



Infrastructure procurement system

A procurement system comprises procedures and methods, procurement documents, governance or quality arrangements to manage and control procurements, and organisational procurement policies. The Constitution of South Africa in this regard requires the public procurement system to be fair, equitable, transparent, competitive and cost-effective. It also permits procurement policy which provides for categories of preference in the allocation of contracts and the protection or advancement of persons, or categories of persons, disadvantaged by unfair discrimination.

The National Treasury Standard for Infrastructure Procurement and Delivery Management (SIPDM) establishes a control framework and minimum requirements for infrastructure procurement. An organ of state's Supply Chain Management (SCM) Policy for Infrastructure Procurement and Delivery Management is required in terms of the SIPDM as a minimum to assign responsibilities for approving or accepting deliverables associated with a gate (control point) in the control framework or authorising a procurement process or procedure, establish committees which are required by law (or the equivalent thereof) and delegate authority for the award of contracts and orders.

There is a need to understand the thrust and intent behind this control framework and the minimum requirements for infrastructure procurement when establishing a suitable SCM policy and the setting up and implementation of an infrastructure procurement system within an organ of state which complies with the requirements of the SIPDM.

INTRODUCTION

Procurement is the process which creates, manages and fulfils contracts.

Procurement commences once a need for goods, services, engineering and construction works or disposals have been identified, and it ends when the goods are received, the services or engineering and construction works are completed or the asset is disposed of. There are six basic activities associated with procurement processes which establish actions and deliverables / milestones associated with the procurement process as indicated in Figure 1.

A system is a set of interrelated or interacting elements. It is an established way of doing things that provides order and a platform for the methodical planning of a way of proceeding. Systems are

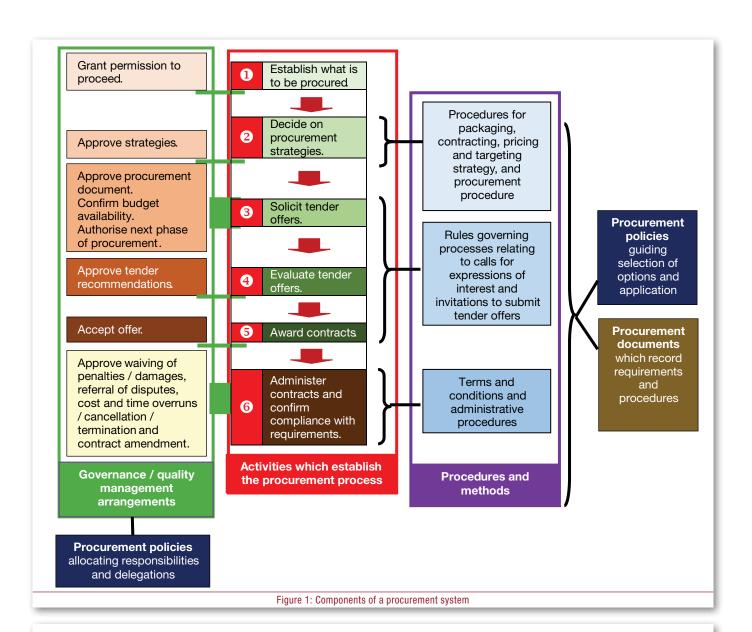
underpinned by processes (sets of interrelating activities which transform inputs into outputs), procedures (specified ways to carry out an activity or process) and methods (documented, systematically ordered collections of rules or approaches).

A procurement system comprises (see Figure 1):

- rules and guidelines governing procedures and methods;
- procurement documents which include terms and conditions, procedures and requirements;
- governance/quality arrangements to manage and control procurement; and
- organisational policies which deal with issues such as:
 - the usage and application of particular procurement procedures

- requirements for recording, reporting and management of risk
- procedures for dealing with specific procurement issues
- the usage of procurement to promote social and developmental objectives
- the assignment of responsibilities for the performance of activities associated with the various processes.

Activity 1 initiates the procurement process (see Figure 1). Procurement strategy (Activity 2) is all about the choices made in determining which of the required goods and services, or combinations thereof, are to be delivered through a particular contract, the procurement and contracting arrangements and how procurement is to be used to promote policies, if any are to be promoted. Conditions for the calling for



PROCUREMENT PROCEDURE **METHOD FOR** Negotiated procedure **EVALUATING SUBMISSIONS** Nominated procedure Standard Method 1: Financial procurement Open procedure Eligibility offer methods and + Qualified procedure criteria procedures to Method 2: Financial contained solicit tender offer and quality Quotation procedure in tender offers provided Competitive data (if for in SANS Method 3: Financial selection Proposal procedure required) 10845-1 offer and procedure using the twopreferences envelope system Proposal procedure Method 4: Financial using the two-stage offer, quality and preferences system Shopping procedure Restricted competitive Competitive negotiations negotiation Open competitive procedure negotiations NOTE: Eligibility criteria need to be satisfied in order for a submission to be evaluated.

