduced a pioneer attempt to have mandatory project inspection in public works (Marchetti, 2004). In the section 30, subsection 6, the so-called Merloni Act has stated that before starting the procedures for the work commitment, the Contracting authorities must verify the compliance of the design documentation to the contents of the sec. 16 (subsec. 1 and 2) and to local regulations. Unfortunately its implementing Regulation was enacted only five years later, thus frustrating one of the major aims of the Law 109/94. Meanwhile, the law itself had been changed twice: in 1995 it was enacted the Law No. 216/95 and in 1998 the Law No. 415/98 (the so-called Merloni-bis and Merloni-ter).

Anyway, the road map was traced: the project is central and thus it must be fully inspected before the tender, thereafter it should be considered fully buildable without any need of variances. This is why the Italian legislation on public works is different and more demanding than that for private works. The aim is twofold: render the formers exemplary in terms of quality and cost management and reduce disputes arising from the works design stage.

The law articulated the design sub-procedure in three consecutive steps: the preliminary project, the final project, and the executive project. Each choice of the previous stage influences those of the following stage, improving the general coherence of the project.

### **3 THE D.P.R. 554/99**

Finally, in 1999 the Implementing Regulation was enacted: this is the first time that the term “validation” appeared in Italy. The regulation prescribed to check the internal and external coherence: the former is the project compliance to the external context (e.g., environment, social context, economic context, etc.), the latter is the compatibility between every component in the project. In few words, it is a sort of a final inspection conducted on the entire project and not only on the building.

Each step of the project must be validated. For example, the preliminary project validation is focused on:

- i. The concept, social, ecological, environmental and economic Quality
- ii. The compliance with functional, technical and performance requirements
- iii. The social, economic and environmental context coherence
- iv. The internal coherence between elements and components
- v. The effectiveness (i.e., the level on which preset objectives are achieved) and the efficiency of the project (i.e., the balance of the cost to achieve objectives and the cost to run and maintain the construction)

Then the validation process will proceed to the following steps (final and executive) always involving a close debate with the designers. In Italy, this has been a really revolutionary approach to the design activity. Before the Merloni Act, designers were alone with the public commitment authority. Often the latter did not have adequate technical skills to lead the project phase, thus leaving free the designers to work until a completed project to be anyway accepted as unmodifiable.

Introducing the mandatory inspection of projects, the Public Administration must follow the design phase step by step with a close exam of its contents. Sometimes, the Public Administration can be assisted by a third part inspection authority. This has to have skills and competences suitable to the kind and to the complexity of the project. However, for all works exceeding 20 million Euros, a third part inspection authority (Inspection and Control Authority), independent from the client and designers, must be charged of the inspection.

The independence of the inspection body is a crucial point in the application of the law. In fact, the validation is strategic when it involves skills, competences and design culture at least of the same level of the appointed designers. Otherwise the validation process is a (simple) administrative task or a formal control (Piantanida, 2011).

A weak point of the D.P.R. 554/99 Regulation was that the terms *existence* and *completeness* appeared more frequently (par. 47) than *congruency* and *suitability*. In this way, the importance to verify the project content as a whole was subdued in favor of a formal fulfillment of the project document list provided by the law (Gottfried *et al.*, 2006). However, one has to keep in mind that the law assigns an independent and full responsibility of validation to the Overall Procedure Manager (OPM), an innovative administrative figure (Porro and Passeri, 2000). This figure represents the contracting authority. In case of a disputable project originating litigation, the OPM will be responsible in every way for the eventual financial loss of Public Administration, because it has only the power for validating.

Another feeble side were the criteria to resort or not to an Inspection and Control Authority IEC EN 45000 compliant. This authority is not mandatory for works below 20 million Euros, particularly if the designer is independent from the Public Administration: in these cases the OPM has the opportunity to validate without any support (and cost) of an independent inspection authority.

This is the point: if a contracting authority appoints an external designer of a project, one has to suppose it has no internal skills to design it by itself; so, how can it find the competence for project inspection?

#### 4 THE “CODE OF CONTRACTS” AND ITS IMPLEMENTING REGULATION

In 2006 all the regulations about subcontracting public works, public services and supplies were collected together in a sole law to acknowledge the European Directives 2004/17/CE and 2004/18/CE, the Legislative Decree No. 163/2006. The new law abides by the evolution of the subcontracting and execution procedures for public works. In some cases (the so-called “complex integrated project”), the project inspection could be performed also when the work is already subcontracted but before the construction process beginning (Ciribini, 2011).

An enhancement is arrived in 2010 with the pertinent Implementing Regulation, and so the new Code of Contracts worked for over three years with the implementing rules of the old Merloni Act. The appropriate implementing regulation is the Presidential Decree No. 207/2010, having a whole section about project inspection (par. 44-59). Here an important distinction has been introduced: the validation is a unique administrative act undertaken by the OPM only it should be on the basis of the inspection final report. Vice-versa, the inspection constitutes a repeat-cycle process between the Inspection Board (internal to the public administration or an independent Authority), the designers and the OPM (Figure 1): this is aimed at the project improvement under a Works Quality profile before its formal validation.

