NERSA Consultation Paper

Revision of Regulatory Rules for Energy Efficiency and Demand Side Management (EEDSM) including Standard Offer Programme (SOP)
June 2010

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1 INTRODUCTION AND BACKGROUND

The first Energy Efficiency and Demand Side Management (EEDSM) Regulatory Rules were published in 2004 with the plan that it shall be reviewed bi-annually. This document will be the first review of EEDSM regulatory Rules since 2004. Energy efficiency and demand-side management has significantly gained in stature in South Africa and has become recognised as one of the most cost-effective ways of meeting the electricity demand and environmental targets.

Government Notice No. 1243 in *Government Gazette* of 31 December 2009 issued under the Electricity Regulation Act, 2006 and titled: "Determination regarding the Integrated Resource Plan and New Generation Capacity" the Minister of Energy mandated the Energy Regulator to develop rules for:

- The implementation of Energy Efficiency and Demand Side Management through a financial incentives scheme, and;
- The installation of one million solar water heaters.

2 DoE POLICY TO SUPPORT THE EEDSM PROGRAMME THROUGH THE STANDARD OFFER INCENTIVE SCHEME

In May 2010, the Department of Energy (DoE) provided a framework for the development of the necessary rules to give effect to the incentive scheme. The framework is contained in a DoE policy document with the title: "Policy to support the Energy Efficiency and Demand Side Management Programme for the Electricity Sector through the Standard Offer Incentive Scheme", **Attachment A.**

3 SUMMARY OF EEDSM RULES, INCLUDING SOP

The standard offer is a mechanism to acquire demand-side resources (energy efficiency and electrical load reduction) by offering a predetermined rate for electrical demand savings (kW) and annual energy savings (kWh).The proposed rules to enable the Standard Offer Programme (SOP) are shown in Attachment B. The rules include the following main issues:

3.1 Funding of Energy Efficiency and the SOP

The SOP will be funded by Eskom funds approved by the Energy Regulator in Eskom's multi year price determination (MYPD). The funds will be made available to project developers (Energy Service Companies – ESCOs) to initiate approved projects. The project evaluation and project funding shall follow the process determined in the DoE framework on energy efficiency and demand side management.

3.2 Rebates and methodology for calculation of the incentives

The project developers shall be paid a performance based incentives per kWh of achieved savings for the duration of the contract. The methodology to calculate the incentives are based on the avoided cost of electricity supply resulting from the EEDSM intervention. The most recent data was used in the development of the generation avoided cost for the SOP incentives. The

data was sourced from the approved Eskom Multi Year Price Determination (MYPD2) application. The SOP rebate will be updated annually.

The proxy plant methodology has been used to determine the avoided cost for the SOP rebate. It takes into account the operational expenditure, energy cost and capital cost that would have been avoided by implementing the EEDSM technologies of the SOP. The sum of this cost is assumed to be the total cost that has been avoided by the EEDSM technology.

Table 1: Calculation of Rebates (R/kWh) for projects sustainable for 3 years

Year in which EEDSM project start delivering savings	**2010**	**2011**	**2012**
Avoided cost due to deferment of installed capital cost by 3 years, R/kWh (proxy plant – PF FGD)	0.3985	0.3211	0.3318
Avoided operating cost based on average annual Eskom operating costs, R/kWh	0.1594	0.1652	0.1716
Avoided primary energy cost based on average annual Eskom primary energy cost, R/kWh	0.1783	0.1926	0.2112
Avoided Generation cost (proxy plant method) at the projected EEDSM Load Factor	**0.7362**	**0.6789**	**0.7146**
Eskom's M&V, management & marketing costs included in the MYPD2, R/kWh	-0.1958	-0.1620	-0.1351
REBATE (R/kWh) excluding the cost of M&V and marketing	**0.5404**	**0.5168**	**0.5795**

The following examples illustrate how the avoided cost was determined to establish the SOP rebate.

Rebate (R/kWh) = A / (8760*LFdsm) + B + C – X

Where:

A is the cost of deferred capital expenditure for coal fired plant by 3 years, R/kW

B is the avoided primary energy costs based on the average primary energy costs of the MYPD2, R/kWh/annum

C is the avoided operating cost also based on the average operating costs of the MYPD2, R/kWh/annum

X is the projected EEDSM M&V, project management and marketing cost in R/kWh/annum: X = (M&V + Management + Marketing costs)/EE savings,

LFdsm is the average annual load factor of the EEDSM programs for 2010, 2011 and 2012

The avoided cost of the deferred capital expenditure as shown in Table1 above is based on the following assumptions.

(a) The phasing-in of expenditure is as used for the Integrated Resource Plan (IRP) giving Eskom's typical phasing-in of capital expenditures.

(b) All calculations are done using the MYPD2 assumptions, i.e. WACC (8.16) and exchange rate R/USD (8.71) over the next 3-year period. The overnight capital expenditure is for a reference coal fired plant with FGD, 2100 $/kW, which represents the average international cost for Pulverized Fuel plant published recently[1].

(c) The load factors used in the calculation of the energy rate are the average projected load factors for EEDSM programs for the next 3-year period (36% - 46%). This load factor range represents that of mid merit operation of coal fired plant. If the marginal operating and primary energy costs of mid merit coal plants

[1] Projected Costs of generating electricity 2010, IEA 2010

is used then the rebate would be much higher. Therefore the above approach for calculation of the rebate is rather conservative.

