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P A P E R S

Regulatory Frameworks: Impact and Efficacy
Volume II
Detailed Sectoral Reports

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Regulatory Frameworks

Impact and Efficacy

VOLUME II

DETAILED SECTORAL REPORTS

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Preface

The aim of this review programme is to assess the effectiveness of specific regulatory authorities established in the last decade. Volume I of the report sets out the main findings and recommendations with supporting information relating to the individual sectors included within the scope of the study provided in a summarised form. Volume II contains more detailed sectoral reports.

The report does not offer a detailed quantitative assessment of the performance of the regulatory regime, and is largely based on in-depth interviews and documentary analysis.

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TABLE OF CONTENTS

PAGE

1. TELECOMMUNICATIONS ... 1
1.1 Institutional arrangements ... 1
1.2 Formal regulatory structures and legislative framework ... 7
1.3 Performance under the current regulatory framework ... 14
1.4 Qualitative analysis of the performance of the regulator against its mandate ... 16
1.5 Performance in context ... 23
1.6 Regulatory approach ... 28
1.7 Quantitative analysis ... 33
1.8 Analysis of main causes of regulatory failure or deficiency ... 37
1.9 Conclusions and recommendations ... 44
1.10 Telecommunications bibliography ... 48

2. ELECTRICITY ... 51
2.1 Introduction ... 51
2.2 The South African Electricity Supply industry ... 51
2.3 The ESI policy context ... 52
2.4 Institutional arrangements ... 53
2.5 Activities ... 56
2.6 Other key activities ... 61
2.7 Issues ... 63
2.8 Policy development, gaps and contradictions ... 67
2.9 Conclusions ... 69
2.10 Electricity bibliography ... 71

3. TRANSPORT ... 73
3.1 Introduction ... 73
3.2 The policy framework ... 73
3.3 Overview players and institutional arrangements ... 75
3.4 Regulatory Frameworks ... 79
3.5 Case Study: Aviation ... 85
3.6 Analysis of the regulatory frameworks in transport ... 95
3.7 Preliminary transport policy recommendations ... 100
3.8 Transport Bibliography ... 102

APPENDICES......103
Appendix I: Interview details......103
Appendix II: Compendium of transport policy documents and legislation 1993-2003......105

REGULATORY FRAMEWORKS

IMPACT AND EFFICACY

DETAILED SECTORAL REPORTS

1. TELECOMMUNICATIONS

1.1 Institutional arrangements

South Africa's institutional arrangements for telecommunications have been subject to vast changes in the last decade. These changes reflect enormous political and social transformation at the national level, and are also in line with rapid changes in the global telecommunications market. As the first phase of post-apartheid telecommunication policy – which focused on the partial privatisation of Telkom and an extension on its monopoly on basic telecommunication services – has ended, a new phase, characterised by a policy of 'managed liberalisation', commenced. Although a number of important economic and social goals crystallised from the policy into the objects of the Telecommunications Act (No. 103 of 1996), the primary objective of this initial period was to increase affordable access to communications through gradual liberalisation of the market – specifically:

- The expansion of the fixed line network through the partial privatisation of the incumbent fixed line operator, accompanied by the granting of a five year exclusivity period to the operator, in exchange for an obligation to double the network; and
- By introducing competition in limited service sectors by licensing a third cellular operator and facilitating service based competition in the value-added network services (VANS) market; and
- By creating and establishing a sector regulator to implement policy, create a transparent and certain regulatory environment for investors and consumers, and contribute to building a stable and well-functioning market.

With no implicit hierarchy of importance, other policy goals also include the promotion of an innovative and responsive sector through the development of broad and diverse service offerings; a competitive manufacturing and supply sector; the promotion of competition; investment and stability in the sector, as well as encouraging a diverse shareholder base through the promotion of SMMEs and historically disadvantaged groups and individuals; and developing a strong consumer focus also taking into account the needs of local communities and disabled users, as well as ensuring technical compliance and efficiency and facilitating the development of human resources within the sector.

This review assesses the implementation of policy and legislation sought to achieve the above goals. It focuses only on telecommunications and the

institutional arrangements established for its regulation, specifically the Independent Communications Authority of SA (ICASA) and its predecessor SATRA, as well as the Universal Service Agency (USA), in so far as it impacts on the regulatory activities of the sector. Where necessary reference will be made to broadcasting which is the other, increasingly converging sector, for which ICASA is responsible.

History of the regulatory framework

The changing regulatory framework can be illustrated through a periodisation of its history into four overlapping phases of policy development resulting in shifting regulatory roles and responsibilities in the sector:

1. The Transitional Phase
2. The Policy Reform Phase
3. The Implementation Phase
4. The Policy Review Phase

These are briefly explained below to provide the backdrop against which to evaluate the regulatory framework within the context of the broader telecommunications sector reform programme.

The transitional phase

This phase spans the mid-1980s until the early 1990s and was characterised an awareness of the need to reform telecommunications services in SA through the expansion of the network and the subscriber base and greater responsiveness to the needs of large corporate users. This reform imperative stemmed from the coalescing of rising domestic economic and political pressures brought to bear by the anti-apartheid struggle, coupled with global economic and technological pressure spurred on by a growing trend towards liberalisation, prompting a review of the existing monopoly model of service provision. With broader political developments of the early 1990's, the proposed privatisation option was temporarily shelved and the incorporation model, establishing Telkom and ending cross-subsidisation of the postal services with revenue from telecommunications, was chosen.

During this phase, the applicable legislative instrument was the Post Office Act of 1958 which saw Telkom as the sole licensee vested with significant regulatory functions in terms of deciding who could provide telecommunications services and on what terms. Fees for service and tariffs however, fell to Ministerial determination. This institutional arrangement went contrary to a controversial but landmark sector strategy report by Coopers & Lybrand in 1992, which had recommended in line with global trends, that Telkom be divested of its regulatory functions and government's role as policy maker should be separated from its role as shareholder of the monopoly, which in turn could report to the Department of Finance.

The policy reform phase

Although Information Communication Technologies (ICTs) for development was on the political agenda of the ANC prior to 1994, this phase can be seen to begin in 1995 with the launch of a Green and White Paper Policy process under the then Minister of Post and Telecommunications, Pallo Jordan. This highly inclusive consultative process resulted in the White Paper in 1996. This created the existing policy framework for the sector within the context of the government's election manifesto, the Reconstruction and Development Programme (RDP), which identified affordable access to communications services as a basic need.

The White Paper sought to resolve the un-addressed questions from the previous phase of market structure and exclusivity, and suggested a limited period of exclusivity for Telkom implicitly in order to attract a strategic equity partner (SEP) to provide the much needed capital and skill transfer for network expansion and eventual competition. This structure was chosen specifically to orientate the sector towards accelerated development and universal service as well as groom the company to become a world-class competitive operator. Other distinguishing characteristics of the White Paper included:

- A universal service fund to subsidise infrastructure development and usage by the poor and a specialised universal service agency to manage the fund and monitor delivery;
- A complementary role for the telecommunications networks of Transtel and Eskom rather than a competitive one;
- A Human Resource Fund to develop the much needed skills to effectively develop the sector; and
- Resale of services in the fourth year of Telkom's exclusivity;

The institutional arrangements resulting from this policy direction required an end to Telkom and the Department of Posts, Telecommunications and Broadcasting's regulation of the sector. An independent sectoral regulator was proposed, in line with international best practice, to oversee the liberalisation of various telecommunications market segments in a phased process and to regulate in the public interest. Under the Minister, the Department of Communications (as it became after 1996) assumed responsibility for setting policy on telecommunications and the radio frequency spectrum while the Regulator would be responsible for impartial implementation of that policy.

Another institutional arrangement that stemmed from the White Paper and the policy focus on affordable access was the development of a statutory specialised agency to address the reality of less than 10% teledensity in the country, exacerbated by its urban, business and white residential bias. Black rural areas at this time had teledensities of around 1%, much in line with the rest of Sub-Saharan Africa. The Universal Service Agency (USA) was established in 1996. Acknowledging the prohibitive cost of services for a large portion of the population the Act also established a Universal Service Fund (USF) to subsidise service to needy people and network extension into under-serviced areas. Suffering from staffing problems, budget constraints and some overlap with the consumer affairs portfolio of the regulator, this agency was brought into the

Department of Communications in the 2001 amendments to the principal Telecommunications Act. The implications of this institutional design model are discussed below under 2.

The implementation phase

This phase commenced with the promulgation of the 1996 Telecommunications Act and the establishment of the regulator, then the SA Telecommunications Regulatory Authority (SATRA). Stated broadly, SATRA's responsibility was to oversee the partial liberalisation of the sector and ensure fair commercial practices. It is important to note that it was during the implementation phase, that the merger between the two distinct regulators for telecommunications (SATRA) and broadcasting (The Independent Broadcasting Authority (IBA)) occurred in June 2000. The implications of this are discussed in more detail in 1.3.

At the core of SATRA's function was the monitoring of the licence conditions of Telkom; the two cellular operators, Vodacom and MTN, and the establishment of a licensing framework for the non-exclusive licences, namely VANS and Private Telecommunications (PTN) licences. Telkom was awarded three licences in 1997[1] namely its radio, VANS and public switched telecoms (PSTS) licences. Under the latter, Telkom had the exclusive licence to provide all basic switched telecommunications services including local, domestic long distance, international services and public pay phones for five years, with an option if it met all its rollout obligations to extend the exclusivity to a sixth year. It also retained full statutory exclusivity on the provision of facilities to other non-exclusive service providers. In exchange Telkom was required to meet service quality and rollout obligations that included doubling the network within five years to nearly six million lines. Failures to do so resulted in monetary penalties.

Similar fines could be levied on the cellular operators who failed to meet their rollout targets as specified in the Joint Economic Development Programme (JEDP). SATRA was also responsible for the monitoring of the community service obligations of the mobile operators. The methodology used to audit these undertaking was persistently challenged by the operators as they had with the first audit undertaken by the Department prior to the establishment of the regulator. Despite the obligations in the licence being based on projected subscriber bases which were dramatically smaller than those achieved even with the first few years of service, the audits suggested that either the nature of the service being offered as a community obligation was flawed or the quota had simply not been met but due to the threat of legal challenges these findings were never made public.

The Telkom licence identified priority customers such as schools, clinic and libraries and sought to ensure that all villages were connected. However, indicators and conditions that would make these feasible to monitor and enforce were lacking. For example, the incumbent was left to its own discretion on a number of issues including the identification of under-serviced areas. The licence also makes no substantive measurement indicator for how long a new customer should remain on the network for it to be counted toward the rollout before

[1] Government Gazette 17984.

churning into disuse, predominantly because the subscriber is unable to afford the new service.

In addition to monitoring Telkom and other licensees, the Act also required SATRA to investigate the feasibility of introducing more cellular licences. Following the input from a later much contested consultant's report, SATRA proposed the introduction of two new licences. This was based less on the economic feasibility of this in local market, than in the belief that during the exclusivity and the restructuring of the incumbent in preparation for competition, it was the only serious opportunity for foreign investment. It also had the potential to take up of some of the labour that the monopoly was shedding. This was also understood to be in line with government thinking, however following pressure from some of the major investors that two licences would dramatically reduce the attractiveness of the market for potential new investors, the Minister eventually invited applications for a single new licence only, which was eventually awarded, controversially to Cell-C, following accusation of executive interference.

Finally, as part of its core functions, the regulator was also mandated to develop sectoral policy on interconnection in the period preceding the expiry of the existing Ministerial Determination on Interconnection, applicable to Telkom[2]. The Act required the Authority to prescribe new guidelines for the entire sector relating to the 'form and content' of agreements and to determine fees, service levels and time frames. Following various rounds of public consultation, SATRA finally published interconnection and facilities leasing guidelines in 2000 just prior to the merger[3]. Subsequent to the merger, these were withdrawn through Ministerial notice[4] following what is widely perceived by the industry to be the intervention of Telkom who were publicly opposed to them. On the advice of legal counsel the guidelines were reinstated by ICASA and the conflict that ensued resulted in judicial review of the Ministerial notice, with the High Court eventually ruling that the Guidelines were of full force and effect.

The policy review phase

This phase commenced in early 2001 with a second national colloquium on telecommunications policy for the sector following the expiry of Telkom's monopoly and the commencement of the next phase of market liberalisation. Just as the previous legislation had become focused on the immediate priorities of the Government, in this case the longer term policy views espoused in the consultative process facilitated by the government in 2000 gave way to the shorter term issues of the Initial Public Offering (IPO) of Telkom and the introduction of the Second Network Operator (SNO) in the final drafting of the Telecommunications Amendment Bill, passed in 2001 (No. 64 of 2001). Notwithstanding the Act's promulgation, the period preceding it was characterised by confusing and contradictory policy changes on the structure of the market post-exclusivity, as well as the number of new fixed line entrants that would be licensed. In large part, these policy variations were responsive statements to the

[2] Government Gazette No. 17984 R771, 1987.
[3] Government Gazette 20993, GN R1259.
[4] Government Gazette 21107 GN R1680 of 2000.

needs and views of investors and the market as a whole, but they had the deleterious effect of signalling lack of certainty during the period which was only resolved with the promulgation of the 2001 Act.

The Amendment Act brought substantive legal and institutional change to the sector, which is summarised here for its effect on regulatory performance. Overall, the Amendment Act introduced new definitions; new objects to cater for convergence and to develop strategy to bridge the digital divide; new classes of licences[5]; introduced alternative methods for the awarding of licences and clarified the roles of the Minister and the Regulator in licensing decisions; authorised the use of Voice-over Internet Protocol (VoIP) for the soon to be licensed SNO and the under-serviced area licensees; included a renegotiation provision for all interconnection agreements in place for more than 5 years; established emergency centres and a government directory of information services; provided for the introduction of number portability and carrier pre-selection (both crucial to the introduction of competition); made provision for the restructuring of the USA; repealed the pre-existing cellular cross-ownership rules; and established a telecommunications museum. The implications of some of these are discussed below.

In terms of sector responses to the legislation, there was disappointment that two new operators had not been introduced as proposed in the consultative process. More widespread though was concern that several restrictions which industry had anticipated in line with the White Paper liberalisation timetable would expire at the end of the exclusivity were retained and the monopoly rights enjoyed by the incumbent extended to the SNO. One assumes these were intended to enhance the value of the SNO licence. These include restrictions on the self-provision of facilities by other operators and VANS, resale and VoIP.

Other reactions included concern over the award to Sentech on a non-competitive basis, of an international telecommunications services licence and a multimedia licence. The incumbent network operators see the award of these lucrative types of licences on a non-competitive basis as undermining their rights as network operators and aspiring licensees articulate concerns over what they see as likely to be a diminishing market share. Others, including Sentech, however point out that so many compromises on the intended nature of the licence have been made to appease particularly Telkom, that much of the attractiveness of the licence has been removed. Broader concerns related to the fact that all three of the major network operators have parastatal interests with the inclusion of 30 per cent of the shareholding of the SNO being granted to Eskom and Transtel, with some residual state ownership in the mobile market as well.

While originally contentious, the reference to 'fixed mobile services' in the law appears to acknowledge the limited potential for fixed line network expansion in an expanding mobile wireless environment. However the allocation of spectrum to specific operators has been criticised as inappropriate in the law. What this means is that all five national network operators and the under-serviced area

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[5] 1800MHz; Third Generation (3G) Radio Frequency Spectrum; International Gateway and Multimedia; and Under-serviced Area licenses.

licensees will gain automatic access to the contested 1800MHz GSM second-generation spectrum and the Third Generation spectrum on 3GHz.

Another enabling policy intervention but with significant resource implications for the regulator was the introduction into section 40 of the Amendment Act of the under-serviced area licence (USAL) category to be granted to SMMEs to service geographical areas presenting with less than 5 per cent teledensity. In line with the legislation, the Minister proclaimed nearly 30 magisterial districts under-serviced and call for the licensing of the first 10 in early 2002. Faced with the licensing of Sentech's multimedia licence and international carrier licence on top of the SNO, by mid-2003 the first 10 licences had still not been granted.

This together with pro-competitive regulatory measures introduced in the legislation, specifically number portability and carrier pre-selection will require a highly skilled and resourced regulator.

1.2 Formal regulatory structures and legislative framework

With the above synopsis of the history of the regulator through the four major policy periods as background, this section reviews the formal regulatory structure and legislative framework created by that history. Outside of the policy developed during these periods, it is important to foreground the main legislative milestones.

ICASA currently derives its legislative mandate from four separate statutes, namely the ICASA Act of 2000, The Independent Broadcasting Act of 1993, The Broadcasting Act of 1999 and The Telecommunications Act No. 103 of 1996 (as amended)[6].

The 1996 Telecommunications Act substantially overhauled the previous regulatory regime, which located traditional regulatory powers with Telkom and the Minister. Notwithstanding Telkom's incorporation in 1992, there was no legal or institutional split between providing telephone services and outside of rates and tariffs, continuing to decide what other entities could provide services and under what terms. This model accorded with traditional approaches elsewhere to telephone service delivery under state-owned PTTs.

The Telecommunications Act established the South African Telecommunications Regulatory Authority (SATRA) and the Universal Service Agency (USA), so that previous regulatory functions falling to Telkom now properly fell to an independent regulator, entrenching the 'best practice' approach of a separate tier for policy-making, (the executive) service provision (Telkom) and regulation

[6] The regulatory structure for the telecommunications industry was established through The Telecommunications Act No. 103 of 1996 (as amended by the 2001 Act). The relevant chapter of the 1996 Act (Chapter II) was repealed and replaced by The Independent Communications Authority of South Africa (ICASA) Act (No. 13 of 2000) which is the enabling legislation for the merged regulatory body for telecommunications and broadcasting - ICASA - and inter alia, sets its mandate; provides for its functions; and stipulates provisions for the appointment and removal of councillors. The ICASA Act also repealed the relevant provisions of the Independent Broadcasting Authority Act (No. 153 of 1993) but kept other aspects of that Act in operation.

(SATRA/ICASA) and bringing South Africa in line with deregulation efforts seen elsewhere in the world at the start of sector liberalisation.

Regulatory/institutional design

In merging the IBA and SATRA, the ICASA Act provided for the expansion of the Council to 7 permanent members and established a division for telecommunications and one for broadcasting, each including monitoring and enforcement, as well as regulatory policy, and each remaining governed by the separate legislation for those services. Three other divisions have been created by the merger: a section covering human resources; administration technology; an engineering division which handles spectrum management and monitoring for compliance; and a legal division, including consumer protection and the Council secretariat.

Each councillor is appointed for a term of 4 years, with the exception of the chairperson who is appointed for a term of five years. The collegial model was considered to be an effective design providing checks and balances to help prevent biased or hasty decisions, and it also offers a broad perspective for decision-making, allowing for thorough debate and consideration of issues. Collegial bodies are also presumed to be less susceptible to sector interests and 'regulatory capture' because they tend to a broader base of interests. That said, collegial bodies do generally make decisions more slowly than a single regulator, although that impediment can be overcome. The inability to attract sufficiently highly skilled members to the Council to fulfil these objectives has been one of the major reasons cited for the lack of regulatory performance within the sector.

Councillors are appointed by the President on the recommendation of the National Assembly. This method of appointment is effective from a transparency point of view, but has certain attendant problems, such as delays in appointment confirmation, while the regulator strains under a lack of capacity.

During the policy review process outlined above, the Department of Communications had proffered a suggestion that the executive, rather than Parliament have authority to remove councillors from office. This was rejected and the original appointments and removal process maintained in tact. It is suggested that the existing approach is the preferred model although it can be argued that a part-time board, which fulfils more traditional board functions of decision-making and advice to the executive would be more appropriate. It would still allow for the benefits of a multi-interest board to bear, but with an executive director, decision would be taken more decisively. One of the major criticisms of the current operational activity of the regulator was that full-time Councillors have the time to intervene unnecessarily in the operational day to day activities of the management and staff, undermining the Chief Executive Officer running of the organisation and delaying technical staff's responsiveness to the sector. The reform of the existing structure to one of this kind could counter this problem.

Mandate

ICASA's mandate is derived from its specified functions in the objects of the ICASA Act as well as implied from the objects of the Telecommunications Act, the Broadcasting Act and the IBA Act.

Section 2 of the ICASA Act establishes an independent authority tasked with the responsibility to regulate both telecommunications and broadcasting in the public interest and to achieve the objects of each underlying statute. In the case of broadcasting, the mandate also requires ICASA to ensure a diversity of views broadly representing South African society. As the Constitution requires an independent regulator for broadcasting, section 2 also requires that the regulator's broadcasting mandate be carried out in accordance with section 192 of the Constitution (Act 108 of 1996), which approximates the wording in section 2 of the ICASA Act.

The difference in wording for the two has its origins in concern over what the merger might imply for the IBA's independence. 'An' independent broadcasting authority is protected by s.191 of the SA Constitution. It was feared that the proposed merger would dilute the IBA's additional degree of independence found in its power to formulate broadcasting policy as well as implement it independently of government. Textual resolution of the matter was found by including the words, "as required by s 192 of the Constitution" in the ICASA Act's main object of regulating broadcasting in the public interest.

To carry out its mandate, the Authority is also empowered by section 17 of the ICASA Act to establish special or standing committees for any purpose it deems necessary with a view to assisting it in the effective exercise and performance of its powers and duties. To date, the regulator has only constituted a small number of committees in this regard, drawing on the expertise and assistance of industry; the incumbent; interest groups and specialists. Examples include the committee to assist with the determination of whether Internet Protocol should be provided under a VANS or PSTS licence; to assist with developing numbering policy for the industry; and to assist in developing transparent rules and procedures for interaction with the sector.

This consultative method of drawing on immediately available expertise has proven very useful in other countries. For example, the Canadian Radio-television and Telecommunications Commission (CRTC) established an Interconnection Steering Committee (CISC) to assist in developing information, procedures and guidelines as may be required in various aspects of the CRTC's regulatory activities. The CISC is a formalised standing committee with a number of working groups and ad hoc groups examining different aspects of regulatory policy (e.g. Rights of way; Business Processes; Numbering; Emergency Services (9-1-1); Operator Services and Directory Listings; Network Operations; co-location and cable wiring). CISC is considered a great success in utilising expertise from industry and interested parties, reducing the burden on the regulator, while increasing consensus because of its broad intellectual and interest base. It is suggested that in the face of mounting resource constraints on the regulator, discussed below, that more use is made of special and standing committees provided for in the ICASA Act.

In conformity with best practice the Act also compels the regulator to comply with administrative justice principles requiring consultation on matters that affect the interests of the industry and transparency in rule making and licensing.

Functions

The core functions of the regulator are implied from its mandate and specified in large part in the enabling legislation. Core roles include rule-making (including regulations); limited policy development; monitoring and enforcement of licence conditions; and dispute resolution. ICASA's lists these roles as follows on its website:

- To make regulations and policies that govern broadcasting and telecommunications;
- To issue licences to providers of telecommunication services and broadcasters;
- To monitor the environment and enforce compliance with rules, regulations and policies;
- To hear and decide on disputes and complaints brought by industry or members of the public against licensees;
- To plan, control and manage the frequency spectrum, and;
- To protect consumers from unfair business practices, poor quality services and harmful or inferior products.

One of the main problems affecting ICASA's functions and its independence lies in provisions of the Act which couple the Minister and ICASA in the performance of two primary regulatory functions, namely, the awarding of major licences, and in making of regulations.

The Act empowers the Minister, as opposed to the regulator, to invite and endorse applications for major licences and to approve certain regulations drafted by the Authority. The regulator is tasked with assessing and evaluating licence bids and can only make a recommendation to the Minister, but cannot ultimately award that licence – its role limited to merely issuing the licence on approval by the Minister. Similarly, the regulator cannot invite applications for a major service licence, which remains at the discretion of the Minister, subject to existing policy dictates. Only in the case of non-restricted licences, such as VANS, PTNs, and under-serviced area licences, can the regulator take a decision on its own after due consideration.

The licensing of Cell-C aptly served to reflect the difficulties created by splitting this role between an executive arm of government and an independent agency. History now testifies to the messiness of this arrangement, which empowers the Minister to call for licences, but requires the assessment of the applications by the regulator who recommends a preferred bidder to the Minister, who will grant the licence, which is then issued by the regulator. This has facilitated attempts by various parties to lobby different decision-makers at different stages in the process and has lent itself to challenge in terms of sound administrative procedure.

Efforts to 'clarify' this in the 2001 Amendment Act only served to delineate more clearly its operation, not address the source of the problem. The amendment now empowers the Minister to accept, reject, require additional information from ICASA, or refer the application back to it for further consideration, but does not alter the fact that she still retains powers of approval. Similarly with regulations, while the Minister has the authority to issue policy directions, she does not have the power to issue regulations, but she retains the power to approve certain regulations made by ICASA, without which these regulations cannot be promulgated. The judicial review over the Interconnection guidelines for the industry, discussed below, which replaced the Ministerial Guidelines on Interconnection for Telkom[7] serves as a useful illustration of how transparent this process is required to be to meet administrative justice standards.

Independence

The problems outlined above suggest a number of questions regarding the perceived independence of the regulator. It is widely accepted that independent regulation is an essential ingredient of structural reform in a country's telecom sector and that its presence or absence will directly affect the quality and speed of that reform. It is, inter alia, crucial to raising investment capital and to ensuring efficient and responsive service delivery, whether in a competitive or exclusive supply market.

In recognition of its centrality to successful reform, the number of independent telecom regulators has grown from 13 in 1990 to 112 in 2001, and their requirement is contained in a number of international and regional agreements[8]. However, while almost all countries recognise the need for a separate regulator, the myriad and complex relationships with government and industry result in many manifestations of that ideal which cannot simply be measured by structural separation alone. This is evidenced in the diverse forms of institutional design and degrees of separation from government that are reflected in the various institutional arrangements around the world: many country regulators report to sector ministries; some like SA, report to Parliament and others to their Head of State. All tend to reflect however that while a baseline of separation from government is required, independence cannot be absolute, yet to be effective, at a minimum, full independence in implementation of the Authority's mandate is required.

ICASA derives its independence from section 3(3) of the ICASA Act which pronounces the Authority independent, and subject only to the Constitution and the law, and that it must be impartial and must perform its functions without fear,

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[7] Government Gazette 17984 GN R771 of 1997.

[8] For example, the EU's Open Network Provision (ONP) Framework Directive requires a body that is "legally distinct and functionally independent of other telecommunication organizations." The WTO's Regulatory Reference Paper adopted by all countries that signed the Fourth Protocol on Basic Telecommunications in 1998, calls for regulatory bodies to be separate from, and not accountable to suppliers of basic telecom services. Article 10.7 of the Southern African Development Community Protocol on Transport, Communications and Meteorology also requires member states to "establish autonomous, independent and national regulatory bodies which shall have statutory authority to regulate and monitor specific telecommunications activities".

favour or prejudice. Section 3(4) requires that the Authority function without any political or commercial interference. Thus, at least textually, the Authority is independent in the performance of its functions and in the implementation of policy. Yet, concern has been voiced from various stakeholders over the last five years seriously questioning the ICASA's independent nature. This concern has been echoed in the domestic and international media and by foreign trade offices and potential investors. The origins of this concern lie in attempts by the executive to gain control on more than one occasion, of the appointments and removal process for the Council. It is precisely through the transparency and accountability to Parliament that these attempts have largely been thwarted.

In terms of legislative design, the major constraint on the regulator's independence however, must lie in the requirement in the Act that regulations prescribed by it, be approved by the Minister. This has allowed Ministers to withhold or delay regulations that were critical to the opening up of the sector and regulating it more effectively as intended by the Act, but which were perceived not to be in the particular interests of Telkom during its various stages of restructuring. An apt example here is the development of interconnection policy – a process severely delayed, and ultimately resulting in a judicial review of Ministerial action which was found to be *ultra vires*.

A further impediment to full independence in implementation also lies in the dual jurisdictional role the Minister and IACSA share over licensing major operators. This was most evident in the introduction of a third mobile cellular licence to compete with the incumbent mobile duopoly. While this was perfectly legitimate in terms of the law, it created the beginnings of rift between the regulator and ministry, who were perceived to be more responsive to industry pressures than the advice of their own specialist authority.

Finally, it has been noted by various analysts and stakeholders that the allegations of interference and efforts to compromise regulatory independence stem from the state's dual role as policy maker for the sector, and majority shareholder in the de facto monopoly incumbent.

It cannot be unequivocally suggested that uncoupling the state as shareholder and principle policy maker would adequately resolve concerns of independence. And often solving independence on one axis – the government - may well serve to reinforce dependence on another. There are however, a variety of legal models that exist to enhance regulatory independence without compromising the accountability structures built into the Act to cater for the principal-agent problem of having un-elected officials carry out a government function. Also importantly, a repeat of previous policy tussles over the structural independence of the agency needs to be avoided. Although the appointment and removal process for councillors appears to be settled law, it is not unassailable and may well face challenge again. Considerably more attention needs to be given to the issue of interaction with the executive over core regulatory functions. Ideally, the current dualism between the regulator and the executive should be revisited, and more importantly, revised.

