Antonis Megremis deelt met u de conclusies om de objectieve criteria expliciet op te nemen in de aanbestedingsrichtlijnen aan de opdrachtgever om abnormaal lage inschrijvingen uit te bannen. Deze conclusies komen voort uit een onderzoek door de TU Delft, uitgevoerd met steun van Ingenieursbureau Royal HaskoningDHV.

Auteur: Antonis Megremis, Adviseur Infrastructuur, Royal HaskoningDHV

Abnormaal lage inschrijvingen worden als ongunstig beschouwd voor de economisch duurzame uitvoering van (infrastructuur) projecten. In geval van gunning van de opdracht aan een ALT (Abnormally Low Tender), is de kans aanwezig dat tijdens de contractuitvoering tegenvallers en complicaties optreden, zoals levering van te lage kwaliteit, heronderhandeling van de contractvoorwaarden en juridische geschillen. Ook al is dit fenomeen in de EU-richtlijnen inzake overheidsopdrachten geregeld, er bestaat geen algemeen aanvaardbare definitie van ALT's of een juridisch kader (criteria) om dergelijke inschrijvingen in de praktijk te identificeren. De identificatie van ALT's is bovendien ingewikkelder geworden met de invoering en het grootschalige gebruik van geïntegreerde contracten, zoals Design en Construct (DC). De opdrachtgever (aanbestedende dienst) beschikt tijdens de aanbesteding van geïntegreerde contracten immers niet over een gedetailleerd ontwerp, en ontbeert daardoor de nodige informatie voor het opstellen van een trefzekere kostenraming waarmee de inschrijvingen kunnen worden vergeleken. Desondanks kunnen, zo blijkt uit dit onderzoek, ALT's, ook bij aanbestedingen van geïntegreerde contracten, toch door toepassing van objectieve criteria (zogenaamde standaarden) geïdentificeerd worden. Aanbevolen wordt om dergelijke standaarden expliciet op te nemen in de aanbestedingsrichtlijnen van de opdrachtgever en in voorkomende gevallen nader te specificeren in betreffende aanbestedingsleidraad. Deze conclusies komen voort uit een onderzoek aan de TU Delft (2013), dat met de steun van het ingenieursbureau Royal HaskoningDHV is uitgevoerd.

1. The problem of Abnormally Low Tenders

Contracting authorities in the field of infrastructure strive to deliver value to society, while they need to cope with budget restrictions. The challenge is to organize procurement processes in a way that contracts are awarded to competitive tenders, without adverse effects on the contract realization. Due to the downward pressure on prices, clients are receiving with increasing frequency bids that are substantially lower than estimated or than the other bids. The EU Directive refer to this phenomenon through the term ''abnormally low tenders'' (ALTs). Although the concept is regulated, there is no working definition of what constitutes an ALT in reality to facilitate the identification of such tenders.

Coping with ALTs becomes more complex if we consider that both the contracting authorities and the bidders aim for low tenders. Contractors aim to win the contract to ensure they have work for their skilled staff and to protect their cash flow, and thus may even decide to tender at a loss. For contracting agencies striving for resource efficiency, receiving low bids may be welcome at one level.

However, if a tender proves to be economically unviable the client will be confronted with cost escalation and a performance that has adverse effect on the project materialization. The contractor that is bound to make a loss struggles to save costs and reduces expenditure on quality, innovation, training and safety. These effects are passed on through the supply chain to subcontractors that are squeezed, suppliers and employees. In addition, the contract scope is reduced where possible to cut expenditures and contractors intend to charge the client for extra work outside the scope of the contract. The cost of quality control during contract execution, as well as the operational and maintenance costs is typically higher. The problems in the contract execution create friction between the contractual parties, which often leads to timely disputes between employer and contractor.

The question that emerges is below what point a tender should be considered abnormal, and what is the process to determine such tenders.

2. The process to detect Abnormally Low Tenders

In the absence of a commonly acceptable definition of what constitutes an ALT, several cases have been brought to European Courts. By reviewing those cases four distinct questions related to the process of detecting ALTs can be answered.

i. Contracting agencies are not obliged to investigate for ALTs; they only have the right to do so.
ii. Contracting agencies are not allowed to reject tenders as abnormally low without asking for explanation. This process consists of asking the bidder(s) for explanation in written, on precise points of the bid(s), to be provided within due time.
iii. Mathematical standards can be used only as indicators to identify tenders for which explanation may be asked. For transparency reasons it is imperative that bidders know beforehand what system is applied.
iv. ALTs should be related to objective concepts as the economic sustainability of bids. However, the economic sustainability of a tender should not be examined from the contractor's point of view, and should not be related to a margin for profit. Conversely, the justification for the empowerment of employers to reject an ALT is that they should not award a bid that will result in a situation where complying with the contract conditions and project requirements, is hard.