3.3 SOP Rebate payments from approved MYPD2 Funds

By implementing the rebate based on the estimated energy savings to all the MYPD2 projects, starting in year 2011, there will be a financial savings in the MYPD2 period compared to using the MYPD2 funds to pay for the capital cost of the projects. There is provision for 259 295 SWHs in the MYPD2 approved funds. Assuming a deemed saving of 200kWh/month per SWH, the rebate will contribute R1296 per annum towards the capital cost of a SWH. The 1 million SWH programme will require funds of R1.3bn per annum.

3.4 Measurement and Verification of SOP

Project installation and achieved savings of technologies with a deemed saving will be verified by accredited Measurement and Verification (M&V) teams using the International Performance Measurement and Verification Protocol (IPMVP)[2] that has been adopted by different countries. The EEDSM rules contain the criteria relating to the accreditation of the Measurement and Verification teams.

The accreditations of M&V teams are defined in the EEDSM rules. The M&V organisations will be independent third parties, accredited by NERSA and the costs of the M&V will be paid by the SOP Administrator with NERSA oversight.

The DOE policy proposes the Development Bank of Southern Africa (DBSA) as the interim administrator of the funding and the National Energy Efficiency Agency (NEEA) as the administrator of the energy savings achieved. NEEA shall advise NERSA and DBSA of verified energy savings. All M&V reports shall be forwarded to NERSA through quarterly and annual report.

[2] The document is available on NERSA website:wwww.nersa.org.za

3.5 Qualifying technologies under EEDSM (SOP)

The type and the minimum requirement for each EEDSM technology are defined in the rules. The rules excludes Load Management (LM) projects which will be implemented using different measures or technology to shift load from peak periods to off-peak periods as defined in Eskom's tariff book. The typical load management will include the residential load management such as ripple relays and other technologies.

3.6 Regulatory Reports

The SOP Administrator will be required to submit annual report as prescribed by the Energy Regulator in order to reconcile with the funding approved in MYPD with the expenses of EEDSM projects and this will be in line with the Regulatory Reporting System developed by NERSA.

3.7 SOP contract

A contract will be established between the Project Developer and the SOP Administrator. The contract will contain at least the parties to the contract (SOP Administrator and Project Developer); the agreement to pay for verified electricity savings by a specified technology at a specified site; the duration of the contract being from date of signature for a predetermined sustainability period; and the minimum and maximum payment to be made under the contract.

3.8 Review of the EEDSM Rules

A full review will take place every year to assess the uptake, major technology developments and the need to revise future EEDSM rebates.

By 1st of April every year after the implementation of EEDSM Rules, the Energy regulator shall publish a summary report on the progress achieved. This report shall include the following:

i. Update on the market introduction of the qualifying technologies including number of applications received, number of applications approved and number of projects implemented, detailing technology, size and geographic location;
ii. Financial impacts of the SOP including the additional overall cost to electricity consumers
iii. Changes or additions in qualifying technologies.

4 STAKEHOLDER INPUTS

Stakeholders are requested to provide comments on the EEDSM Rules with a specific focus on the following:

- Eligible energy efficiency technologies and measures
- Qualifying technologies under SOP
- The methodology used for calculation of the rebate
- Measurement and verification
- Funding and cost recovery

5 NERSA PROCESS FOR APPROVAL OF EEDSM RULES

The following process and timelines applies to the approval of the EEDSM rules by the Energy Regulator:

Table2: Timelines

ITEM/ACTIVITY	
1. Electricity Subcommittee meeting approves process, timelines and publication of the consultation paper	17 June 2010
2. Publication of NERSA consultation paper and invitation for written public comments	21 June 2010
3. Deadline for submitting written public comments to NERSA	20 July 2010
6. Public Hearing	**05 August 2010**
7. Electricity subcommittee considers recommending to the Energy Regulator	18 August 2010
8. Energy Regulator approval of the Energy Efficiency and Demand Side Management rules	23 September 2010

Stakeholders are invited to comment on the Regulatory Rules for Energy Efficiency and Demand Side Management Consultation paper and the comments should be sent to the following: Mr Tebogo Majatladi at 526 Vermeulen Street, Kulawula House, Arcadia, Pretoria or PO Box 40343, Arcadia 0007 Pretoria, or email at EEDSMRules@nersa.org.za. The consultation documents will be available on the NERSA Web site: www.nersa.org.za

The deadline for submission of comments on the Regulatory Rules for Energy Efficiency and Demand Side Management is 20 July 2010.

ATTACHMENT A :ENERGY EFFICIECNY AND DEMAND SIDE MANAGEMENT POLICY

Department of Energy

South Africa

Policy to support the Energy Efficiency and Demand Side Management Program for the Electricity Sector through the Standard Offer Incentive Scheme

20 May 2010

energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

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Glossary

Item	Definition
BEE	Black Economic Empowerment
ECS	Energy Conservation Scheme
EEDSM	Energy Efficiency and Demand Side Management
ESCO	Energy Services Company
HVAC	Heating, Ventilation and Air Conditioning
IRP	Integrated Resource Plan
KIC	Key Industrial Customer
Minister	Minister of Energy
MYPD	Multi Year Price Determination
NEEA	National Energy Efficiency Agency
NERSA	National Energy Regulator of South Africa
SETA	Sector Education and Training Authority
SIC	Standard Industrial Classification
SMME	Small, Micro and Medium Enterprise
SWH	Solar Water Heating

Background

South African estimates of the energy efficiency potential are conservatively between 20-30% across many segments, and we have not harnessed the full potential to date.