Finally, the ICASA Act provides that the Minister must be supplied with an annual report by the Authority, which report will be tabled in Parliament by the

Minister. While section 16 of the ICASA Act contains some important accountability provisions, it is suggested that if ICASA were to table its own annual report in parliament, it would assist in countering negative perceptions arising regarding independence.

Resources

When evaluating regulatory resources, both financial and human resources must be critically considered. ICASA suffers an acute lack of both.

The operating budget for ICASA is determined by Parliament and is derived entirely of monies appropriated by Parliament for that purpose. This was the case with both SATRA and the IBA, and since the merger, ICASA has been required to operate on the combine budget allocations received by the IBA and SATRA as separate entities. Its current operating budget is R130million and is woefully inadequate for its purposes and for a sector that generates over R 800 million for the state in revenues from licence and spectrum fees. For example, limited legal budget required ICASA to approach Parliament for additional funding to defend the third cell licence judicial review process. Like its predecessors, ICASA has continued to cite the lack of financial resources as a serious impediment to effective regulation. Moreover, lack of financial resources is tied to questions above regarding independence. Even prior to the merger, the international consultants hired to effect the merger noted that [the agency's] statutory financial ties to the Department of Communications "does little" to enhance its independence.

Clearly, increasing the funding of a dysfunctional institution has been a concern for the Ministry of Finance, but since the appointment of the current CEO of ICASA, Mr. Ncetezo Nyoka, nearly three years ago, the planning and budget of the organisation has been dramatically turned around. Whilst operating a zero based three-year budget he has managed to determine the resources needed to fulfil the requirements of the legislation and proposes that ICASA requires an operating budget of around R200 million. On its current budget it has had to receive ad hoc grants to fulfil critical components of its mandate such as the SNO process. While the rights of effected parties to seek relief from the courts is constitutionally and legally entrenched, Mr. Nyoka proposes that to avoid the Regulator being financially incapacitated by defence of its actions, all legal costs for such activities should come from the national fiscus. This would undermine any operator strategies to disempower the Regulator through the diversion of its resources in defence of persistent legal reviews.

Thus, as a matter of efficient functioning, as well as to serve as an independence-enhancing tool, it is suggested that the current funding arrangements for the regulator be reviewed. Alternative funding mechanisms could include any of the following or a combination of licensing and regulatory fees; fees for the allocation of spectrum or numbering; fees for type approval or other specialised engineering tasks; a regulatory tax; income from assets including interest, investment income or property and income from enforcement action or fines. While it is not uncommon for regulators to be financed in this manner, independence can more confidently be ensured if the agency has control over the way in which monies are raised and how those are apportioned.

Autonomous financing and adequate resources are directly linked to effective functioning and the ability to carry out a legislative mandate: it has an impact on the hiring and retention of qualified staff; operational management including adequate office and facilities procurement; the ability to represent the organisation in international fora and importantly, the ability to pursue and defend litigation. Strict accounting measures would still subject the Authority to parliamentary oversight and state auditing, ensuring political accountability and minimising risks of impropriety. And autonomous funding need not compromise necessary working ties with the executive: Singapore's regulator has almost full financial autonomy, yet a very close working relationship with the oversight ministry prevails to which all major decisions are often deferred.

With regard to human resources, most regulatory agencies face three similar challenges in developing and maintaining the human resources and skill required to be effective regulators. These are not problems limited to South Africa, although the local version of the problem does have its own unique issues. The three major challenges in recruiting qualified staff are (1) finding individuals with the needed expertise; (2) finding the resources to be able to offer attractive pay and benefit packages, and (3) retaining staff members in a job market that sorely lacks skills and that places a premium on technical and management skills. The 2001 Annual ITU Regulatory Survey indicated that 75% of all regulators polled lack sufficient staff resources. The reasons varied from budgetary constraints to inability to compete with industry salary scales, to a simple inability to find individuals with the appropriate expertise (a particularly acute problem common to developing countries).

In the case of ICASA, the phenomenon of staff being poached by industry is particularly dire. While the exchange of personnel between the public and the private sector is common worldwide in all regulated industries, and indeed even desirable in moderation, the constant flow in one direction fails to produce the positive effects of the exchange, namely skills and knowledge transfer and institutional knowledge building. While it would be counter productive, and unacceptable from a public policy point of view to restrain the movement of staff in and out of the public and private sector, other measures need to be taken to instil the values of a public sector career path and keep morale high. This includes competitive pay packages, career development prospects and organisational management along the lines of the private sector. As the problem is tied directly to financing constraints, the two problems need to be dealt with in tandem.

1.3 Performance under the current regulatory framework

An evaluation of the performance of the Regulator cannot be carried out in isolation from the policy milieu in which it operates. First, ICASA's performance in licensing and producing certain regulations on shared jurisdictional matters with the Minister must be viewed within that context. Second, it is difficult to measure anything beyond general trends at this stage, as it is ostensibly early days for ICASA which is now only three years old. Moreover, that short life span must also be examined in the context of an organisational restructuring, which has only recently been completed. Finally, considerable energy has been spent by the regulatory body on attempting to adjust perceptions of it informed by its

predecessor's legacy. Overall, any evaluation must thus consider performance within the context of the merger.

Merger

The *ICASA Act* largely deals with the logistical facilitation of the merger of the two decision-making bodies, the Councils. The actual regulation of broadcasting and telecommunications is still determined by the *Broadcasting* and *IBA Acts* and the *Telecommunications Act* respectively. Policy makers, who regard it as an interim measure until such time as a convergence policy, have acknowledged this situation until a new legal framework is introduced. However, concerns remain that the failures of the two separate institutions to meet their mandates as separate institutions was simply going to be compounded by having to meet the same mandates with fewer decision-makers and fewer resources. In interviews with industry, government and the regulator there was widespread agreement that convergence raised new challenges that required new regulatory frameworks. Some industry stakeholders said this was particularly the case if one believed that the spread of broadband could redefine or reshape the global economy over the coming years. On the other hand, given the enormous organisational restructuring that has taken place under the ICASA Council, it may not be wise to renovate the current institutional design through convergence legislation. That is, while it may be preferable to rationalise disparate pieces of legislation, it may be less prudent to subject the organisation to further restructuring at this time.

The merger of two separate regulators for broadcasting and telecommunications was a policy prediction from as early as the White Paper. Developments that followed in global markets justified it as a prudent move in acknowledgement of the realities of convergence between the broadcasting and telecommunications sectors, and the need for coherent regulation of them if South Africa was going to meet its needs in the global information economy. In addition to the technological drivers, the merger was also facilitated by a number of other developments. Government attempts to cut spending had already resulted in the slashing of regulatory budgets. The rationalisation of the Authority was seen as an effective way of avoiding duplication of effort and consolidating skills in areas of shortage within a developing country. The administrative and technical areas were particularly identified as areas in which duplication could be avoided. A more cynical assessment of the timing of the merger suggests that it allowed the government a legal route to rid itself of the Council of SATRA, which, in the fallout around the third mobile licence, had become a political embarrassment. Either way the timing of the merger and the resultant need for a massive restructuring place the regulator at a disadvantage at a critical time in the development of the industry. Most respondents interviewed for this review felt that politically expedient or not, the disarray that existed at the time had to be resolved and that in the long run a merger was inevitable. Several argued that it was largely a merger in name and would only be able to fulfil convergence objective once the new convergence legislation replace the current underlying separate statutes that continue to inform telecommunication and broadcasting regulation.

Finally, another aspect of the impact of the merger which also relates to the terms of office of the Councillors was that due to the different terms and duration of

office for SATRA and the timing of the merger, a number of SATRA councillors left the Authority just prior to the merger, stripping the newly formed body of existing key institutional telecommunication knowledge. Despite there not being a dramatic numerical difference, there was a perception in the broadcasting industry that the Council was dominated by a concentration of broadcasting expertise, not least of all because the former head of the Independent Broadcasting Authority, Mr Mandla Langa, was appointed head of the merged bodies. Interestingly, his stewardship of the industry since then is cited by many respondents as the saving grace of a very challenging time for the regulator as it repositioned itself in the industry and attempted to establish a transparent relationship with the Ministry. In 2002, however, the Council was again stripped of valuable expertise with the departure of experienced and skilled Councillors creating another disjuncture in the operations of the institution.

Respondents also expressed concerns about the diminishing expertise, experience and stature of appointments. The chairperson of the Parliamentary Portfolio Committee, Mr Nkenke Kekana, suggests that the candidates appointed were a reflection of the skills available in the country, but that whilst appointees should be able to grasp the nuances of the industry, the technical expertise should reside in the management and staff of the organisation so that the changing terms of Councillors should not have such a negative impact on the industry. The qualities to be sought in the council have less to do with technical expertise than the capacity to adjudicate fairly on issues without conflict of interest and to understand transparent processes. The chairperson concurred with suggestions that a part-time board appointed by Parliament with an executive head and a properly skilled and remunerated professional staff would reduce some of the tensions that existed between the Council and management and facilitate greater responsiveness to this dynamic sector.

1.4 Qualitative analysis of the performance of the regulator against its mandate

Overall, the Authority has fared well in the past five years in seeking to carry out its public interest mandate, but a number of crucial flaws in both the legislative and institutional design and a lack of substantive enforcement powers seriously compromised it in doing so. Some of these are outlined in section 3.3 above.

It is however important to note that ICASA's legislative mandate has been substantially trimmed by the 2001 Amendment Act through the removal of section 5(2)(b) of the 1996 *Telecommunications Act*. That section stated as follows: "*The Authority may perform all such acts and do all such things as are reasonably necessary for or ancillary, incidental, or supplementary to the performance of any of its functions.*" Section 23 of the 2001 Amendment Act removed this section and failed to replace it with anything comparable. While potentially wide in ambit, this clause circumscribed all activity by the requirement that it be "*reasonably necessary*" for effective functioning and mandate fulfilment.

It is too early to measure whether the repeal of this provision will substantively handicap the regulator in performing its adjudicative functions, but a number of scenarios present themselves as cause for concern. For example, section 53 of the

Telecommunications Act proscribes uncompetitive actions and allows the regulator to take action against a licensee if it appears to the Authority that such licensee is taking or intends on taking any action, which will have an anti-competitive consequence. Subsection 2 empowers the Authority to make regulations for the efficient monitoring and investigation of uncompetitive actions, however, suggests by reference to subsection 1 that such action by the licensee would have to be apparent or likely. It is thus possible that a licensee might rely on this type of interpretation to pre-empt regulations being developed that may become necessary although no uncompetitive action is apparent, yet international trends reflect that such possibilities for uncompetitive actions exist in such a dynamic market.

While section 96 does empower the Authority to make regulations, it also circumscribes the matters upon which regulations may be made. Without a general enabling provisions such as section 5(2)(b), it is likely that the exact meaning of section 53 for example may have to be tested by judicial pronouncement in future claims. Similar concerns have emerged in the sector regarding the precise operation of the Memorandum of Agreement between the Competition Commission and ICASA. While it adequately suggests a clear delineation for jurisdiction, the fact that so many existing claims in the sector predate the MOA leaves its precise operation open to question. To date, there is no evidence to believe that the matter pending before the Competition Commission lodged by the VANS industry against Telkom, is receiving any faster attention than it might have under adjudication at ICASA. The Competition Commission however does have a far wider range in terms of enforcement and sanctions and will remain an attractive forum to the industry as a result, for claims qualifying for their jurisdiction.

Another crucial factor having an adverse impact on the Regulator's ability to fulfil its mandate has been the lacuna with regard to convergence policy. A process to develop policy and ultimately legislation for the sector was begun in early 1999. It is unclear to the industry what has delayed the progress on this policy, which is only now entering the public domain for consideration. This lack of policy has also affected the Minister's ability to affect her policy mandate effectively.

Related to this, ICASA has also had to deal with various pieces of legislation that affect the sector but make no or little room for the Authority in their implementation. Specific concerns are raised in this regard around the promulgation of the *Regulation and Interception of Communications and Provision of Communication Related Information Act*, (RIC Act) (No. 70 of 2002). This Act has far reaching implications from a standards and network management point of view, as well as enormous cost implications for operators. In the absence of a cost sharing model for making all networks capable of interception, consumer concerns manifest over the potential for costs to be transferred onto subscribers, and also raise a number of questions regarding privacy. The Regulator was not contemplated for consultation in early drafts of the RIC Bill regarding monitoring centres as this matter was considered the domain of the national security establishment. This has been remedied in the final draft, but many of the Act's provisions are already proving difficult to implement.

It is suggested that ICASA and the Department of Communications be consulted extensively on the implications of this Act for the sector.

Finally, it must be reiterated that the overall performance must be seen within the context of the demands of the merger. This is worth repeating because it compounded the already onerous demands of implementation and created a change in Council at a critical time in mid-2002, just prior to the start of the preparatory regulations and licensing of the SNO and Under-Serviced Area Licences (USALs). The ability of the regulator, having only just completed a restructuring exercise following the merger, to implement these fast moving policies with its severe lack of human and financial resources continues to be a matter of grave anxiety within the sector. While there is a general sense in the sector, that the regulator is doing a better job than it had before the merger, there is concern that the initial regulations and licensing activities arising out of the Amendment Act reflect an institution under siege. Pressure was brought to bear on ICASA to prescribe a number of regulations to facilitate the IPO and the licensing of the SNO. While these may serve their purpose and even pass muster in a review, the errors in conception and drafting indicate a lack of capacity even to manage the consultants who have been responsible for the substance of the regulations, according to industry respondents and this is not denied by the Regulator itself.

Nature of decisions (timeous and robust) and decisions overturned due to ministerial discretion or courts

Possibly as a result of the demands on it and the limited resources, ICASA has not voluntarily undertaken many investigative and hearing processes outside of those required for the fulfilment of its core functions. However, of the processes it has initiated some have been extensively delayed (interconnection) and others have been subject to judicial review (Internet Protocol). The latter does not necessarily imply flawed decision-making and quite to the contrary is often a tool with which rigour in regulatory decision-making evolves. Moreover, there is rarely an outcome in which a challenge is not sought by one or other party to the complaint. However, where decisions have been subject to review on the basis of procedural irregularity, this is problematic, especially in an industry where delays are inherent and frequent and can be easily exploited by licensees with sufficiently deep pockets while decimating those who do not.

Even a cursory examination of ICASA decisions, indicates that despite delays and challenges to both procedure and substance, ICASA does on a whole, take robust decisions. A notable exception is the rate review matter in late 2001-2002, but it appears that procedural problems relating to the delays in the Minister's office may have inhibited more robust action on the Regulator's behalf.

The third cellular licensing debacle is difficult to include in an evaluation, as the factors that impacted upon it are too diverse to be able to effect a thorough examination of the Regulator's true role. Matters became excessively complicated when accusations that, following extensive public hearings on the applications of the six applicants, the office of the President had intervened in the licensing process, which had resulted in the belated selection of Cell-C by the Council of SATRA, following the recusal of the Chairperson. At the time of the

award to Cell C, a consortium with Saudi interests, South Africa was signing off a multi-million Rands arms deal with the Saudis. While the second in line on points, a consortium with Telia-Telenor, reluctantly accepted the outcome, the consortium that had come third, Nextcom, who had probably the strongest local empowerment participation seized the disjuncture between the Government and the chairperson of the regulator to file an application for review. Following further delays and nearly two years beyond the original schedule for the granting of the licences the Minister authorised the granting of the licence to Cell-C despite the pending court case. Cell-C finally reached a dramatic multi-million Rand out of court settlement with Nextcom minutes before the judge was to have ruled on whether their had been political interference in the licensing process.

Whether or not the regulator was to blame for the debacle, the fact is that it is viewed by the local industry and internationally as a result of regulatory failure. It is presumed that the merger did fulfil some of the function of distancing the new council from the Cell-C decision, but the damage this wrought on regulatory credibility is significant. Its recounting here is useful to suggest that the structure and nature of the Authority and its coupling with the Minister in decisions of this nature present ample opportunity for those with the ability and with sufficient financial interests to exploit possible differences where they are able. An interesting comparison is made with the IBA, which following the award of the first free-to-air private licences also faced the same accusations of political interference. These were however, dealt with between the parties inside of the regulator, avoiding a review. It may well be argued that as in this case only one forum was solely responsible for the granting and issuing of the licence, decision-making forums could not be played off against each other.

From a methodological point of view, it is difficult to measure with any accuracy what a timeous decision in the industry is in all cases. As importantly, it is crucial that parties to a complaint or grievance are dealt with rapidly, and followed up with on progress involving their dispute. Having procedures in place internally within the Authority ensures that this aspect of a dispute is dealt with effectively, even if a decision on the outcome is delayed for any reason. Perceptions on this in industry are mixed, but signs that effective internal procedures are adequate in this regard are also evident. Overall, it is likely that a decision is not considered timeous where the status quo that results creates adverse conditions for the complainant party or results in adverse consequences for consumers. Each case needs to be evaluated on its own merits.

Arguably the most robust regulatory decisions that have occurred to date, measured on adherence to principle, pertain to the first two decisions taken by SATRA regarding the banning of call-back services and the status of Internet as a service in the competitive domain, and under ICASA, the VANS complaint against Telkom for withholding facilities on grounds of alleged illegal use by VANS operators and the decision to implement the Interconnection Guidelines despite the Ministerial Notice unilaterally withdrawing them. Each reflected adherence to the public interest and sought to express the value of decisions taken in a consultative manner.

The first ruling SATRA gave was to prohibit the operation and use of callback systems, which allegedly threatened Telkom's exclusivity (revenue) on

international calls and, as it was reasoned at the time, would adversely affect the universal service rollout objective[9]. Confident of the correctness of its action and commitment to the values it would reflect, the regulator failed to apply procedural rigour and was immediately taken on review. Shortly thereafter, the Authority ruled against Telkom's contention that the provision of Internet Protocol was part of its exclusive service domain. The decision was strongly informed by universal service, the public interest and access to information ideals, as ruling in Telkom's favour would potentially threaten the existence of the competitive Internet industry[10]. Once again, the matter was taken to court on issues of procedural irregularity. The ruling went in Telkom's favour and while SATRA was rebuked for violating procedural irregularity, the court was disinclined to exercise its discretion to set aside the regulator's ruling in the absence of any evidence of prejudice against Telkom. Before proceeding to a hearing on the merits, the matter was postponed indefinitely. The expiration of Telkom's exclusivity and further sector liberalisation now makes this question and the ruling, redundant.

With regard to judicial review, the Interconnection dispute of 2000 illustrates a number of important points. Following an extensive public consultation process begun by SATRA[11], ICASA published draft interconnection and facilities leasing guidelines in March 2000[12]. These required ministerial imprimatur before they could be gazetted as law. After an excessively lengthy delay, the Minister finally approved the guidelines only to publish a notice unilaterally revoking them just one month later, on the basis that there had been insufficient public consultation and that the merger between the IBA and SATRA required further postponement so as to allow the IBA to participate in the process[13]. SATRA reinstated the guidelines, claiming that the Minister's actions were *ultra vires* and resolved that it would continue to apply the withdrawn guidelines to a number of pending industry disputes, the most pressing of which at the time was that between AT&T Global Networks and Telkom SA Ltd. It was widely speculated both by the regulator and industry that Telkom, unhappy with the chosen pricing methodology and provisions for interconnection, had lobbied the Minister to revoke the SATRA guidelines. A year later, a reviewing court finally confirmed that the withdrawal had been unlawful and *ultra vires* and reinstated the guidelines, noting that,

> …the function of the Minister is to prescribe policy. The function of the Authority is to regulate, inter alia, by making regulations. The Minister does not have a free hand in dictating policy. She must consult the Authority and other interest groups. Similarly, the Authority does not have a free hand to regulate. It must do so within the bounds set by the policy directions. In such a scheme, it would indeed be strange that the Minister would be limited in her power to lay down policy directions, policy being the field where she is supposed to be paramount, but unfettered in her power to withdraw regulations, the making of which lies

[9] Ruling FR-0001 in *Government Gazette* No. 18214, Notice 1200, 15 August 1997.
[10] Pronouncement P-0001 of 14 October 1997.
[11] *Government Gazette* 19159 GN R1683 of 1998.
[12] *Government Gazette* 20993 GN R1259 of 2000.
[13] *Government Gazette* 21108 GN R1680 of 2000.

> within the competency of the Authority. […] As a pure question of legality, her act of withdrawing the guidelines was invalid.[14]

Perhaps more than any other comments previously made, this case reflects the complexities of the dual roles between ICASA and the minister in matters of making regulations. It also serves to adequately reflect the kinds of legal challenges a regulator might face, underscoring the need for adequate financial resourcing.

Although the final appeal to the courts is a right that is likely to remain in future, the need for an internal appeal mechanism within the Regulator, that would reduce the automatic and costly resorting to the Courts, is clearly highlighted. With informed technical decisions and transparent administrative justice that allows for an internal review, confidence can be built in the regulator and undermining reference to the courts reduced.

Performance and implementation of the Universal Service Agency mandate (USA)

We briefly draw attention to a number of issues regarding the USA and its implementation as this has an impact on ICASA's ability to carry out its regulatory mandate. At the time the approach developed to the joint challenges of liberalisation and universal access seemed correct. This included support for universal service and development through a diversity of actions and various inputs into regulatory and policy domains under a specialised agency tasked with increasing teledensity, the Universal Service Agency. This agency, also established by the 1996 Telecommunications Act, was however beset with a number of fundamental problems from the outset. Not least of which was the provision that it have a life span potentially limited in duration to five-years.

A review of the Agency in 2000 to determine if the sunset clause relating the Agency in the legislation should come into force or not however concluded that the institutional structure was one of the major flaws of the USA, which by that time was widely regarded as having failed to implement its mandate. Rather than reporting to the regulator as indicated in the White Paper and up until about the 12th draft of the Bill, the Head of the Agency was accountable to the Director General. Having developed no universal service policy other than the rollout of Telkom during the exclusivity and a broad reference to the USF funding needy people, the perception in the industry is that the USA rapidly became the direct mechanism for implementing projects identified by the Department of Communication rather than an assessor of projects that would be implemented by other players. In that sense it played the role of both the referee and player. The USA has been criticised for failing to fulfil its mandated functions of monitoring progress with universal service, advising the Minister and implementing projects that stimulate public awareness of benefits of telecommunication services to under-serviced areas, on the one hand and on the other acting beyond them by taking on an implementation function never intended by the legislation.

[14] *Telkom SA Ltd* v. *ICASA*

Despite a clear intention in the legislation that the USF be used to subsidise services to needy people, the USA never set up such a mechanism. Certainly a broader interpretation of the legislation would accommodate the significant roll out of telecentres. On the success of that venture, research indicates that some of the telecentres were doing well, but most suffer grave technical, financial and organisational problems. So far, none of the telecentres have proven to be profitable enough to cover the depreciation of equipment, let alone being able to pay back the original investment[15]. In a survey conducted in 2000 the vast majority of telecentres were not found to be financially viable[16]. A larger impact has been made by 1500 phoneshops established by the cellphone companies, operating on a more sustainable entrepreneurial model.

The 2000 review proposed that the Agency continue but that it conform to its intended functions of research, advocacy and monitoring of implementation and on that basis advisor to the Minister on universal policy, rather than be directly responsible for implementation. It further proposed that an independent board be established to buffer it from direct political influence and that a clearer mandate on its monitoring and research functions be specified. This recommendation was incorporated into the Telecommunications Amendment Act of 2001, which allowed the Minister to appoint a board to provide oversight and guidance to the Agency. This she did in 2002 and appointed the Director General as the head of the Board.

The central challenge to the Regulator during this period was to respond to privatisation and liberalisation and at the same time maintain a clear and unambiguous focus on universal service for social and long-term development. However, the separation of the USA from the regulatory authority in the final drafts of the legislation has had the effect of removing universal service from the heart of regulation. Rather than universal service being mainstreamed into the regulatory decision making of the authority, it was treated as a separate issue, for which another statutory agency was responsible.

Various attempts to co-ordinate the efforts of the regulator and the USA have proved futile. Most significantly the co-ordination of community service obligations among the mobile operators and Telkom has not been achieved despite several efforts resulting in multiple operators fulfilling the obligations in the same market rather than dispersing these across under serviced areas across the country. The failures of the USA to provide industry with clear business plans of their intended activities or how USF funds have been spent have also inhibited the ability of the regulator to optimise its powers in terms of the law. The previous CEO, Ms Dipuo Mvelase went some way to trying to overcome this lack of communication with industry and other government agencies with the production of an annual report for 2001. However, as she points out the agency has been plagued since its inception with changing leadership, lengthy acting appointments and changes in leadership at the Ministry, to whom they account, have made focusing the activities of the Agency difficult. Prioritising the activities of the Agency in the face of such other major developments in the sector such as the crises in the regulators, the licensing of new major operators and the listing of

[15] Benjamin P: Telecom Policy 24 (2000), Book Reviews pp. 175 – 178.
[16] Benjamin, P: IDRC Study on Telecentres in South Africa 2001, currently underway.

Telkom has been difficult and resulted in a lack of co–ordination between the various areas of responsibility.

Following the amendment of the Telecommunications Act, the ceiling that had been placed on the USF as part of the SEP arrangement limiting it to R20 million was lifted and the Regulator permitted to levy up to 0.5% of licensees annual turnover following a public enquiry. At the time of the enquiry, which was not attended by the USA, they had not yet provided a business plan or expenditure figures for scrutiny by the contributors to the Fund. Most importantly after six years, no definition of universal access had been prescribed by the Minister as required, opening any decision made by the Regulator to review.

There is no empirical data at this stage to project whether the USA will fare batter under this design model, although mainstreaming its functions into broader policy, if done correctly, might facilitate the better utilisation of this agency. If the USA fails to start playing this catalysing role in the sector, its existence will irreparably damage the worthwhile concepts of USF and proactive subsidies and continue to distort the functions of the regulator and place a drag on its statutory functions in this area.

1.5 Performance in context

Phase One Market Design

The policy White Paper on Telecommunications identified the need for a new market structure for telecommunications to orientate the sector towards accelerated development and universal service while being responsive to fast moving technological and international trends. The need to restructure the ownership of Telkom in order for it to access the capital necessary to extend and upgrade the network to meet national objectives of universal service and providing the necessary infrastructure for a modern economy had long been evident. The new market structure to deal with this entailed the extension of Telkom's monopoly on basic telecommunications services, referred to as a period of exclusivity, to attract a strategic equity partner and increase the value of the licence. This was to be followed by a phased liberalisation of certain market segments overseen by an independent regulator. The Paper recognised the increasing difficulties in the light of technological developments of defining particular markets segments or services.

One of the key reforms that the White Paper proposed for the sector was to make it the responsibility of the Regulator, rather than Telkom, to determine such definitions and setting the rules that relate to them. This tension between the extension of Telkom's monopoly on public telephony and the introduction of competition is acknowledged in the White paper, as are the international pressures to liberalise the market with the inclusion of telecommunications into General Agreement on Trade in Services (GATS) by the World Trade Organisation (WTO). However, the policy overtly sought to protect Telkom in order for it to meet the competing demands being placed on it to deliver affordable services and rebalance its subsidised tariffs in preparation for competition. In addition to being the sole provider of public telephony, the segments of the market that liberalised

were required to source the facilities necessary for constructing their networks or services from Telkom.

While safeguarding Telkom's revenues, the White Paper, recognised the potential dangers of the rights and protection it accords Telkom and the competitive implications of such market dominance:

> There is a danger, ironically, that the plan succeeds too well, and Telkom during the period of exclusivity is able to position itself in such a way that it can impede competitive ventures. This has indeed been the case in many other countries, where a strong incumbent operator so dominates a liberalised market that the benefits of competition are few[17].

Privatisation

The first phase of policy reform complied largely with the privatisation models for developing countries being expounded by multilateral agencies such as the World Bank and the International Telecommunications Union (ITU) in the 1980s and 1990s.

Domestically however, it was not an uncontested process. The issue of privatising or restructuring the ownership of Telkom was one of the most controversial of the issues and consensus could not be reached. As a result it was not addressed directly in the White Paper but was dealt with as part of the 1996 National Framework Agreement between government and labour. The period of the exclusivity and the liberalisation timetable were other core issues from the White Paper that were excluded from the Telecommunications Act by the time it was enacted toward the end of 1996. Aspects of the phased liberalisation including resale and self–provision of facilities, were left to Ministerial prerogative and the issues relating to the exclusivity left to the licence negotiated between the Government and Thintana, the 30% strategic equity partner.

