

Tender Documentation for Termite Inspection and Control in the Built Environment

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Abstract

Tender documentation for termite management and control aims to collect competitors' expertise, duration, production and fee. Practices in the construction industry have provided examples to collect form of tender, job references, payment schedule and method statement to focus on the expertise, duration, production and fee tendered for by the pest control operators. No matter how well-equipped a tender document is, there is always room for value –adding. The features of the case study project warrant a meticulously thought-out document: it is in the vicinity of a school building and the trees are on a very steep slope. Termite treatment will be done once and for all in a termite nest and colony. There is no chance for giving it a trial. If work is not properly done, it will invite a repeated visit, termites might have spread to other areas which will take another cycle to find them and will waste time. Before and after tender, it is prudent to identify grey areas, ambiguous term, and the presence of precautionary advice that tenderers can provide. As such the document will be fully thought out to cover for all these arduous and complicated works that ensure.

Key words: Termite Management, Form of Tender, Master Program, Payment Schedule

Introduction

In the course of termite management and control, institutional organizations often have two options to engage a pest control operator: either by competition or negotiation. Competition may be restricted to a few selected firms or open to almost any firm who wishes to submit a tender. The pest control operators (PCOs) who are newcomers to the market will be able to attempt the work. Single PCOs are selected and given the tender documentation to be priced in the usual way. The priced documents are then passed to the project manager to check for the reasonableness of the rates and prices.

The paper will focus on the competition route to determine what should go into the tender documentation so as to engage a competitive pest control operator. Tender documentation refers to all the documents necessary for completing tendering procedure up to engaging a competitive pest control operator, including form of tender, letter of invitation, specification and drawing.

Termites, the white ants, have always been the most destructive pests. In Hong Kong, owing to suitable temperature and humidity, termite attack is one of the major problems of property management in the built environment.

Land resource is scarce in urban cities. Many built-up areas are converted from natural habitat or hills traditionally infested with termites. With no proper termite control and management the built environment will have to tolerate the co-existence of termites and humans. The obvious remained features attacked by termites are trees. Original trees left on hills near to built-up areas can be very dangerous. Once the trees are rotten in the tree trunk or near the root stump, they can fall down any time when there are heavy rain and strong wind in tropical cyclone season.

One recent incidence reported in a newly completed primary school building is that there was a 10-metre tree fell and landed on the verandah railing, broke and damaged a section of the metal handrail and corridor balustrade. Termites were seen running away from the fallen tree trunk. That triggered the need to look at the possibility of further damage done to the campus building by other trees and the need to reduce the conducive conditions for termite existing adjacent to the school building; and to avoid the possibility of colonization of the built-up area by the termites in the vicinity.

Since termites are very sensitive to the conditions of survival, once a tree has fallen, the nest

survivors will escape to the next tree or to the next possible habitat for foraging and infestation.

The work to control and manage termite infestation must base on the fundamental concept that there is a one-time chance to eliminate the termite colonies. Any failed attempt will waste the chance of complete elimination. As such the pest control operator so chosen has to be the most competent one and one who can provide the 'silver bullet' to effectively eliminate all.

The aims of this research are to collect data about how to find the competitive pest control operator so that the work can be performed most effectively and efficaciously. Such result hinges on the appropriate content of the tender documentation.

Methodology

The method of the research was based on the standard procedure used in building construction and the comparison of the practice to a case study to add or edit out what is actually required.

Cook (1991) has described the purpose and types of tender documents most appropriately: tender documents are intended to provide each builder with common data in sufficient detail to suit the circumstances of each project. The intention with such documents is to obtain a number of competitive tenders that can be compared objectively in order to select a suitable bidder. Cook (1991) expects that upon the pest control operator's return of tender it will be able to cover PCO's expertise, duration, production and fee.

Expertise – a statement of experience and expertise within the organization followed by details of the management approach to be employed on this project;

Duration – master program for the work and staff deployment;

Production – details of the method of termite control and management;

Fee – the financial reimbursement required for managerial services and a separate sum to cover for providing both common site facilities and a supportive general workforce; and the related schedule of payment percentages.

Brook (2006) cherishes the time spent to preparing good quality documents, which aid the pest control operator's understanding of the works and will benefit the finished product.

Combining the literature review and a case study, it is possible to choose the better practice of the tender documentation for the purpose of termite management and control.