EEDSM programs represent a win-win option by providing positive returns to energy consumers and the environment through the reduction of environmental pollution and the carbon footprint of the energy sector and by enhancing energy security. As South Africa embarks upon a massive capital program to increase our power generation capacity, the upward pressure on electricity tariffs will provide the impetus for saving energy. Undue tariff increases can be moderated through energy efficiency and it is beyond question that EEDSM needs to be encouraged more as it represents a "no-regret" option relative to supply-side options. This policy seeks to balance approaches based on regulation, incentives, and market based mechanisms at the same time as defining the role of government in accelerating EEDSM.

1 Introduction

As South Africa's electricity demand rises, we have traditionally met this demand by merely increasing the supply. Having recognised that energy efficiency represents an economically attractive option, this policy focuses on the management of the electricity demand through energy efficiency interventions within the residential, commercial and industrial sectors. Amongst the outcomes to be achieved through the EEDSM policy are:

1) Quick power system relief;
2) Relative cost effectiveness;
3) Quick deployment of interventions across the residential, commercial and industrial sectors to create SMME opportunities and quality employment;
4) Mitigation of greenhouse gas emissions and the resultant climate change impacts;
5) Participants will realise relief from their energy bills.

2 Legislative provisions for EEDSM

The Electricity Regulation Act of 2006 (the Act) introduced a new regulatory framework for the electricity industry, with additional EEDSM obligations to existing licensees. Section 15(1) (u) of the Act requires every licensee to comply with energy efficiency standards and demand side management. The Act also empowers NERSA to amend, add or remove any licence condition at the same time as obliging NERSA to implement national government's electricity policy.

The Energy Act was promulgated in 2008, with provisions for the introduction of regulations for energy efficiency.

It is the express intention of this policy to give regulatory certainty to these provisions in the Electricity Regulation Act and in the Energy Act.

3 Objectives of the EEDSM Policy

This policy intends to stimulate energy efficiency through (i) enabling regulations and institutional governance structures, and (ii) introducing targeted financial incentives. Accordingly, the objectives of this policy are to:

1) Provide the framework regarding the regulator's role and responsibility pertaining to various EEDSM interventions.
2) Provide for the integrated resource plan to include a resource standard for energy efficiency, to ensure that the "first fuel" option relating to energy efficiency is exploited ahead of more expensive supply side options;
3) Provide the framework for a tariff-based financial incentive (the standard offer) necessary to stimulate energy efficiency;
4) Introduce a governance structure for the standard offer model for financing EEDSM interventions, including the respective roles and responsibilities of various roleplayers;
5) Provide for regulatory certainty regarding the scope and extent of tariff-based financial incentives for EEDSM; and
6) Provide the framework for the setting of targets relating to various EEDSM interventions in the domestic, commercial and industrial sectors.

4 Role of the regulator in facilitating EEDSM

The regulator is responsible for tariff determination, in accordance with the Electricity Regulation Act of 2006. In addition to making tariff determinations and the promulgation of a standard offer, the regulator shall:

- Determine the generation avoided cost in relation to the EEDSM intervention, so as to determine the level of standard offer rebate;
- Ensure that the EERS funding provision is included in the MYPD;
- Introduce rules that will apply to licensees in regard to the EERS and the standard offer methodology;
- Ringfence the allowance for the EERS in the MYPD and ensure that it is accessed by ESCOs/licensees only subject to the promulgated rules;

- Ensure that a cost recovery mechanism is in place for all disbursements by Eskom/System Operator pursuant to the EEDSM rules;
- Develop a reporting framework for EEDSM by licensees;
- Monitor and evaluate the achievement of EEDSM interventions by various ESCOs;
- Approve the basis for compensation for other EEDSM interventions like residential load management, fuel switching etc;
- Ensure sufficient communication and understanding of EEDSM among all stakeholders.