On May 7 1997 Telkom (Pty) LTD was issued three licences, each with a term of 25 years. Of the three licences the Public Switch Telecommunication Network (PSTN) licence is the only one with exclusivity provisions. Telkom has argued that the radio licence provides them with exclusivity over certain bands in order to offer PSTS services, particularly wireless local loop. However, while the radio licence clearly facilitates the use of radio frequencies and stations necessary to provide the services contemplated in the PSTS licence, the radio licences itself does not provide exclusive rights to spectrum. The PSTS licence gave Telkom the exclusive right to provide local, domestic long distance and international services for five years, with an option if it met all its rollout obligations to extend the exclusivity to a sixth year.

The market structure that arose allowed for the extension on the monopoly of the partially privatised incumbent, Telkom, but within the context of a regulatory regime that would permit other operators and service providers access to its facilities. The intention of the exclusivity was to provide the incumbent with the revenues to double the network form nearly three million to six million within the

[17] (White Paper, s2.20, p 31)

period of the exclusivity. It would also allow the incumbent time to rebalance it tariffs in preparation for competition.

Although the extension of Telkom's monopoly meant it continued to operate as a vertically integrated geographic monopoly, a number of requirements were placed on it. While it was permitted to operate in all major market segments, through its 50% holding of Vodacom and the VANS licence it was granted together with its PSTN licence, the Act required that these activities take place under separate licences. Vodacom had already been constituted as a separate operating company and with the requirement that Telkom produce a Chart of Account and Cost Allocation Manual by the end of the period of exclusivity, its VANS operations would be required to be run and accounted for separately.

Liberalisation

- *Extension of competition in mobile and VANS*

The duopoly mobile market consisting of Vodacom and MTN was to be further liberalised with the introduction of new competitors and the Value Added Network Services market segment would be opened up entirely for competition. The mobile operators however were required to acquire their fixed links from Telkom and the VANS operators all their telecommunications facilities.

- *Private Telecommunications Networks*

The market design allowed for the continuance of PTNs in the sector, and in particular allowed for two national private networks operated by Transtel and Eskom. All other PTNs have to use Telkom facilities where the network is not contained on a single or two contiguous pieces of land, or where it interconnects to the PSTN. PTN licences allow both voice and data services. However, the condition for issue is that the services it allows will only be used for a companies internal purposes and will not bypass the PSTN.

- *Internet*

Not explicitly mentioned in the 1996 Act was the burgeoning Internet market. The first anti-competitive complaints brought to SATRA in 1997 were by the Internet Service Providers Association (ISPA) against Telkom on the grounds of predatory pricing and use of confidential business information to solicit customers. This was followed rapidly by a request by Telkom that SATRA rule that Internet Protocol was part of the PSTN and therefore subject to the exclusivity. SATRA ruled that Internet Service could best be categorised as a VANS service and therefore fell into the competitive domain. Telkom took the decision on review and the Courts have still not decided the matter. In the meantime first tier Internet Access Providers (IAP) such as UUNet, Internet Solutions, MTN Network Solutions, and AT&T Global Networks and downstream Internet Service Providers (ISPs) operate under the VANS licensing regime. The failure to define VANS in the Act, or for the Minister to gazette the VANS regulations clarifying the licence terms for this category of licence has been the cause of multiple time consuming and expensive actions within the Regulator, the Courts and most recently the Competition Commission.

- *Switched Data Network*

Other than by implication, the 1996 Act and the 2001 amendment also do not refer to the switched data network granted to Wireless Business Solutions by the Director General of Communications in 1996 just prior to the licensing functions of the regulator coming into force and the extensive trunking and paging services that operate only under class radio licences.

- *Customer premises equipment*

The deregulation of customers premises equipment which require nothing other than type approval from the Regulator together with the introduction of competitive networks and services allowed for a boost to the equipment supply side of the industry. However CPE is largely a foreign import business with little significant opportunities for employment creation or local empowerment as has been evidenced in some other emerging markets.

Regulation

Central to functioning of this market structure is the licensing and regulatory framework. All PSTN, national mobile networks, switched data networks, VANS and PTNs that interconnect with public networks are required to obtain telecommunications and/or radio licences. Other services such as paging, trunking and secondary users of spectrum such as security companies only purchase class radio licences which are granted automatically on availability of spectrum.

In recognition of the potential of the fixed line incumbent to abuse its dominant position in the market, a tariff regime both for access facilities and end users was imposed. The mobile operators were also required to lodge their tariffs with the regulator. Realising the importance of an enabling interconnection environment, especially for the new mobile entrant envisaged by the Act, SATRA prioritised the preparation of regulations relating to interconnection through the required public hearing process. As described above these were held up in the Minister's office for 18 months, following which they were unilaterally withdrawn. On the basis of legal opinion ICASA treated these as *ultra vires* and continued to use them as their framework documents for interconnection. The validity of their decision was supported by a subsequent court ruling.

In line with international practice the Interconnection and Facilities Leasing Guidelines prescribed by the Regulator allow some flexibility for commercial agreement within specific timeframes but allows for regulatory intervention in the case of parties failing to negotiate an agreement.

Universal Service Fund

It was evident however that while this privatisation strategy would be more likely to meet the pent up demand that existed in the market it was accepted that this restructuring of the market was unlikely to meet the needs of the poor. The mechanism to deal with this was the establishment of a Universal Service Fund on the basis of a levy on operator turnover. This would be administered by the

Universal Service Agency with the aim of the extension of infrastructure into under-serviced areas and to subsidise usage by "needy people".

Phase 2 Market Design

The Telecommunications Amendment Act of 2001 sought to deal with some of the gaps that had emerged in the rapidly changing telecommunications environment and to make way for the second phase of managed liberalisation envisaged in the White Paper.

Facilities based competition

Second PSTN Operator

The Act extends facilities based competition in the PSTN segment of the market by allowing for the introduction of second public switched network operator. The two national Private Telecommunications Networks of Eskom and Transtel are to be incorporated into the SNO and are to constitute 30% of the company. Another 19% of the SNO was allocated to empowerment interests in support of the objectives of the Act and remaining 51% is to be held by a private entity. In the licensing process that followed Nexus was awarded the 19% empowerment share and the 51% stake still has to be licensed following ICASA decision not to award a licence to any of the consortia that applied. A second round of applicants are now being process by an SNO committee established by the Department of Communications.

International gateway

The Act also liberalised the international call market with the introduction of a third international gateway licence for Sentech, the national broadcasting signal distributor. This licence permits Sentech only to be a carrier of international traffic for other carriers and it is not permitted to connect directly to customers. Sentech is restrained from carrying voice telephony. This makes it the only network operator licensee unable to carry voice and VOIP, which is restricted to PSTN, the national mobile cellular and under-serviced area licensees.

National Mobile

The Act also requires the Regulator to conduct a feasibility study to determine whether the mobile market can support further competition.

Under-service area licences

Inline with trends elsewhere in the world to meet the dual objectives of universal access and SMME development in the sector, the Act also opens areas with less than 5% teledensity to regional PSTNs. The Minister is required in terms of the Act to determine which areas will be licensed in terms of this clause and in 2002 designated 29 areas as under-serviced, of which ICASA was to have licensed ten magisterial districts in 2002. With the prioritisation of the regulations needed to bed down the IPO and the licensing of the SNO, the Under-Serviced Area licences were delayed to 2003. There is concern that without state funding of some kind, as such licences to operate in undeserved areas have received in other countries

where they have been successful, the licences may not be viable and the SMME entrants as a result highly vulnerable to failure.

Restraints on service based competition retained

Some of the liberalisation expectations of industry in terms of the White Paper that were not met in the new legislation were the decisions to continue the unenforceable restriction on voice and particularly VOIP, not broadening service based competition, such as resale, which the White Paper had proposed be introduced in the final years of the exclusivity and the self provision of facilities either for fixed links for mobile operators or the facilities VANS providers are required to acquire from Telkom. In a converging environment there is no economic or policy reason to differentiate among services and less and less reason to distinguish between fixed and mobile services.

Figure 1 - Market segments

NETWORK OPERATORS	SERVICE PROVIDERS
PSTN Telkom SNO	VANS (IAPs and ISPs)
MOBILE CellC MTN Vodacom	Paging
INTERNATIONAL GATEWAY and MULTIMEDIA Sentech	Trunking
USALs 10 districts	
DATA SWITCH NETWORKS WBS	
PRIVATE TELECOM NETWORKS Eskom and Transtel Other private networks	

1.6 Regulatory approach

Telecommunications, like other public utilities, was long seen as a natural monopoly due to the economies of scale required to operate a national network efficiently. While technological and economic developments may have challenged this notion, and the unbundling of services in more mature markets has allowed for competitive entry, in many developing countries economic and political imperatives have resulted in the maintenance of the monopoly of at least the core network. Even in countries were extensive unbundling has occurred it is often more efficient to utilise the facilities of a dominant operator than to self-

provide and invariably it is necessary to interconnect networks where competition is permitted. As the core non-competitive component of the industry is vertically integrated with a competitive components there are underlying incentives in the monopoly or dominant operator to act anti-competitively.

This potential for market foreclosure underlies the requirement for an effective independent regulator to be established if liberalisation policies are to be effective. In addition to ensuring affordable tariffs and adequate service levels for consumers receiving services from the non-competitive components where consumers have no choice but to obtain service from that one provider, regulators are responsible for ensuring access to the network and facilities of monopoly or dominant operators if the benefits of competition in liberalised sectors are to be realised. Due to the hybrid, partially monopolistic, partially liberalised nature of the market in South Africa the regulatory approach included both access and accounting separation regulation.

Regulatory framework

South African regulation has involved both the classic economic regulation of market power as well social regulation to ensure universal access and economic empowerment of historically disadvantaged individuals and communities.

Social regulation

Fundamentally, through the White Paper and resulting legislation South Africa has adopted a regulatory approach that assumes that the introduction of competition enhances efficiency and innovation, improves the variety and range of products available to consumers. It also recognises that with historically imbalances that exist in South Africa, market failure is likely to be extensive and therefore significant public and regulatory intervention will be required to extend access to telecommunications services beyond where the market would provide them. The social regulation included the formation of a Universal Service Fund overseen by the Universal Service Agency. This Agency is responsible, in conjunction with the regulator, for:

- Monitoring the implementation of universal service obligations contained in the incumbent's PSTN licence, particularly during the initial exclusivity phase;
- For co-ordinating these obligations with the community service obligations of the mobile operators; and
- Developing mechanisms for the distribution of funds to needy people to utilise public services.

The regulator was also mandated to ensure the inclusion of historically disadvantaged individuals particularly through the changing ownership arrangements of the sector. There were mixed responses from respondents on the success of economic empowerment within the sector. The licensing of a data switch licence to Vula by the Director General just prior to the Telecom Act came into force and licensing of the third cellular licensing, which was finally awarded to CellC, allowed for some issues of redress in the licensing process. However, as

has been identified in other industries, there were structural constraints on the effective participation of historically disadvantaged individuals with regard to accessing the kind of capital needed for this kind of enterprise. The 19% component in the SNO, awarded in 2002 to Nexus, was another intervention to get greater participation in the sector by those historically excluded. The active participation by women in these bids has been negligible.

But perhaps the most damning criticism of the economic empowerment policies is their failure to be accompanied by careful funding strategies, whether state guarantees, interest free loans or special access to Development Bank or IDC funding. This is perhaps most concerning in the case of the Under-serviced Area Licences which while providing a once in a life opportunity for participation by SMMEs and co-operatives is highly dependent on a funding model for its success. The areas being licensed are those that have traditionally not been served by the incumbent due to the high cost of rolling out services to low-density areas inhabited by low-income populations. Furthermore, the licences are being offered to groups that historically have been without access to capital and other resources. While new cost-effective technology, low transaction cost business models provide some solutions, it is the responsibility of policy and regulatory decision-makers to create conditions under which new entrants are most likely to be able to make effective business cases. The absence of a clear funding model allowing either for government subsidies, awarded through some form of competitive process, or no-or low interest state loans is likely to severely undermine the viability of USALs in all areas. Evidence from elsewhere in the world indicates that these are key to leveraging further investment far in excess of the initial amounts provided by the state and key to their viability.

A highly flexible, low transaction cost regulatory regime, with a strong default asymmetrical interconnection regime for termination in USAL areas will be more critical than ever to ensuring the viability of these new entrants in the absence of a secure funding model.

Economic regulation

The market structure in South Africa with its strong emphasis on the monopoly operator in the first phase of reform and the likelihood of it market dominance in the second phase of reform, determined the regulatory approach. In the first phase of reform in South Africa, like many other parts of the world, was predicated on effective retail regulation and access regulation of monopoly operator, who was not only dominant in the market for historical reasons but was further bolstered by the capital, management skills and technology injected through the strategic equity partner. The market structure determined the adoption of a more behavioural approach implied by the traditional regulation of retail supply prices through a price cap and regulation of network access.

- *Retail regulation - Price Cap Model*

As fixed line customers have no choice of service under a monopoly regime or even in certain geographical locations under a competitive regime regulators are required to set tariffs to ensure customers can afford to access network services. In addition to this as monopolies move to more cost based tariffs in preparation

for competition, local services in particular which have historically been subsidised by international calls tend to increase dramatically. The rebalancing of tariffs in South Africa began in 1997 and has seen an increase of 258% in the cost of a three minute local call since then. The increase in call charges, along with those in monthly subscription fees in conjunction with the introduction of mobile are regarded as being responsible for the 600,000 customers that came off Telkom's network between March 2000 and September 2002.

In order to manage this process of rebalancing tariffs while considering other public interests, the regulator has applied a classical price cap model. Initially the price was capped by the directive passed by the Minister together with the gazetting of the Telkom licence in 1997 which allowed for a 20% increase across a basket of services for the period of the exclusivity for a period of three years. With the lapse of this Ministerial determination in 2000, ICASA conducted a review of the price cap and prescribed regulations which were delayed in the Minister office so that in 2001 Telkom lodged tariffs in the absence of a rate regime. Though it cut national long distance by 11% it did reorganise the bands removing the intermediate band that had existed between local and long-distance calls. While this must have made for billing efficiency it meant outside of the 50km zone all national calls become long distance. Its continued rate rebalancing was evident in the cut in international by 17%, and increased local by 23.9%. By the time Telkom wished to lodge its tariffs in 2003 the rate regime proposed by ICASA had still not bee approved by the Minister. By the time they were passed in November 2002 Telkom had already prepared to introduce their proposed price increase of 9.5% overall and 12,5% for basic.

Following a stand off between the regulator and Telkom and with the impending IPO as a backdrop, the Regulator entered into an agreement with Telkom that permitted it to retain the increases for 2003 on condition the increases for 2004 were minimal. According to the Price Cap Model, Telkom may increase its prices to cover the expected effects of inflation on Telkom's costs of providing its fixed network services, but this increase must be adjusted downwards to cover anticipated improvements in its productivity. In ICASA's contested rate review it proposed a price cap of CPI (12.5%) – X (1.5%). In an analysis of Telkom's proposed price increase for 2003, William Melody has argued that with more realistic inflation figures relating to the telecommunications industry and not the consumer price index together with a more accurate productivity improvement factor that reflects Telkom's actual performance, any serious application of the Price Cap Model, should have resulted in a price reduction for Telkom not a price increase. He has also argued that the impact of the price increases is reflected in the high churn rates for Telkom's services and this suggests that far from improving subscribers numbers and revenues in preparation for the IPO, increases of the magnitude proposed have the potential to lower Telkom's revenues due to the price sensitivity of its users[18].

In the light of the retention of the monopoly on basic service and integration of the competitive and non-components of Telkom, the regulatory approach seeks to ensure access through the setting of the terms under which rival firms in the competitive components can acquire access to the non-competitive components to

[18] Melody, 2002, Assessing Telkom's 2003 Price Increase Proposal, LINK Policy Research Paper no.2

facilitate competition downstream. Where the provision of competitive services depends on inputs from non-competitive services there are incentives for Telkom to restrict competition in the competitive complementary component by providing the necessary input to competitors with prejudicial prices, quality levels, and terms.

Mobile operators, data network operators and VANS providers who compete with Telkom in its downstream activities in various ways are required by law however to acquire their facilities from Telkom. For competition in the liberalised segments of the market to be effective operators require cost based access to the network or facilities of the incumbent. This required regulation of access to the non-competitive components of the integrated firm.

- *Access regulation*

The key to effective competition in a market in the process of liberalising is a fair and enforceable interconnection regime. When the incumbent was not directly competing with any of local services wishing to purchase facilitates from it or with the international operators that wished to interconnect with it, there were few incentives not to do so. With the shift from public carrier to privatised competitor in downstream activities, the incentives to retard new entrants are strong. Strategic anti-competitive practices on interconnection matters by incumbents have inhibited competition all over the world. This has been no different in South Africa. The first licence to be granted in 1996 under the old Post Office Act by the Director General was to a switched data network owned by an empowerment consortium. On licensing it immediately came under jurisdiction of regulator and sought interconnection with Telkom. The company 'Vula Communications' became 'Wireless Business Solution' following the sale of a portion of the company to a strategic equity partner to save it from collapse, following two years of interconnection negotiations that failed to result in commercial agreement. Another protracted intervention by the regulator that resulted in Wireless Business Solution's favour was taken on review by Telkom and subsequently overturned by the courts on procedural grounds.

- *Review of access regulation*

The benefits of this approach to regulation are believed to be that certain economies of scope from integration can be preserved, but what has become apparent over the last few years of practicing this type of regulation is that the regulator has constantly had to monitor the behaviour of the integrated company with regard to denial of access to rival firms. For this reason the success of the regulator depends on its resources, information and instruments of control[19].

Asymmetric information

Both effective interconnection and price cap regimes require cost based prices and detailed knowledge of costs. Traditionally, utilities have had little sense of their

[19] OECD, Structural Separation in Regulated Industries, 2001:7.

own costs. One of the regulatory tools applied to force incumbents towards cost based pricing and to overcome the information asymmetries that exist between the regulator and operators is the requirement that operators prepare Charts of Accounts and Cost Accounting Manuals. While this allows of accounting separation of competitive and non-competitive components it does not remove the incentives for the incumbents to restrict competition by rival firms.

Obtaining *reliable* information about the regulated entity is difficult even with adequate information, which is seldom available. Efficient pricing of access to the non-competitive component is a demanding regulatory exercise requiring high levels of skill and experience. Even with this capability in place, which seldom is the case in developing counties, the regulated entity will have far better information than the regulator about the underlying costs and demand.

> …effective regulation of an integrated firm increases the demands of the regulator and the regulatory regime. Requires a tighter control on the behaviour of the integrated firm and is unlikely to be fully successful at offsetting the incentives of the incumbent to act anti-competitively[20].

A behavioural approach does not eliminate the incentive and opportunity to engage in exclusionary behaviour. Detections of violations are also difficult to ascertain and require long term monitoring of compliance, which is highly resource intensive.

1.7 Quantitative analysis[21]

While there is little doubt that the sector has been dramatically transformed from what it was even six years before, this cannot all be attributed to the policy and regulatory reforms instituted from 1994. There are some indications that the policy restrictions have retarded areas of organic growth in the market such as VANS and Internet. In fact, the segment of the market protected in order to deliver on universal service, fixed line, has over the last two years had a declining number of subscribers on its network. On the other hand mobile cellular services, which were introduced as essentially corporate and high-end residential users have become the major source of connectivity for South Africans with mobile subscribers having outstripped the number of fixed line subscribers over two years ago. While the difficulties of accurately measuring mobile take-up are numerous, especially with regard to active and non-active pre-paid user accounts, the ITU strongly recommends that "policy-makers and regulators must overcome their fixation with fixed-lines and look to mobile as a way of achieving social policy goals."[22] The ITU has found that in developing countries mobile penetration, due to the mechanism of pre-paid accounts, is not as heavily dependent on income as are other types of telephony. This conclusion, supported by the phenomenal growth rates, yields hope that mobile can address some aspects of the digital divide, which is largely income based.

[20] OECD (2001) Structural Separation in Regulated Industries, Directorate for Financial, Fiscal and Enterprise Affairs, (DAFEE/CLP (2001) 11, p18.
[21] This section largely draws on the LINK Sector Performance Review 2003.
[22] ITU World Telecommunications Development Report 2002, Executive Summary, Pg. 8.

However, despite the achievements of mobile it is also clear that fixed lines will continue to be an important developmental measure. This is especially true in terms of access to the Internet. It is possible that as mobile helps to combat the voice access portion of the digital divide, a new gap in terms of access to the Internet and quality of Internet connections will continue to grow unless further fixed line rollout and upgrades occur.

For this reason it is critical to examine the reasons for the declining number of fixed line subscribers and to determine what from a policy and regulatory point of view can be done to ameliorate this. To gain a more accurate figure of the changes in teledensity in South Africa over the last six years, fixed, mobile, and total teledensity are presented in Table 1. When fixed and mobile growth are combined South Africa's figures show impressive annual growth during the reform period, although 95% of this growth was generated by the increase in mobile subscribers.

Equity and access

The primary objective of the policy adopted to reform the telecommunications sector seven years ago are expressed in the objects of the Telecommunications Act of 1996 as amended in 2001 which provides for the regulation and control of telecommunication matters in the

How has the regulation of this sector contributed to the meeting of these objectives?

Affordable universal access

The central strategy for achieving universal service, in line with multilateral agencies' models at the time, was that of the partial privatisation of the fixed line incumbent in order to capitalise the extension and modernisation of the network. The Minister oversaw this privatisation process. The arising responsibilities for the Regulator were to monitor the terms of the licence, with regard to rollout and quality of services targets, and the Ministerial imposed price cap on tariffs. It was also required to prescribe regulations to facilitate interconnection and access to Telkom facilities. Acknowledging that this on its own would not meet the needs of the poor, the policy and legislation allowed for the establishment of Universal Service Fund from a levy on operators' turnover that could be used to subsides the extension of networks in uneconomic areas and usage by 'needy people'. This Fund was to be administered by the Universal Service Agency. While the purpose of this was to establish a dedicated agency that would focus on achieving universality in telecommunications, the effect of this was to remove the universal access mandate from the core of the regulator, although it continued to have some enforcement functions in that regard.

From a perspective of promoting universality, the results of Telkom's exclusivity period together with the failures of the USA, mentioned above, have been disappointing. While fixed line communications had slowed down all over the world, South Africa is one of the few countries in the world with a declining number of subscribers on the network. While it has successfully grown the lucrative corporate market during the period of the exclusivity, it may well be that

there are fewer residential subscribers on the fixed network today than in 1996, with over 600,000 disconnections in the last 30 months.

Table 1 - South Africa Telephone Subscribers per 100 inhabitants

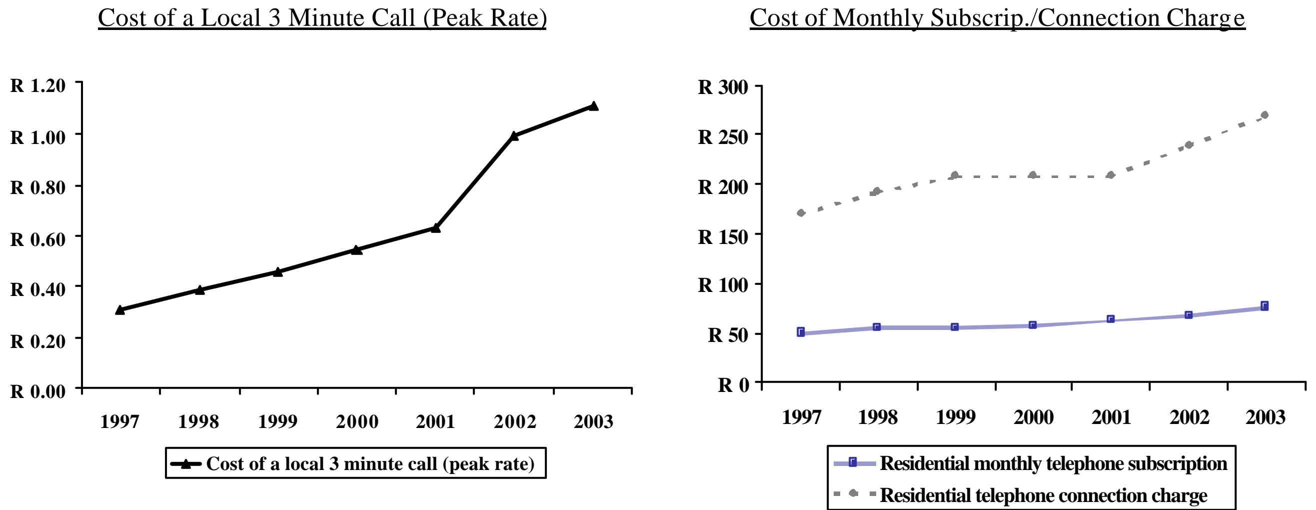
	For Year Ending March							
Indicator	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**CAGR 1997-2002**	**CAGR 2000-2002**
Main telephone lines per 100 inhabitants	10.1	10.8	11.8	12.8	11.5	11.4	2.5%	-5.6%
Cellular mobile telephone subscribers per 100 inhabitants	2.3	4.0	7.1	12.1	19.3	24.9	61.0%	43.5%
Total telephone subscribers per 100 inhabitants	12.4	14.8	18.9	24.9	30.8	36.3	24.0%	20.7%

Source: 2002 Telkom Annual Report.
LINK SECTOR PERFORMANCE REVIEW 2002

While some blame has been placed at the Regulator's door for this bleak situation, specifically regarding the auditing of Telkom reporting, which may well be valid, there was little the Regulator could do in terms of changing this outcome. The declining network is a result of the failure in the licence to require not only that Telkom rollout a specific number of lines, but these be taken up and retained by subscribers. It may be argued that there was no way that Telkom as a commercial entity could have done this and the responsibility for ensuring affordable services lay with the Regulator through tariff regulation. In this regard it should be recalled that accompanying the Telkom licence was a Ministerial Determination on Fees and Charges for Telecommunications Services, which allowed for an increase of up to 20% cross the Basket of Services for the first three years of its licence in order to allow it to rebalance it tariffs. Following its Rate Review, the regulations prescribed by ICASA were delayed in the Minister's Office allowing Telkom to go ahead with increase out of line both with inflation and its own claimed productivity gains with the net effect of on the prices on basic services have increased by over 250% in Rand terms over the last six years.

In South Africa and other developing countries, universality will only be achieved by a combination of increased access to telephone services and equally importantly by ensuring that those services are affordable to the general population.

Figure 1 - Telkom Tariffs, 1997 – 2003 (Nominal)



Source: 1997 – 2000 from ITU World Telecommunications Indicators Database (2002), 1998 – 2003 from Telkom Press Releases.
LINK CENTRE SECTOR PERFORMANCE REVIEW 2003

Mobile

The saving grace for the country of the poor performance of the fixed line operator with regards to contributing to the achievement of universal service, has been the exponential growth of mobile which in the policy process of the mid 1990s had been viewed as an elite service for the business market and certainly not the intended vehicle of universal service. Around the world the performance of mobile over the past six years has been nothing short of extraordinary with many countries achieving subscriber increases in excess of 100%. While South Africa's growth rate is lower than this it is nonetheless impressive given the relatively large initial base of 2.35 million subscribers off which it was achieved.

In Africa the figures tell a similar story, with the majority of universal service growth achieved during the latter half of the 1990s coming as a result of the growth in mobile penetration. Morocco provides a particular interesting parallel, where clearly the exponential growth of mobile of 150% from 1996 to 2001 is resulting in mobile substitution of fixed services, as must be happening to at least some degree in South Africa. It is likely that the rapid increase in Telkom's prices is, in combination with the growth in mobile, the cause of the high number of people coming off the fixed line network in South Africa in the past three to four years. This reinforces the point that it is both increased access (seen in the 2.8 million new lines installed by Telkom) and increased affordability (not yet seen in South Africa) are necessary to achieve universal access.

With the high costs associated with mobile tariffs the churn from fixed to mobile may initially seem contradictory, it has been the convenience and flexibility of pre-paid services that has helped to spur adoption. Market research firm BMI TechKnowledge has estimated that over 90% of cellular users in Southern Africa

and the rest of Africa are pre-paid. In South Africa Vodacom estimates that 83% of its subscriber base is pre-paid and that 95% of its new connections are pre-paid. Pre-paid customers would avoid the monthly subscription fee (which was $25.22 in 2000) and once connected only pay by the minute for the calls that they make (although the tariffs are generally higher for pre-paid than for contract customers).