Findings

On return of PCOs' submitted tenders for the protection of the primary school building and external works in October last year, the following information was present: form of tender, expertise, payment schedule, method statement.

Form of Tender

The Form of Tender is the PCO's offer in response to the invitation of tender. It is a standard pro-forma duly filled in with information and will form part of the contract tender documents later. The pro-forma has got individual company's identification information including company names, their titles and positions, commercial licencing registration number and the notification of the law to prevent bribery. Comparing these with the Conditions of Contract of the Institution of Civil Engineers, there is still a big difference in the available information. Because the standard tender form (Ashworth, 1996) will usually contain the following:

- (a) the contractor's price;
- (b) commencement date and time for completion;
- (c) salient particulars of the offer.

Aims of the service

The aim is clearly stated to identify any termite activity in the site boundary. The scope of work is sequential as to include (1) identify termite activity either past or present; (2) estimate damage level; (3) motion detection by ultrasound or microwave or equivalent to individual trees; (4) motion detection by ultrasound or microwave or equivalent to all hand-reach wooden fixtures (e.g. wall panels, cabinets, timber floor, doors, doors frames, etc.); (5) provision of scaffolding and temporary working platform for complete execution of work; (6) dismantling of the scaffolding and temporary working platform upon completion of works; and (7) provision of comprehensive report with photos and drawing plans showing all finding.

Service area

Service area has to be demarcated. It is divided into within site boundary and outside site

boundary. Within boundary will include all areas such as planters, rooms, common areas, corridors washrooms, staircases, plant rooms, switch rooms, hall and backstage, furniture, equipment, musical instruments, fixtures, fitting out, door and door frames, flooring, etc.

Outside site boundary include the hill slopes as marked on the tender drawing.

Results and discussion

Tender documentation attempted to be complete, but the returned documentation showed two grey areas: the detail and the procedure of termite control. There are also good practices. The aims of service requires both the scaffolding and working platform but when only scaffolding is quoted the detail does not seem to have a way to control this absence of the platform. Attention must be given as this is a statutory industrial safety requirement. There is a submitted use of an approved termiticide to treat all areas of active infestation and the entry points with it. But such word as 'approved' can be quite dubious and unclear.

There are two features in this project that the tender documentation will need to address: one is the trees infested by termites are near to a school building and the next one is the trees are on very steep slopes. The efficacy of a termite treatment system is closely related to the number of stations installed and the frequency of visits and the tender documents must reflect all these.

The submitted method to carry out termite management and control shall need to be described in full detail. The returned tender showed a good practice to show all perceived details as follows: 'scaffolding company will build up a bamboo scaffold and platform on the whole slope. During the service, workmen have to climb up the scaffolding and drill hole (about ½ feet depth) at the bottom of each tree at the slope. After that, workmen will place bait stations and hide up inside the hole. After completion of installation of bait stations, we would carry out regular inspection (bi-weekly for the initial two months, then monthly to quarterly basis for the following months). The service is for one year starting from completion of installation of bait station'. The detail becomes an added value to the tender documentation.

The returned tender documentation can provide some precautions which is absent in the scope of service. The precaution advice is: 'termites are very sensitive, once their living activity is disturbed. They will find a new place to build up their nest. Therefore, during the elimination period (estimated about 3 months), all construction work / renovation work / any activities surrounding the baiting stations with active termites (~ 3 meters) are highly recommended to be

stopped / avoided.’ This is a second added-value to the document and allow efficacy to the final outcome.

Conclusion

From the literature review, tender documentation for termite management and control aims to collect competitors’ expertise, duration, production and fee. The above case study shows that the retuned document has obtained the form of tender, expertise, payment schedule and method statement. No matter how well-equipped a tender document is there is always room for value – adding. The features of the project are: it is in the vicinity of a school building and the trees are on a very steep slope. Termite treatment will be done once and for all in a termite nest and colony. There is no chance for giving it a trial. If work is not properly done, it will invite a repeated visit, termites might have spread to other areas which will take another cycle to find them and will waste time. Before and after tender, it is prudent to identify any grey areas, particularly in the detailed procedure, like ‘working platform’; in the use of term like ‘approved’ and in the number of precautionary advice that tenderers can provide. As such the tender will be fully thought out to cover for all these arduous and complicated works that ensure.

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