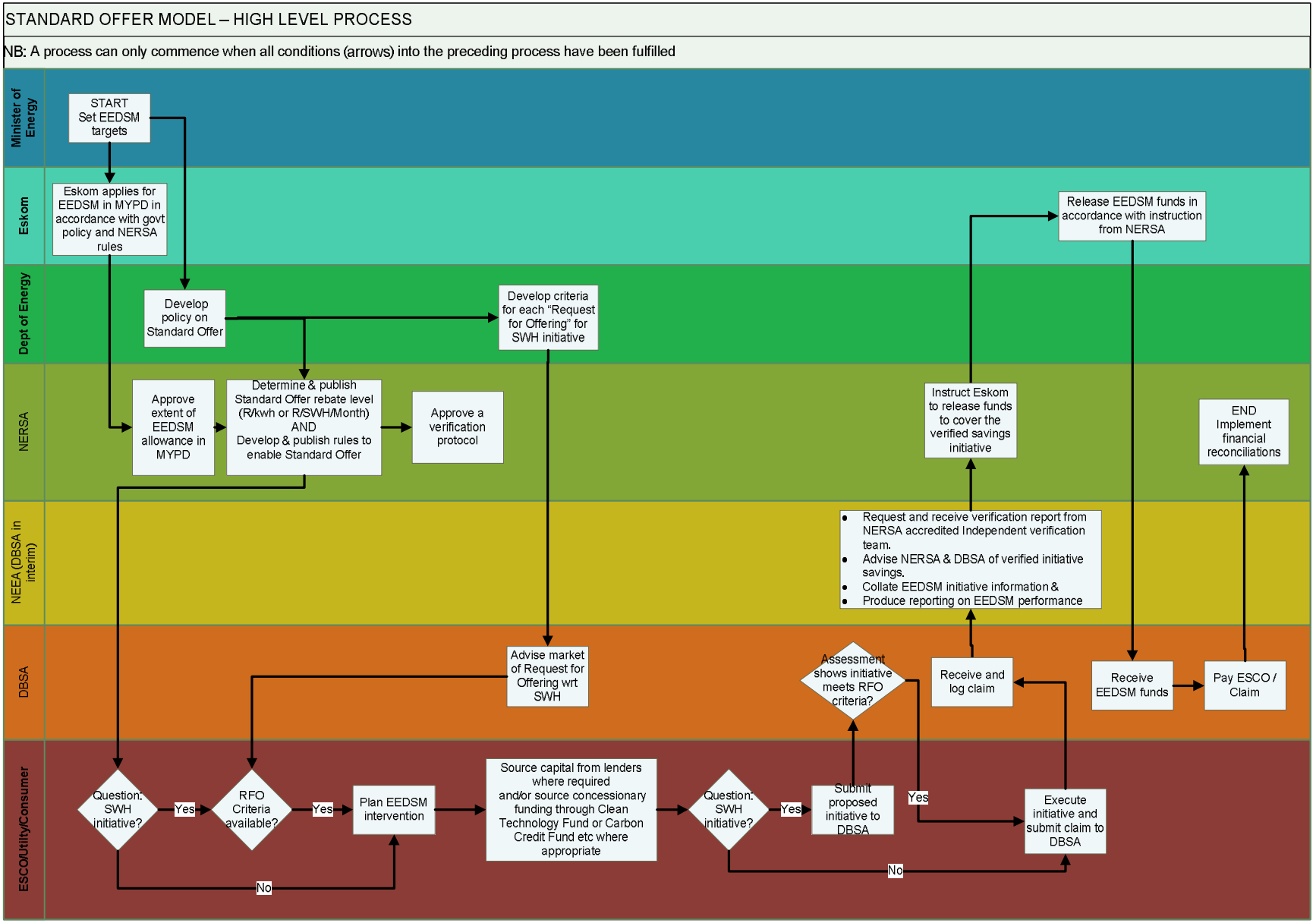
5 Stipulation of the energy efficiency resource standard

An energy efficiency resource standard (EERS) is a quantitative, long-term energy savings target that is met by implementing energy efficiency programs to help customers save energy. The Minister of Energy shall set the EERS and it shall be the responsibility of the non-utility third party, NEEA, to meet the EERS in accordance with the standard offer model described below.

The IRP shall stipulate the EERS over the planning period, and the regulator shall include the commensurate financial incentive in the tariff, to fund the EERS.

6 Standard offer model

The standard offer is a mechanism to acquire demand-side resources (energy efficiency/load reduction) under which a utility purchases resources based on a pre-determined rate (e.g., R/kWh or R/kW). Purchase rates can be determined by the long-run marginal cost of supply or estimated subsidies necessary to attract commercial bids. ESCOs, equipment suppliers or other organizations that can deliver energy/demand savings at the agreed rate are eligible to submit projects and are paid once the projects have been implemented and savings certified by an authorized monitoring and verification organization. The respective roles and responsibilities of various entities are illustrated hereunder:


STANDARD OFFER MODEL – HIGH LEVEL PROCESS
NB: A process can only commence when all conditions (arrows) into the preceding process have been fulfilled
Minister of Energy
Eskom
Dept of Energy
NERSA
NEEA (DBSA in interim)
DBSA
ESCO/Utility/Consumer
START Set EEDSM targets
Eskom applies for EEDSM in MYPD in accordance with govt policy and NERSA rules
Develop policy on Standard Offer
Develop criteria for each "Request for Offering" for SWH initiative
Release EEDSM funds in accordance with instruction from NERSA
Approve extent of EEDSM allowance in MYPD
Determine & publish Standard Offer rebate level (R/kwh or R/SWH/Month) AND Develop & publish rules to enable Standard Offer
Approve a verification protocol
Instruct Eskom to release funds to cover the verified savings initiative
END Implement financial reconciliations
Request and receive verification report from NERSA accredited Independent verification team.
Advise NERSA & DBSA of verified initiative savings.
Collate EEDSM initiative information &
Produce reporting on EEDSM performance
Advise market of Request for Offering wrt SWH
Assessment shows initiative meets RFO criteria?
Receive and log claim
Receive EEDSM funds
Pay ESCO / Claim
Question: SWH initiative?
Yes
RFO Criteria available?
Yes
Plan EEDSM intervention
Source capital from lenders where required and/or source concessionary funding through Clean Technology Fund or Carbon Credit Fund etc where appropriate
Question: SWH initiative?
Yes
Submit proposed initiative to DBSA
Yes
Execute initiative and submit claim to DBSA
No
No