Empowerment

Transformation of the sector has been accompanied by some changes in leadership, ownership in addition to user-end access. Within a relatively short period of time the Boards and senior management of Telkom and Vodacom has been replaced with historically disadvantaged individuals, though the number of women remains small. MCell, the owner of MTN, is one of the largest black-controlled companies in the country. The licensing of CellC with a significant black ownership and control component; the 19% empowerment component of the SNO to Nexus and the potential entry of 10 under-serviced area licensee requiring significant HDI control together with parallel developments within broadcasting have made this sector one of the major drivers of empowerment within the economy. This has of course compounded the regulatory requirements for investors, and in particular the set asides for Transtel and Eskom and arising forced partnerships with Nexus and the 51% equity partner in the SNO, have been identified as potential deterrents to investment, but this is what the complex balance between ensuring historical redress and creating a conducive investment environment involves.

1.8 Analysis of main causes of regulatory failure or deficiency

Economic regulation of the telecommunications sector has been instituted to deal with the imperfect market conditions that are likely to exist in the early stages of market liberalisation, especially where there is a dominant incumbent, which was the case in most countries where telcos have performed as public utilities. From a traditional market perspective, regulation was viewed as a transitional phase until the market became fully competitive and completely deregulated. However, the experience from around the world suggests that the more activity in the telecommunications market, the more demands exists for it to be regulated, especially in mature markets where there may be tendencies towards concentration of ownership. The nature of regulation however needs to adapt to changing market conditions and ultimately towards competition regulation. This strategic understanding of the changing needs of the market and the consumers, emerging technologies and services and the business of the various market segments is critical to effective regulation. While market failure can allow for severe distortions to the efficient operation of the market, it seldom results in market collapse. Regulatory failure at its worst on the other hand can cause operators to become unviable, and indeed entire market segments to become lethargic.

Effective regulation then is key to a stable market, but one requiring dramatic network extension and innovative services to meet the needs of a developing country in a global economy. Clearly some progress has been made in meeting the objectives set for the telecommunications sector in the law. These can be

summarised as promoting the development of a stable industry through the provision of universal and affordable telecommunications services, while at the same time as extending the range of services required for economic growth through investment and innovation in the industry and the encouragement of a competitive and effective telecommunications market.

These services must be responsive to the needs of users and consumers generally, and those of local communities and disabled people in particular, and their interests must be protected. To deal with the shortages in capacity and issues of historical redress, the objects also include ownership and control of telecommunication services by persons from historically disadvantaged groups; the development of human resources in the telecommunications industry; and the promotion of small medium and micro enterprises and the advancement of women in the sector. Underpinning these objects are core technical invocations to compliance with accepted standards and efficient spectrum usage. In acknowledgement of the need for an integrated ICT policy in order to bridge the digital divide with the country the objects call for the development of a national ICT strategy that recognises the convergence of telecommunications, broadcasting and information technology.

However in some fundamental policy areas there has not been the success one would have hoped for. These include issues of equity, access, innovation, investment and growth within the sector. The strategy to promote the delivery of affordable and universal service through an exclusivity period to the fixed line incumbent in exchange for it doubling the network, together with a dedicated fund and agency to subsidise services to the poor, has been particularly disappointing. Today South Africa may have fewer residential fixed subscribers than it did in 1996. The declining fixed line network, despite the growth of its lucrative corporate market, has severe implication for the development of affordable access to the information infrastructure that is essential to overcoming the digital divide. The fact that mobile had gone beyond all expectations in connecting the population for basic voice communications is significant but not a result of policy design.

The Green and White Paper and even the modified 1996 Telecom Act were hailed as excellent policy that drew on best international practice but dealt distinctively with the challenges South Africa faced as a developing country with a highly developed business sector and a unique legacy requiring redress. As one regulatory body after the next in the sector struggled to fulfil their mandate or was wracked by internal crisis, the prevailing view was that the policy was outstanding, the problem lay with implementation. However this analysis seeks to understand the reasons for the failures of implementation and in so doing identifies certain structural limitations to the regulator meeting its mandate. In some instances at least what has been perceived as regulatory failure might in fact be policy failure or at least strategy failure in meeting stated national policy objectives.

Structural failure

The overall impression then, is that while there have been attempts at robustness in the decisions taken by both SATRA and ICASA, they are undermined both by a

skills crisis, but also more fundamentally by a lack of structural independence from the Minister. The Minister, due to a structural conflict of interests, is not always be able to act in the broader interests of the sector, or even the economy as a whole, without impacting negatively on the state assets for which she is responsible. As evidenced above this allows the Minister, entirely legally, to intervene in legislative and regulatory processes, in order to fulfil relatively short-term objectives affecting state assets, which may have a negative long-term impact on the industry.

Institutional incapacity

However their own lack of capacity, experience, resources and understanding of the sector has also resulted in regulatory ineptitude. It is widely acknowledged that there is a paucity of skills within ICASA to regulate this dynamic and critical sector effectively. The regulator had crisis managed this skills vacuum over the years through engaging a series of consultants with different degrees of success. Generally consultants arrived with preordained solutions that often failed to take into account the different nature of the market in South Africa; the social needs in a developing country and most importantly transferred little if any skills. This meant that even if an adequate regulation were formulated and gazetted, once it came to the implementation of it the expertise did not exist within ICASA to apply it. In an attempt to redress this fundamental flaw within the system the CEO of ICASA has secured a secondment agreement through the UK Department for International Development. This is obviously an incremental strategy, the effects of which are only likely to be seen in the longer term and is highly dependent on the quality and understanding of the people seconded.

There is also nothing that can stop those staff members that become proficient through such a programme from being poached from within the industry. This was highlighted by the Chairperson of the Parliamentary Portfolio who argued that this reflected shortsightedness on the part of the industry who would benefit from more effective regulation. He said however, there was little that could be done other than to ensure that staff remuneration was commensurate with that in the industry. Like restraints of trade which had been proposed for Councillors when their terms ended to prevent them from going immediately into industry at the end of their terms of office, any constraints on staff which limited the career paths or ability to increase their income would deter people from applying for posts in the first instance.

The Portfolio Committee Chairperson is of the opinion that whatever the reasons, it was indisputable that delivery had been undermined by lack of regulatory capacity. “If the umpire does not understand the rules, the quality of the game must be compromised,”. He added however, that the regulator itself was not solely to blame. “While trying to fast-track the introduction of regulation which has evolved over time in other countries, we threw our regulator into the jungle without a survival kit and only later when they were struggling tried to provide one.” However, the Chairperson conceded that a lot of work had been done since then in building stability and capacity in the regulator.

Other views on the effectiveness of regulation tend to reflect the different market segments and the degree of regulatory attention they have received.

Generally the fixed line incumbent, Telkom regarded the first phase of separate regulation as successful. They identified capacity gaps in the regulator, which they had sought first to point out and allow the regulator to take corrective actions before pursuing legal recourse. This they did not only to defend their exclusivity rights, but also to ensure that what they perceived to be the correct interpretations and practices were brought to bear in terms of precedents set. However, there are other indications that the foreign equity partner, and particularly the SBC component of it, was far more dissatisfied with the regulation of the sector which they perceived to be incompetent, anti-Telkom and consistently to infringe their rights.

This provides an interesting backdrop to responses from other segments of the market who generally accept that Telkom had preferential rights during the exclusivity but that they were able to act beyond them as a result of their own resources and political muscle which they exploited to challenge the Regulator, who is generally regarded as well intentioned but under-resourced, inexperienced and structurally incapacitated. The mobile operators, prior to the licensing of CellC, were largely out of the eye of the regulator, other than contentious audits on their community service obligations and their re-licensing under the new regime. The success of the mobile industry is attributed, by some, to the lack of regulatory intervention during this period and their ability to operate relatively unfettered in the rapidly expanding market. They are required to file tariffs, but this function is largely a rubber-stamping procedure for the regulator, which is hampered by lack of skill and information asymmetries, especially on costs. The dominance of the players in the market also reflects their attitude to the regulatory impact of the last seven years. The dominant players in the different market segments feel far more bullish about regulation than even successful second tier players, such as MTN, who feel far more anxious about the failures of the regulation of the private monopoly and its subsidiaries. Such concerns are even more acute with CellC, who as a new entrant, experienced no or little regulatory protection or support.

There is a strong sense in the mobile segment of the market, which is seen as the lifeblood of the industry, that there is little understanding of the mobile business, especially its marginal nature in South Africa and indeed the African continent, and that attempts to regulate it like a fixed line incumbent will negatively impact on its ability to perform as it has in the past. The relatively high transaction costs of regulation in a developing country, including their multi-million Rand contribution to licence fees and universal service levies, in addition to their significant tax contributions, are largely accepted by this market segment. While they reject the high costs that government has spoken of extracting for 1800 spectrum, which they believe would be counter-productive in terms of transference of the costs to consumers, they nevertheless regard this as part of the business of operating in a regulated industry. Clearly again, the smaller the player relatively, the greater the anxiety about the impact of figures as high as R700 million that have been mentioned in relation to 1800 spectrum. What appears to concern them most, however, is the lack of protection or intervention from the Ministry or Regulator from further regulatory cost impositions by other sectors, which must inevitably be funded by telecommunications consumers. The high cost and lack of enforceability of the Interception and Monitoring Act which came

into effect earlier this year, for examples, all operators argued, reflected the lack of integration of the government departments, a lack of understanding of the sector and the negative impact the implementation of the law would have on consumers.

Concerns around the unintended negative consequences of regulation also emerged as mobile operators looked ahead where they anticipate far more regulation on the sector. Fears were expressed that as the failures of fixed services to deliver services universally become more apparent and the contribution of mobile to connectivity for ordinary citizens unequivocally demonstrated, there would be greater regulation of the mobile segment of the market. Without the competence in the regulator to do this effectively this could undermine the success of the business. The current practice of 'regulation by consultants' was also of concern, not only to this market segments, but particularly so because consultants tended to arrive with one-size fits all regulatory tool kits that did not take into account the very different mobile business model in Africa with its very high marginal customers base.

The VANS sector, which includes Internet Service Providers, was the most disillusioned with development since 1996. This is not surprising if one understands the impact the design of the market has had on VANS operators. They are arguably the most vulnerable of all segments to the anti-competitive behaviour induced by a vertically integrated national operator from whom they are required to get core non-competitive facilities in order to operate in the competitive area in which the downstream component of operator also competes. It could have been anticipated that arising from the design of the market in 1996 that the requirement that facilities be acquired from the incumbent, together with the interconnection of new networks to the geographically dominant infrastructure operator would be the major points of contention that would have to be regulated. In recognition of this the 1996 legislation had included a clause (S44 (7)) that allowed self or alternative provisioning if "Telkom was unwilling or unable" to provide facilities reasonably requested. This lead immediately to a slew of 44(7) determination requests which were settled at the eleventh hour by Telkom who was aware that a precedent on this issues would open a floodgate that fundamentally undermine their exclusivity.

The experience of VANS operators of the regulator is that it is unable to do its job effectively due to its lack of independence and institutional capacity which is exploited by Telkom who continue to regulate the sector arbitrarily through their narrow interpretation of the law which they act on without reference to the Regulator or the complaints process in the law. With the establishment of ICASA the VANS operators were bolstered by the matter of terms and conditions of the VANS licence, which had been in abeyance since the establishment of SATRA, be determined and proposed regulations being sent to the Minister. At the same time they received a ruling in their favour against Telkom requiring that it provide bandwidth requested by services providers and for Telkom to work through the regulatory complaints process if it suspected any breach of the law. The ruling by ICASA in SAVA's favour was also immediately taken on review by Telkom and is still awaiting a decision of the High Court.

On 1 June 2001, ICASA released it findings on the VANS/PTN Regulatory Framework and the VPN Enquiry. In terms of the VANS/PTN Regulatory Framework, ICASA proposed that definitions of VANS and PTN be forwarded to the Minister for inclusion in the proposed Telecommunications Amendment Bill, which a version of them subsequently were following the regulator appearing before the Parliamentary Portfolio Committee. ICASA also sent VANS/PTN licensing regulations in terms of s34 and 88 to the Minister for approval. To date these regulations have not been approved by the Minister. ICASA also published draft VANS and PTN licences for comment.

Incapacitated by this interregnum SAVA in 2002 sought relief from the Competition Commission. However, the matter, which was to have been resolved by May 2003 in terms of the Commission rules, was extended to October this year, partially in anticipation of the court ruling. This has left SAVA with an overwhelming sense of regulatory failure and the belief that it was easier to conduct business prior to 1996 under a public utility model.

The shortage of skills required for effective policy formulation and regulation were not only reflected in the regulator, however. The need to capacitate the Department of Communication with highly skilled staff with an understanding of the business of the sector was identified as a critical first step in getting the policy and regulatory framework right.

Institutional design

Several respondents argued that the ineffectiveness of the regulator was due to the cumbersome decision-making processes and the tampering by the Council in the day-to-day activities of the management and staff. Despite understanding the intention for a full-time Council representative of the broad interests of the country and the democratic processes in selecting it, several respondents believed the legal design of the institution is flawed. While most acknowledge the prerogative of government as the democratically elected representative of the people to determine policy and those they wish to delegate powers to, such as regulators, several argued that both the process for appointing Councillors and the resultant decision-making structure was flawed. Some argued that the Parliamentary Portfolio Committee did not consist of members sufficiently familiar with the industry in order to make the kinds of decisions they did with regard to developing legislation and appointing councillors.

Others however, argued that while the process was flawed, and democracy sometimes was, it was the best system available and any process that concentrated power into few hands or made it prerogative of and individual, whether the Minister or President, would be regressive. This view was endorsed by Mr Kekana, who pointed out there had been attempts by the executive to change the appointment process but following careful consideration the Parliamentary Committee had fought for the retention of the Parliament in the nomination process on the grounds of transparency and independence.

Many industry respondents argued that the appointment of Council was too politicised. A few of respondent argued that a more transparent and overtly political appointment system such as in the United States, where political

dominance in the Federal Communications Commission was directly tied to the governing power of the day, would allow the Government to appoint openly people they trusted. Several respondents said that without the trust of the Government the regulator was unlikely to secure enough powers to do their job effectively. They argued that the Portfolio Committee had frequently ignored nominees who had a good grasp of the sector in favour of political appointments. Most respondents also criticised the structure of the Council, which in terms of law requires a minimum of six members, and a Chairperson. Rather than reducing the power to lobby, thought to be the benefit of such a collegial decision-making body, individual councillors with loyalties elsewhere were able to bring effective decision-making to a standstill.

References were made to efforts by the former head of SATRA, Mr Nape Maepa, and the current chairperson of ICASA, Mr Mandla Langa to run the regulator independently, being undermined by political appointees whose allegiance – when the regulator and the Department clashed on regulatory issues – was not to the Chairpersons. Some respondents questioned the political will of the Ministry and Department to independent regulation and suggested that this undermined the legitimacy of the authority both within the government more broadly and with the industry and external investors.

The head of the Parliamentary Portfolio Committee's response to this was that the people that had been selected for Council from the open nomination process were what the nation had to offer. He also disagreed that what was need on the Council were telecommunications experts. What was needed was not industry experts but people with decision-making and administrative capacity. He concurred with other respondent however on proposals that what was needed was a reform of the decision-making structures of the regulator.

Several respondents argued for the establishment of a more traditional 'board' structure for the regulator, with either an executive head of the board or the CEO as the only executive member of the board. The board members could be part-time if the demands of the work required it, but most argued for a board that met a number of times a year and took decisions on the basis of information prepared by a small professional staff of between 50 and 100, consisting of large numbers of skilled economists, in addition to more traditional legal and engineering staff.

Several respondents, including the regulator, spoke about the importance of financial independence if the regulator was to avoid political influence through external budgetary control. With the history of financial mismanagement within the regulatory bodies established since 1994 within the sector, the treasury have been understandably reluctant to increase the budget or allow the regulator to raise its own funds through licence fees and accounting directly to Parliament for them. However, since the appointment of the ICASA CEO following its establishment in 2000, the planning and execution of institutional finances have been turned around and been sufficiently sound to allow for such a critical change to the institutional design. Doing so would fulfil some of the financial requirements associated with independent statutory institutions

Structural limitations to regulatory effectiveness

However, what seems to be the most fundamental problem facing the regulator is the complex form of regulation determined by the existing market structure. The market has been structured to reinforce a vertically integrated incumbent who competes downstream in a competitive component against rival firms who are required by law to get their non-competitive components from the incumbent. Even if they were not required by law to do so it may make commercial sense for them to acquire facilities on wholesale terms from the incumbent. Alternatively if they are operating networks they will require interconnection for their customers to communicate seamlessly with the customers on the more ubiquitous network of the incumbent. As the incumbent is either competing downstream with service providers or with other network operators for customers as mobile becomes increasingly substitutable with fixed services, this market structure provides incentives to the incumbent to act anti-competitively. The regulatory response to this is to regulate fair access to the incumbents network and facilities.

However, access regulation, including tariff regulation whether price cap or rate of return regulation, interconnection and facilities regulation all depend on complex costing models and assume a high level understanding of the market if they are not to result in regulatory failure. The kind of regulation is also inherently plagued by information symmetries that tend to be more severe in countries with new under-resourced and inexperienced regulators and telcos with highly experienced strategic equity partners. This was highlighted by respondents, particularly with regard to SBC, who have a history of operating in private monopoly markets and adopting a highly litigious strategy. Countries that are able to draw on a plethora of economic, legal and engineering skills struggle to conduct informed, flexible and sensitive access regulation to ensure fair competition without creating market distortions. The questions arises whether even emerging economies with some skills such as South Africa, will ever have sufficient resources to allocate to this intensive form of regulation which is required to consistently adjust the behaviour of the operator which is responding to anti-competitive incentives in the system.

1.9 Conclusions and recommendations

The report has sought to demonstrate the there are several structural factors which have had a negative impact on the performance of institutions within the current policy and regulatory framework.

Dual jurisdiction and regulatory independence

Firstly, the dual jurisdiction on regulatory and licensing matters between the Minister and ICASA has meant that attempts by the regulator to fulfil their mandate through the issuance of regulations critical to the effective functioning of the sector such as licensing and interconnection frameworks have often been delayed by the Ministry, creating uncertainty in the sector and often legal action. The country has also not been well served by the joint responsibilities of ICASA and the Minister on major licensing processes. The switching of decision-makers at the various stages in the process has lent itself to manipulation by various

interests and ultimately has created greater opportunity for administrative failure and therefore legal review.

This unhealthy situation should be resolved in law with the powers needed to regulate being delegated to the Regulator. Specifically, the requirement in law that regulations prepared by ICASA receive Ministerial approval should be removed. This has been a major source of contention between the Ministry and the regulator and has frustrated ICASA's attempts to deal with critical issues in the industry. It has also created a structural conflict of interest for the Minister who has been responsible for approving regulations in the best interests of the industry while being responsible at the same time for the value of incumbent as a major state asset — whose interests are often not aligned with those of the broader industry. This requirement has also put pressure on the Ministry which respondents felt did not have the capacity to fulfil this responsibility. Lifting this responsibility would relieve the Minister of regulatory responsibilities for the sector, allowing her to focus on the forthcoming policy issues which are relentlessly arising in this dynamic sector and to review policy impacts more thoroughly than has been done in the passed. As in other sectors, the structural conflict of interest in government could be significantly reduced by separating ownership responsibility for state assets from responsibility for policy formulation.

The roles and responsibility of the regulator and the Ministry with regard to licensing need to be clearly delineated. In order to recognise the independence of the regulator and to provide clarity and transparency to international investors, the licensing function should be clearly allocated to ICASA. The Minister could still determine the nature and timing of the liberalisation process through the law and policy directives to the Regulator.

Clearly the rights of the Minister to intervene in the core regulatory and licensing functions of the regulator have been legal arrangements during a period of transition to allow the Minister the room to negotiate initially with the strategic equity partner for Telkom, create conditions conducive to Telkom's IPO or the maximise the value of the SNO licence. Some respondents argued that the Ministers' have exercised those powers so extensively over the last few years to overcome the ineptness of the regulator at various stages. Whatever the reasons, the lessons from the first reform period is that these arrangement have led to uncertainty in the industry and among investors, has allowed interests to play the regulator off against the Ministry and finally, has opened the process to legal review, all of which have impacted negatively on South Africa as a preferred investment destination for telecommunications.

Institutional design and capacity

If the regulator is to be accorded the rights and responsibilities that will permit it to regulate independently and the Ministry is to focus its attentions on ensuring an enabling policy environment in which to realise the national objectives of an information society and knowledge-based economy, it is imperative that both institutions have the administrative and technical capacity to do so if they are to be effective.

This is likely to require a re-examination of the institutional design of the regulator and in particular the appointment process and decision-making structure in the law. While some concerns were raised about the nomination and selection process, which was seen as being highly politicised, most respondents could not propose something better, and felt that while the Parliamentary process had problems it was the best arrangement currently available and was preferable to proposed appointment by the Ministry.

There was consensus however that the design of the Council should be changed to allow for a more traditional board or at most one with part-time Councillors rather than the current seven full-time members. The proposed board should include the CEO or even have an executive head of a non-executive board. This would also allow funds to be redirected towards the creation of a relative small, professional staff, on remuneration levels commensurate with those in industry. If regular board meetings were not sufficient to deal with work arising from the mandate, it was suggested that one could support the chairperson or two vice chairs. It was also suggested that a more traditional board arrangement would also enable more high-level people unwilling to give up their existing posts or make career changes, to make themselves available for the board.

The greatest challenge to the successful regulation of the sector was identified by many as the lack of human capacity within the regulator and the Department of Communication responsible for informing the Minister. ICASA's failure to understand the market it regulated was a major source of its lack of legitimacy. Several respondents warned against the dangers of regulatory failure that could arise from uncritical application of consultants' reports which drew on regulatory practices in very different markets. At least part of the solution to lack of capacity and the likelihood of qualified staff being poached as soon as they became competent, was to ensure that the regulator consists of a small professional staff who were remunerated in line with industry standards and that the regulator has sufficient financial independence to ensure that this happened.

Structural separation vs. access regulation

This lack of capacity within the regulator raises the question of whether a market structure less conducive to anti-competitive practice and therefore requiring of less vigorous regulation might not be more suited to a developing country such as South Africa given its critical skills shortage in this area. As described above the market design in South Africa with a national vertically integrated incumbent, with non-competitive components that are required by rival firms with whom it competes downstream, creates incentives for anti-competitive behaviour.

The result is a very resource intensive access regulatory regime which is required constantly to adjust the behaviour of the vertically integrated entity through relatively complex regulatory intervention such as interconnection and facilities leasing regimes and setting of retail tariffs.

A market that is structurally separated is more likely to reduce the incentives for the owner of non-competitive components to restrict competition in the competitive components. The reasons for this is that as long as prices of the non-competitive component are regulated to a price above cost, there is an incentive

for the non-competitive company to provide as much access as it can at those prices[23]. This results in conditions conducive to competition and less burdensome regulation.

Arguments against unbundling vertically integrated entities include that certain efficiencies arising from economies of scale and scope may be lost. However, if a company is a monopoly or very dominant, it is possible that it may not be optimally run anyway. There are also concerns particularly in immature markets, that the loss of potential benefits of integration might reduce the opportunity for investors to receive the kinds of returns on their investment they are used to and that they might therefore be reluctant to invest. Nevertheless, it is possible that on balance these potential effects are less weighty than the current structure which is stunting the growth of the liberalised sectors of the market, placing a heavy burden on the regulator, and resulting in costly and time consuming legal battles.

Immediate policy changes to reduce regulatory burden and invigorate sector

As structural separation would require a dramatic restructuring of the market and a significant policy shift there are a number of actions within the current policy framework that could be effected that would relieve the pressures on ICASA and indeed the Courts and the Competition Commission and should allow for a reinvigoration of the sector. This would immediately release ICASA from a quagmire of negative regulation and allow it to focus on more enabling regulation that is much needed. Most of the current disputes hinge on interpretations of Telkom's rights and obligations in terms of its exclusivity particularly with regard to resale and self-provisioning of facilities, which in terms of the White Paper liberalisation timetable were anticipated to have been liberalised in 2000.

These changes are also unlikely to impact as dramatically on the revenues as anticipated by the incumbent, as by and large, service providers and other operators are more keen to focus on their core business and acquire cost based facilities from Telkom. With the correct policy and regulatory environment Telkom could generate a strong revenue stream from the wholesale provision of facilities.

In terms of the law all that is required to remove this area of conflict, is that Minister declare a date for all restrictions on self-provisioning and resale to be removed. Another legal amendment that would alleviate the pressures on the regulator, are the restrictions on the offering of voice and VOIP by service providers. Lifting this distinction between voice and data would remove the current constraints on the organic development of the market toward integrated voice and data services which currently have to be artificially separated, creating inefficiencies in the market and due its lack of technical enforceability, unproductive regulation. The Director General of Communications referred to the need to lift these inhibiting restrictions on market in a Financial Mail interview in mid-May 2003. "We want to remove restrictions so that everyone in the market can grow." The aim is to create better and simpler licensing procedures and

[23] See OECD (2001) Structural Separation in Regulated Industries, Directorate for Financial, Fiscal and Enterprise Affairs, Committee on Competition Law and Policy, JT 00105872.

ultimately create a technology-neutral policy environment that lowered costs to service providers and consumers.

Indeed, in a converging environment there is no economic or policy reasons to differentiate among services on the fixed network and less and less reason to distinguish between fixed and mobile, where there is already a high level of substitutability and which is likely to increase as mobile moves in increasingly into data. These quite modest changes to the law or setting of dates to allow for resale and self-provision will increased competition, providing more choice to users and consumers, lower prices and relieve ICASA from regulating what have been the most unproductively contested areas within the sector.

The reasons for imposing these restrictions, namely to optimise state assets and attract investment, have been overtaken by the technological developments and the effects of the global telecom recession on investment. The benefits to realising the value of state assets or attracting once off investment in the sector has to be weighed against the negative impacts the accompanying restraints on the market have on the broader sector and its long-term ability to fulfil its critical role in the global economy. State visions of an information society and knowledge economy will not be realised by policy that fetters the organic development of the markets and stifles innovation, with artificial restrictions on services resulting in the resources of the regulator being spent resolving the unproductive disputes arising from these restraints. Rather future policies need to ensure that the market is structured so that the regulatory burden is low. This will allow regulatory resources to be allocated to inducing investment for network rollout, encouraging service innovation to improve consumers choice and quality, developing market efficiencies, and effectively targeting subsidies as those who most need them. To achieve this, policy must to enable fair competition that will drive down costs so that services become more widely affordable and increase demand so that operators have economic incentives to expand the coverage of their networks and services.

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2. ELECTRICITY

2.1 Introduction

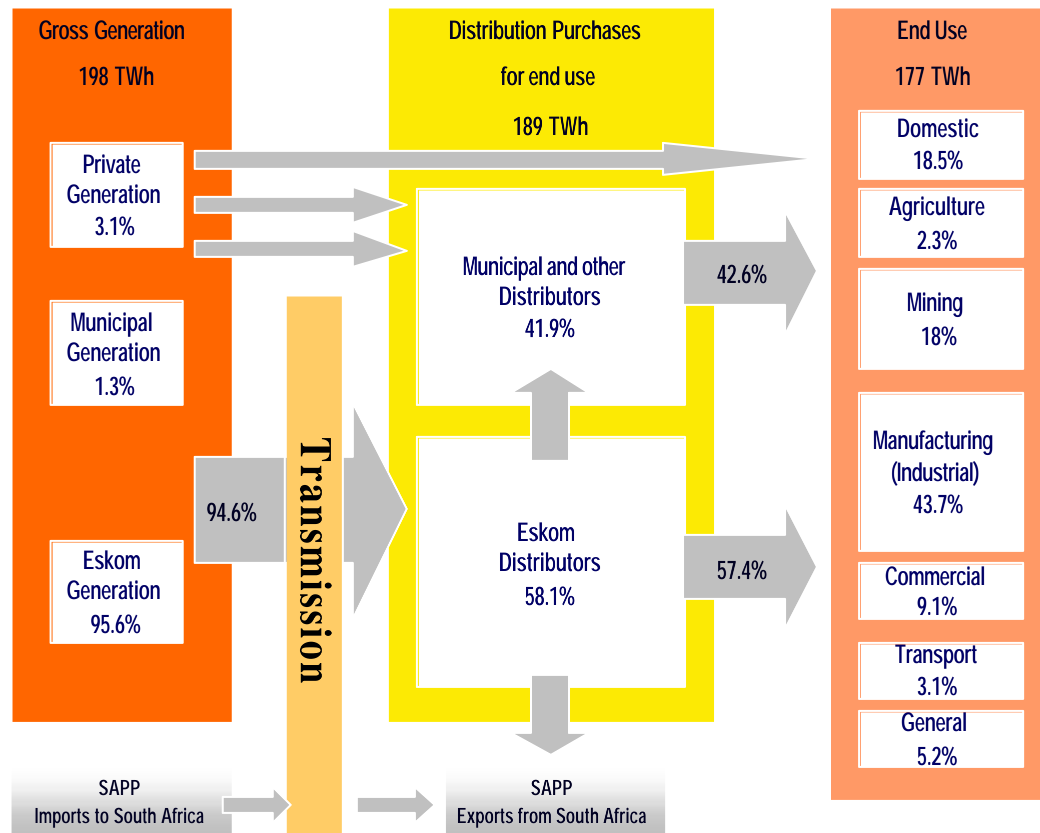
This Chapter focuses specifically on the regulatory system for the electricity supply industry (ESI), and is part of a broader assessment of the impact of regulators.

