The fundamentals of a system

A system is an established way of doing things and provides order and a platform for the methodical planning of a way of proceeding. Systems are underpinned by:

- **processes**: a succession of logically related actions occurring or performed in a definite manner which culminates in the completion of a major deliverable or the attainment of a milestone;
- **procedures**: the formal steps to be taken in the performance of a specific task, which may be evoked in the course of a process;
- **methods**: a documented, systematically-ordered collection of rules or approaches.

Systems, processes, procedures and methods can be standardised and documented for common and repeated use for the achievement of the optimum degree of order in a given context. This in turn provides a solid platform for effective skills development as it permits staff to work in a uniform and generic manner and training interventions to be developed to capacitate those engaged in the performance of various activities.

The fundamentals of a procurement system

Procurement is the process which creates, manages and fulfils contracts. Procurement commences once a need for goods, services, engineering and construction works or disposals has 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:

- Establish what is to be procured
- Decide on procurement strategies
- Solicit tender offers
- Evaluate tender offers
- Award contracts
- Administer contracts and confirm compliance with requirements

Procurement strategy (activity 2 - Figs 1 and 2 below) 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 expressions of interest to participate in a specific contract, project or programme and conditions of tender govern activities 3 to 5 (Figs 1 and 2 below). 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.

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**Report**

**Standardising construction procurement systems**

Dr Ron Watermeyer, Convenor ISO TC59WG2 (Construction Procurement) and Project Leader – ISO 10845, highlights the international standard for procurement in the construction industry on which he has been working for 6 years.

1 Components of a procurement system

2 Typical governance activities
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. Procurement processes and procedures need to be managed and controlled. Accordingly, governance activities need to be linked to the milestones in the procurement process. At the same time, policies are required to govern the usage and application of particular procurement procedures, requirements for recording, reporting and risk management, procedures for dealing with specific procurement related issues etc.

Procurement processes are accordingly underpinned by methods and procedures and are informed and shaped by the policy of the procuring entity. A procurement system accordingly comprises:

- rules and guidelines governing procedures and methods
- procurement documents which include terms and conditions, procedures and requirements
- governance arrangements to manage and control procurement
- organisational policies which deal with issues such as:
  - the usage and application of particular procurement procedures
  - requirements for recording, reporting and risk management
  - procedures for dealing with specific procurement issues
- the usage of procurement to promote sustainable development objectives

Developing a standardised procurement system

System objectives

The starting point in the development of any procurement system is to determine the objectives for the system. Objectives associated with procurement systems typically relate to good governance (primary objectives) and, particularly in developing countries, to the use of procurement to promote social and national agendas (secondary or non-commercial objectives). Procurement systems are increasingly being challenged to address sustainable development objectives in order to reduce negative impacts on the environment and contribute to the alleviation of poverty.

An analysis of the system objectives of the World Bank, the World Trade Organization’s Government Procurement Agreement, the United Nations Commission on International Trade Law’s (UNCITRAL) Model Law on the Procurement of Goods, Construction and Services and the objectives of a number of other organisations and governments may be captured in the following system objectives:

- primary objectives: the procurement 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 objectives or end outcomes, which are the same as those contained in one of the most modern country constitutions, namely the Constitution of the Republic of South Africa (1996), may be applied to both the public and private sectors as well as to NGOs and donor organisations. Such objectives establish overarching performance requirements for a standardised procurement system.

ISO 10845-1 is based on these qualitative requirements and establishes rules for the application of a wide range of methods and procedures (quantitative requirements) that are used in the solicitation of tenders and the award of contracts. It also provides guidance on the establishment and management of procurement processes (evaluation of system performance), an approach for obtaining best value procurement outcomes and various types of procurement procedures including targeted procurement procedures i.e. the processes used to create a demand for the services or goods of, or to secure the participation of, targeted enterprises and targeted labour in contracts in response to the objectives of a secondary procurement policy.

ISO 10845-3 contains standard conditions for the calling for expressions of interest which establish what is required for a respondent to submit a compliant submission, make known to respondents the evaluation criteria, and establish the manner in which the procuring entity conducts the process of calling for expressions of interest. ISO 10845-3 contains standard conditions of tender which establish what a tenderer is required to do in order to submit a compliant tender, make known the evaluation criteria to tenderers, and establish the manner in which the employer conducts the process of offer and acceptance and provide the necessary feedback to tenderers on the outcomes of the process. The various parts of ISO 10845 can readily be incorporated into procurement systems by reference in policy or in legislation.
Standards for measuring key performance indicators relating to the participation of target groups in contracts

ISO 10845-1 contains a number of techniques and mechanisms associated with targeted procurement procedures, all of which are designed to promote or attain the participation of targeted enterprises and targeted labour in contracts. Key performance indicators (KPIs) relating to the engagement of enterprises, joint venture partners, local resources and local labour in contracts are needed in order to implement many of these procedures. Parts 5 to 8 of ISO 10845 establish KPIs to measure the outcomes of a contract in relation to the engagement of target groups and to establish a target level or performance for a contractor to achieve or exceed in the performance of a contract.

Standard forms of contract

Standard forms of contract (i.e. a contract between two parties with standard terms that do not allow for negotiation) can be drafted around the primary procurement objectives upon which ISO 10845 is based. Such contracts can, however, also be drafted around significantly different objectives and principles e.g. master–servant relationship or collaboration between two experts, risk-sharing or risk transfer, independent or integrated design, short term relationships based on one sided gain or long-term relationships focused on maximising efficiency and shared value, etc. There are accordingly a wide range of different contracting approaches and price and cost based pricing strategies with distinctly different risk allocations. As a result it is not desirable to standardise on a single form of contract for goods, services or engineering and construction works. This would constrain conditions of contract to one particular objective and a single approach to managing risk.

The International Federation of Consulting Engineers (FIDIC) and the Institution of Civil Engineers (NEC3) provide families of standard forms of contract covering a range of procurement types, service responsibilities and contracting and pricing strategies that are drafted around a wide spectrum of objectives and methods of managing risks. Such contracts form an integral part of the construction procurement system as they establish processes, procedures and methods for dealing with matters that may arise during the performance of the contract.

Standards for procurement documents

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 standardization of the component documents and improved communications between those engaged in the procurement process.

ISO 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. 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 ISO 10845-3 and ISO 10845-4 and standard international forms of contract to be readily referenced in procurement documents.

IABSE Milne Medal Winner 2011

Ed Clark
MEng CEng MIStructE MICE
Director, Arup, London

Date
Thursday 3 November 2011
Time
17:30 Refreshments
18:00 Meeting
Venue
Institution of Structural Engineers
11 Upper Belgrave St
London SW1X 8BH

The Lecture entitled 'Roller Coaster' will follow the presentation of the medal. Registration is required via events@istructe.org

Roller Coaster

The IABSE Milne Medal is an award for design excellence. (GZLOOXVHWKLVOHFWXUHWRH[SORUHKRZGHVLJQŵWVZLWKLQ the profession of structural engineering. This journey will address what we might mean by design excellence and what purpose it should serve. It will question our grasp on the roller coaster which is the design process, and why we’re so rarely willing to learn from our mistakes.