Figure 2: Standard procurement methods and procedures provided in SANS 10845-1 for the soliciting of tender offers

expressions of interest to prequalify to participate in a specific contract, project or programme, and conditions of tender govern Activities 3 to 5. Conditions of contract (i.e. terms that collectively describe the rights and obligations of contracting parties and the agreed procedures for the administration of their contract) govern Activity 6.

Procurement documents relating to calls for expressions of interest identify procedures and returnable documents required for evaluation purposes and, where appropriate, indicate the nature of what is to be delivered. They identify, in the case of a tender, tender procedures and returnable documents required for

evaluation purposes and contain the draft contract that will be entered into. Such documents, in the case of a contract, contain the agreement that is concluded, the conditions of contract, pricing data and scope of work and, where relevant, provide site information.

SANS 10845 FAMILY OF CONSTRUCTION PROCUREMENT STANDARDS

The starting point in the standardisation of procurement methods and procedures is to determine the objectives for the system. Objectives associated with a procurement system typically relate to good governance (primary ob-

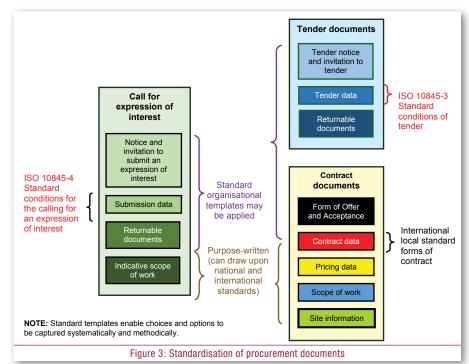
jectives) and to the use of procurement to promote social and national agendas (secondary, non-commercial objectives or developments).

The SANS 10845 family of standards for construction procurement, which are based on the Construction Industry Development Board's Standard for Uniformity in Construction Procurement (2004) and a number of South African National Standards which have recently been withdrawn, are framed around the following system objectives:

- **Primary objectives:** the procurement system shall be fair, equitable, transparent, competitive and cost-effective.
- Secondary objectives: the procurement system may, subject to applicable legislation, promote objectives additional to those associated with the immediate objective of the procurement itself.

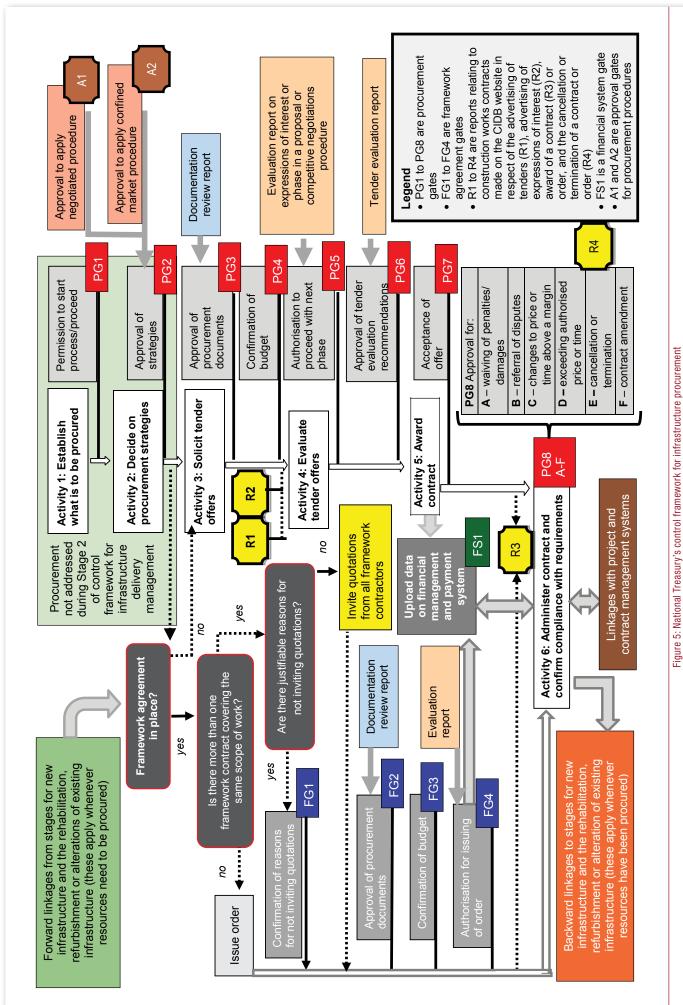
These system objectives, or end outcomes, may be expressed in qualitative terms as follows:

