Sewage Sludge Treatment
– Experiences in International Contracts from Different Views –

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The recent years WTE Wassertechnik GmbH has realised interesting projects with its engineers, it has realised big projects, has been looking for technical challenges, has mastered these and year by year new superlatives followed.

So, for example, the infrastructure project in Zagreb, the biggest at that time in Europe, different sewage plants with more than 2 million PE (Warsaw, Istanbul), the second largest sewage plant with membrane technology, the biggest primary settlement tank with selfrotary covers, the biggest pump performances, the biggest mud throughput, the biggest sludge treatment with thermal pressure hydrolysis and a lot of other projects were realised.

Only he who can think like an engineer, can understand and appreciate the performance behind it. No doubt, engineers accomplish astonishing performances.

During the last years our group of companies has dealt international large-scale projects, in

- Lithuania (Vilnius, Siauliai),
- Estonia (Kohtla-Järve),
- Cyprus (Anthoupolis, Mia Milia),
- Croatia (Zagreb),
- Russia (Moscow),
- Poland (Warsaw),
- Turkey (Istanbul).

The common characteristics of these projects can be reduced to: the technical challenges are mastered and the plants work properly.

However, we cannot be contented completely. The post calculation shows very often that, even the cost estimate was done in extreme short terms, external cost were estimated quite properly, but there is an big overrun of internal costs, expressed by the hours, charged on the project.

Simplified this rule may be valid:

If it works out fine, the hourly estimate fits, but problems are not covered.

Then, in a more exact analysis, it becomes apparent that the excess of the estimates results not from the design, but from unforeseen extra works and so-called modification of already available documents, which is defined as a management mistake in the classical sense. The question remains: Whose mistake was it?

A small and simplified historical course:

At the time of the company formation the local market Germany was the aim of business activities and it was profitable. Even in times of the upcoming worldwide economic crisis.

Later the German Reunification came with enormously growing assignments in water economy. VOB (German Construction Contract Procedures, part B) always was the usual contract model without essential exceptions in public invitations of tenders. Some, usually private Employers, preferred construction contracts based on the former Civil Code but the difference is inessential for this presentation.

In particular the VOB, a work which evolved during long years, always aimed to regulate fairly between two equal contracting partners. Even if the real text says *contracting party*, it can be derived that on contract conclusion both parties want the same. The VOB/B regulates the behaviour patterns of both parties to value the incidents usually appearing in the construction period and how to decide.

For persons from outside the industry there were lots of strange rules, which, however, had history and all construction experts are well familiar with it in their professional lifetime.

In spite of the number of judicial civil construction lawsuits, the VOB is to be deemed as a successful and logical work and what was all-important: we knew it well.

After the years of euphoria following the reunification – the economic crisis had still not come to an end – the big disillusionment and the question came: Where will the orders come from?

The answer came quickly: We go abroad.

Made in Germany – an achievement of our fathers and grandfathers – is still respected as a seal of high quality. Especially in the water economy, numerous products, forming international standard, come from our country, so, all in all, an understandable and logical decision.

But then we discovered differences, first small, not worth to mention. At home we are called *Ingenieur* and abroad the most common language is English and then it is called Engineer – or with attributable respect *the Engineer*. Sometimes it seems as if this was the entire preparation for a foreign project.

What is different in international projects?

The question is to be answered most easily by the exclusion principle. The result is the same – the finished plant – but the way to the result is a completely different one. It already begins with the role perception. The planning engineer is not any more the engineer, but planner, because often there is only one engineer on the project. Then he is not a lobbyist of the developer either, but is paid only by him. Otherwise he is obliged to operate fair and independently and – if necessary – to make a provisionally binding decision. Especially this issue already needs to get used to.

I can say from my own experience: The language is never the problem in international projects, it is only the communication. Exception: The definitions have to be known. It is an excellent and important habit of international contract models to define important terms at the beginning of the contract text. He, who translates, not from a lack of linguistic command, but from lacking contract knowledge *Taking over* by *acceptance* or *Defects Notification Period* by *guarantee time*, will have considerable problems. Quite dangerous if *programmes* is translated with *construction time schedule* and a simple MS Project plan will be handed over as the basis for additional claims. This requirement – justified as it may be – will be rejected. If one does not know the rules to the game properly and does not know how to use them, loses, even if he may be the better player or provides the better arguments.

The next understanding problem which has to be overcome for the experienced engineer, is the fact that in most international projects Common Law is used, while basically in Western Europe Civil Law is applied.

For this presentation the explanation of the differences may be short and easy, because it is only about indicating understanding problems which are to be managed:

In Civil Law it is judged by strict statutory interpretation, while Common Law relies on authoritatively judicial judgements in similar or identical cases, so-called case law. Another difference is that the Civil Law appeals to what the parties have meant by contract conclusion, while for Common Law is binding what stands in writing – even if it was not really the original intention.