3. EU standards to detect Abnormally Low Tenders

3.1 National law of the 28 EU members

Within the European Community eight out of twenty eight EU members use mathematical standards to identify ALTs under national law. In those countries we can distinguish absolute and relative evaluating systems. Relative standards examine the deviation of a tender for the mean of the tenders, while absolute standards examine the deviation from the employer's cost estimation. Some countries make use of both approaches together, depending on the number of valid bids received.

In certain systems where relative standards are used, there is a prerequirement for a minimum number of bids for the standards to be applicable. The prerequirement for a minimum number of bids is related to the trustworthiness of the mean. Moreover, in some cases the highest and the lowest bids are excluded from the calculation of the mean if a sufficient number of bids have been received. The thresholds that are used vary significantly as it can be seen in the table below, which presents the average and the bandwidth of the thresholds used within relative or absolute systems.

Zie figuur 1

The competitive advantage of relative standards is that they reflect market conditions. The disadvantage is that they leave space for manipulation and require a minimum number of bids for the mean to be trusted. Absolute standards are always applicable, but a trustful cost estimate is required. Legally establishing the cost estimate as a standard is complex, because the employers would have to be able to substantiate their estimate and argue on it.

3.2 EU Public Procurement Directive

In April 2014, a new EU Directive on public procurement entered into force. The initial version of the proposal of the EU Commission for the new directive, in 2011, involved mathematical standards for the identification of ALTs. In particular, the homonymous article 69 provided that:

"Contracting authorities shall require economic operators to explain the price or costs charged, where all of the following conditions are fulfilled:

(a) the price or cost charged is more than 50 % lower than the average price or costs of the remaining tenders;

(b) the price or cost charged is more than 20 % lower than the price or costs of the second lowest tender;

(c) at least five tenders have been submitted."

Those standards appear to be arbitrary and were aimed to serve as a base for negotiation. This can be verified by reviewing the standards in the legislation of the Member States analyzed before. The standards in the proposal allow for a higher deviation of the lowest tender, than any standards encountered in national law. In other words, the proposed standards "encapsulate" the ones currently applied and do not come in conflict with any of those. After all, the standards were not included in the new EU Directive.

4. Implications of DC & DBFM contracts and the EMVI mechanism

The legal framework on ALTs, on European and national level, is established regardless of the project type, the award mechanism or the form of contract. Those parameters have a major impact on the identification of ALTs. In particular, the use of integrated contracts together with the application of the EMVI mechanism, have proven to have negative implications for the detection of ALTs.

Integrated contracts, Design and Construct (DC) and Design-Build-Finance-Maintain (DBFM), are becoming dominant for complex (infrastructure) projects in the Netherlands. Because the design is put into tender, the employer lacks a detailed design during tendering. As a result of the design freedom, the scope for which the employer and the contractor calculate cost differs, which is reflected in cost estimates that deviate.

Using integrated contracts also has a detrimental effect on the accuracy of the build-up method that is predominantly used by employers to estimate costs. In the lack of a detailed design cost estimation needs to be done on a higher level of the work breakdown structure where the uncertainty is rather high. Those factors combined enhance the complexity of evaluating bids and detecting abnormalities. In practice, there is another level of scope ill-determination impeding the accuracy of the cost estimation at the tender stage.

The scope defined in the tender documents is altered when the project is realized due to complications arising during executing the works. Therefore, probabilistic cost methods are used to estimate cost, which integrate risks on the estimate. Failing to take into account or underestimating certain risks is a very common path that leads to the submission of ALTs. Consequently, the risk analysis is a critical parameter for the investigation for ALTs.

Another aspect of integrated contract forms is that contracting agencies describe their requirements through functional specifications. This can create ground for misinterpretations and bidders may ‘‘misread’’ the specifications and bid below cost unintentionally or deliberately. In addition, functional specifications may lead to very different design solutions offered by the bidders. Thus, the range of price and quality offered in the bids is expected to be higher, and their comparability lower.

Integrated contracts are typically awarded based on EMVI criteria, which is required by the 2012 Dutch procurement act. In the context of EMVI, the "tender price" involves fictitious Euros that are subtracted from the real price. Those express the performance of the bidders on the qualitative aspects of the tender. Combining quality criteria with price is a difficult task, thus similar scores are often attributed to all bidders for quality. As a result it becomes unclear whether the price is consistent with the quality that is offered. Thus, although EMVI would be expected to contribute in avoiding ALTs by alleviating pressure on the price criterion, it adds complexity in detecting such bids.