- **Fair:** the process of offer and acceptance is conducted impartially without bias, and provides participants with simultaneous and timely access to the same information.
- Equitable: the only grounds for not awarding a contract to a tenderer who complies with all requirements are restrictions from doing business with the organisation, lack of capability or capacity, legal impediments and conflicts of interest.
- Transparent: the procurement process and criteria upon which decisions are to be made shall be publicised, decisions shall be made publicly available together with reasons for those decisions, and it must be possible to verify that criteria were applied.
- Competitive: the system provides for appropriate levels of competition to ensure cost-effective and best-value outcomes.
- Cost-effective: the processes, procedures and methods are standardised with sufficient flexibility to attain best-value outcomes in respect of quality, timing, price and the least resources to effectively manage and control procurement processes.
- Promotion of other objectives: the system may incorporate measures to promote objectives associated with a secondary procurement policy subject to qualified tenderers not being



Control Governance framework and quality provided in management the SIPDM arrangement Procurement Model SCM documents SANS 10845 Parts Procurement Infrastructure 1 to 4 and policy Procurement and prescribed forms of Delivery contract, plus Management minimum Procedures requirements established and methods contained in the SIPDM **Procurement** system Figure 4: Procurement system embedded in the National Treasury Standard for Infrastructure Procurement and Delivery Management

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excluded and deliverables or evaluation criteria being measurable, quantifiable and monitored for compliance.

SANS 10845-1 establishes rules for the application of a wide range of methods and procedures that are used in soliciting tenders and awarding contracts (see Figure 2). This standard also provides guidance on targeted procurement procedures, i.e. the process used to create a demand for services or goods from, or to secure the participation of targeted enterprises and targeted labour in contracts in response to, the objectives of a secondary procurement policy.

SANS 10845-4 establishes what is required for a respondent to submit a compliant submission, makes the evaluation criteria known to respondents, and establishes the manner in which the procuring entity conducts the process of calling for expressions of interest. SANS 10845-3 establishes what a tenderer is required to do to submit a compliant tender, makes the evaluation criteria known to tenderers, establishes the manner in which the employer conducts the process of offer and acceptance, and provides the necessary feedback to tenderers on the outcomes of the process.

Procurement documents communicate a procuring entity's procedures and requirements relating to procurement processes up to the award of a contract and establish the basis for the contract that is entered into with the successful tenderer. A uniform format for the compilation of procurement documents provides the platform for the standardisation of the component documents and improved communications between those engaged in the procurement process. SANS 10845-2 establishes a format for the compilation of calls for expressions of interest, tender and contract documents, and the general principles for compiling procurement documents for supply, services and engineering and construction works contracts, at both main and subcontract levels (see Figure 3). This standard is based on the principle that each subject within a procurement document can only be addressed once, and in only one component document. It also enables SANS 10845-3, SANS 10845-4 and standard international forms of contract to be readily referenced in procurement documents.

REQUIREMENTS FOR INFRASTRUCTURE PROCUREMENT ESTABLISHED IN THE NATIONAL TREASURY STANDARD

The National Treasury Standard for Infrastructure Procurement and Delivery Management (SIPDM) requires that infrastructure be procured in accordance with the provisions of all applicable legislation, the requirements of Parts 1 to 4 of SANS 10845, the administrative procedure embedded in a list of approved standard forms of contract and a number of requirements established in the standard relating to:

- the publication of all awards made in terms of the competitive selection or competitive negotiations procedure above the threshold for the quotation procedure;
- the soliciting of tenders from a confined market (sole contractor or very limited number of tenderers);
- the conditions including thresholds under which the standard procedures provided in SANS 10845-1 may be used;
- framework agreements;
- design competitions;
- procurement documentation including matters such as standard returnable schedules, specific requirements for tender, submission and auction data, the use of approved standard forms of contract, the use of tender assessment schedules, guarantees, retention monies, the language of communications, ownership of intellectual property rights, provisions for budgetary items and professional indemnity insurances; and
- developmental procurement policy and permitted targeted procurement procedures.