Role	Description
Minister of Energy	• Sets the EEDSM targets
Eskom	• Takes cognisance of the government policies and NERSA rules relating to EEDSM and applies for EEDSM in its MYPD application • Collects the EEDSM funding through the wholesale tariff • Releases the EEDSM funding upon instruction from NERSA
Department of Energy	• Develops policy on the Standard Offer with differentiated approaches for SWH and other EEDSM initiatives • Provides for the Energy Efficiency Resource Standard (EERS), which is the extent of the long-term funding for the EEDSM to cover the electricity savings purchased under the Standard Offer, in the IRP • Develops criteria for "Request for Offers" relating to the available Solar Water Heating subsidy in the MYPD cycle
NERSA	• Approves EEDSM allowance in MYPD • Develop rules to enable Standard Offer • Instruct Eskom through the EEDSM rule to release funding at appropriate time • Determines Standard Offer Rebate levels (R/kwh or R/SWH/month) • Approve verification protocol • Implement financial reconciliation of EEDSM funds in relation to target savings
NEEA (in the interim DBSA)	• Request and receive verification reports for each EEDSM initiative under the Standard Offer • Advise DBSA and NERSA of verified savings per initiative • Collate reports and produce EEDSM performance reporting for industry
DBSA	• Will serve as the single point of contact for concessionary funding for project developers wishing to develop initiatives under the Standard Offer • Will serve as the single point of contact for individuals/entities wanting to claim for electricity savings against the EEDSM funding • Will perform functions identified for NEEA in Standard Offer Model until NEEA is fully capacitated and able to take over the

	function • Advise market when the Department of Energy makes the criteria available for the next "Request for Offers" • Receive and manage the EEDSM funds in accordance with the Standard Offer Policy and NERSA rules when Eskom releases the funds • Pay verified claims
ESCO / Utility / Consumer	• Understand the Standard Offer Policy and criteria for Request-for-Offers • Initiate an intervention that complies with Standard Offer and NERSA rules • Source the required capital expenditure, at risk, to implement the EEDSM intervention • Submit claim to DBSA to redeem the capital investment over the life of the investment

7 Energy efficiency interventions supported under the standard offer

1) Public facilities and housing programme

This programme shall cover all government-owned buildings (particularly hospitals and clinics, prisons, military barracks, offices etc.) and private residential dwellings. Commercial buildings targeted under this program include offices, hotels and other hospitality facilities, employee compounds at mines, refineries and power stations etc.

Existing housing developments are also included, and SWH, ceiling insulation and efficient lighting shall be the key interventions.

Generally, interventions in respect of the building envelope shall include efficient lighting, insulation improvement, more efficient HVAC systems, installation of lighting and motion sensors etc.

The standard offer shall be rebated in respect of the verified energy savings that have been achieved i.e. subject to the performance of the ESCO. The verification protocol shall be determined and ratified by NERSA.

2) Building energy codes

New building codes are due to be introduced in 2010, in terms of which the energy efficiency standard will also be made compulsory for all new buildings. The distinction between this program and 6(1) above is that this relates to new buildings, and not to retrofitted buildings. Once the building codes are promulgated into a compulsory standard, the standard offer rebate shall not be applicable in respect of energy efficiency interventions in those buildings.

3) Solar water heating

The standard offer rebate shall apply, except that a further qualification shall be introduced:

Initially every installed SWH shall be deemed to displace 200 kWh per month ('the SWH saving"), for purposes of simplicity, and accordingly a monthly rebate shall be payable based on:

Rebate per month = Standard offer (in R/kWh) X 200 kWh per month

In time the regulator may adjust the SWH saving (upwards or downwards) in line with empirical evidence regarding the actual energy saving achieved by a SWH.

The Minister may determine, in consultation with the regulator, that the standard offer needs to be revised upwards or downwards as necessary to increase the efficacy of the incentive. This adjustment to the standard offer may be done up to 3-times in a single MYPD cycle.

4) Energy Conservation Scheme

The Energy Conservation Scheme (ECS) is critical as part of a contingency plan for the industrial sector, to conserve energy in the event that an electricity load-shedding risk materialised. The key elements of the plan shall be:

Element 1:

All key industrial electricity customers (KIC) with a monthly consumption above a certain threshold ("the threshold" in GWh per annum) shall be required to submit

their historical baseline consumption profile ('the baseline" in monthly GWh points spread over one year) over any preferred 12-month period, to the licensee by 30 June 2010. The threshold shall initially be set at 100GWh per annum at a contiguous site. The licensee shall negotiate the baseline with the customer and the regulator shall ratify (i) the threshold and (ii) the baseline in consultation with the licensee.

Element 2:

The Minister sets a reduction target in respect of the industrial segment under which the KIC operates (based on SIC codes). The reduction target shall be included as part of the EERS in the integrated resource plan. NEEA shall record the baseline in respect of each KIC.

Element 3:

The regulator determines the tariff level (as part of MYPD) on a punitive scale, for consumption above the baseline. Consumption above the baseline leads to the KIC being charged the penalty tariff in respect of the GWh consumed above the baseline. Similarly, consumption below the baseline leads to the KIC attracting the standard offer rebate in respect of the GWh consumed below the baseline. NEEA shall keep a tally of the penalty/rebate applicable in respect of each KIC.

Element 4:

The standard offer model payment regime shall apply in respect of the ECS.

8 Training, capacity building and accreditation

Energy efficiency interventions have the potential to create numerous job opportunities. The EEDSM program shall be accompanied by a training and capacity building initiative, in terms of which the localisation of energy products and services shall be prioritised. Energy Auditing, Manufacturing, Installation, and Maintenance have been identified as focus areas for training and capacity building.