Following the above mentioned, the saying *Less may be more* is not the attitude of most of the users, but the hope, the more is copied in the invitation of tender documents, the more likely it is in case of a potential conflict (note: not *Dispute*) to find an argumentation that the subject under discussion was already a part of the tender documents from the beginning on. Hence, contradictions in the tender documents obviously do hesitate to put even more information and requirements into the tender dossier.

At the end it becomes reality: International tenders consistently do have a worse content level than national ones.

Back to the role perception:

Usually, international projects are larger projects. For ensuring the probability of a company to receive an order, companies with different experiences often enter into a co-operation with local partners, e.g., in the construction area, to incorporate local experiences or because it would be uneconomical to bring along this performance. The task then is always the same, any other solution is preferred, but suddenly a decision is made: *We establish a Consortium*. The number of the consortium partners is not compulsory, there may also be several, 3, 4, 5 are not seldom.

At the beginning the basic idea is *Together we are stronger – let us focus on the order, we will solve the rest later*. A great number of different models are to be found due to the absence of approved international contract models for consortium contracts. Those who know some of them, appreciate the work of the *Arbeitskreis ARGE-Vertrag des Hauptverbandes der deutschen Bauindustrie*, this knowledge, however, is of no advantage in the international business. The different samples have in common the following wording:

Decisions within the consortium have to be agreed upon solely unanimously by the supervisory board, in which every consortium member is represented with one vote.

Considering, how high the percentage of engineers is in politics, one knows about the complexity of this easy regulation. In practice this often means, the consortium is unable to start disputing with the Employer because the board is unable to agree on the main content of the dispute.

International contracts require a strict period regulation. The periods are calculated not only tightly, but there is a huge number of them with sometimes dramatic legal consequences up to the complete loss of a claim. A responsive use of these periods requires a functioning time management, not only the processes on site should be included, but also those of one's own design and foreign planners as well as of subcontractors. In the case of a foreseeable or necessary extension of time for completion the performance of the time manager is essential for the whole success. This is a major task of the project management and no part time work of the project manager. References to local contract experiences are not valid; it is a separate and inherent world.

International contract models have in common that they require higher administrative effort (Administrative Contract). A discussion about sense and nonsense of different regulations is unessential, because in the contract model a huge number of processes have

already been described in kind and extent. Those who participate in such tenders should prepare themselves before, not when the Contract is signed. But often, exceeding demands regarding the documentation and further information are to be declined. However, this requires the exact knowledge of what is really demanded.

In practice, many cases are known where the Contractor is giving up completely after initial protest and then fulfills all claims of the Engineer or the Employer, often to his own disadvantage.

Another set of problems originates from the constant spreading of the international contract models themselves. Thus, the demand had developed originally from the search for a contract model in which all open legal questions were regulated, as for example the right of the country in which the supplier is business-resident, the right for the value added or the competence of the courts is regulated in the dispute itself. If for example, a FIDIC contract regulates without significant changes in the particular contract conditions with the intention: *The contract is the law*. Therefore all essentials are regulated in a fictive contract, for example, with a client resident in Oman and a general contractor from Western Europe.

The simple rule *the contract is valid, as long as mandatory local right does not regulate otherwise* remains the principal and exceptions and rarely provides incidents for disputes.

However, FIDIC assumes on some regulations that the contracting parties are no longer available for each other after issuing of the *Performance Certificate*. But the interpretation changes, if the same contract is concluded between West-European countries – e.g., the completion of contract takes place in Poland and an Austrian company is general contractor – or even a Polish one. The subject of post liability can then be treated in different ways. Of course it depends on the exact wording of the conditions, but for sure, neither the issue of post liability nor the differences between warranty or guaranty under the specific view is a battlefield for the traditional engineer, but might be essential for the outcome of the project.

On the one hand, many countries, thus, for example, Poland, have prepared their own translations of the FIDIC contract conditions which is not congruent – intended or not – with the origin text. However, usually, exclusively the local text is binding.

On the other hand, the discussion which right or law is mandatory and prevails the contract (or makes this article of the contract invalid) is dominant over the whole contract period. Experiences made in this content are usually expensive. Sometimes the result is as expected, it only took the team months to have it confirmed in writing, but sometimes it is worse and then even more expensive.

The above mentioned is often referred to as the high potential of disputes and the question of the decisive law and their interpretation. This did not happen by chance. It is argued a lot in international projects. Whether more or less than in national ones may be debatable. But the issue is that the parties do not quarrel in the right way.

We make a distinction between conflicts and disputes. Conflicts are helpful, they reveal different views and promote the dialogue of the partners. Disputes are to be solved or avoided.