The SIPDM also requires that an infrastructure procurement system be implemented in accordance with the provisions of a control framework which contains procurement gates, framework agreement gates, reporting points for interfacing with the Construction Industry Development Board (CIDB) register of projects, and a gate relating to the interface with a financial management system. It also has specific requirements for the reviewing of procurement documents, the evaluation of submissions, and the authorising of the issuing of an order in terms of a framework contract with a number of reporting requirements.

An organ of state needs to establish its SCM Policy for Infrastructure

Procurement and Delivery Management which, as a minimum:

- assigns responsibilities for approving or accepting deliverables at gates or authorising a procurement process or procedure;
- establishes procurement documentation (bid specification), evaluation (bid evaluation) and tender (bid adjudication) committees, if required by law, or the equivalent thereof;
- establishes delegations for the awarding of a contract or the issuing of an order in terms of a framework contract;
- establishes ethical standards for those involved in the procurement and delivery of infrastructure.

Figure 4 presents an overview of the procurement system which is established through the SIPDM.

CONTROL FRAMEWORK FOR INFRASTRUCTURE PROCUREMENT

Governance activities need to be linked to the milestones in the procurement process as indicated in the control framework for infrastructure procurement contained in the National Treasury SIPDM, as shown in Figure 5.

Projects involving construction, refurbishment, rehabilitation, extension, alteration, planned maintenance, demolition or the design, supply and installation of plant are invariably initiated during Stage 0 (project initiation) and budgeted for in Stage 1 (infrastructure planning), while a procurement strategy is developed during Stage 2 (procurement planning) (also see the control framework provided in the SIPDM for the planning, design and execution of infrastructure projects). As a result, Activities 1 and 2 indicated in Figure 5 only take place for ad hoc procurements, i.e. procurement activities which do not emanate from Stages 1 and 2 of the control framework for the planning, design and execution of infrastructure projects.

The SIPDM requires that no provision for contingencies or price adjustment for inflation be included in the contract price at the time that the contract is awarded or an order is issued. Such a price needs to be the nett contract price, i.e. the value of the contract, based on the production information (information enabling either construction where the constructor is able to build directly from the information prepared or the production of manufacturing and installation

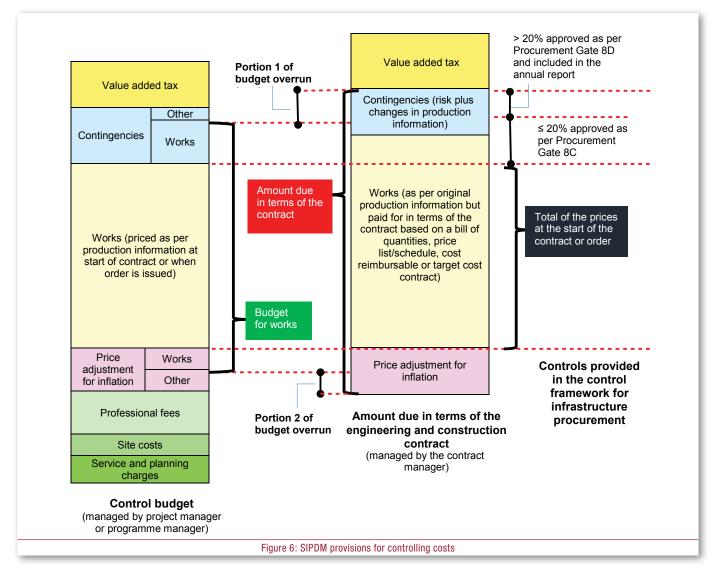
information for construction) at the start of the contract or order. The SIPDM discourages budgetary items, but permits estimates of likely costs to cover identified work or services to be performed by a subcontractor appointed in terms of the contract, or the making of assumptions

which can be priced and adjusted in terms of the contract should these assumptions be incorrect.