The training of ESCOs in various technologies shall be formalised through various academic institutions and professional bodies. In general, training shall be accredited through the various formal channels, including SETAs.

9 Funding of ESCO initiatives

Government shall assist in mobilising funding for ESCOs for energy efficiency interventions. Sources include:

- Clean Technology Fund
- local and international development financial institutions
- carbon funding agencies
- commercial banks

Preference in directing concessionary funding mobilised by government shall be given to ESCOs that align with government's developmental goals, including BEE and SMME development.

Where the entity implementing the EEDSM initiative does not comply with the provisions of this policy framework, the standard offer rebate shall not be provided in respect of their EEDSM initiatives. Nonetheless, market based EEDSM initiatives that do not require incentives are also encouraged.

ATTACHMENT B : ENERGY EFFICIECNY AND DEMAND SIDE MANAGEMENT RULES

ENERGY EFFICIENCY AND DEMAND-SIDE RULES INCLUDING STANDARD OFFER PROGRAM

June 2010

EXPLANATORY MEMORANDUM

The Electricity Regulation Act No.4 of 2006 ("the Act") outline that the Energy Regulator is the custodian and enforcer of the regulatory framework. The section 15 (1) (u) requires every licensee to comply with energy efficiency standards and demand side management. The Act also empowers the Regulator to amend, add or remove any license condition related to compliance with energy efficiency standards and requirements, including demand-side management. Energy efficiency and Demand Side management rules are also derived from section 4 (IV) of the Act which indicate that the regulator must i*ssue "rules designed to implement the national government's electricity policy framework, the integrated resource plan and this act".*

Government Notice No. 1243 in *Government Gazette* of 31 December 2009 issued under the Electricity Regulation Act, 2006 and titled: "Determination regarding the Integrated Resource Plan and New Generation Capacity" the Minister of Energy mandated the Energy Regulator to develop rules for:

- The implementation of Energy Efficiency and Demand Side Management through a financial incentives scheme, and;
- The installation of one million solar water heaters.

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DEFINITIONS

Act The Act refers to the Electricity Regulation Act, 2006 (Act No. 4 of 2006)

Applicant is the ESCO, Utility or an electricity customer / consumer who initiates an EEDSM intervention that complies with the Standard Offer and NERSA rules.

Avoided Costs Avoided costs refers to the incremental costs avoided by a utility when it purchases power from generators, implements demand-side management, such as energy efficiency or demand-response programs, or other wise avoids generation from existing/new utility supply-side investments or energy purchases. Avoided costs also encompass the deferral or avoidance of transmission and distribution-related costs.

Baseline This is the most conservative value of the MW and/ or energy usage before the implementation of an EEDSM project. The difference between the actual measured and verified MW /energy usage after the implementation of the EEDSM project and the baseline gives the MW reduction and/or energy saved due to the project.

Customer means a person who purchases electricity or a service relating to the supply of electricity as defined in the Act.

Demand (electrical) means the rate at which electrical energy is delivered to or consumed by a system, part of a system, or piece of equipment, whether at a given instant or averaged over any designated period of time.

EEDSM refers to energy efficiency and demand side management.

End Use Efficiency relates to the efficiency of the **existing** electrical equipment and appliances which *consume* electricity. Examples include efficiency improvements to lighting, fans, conveyors and motors.

Energy efficiency means ways of reducing the energy used by specific end-use devices and systems, typically without affecting the service provided;

Energy Efficiency Cost Recovery is the recovery of the cost of energy efficiency projects through the Eskom tariff.

Energy service companies (ESCOs) means companies that provide energy-efficiency or load-reduction services to customers that own or operate facilities such as buildings or factories;

Eskom means the Eskom Department responsible for planning for and administering the EEDSM funding to be recovered through the Eskom tariff in accordance with government policy and NERSA rules.

Hot-Water Load Control (HWLC) means equipment, which controls or switches off geysers (hot water cylinders) in participating residences.

Integrated Resource Planning means the planning process for deciding on the most appropriate resources to be applied in the electricity supply sector to meet the electricity demand within a specific area of supply, and in which the demand-side and supply-side resources are treated with the same weight;

Licensee means the holder of a license granted or deemed to be granted by the National Energy Regulator of South Africa;

Measurement Acceptance Period (MAP) means a period, the maximum duration of which is set out in the SOP and depends on the nature of the technology, after the installation and commissioning of the technology at the facility, during which the M&V organization will verify the savings achieved during the said time.

Measurement and Verification (M&V) organization means an independent body accredited by NERSA responsible for the measurement and verification of the electricity demand reduction achieved through projects funded by EEDSM funds.

MW Reduction means the difference in electricity demand in MW between the baseline and the actual demand after the implementation of an EEDSM project.

Performance Assessment Certificate means the certificate, preceded by a number of performance assessment reports, indicating the Initial Verified Energy Savings determined during the MAP, which in turn precedes the MAD Certificate.

Project developers are applicants of which EEDSM projects have been approved for development.

Standard Offer (SO) is a mechanism for acquiring demand side resources (energy efficiency) under which a utility (or a public agency) “purchases” energy and/or demand savings using a pre-determined and pre-published tariff in R/kWh and/or R/kW for certified savings.

Standard Offer Programme (SOP) A**dministrator** is the entity responsible for administering the SOP and DSM project approvals for implementation by electricity distributors, customers and ESCOs. The SOP Administrator is the DBSA in terms of the DoE policy to support the EEDSM programme for the electricity sector through the Standard Offer Incentive Scheme.

