Hiring an External Advisor Hydrology
at Water Board De Dommel

Bas Plehn
Email: bplehn@dommel.nl

Best value PIPS has been introduced in the Netherlands in the procurement of construction systems. The Water Board De Dommel utilized best value PIPS to select engineering consultant services. The test differed from other Dutch tests in that the PIPS process used the pre-award phase before the award phase. The best value selection of engineers also proposes that design firms can compete on value (price and performance). The engineering selection process was much closer to the original BVP/PIPS than the construction phases. The major lesson learned is the BVP/PIPS is a paradigm shift. The success of the test led to the recommendation of more professional services using BVP/PIPS.

Keywords: best value, designer selection, engineer selection, paradigm shift

Introduction

Dutch Water Boards (Dutch: Waterschappen or Hoogheemraadschappen) are regional government bodies in the Netherlands. A Water Board is charged with managing the water barriers, the waterways, the water levels, and the water quality in its region. Water Boards are among the oldest forms of local government in the Netherlands, some of them having been founded in the 13th century. Water Board De Dommel has been involved in monitoring the quality of the surface water for many years and manages water levels in the areas where the Dutch live and work. By deliberately giving rivers more space to flow, or even overflow naturally, De Dommel prevents floods in the rural areas. Regulating water levels is also of essential importance to agricultural and recreational sectors. The areas in Noord-Brabant that have a sandy soil suffer from a shortage of water; De Dommel reduces this by keeping the water longer in certain areas in the region.

Water Board De Dommel is active throughout the entire Dommel river basin, from the Belgian border up to Den Bosch. Currently, there are almost one million inhabitants in this area. As a local authority, Water Board De Dommel is dependent on tax contributions, which enables it to continue working on efficient water management.

The maintenance of rivers and streams ensures sufficient water drainage and abundant supplies of nourishment for both plants and animals in the water environment. One of the ways in which the Water Board contributes to this is by mowing streambeds. As a measure against floods in our rural areas, enough space is given to the rivers and streams to overflow naturally at specified locations. Sometimes, water levels can cause problems and dealing with these problems is the domain of the municipal authorities. The provincial authorities and the Water Boards are closely involved in solving these problems and giving the necessary solutions.
By regulating the water levels in water bodies, De Dommel ensures that nature reserves and agricultural areas have a sufficient water supply. De Dommel implements various methods for retaining water in these areas (such as dams) allowing rivers to meander naturally, or by raising riverbeds.

In this paper the process and results of a BVP-PIPS project is described. First, the scope of the project is portrayed, along with the reason why BVP-PIPs was used. Next, the process of the pilot is outlined for each of the PIPS filters. The paper ends with conclusions.

**Scope of the Pilot and Reason for Implementing BVP-PIPS**

As part of a large project that should reconstruct the whole Essche stream, an external engineering firm will be asked to make a model of the stream area. These models will be used to map the effects of the changes. A hydrology engineer of this engineering firm will support and advise the hydrologist of the Water Board. Together they will head the project and will conduct meetings and discussions with specialists, executives and civilians. For this assignment the Water Board wants an external advisor to give quality, knowledge and time to achieve the project. In the past, governmental structures always gave the assignment to the engineering firm that offered the lowest price (instead of looking primarily at quality).

The problem with this process is that an engineering firm may lower their price and their quality to win a bid. Many times, the lowering of price impacts the performance and quality of work from the engineering firm. The lower priced vendors sometimes cannot deliver their promised work, with may result in additional risk and an altered finished product. This situation drives the quality of design and engineering down, and the price for services up. The additional transaction costs of the clients in more meetings, decision-making, and communications is usually not documented but perceived to be intense by the using group.

After a strategic meeting with the “core tender team” of the Water Board, the method of Best Value Procurement / Performance Information Procurement System (BVP/PIPS) was chosen as the most suitable procurement strategy. The professional tender team, consisting of a senior procurement officer, senior legal advisor and project manager then investigated the needs of the (internal) client.

The need appeared to be an ideal profile for a tender based on the BVP/PIPS-method. There were high demands on the quality and experience of the engineering firm. The most critical person on the team will be the hydrologist, who will need to be selected very carefully due to his critical role. Quality in general is of more value to the client than cost. The value of the contract was estimated at € 300.000 over a three year period. This type of value has always been very hard to determine in a classical tender. A classical approach (by way of a CV or even presentations) is simply not enough to judge who the ideal contractor might be. The Best Value method would make it possible to determine the best contractor for the project. Based on this decision, the project team would then begin to set-up the tender procedure, starting with the formal formation of the project team and the composition of a tender strategy.
The Procurement Process

The project team needed to present a tender strategy document to the (internal) client for approval, before they were officially allowed to start the procedure. The composition of the project team in a tender procedure, like the one described here, is formally prescribed. It should at least consist out of the following functions and disciplines:

- Project manager
- Senior procurement officer
- Senior legal advisor
- Internal experts

The contract would fall under the tender policy of the Water Board and the applicable legislation (Bao and European tender guidelines). Therefore the Water Board was required to have a public tender, with or without a preliminary selection (the open vs. the restricted procedure). The choice was made to have a public tender without a preliminary selection, using the BVP/PIPS methodology and using “MEAT” as award methodology (Van Leeuwen, 2010). This differs from the way the Ministry of Transport (in the Fast Track Project and the EDCA project) and Den Bosch have used PIPS as they used pre-selection (see Van de Rijt et al, Veenendaal & Witteveen and Van Hulzen, 2010). The open procedure was selected because of the time schedule and in second place because there are not many vendors who full fill the subscription for over a 3-year period. Regarding the time schedule the restricted procedure takes approximately 77 calendar days and the open procedure takes approximately 52 calendar days.

