

TOMORROW I START PAINTING THE EIFFEL TOWER

Radu Ionescu¹

What are the 4 things getting a door repainted by your next door craftsman and the repainting of the Eiffel Tower have in common? First good answer: you need paint, even if slightly more for the second one. Second good answer: they will both look smashing afterwards, even if, when it comes to colours, opinions may vary. Looking for yet another good answer is not easy if you are not in the business, but it's still feasible when you have some technical or legal acumen: making these works happen requires a contract, would it be even oral. For the 4th answer it's getting tougher, as getting a door painted does not seem to require as much know-how and/or preparation as for the second one.

It is true that as the works get larger in scale or in number of required skills, their preparation and planning gets more complex. And if you talk of complexity in planning the works, you rapidly realize the types of risks you are facing if even a small thing starts getting wrong. And in order to reassure yourself and your (financial) partners you look around and try to find out what did others do when faced with such complex matters. They often opted for one or the other of the following solutions:

- Using plans drawn by engineers, they hired the services of a contractor or of a general contractor
- They entrusted a global contractor, who was also responsible for the design and planning supposed to fulfil their requirements
- They developed the plans up to a certain level of detail, together with several large contractors who brought in their experience in the field. At the end they selected their partner to continue the developing of the project together with themselves.

The sheer variety of contractual provisions and/or contract packages used over time for complex construction projects testifies the search of the most appropriate solution to the given situations. There is no "one size fits all" solution. Here are some of the reasons why such a solution is very hard to find:

- Owner or employer profile: private, state, semi-state-body
- Project: size, duration, total estimated cost, location
- Type of financing: private equity, governmental funding, international financing institutions, loans
- Political, legal and tax aspects
- Risk degree due to environmental impact, residential vicinity, quality of soil or weather conditions

For major projects the solution of tender procedures based on prequalification is nevertheless often chosen by the owner.

When looking at the large number of intervenient parties one does hope that the coordination of their contributions to the project is top of the list on the owner's agenda. Without such a coordination the probability of a mayhem during the construction phase or, even worse, the

¹ Partner – Ing. Dipl. EPFL/SIA-MSc, PMG Consulting Engineers & Economists, St.-Sulpice/Lausanne
(rionescu@pmg-ing.ch)

reparation or maintenance costs once the works are finished, could jeopardize the financial balance of the project. Unfortunately, such situations occur more often than one could even imagine. The example of the new Berlin airport helped many newspapers fill the space between the ads. The same happened years ago with the beautiful Sidney Opera House. And these examples are only the peak of the iceberg.

We all know experienced contract partners that went into litigation because the planning of the project neglected either one or more of the following:

1. Answering closely the requirements or the needs of the owner
2. The clear definition of the interfaces between the different designers and the efficient communication among them
3. Eliminating any grey area not allocated to one or the other from the designers
4. The seamless liaison between the works of the various trade
5. Avoiding inconsistencies between the written (calculations, bill of quantities) and the drawn (plans, time planning of the works) project planning documents
6. Assuring contradictions and their effects between the legal and the technical terms of the contract are avoided
7. Quality of design, drawings and technical specifications.

Once the litigation literally erupts, there is little room in finding an amicable solution, each party being convinced of their own right and of the quality of their input to the project. Our task was often to spot these misfits and to answer the question: who did not fulfil properly its share of the deal. Not an easy task, considering that it is not uncommon that the people involved in the planning since left their employers, that the documentation is not 100% available anymore and/or what is available is contradictory, that decisions have been made without writing them down for later tracking, that the conditions that lead to a decision have not been clearly stated in writing.

If for litigations related to the construction phase, our detective role is made somewhat easier by the very fact that, except for hidden or temporary works, the result stands in front of us and is hopefully completed by contemporary records, for litigations related to the planning/design phase our mission is harder. What is expected from us is to “translate” the technical reality into an easily understandable for non-specialists document. That is why, when it comes to problems linked to the execution, the “translation” is more obvious than when the problems have their roots in one or the other of the situations mentioned above. Identifying what went wrong in the planning phase is another cup of tea. And once these issues are clear to us as experts, “translating” them into easily usable arguments in the legal battle requires a special affinity with the legal strategy and approach.

The first question that arises is: if there is a confirmed risk in the coordination of the various studies and that of their results with the contractual terms, why isn't someone in charge of checking that the planning results are coherent with the owner's expectations, with each other and with the contract?

We often heard the following answer: because the whole planning phase costs already a fortune to the owner, not to hire someone to get a final check of the project in its entirety. As this kind

¹ Partner – Ing. Dipl. EPFL/SIA-MSc, PMG Consulting Engineers & Economists, St.-Sulpice/Lausanne
(rionescu@pmg-ing.ch)

of answer could seem unwise considering the vast implications that an error in this phase could have for the entire project, we also heard the hypocritical answer: “The time constraints are such that the end-user cannot afford spending this time on yet another check”.

Total contractors put rightly forward the well-known fact that 80% of the saving potential of a project is during the planning phase, the remaining 20% corresponding to the optimizations in the execution phase. The same is true for the risk avoidance or control: a well-planned project is left with only 20% of potential risks in the execution phase.

Many national legislations impose a very tight third party check of the planning and of the execution in their selves. Specialized engineering companies have to check all the calculations made by their colleagues working directly on the project. Also, specialized state, associative or private bodies check the quality of the works executed on the building site. Both put down their conclusions in standard reports showing what will go or went wrong with the project in their respective area of expertise. The owner is often obliged by law or by their insurance companies to take into consideration these reports and implement the necessary changes to the project.

But what if one of the 7 scenarios shown above does not happen? There is now security net. And the consequences could be at least as financially penalising as the ones checked by the third party specialists. These are the only and very vulnerable aspects that legislation cannot cover. No one can impose the owner to make sure that it, for instance, has a perfect fit between the technical and the legal chapters of the contract. Or that two parallel activities do not create each other problems during the construction phase.

This last check can only be done by an expert that masters the underlying principles of both the technical and the legal aspects of a contract. An excellent background could be the former participation to solving litigations through mediation or arbitration, or to dispute boards. The capacity to overview complex projects from A to Z and to imagine the implications of the planning decisions during the lifespan of the construction, allows such an expert to evaluate the pros and cons of one of the 7 scenarios not happening, even partially. It is only this expert who can, at the 12th hour, help the owner weigh the risks of stopping or not the project and advising it on what contract or planning changes are indispensable.

The duration of such a final check is proportional to the complexity of the project. If started early enough, i.e. during the planning phase, this analysis should not add more than another month to the planning phase. Compared to the financial risk resulting from the non-occurrence of one of the 7 scenarios, the cost of this final check are well below the cost estimate error margin of any complex project.

The 4th and last thing that getting a door repainted by your next door craftsman and the repainting of the Eiffel Tower have in common is now obvious: for both, you have to make sure that you will have the right type of brush and paint so that they fit together. Did you check it with your contractor and put it clearly in writing before starting the works?

¹ Partner – Ing. Dipl. EPFL/SIA-MSc, PMG Consulting Engineers & Economists, St.-Sulpice/Lausanne
(rionescu@pmg-ing.ch)