Sustainability Period means the period specified in the SOP during which the rebate for energy savings will be paid and starts the day after the project has been commissioned and the installation has been verified.

Utility is a licensed electricity distributor as defined in the Act.

Verified Energy Savings means the verified Eligible kilowatt-hour (kWh) difference between the energy consumption at the facility - either in the MAP or the Sustainability Period - and the Baseline Consumption.

ABBREVIATIONS

DBSA	Development Bank of South Africa
DoE	Department of Energy
DSM	Demand-side management
EE	Energy Efficiency
EEDSM	Energy Efficiency and Demand Side Management
ESCO	Energy Service Company
ESI	Electricity Supply Industry
FGD	Flue Gas Desulphurisation
IRP	Integrated Resources Plan
IPMVP	International Performance Measurement and Verification Protocol
kWh	Kilowatt hour
LCOE	Levelised Cost of Electricity
LRMC	Long Run Marginal Cost
MW	Megawatt
MWh	Megawatt hour
MYPD	Multi Year Price Determination
M&V	measurement and verification
NERSA	National Energy Regulator of South Africa
PF	Pulverised fuel
SRMC	Short Run Marginal Cost
SOP	Standard Offer Program

1. INTRODUCTION

The 2008 National Energy Efficiency Strategy of South Africa sets a final energy demand reduction of 12% by 2015, This will be achieved by implementation of different initiatives including the implementation of energy efficiency programs under the guidance of the Energy Efficiency and Demand Side Management (EEDSM) Rules.

a. In line with IRP1 the Minister has determined that new generation capacity is required in accordance with Section 34 of the Electricity Regulation Act, 2006 (Act No.4 of 2006) and that the required new capacity must be met through the projects listed in the IRP. The IRP1 gives effect to the implementation of Energy Efficiency (EE) and Demand Side Management (DSM) through a financial incentives scheme, and the Installation of one million Solar Water Heaters (SWHs) by 2014.

b. In May 2010, the Department of Energy (DoE) provided a framework for the development of the necessary rules to give effect to the incentive scheme. The framework is contained in a DoE policy document with the title: “Policy to support the Energy Efficiency and Demand Side Management Programme for the Electricity Sector through the Standard Offer Incentive Scheme”,

c. This paper outlines the regulatory rules for implementation of the SOP for DSM and EE projects.

2. THE STANDARD OFFER MODEL

a. The standard offer is a mechanism to acquire demand-side resources (energy efficiency and electrical load reduction) by offering a predetermined rate for electrical demand savings (kW) and annual energy savings (kWh).

b. The purchase rates can be determined by the long-run marginal cost of supply or estimated subsidies necessary to attract commercial bids.

c. ESCOs, equipment suppliers and other organizations that can deliver

electrical energy and demand savings at the predetermined rate are eligible to submit projects and to be paid once the projects have been implemented and the savings have been certified by an authorized M&V organization.

d. The rules are based on the DoE policy which proposes the respective roles and responsibilities of various entities as follows:

Entity	Description of role
Minister of Energy	Sets EEDSM targets
Eskom (Purchaser of energy savings achieved)	Applies for EEDSM funding in its multi year price increase application to NERSA. Collects the EEDSM funding through its tariffs. Releases EEDSM funding to the SOP Administrator upon NERSA instruction.
Department of Energy	Develops policy on the Standard Offer. Provides for the required long term funding for EEDSM in the IRP. Develops criteria for “Request for Offers” in the MYPD cycle.
NERSA	Approves EEDSM allowance in MYPD. Develop rules to enable the Standard Offer. Instruct the release of funding by Eskom. Determines SOP rebate levels. Approve verification protocol. Accredit independent M&V teams. Implement financial reconciliation of EEDSM funds in relation to target savings.
NEEA (in the interim DBSA)	Receive verification reports for each EEDSM initiative under the SOP. Advise DBSA and NERSA of verified savings per initiative. Collate reports and produce EEDSM performance reporting for the electricity industry.

Entity	Description of role
DBSA (SOP Administrator)	Serve as single point of contact for project developers wishing to develop initiatives under the SOP. Serve as single point of contact for entities wanting to claim for electricity savings against the EEDSM fund. Perform NEEA functions until NEEA is able to take over the function. Advice market when DoE makes criteria available for the next “Request for Offers”. Receive and manage the EEDSM funds in accordance with the SO policy and NERSA rules. Pay verified claims.
ESCO / Utility / Consumer (Project Developer)	Initiate interventions that comply with the Standard Offer and NERSA rules. Source the required capital expenditure, at risk, to implement the EEDSM intervention. Submit claims to DBSA to redeem the capital investment over the life of the investment.

3. QUALIFYING TECHNOLOGIES AND MEASURES

a. All SWH technology that comply with South African Bureau Standards (SABS) standards on SWH;

b. All Energy-efficient retrofit measures in residential applications that reduce electric energy consumption and system peak demand at the host customer site(s). This excludes measures related to repair or maintenance activities, or behavioural changes.

c. Measures that produce energy savings through an increase in energy efficiency such as the installation of energy efficient motors and domestic appliances or a substitution of another energy source for electricity (provided the substitution results in overall lower energy costs, lower energy consumption, and the installation of high efficiency equipment).

d. Technologies that can reduce consumption in government-owned buildings such as hospital, clinics prisons, offices and have useful life of at least 3 years.

e. Projects that are installed at a single site with a total maximum peak demand of more than 100 kW or at multiple sites with a combined maximum peak demand equal or greater than 500 kW.

f. EEDSM projects must comply with all laws, regulations, codes and standards related to the installation of the technology.

g. The SOP Administrator must pre-approve technologies which the Project Developer may implement in participation in the SOP.

h. Load shifting projects will not be included in the SOP, but will be evaluated using the avoided cost of generation brought about by the load shifting. Load shifting will be catered for through other means such as time-of-use tariffs and real time bidding of demand into the system operations market.