Contingencies are provisions for a possible event or circumstance. Contingencies typically make provision for costs associated with risk events which are retained

by the client, changes to the production information after work on site or manufacturing has commenced which enhance the quality or performance of works or addresses shortcomings which if not corrected will impair the functioning of the works, and risks retained by the client

Table 1: Risks retained by the client in applying a particular pricing strategy to a contract		
Pricing strategy	Payment to contractor	Client's risk of price increase
Price-based		
Lump sum	Lump sum amounts	None
Bill of quantities	Lump sum amounts plus quantities multiplied by rates	At risk for increase in quantities and omissions and errors in the bill of quantities
Price list / price schedule	Lump sum amounts plus quantities multiplied by rates	At risk only for increase in quantities
Activity schedule	Amounts for each completed activity	None
Cost-based		
Cost reimbursable	Cost plus a fee to cover overheads, profit, finances, etc	At full risk unless cost is disallowed in terms of the contract
Target cost	Cost plus a fee to cover overheads, profit, finances, etc; at completion receives (gain) or pay in (pain) a portion of the difference between agreed target price and cost plus a fee paid up to that point	At risk for a portion of cost plus the fee in excess of the agreed target price



in applying a particular pricing strategy to a contract as indicated in Table 1. Contingencies as such are owned by the programme or portfolio of projects. The SIPDM requires that project costs be managed through the setting and proactive monitoring of control budgets for projects through the planning, detailed design and site processes. Contingencies are managed by the programme manager across a portfolio of projects. They are not owned by those responsible for managing a contract.

Figure 6 illustrates the provisions for cost control following the award of a contract or the issuing of an order. A contract is awarded or an order issued if the total of the prices for the works, with allowances for contingencies and price adjustment for inflation, is within the allowable amounts of the control budget (Procurement Gate 4). Approval is required at Procurement Gate 6C to increase the total of the prices at the start of the contract or order for a reason other than price adjustment for inflation. An organ of state's SCM Policy for Infrastructure Procurement and Delivery Management needs to make provision for stepped approvals at this gate. For example, a contract manager may be authorised to increase the total of prices up to a specified percentage, and thereafter the approval of the programme manager is required to do so. Once the value exceeds 20%, the accounting officer or accounting authority or their delegate has to approve the increases at Procurement Gate 8D. The onus is on the contract manager to obtain timeous approval so that payment to the contractor is not disrupted.

Data pertaining to contracts needs to be uploaded in the Financial Management System Gate FS1. In the procurement of general goods and services, prices are typically fixed and no provision for price adjustment for inflation is made, there are seldom unforeseen risks and the client rarely is at risk for price increases due to pricing strategies. Changes in these prices are usually driven by extensions to the contract. As a result, the total of the prices at the award of the contract is commonly uploaded at this gate. This gate becomes the financial control for procurement. It is, however, not advisable to follow this approach in the case of infrastructure projects, because the cost controls lie elsewhere, as indicated in Figure 6. There will inevitably be regular increases in the total of the prices as risks

materialise, changes are implemented to enhance the quality or performance of the works or to address shortcomings, and the prices are adjusted for the effects of inflation. To do so encourages the inflation of the total of the prices to accommodate risks and changes, thereby avoiding the hassle of getting increases approved which in turn feeds the culture of "if we have the money in the contract, it is ours to spend". Accordingly, it is preferable to upload a value which equates to the total of prices at award excluding contingencies, plus an estimate for increases in the total of the prices associated with price adjustment for inflation, if provided for, and a reasonable percentage for contingencies. Procedures need to be put in place to enable the financial control value in the financial management system to be increased should approval be obtained at either Procurement Gate 8C or Procurement Gate 8D to do so.

There are a number of different types of controls, in addition to the gates in the SIPDM. Stipulated monetary values set the limits for the application of the shopping, nominated and quotation procurement procedure and, in certain instances, the use of the negotiation procedure.

Approvals for the reasons for pursuing a particular procurement procedure are also necessary, i.e. where the confined procedure, negotiated procedure and proposal procedure using a two-envelope or a two-stage system are being selected as procurement routes (see approval Gates A1 and A2). The approval confirms that the use of such procedures is in line with the provisions of the documented procurement system.

Approvals are also necessary for undertaking certain courses of action, e.g. any departure from the documented procurement policy, processes, procedures, methods and delegations, removal of a name from a list of pre-approved contractors, etc. These matters need to be addressed in an organ of state's SCM Policy for Infrastructure Procurement and Delivery Management.

ALLOCATION OF RESPONSIBILITIES FOR APPROVING OR TAKING THE NECESSARY ACTIONS AT EACH GATE

Regulations issued in terms of the Public Finance Management Act of 1999 and the Local Government: Municipal Finance Management Act of 2003 require that a committee system be used to approve

tender documents, evaluation reports and make recommendations regarding the award of a contract. Accordingly, these regulations impact on the allocation of responsibilities at Gates PG3, PG5 and PG6. It should be noted that the tender or adjudication committee is a governance committee, and in all probability will be common to the supply chains for infrastructure procurement and delivery management and general goods and services.