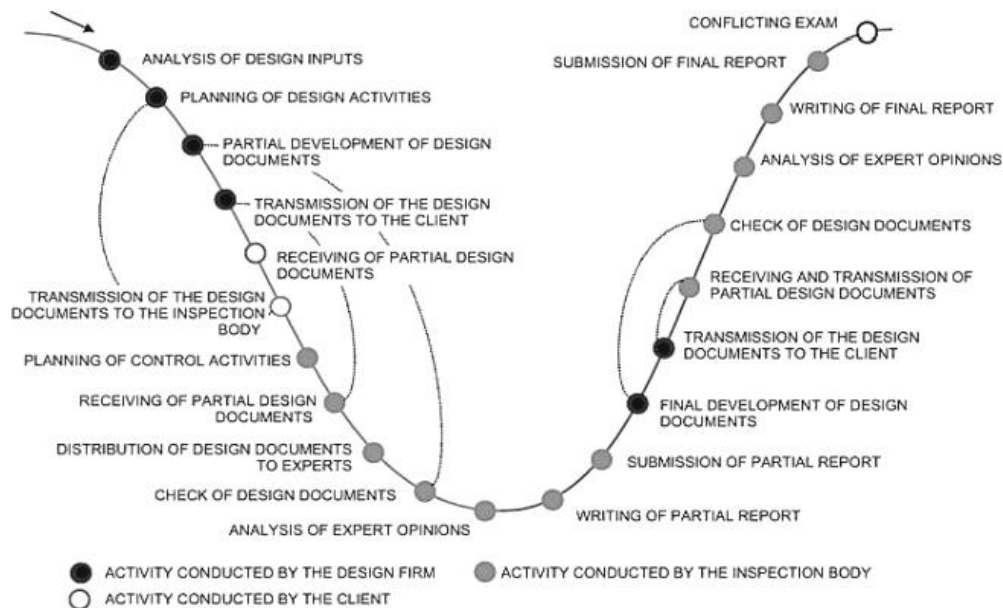


Figure 1. Interrelations in the project inspection path (Piantanida, 2011).

The Regulation stated that the validation should follow the entire design path to ensure the compliance of the chosen design solution to specific provisions for functional, performance, standards and technique requirements, already contained in the feasibility study or in the design levels previously approved (Par. 45). This regulation acknowledges also internal inspection without any special requirement for works below one million Euros. Furthermore, it introduces an internal inspection even when the works amount exceeds 20 million Euros, and only in the case of UNI CEI EN ISO/IEC 17020 compliance of the internal inspection unit.

The inspection should verify particularly (Par. 52):

- a) The completeness of the design
- b) The consistency and completeness of the economic framework in all its aspects
- c) The effective subcontracting possibility of the chosen design solution
- d) The conditions for the durability of the work over time
- e) The risk minimization to introduce variants and litigation
- f) The possibility of completion of the work within the time limits provided
- g) The safety for workers and users.

## 5 CONCLUSIONS

In the Merloni law (1994) the project validation was mandatory only for documents tender aimed (e.g., Executive Project). Then in its Implementing Regulation (1999) the validation/verification was extended also to the final project, because of consolidated contracts introduction.

The Code of Contracts (2006) added to the above mentioned paradigms the so-called “complex consolidated project” where the project inspection could be performed also when the works are already subcontracted but before their beginning.

The Implementing Regulation (2010) introduced the mandatory validation in every design phase and, in each phase, the inspection during the whole design development. It also changed the selection criteria for the Inspection Bodies, widening the opportunity of internal inspection. If one considers the following factors, such as number of contracts, their amount (Figure 2), and their possible financial loss due to litigations, it is possible to note how this difference can enforce the following contradiction. When a contracting authority appoints an external designer of a project, it is probably because there are not appropriate internal skills. In that situation, it cannot find an adequate competence to inspect by itself the project properly. However, the Italian law admits this self-inspection in order to reduce costs, without bearing in mind how much the savings about the inspection fees will be probably overridden by the financial loss for litigations.

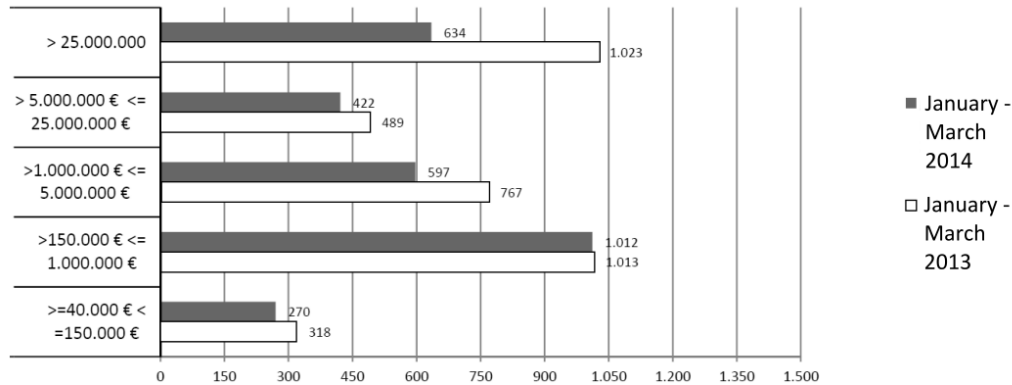


Figure 2. AVCP Report on the number of public work contracts and their amounts (top: Jan-Mar 2014; bottom: Jan-Mar 2013) (A.N.A.C., 2014).

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