It proceeds by providing a brief overview of the structure and policy context of the ESI in South Africa. This is followed by an overview of the history and institutional arrangements around the National Electricity Regulator. The bulk of the document describes the activities of the NER, and proceeds to discuss the issues that arise from the review of the electricity regulatory system. The last section presents the primary conclusions from this review and points to the important policy implications that arise.

2.2 The South African Electricity Supply industry

The South African electricity supply industry (ESI) is still organised along the lines of the traditional public monopoly model. Eskom (recently converted to a wholly state owned, limited company) produces 96% of power generated in South Africa, while large municipalities generate 1.3%, and a small number of private power producers generate 3.1%. Eskom also owns and operates the national high voltage transmission grid, which conveys electricity from Eskom power stations (many of which are concentrated in the Mpumalanga Highveld) to the main load centres across the country. Currently Eskom holds 55% of the distribution and retail market in terms of energy supplied (46% i.t.o. customers), while Municipalities supply the remaining 45% of energy to 54% of end-users. The total energy flows in the electricity economy for 2000 are shown in the figure below.

Figure 2: Total energy flows (2001)



2.3 The ESI policy context

The policy context within which the NER operates has been undergoing constant change since its inception. At least three policy initiatives have a direct bearing on the NER's role and operation.

The calls for the rationalisation of the electricity distribution sector gained substantial momentum with the recommendations made by the National Electrification Forum (NELF) in 1995 for the rationalisation of the more than 400 distributors in South Africa at the time. These general recommendations were accepted by Cabinet in 1996; further developed in the White Paper on Energy Policy in 1998; and have been the subject of a number of Government appointed task teams. In 2001, Government determined that the distribution of electricity should be separated from municipalities and Eskom, and merged into six regional electricity distributors (REDs) wholly owned by municipalities.

Restructuring of the electricity distribution industry (EDI) directly affects the finances of larger local authorities who typically make significant surpluses (either by means of profit or cost sharing) from electricity distribution. It will also undo the status quo with respect to geographical and other cross subsidies in the current system. Decision-making on EDI restructuring has been slow, with the process

often stalling. The protracted uncertainty has had a significant impact on the ability of the NER to regulate the EDI.

Similar policy uncertainty exists with respect to the desirable organisation model for the overall electricity supply industry. At present the Government policy position is to introduce competition into the sector through a 'managed reform' process. The path chosen for the 'managed' liberalisation is that Eskom Generation and Transmission should be separated into two separate state-owned companies and that 30% of Eskom generation capacity should be sold, while the remainder of its power stations should be organised into competing clusters participating individually in the open power market. Large consumers and the REDS will purchase their wholesale power requirements in the market. Studies are currently underway to identify the appropriate clustering and the appropriate market mechanisms.

The current ESI liberalisation policy creates a number of problems for regulating the industry. Firstly, it is widely accepted that while Eskom holds 70% of the market effective competition and efficient new entry will be highly unlikely. The significance of this probability depends on the time-span during which Eskom will hold the remaining 70% before this capacity is also sold off. Experience suggests that this will take longer than planned, most likely more than five, and possibly up to ten years.

This likelihood gives rise to an important problem. Present electricity demand growth rates suggest that new capacity, particularly peak capacity, will have to come online between 2005 and 2007. At present the Government position is that Eskom will not be allowed to construct the next generation facility, and that it should come from new players in the liberalising market. However, the perceived threat of Eskom dominance to new entrants, and drawn out delays in the establishment of the new institutional framework, is likely to act as a strong disincentive to independent entrants. This leaves the NER with a dilemma with respect to where new capacity should come from, and increases the likelihood that Eskom will ultimately be called on to provide the new capacity. This would strengthen Eskom dominance and undermine the objective of creating a competitive power market in South Africa.

A third area of policy development concerns policy about the role and functions of the NER itself. The recently passed Gas Act (No 48 of 2001) provides for the establishment of a National Gas Regulator. A regulator for liquid fuels pipelines is also envisaged. Current thinking in DME is that one set of individuals should be appointed to all three boards. To complete this process DME also envisages that the NER should be converted to a National Energy Regulator with full-time board members (or commissioners).

2.4 Institutional arrangements

A brief history

One of the primary recommendations made by NELF, on the basis of consensus from all its stakeholders, was that the Electricity Control Board should be replaced

by a National Electricity Regulator which was to implement the NELF findings. In October 1994 Cabinet approved these recommendations. This was made possible by two amendments to the 1987 Electricity Act (respectively in 1994 and in 1995).

Much of the initial drive behind the NER's establishment was the mutually perceived need for a neutral broker to help resolve the numerous problems in the distribution sector. These included the vast disparity of tariffs charged by the more than 400 municipal distributors at the time; many non-payment and boycott problems; and conflicts between the municipalities and Eskom about access to urban areas for electrification. While at the time broader reforms to the ESI to introduce competition was foreseen it was decided to postpone discussions on this until solutions for the immediate crises surrounding electrification and payment had been resolved.

Institutional structure

The primary legislation establishing the NER and governing its behaviour is the Electricity Act (No 41 of 1987) and its subsequent amendments. The NER was established on 1 April 1995. All significant electricity generation, transmission, distribution, and retail activities in South Africa have to be licensed, by the NER, and are thus controlled by it.

The NER has a part-time Board appointed by the Minister of Minerals and Energy. The Board consists of a Chairperson, a Chief Executive Officer (full-time), and seven other members. The Electricity Act provides a wide set of criteria for appointment: "The members of the regulator shall as far as practicable include persons having sufficient knowledge of matters relating to electricity tariffs, cost accounting, legal aspects or electricity supply systems". The Board is supported by a full-time support staff.

In terms of its current legislation the NER reports to the Minister of Minerals and Energy who in turn tables the report in Parliament.

The NER board meets bi-monthly. However, the board has created a number of sub-committees who undertake most of its work. The committees are the following:

- Audit Committee
- Finance Committee
- Policy Committee
- Pricing and Tariffs Committee
- Human Resources Committee
- Licensing, Compliance and Customer Services Committee

In terms of the provisions of the Competition Act, the NER and the Competition Commission have established a formal memorandum of understanding governing

their relationship, clarifying their roles and the treatment of issues where both would have jurisdiction. They have set up a permanent working group, which meets at least quarterly and often more regularly.

The NER's mandate

The primary mandate ('objects') of the NER is stated in the Electricity Act as:

"…to exercise control over the electricity supply industry so as to ensure order in the generation and efficient supply of electricity, and to perform such other functions as may be assigned to it by or under this Act."

In its 2001/2Annual Report the NER states that it operates under a mandate given by the Minister of Minerals and Energy to be:

"The custodian and enforcer of a regulatory framework to monitor and ensure that the interests and needs of present and future customers of electricity are respectively safeguarded and met, having regard to the efficiency, effectiveness and long term sustainability of the ESI."

The key functions of the NER are set out in the Electricity Act (Section 4) as that it may:

- Issue licences for generation; transmission; distribution and retail of electricity (different terms are used in the Act);
- Determine the prices at and conditions on which electricity may be supplied by a licensee;
- At the request of any licensee or its consumer settle disputes between licensees among themselves, or between licensees and their consumers, or prospective consumers;
- Collect information which it deems necessary from undertakers or consumers;
- Perform inspections of the equipment of licensees;
- Exercise the other powers assigned to it by this Act or the Eskom Act, 1987.
- Advise the Minister on any matter relating to the electricity supply industry and it may for this purpose carry out such investigations as it or the Minister deems necessary.

Resources and organisation

The NER is funded by a levy on the generation of electricity. Its budget is approved by the Department of Minerals and Energy and the Department of Finance. Table 2 shows the annual levy income received by NER.

Table 2: NER annual income from its levy on generation.

Year	Levy on generation (Rand)
1995/96	9 000 000
1996/97	5 719 470
1997/98	14 014 397
1998/99	16 939 984
1999/00	15 267 178
2000/01	21 904 364
2001/02	30 388 079
2002/03	50 389 903

The NER's staff component has grown from 50 in 2000 to 85 in 2003, with an additional 11 vacant posts.

The Executive Committee has recently been restructured reducing the number of General Managers from five to three. The three main department are now ***Economic Regulation***, responsible for tariffs and pricing, compliance, industry infrastructure and operations and policy research; ***General Council***, responsible for legal services, board support and licensing; ***Value Enhancement***, responsible for human resources, finance and administration, customer services and information resource management. The ***Office of the CEO*** effectively constitutes a fourth department responsible for international liaison, project management and communications.

2.5 Activities

This section reviews the main activities of the NER.

Eskom price and tariff regulation

A key task for the NER since its inception was the regulation of Eskom's price levels and its tariff structures.

For most of the years after the NER's establishment in 1995 Eskom price levels were declining in real terms, in accordance with its self-imposed pricing compact. Given that the NER was recently established and had limited resources, and that Eskom's prices were declining, Eskom's annual price adjustment application to the NER entailed a relatively minor decision-making process and was always accepted without major queries.

The context to this situation was that Eskom has committed itself to a power station construction programme in the early 1980s, which was hugely in excess of its requirements. It failed to sufficiently scale down the programme in the face of clear evidence that it would be landed with a large surplus capacity problem. The effect of this large construction programme was that Eskom tariffs had to be drastically increased during the second half of the 1980s to cover its escalating financing cost and amortise the bulk of its bloated debt burden. By the early 1990s these very high tariff levels allowed Eskom to announce its pricing

compact, to allow its prices to gradually return to normal levels, as its debt declined in real terms; and then enabling price levels to decline even further, as Eskom would not need to construct further capacity for some time and could thus price below long-run marginal cost levels[24].

This situation left the NER with essentially little to do with regard to Eskom price levels. More work had to be undertaken to move Eskom's tariff structures closer to cost reflective levels. The NER also eventually realised that the long-term marginal cost-based pricing commitments Eskom was making to sell its marginal capacity could impose significant costs when it ran out of surplus capacity a decade later.

More recently Eskom has argued that real price levels will have to rise to fund the construction of new generation capacity leading to the normalising of the regulatory role.

The normalisation of the regulatory tensions with Eskom has given rise to the need for an established methodology for the regulation of Eskom's price levels. The NER has developed a conventional rate of return methodology (ROR), which it applied for the first time for Eskom's 2002 price increase[25]. This method sets prices at a level which allows Eskom all the expenditure that has been prudently incurred with the production and supply of electricity, plus a fair rate of return on its productive electricity supply assets. The methodology is still under development. The NER has called for comments (a summary of those that it received is posted on its web site) and has had at least one stakeholder workshop on it in May 2003.

The Eskom price review cycle takes place over ten months. The process starts in July when the NER Board approves a terms of reference for Eskom's price application.

After the Board has approved a new price level, generally around November/December, Eskom and NER officials undertake a 'post mortem' of the process covering the main areas of contention. The most recent 'post mortem' was conducted over seven separate sessions and the two parties have identified at least eight "notable areas of disagreement". No public hearings are held and most deliberations on the Eskom price levels are held 'in house'. Recent Eskom price increases are given in Table 3.

[24] Effectively Eskom's investment behaviour over the twenty-year period meant that consumers paid for the capacity they would require at least ten years in advance. By the 1990s this situation resulted in price levels that were below full economic levels. This encouraged many energy intensive industrial projects on the basis of special pricing arrangements with Eskom that enabled it to reduce its surplus capacity. At least 10 years of sub-economic wholesale price levels and 'special deals' for large industrial consumers have created the erroneous impression that South African electricity is extremely cheap, and contributed to expectations that our industrial development strategies should continue to be based on this premise.
[25] It is available from the NER's web site at http://www.ner.org.za

Table 3: Recent NER approved Eskom price increases

Calendar Year	CPI %	Eskom price increase %
1997	8,8	5,0
1998	5,2	5,0
1999	7,3	4,5
2000	5,4	5,5
2001	5,3	5,5
2002	10,1	6,2
2003	8,5	8,4

The Wholesale Electricity Pricing System (WEPS)

A major concern for municipal distributors is the fact that Eskom's wholesale prices to them are generally substantially higher than Eskom's tariffs to its own regional distributors. In response to this concern, the NER has developed a Wholesale Electricity Pricing System, in consultation with the key stakeholders, to equalise the playing field with respect to wholesale tariffs. After a trial period conducted 18 months ago, the process has stalled and the NER has not yet been able to implement it. Essentially the difficulties relate to the fact that the WEPS tariff structure will reflect costs more closely and many industrial and other consumers could end up paying more (while others will pay less).

Municipal price and tariff regulation

With the creation of the NER, South Africa had 843 local government authorities and the NER was faced with the prospect of regulating more than 400 councils who distributed electricity, who jointly had more than 2000 individual tariffs. The rationalisation of local authorities during 2000 reduced this number to 240, with 177 still distributing electricity and Eskom supplying in the remaining 63 local authority areas.

Given the magnitude of the task and the NER's limited resources, its approach to regulating municipal distributors have been to attempt to rationalise tariff structures and reduce the disparities in price levels. The NER does not apply the rate of return methodology to local authority distributors, and neither has it been able to investigate their costs. The finances of local authority distributors are not ring-fenced and significant cost shifting and cross-subsidisation is believed to occur.

Two objectives currently inform its regulation of local authority price levels. The first is to regularise price levels for distributors that are within the same size class. The second is to converge the price levels of distributors that will fall within the same regional electricity distributor (RED) when the rationalisation of the EDI is finally implemented. Essentially, thus, the local authority distributors are subject to 'regulation by comparison'.

The Board has delegated authority to the CEO to approve small municipal price increase applications, which fall within a specified set of criteria. These are reported on *ex post* at Board meetings. Applications by larger municipalities and Eskom still go before the Board.

It is important to realise the NER does not just approve average price levels (which are essential for cost recovery), but also approves tariff structures for the respective customer groups. This is a critical aspect of electricity pricing because it determines the balance between the cost reflectivity of prices (efficiency signals), the affordability of prices to the poor and rural consumers (including commercial farming), and the levels of cross subsidies from higher consuming households, commerce and industry to subsidies these.

The rest of this section presents a brief overview of the state of municipal tariffs. In analysing municipal tariff structures the NER grouped the distributors according to the boundaries of the REDs that they will be merged into as part of the EDI rationalisation process. Table 4 shows the provinces which will have areas served by each RED.

Table 4: The geographic scope of the new Regional Electricity Distributors

RED Name	***Areas included***
RED 1	Northern Cape and Western Cape
RED 2	Free State, Gauteng, Mpumalanga
RED 3	Eastern Cape, KwaZulu-Natal
RED 4	Gauteng, Northwest, Northern Cape
RED 5	Guateng, KwaZulu-Natal, Mpumalanga
RED 6	Gauteng, Limpopo, Mpumalanga, Northwest

Of the 177 municipalities supplying electricity, 60 (42%) have illegal tariffs. Figure 3 shows the number of municipalities in each area with illegal tariffs.

Figure 3: Percentage illegal tariffs in each RED area

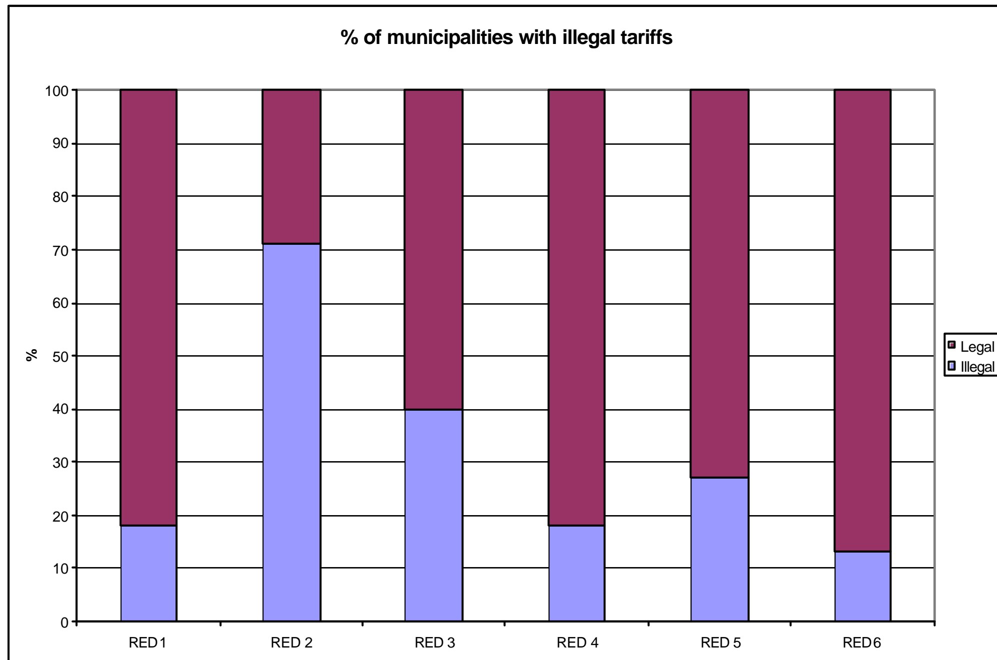
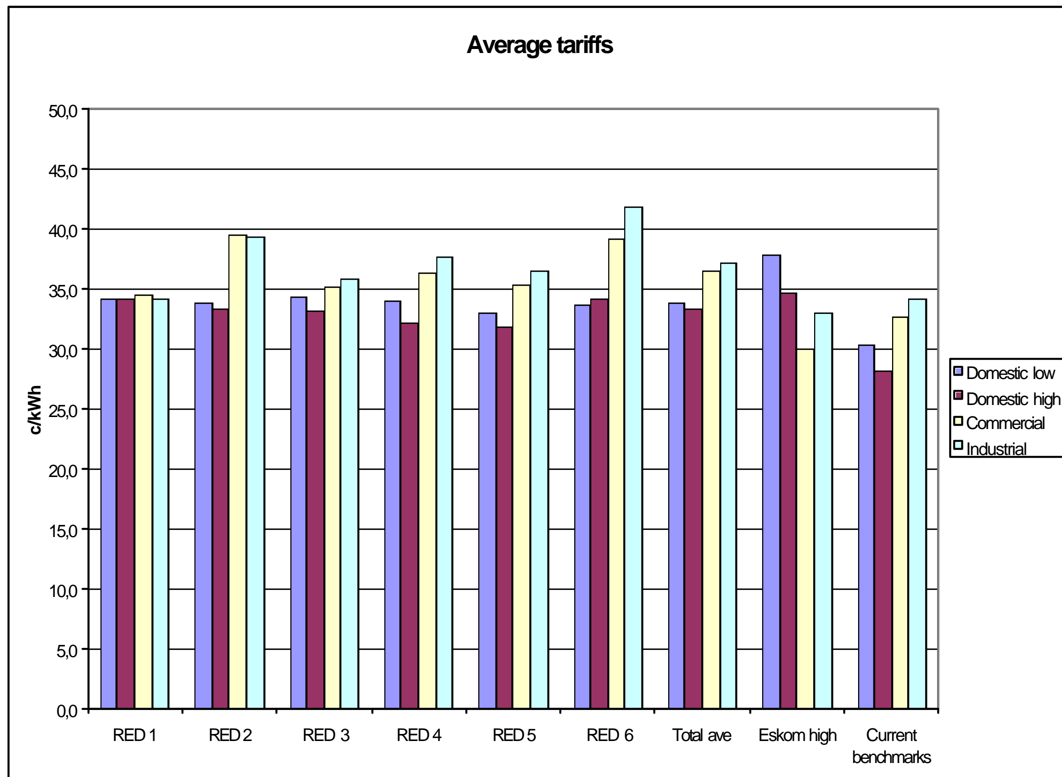


Figure 4 shows the average tariffs in each RED area and the NER's current benchmarks.

Figure 4: Average tariff levels in each RED area



In general the domestic low consumption tariff is below the full cost of supply while all the other categories are above best estimates of full cost of supply.

Table 5 provides more details on the distribution of tariff ranges in the different RED areas. The values are expressed in terms of c/kWh only, based on average consumption levels for each category.

Table 5: The distribution of tariff ranges in RED areas

Tariff type	Domestic Low Consumption	Domestic High Consumption	Commercial	Industrial
No for which data avail. (total of 229)	159	208	206	195
Lowest value	22,50	18,50	21,50	13,61
Average	33,83	33,35	36,45	37,17
Highest value	45,00	62,37	67,49	62,22
Std Deviation	4,09	5,28	6,29	8,21

2.6 Other key activities

The NER further undertakes a range of valuable activities, which are generally not as widely recognised as its role in regulating tariffs.

Licensing

As outlined above the NER manages the licensing framework for the ESI. In addition to addressing relatively minor adjustments to current licences, substantial work is already underway to accommodate new entrants in a competitive environment. The NER will have to ensure that its Generation, Transmission, Distribution, and Supply licences all facilitate the efficient and equitable operation of the new electricity system.

Standards and behavioural codes

The NER is responsible for regulating technical standards on the electricity system. It has established at least three standards governing the behaviour of service providers.

Quality and service standards

Quality of supply (NRS 048) and service standards (NRS 047) were developed in 1996 but implemented in 1998 and 2000 respectively. The delay in the implementation of NRS 048 was largely due to the following:

- Lack of expertise and capacity
- The cost and the quality of the instrumentation to be installed on the network to measure its performance
- The impending restructuring – municipalities were for instance reluctant to spend vast sums of money on the improvement of the system/network if electricity distribution was eventually to be moved to REDs.

In 2002 the NER published a "NER directive on Power Quality: A Regulatory Framework for the Management of Power Quality in South Africa". This document provides the broader framework within which compliance with the national power quality standard (NRS 048) will be regulated.

The Grid code

Government policy to liberalise the ESI and permit open and non-discriminatory access to the national transmission system, as set out in the Energy White Paper, has prompted the NER to undertake the development of a *Grid Code.* A Grid Code is an extension of licensee obligations as determined by the NER. Its aim is to ensure open, non-discriminatory access to the transmission system, to competing private and public firms alike, appropriate quality of supply, reliability of the system and network, and transparency of network governance.

In order to ensure that stakeholders and future market participants have an opportunity to provide input to the development and ongoing updating of the Grid Code the NER established a Grid Code Advisory Committee (GCAC). The GCAC is constituted of stakeholders whose function is to review proposed changes to the Grid Code and make recommendations to the NER regarding the Grid Code. The GCAC was closely involved with the development of the Grid Code, the latest version of which is available from the NER web site (www.ner.org.za).

Policy support to the DME

Since its establishment the NER has provided substantial support to the DME in the development of policy for the electricity supply industry. The NER is involved in the working groups established to oversee the detailed policy development for the distribution industry (EDI) rationalisation to REDs as well as the liberalisation of the ESI.

Information gathering and publication

The NER compiles and publishes an annual report on Electricity Supply Statistics for South Africa" which is available in hard copy or from its website.

As part of its self-assessment the NER also commissioned a 'Communications study' to gain stakeholder opinions on its performance and stakeholder communication. The study highlighted some important aspects where they received negative feedback. In the response the NER has commissioned further work to establish a set of performance indicators that it will publish on an annual basis.

Electrification

In recent years the NER played a central role in managing the funding of electrification projects through administering the allocation of funding to municipalities. However, the responsibility for managing the electrification fund will be taken over by DME during the period of the current financial year as part of the DME's new National Electrification Programme (NEP). The NER is supporting the Department of Mineral and Energy with the establishment of the NEP.

Dispute resolution

In terms of its mandate the NER is authorised to resolve disputes between suppliers and customers, and dealing with customer complaints. Its stated aim is to deliver this service in such a way so that customers have recourse at no or little cost.

2.7 Issues

Thus far the document has described the details of the regulatory regime and practice. The discussion now turns to the key findings that have emerged during the course of the research.

Institution building

The task and investment required to build up a functioning regulator has probably been underestimated. It takes a long time to build up the required institutional capacity (both within and beyond the regulator in business and government) for a regulatory framework with an independent regulator to function as required. Independent regulation is a largely new institution in South Africa. Much greater recognition of the magnitude of the capacity and culture-building task of

establishing this new institutional framework is required. This relates to the development of internal technical competencies in the regulator; similar competencies in the regulated firms and potential entrants; in government (including politicians); the press and consumers.

Governance and accountability

Steps to transform the NER into a National *Energy* Regulator to enable it to meet the need for natural gas and liquid fuel pipeline regulation have given rise to a reconsideration of the NER's governance structure. Current DME plans envisage a full-time, five-person, executive board for the new National Energy Regulator with a Chief Executive appointed by the board but not a member of the board.

Key arguments for the full-time executive option are that:

- It follows "current international trends"[26];
- Part-time appointments do not have sufficient time to undertake the full workload of an energy regulator;
- Key arguments for a board structure which separates full-time executive (including the chief executive) and part-time supervisory powers (including the chair person) are that:
  - Principles of good corporate governance have proven to be critical. This includes the distinction between executive and supervisory powers.
  - Given the scarcity of skilled historically disadvantaged persons, a board structure – which includes non-executive part-timers – enables the regulator to benefit from the appointment of top persons whose services it would otherwise not be able to obtain.
- Both perspectives agree that the CEO should be appointed by, and accountable to the Board, not the minister.

As the reform of the ESI proceeds it will become imperative that the NER's decision-making processes are transparent and allow for public participation. This will require an increase in resources to facilitate transparency and public participation. Although the NER's website is already useful, steps will have to be taken to improve its presentation, improve navigation, and include more current information about working groups, board meetings, and pending decisions.

The NER intermittently appears before the Parliamentary Portfolio Committee on Minerals and Energy. Given the limited resources in the DME to monitor NER activities, it is important that this line of accountability is complimented by regular appearances before Parliament for the NER to report on its activities and explain the processes it is engaged with.

Resources

Two key points have emerged with the resourcing of the NER.

[26] The current structure of the Office for Gas and Electricity Markets (OFGEM), the UK regulator actually now has a majority of part-time non-executive members on its board.

It is generally viewed as an advantage that the NER is funded from a levy on generation. However, the NER has always experienced long delays in the processing of its budget approval request by the Department of Minerals and Energy and the Department of Finance. This has meant that NER often has unauthorised expenditure for a period each year when the new financial year commences before its budget has been approved.

It is widely recognised that the NER is substantially under-resourced in terms of highly skilled human resources and that this impacts substantially on its performance. This challenge relates to its current tasks of regulating Eskom and municipal distributors, and will be even more acute as liberalisation proceeds.

While the constraint is partly the result of the fact that the NER competes with the private sector for attracting scarce skills and is limited in terms of the financial packages it can offer, it is also likely to relate to the impression professionals have of the attractiveness of the NER as an employer with respect to other factors.

These concerns point to the need to offer realistic employment packages (and budget accordingly) and to the need to market the NER as an attractive employer, maintaining high professional standards and offering strong career development opportunities.

Transparency and public participation

Although the NER encourages stakeholder participation in regulatory policy development, most regulatory procedures and decisions are not, in practice, open to the public. The resource implications of increasing public participation are seen as prohibitive. As the significance of its decisions increase the NER will have to increase access to information about its decision-making processes and provide even greater opportunities for stakeholder participation.

Regulatory methodology and cost reflectivity

The establishment of the NER's rate-of-return methodology is the first-time that a regulatory methodology is formally published, and stakeholders consulted about it in South Africa. It is generally regarded as an important step forward. Many uncertainties about it ultimate value remain, however.

While the methodology will not be discussed in detail here, some key questions remain[27]. Firstly, considerable doubt still exists about whether the NER will have sufficient resources to adequately implement a rate-of-return methodology. The NER does not have the ability to do a full cost review and understand Eskom's or municipalities' costs. One option to address this situation would be to utilise independent auditors for future Eskom price reviews.

Furthermore, potentially viable alternative approaches, which could in practice potentially achieve more, exist. These include incentive-based systems (such as RPI-X), profit sharing arrangements, or a combination of the two. While these systems will have to be implemented without a full understanding of the costs of

[27] See the NER's web site (www.ner.org.za) for a summary of stakeholder comments on its "Regulatory framwork for the economic regulation of the electricity supply industry (ESI) of South Africa."

supply, so will the ROR methodology. The latter options at least have the benefit of providing some certainty of regulatory outcomes and of correcting errors in the system.