The SIPDM requires that the approval of procurement documents at Procurement Gate 3 or Framework Agreement Gate 2 be based on a procurement documentation review report which satisfies stipulated requirements. Where the procurement relates to the provision of new infrastructure or the rehabilitation, refurbishment or alteration of existing infrastructure, such a report needs to be prepared by a registered professional architect, professional senior architectural technologist, a professional landscape architect, professional landscape technologist, professional engineer, professional engineering technologist or professional quantity surveyor. This standard also requires that the authorisation to proceed with the next phase at Procurement Gate 5, the approval of tender evaluation recommendations at Procurement Gate 6 and the authorisation to issue an order at Framework Gate 4, be based on the contents of an evaluation report. Such a report is required to be prepared by one or more of the aforementioned registered professionals or a registered project construction manager or registered construction manager, who are familiar with the subject matter of the procurement documents. The standard establishes the content of the evaluation reports which provide all the necessary information for those responsible for approving such reports to do so.

As a general rule, the person designated to take a decision at a gate should be the person best able to do so on the information presented in the context of the project or programme of projects. In many instances this will be the programme manager, e.g. at PG2, PG3, PG4, PG8C, FG2 and FG3. In some instances it should be the delegate of the accounting officer or authority, e.g. at PG7, PG8D, PG8F, FG1 and FG4. In other instances it may be appropriate to designate a governance structure to do so, e.g. at PG8A and PG8B.

PERFORMANCE REPORTING REQUIREMENTS

The SIPDM also requires that an annual report be prepared which reflects the performance for each portfolio of projects. Such a report is required to reflect performance against the following procurement metrics:

- the average time taken to award a contract measured from the closing date for tender submissions or the final submission made in terms of the a proposal or competitive negotiations procedure to:
 - the acceptance of the tender evaluation report
 - a decision being taken to award the contract, i.e. the signing of the acceptance of a contract;
- the average number of days that payment is later than that required under the terms of the contract.

The annual report also needs to provide, in respect of procurement undertaken during the financial year:

 an overview and brief explanation for all packages (work which is grouped together for delivery under a single contract or an order issued in terms of a framework agreement) where the total of the prices and the time for completion at completion exceed that at the start by more than 20%;

- an outline of the scope, value and duration of all contracts which were awarded as a result of an unsolicited proposal; and
- particulars relating to:
 - the cancellation or termination of contracts and disputes arising from contracts which have been referred to arbitration or a court of law for settlement
 - the use of a negotiated or confined market procurement procedure or the evoking of emergency procurement procedures where such transactions exceed a threshold
 - the approvals granted to increase the total of the prices or the time for completion at Procurement Gate 8D.

The SIPDM also requires reporting to the relevant treasury on the award of contracts or orders above a specified threshold within one month of such award.

NOTE

Further insights and information can be obtained from:

SANS 9000:2015 ISO 9000:2015. Quality management systems – fundamentals and vocabulary. South African Bureau of Standards.

SANS 10845-1:2015 ISO 10845-1:2010.

Construction procurement – Part 1:

Processes, methods and procedures.

South African Bureau of Standards.

SANS 10845-2:2015 ISO 10845-2:2011.

Construction procurement – Part 2: Formatting and compilation of procurement documents. South African Bureau of Standards.

SANS 10845-3:2015 ISO 10845-3:2011.

Construction procurement – Part 3:

Standard conditions of tender. South

African Bureau of Standards.

SANS 10845-4:2015 ISO 10845-4:2011.

Construction procurement – Part 4: Standard conditions for the calling for expressions of interest. South African Bureau of Standards.

Watermeyer, R B 2011. Building trust

– a platform for best practice construction procurement. Special Report.

ISO Focus +, 24–26 September.

Watermeyer, R B 2011. Standardising construction procurement systems. Report. *The Structural Engineer*, 89(20): 5–8, October.

Watermeyer, R B 2011. Regulating public procurement in Southern Africa through international and national standards. Public Procurement Regulation in Africa Conference, 25 October, Stellenbosch, South Africa.

Watermeyer, R B 2015. Design and Adoption of Innovative Procurement Systems in Infrastructure Delivery. West Africa Built Environment Research Conference, Accra, Ghana, August.

