

# Project risk management practice: The case of a South African utility company

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## Abstract

This paper documents the risk management practice of a utility company for its Recovery Plan project to address the risks of power interruptions due to a shortfall of supply and increasing electricity demand. The company's corporate risk management process and its practice at divisional and project levels are discussed. The key role of stakeholders in risk identification, analysis, mitigation, monitoring and reporting is emphasised by the company and this drives its risk management practice. Despite the level of resources available within the company to use more sophisticated risk management tools, the company adopts simple risk management methods suggesting that a large size company does not necessarily use 'state of the art' risk management techniques. Recommendations for improved practice are made.

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## 1. Introduction

Risk management continues to be a major feature of the project management of large construction, engineering and technological projects in an attempt to reduce uncertainties and to achieve project success. Miller and Lessard [1] have argued why large engineering projects should be carefully managed given that they are "high stakes games" characterised by substantial irreversible commitments, skewed reward structures in case of success, and high probabilities of failure. In addition, they categorised the risk associated with different types of projects ranging from oil platform projects, nuclear-power projects, hydro-electric-power projects, urban transport projects, road and tunnel systems, and research and development projects. They are of the opinion that power projects possess moderate risks in so far as engineering is concerned, but are very difficult in

terms of social acceptability. Elkingston and Smallman [2] examined project risk management practices of British utility companies given that the utilities sector (comprising water, power, telecommunications) is associated with less predictable projects which are perceived to be riskier than day-to-day business activities. They argued that risk management is an integral part of project management in this sector; hence, most large companies put substantial resources into the management of their business risk.

The current paper presents the risk management of a Recovery Plan project of the Eskom Holdings Ltd. power company in South Africa. Eskom Holdings Ltd. is wholly owned by the South African government. The company is a vertically-integrated operation that generates, transmits, and distributes electricity to industrial, mining, commercial, agricultural, re-distributors and residential users. It is also involved in the purchase and sale of electricity to and from South African Development Community (SADC) countries, comprising Botswana, Mozambique, Namibia, Zimbabwe, Lesotho, Swaziland and Zambia.

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The company's business is divided into a number of divisions: Generation, Transmission and Distribution; Resource and Strategy; Finance, Key Sales and Customers Services; Enterprises; Human Resources; and Corporate and External Relations. The group has many main subsidiaries, with the core businesses including non-regulated electricity supply industry activities, the provision of electricity supply and related services outside South Africa, the granting of home loans to employees, the management and insurance of perceived risks to Eskom, and social investment initiatives. The company's revenue in the 12 months of the 2005/2006 financial year was R36,607m (US\$4947m or £2662m)<sup>1</sup> and employed some 29,697 persons (excluding contract and temporary workers). This paper does not add to the *theory* of risk management. Rather, the purpose is to document rich case study material indicating the practice of risk management and the extent to which practice and theory converge/diverge. One of the authors is currently employed by Eskom in a project management capacity, thus facilitating access to the case material presented here.

The case study has been structured into four parts: Part 1 describes the corporate risk management process of the holding company. Part 2 presents the risk management process of a division of the company; the distributive division being used for this purpose. Part 3 presents the case study of a Recovery Plan project of the division to address the risks of power interruptions due to a shortfall of supply and increasing electricity demand. Part 4 documents the conclusions emanating from the study. The lesson from the case study is that a (very) large company with an appropriate level of resources may not necessarily use sophisticated risk management tools; rather, simple methods that enable the company to mitigate the risks faced by the business are adopted.

## 2. Corporate risk management within Eskom Holdings Ltd.

Risk management within Eskom is an important and integral element of the business. Given the importance of risk management, the company has a dedicated Risk Management Committee (RMC) as one of its seven primary committees (the other committees are the Board committee, audit committee, tender committee, human resources committee, remuneration and ethics committee, sustainability committee, and executive management committee). The RMC comprises three non-executive directors, the finance director and the managing director (Generation division). The RMC is chaired by an independent, non-executive director. The committee is tasked with ensuring that the company's risk management strategies and processes are aligned with best practice. It also deals with

the company's integrated risk management strategy and processes, these embracing risk tolerance and appetite, risk accountably, major risk exposures, and emerging risk issues.

Eskom practices an integrated risk management strategy and process by identifying risks and opportunities against business objectives during risk assessments throughout the organisation, from both a line and functional perspective. Risk integration between divisions and subsidiaries is reviewed by the RMC to ensure a coordinated approach to risk mitigation measures. Key risk management "buzz words" feature prominently in the company's risk management process, as depicted in the company's 186 page 2006 annual report (<http://www.eskom.co.za/annreport06/>). The risk prefixes that are contained in the annual report include: exposure, assessment, accountability, internal control, matrix, categories, mitigation measures, tolerance levels, categories, identification, evaluation, appetite, profile, audit, financing, issues, process, ownership, etc. A content analysis of the annual report shows that the word 'risk' is mentioned 206 times whilst the term 'risk management' is mentioned 56 times; these being explicit indicators of the importance that the company attaches to the risks to which it is exposed. Risk categories that the company faces are defined in the company's risk matrix, and include: finance, technical, environmental, legal, human resources, information, stakeholders, regulatory and strategic.

The remit of the company's Risk Management Committee (RMC) is to ensure that Integrated Risk Management (IRM) is applied throughout the Eskom business. It reviews the risk processes and all major risks within the business and reports back to the Board. Integration between the various Eskom divisions and subsidiaries is ensured via the interaction of the different risk (or risk-related) committees. Each division within the company handles its own Risk Management System and may have slightly different risk approaches within each of the six regions: Western; Eastern; Northern; North-West; Southern; and Central. This diversity is allowed as long as it supports the strategy and milestones set by the RMC which encourages a coordinated and common approach for the business as a whole.

Eskom has adopted the Code of Practice published by the Institute of Risk Management of South Africa. In addition, it has developed its own methodology for determining the 'value' or weighting for specific risks faced by the company. These weightings are used to assist the organisation to better identify which risks should receive priority and also show the value of risk mitigation measures. Aligned to this valuation methodology there are risk tolerance levels for each division and main subsidiaries, together with risk appetite parameters for each functional risk area. Being a South African utility company with a wider remit for the sale and purchase of electricity from neighbouring countries, the company has identified some risks that it considers it faces. These are depicted in Table 1.

<sup>1</sup> Exchange rates as at 7th September 2006: R7.40 SA Rands = US\$1; R13.75 SA Rands = £1.

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