The development of the WEPS constitutes an important step towards moving electricity prices closer to underlying costs. However the WEPS system is yet to be implemented. It now appears that it will not be implemented until the EDI reforms towards REDs proceeds.

Although the NER has made significant gains with respect to price regulation it has not achieved the ultimate regulatory task of creating managerial incentives for efficient behaviour. Both Eskom and municipal distributors/REDs will have to be moved to incentive-based regulation as soon as possible.

Eskom

A number of problem areas related to where Eskom diverts resources from regulated electricity revenues to other activities remain unresolved. Examples include:

Allocation of retained earnings from Eskom Treasury

Questions remain over whether Eskom can/should divert profits from its Treasury Activities to other 'non regulated' activities. The risk of these transactions were effectively underwritten by the electricity consumer base, and it could be argued that it should thus be returned as part of the regulated industry revenue stream.

Large funding of economically high risk Pebble Bed Reactor

Eskom has over the past decade diverted many tens of R millions to the development of the Pebble Bed Modular Reactor (PBMR) with no economic regulatory approval. The high financial risk for this investment is borne by electricity consumers and it is thus likely that it should thus be subject to some form of economic regulatory scrutiny.

Risks and profits on international sales

Eskom makes profits on its sale of South African generated electricity to neighbouring countries. A decision on weather these profits should be allowed out of the regulated industry pool, which contributed to the capacity that generated this power, still has to be taken.

Profits from Gallium Insurance

Eskom runs a self-insurance scheme through its off-shore Gallium Insurance Company Limited. While Eskom wishes to retain the profits from this operation outside of the 'regulated business' the opportunity cost of providing the insurance (the cost of financing Gallium) is being borne by electricity consumers.

The NER continues to investigate these areas and can be expected to rule on them in the future.

Local authority distributors

Municipal pricing regulation has been limited because of the magnitude of the task, which, if it were to be performed adequately would be beyond the NER's, current capacity, and by the uncertainty created by the pending EDI rationalisation. Much work remains to be done on distribution pricing and tariff regulation. The NER's rate-of-return methodology has partly been developed with the task of regulating the new REDs in mind.

2.8 Policy development, gaps and contradictions

This section reviews issues related to the policy environment within which the NER operates. The NER has played an important role in supporting government policy development for ESI reform, although, as is argued below, this process still needs further work.

While the NER has achieved a range of objectives, a number of policy contradictions or policy gaps create important obstacles to the effective regulation of the ESI by the NER.

The first relates to the uncertainty about government policy on where further investment should come from as generation capacity begins to run out around 2007. The current stated policy is that Eskom should ***not*** build the next power station. However, with the delay in the ESI reform process the framework to facilitate investments by other players is not yet in place. This situation creates a dilemma for the NER and increases the likelihood that as the time for new investment passes Eskom will be called on again to make new investments, thus undermining the policy aim of liberalising the ESI.

This question also has direct bearing on the current regulation of Eskom's price levels. If Eskom is not to finance the next capacity expansion, the question about the appropriate revenue and pricing policy arises. Given the current situation where Eskom has amortised much of its debt, if prices were allowed to rise much above current average cost levels Eskom will be generating even greater free cash flow streams which would not be required for reinvestment into the power system. The question arises whether the electricity 'rent' should be captured in this way and Eskom be allowed to spend it on other projects; or whether the state should capture it by means of dividend and tax payments; or whether prices should be kept at low sub economic (but financially sustainable for Eskom) levels. This latter option would avoid the free cash flow problems with Eskom, but continue the erroneous price signal, which would encourage more electricity consumption and energy intensive investments, while paradoxically discouraging investment in power generation. This last point is not trivial, as it is likely that higher prices, particularly at peak times, could reduce demand and postpone the need for expensive generation investment.

As soon as REDs are established alternative solutions become possible. This includes the possibility of making current Eskom capacity available at relatively low prices while any growth in demand and eventual replacement of old capacity will have to be met by long-term purchases on the open market. The effect of this

would be to minimise the price shocks while a viable market would exist for new capacity.

It is widely recognised in the ESI that the current policy position that Eskom should retain 70% of the market is unworkable and that new entrants are unlikely to enter on a competitive basis under these circumstances, requiring substantial guarantees and protection in the face of a dominant incumbent, thus undermining original objectives of liberalisation. Furthermore, the continued dominance of one player will greatly increase the regulatory burden beyond what the NER can reasonably be expected to achieve.

At present the NER is faced with working out the details for implementing a policy that is not internally congruent, is widely regarded as flawed, and for which the government's political will to carry it through is uncertain.

Regulatory independence

Thus far the NER has enjoyed a reasonable level of regulatory independence, in the sense that it was not subject to direct political pressure with respect to its decision-making, or over ruled by ministerial discretion. However, a number of important points need to be made to qualify this statement.

- Thus far the ESI remains organised along its public monopoly lines and the regulatory regime has thus not been faced with significantly contested decisions. This is likely to change as the process of moving municipal and Eskom distributors towards REDs progresses, and as liberalisation of the ESI (mostly the generation sector) proceeds.
- Eskom's surplus capacity has forced it to reduce its prices to below full economic values in order to increase sales and increase capacity use. Over the past ten to fifteen years this has contributed to substantial political and economic legacy related to sub-economic prices and industrial policy based on the assumption that it can continue in this way[28]. At times major industrial commitments have been made on the basis of special low tariffs from Eskom before any such 'special deals' have been considered by the NER. An example here is Eskom's commitment to the Government approved Kouga smelter tariff.
- A further example relates to Eskom announcements (with Ministerial backing) of a R1.5-billion commitment to NEPAD projects without regulatory approval. Any cash leaving Eskom for non-SA projects is at risk of having to be recouped in later years by means of domestic electricity tariff increases.
- Statements by politicians about Eskom prices, including the recent pronouncement by the Minister of Public Enterprises that Eskom's prices will not be allowed to rise above inflation, contradicts the independence of the NER and sends powerful signals to potential private sector investors in generation capacity about the relative independence of the regulatory regime.

[28] The irony is that very expensive over-investment in generation capacity in the 1980s (complemented by Eskom's dividend and tax free capital structure), has temporarily resulted in very low prices in the late 1990s and expectations for it to continue into the future.

In general these qualifications point to the importance of a broader understanding in Government of the regulatory compact, the distinction between regulatory policies and broader economic and industrial policy, and of the importance of the separate roles of the state as regulator, its role as owner of public enterprises, and its role in making and implementing economic (including microeconomic and industrial) policy in the public interest.

Approving new generation investment in the interim

As pointed out above, the official government policy is that further generation investment should come from a player other than Eskom. Ideally this should happen in a competitive market context, however it is unlikely that the market framework will be established in time. Other measures will thus have to be used in the interim period. Interim routes to facilitate investment in the power generation sector should be designed so as not to obstruct the movement to a more fully competitive market at a later stage.

An interim arrangement for generation investment is likely to rely substantially on the NER as the only technically competent body independent of Eskom[29]. This role will, however, require new capabilities from the NER. Given the poor track record of the regulatory system in the telecommunications area in South Africa the expectation would be that similar problems would arise when private players are introduced in the sector. The regulatory system will thus also have to demonstrate its robustness and integrity in order to reduce the regulatory risk new entrants would face.

2.9 Conclusions

The most significant 'impacts' of NER in its short life to date can be summarised as follows:

- The threat of regulation, and of regulatory scrutiny now forms an important independent aspect of Eskom's governance;
- The NER has successfully limited Eskom price increases in recent years;
- The NER has partially rationalised municipal tariffs, but still has some way to go;
- The NER has made a significant contribution to facilitating progress on EDI and ESI reforms. It constitutes a critical public sector resource capable of providing support to the DME on electricity policy matters;
- The NER has made significant progress with establishing capacity for its critical regulatory role for private sector participation and competition;

However, given these, and other successes, important challenges remain to be addressed if the needs of the future are to be met.

[29] This is an important reason for proceeding with the separation of the Transmission Group from Eskom (as stated in current Government policy) as soon as possible to enable them to provide further objective support to the generation investment decision making process.

Governance

Although the NER's governance model has been reasonably successful it needs to be strengthened to deal with the substantial challenges ahead. This would critically involve strengthening the Board's capacity to deal with the greater demands of EDI reform and ESI liberalisation, and gas and pipeline regulation, while retaining the principles of good corporate governance and resolving problem with the CEO's appointment and his/her lines of reporting. . It will be extremely important to ensure that the lessons learned from the last ten-years' experience of regulation in South Africa – both within the electricity sector and more widely – are properly reflected in the future regulation of the energy sector.

Ministerial co-jurisdiction and appeals

Potential conflicts of jurisdiction between the NER and the Minister of Minerals and Energy with respect to the current appeal mechanism have to be resolved to avoid the kind of problems that have occurred between ICASA and the Minister of Communications. The possibility of making matters of substance appealable to a separate specialised body, such as the *Competition Tribunal* (rather than the political level) should be investigated. This would result in a clearer separation of the policy-making roles of the Minister and the regulatory role of the NER. The Ministerial policy prerogative would then be exercised through the normal accountable policy formulation mechanisms in government while the NER's regulatory responsibilities would be checked by a higher regulatory body. This arrangement would also provide a useful link between the NER's functioning and the regulation of other economic activities in the broader economy. . It will also be important to ensure that the specific appeal arrangements that are adopted do not provide incumbent operators with additional mechanisms to frustrate the development of competition by using delaying tactics.

It is further important that the role of the Department of Public Enterprises be clearly circumscribed relating to Eskom restructuring, and that regulatory certainty be created by safeguarding the Department of Minerals and Energy's policy jurisdiction regarding restructuring of the electricity industry within, however, the context of a consistent and coherent national policy framework for infrastructure sector reform and regulation.

Liberalisation polices

If the Government wishes to protect the integrity of its current policy framework for the ESI/EDI reforms it will have to resolve some of the uncertainties caused by policy contradictions and expedite the reform processes. This will be critical for to ensuring that the new competitive institutional framework is established in time to enable private sector investments to proceed before the system reserve margin reaches critical levels.

Regulatory independence and integrity

During this process it will be critical to build the integrity of the NER, both in terms of *increasing its capacity*, and in terms of the respect Government is *perceived* to have for the NER's *regulatory independence and authority*.

Regulatory methodologies

The NER will have to continue building its technical capacity to devise and implement fit-for-purpose formal regulatory methodologies for the monopoly areas of the industry. It should reconsider whether the ROR methodology would be appropriate for regulating a rapidly changing industry and the new REDs (with unknown cost structures) when they are established.

Regulating Eskom

Many problems continue to exist with the blurring between Eskom's 'regulated' and 'non-regulated' activities. Large-scale public resources go into 'non-regulated', and often non-electricity activities in Eskom Enterprises (which is under relatively weak public sector governance), the financial risks off which are effectively underwritten by the regulated utility part of Eskom's activities (and thus electricity consumers). The NER is by far the public agency with the greatest potential to oversee these activities effectively and there is a clear case to provide it with the financial and other support required to work out the details of how these activities and the associated financial flows should be regulated. This is particularly important in the context of the current, vertically integrated, market design and the transition towards a more complex market structure. The NER faces severe information asymmetries and should be adequately resourced to fulfil its tasks satisfactorily.

Transparency and accountability

Greater transparency, public awareness, and access to the regulatory process should be encouraged and resourced. This is an important mechanism for 'regulating the regulator'. Accountability could be strengthened by instituting regular NER appearances before the appropriate Parliamentary committees. A important further mechanism to review the functioning of the regulatory system as the industry reforms progress (and this probably also holds true for the other sectors) is that this *ad hoc* cross sectoral Regulatory Impact Review should be repeated on a regular basis – probably every three to four years.

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3. TRANSPORT

3.1 Introduction

The transport sector covers several modes of transport, including rail, road, aviation, and maritime transport[30]. Regulatory frameworks in the transport sector differ markedly from those prevalent in other network industries such as telecommunications and electricity. There is a strong emphasis on safety and standard regulation and a distinct lack of economic regulation, such as price or revenue regulation, access or interconnection regulation. The sector is further characterised by state-ownership, limited private sector participation and the absence of independent regulatory bodies. The most advanced form of economic regulation is found in the aviation sector where a dedicated, albeit part-time, regulatory body exists and infrastructure services are controlled by price caps. A regulatory entity is also envisaged in the ports, where a precarious disentanglement of the ports authority from its current owner Transnet is part of the State-Owned Enterprise (SOE) restructuring process. Aviation and port regulation will therefore be the subject of more in-depth analysis in this report.

The structure of the transport sector chapter is as follows: the policy framework is briefly summarised, followed by an overview of the main 'players' in the transport sector and the institutional arrangements between them. An overview of the regulatory frameworks for the different modes of transport is subsequently presented. A closer look at aviation regulation is provided in the following section, leading to an analysis of the regulatory frameworks employed in transport and some preliminary policy recommendations.

3.2 The policy framework

In 1994, the apartheid legacy required a complete overhaul of the transport framework, which at that point was characterised by spatial separation of areas of work and residence and which denied access to basic transport services to large parts of the population. Moreover, the transport system was not sustainable in the long run due to its heavy reliance on the fiscus[31].

The *Transport Green Paper* of 1996 and the *White Paper on National Transport Policy* of 1996, outline many objectives in this overhaul including, *inter alia*: a sustainable transport industry; safety and quality regulation; intermodal competition as well as intermodal integration; evaluation of state ownership of transport infrastructure; ending intermodal cross-subsidisation and the separation of ownership and regulation of transport infrastructure[32].

Key policy decisions on the institutional arrangements for developing and regulating the country's transport infrastructure were also set down in the *White*

[30] This can be divided into land, maritime and aviation transport. Land transport, in turn, includes rail, road, taxi and bus transport services. As there is no economic regulation in bus or taxi transport (regulation consists mainly of licensing and safety regulation), these services will not be included in the report.
[31] Moving South Africa (1999).
[32] White paper on National Transport Policy (1996).

Paper on National Transport Policy of 1996 and further developed in the *Moving South Africa* project of 1998/9. These held that major parts of the Department's activities could be more efficiently and cost-effectively undertaken in 'specialised professionally-managed, arms-length agencies functioning on commercial principles.' Prior to these policy reports three commercialised agencies had already been established, two in aviation, namely the Air Traffic and Navigation Services Company ('ATNS') and the Airports Company of South Africa ('ACSA') in 1993, and one in rail transport, namely the South Africa Rail Commuter Corporation ('SARCC'), as early as 1990. Profound restructuring of the NDOT subsequently took place, involving the creation of four new agencies: the South African Civil Aviation Authority ('CAA'), the South African Maritime Safety Authority ('SAMSA'), the Cross- Border Roads Transport Agency and the South African National Roads Agency ('NRA'/ 'SANRAL'). The process of creating these agencies reduced the NDOT from a staff of 1400 in 1994 to 250 in 1998 and allowed it to focus on its core business of policy development.

The *White Paper on National Transport Policy* highlighted the need for the clarification of the powers of various levels of government regarding land passenger transport and the development of a 'Roads Agency.' The Roads Agency would be responsible for developing the road network, which would be financed via dedicated fuel levies and toll charges, making increasing use of private funding. It also speaks of a national transport authority that will own the commuter rail infrastructure until provincial or metropolitan transport authorities are able to take on this responsibility. In addition, the white paper mentions the need for a port authority with specific responsibilities for the maintenance and development of port infrastructure, as well as the need for an independent regulator to regulate this monopoly provider of port infrastructure. It further confirms the role of the earlier established Airports Company and Air Traffic and Navigation Services Company in providing and managing the airport infrastructure and the deregulation of international air freight services and land freight transport. The implementation of these policy goals will be discussed in the sector-specific parts of the report.

A strategy for achieving the goals outlined in these policy documents was developed via the Moving South Africa project, which culminated in a detailed strategy document entitled *Moving South Africa: A Transport Strategy for 2020*, incorporating analyses of transport challenges across the modes. Moving South Africa takes a non-mode-specific approach, covering performance and challenges for specific 'customer groups', distinguishing between freight; urban; tourist/long-distance; rural; and special needs customers and analysing the corresponding transport systems servicing these customer groups as well as cross-cutting issues[33].

The Moving South Africa project was aimed at producing a programme that would translate the short to medium-term *policy* formulation documented in the Transport White Paper into a long-term strategy to achieve the goals outlined. Moving South Africa clearly labelled transport as an enabling industry, which serves to meet national and social objectives outside of narrow transport policies, such as trade, employment, and economic development.

[33] Moving South Africa (1999).

On the institutional side, Moving South Africa incorporates the establishment of Transport Authorities that was planned within the terms of the imminent land transport act (enacted in 2000). The legislation, resulting from the White Paper process, has a far-reaching impact on the institutional structure for urban transport planning, establishing transport authorities at local and metropolitan level with substantial jurisdiction over transport issues, with national government retaining authority over the transport strategy, national roads investment and, until a later stage, commuter rail. Local transport authorities retain responsibility for developing land use and transport plans, local roads and intermodal transfer facilities. National government remains responsible for subsidies to the transport authorities. This process is currently ongoing, and several land transport transition acts and amendment acts have been passed in order to smooth the transition.

As the *road* infrastructure strategy was set out in the Moving South Africa project to a somewhat limited extent, the Department of Transport published the *Road Infrastructure Strategic Framework* in 2002, which provides a framework for road infrastructure in terms of institutional arrangements, integrated planning of the road network and coordination of the rail, air and shipping modes, aimed at redressing the freight modal mix towards rail; road asset maintenance and rehabilitation; and infrastructure funding issues. In particular the document recognises the need for coordination of the South African road network of the national, provincial and municipal spheres of government[34].

Considering the reform of institutional arrangements set out in the white paper and moving South Africa the following is noted. The proposed roads agency was established in 1998, as the South African National Roads Agency Ltd (SANRAL), but no cross-modal national transport authority has so far been established. The port authority has been created as a business unit of Transnet, but no regulator has been established and the port authority's revenues are part of the overall Transnet budget. The mode-specific institutional changes will be discussed further in the corresponding sections of the report.

The Moving South Africa project was intended to be taken forward in various policy processes without losing its inter-modal focus. Unfortunately, this approach proved difficult to implement in practice. Consequently, in addition to these overarching policy frameworks, a myriad of modal-specific legislation continued to be developed (summarised in Appendix II).

3.3 Overview players and institutional arrangements

The South African transport infrastructure is predominantly public-owned and either operated via the state-owned holding company Transnet or via public-owned commercial agencies such as the Airports Company of South Africa ('ACSA'). The main players in transport are the national Department of Transport ('NDOT'), the Department of Public Enterprises ('DPE'), Transnet and a range of government agencies, including the National Roads Agency ('NRA'/ 'SANRAL'), the Air Traffic and Navigation Services Company ('ATNS'), the

[34] Road Infrastructure Strategic Framework for South Africa; A Discussion Document (2002).

South African Rail Commuter Corporation ('SARCC'), the Airports Company of South Africa ('ACSA') etc. This section of the transport report covers the policy framework and institutional arrangements in South African transport.

The responsibilities of the National Department of Transport

The National Department of Transport defines transport policy and guidelines, creates legislation and provides funding for infrastructure development. The Minister of Transport, working through Cabinet and the Ministerial Conference of Ministers of Transport (Mincom) retains the final authority over the choice of transport strategy. The NDOT has in recent years reduced its direct involvement in operations, infrastructure and services, to 'allow for a more competitive environment'[35].

The Department has a surprisingly small mandate in terms of economic regulation. The NDOT consists of two main branches, one responsible for 'Policy, Strategy and Implementation', which is focused on transport *policy* for all the modes of transport and implementation and monitoring of guidelines and standards, and one responsible for 'Regulation and Safety', tasked with safety and economic regulation. However, the extent of this economic regulation is limited and consists mostly of regulation in one mode of transport, namely aviation. Out of the Regulation and Safety Branch's two main divisions, namely 'Road Traffic Management' and 'Aviation and Maritime Regulation,' the former branch is mainly involved in safety regulation as most of its constituent subdivisions are involved in administration and enforcement of safety regulations and standards monitoring, such as driving licence testing control; vehicle safety standards; traffic standards coordination; road traffic information systems etc.

The Aviation and Maritime Regulation sub-division is responsible for the policy frameworks for air and maritime transport, including institutional arrangements, safety *and* economic regulation. Among its economic regulation tasks the division lists the following: 'to control market access for air transport operators where this is necessary and to prohibit excessive tariffs in case of monopolies'[36]. The actual implementation of the economic regulation of aviation is performed by a 'Regulating Committee,' which regulates both the Airports Company of South Africa (ACSA) and the Air Traffic and Navigation Services Company (ATNS).

The role of safety regulation is also very prominent in this division, which is tasked with monitoring obligations in terms of the International Maritime Organisation (IMO), the International Civil Aviation Organisation (ICAO) and African regional organisations and which is responsible for providing maritime and aeronautical 'search and rescue' services.

From the above, it can clearly be seen that the NDOT, although policy responsible, has limited direct control over policy implementation as there is no direct management of Transnet which owns the ports infrastructure and the long-distance railway network, and as its agencies, such as SANRAL, ATNS, ACSA

[35] NDOT website: www.transport.gov.za.

[36] NDOT website: www.transport.gov.za. The Road Traffic Management Division oversees the National Roads Agency and the Cross Border Road Transport Agency and is responsible for investigating major road and rail accidents.

and the SARCC, are corporatised and commercialised entities, not part of the line management structure of the NDOT.

The role of the Department of Public Enterprises

As mentioned above, the policy role of NDOT notwithstanding, the department responsible for the largest transport infrastructure and service provider, namely Transnet, is the Department of Public Enterprises ('DPE'). DPE is tasked with monitoring the performance of Transnet, and is the lead department in issues of restructuring of SOEs and privatisation and concessioning processes.

In its restructuring and monitoring capacity, the DPE is primarily concerned with the financial viability and stability of Transnet and with the transformation towards a competitive enterprise. Clearly, the separation of policy responsibility and control over Transnet requires careful policy coordination and prioritisation of policy objectives of the various departments involved.

The role and functions of the Department of Public Works

Although the NDOT is responsible for the national roads framework and road policy, the Department of Public Works has a policy and implementation responsibility in the development of the local road infrastructure. This separation of responsibility for the road network therefore requires detailed policy coordination.

The role and functions of Transnet

Transnet Limited has a long history, originating in the South African Railways and Harbour administration of the early 1900s and the subsequent South African Transport Services, ultimately incorporated as Transnet in 1990. Transnet operates and controls significant parts of South Africa's transport infrastructure and is active in transport operations outside of South Africa, mainly in Africa. It is a public company of which the South African government, as represented by the Department of Public Enterprises, is the sole shareholder. It is structured as a holding company with wide-ranging transport/logistics interests[37]. The company has about 80,000 employees.

The entity has been restructured into a number of separate business units, and currently the holding company consists of nine divisions covering various transport services and a number of subsidiaries and related businesses. The divisions, and their activities in short, include:

[37] Transnet's fixed asset are estimated at ZAR 72 billion and in 2002 the company recorded a turnover of ZAR 35.8 bln. Transnet website: www.transnet.co.za and Transnet 2002 Annual Report.

Transnet Unit	*Core Business*
Spoornet	*Rail transportation of freight, containers and mainline passengers*
Metrorail	*Provision of commuter rail transport services.*
National Ports Authority[38]	*Port infrastructure and marine-related services provision, management of port activities in a landlord capacity and the regulation of the port systems.*
SA Port Operations	*Port terminal and cargo operations in commercially viable business units.*
Petronet	*Transportation of petroleum products and gas through a high-pressure long distance pipeline network*[39]*.*
Freightdynamics	*Road freight business with a national network of operations, focuses on containerised goods, general cargo, and refrigerated cargo.*
Transtel	*Telecommunications unit of Transnet operating the largest private telecommunications network in Africa.*
Transwerk	*Engineering unit, leading manufacturer/refurbishers of railway rolling stock.*
Propnet	*Real estate unit, managing Transnet's property portfolio and commercial property development.*

Transnet's subsidiaries include South African Airways (Pty) Ltd, the national airline and dominant domestic air transport service provider.

From a transport regulation point of view Spoornet and Metrorail, the National Ports Authority, and the South Africa Port Operations in particular are worthy of further discussion.

Spoornet, the largest division of Transnet, owns and maintains the long-distance rail network in South Africa.[40] Its core business consists of freight logistics for customers in mining, heavy and light manufacturing sectors. Spoornet consists of 6 business units, including a commodity freight transport unit, a commuter services unit, two dedicated commodity rail links, an international joint ventures business and a luxury train business[41].

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[38] The National Ports Authority and the South African Ports Operations constituted 'Portnet' previously.
[39] Pipelines will be economically regulated by the gas regulator, which will probably be incorporated into the National Electricity Regulator.
[40] The stations and associated property is owned by the SARCC.
[41] The latter two include: Luxrail which operates the Blue Train, and manages contracts with other luxury rail operators such as Rovos Rail and Spier which use Spoornet's infrastructure; and Spoornet International Joint Ventures, which operates a consulting, management and operating business providing railway equipment and services to other countries, mainly in Africa, and through Comazar, a rail investment company of which Spoornet is the largest shareholder, which acts as a railway developer, concessionaire and operator, mainly in Francophone Africa.

The General Freight Business provides commodity freight transport. The commuter services unit, Shozoloza Meyl[42], provides commuter services, luxury travel and charters, mainly long distance. The dedicated commodity rail links are Coallink (transporting export coal from Mpumalanga to Richards Bay's export terminal) and Orex (transporting iron ore from northern Cape to Western cape coast). These dedicated export links are highly profitable and are considered of world-class standards.

Metrorail is the only rail commuter operator in RSA. Its operations are currently loss-making: in 2002 'cost coverage' was 46.3% against a target of 47.6%[43]. Metrorail receives subsidy from government according to a subsidy formula. It faces several challenges, not the least of which is how to allow the state to reduce its subsidy whilst investing in infrastructure upgrading.

Spoornet has historically been a loss-making recipient of internal Transnet cross-subsidies, although this appears to be changing currently. Spoornet's financial results improved in 2002, compared to 2001, mainly due to improvements in the freight business, which were attributed to operational improvements and cost containment.

There are several restructuring proposals being discussed by the NDOT and Spoornet, including: a merger between Coallink and the General Freight Business to form an integrated freight company; a merger between Shozoloza Meyl, Metrorail and the SARCC, with a revised subsidy mechanism; the concessioning of Orex; and the concessioning or sale of Luxrail.

On the ports side, the restructuring of Transnet included a conscious move to separate the owner of the ports infrastructure (which is a natural monopoly at the single port level) from the provider of port operation services (which is potentially competitive). The ports infrastructure is owned and operated by the National Ports Authority and the port terminal and cargo operations are performed by the South African Port Operations unit of Transnet. The ports are the most profitable of all of Transnet's units and provide much of the cross-subsidy for Transnet's rail operations. Significant changes to the regulatory framework regarding ports are imminent. These proposals will be discussed in greater detail in the section on port regulation.

3.4 Regulatory Frameworks

As noted above, regulatory frameworks in the transport sector differ markedly from those prevalent in other network industries such as telecommunications and electricity with the emphasis being strongly on safety rather than economic aspects of regulation. The drive towards greater commercialisation of the sector that has taken place since the 1990s has not been accompanied by parallel development of regulatory institutions, procedures and mechanisms. There is a strong emphasis on safety and standard regulation and a remarkable lack of economic regulation. The sector is further characterised by state-ownership, limited private sector participation and the absence of independent regulators.

[42] Formerly the 'Mainline Passenger Services' business unit.
[43] As it does not own the rail infrastructure network, more than 50% of Metrorail's costs are labour costs.

The table below aims to capture the regulatory frameworks that do exist in the various transport modes. The table highlights the essentially arbitrary split between DPE and NDOT regarding policy definition and ownership the various transport modes, with DPE shareholding of rail and ports and NDOT shareholding of road and aviation infrastructure. The table further highlights the emphasis on safety regulation and lack of economic regulators in the various transport modes. The individual modes will be discussed briefly below.