Alternative dispute resolution procedures have been demanded and discussed for many years. Nearly all international contract models have such an alternative dispute resolution clause, *Dispute Adjudication*, *Dispute Board* etc. which are applied much too rarely. The most frequent argument against such use is that the clients do not acknowledge this anyway, because it is just no verdict, but only a determination, taken by a decision-making body under private law. This appraisal is wrong. It is indeed right that decisions are frequently rejected. Particularly by public clients. In Poland, e.g., the funding supervising authority

has recently demanded to apply dispute resolution procedures of the contract, and, if possible, to accept them. This writing alone led to greater acceptance and application of procedures, irrespective of the fact that the number of competent and well-lead processes is continuingly rising.

It is the basic intention to come to a preliminary binding decision by applying on site tools as to be handled by professionals. This can be a lawyer of course, but more recommended it should be an educated engineer. Of course the aim is to create acceptance of both parties and to finalise this decision.

Unfortunately, in most cases the procedure of a DAB (Dispute Adjudication Board) is initiated much too late; the conflict has already arisen, various scripts have already been exchanged, a number of lawyers have been invoked and the true target to solve the case from your own powers has failed. To shorten deadlines does not mean to avoid legal advice but there is for sure an intention to keep issues small and transparent.

A further element of the alternative dispute resolutions in the international contract models is to procure avoidance of conflicts. In particular, if a permanent Board is in use, they can make a statement on issues, and by their appreciation can encourage compromises among contract partners. Considering that the Engineer's definition is binding as long as they have been overruled by DAB (FIDIC) then the DAB is also a body of supervision of the Engineer and the Engineer can – only in presence of the contractual partner – ask for an unsolicited opinion of DAB before he issues a determination as a fact which is preliminary binding for the parties.

From our experience we can only give the advice to enter into such alternative dispute resolution, especially at the beginning of a project and at the very beginning of a dispute before the latter escalates and supersedes the content of the dispute.

Engineer versus professional Engineer:

Looking at local engineering structures any critics in the engineering's education appears like outrage. The opposite is true, the structures are good and exemplary and the education to become an engineer has not too much competition in the world.

However, anybody, who has ever met a good engineer from a large international project will keep an excellent memory of his way of problem handling, the skillful co-ordination of staff, the encouraging for discussion and for finding compromises, issues which all testify good school and excellent education. But those engineers are very rarely educated in Germany, or countries of the neighborhood.

On taking a closer look we do not find any suitable translation for the current terms like *Contracts manager*, *Quantity Surveyor* or *Scheduler* and in particular there is no official education related. But these professionals are part of every successful management team in international contracts and they are engineers. This relates to the conclusion that engineering education just gives the basics but more is needed to file a complete professional engineer. This is relevant for each technical branch, but even more relevant for engineering management. It still requires an engineer to understand the performance behind it but it might be a different type of engineer.

In Canada, the profession in each province is governed by its own engineering association. For instance, in the Province of British Columbia in engineering graduate with four or more years of post graduate experience in in engineering related field and passing exams in ethics and law wants need to Be registered by the association for professional Engineers and Geoscientists (APEGBC) [19] in order to become a professional Engineer and Be granted the professional designation of P.Eng allowing one to practice engineering.

In other words, a good engineering education, life experience and add-on exams in ethics and the law make a professional Engineer.

In order to comply with the complex and comprehensive requirements of international projects this combination is indispensable.

Generally it is of no importance which position is to be manned, either that of the Engineer in the meaning of the independent administrator or the project manager or Contractor's Representative, both positions require a solid engineering education, suitable life experience, development of personality and additional studies of construction law and contractual design.

Consequently the question who is to be blamed for managerial mistakes, arising from a lack of experience, is easy to answer. It is the one who compiled the team. It is a fact that suitable candidates are not easy to be found; responsibility thereof lies within the management. There is not sufficient appreciation for education after the education for chances and promotion.

Within EVN AG a suitable educational programme is provided designed to prepare engineers for international projects. Besides, professional educational programmes are fostered of which here are mentioned two:

1. German FIDIC seminars: Internationally experienced and well known experts train on FIDIC contract models providing theoretical and practical terms, leading up to the education and examination of Adjudicator, (acknowledged by FIDIC).[1]
2. Postgraduate master studies of the university for lawyers and engineers in the area International Construction Law with graduation as a LL.M. or MLS respectively.[2]

These studies can only be recommended in particular for engineers providing their first international practical experiences. This will be an education package which will qualify candidates for the difficult demand of international project management.

The demand is apparent, education must go on after engineer's graduation in order to respond to the requirements that we have to ourselves. This is even more necessary, in any case, for the international project business.

[1] www.germanfidicseminare.de

[2] www.postgraduatecenter.at