5. Focusing on cost estimation and EMVI to facilitate detection of ALTs

The detection of ALTs proves to be a complex problem that requires more than setting mathematical standards. The steps that need to be taken by contracting agencies to deal with ALTs are equally important to the standards that may be used. With respect to the estimation of the project cost, improving the accuracy of the estimate made by the contracting authority is important and requires an extensive cost reference database. Above all, the cost estimation performed by the contracting authority and the contractor(s) need to be aligned.

The differences in the cost estimates of the employer and the bidders go beyond the mismatches in the scope. First, employers calculate both contract and non-contract costs while contractors calculate only the former. Second, employers do not take into account the market conditions and base their

estimation of the cost on business economics. Third, employers and contractors use methods to estimate the cost with differentiations in the constituent elements of cost. A very demanding step that should be taken is to work towards adopting a common definition of what is involved in the cost elements. This would strengthen the employer's understanding of how prices offered in the bids were built up. On a project basis this can be achieved by asking for price specifications in the bids. However, this is an option with both advantages and disadvantages.

The process of quantifying the qualitative aspects of the EMVI mechanism should be improved in a unified way. This would facilitate examining if the quality that is offered is abnormal in relation to the price. Organizing procurement processes is a complex task and being efficient is largely a matter of experience and knowledge. Thus, employers need to analyze the outcome of previous tenders to determine the characteristics of the market(s) in which they operate. Having an insight on the efficiency and sensitivity of the market assists in understanding if deviations in the bids should be expected and up to what point they can be attributed to market conditions.

6. Establish a framework to detect Abnormally Low Tenders

The EU legal framework provides valuable freedom for contracting authorities to decide how to act on ALTs. There is no general duty for employers to investigate for ALTs, but only a right. If an unsatisfactory explanation is provided by the bidder, the employer has a right to decide if he wishes to reject the tender.

In any case, the bidder is not allowed to make alterations to such an extent to overcome the bid being abnormally low. The only duty for the client is to investigate a tender before rejection, thus standards can only be used to identify tenders for which explanation should be asked.

Setting standards can be done in three different levels: in the national law, in the employers' tendering guidelines and/or in the tender documents. Establishing unified mathematical standards under national law, as it is the practice in other countries, is not suggested as those would have to be applicable for different markets, types of projects and forms of contract. On the other end, acting solely on the level of the tender documents does not guarantee the consistency of the process.

Contracting authorities should describe the process to be followed in tendering guidelines, to achieve uniformity in decision making, enhance the transparency of the process and preserve competition. Tendering guidelines should include a non-exhaustive list of factors to be examined for the detection of tenders, but only in qualitative terms. The main factors are the deviation from the cost estimation, the deviation from the mean of the bids and the risk analysis. It should be clarified that the factors to be examined and the thresholds will be specified in the tender documents, taking into account the project context. To avoid false statements by the bidders, it should be stated that if the explanation on the tender is accepted, it will be legally binding for the contract execution.

The exact quantitative standards to be set in the tender documents need to be context specific, but the general characteristics of the framework can be determined. Absolute and relative standards should be used together, depending on the number of bids. The cost estimate should be used as an indicator when few tenders are received, provided that the contracting authority has in hand a trustful estimate. Above a certain number of bids, the mean of all the valid bids should be used as an indicator. If an even greater number of bids are received the highest and the lowest should be omitted from the calculation of the mean, to avoid outliers' effects.

Up to a certain deviation, either from the mean of the bids or from the cost estimation, there is ambiguity on whether tenders should be examined. However, above that point it is undoubtful that tenders need to be investigated. Based on this line of reasoning it is suggested to set gradual standards. Up to a certain deviation the investigation should be optional and only above that point it should be mandatory. In the former case, the contracting authority should take into account the risk analysis in deciding whether to investigate the tender or not.

Those characteristics are imprinted in the table presented below, which was developed based on the consultation of legal and cost experts throughout two rounds of interviews. It needs to be made explicitly clear that this constitutes an exemplar framework for the detection of ALTs in DC and DBFM infrastructure projects.

The purpose that it serves is to indicate the features of a potential framework to be set in the tender documents. In order to develop an efficient framework, standards need to be fine tuned with the certain type of project and the market conditions.

The identification of ALTs is considered to be a step towards economically sustainable procurement. Developing a framework for the identification of such tenders is a very demanding process, but has the potential to prove beneficial for the contractual parties.

Bidders will be motivated to submit tenders that do not involve unreasonably high risks for the project materialization. Contracting authorities will be incentivized to build on their knowledge and expertise in the field of procurement. Most importantly, contractual parties will be encouraged to work and improve together as professional counterparts for the benefit of the society, through the delivery of successful and resource-efficient infrastructure projects.

Type of Standards	**Mean of the thresholds**	**Bandwidth of the thresholds**
Relative	*21.25 %*	*[15 – 30] %*
Absolute	*24 %*	*[10 – 40] %*

Figuur 1