Mode	*Economic Regulation*	*Safety and Standards Regulation*	*Infrastructure investment*	*Policy responsibility*	*Shareholder*
Road	Toll levies determined by SANRAL, approved by Minister of Transport	NDOT; Cross Border Transport Agency (CBTA)	- National/ Provincial/Local tiers of government for nat/prov/local roads. National roads devt. by SANRAL	NDOT and DPW (local level)	NDOT
Airports and Infrastructure (ATNS and ACSA)	Regulated by Regulating Committee, decisions approved by NDOT; co-jurisdiction with competition authorities	NDOT, implemented by CAA	ACSA, ATNS, Regulating Committee, NDOT	NDOT	NDOT
Air services (airlines)	Competition authorities; International Air services licensing Council; bilateral agreements	NDOT CAA (ICAO standards)	DPE (SAA only)	NDOT	DPE
Ports	None: NPA tariffs submitted to Transnet Board ('self-regulation')	NDOT Safety requirements impl. by SAMSA	NPA/Transnet and DPE	NDOT; DPE for restructuring	DPE (both NPA and SAPO)
Rail freight	None: Spoornet sets its own tariffs ('self-regulation')	Rail Safety Regulator; NDOT	Spoornet/Transnet	NDOT; DPE for restructuring	DPE for service provider (Spoornet) and long-distance infrastructure
Rail passenger	None: SARCC manages Metrorail contract, no economic regulation such as price caps. Government provides subsidy.	Rail Safety Regulator; NDOT	Spoornet/Transnet	NDOT; DPE for restructuring	DPE for service provider (Spoornet); NDOT for infrastructure (SARCC)

Roads

The road infrastructure is the responsibility of 3 tiers of government, namely national, provincial and local government. At the national level the NDOT is responsible for policy setting, implemented by the NRA. Provincial government is responsible for provincial roads, although, due to lack of capacity, the NRA has increasingly been tasked with the planning and building of 'strategic' provincial roads. Local government and the Department of Public Works are responsible for rural roads.

As indicated earlier, the NRA is an independent statutory company, owned by SA government (Minister of Transport). It is governed by a Memorandum of Understanding, approval of its business plans by the NDOT and ministerial consultation. Its mandate is to develop, maintain and manage South Africa's national road network. Although the NRA is not an economic regulator, the entity does have price-setting powers, notably regarding toll fees. Toll fees are recommended by the NRA, subject to approval by the Minister of Transport.

The stratification of responsibilities across the three tiers of government means that in practice up to five separate types of road authorities are involved in road delivery, namely: central, provincial and metropolitan government; district municipalities and local municipality road authorities. This framework therefore requires coordination across three tiers of government and five types of road responsible authority. Internationally, there are often no more than two types of authorities involved, due to the complexity of policy coordination[44]. The effectiveness of the road infrastructure framework is further challenged by a fragmented allocation of road funding across the three tiers of government, via non-earmarked budget allocations, which allows for intra-budgetary reallocations towards unrelated budget items. The implementation of road policy is thus characterised by sub-optimal investment, no stringent performance monitoring and a lack of capacity, particularly below national level.

Institutional restructuring to address the lack of coordination in road planning and funding has been proposed, including the establishment of a Road Fund Administration, which would act as a co-ordinating body combining representatives from the three spheres of government, National Treasury, the Department of Provincial and Local Government (DPLG) and the South African Local Government Association (SALGA). Its functions would include the development of uniform standards and policies; a review of road proposals at provincial/municipal level; and allocation of earmarked road funding.

Aviation

The aviation regulatory framework is discussed in greater detail in the relevant case study section. The table highlights several unusual idiosyncrasies of the South African framework for aviation regulation. Firstly, the Minister of Transport is responsible for appointing the Regulating Committee and approving its decisions, whilst at the same time acting as the majority shareholder for the

[44] NDOT (2002a).

very entities that the Regulating Committee regulates. Secondly, the formal requirement of approval of its decisions by the responsible Minister is a general indication of lack of independence of the regulator. Lastly, the co-jurisdiction with the competition authorities requires at least an unambiguous and enforceable cooperation agreement between the two authorities, which unfortunately to date has not been concluded.

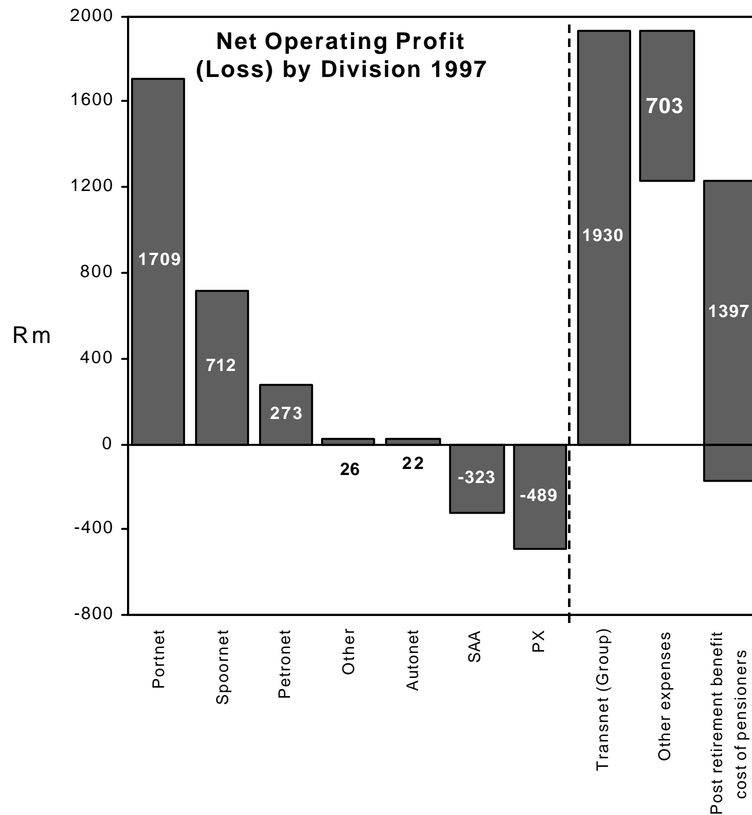
Ports and Rail

The regulatory frameworks for ports and rail transport are quite distinct from the two modes discussed above. Although the infrastructure (ports) and/or monopoly service provider (rail and ports) are part of commercial entities, no independent regulator exists. The public ownership of Transnet allows the DPE to approve business plans and to monitor the performance of Transnet in terms of its so-called 'Compact', but this does not involve formal approval of tariffs for the individual business units of Transnet.

In the case of ports, port tariff proposals are submitted by the NPA to the Transnet Tariff and Marketing Committee and determined by Transnet board, which evaluates the tariffs in context of the overall profitability Transnet. The ports are highly profitable and responsible for approximately 80% of Transnet's profit. Despite this high profitability, port infrastructure suffers from investment backlogs, and port delays are a well-known problem. As the profits from all its business units are appropriated by Transnet, port profits do not necessarily translate into port investment. Investment proposals by the NPA are considered in terms of Transnet's overall investment fund availability, and the NPA is required to fund port investments by borrowing from Transnet. The port profits, apart from contributing to Transnet's headline earnings, are used to make up losses in other units, most notably rail services, resulting in extensive inter-modal cross-subsidisation.

Such cross-subsidisation creates capital expenditure shortfalls (e.g. in ports) and rewards some customer segments over others. For example, Metrorail, South African Airways and Freightdynamics are to a large extent insulated from the consequences of their performance, as losses are covered profits from other Transnet business units[45]. The figure below indicates the distribution of profits and losses across Transnet units in 1997[46]. The profitability of Transnet remains unevenly spread across its divisions, with the NPA recording the greatest profits, and SAA, Spoornet, Propnet, Transtel, Transwerk and Petronet recording smaller profits. Freightdynamics is currently loss-making and Metrorail would be loss-making without the government subsidy[47].

[45] Moving South Africa, p.174.
[46] Reproduced in: Moving South Africa, p.52. The figure does not reflect true losses by rail operators as it includes the government subsidy.
[47] Transnet Annual Report 2002.



Source: Transnet Annual Report 1997

At present, significant changes are proposed to this framework. Proposed institutional changes are included in the National Ports Authority Bill and the White Paper on Commercial Ports Policy. These proposals envisage the NPA with landlord responsibilities (infrastructure manager) and the future removal of the NPA from Transnet. Whilst the NPA is part of Transnet an *interim* regulator is proposed, to prevent discrimination between SAPO and other port operators and to regulate the relationship between Transnet and the NPA. The concessioning of port operations will allow for competition *for the market* and at present it appears that SAPO will cease to exist as it will not be allowed to tender for NPA concessions. The envisaged end state however, appears to be one without a permanent economic regulator for the ports, whereby the NPA would simply be subject to the Competition Act (1998), without specific tariff approval by a regulator.

The regulatory framework for rail services (i.e. passenger and freight transport services) is similar to the current approach to port regulation, whereby Transnet manages the service provider as one of its business units and is indirectly managed by DPE. There are three notable exceptions, however. The rail stations are not owned by Transnet but by the South African Rail Commuter Corporation (SARCC), which is a government-owned agency that reports to NDOT. The SARCC operates commuter rail services under concession agreements, which are exclusively with Metrorail. Secondly, passenger rail transport services (provided by Metrorail) are explicitly subsidised by government (via the NDOT budget) and the service delivery by Metrorail is monitored by the SARCC and thus indirectly

by the NDOT. There is no formal economic regulator and a rail safety regulator was recently established. The SARCC has a regulatory function regarding Metrorail in terms of its contract management, but lacks any formal price-setting powers. Among the planned restructuring efforts are a merger between Metrorail, the service provision part of the SARCC and Shozoloza Meyl (combining all commuter rail services and the infrastructure), whilst the 'regulatory capacity' part of the SARCC is to become part of a genuine economic rail regulator. Unfortunately, these changes are in a preliminary phase only, and no clear policy or legislation has been developed.

3.5 Case Study: Aviation

Institutional arrangements

There are many players involved in the policy development, implementation and regulation of aviation matters. The Department of Transport (NDOT) is responsible for policy development, which is implemented via several agencies, namely the South African Civil Aviation Authority (CAA), the Airports Company of South Africa (ACSA) and the Air Traffic and Navigation Services Company (ATNS).

Safety regulation is the ambit of the CAA, which reports to the Minister of Transport, who approves the CAA's performance agreement and business plans. The CAA enforces international standards agreed via the international civil aviation organisation. As the focus of this report is on economic regulation, the CAA functions and mandate will not be further explored.

Airport infrastructure and facilities are provided by the Airports Company of South Africa (ACSA). This is a partially privatised state-owned enterprise, established in 1993, of which the majority shareholder is the NDOT as represented by the Minister of Transport. ACSA operates the nine national and international airports in South Africa and provides aeronautical services for which it receives airport charges (e.g. landing fees), as well as non-aeronautical services, such as parking, shops etc from which it derives property and retail revenues[48]. Prior to the establishment of ACSA, all airports in South Africa were owned and operated by the state. Initially the Minister of Transport was the sole shareholder, but in 1998 Aeroporti di Roma (an Italian airports management firm) won a competitive tender to become ACSA's strategic equity partner and bought 20% of ACSA's shares[49]. The strategic equity partner has an option to acquire a further 10% stake by April 2004.

The Air Traffic and Navigation Services Company (ATNS) provides air traffic, navigation and associated services. ATNS is a state-owned enterprise, also

[48] The airports operated by ACSA include Johannesburg, Cape Town, Durban. Bloemfontein, Port Elizabeth, East London, George, Kimberley and Upington. The Company has a 35-year concession to operate Pilanesberg International Airport near Sun City in the North-West Province. Together, these airports handle more than 200 000 aircraft landings and 10 million departing passengers annually.

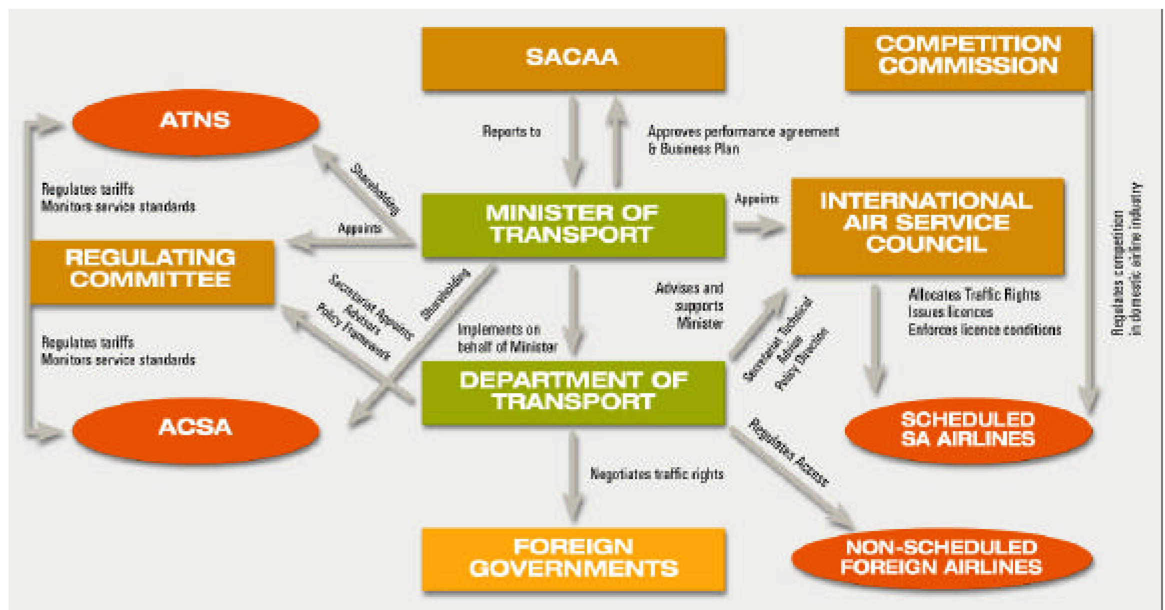
[49] Other shareholders include five empowerment consortia, namely: G10 Investments, Telle Investments, Pybus Thirty-34, Up-Front Investments 64 and Lexshell 342 Investments Holdings, which together own 4,22%.

established in 1993, which operates on a commercial basis, and whose sole shareholder is the NDOT as represented by the Minister of Transport. The separation of navigation services and airport facilities is largely modelled on the UK and US practice, although this approach has not been universally adopted. Both ACSA and ATNS are economically regulated by a Regulating Committee, which is appointed by the Minister of Transport.

Traffic rights and licences are allocated by the International Air Services Council (IASC) according to bilateral agreements negotiated by the NDOT. The IASC, which was also established in 1993, is appointed by the Minister of Transport and responsible for the licensing and control of international air service operations and licence holders. The bilateral air service agreements determine access to the airline industry as these agreements establish the number of flights that may be operated between two countries, as well as the number of carriers, entry points etc.

ATNS and ACSA are prevented by law from involvement in air transport service provision (i.e. operating airlines), although the Department of Public Enterprises is, via its ownership of South African Airways.

The schematic representation below outlines the main institutional arrangements in aviation.



Source: ATNS (2002), Presentation to the Civil Aviation Authority and ATNS Executive teams', 27 November 2002. Reproduced with permission.

Formal regulatory structures and legislative framework

The Acts governing aviation can be divided into three categories: safety regulation, economic regulation and institutional arrangements (see Appendix I). The economic regulation is primarily contained in the Airports Company Act (1993), which establishes the Regulating Committee; the Air Traffic and Navigational Services Company Act (1993); and, to a lesser extent, in the

International Air Services Act (1993), outlining the functions of the International Air Services Council (IASC).

Regulatory design

The economic regulation performed by the IASC lies in the regulation of access to traffic rights, not fees or tariffs. Domestic flight tariffs are not regulated (apart from competition legislation) and international tariffs are subject to the relevant sections of the bilateral agreement, which generally contains a 'double disapproval' clause, which means that for an air fare to be contested, both parties (i.e. governments) party to the bilateral need to disapprove of the fare. This system is an accepted international practice.

Access to landing rights in South Africa is thus in principle determined by NDOT, which negotiates bilateral agreements with foreign counterparts. The way in which these agreements are structured is inherently anti-competitive, as it sets reciprocal limits on the number of flights, carriers, entry points etc., thereby creating barriers to entry. However, the system is internationally accepted and can be justified on the basis of safety considerations. From a policy perspective, it is obviously of significant importance, that the national tourism and industrial strategy are carefully coordinated with the negotiation of air service bilateral agreements.[50] In addition, the bilateral agreements are increasingly becoming scrutinised by competition authorities, and cooperation between the South African competition authorities and the NDOT on this front is imperative.

The economic regulation of infrastructure services pricing is the responsibility of the Regulating Committee[51]. ACSA and ATNS both have exclusive control over the national aviation infrastructure required by airline carriers to provide services[52]. The charges for access to this infrastructure and services provided are thus regulated to prevent abuse of dominance or monopolistic rents. Basic principles of economic regulation are included in the respective acts of parliament establishing ACSA and ATNS, which prevent the companies from undue discrimination against or among various users of air navigation infrastructure or air traffic services; and prohibit restrictive practices. Detailed regulatory decisions are taken by the Regulating Committee, to which ACSA and ATNS submit airport and navigational services tariffs for approval.

Economic regulation of ATNS and ACSA is subsequently implemented by the granting of 'permissions' by the Regulating Committee[53]. ACSA's permission enables the company to levy airport charges and the ATNS permission allows ATNS to levy air traffic service charges, both permissions contain limits on increases in such charges. The permissions are valid for 5 years and ACSA and ATNS re-apply for the permissions in the third financial year of its current

[50] An analysis of the total set of bilaterals that South Africa has concluded, 101 in total, of which 56 are active, is outside of the scope of the current exercise.
[51] Note that the Regulating Committee does not regulate airlines.
[52] This involves the national airports only, although ATNS renders contract services at smaller airports. Aircraft operators are charged, per aircraft movement, for services provided.
[53] Airports Company of South Africa Act, 1993 and Air Traffic and Navigational Services Company Act, 1993.

permission (so that there is a two year overlap). The applications must be accompanied by business plans and any information required by the Regulating Committee.

For ACSA and ATNS, the individual permission may limit the total amount that may be levied by way of either airport charges or air traffic service charges respectively; may limit the amount of any particular (category) airport charge or air traffic service; or may employ a combination thereof. The permission also prescribes service standards for the relevant company.

The ACSA and ATNS Acts indicate that the Regulating Committee may determine the tariffs 'in such manner as it deems is best calculated', balancing the company's commercial activities with prevention of abuse of monopoly power, whilst promoting safety; user interests; timely investments and ensuring a reasonable prospect of the company earning a commercial return.

The Regulating Committee currently employs a price cap based on the CPI-X methodology, in which ACSA's X-factor (i.e. the percentage by which real prices must decrease or the 'efficiency discount') has been determined at:

X-factor for ACSA

Financial Year	X factor
2001/2	- 7.0%
2002/3	- 6.0%
2003/4	- 6.0%
2004/5	- 0.7%
2005/6	+ 1.4%

Source: Regulating Committee 2000[54]

At the predicted inflation rates[55] used for the calculations of 6%, this schedule meant that in the first three years of the permission nominal prices could increase by 12–13% and that real prices could rise by 6-7%. The final two years of the permission allowed either significantly smaller tariff increases (less than 1% in real terms in 2004/5) or demanded a real tariff decrease (of 1.4% in 2005/6). The level of X is set to enable the Company to reach a 16% rate of return (i.e. 10% real rate) in year 2005/06[56].

A similar formula is employed to cap ATNS' charges. In the case of ATNS, the X factor has been set as follows:

[54] Regulating Committee (2000), The 2001/2-2005/6 Airports Company of South Africa Regulating Committee Permission to Levy Airport Charges, Government Gazette, Vol. 427, No. 21980, 19 January 2000, Notice 155 of 2001.
[55] Predictions made in 1999/2000.
[56] Source: Regulating Committee (2000), The 2001/2-2005/6 Airports Company of South Africa Regulating Committee Permission to Levy Airport Charges, Government Gazette, Vol. 427, No. 21980, 19 January 2000, Notice 155 of 2001.

X-factor for ATNS

Financial Year	X factor
2001/2	- 5.3%
2002/3	- 5.0%
2003/4	- 6.3%
2004/5	+ 6.2%
2005/6	+ 5.0%

Source: Regulating Committee 2000[57]

The level of X is set to enable the Company to reach a 14% rate of return (i.e. an 8% real return) in year 2003/04 and maintain it at that level. This X-factor schedule was intended to allow real prices to increase (by 5.3-6.3%) in the first three years. In the last 2 years of the permission, nominal price decreases of 6.2 and 5.0% respectively will be demanded. The Regulating Committee can make changes to the permission conditions, except during the last two years of the permission[58], subject to Ministerial approval. Prior to the Airports Company Amendment Act of 2001, the Regulating Committee had to obtain the approval of the company when making a change in conditions, but the amendment act changed this to a mere consultation requirement. The Regulating Committee does, however, require the Minister's approval for changes to permission conditions.

Mandate Regulating Committee

The Regulating Committee sets the limits on airport and air traffic services charges and is free to choose a methodology in this regard. Its legal mandate[59] obliges the Regulating Committee to:

- Restrain ACSA and ATNS from abusing their monopoly position in such a manner as not to place undue restrictions on the company's commercial activities;
- Promote reasonable interests and needs of users of any navigation infrastructure or air traffic services;
- Promote the safe, efficient, economic and profitable operation of air navigation infrastructure, air traffic services and air navigation services;
- Encourage timely improvement of air navigation infrastructure so as to satisfy anticipated demands by the users of the infrastructure; and
- Ensure that the company, after taking into consideration any compensation paid or to be paid to the company by the State in terms of the provisions of this Act or any other law, is able to finance its obligations and have a reasonable prospect of earning a commercial return.

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[57] Regulating Committee (2000), The 2001/2-2005/6 Air Traffic and Navigation Services (ATNS) Company Permission to Levy Air Traffic Service Charges, Government Gazette, Vol. 427, No. 21980, 19 January 2000, Notice 157 of 2001.

[58] During the last two years the Regulating Committee can however change the X factor for the two overlapping years.

[59] ACSA Act, 1993 & ATNS Act, 1993.

This mandate provides potential for conflict as it not only expects the regulator to balance commercial revenues (i.e. the incumbent's interests) with the potential for monopoly rents (i.e. the users/consumers' interests); but also imposes on the regulator the responsibility for financial viability of the regulated entity. Moreover, the regulator is expected to allow the regulated entity to meet its finance obligations and have a commercial return. While it is not uncommon for regulators to be required to seek to ensure the financial viability of monopoly providers of essential public services, these obligations are usually conditional on the operator running, and financing, the business in an efficient manner. These approaches recognise that the users of the services should not be forced to pay for, for example, inefficient debt financing or infrastructure 'gold-plating'.

Where regulated entities are responsible for investment decisions and are guaranteed a return on such investment (for instance under pure rate of return regulation) the 'Averch-Johnson effect' - over-investment in infrastructure - is commonly found. Some regulators therefore construct a cost model of a theoretical optimised service provider with ideal debt-equity ratios[60] as well as optimal investment levels and impose the revenues required for the theoretical ideal on the regulated entity, regardless of its gearing, so as to provide incentives to move towards a more efficient financing model and infrastructure investment. In order to eliminate operational inefficiencies, similar benchmarking is performed for the operational expenditure of the regulated entity. The Regulating Committee therefore has to tread carefully when imposing price caps, incorporating investment requirements, viability, users' needs and commercial returns.

The mandate of the Regulating Committee also includes the evaluation of either ACSA or ATNS' decision to close of a facility or discontinue a service. The Regulating Committee is expected to advise the minister in this regard (e.g. whether a state subsidy is in order to ensure continued operations) and consider stakeholders' views as well as handle any complaints about the proposed closure. The Regulating Committee is expected to consider the implications of such proposal for the South African transport system; the users of the infrastructure or air traffic service; and any other affected institution or person. Complaints regarding intended closures must be investigated by the Regulating Committee and remedied via instructions to the company to compensate for any losses incurred by users and/or withdrawal or suspension of the permission.

Governance structures

ATNS operates under the direction of a Board of Directors, which monitors the performance of executive management. The roles of Chairperson and Chief Executive do not reside in the same person: the Chairperson is a non-executive Director. There is one executive director of ATNS (the managing director), who has been appointed for an indefinite period[61]. Similarly, ACSA is governed by a Board of Directors, consisting of a chairman; 7 non-executive directors, including

[60] for the industry involved.
[61] ATNS Website: www.atns.co.za.

most notably the Minister of Transport; 3 executive directors, and a managing director[62].

Interaction between the regulated companies and government takes place either directly, with the Minister of Transport, or indirectly, with the Regulating Committee. The Minister of Transport is a shareholder of ATNS and ACSA and therefore meets with the ATNS Board of Directors in that capacity. The Minister of Transport also appoints the Regulating Committee.

The Regulating Committee consists of a chairman and four members (of whom at least two are not civil servants), appointed by the Minister[63]. Remuneration is also determined by the Minister. All administrative work associated with the Regulating Committee is performed by officials employed by the Department of Transport. The Regulating Committee submits annual reports to the Minister, which are subsequently tabled in Parliament. Appeals regarding its decisions can only be submitted to the courts on procedural grounds. There is no formal appeal procedure for substantive decisions by the Regulating Committee.

A major point of contention was the appointment of the chairman of the Regulating Committee as the Acting Director General for the Department of Transport. This situation was rectified by the appointment of a new chairperson after complaints were made by industry stakeholders.

One anomaly in the governance structures remains, however. Currently the CEO of the CAA has both executive/administrative responsibilities and custodial responsibilities, as the CAA Commissioner. In the capacity of Commissioner, the CAA CEO is expected to investigate accidents, grant licences and exemptions and perform adjudicative functions, whilst in his capacity as executive director, the CEO of the CAA is responsible for reporting accidents the CAA may have caused to the Commissioner. Ideally these responsibilities should not be vested in the same person.

Concurrent jurisdiction exists regarding competition matters with the competition authorities. The Competition Act obliges all sector regulators to sign a memorandum of understanding with the Competition Commission that outlines the demarcation of such jurisdiction. The Regulating Committee has no formal agreement with the Competition Commission yet, so that the concurrency can lead to forum-shopping. This arrangement is currently put to the test, which will be discussed in the next sections.

Performance of the regulator against its mandate

In evaluating the Regulating Committee against its mandate several issues need to be taken into consideration. Obviously, the operational performance (i.e. in terms of delivery of timeous regulatory decisions) can differ from the substantive performance (i.e. in the quality of the regulatory decisions). This assessment is further complicated when, as is to be expected, various stakeholders hold diverging views.

[62] ACSA Website: www.airports.co.za.
[63] Currently no member of the Regulating Committee is a civil servant.

On the operational side, the decisions by the Regulating Committee are certainly in line with predetermined time lines and involve informal consultation of stakeholders. Moreover, its decisions have to date not been overturned by the Minister of Transport.

However, stakeholders have argued that the part-time nature and small size of the Regulating Committee results in a lack of human capacity and skills required to oversee this complex industry. This leads to disagreements on the substantive decisions taken by the Regulating Committee.

For instance, the Regulating Committee has had to deal with several problems in the price cap implementation. The appropriate rate of return has been a contentious issue, as well as the provision for capital expenditure. In the previous permission (1995-2000) ACSA was granted a certain rate of return based on planned capital expenditure. When the infrastructure investments were not made in full the Regulating Committee corrected for this over-collection via the annual correction factor. Unfortunately these claw back provisions can only be implemented with an effective two-year lag.

The decisions of the Regulating Committee involve rather complex financial modelling, which is largely achieved through the engagement of outside consultants. From a regulatory point of view, there need not be a problem with contracting specialist skills, since this allows for a lean and focussed organisation using independent advisory services, as long as the regulator retains sufficient ownership of the consultants' decisions. Likewise the part-time nature of the regulator has advantages, in the sense that highly skilled individuals can be attracted to serve on the Committee and is essentially reflective of the cyclical nature of the permission investigations.

A problem arises when this model of the Regulating Committee modus operandi is insufficient to fulfil its mandate. Here one could certainly argue that a Regulating Committee that focuses almost exclusively on the annual review of the permissions and has only 6-9 meetings per annum, will not be able to implement continuous monitoring of the industry to prevent and remedy abuse of dominance by the regulated entities.

The main rationale behind a sector-specific regulator is that it will be able to develop specialist knowledge of the industry and perform proactive and reactive regulatory oversight, whereas a competition authority is often only mandated to take ex-post corrective actions. As will become clear from the next section, the Regulating Committee does not have a working relationship with the Competition Commission and uncertainty exists regarding whether its decisions are subject to challenge by the competition authorities. In such a setting the Regulating Committee is clearly the custodian of pro-competitive regulation of the aviation industry (and protection of consumer interests) and the complaints by the airlines to the competition authorities are therefore an indication of problems with the regulatory framework.

Performance of the regulator within the regulatory framework

A first step in assessing regulatory performance in the context of the regulatory framework is generally provided by an assessment of independence. The aviation Regulating Committee is not formally independent as (i) its decisions require Ministerial approval; (ii) its members are appointed by the Minister of Transport; (iii) its budget is derived from the NDOT and (iv) it is dependent on the NDOT for administrative support. Moreover, its independence is compromised by the shareholding relationship with the regulated entities by the Minister of Transport.