As in the case of Rijkswaterstaat, the process of fictitious prices was used. Price/Quality relation was 40% / 60%. With a budget of € 300.000 the maximum “fictitious value” that could be gained was € 180.000. Vendors scoring a “10” on all qualitative criteria could in this way deduct a fictitious amount of 180.000 from their bidding price (Van de Rijt et al, 2010). See Table 1 below.

Table 1

| Evaluation Criteria | Weight | Maximum Quality Value |
|---------------------|--------|-----------------------|
| Price               | 40%    | € 60.000              |
| RAVA Plan           | 20%    | € 90.000              |
| Planning            | 10%    | € 30.000              |
| Interview           | 30%    | € 180.000             |
| Total               | 100%   | € 180.000             |

A tender protocol was created, in which all formal demands concerning the tender were stated. While making the procedures of the tender the BVP/PIPS-methodology was used as much as possible. A short description of the different filters used on this project is given.

Filter 1: Selection of Parties to be Invited

Due to the open characteristic of the tender, minimum requirements have been set (qualitative selection criteria based on the knock-out principle). This is done to guarantee a minimum level of
quality among the vendors. One of the requirements was submitting a minimum amount of comparable reference projects. The performance measurements from previous clients are general not allowed in the tender because of limits as described by Van Leewen (2010.) Instead, the Water Board asked for comparable reference projects regarding the assignment.

After the announcement on the websites of the Dutch tender calendar (aanbestedingskalender.nl) and the European official publication site Tender Electronic Daily (TED), the appropriate and relevant documentation was made available electronically and all interested parties were invited to an information meeting.

At the information meeting three main topics were discussed

- Clarification of the content of the contract
- Clarification of the features of the tender procedure that is used
- Training PIPS-methodology

There was a lot of interest in the planned information meeting with a total of 24 persons present (representing 11 companies). Since the time did not permit to finish the presentation, it was decided to organize a second information meeting. The second information meeting was exclusively about the PIPS-methodology. Only the senior procurement officer and the senior legal advisor were present on behalf of the client. This information meeting had a lot of interest as well, with 11 representatives from 11 companies.

*Letters of information*

The overall nature of the questions asked in writing (and orally during presentations), was twofold. A large portion of the question was about the specifications of the contract. There were also a number of questions, as could be expected, about the methodology of the tender. This kind of tender was for most of the interested companies the first introduction to this methodology. Yet by and large the companies where glad for the opportunity to show the quality of their work, instead of having to solely rely on having the lowest price. The project team deemed it necessary to publish multiple letters of information. In this way the parties were offered enough opportunities to understand the procedure and the contract.

*Filter 2: Written Tender*

The large amount of interest at the information meetings led to 11 tenders. All tender looked exactly the same, in accordance with the prescribed format. Every tender was divided into two envelopes and assessed by the Contracting Officer and legal advisor on validity and completeness, before put on two different stacks—one stack with the bid, recommendations and CD-ROM and the other stack with the RAVA plan and schedule.

Only the second stack was accessible to the rating team who rated the RAVA plans and the schedules. As in the case of the Fast Track Projects (see Van de Rijt et al, 2010), the Risk Assessment and Value Added plan were rated separately. The rating team could rate in a range from 2 to 10 and fill it in the rating form that was handout by the Senior procurement officer. The procurement officer instructed the team members to rate with dominancy—if a RAVA plan
was dominantly good and the risks were ‘outside the control of the vendor,’ then they deserve a "10."

There were a lot of differences in the RAVA plans and schedules. Many of the companies wrote down risks assessments that deal with risks that they can control. Others planned schedules that are not related with the risks assessments and a couple of companies wrote down nothing, assuming that they have everything under control. The average score ranged from 3.0 to a 7.6, with little deviation among the team members.

Filter 3: Interviews

The interviews were set up according to the methodology. The time for each interview was 30 minutes. The assessment team consisted of 4 assessors, including the senior procurement officer. A questionnaire was set up for every tender based on the assessment of the RAVA plans. The interviews were divided over two sessions due to the amount of interest from the market. A location the office of the stream area (Beneden Dommel) of the Water Board de Dommel was chosen. The reason this location was chosen, was because most of the engineering bureaus were not familiar with the site. The set-up consisted of two tables, one for the interviewer and the person being interviewed and one big table for the assessment committee, which was put perpendicular to the first table.