Despite these formal arrangements, the Regulating Committee appears to operate quite independently. For example, its decisions have to date not been overturned by the Minister of Transport and its tariff recommendations have always been approved. However, as the latter findings could equally indicate a lack of independence from the NDOT, a definitive qualitative judgement on the effective independence of the Regulating Committee is premature at this stage. Based on the formal arrangements large scope exists for ministerial discretion, and such scope is ill-advised in economic regulation in general, but particularly in this situation, where the Minister of Transport is also the shareholder of the regulated entities.

What is perhaps more problematic in the performance of its role in balancing the interests of various stakeholders is the lack of appeal procedures other than civil action to the national court system on procedural grounds and the absence of appeal on substantive grounds. This issue has also been highlighted by complaints lodged by the airlines association with the competition authorities.

The airlines (who are the users of the regulated infrastructure) have found the decisions of the Regulating Committee too lenient on ACSA and ATNS at times, and argue that the price caps set by the Regulating Committee allow excessive returns. The concurrency of jurisdiction between the Regulating Committee and the Competition Commission will be given its first test this year, after the Airlines Association of South Africa and the Board of Airline Representatives in South Africa complained to the Competition Commission about the tariffs of ACSA and ATNS, which are set by the Regulating Committee[64].

The charge essentially claims that the two SOEs are charging ‘excessive prices’, which is one of the examples of abuse of dominance prohibitions covered by the Competition Act (1998). The complaint relates to passenger, landing and parking fees and in particular the applicants object to the 16% return that ACSA is allowed to reap, when 11% is considered a more appropriate number for this industry. The Competition Commission has launched an investigation, in which the Regulating Committee initially refused to cooperate until it was been provided with a legal basis for review of its decisions by the competition authorities.

The case illustrates the potential for ‘forum-shopping’ that is created by the concurrency of jurisdiction framework. What is particularly disturbing about this case is that it does not simply involve a complaint about prices set by a dominant

[64] Chalmers (2002), Business Day 26 August.

firm, but that it involves a complaint about excessive pricing *mandated* by a regulatory entity.

Policy implications

The regulation of the aviation industry is demonstrably the most advanced of all of the transport modes. Despite this head start however, some recommendations for improvement can be made.

Regulatory effectiveness

Firstly, a separation of the ministerial duties of shareholding and regulation is advisable, as these duties may require contradictory actions in a given situation. The fiduciary responsibility of the Minister of Transport as a member of the ACSA board may conflict with the responsibility to appoint an independent and empowered regulator that is supposed to balance the interests of all stakeholders. Secondly, regulatory credibility would be greatly enhanced if the independence of the Regulating Committee were ensured. This would involve an institutional separation between the NDOT and the Regulating Committee, and the eradication of Ministerial approval for recommendations. Similarly, the separation of the role of Commissioner and CEO of the CAA is advisable.

Regulatory framework

Regarding the regulatory framework and its interaction with competition legislation, it is of paramount importance to clarify the demarcation of jurisdiction between the competition authorities and the Regulating Committee. The co-existence of a sector-specific regulator and economy-wide competition authorities presupposes some degree of cooperation and jurisdictional certainty. In the case of aviation the co-existence of both institutions is complicated by the fact that the aviation Regulating Committee is only responsible for regulation of the infrastructure companies and not for anti-competitive practices in air transport services provision (i.e. between airlines).

Rigorous and swift application of competition laws is of particular importance in the airline industry where predatory pricing for instance can lead to a sudden demise of an airline. Internationally, the impact of deregulation in aviation in terms of tariffs and operators, has led to an increased focus on behavioural regulation (e.g. competition regulation) and the need for rapid implementation of such regulation has been widely recognised. Some international examples of dedicated competition divisions for aviation (EU and US) illustrate the necessity for vigilant and specialist application of competition laws.

In the current framework, the South African competition authorities could enhance their capacity to deal with anti-competitive practices by airlines in order to meet this need. In addition enhanced airline consumer protection (e.g. against overbooking, or code-sharing problems) should be developed. Alternatively, the Regulating Committee could be transformed into a fully-fledged sector regulator. The latter option appears less advisable in the absence of regulatory independence and more permanent structures. At present the demarcation of jurisdiction between the sector-specific regulator and the competition commission is an

unsatisfactory one. More research is therefore required into alternative arrangements for co-existence of sector specific and economy-wide competition regulation.

Policy coordination

A final issue regarding the framework concerns policy coordination between the responsible government department and the commercial agencies established in an effort to move government away from operations to focus on policy. The establishment of commercial entities requires some mechanisms for alignment to policy developments. This is particularly important in transport where the development of infrastructure is interdependent on policies in other areas, including tourism policy, industrial policy, trade policy etc.

Policy coordination and implementation is complicated in aviation by two aspects. Firstly, the separation of air traffic services and airports means that coordination is required to ensure that the two sets of infrastructure develop in tandem, e.g. improvements in ATNS' operations could allow it to navigate and land more aircraft, but without simultaneous improvements to ACSA's infrastructure, these aircraft would not be able to off-load. Secondly the commercialisation of the infrastructure companies requires the development of detailed investment planning and targets/incentives or performance contracts to ensure facilitation of government policy. Thus a proactive and assertive policy making department, with rigorous planning capability, is imperative to the successful coordination and implementation of aviation policy. In short, the creation of commercial agencies deepens, rather than reduces, government involvement in policymaking and implementation.

3.6 Analysis of the regulatory frameworks in transport

The overarching transport policy framework

The transport sector in South Africa, even though largely corporatised and commercialised, remains largely unregulated in the economic sense. Policy approaches, despite the intentions of overarching policy reviews such as Moving South Africa, remain fragmented with mode-specific strategies and a proliferation of single-modal implementation agencies.

This is not unusual in international terms, e.g. many transport ministries are structured along similar lines with comparable sections and agencies, but it does require special attention to be paid to policy coordination and to investment in capacity. Added to the proliferation of mode-specific agencies, each with their own unique mandate and institutional relationship to a government department, is the co-ordination challenge posed by the three spheres of government involved in transport (national, provincial and local). No overarching structure currently exists to coordinate the various agencies involved in transport infrastructure, leading to lack of alignment in terms of provincial spending on transport infrastructure; institutional gaps; and a lack of coordination across transport

modes[65]. What is further unusual is that the agencies concerned are almost exclusively dedicated to safety regulation, with little formal structures for economic regulation. The only area of economic regulation in the traditional sense of the word is found in aviation.

The 'modal myopia' that is found in transport policy making, is partly due to the nature of policy development and the expertise required in each mode, and partly due to the institutional framework for transport policy and legislation. The institutional framework has separated policy development from governance and thus rendered different Government Departments responsible for transport policy development and for the monitoring and restructuring of the state-owned enterprises involved in the transport sector. Transport infrastructure for different modes is owned by different entities and each has its own unique reporting procedures. Both factors have added to the large number of players involved in the sector. In addition, the overarching policy framework for this restructuring contains a long list of, at times conflicting, policy objectives. In such a setting, policy coordination is likely to be fraught with difficulties, requiring careful and deliberate cross-modal and cross-departmental synchronisation of policy development and prioritisation of objectives.

As a result of these institutional arrangements, the regulatory framework for each transport mode includes a complex web of overlapping and at times conflicting institutional roles. For instance, the Minister of Transport appoints the Regulating Committee for the aviation sector, whilst simultaneously acting as the majority shareholder for the regulated entities ACSA and ATNS. State-owned enterprise Transnet owns both the port infrastructure (NPA) and a dominant port service provider (SAPO) rendering the state player and referee. The Department of Public Enterprises is the sole shareholder in Transnet, mandated with monitoring its profitability, even has an official act as non-executive director on the Transnet Board, whilst at the same time being tasked with its restructuring in the context of overarching governmental objectives.

In addition, the establishment of commercial agencies responsible for service provision in the transport sector, such as the NRA, ACSA, ATNS, etc. and the corporatisation and commercialisation of Transnet, was not accompanied by the concurrent establishment of independent regulators or even of formalised reporting and monitoring procedures. Presumably, retaining government ownership was expected to suffice to ensure desirable conduct by these agencies and companies, and as there were no real private monopolies involved, no independent regulators would be required. However, establishing commercial entities that control vital transport infrastructure without ensuring proper economic regulation of these entities and without the introduction of competition, may have led to a situation less desirable than the initial state of affairs, namely publicly-owned, yet unregulated monopolies, acting as private monopolies. When no or limited scope for competition exists, commercialisation of vital enabling infrastructure such as transport networks, should be accompanied by strict

[65] The Moving South Africa project recommended several changes to the institutional framework, including the establishment of customised institutions to fill institutional gaps. Moreover, the report specifically stated that such institutions should not be organised around modal interests, but around customer groupings, such as urban passengers or long-distance customers. Moving SA, p122.

application of tariff controls, both in terms of level and structure, investment targets, and planning coordination, to ensure compliance with government objectives.

Some of the lack of regulatory oversight may have been an unintended result of the creation of the agencies, which drained the NDOT of key skills required to monitor those agencies. The current situation of wide-ranging ministerial discretion is certainly undesirable from a policy credibility and predictability point of view and could be remedied by the establishment of independent regulatory structures. Although not ideal, the regulatory oversight can be added afterwards, requiring investment in human capacity and some essential policy decisions.

When comparing the current state of transport frameworks with the objectives outlined in the 1996 White Paper on National Transport Policy, which included: intermodal competition and integration; evaluation of state ownership of transport infrastructure; ending intermodal cross-subsidisation; and the separation of ownership and regulation of transport infrastructure, we find the following. Intermodal cross-subsidisation continues to exist, combined ownership and regulation continues to exist in aviation, rail and road, and intermodal competition tends to be an unintended result of inefficiencies in a particular mode, such as is the case between rail and road, rather than the optimised use of transport options by consumers and industrial users[66].

Obviously, the entire transport infrastructure cannot be revamped in a short space of time and many initiatives aimed at greater intermodal coordination, such as the creation of transport authorities with intermodal planning responsibilities, are currently being implemented, so that it may be premature to perform such evaluation. However, though of critical and fundamental importance, no clear policy on inter-modal cross-subsidies exists.

The most evident cross-subsidy is the one between ports and rail. This cross-subsidy has been defended on the basis that it will be costly to remedy, as there are debt issues such as the Transnet pension fund to deal with, and as this will require alternative subsidy arrangements. When evaluating these costs it is helpful to analyse the counterfactual, namely what the actual costs incurred in the current situation are. There are direct as well as indirect impacts, some with unintended outcomes. As a direct impact, port charges are higher than they need be or investment expenditure is lower than it could be. This leads to poor price signals and is one of the major causes in port delays. However, the indirect impact of this policy choice is even more concerning. Using port charges to subsidise rail services or even as a cash cow, is tantamount to an export and import tax, increasing the cost of trade and reducing international competitiveness of South Africa's manufacturing industries. Port delays further lead to lost orders and congestion surcharges by shipping lines and to a sub-optimal use of South Africa's geographical comparative advantage as a gateway to Africa. Ultimately then, this situation is a cap on economic growth.

[66] This phenomenon was identified in Moving SA (1999) as 'price-based' inter-modal competition, rather than 'value-based' competition.

A further exacerbating factor is that customers, for instance general rail freight customers, do not cover the full cost of the service, which is only made possible by underinvestment, threatening the long-term sustainability of the rail, ports and road systems and distorting price signals[67]. The effects of under-investment in one mode are generally not isolated to that mode as under-investment causes negative externality effects in other modes. For instance, under-investment in rail infrastructure has led to increased industrial road use, leading to greater maintenance costs in the road network. In most countries, commuter rail is more competitive than road over longer distances because of road congestion and efficient rail infrastructure. In South Africa the opposite is true, causing an inefficient modal split between rail and road[68]. Cross-subsidies and under-investment thus tend to have reverberating effects in all transport modes and even in other sectors and should be closely scrutinised and steps taken towards inter-modal rate rebalancing.

This is not to say that subsidies, or even cross-subsidies, are *per se* taboo. Historically, Transnet has cross-funded among its different businesses, which was helpful in keeping the enterprise as a whole solvent. However, the opaque process of intermodal cross-subsidisation between ports and rail, determined by a commercial entity is highly undesirable. If such cross-subsidisation were deemed necessary, more efficient outcomes would be rendered by transparent solutions, directed and monitored by government. The policy objectives of Transnet's overall profitability, monitored by the DPE, and competitive port charges and services, required by NDOT and many other government departments such as the Department of Trade and Industry, need to be clearly prioritised in this setting. A policy decision needs to be taken regarding the nature of Transnet, which currently owns a series of relatively unrelated transport businesses, essentially deciding the balance between the profitability aspect and the utility aspect of Transnet.

Once the subsidies are made explicit, greater attention can and will be paid to the effectiveness and appropriateness of these subsidies and to their targeting. At present subsidies exist for long-distance buses, municipal buses, and commuter rail services, which maintain the legacy of transport planning aimed at the formal work force and on primarily white, higher income population groups[69].

Although policy and shareholding responsibility are to a large extent separate in the ports and rail sector, the accountability of Transnet to the NDOT is insufficient for this department to effectively implement policies via Transnet and the restructuring mandate of DPE can conflict with its shareholding responsibility. This illustrates that the mere separation of responsibilities is ineffectual if not accompanied by unambiguous reporting structures and regulatory mandates.

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[67] Moving SA (1999), p.37, p.50.

[68] Moving SA, p.143.

[69] As Moving South Africa pointed out "taxis, the mode which is most accessible to most of the poorest, does not receive any subsidy at all. One illustration of this occurs with the Stranded: 78% of transport consumers have access to taxi, whereas only 21% have access to commuter rail, which is the lowest price, most subsidised mode." Moving SA (1999).

Mode specific regulatory frameworks

An analysis of the transport policy framework requires both an assessment of the overarching policy framework and of the coherence of the mode-specific policies.

Aviation

A detailed assessment of the regulatory framework in aviation is provided in the aviation case study. In summary the regulatory framework suffers from weaknesses in three areas, namely the combined roles of the Minister of Transport as shareholder of the regulated entities and as the person responsible for appointing the Regulating Committee. Secondly the concurrency of jurisdiction with the competition authorities is providing scope for 'forum-shopping' and lastly, policy coordination and monitoring of the regulated entities in terms of government policy could be improved.

Roads

The institutional arrangements around the road network planning, funding and roll-out contain a few institutional gaps, which have been recognised by the NDOT. These are the coordination of infrastructure planning and spending across different tiers of government and the earmarking of budgets for road development. The proposed single authority that would responsible for coordinating road planning at all levels would certainly help to address this issue.

Regarding the institutional arrangements between the NRA and the NDOT the following can be noted. As the NRA is not a regulator, but an agency performing functions on behalf of government, independence of the NRA would be inappropriate. However, as is recognised by the NDOT, formal reporting procedures should be in place to ensure the agency acts in accordance with government policy. Presently the recommendations by the NRA are approved by the Minister of Transport, and this introduces a level of ministerial discretion which is generally ill-advised and creates uncertainty for the private sector wishing to engage in road building.

Ports

The current institutional arrangements and frameworks in the port sector are unsatisfactory from a regulation point of view. As Transnet controls both the infrastructure (NPA) and operations (SAPO), this entity, and through its shareholding structure the state, is both player and referee. As there is some competition in operations (freight handling/terminal operation), the state competes with the private sector in service provision.

Despite its shareholding though, the control of government over the price-setting, investment decisions and other pertinent aspects of this critical infrastructure is limited and performed via the Department of Public Enterprises, which is tasked with the restructuring of Transnet to *inter alia* enhance its profitability. The cross-subsidisation of other business units that is largely funded by port revenues creates distortions and places an undue burden on exporters.

The proposed institutional changes to the regulatory framework should go a long way in addressing some of these concerns, but at present will stop short from establishing a permanent independent regulator responsible for approving tariffs; regulating access; and ensuring sufficient investment takes place in ports infrastructure.

Rail

Similarly for the railways, the lack of regulatory control over consumer prices is a cause for concern. Certain issues, such as the under-investment in rail infrastructure will lead to significant negative externalities throughout the economy, and require urgent policy attention. The restructuring proposals, although promising, do not contain a clear vision of the regulatory 'end-state' or of approaches to subsidy reform. Enhancing the regulator control of the rail infrastructure is of crucial importance to the reform of the overall transport sector.

3.7 Preliminary transport policy recommendations

Regulatory frameworks need to be tailored to suit specific policy objectives, which may differ per country, or even per sector. Their form should therefore follow their content and in theory, no 'wrong' institutional structure exists. However, there are incorrect ways of designing regulatory frameworks, generally characterised by giving the wrong incentives or disincentives. International best practice in regulation has further clarified some basic principles against which a regulatory regime can be tested. Clearly defined mandates, regulatory independence, sufficient legal basis and resources to effectively implement the mandate are but a few examples.

The regulatory frameworks in South Africa's transport policy are not sufficiently developed to speak of economic regulation, with the exception of the aviation sector. Improvements to the regulatory framework for aviation include the separation of the shareholding and regulating responsibility and increasing regulatory independence. Increased independence will require concomitant increases in mandate and resources and a satisfactory appeals procedure.

As the current policy developments and restructuring processes in various transport modes are carried forward, the need for greater economic regulation will mount. Such regulation will be required in the ports, where a commercialised entity controls the infrastructure, and in railways, where, a commercial entity provides services and controls the long-distance infrastructure.

The restructuring of Transnet raises several fundamental issues regarding the utility or enabling function of transport infrastructure; inter-modal cross-subsidies; and effective control of public-owned enterprises. Explicit economic regulation in terms of tariff levels and structures; access to the networks; and investment targets to ensure sufficient infrastructure maintenance and upgrading would assist in at least transforming the current opaque processes regarding these critical decisions into explicit policy choices.

Institutional changes to be considered include severing the links between the NPA and Spoornet/Metrorail and Transnet, or at least discontinuing the inter-modal cross-subsidy links that exist within Transnet. Different institutional options exist for the NPA, e.g. the NPA can remain in Transnet as a ring-fenced entity with an independent regulator; or the NPA could be moved out of Transnet and operated as a state-owned entity subject to regulatory oversight; or the NPA could be privatised. However, regulatory oversight with minimum standards for investment, safety and operational targets and maximum user charges will be required regardless of the institutional variant chosen.

If revenues in a certain mode are found to be insufficient to cover operating and investment expenditure, a transparent transfer, fiscal or otherwise, should be considered in a framework of conscious subsidy targeting. In this context, the planned review regarding the impact of toll roads should be included.

In the context of an alarming proliferation of regulatory bodies, budgetary constraints and lack of human capital, the option of a cross-modal transport regulator deserves further investigation.

Furthermore, it is of critical importance that the concurrency of jurisdiction between the competition authorities and the transport regulator(s)[70] is solved satisfactorily, either through the conclusion of memoranda of understanding, but preferably by clarification of the legal status of appeals on decisions by regulatory bodies. In addition, enhancing the ability of the competition authorities to handle anti-competitive practices in the regulated industries is advisable.

This brings to the fore a fundamental point in restructuring of SOEs and regulation of network industries. Generally speaking, the introduction of competition has been given limited attention in the transport sector reform processes. It is important to note that limited scope for competition actually increases the regulatory burden and exacerbates capacity problems rather than circumventing them. The current proposals for port and rail concessioning are promising in this regard, and serve to underline the urgent need for efficient regulatory structures to be put in place in the transport sector.

[70] Currently this only involves the Regulating Committee for ATNS & ACSA, but should extend to any regulators to be established in the future.

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ATNS: www.atns.co.za
Airports Council International: www.airports.org
Business Day: www.bday.co.za
NDOT: www.transport.gov.za
SANRAL (NRA): www.nra.co.za
Transnet: www.transnet.co.za

APPENDICES

Appendix I: Interview details

Thanks to following individuals and their organisations for agreeing to grant interviews and for giving so generously of their time.

Telecommunications

	Name	Designation	Organisation
1	Karabo Motlana & Narisha Pillay	Head of Regulatory Affairs	CellC
2	Mandla Langa	Chairperson of Council	ICASA
3	Snakes Nyoka	CEO	ICASA
4	Yasmin Carrim	Group Executive: Regulatory Affairs	MTN
5	Graham de Vries	General Manager	MTN
6	Nkenke Kekana	Chairperson	Parliamentary Portfolio Committee
7	Sebiletso Mokone-Matabane	CEO	Sentech
8	Mike van den Berg	Chairperson	South African VANS Association
9	Gabriel Celli	Executive Regulatory and Public Policy	Telkom
10	Dipuo Mvelase	former CEO	Universal Service Agency
11	Alan Knott Craig	Group Chief Executive	Vodacom
12	Tom Beale	Group Executive Regulatory Affairs	Vodacom
13	William Currie	Former SATRA/ICASA Councillor	(formerly) ICASA

Electricity

	Name	Designation	Department
1	Dr Wolsey Barnard	Executive Manager, Regulation	National Electricity Regulator
2	Braam Conradie	Department of Finance	Eskom Holdings
3	Deon Conradie	Electricity Pricing and Contracts Manager	Eskom Distribution
4	Dr Rod Crompton	Deputy Director General	Department of Minerals and Energy
5	Neil Croucher	CEO	Cape Town Electricity
6	Prof AA Eberhard	Graduate Business School of the University of Cape Town	Member of the NER Board
7	Chris Gadsden	Director	Department of Finance
8	Deon Joubert	Corporate Consultant (Finance)	Eskom Generation

9	Lana Kinley		Department of Public Enterprises
10	Dr Xolani Mkhwanazi	CEO of the National Electricity Regulator	
11	Kevin Morgan	Executive Manager, General Council	National Electricity Regulator

Transport

	Name	Designation	Department
1	Mr. Richard Goode	Chief Director: Transport (Restructuring)	Department of Public Enterprises
2	Ms. Khibi Manana	General Manager: Passenger Transport Policy	National Department of Transport (NDOT)
3	Mr. Mawethu Vilana	Manager: Freight Transport Policy	NDOT
4	Ms. Grace Senyatsi	Manager: Economic Analysis	NDOT
5	Andrew Maswangamye	Manager Aviation and Maritime Policy	NDOT
6	Ms. Wrenelle Stander	General Manager – Business Development	ATNS
7	Mr. Ulrich Joubert	Group Economist, Economic Services	Transnet
8	Mr. Frik Nolte	Senior Manager: Policy & Research	National Ports Authority of South Africa (NPA)
9	Mr. Nico Walters	Executive Manager: Trade and Logistics	NPA
10	Mr Siyabonga Gama	CEO	NPA
11	Mr Sipho Khumalo	Deputy Director-General	NDOT
12	Mr. Joachim Vermooten	Aviation expert	Chairman Rentsure Holdings Limited
13	Prof. Mebard Rwelamira	Director General	NDOT

Appendix II: Compendium of transport policy documents and legislation 1993-2003

Transport Framework

Policy

Green Paper on National Transport Policy - March 1996
National Transport Policy White Paper, 20 August 1996
Moving South Africa: A Transport Strategy for 2020, 1998 - Department of Transport
Spatial Planning and Land Use Management White Paper, July 2001
Road Infrastructure Strategic Framework for South Africa: A Discussion Document, November 2002 - Department of Transport

Regulations

Transport General Amendment Act [No. 16 of 1995]
Legal Succession to the South African Transport Services Amendment Act [No. 43 of 1995]
Transport Second General Amendment Act [No. 82 of 1995]
Transport Advisory Council Abolition Act [No. 9 of 1996]
Transport Appeal Tribunal Act [No. 39 of 1998]
National Land Transport Interim Arrangements Act [No. 45 of 1998]
National Land Transport Transition Act [No. 22 of 2000]
Draft National Land Transport Regulations on Regulated Competition (Gazette 21750, Regulation Gazette 6922), 13 November 2000
National Land Transport Transition Amendment Act [No. 31 of 2001]
Provincial land transport frameworks: Regulations relating to planning requirements (Gazette 23658, Regulation Gazette 7421), 24 July 2002
National Environmental Management Act: Environmental Implementation Plan (First Edition) Department of Transport, (Gazette 24140, Notice 3410), 13 December 2002
National Land Transport Transition Act: Integrated transport plan: Minimum requirements (Gazette 24961, Notice 300), 26 February 2003
National Land Transport Transition Act: Operating licence strategy: Minimum requirements (Gazette 24962, Notice 301), 26 February 2003
National Land Transport Transition Act: Proposed minimum requirements for outstanding transport plans, (Gazette 24962, Notice 553), 26 February 2003
National Land Transport Transition Act: Public transport plan: Minimum requirements (Gazette 24960, Notice 299), 26 February 2003

Ports

National Commercial Ports Policy White Paper (Gazette 23715, Notice 1409), 8 August 2002
National Ports Authority Bill [B5-2003]
Port of Coega Establishment Bill [B73-98]

Maritime

Shipping and Civil Aviation Laws Rationalisation Act [No. 28 of 1994]
Shipping General Amendment Act – 1997
Ship Registration Bill [B77-98]
Marine Traffic Amendment Act [No. 38 of 1993]
Sea Transport Documents Act [No. 65 of 2000]
South African Maritime and Aeronautical Search and Rescue Bill [B23-2002]

Aviation

Policy

Green Paper on National Policy on Airports and Airspace Management – 1997
National Policy on Airports and Airspace Management White Paper, 25 November 1997 –
Green Paper on National Policy on Airports and Airspace Management - June 1997

Economic/institutional

Airports Company Act: Act No 44 of 1993
Air Traffic and Navigation Services Company Act: Act No 45 of 1993
International Air Services Act: Act 60 of 1993
Shipping and Civil Aviation Laws Rationalisation Act [No. 28 of 1994]
South African Civil Aviation Authority Act: Act 40 of 1998
South African Civil Aviation Levies Act: Act 41 of 1998
Airports Company Amendment Act [No. 14 of 2001]
Draft amendment of procedures of the Regulating Committee (Gazette 21671, Regulation Gazette 6904), 27 October 2000
Regulations to govern proceedings of the Regulating Committee ("The Committee") of the ACSA and ATNS (Gazette 22577, Notice 1894), 24 August 2001

Safety and Security/administrative

Aviation Act, Act 74 of 1962
Civil Aviation Offences Act, Act 10 of 1972
Air Service Licensing Act, Act 115 of 1990
Convention on the International Recognition of Rights in Aircraft Act: No 59 of 1993
South African Maritime and Aeronautical Search and Rescue Bill [B23-2002]
International Air Services Act: Applications for the grant/amendment of international air service licences (Gazette 24002, Notice 2769), 8 November 2002

Rail

South African Rail Commuter Corporation Limited Financial Arrangements Act [No. 64 of 2000]
National Railway Safety Regulator Act [No. 16 of 2002]

Roads

Road Traffic Amendment Act [No. 39 of 1993]
Road Traffic Second Amendment Act [No. 66 of 1993]
National Roads General Amendment Act [No. 27 of 1994]
South African Roads Board Amendment Act [No. 15 of 1995]
National Road Traffic Act [No. 93 of 1996]
National Roads Amendment Act [No. 24 of 1996]
Road Traffic Management Strategy: Business plan towards implementation, June 1997 - Department of Transport
Cross-Border Road Transport Act [No 4 of 1998]
National Road Traffic Amendment Act [No. 8 of 1998]
Road Traffic Laws Rationalisation Act [No. 47 of 1998]
Road Traffic Management Corporation Act [No. 20 of 1999]
National Road Traffic Amendment Act [No. 21 of 1999]
Road Traffic Management Corporation Amendment Act [No. 25 of 2000]
Road Transport Appeal Matters Amendment Bill [B104-98]
National Road Traffic Act: Determination of date: Amendment (Gazette 24997, Notice 336), 27 February 2003

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The South African National Road Agency Limited and National Roads Act [No. 7 of 1998]
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Declaration of National Route 4 between the Hans Strijdom interchange (east of Pretoria) and the Gauteng/Mpumalanga provincial border as a toll road (Gazette 23814, Notice 1162), 6 September 2002

Safety & administrative

Road Accident Fund White Paper, (Gazette 18658, Notice 170), 4 February 1998

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Road Accident Fund Amendment Act [No. 15 of 2001]
Road Accident Fund Amendment Act [No. 43 of 2002]
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Road to Safety: Update on the implementation of the Road to Safety Strategy, 20 November 2002
Administrative Adjudication of Road Traffic Offences Act [No. 46 of 1998]
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Administrative Adjudication of Road Traffic Offences Amendment Act [No. 24 of 2000]
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Amendment of Registration Number System for the Gauteng Province (Gazette 21323, Regulation Gazette 6837), 27 June 2000
Special classification of vehicle in relation to motor vehicle licence fees (Gazette 19903, Notice 524 of 1997), 9 April 1999
Establishment of a Personalised Registration Number System for the Gauteng Province (Gazette 21323, Regulation Gazette 6837), 27 June 2000