There was quite a bit of difference between the submitted RAVA-plans and the interviews, as more than half of the candidates did not participate in writing the RAVA-plans themselves. This is contrary to the direction given them to have the experts do the RAVA plan; however, as seen in other tests, the paradigm is difficult to break. This made assessing the right man for the job a bit easier. Average interview scores ranged from a 3.0 to an 8.8, with little deviation among the team members.

Filter 4: Determining the Best Tender

Since the award criteria were predefined upfront, determining the Most Economical Advantageous Tender (MEAT) was rather easy. One day after the interviews, the assessment committee convened to evaluate all personal findings. The assessment committee were unanimous in their joint assessment. Due to the “Best Value Procurement”-methodology one winner emerged after completion of the assessment matrix. This winner had (out of the 11 competitors)

- 3\textsuperscript{rd} place in Risk Assessment plan; 1\textsuperscript{st} place in Value Added plan; 3\textsuperscript{rd} place in overall RAVA plan
- 1\textsuperscript{st} place in Interviews
- 1\textsuperscript{st} place in Planning
- 5\textsuperscript{th} place in Price (and 17% below the disclosed budget)

Overall supplier C provided the Best Value using the MEAT system (Figure 1).
Figure 1. Screen Shot of the Evaluation Results

Filter 5: Pre-award

All other interested parties were informed about their dismissal along with motivation. At the end the value of the contract is € 249.275 excluding VAT, 17% below the budget. The period after awarding (or having the intent to do so) a government contract is characterised by the so called “Alcatel period”, a kind of objection period of 15 days for parties involved who, for motivated reasons, do not agree with the award decision (see also Van Leeuwen, 2010). During this period the party issuing the tender and the selected contractor are not allowed to sign any irrevocable contractual agreements. However the parties are free to consult and make preparations necessary to come to a definite agreement, in order to be able to sign the contract shortly after the objection period ends. The different steps of the pre-award phase were therefore incorporated into the Alcatel period, so the agreement could be signed immediately after the objection period ended.

During the pre-award phase, the person who was interviewed and their team leader came to Water Board de Dommel in order to evaluate the RAVA-plan and the interview. The vendor made a complete risk management plan, along with the control measures. The planning has also been thoroughly discussed and both parties know what is to be expected for the next three years. After the contract was signed with the contractor the Senior procurement officer officially handed over the project to the Project manager and archived all the documents digitally.

Filter 6: Risk Management During Execution

Instead of a weekly report, a monthly cycle has been chosen. The contractor is responsible for their own assessment. If during the project the risks are not continuous with the time schedule, the contractor must report this immediately to the project manager and discuss the next steps that are to be taken regarding the risk assessment plan. The layout of the report was handed out by the Senior procurement officer.
Conclusion and Further Implementation

The market of engineering bureaus is mainly characterized as a market that is divided by a number of big consultancy bureaus, complemented by a large group of small (and often specialized) consultancy firms. Like the lack of dynamics in the market, the development of the tender procedures had come to a standstill in this market (as perceived by De Dommel). One could say that “normally” the tenders used be awarded to the tender which was economically most profitable. This was despite using the execution plan and the presentation as quality (MEAT) criteria. The PIPS-method was, by all parties involved in this pilot project, considered as completely innovative compared to the current situation (as described above). This resulted in enthusiasm, but also curiosity and therefore a lot of questions.

The new procurement methodology (BVP/PIPS) required an extra amount of attention, not just for the client, but also from the side of the vendors. This was caused by the change of paradigm. It is expected that once all parties get acquainted with the PIPS-methodology, the administrative burdens (concerning the formal side of the tender) will eventually decrease. Post evaluations have taken place with the vendors that were dismissed. They found the methodology to be very clear, transparent and legitimate.

The procedure, in a formal manner, ran its course with relative ease. Nevertheless, the procedure had a two week delay. The delay was caused by an additional second round of written questions, which was introduced on request by the interested parties. This made it possible to ask questions even after the second information meeting (which was also additional).

The bids themselves, drawn up based on the description from the tender protocol and the PIPS-methodology, were clear. The quality of the content of some tenders was not as expected. This might be due to the unfamiliarity with the methodology.

The assessment itself took quite a bit of time since there were 11 parties involved. At the same time, it was very clear to the assessment committee (material experts), who were accustomed to thick files with execution plans.

Since this project, other stakeholders within the Water Board have asked the Senior procurement officer to help them with their needs by using the new procurement methodology (PIPS). The projects range from small desk studies to big construction designs, but are always regarding “where the effort and mind of the bureaus is required.”

References

Kashiwagi, D. (2009); A revolutionary approach to project management and risk minimization; best value performance information procurement system. PBSRG, Arizona State University

Van de Rijt. J & W. Witteveen & C. Vis & S. Santema (2010); Best Value at the Directorate-General for Public Works and Water Management in The Netherlands (in this Special Issue)
Van Hulzen, G (2010); BVP at 's-Hertogenbosch: Buying a retention and settling tank (in this Special Issue)

Van Leeuwen, M (2010); Using best value PIPS procurement in Europe, need for compromise? (in this Special Issue)

Veenendaal, S & W. Witteveen (2010); Tender Environmental Impact Assessment Extra Discharge Capacity Afsluitdijk (in this Special Issue)