4. COST EFFECTIVE EEDSM PROGRAMME

a. An energy efficiency program is deemed to be cost-effective if the cost of the program is less than or equal to the benefits of the program.

b. The cost of a program includes the cost of incentives, measurement and verification, marketing and project administrative costs. The benefits of the program consist of the value of the demand reductions and energy savings, measured in accordance with the avoided costs. The present value of the program benefits shall be calculated over the projected life of the measures installed under the program.

c. The avoided capacity cost shall be based on the estimated capital cost of a new pulverized fuel (PF) coal fired plant with fuel gas desulphurisation (FGD), and the avoided energy costs shall be based on the average fuel and operation costs of the plant.

d. The initial avoided cost of capacity is R 4042/kW per year in 2010. The avoided cost of capacity shall be adjusted annually based on the annual capacity costs of a new pulverised fuel (PF) coal fired plant with FGD, using a recognized industry source of information.

e. The initial avoided cost of electrical energy is R 0.3377/kWh in 2010. The avoided cost of energy shall be adjusted annually according to the MYPD determination and the EEDSM projections

5. PRINCIPLE OF REBATE(c/kWh)

a. Project developers shall be paid a performance based fixed rebate per kWh of saving achieved per month for the duration of the contract period, provided that the savings are measured and verified by a NERSA accredited M&V organisation. The contract period will be determined in the SOP contract.

b. The fixed rebate will be determined using Eskom's generation avoided cost.

c. The rebate for the DoE Solar water heater (SWH) programme will be paid on a monthly basis over a five years period

d. The rebate for projects installed in 2010/ 11, 2011/12 , 2012/13 is given in the Table 1 below:

Table 1: SOP rebates(exclude M&V cost)

	Project start in 2010/11	Project start in 2011/12	Project start in 2012/13
Other technology rebate (R/kWh)[1]	**0.5404**	**0.5168**	**0.5795**

6. INSPECTION, MEASUREMENTS AND VERIFICATION

a. Measurement and verification of energy savings will be done in accordance with the International Performance Measurement and Verification Protocol (IPMVP)[2] .

b. Each EEDSM project or program shall be subject to this protocol to measure and verify energy and peak demand savings to ensure that the goals of the project are achieved.

c. A Project Developer shall not receive final compensation until the work is been completed and measurement and verification in accordance with the protocol verifies that the savings have been achieved. If inspection of one or more measures is a part of the protocol, the Project Developer shall not receive final compensation until the SOP Administrator has conducted its inspection on the sample of measures and the inspections confirm that the work has been done.

d. The SOP Administrator shall verify that the measures contracted for were installed before final payment is made to the Project Developer, by

[1] The rebate exclude M&V cost that will be paid by SOP administrator
[2] The IPMV protocol is available on the www.nersa.org.za Website.

obtaining the customer's signature certifying that the measures were installed, or by other reasonably reliable means approved by the utility.

e. For projects involving over 30 installations, a statistically significant sample of installations will be subject to on-site inspection in accordance with the protocol for the project to verify that measures are installed and capable of performing their intended function. Inspection shall occur within 30 days of notification of measure installation.

f. Projects of less than 30 installations may be aggregated and a statistically significant sample of the aggregate installations will be subject to on-site inspection in accordance with the protocol for the projects to ensure that measures are installed and capable of performing their intended function. Inspection shall occur within 30 days of notification of measure installation.

g. The sample size for on-site inspections may be adjusted for an energy efficiency service provider under a particular contract, based on the results of prior inspections.

h. The Project Developer shall submit the name of the accredited measurement and verification teams and the proposed M&V Plan to the SOP Administrator as a part of the application under this Program.

i. The options and methods used for M&V shall be consistent with those defined in the 2009 International Performance Measurement and Verifications Protocol (IPMVP). Four basic options are outlined in the IPMVP:

Option A – Partially Measured Retrofit Installation:

Savings are predicted using engineering or statistical methods that do not involve long-term measurement. This option will generally be accepted only

where other methods are not cost effective and the savings are very predictable and reliable.

Option B – Retrofit Installation:

This option involves short-term or continuous metering during the performance period to determine energy consumption. Measurements are usually taken at the device or system level.

Option C – Whole Facility:

Involves comparing monthly billing data recorded for the whole building or project site by a utility meter or sub-meters, before and after project installation, and analyzing that data to account for any variables, such as weather or occupancy levels. Energy savings can be determined once the variables are recognized and adjusted to match pre-installation conditions.

Option D – Calibrated Simulation:

Option D involves using software to create a simulated model of a building based on blueprints and site surveys. The model is calibrated by comparing it with billing or end-use monitored data. Models of the project are typically constructed for

-the existing base case,

-a base case complying with minimum standards, and

-a case with the energy measures installed.

j. The standard M&V period is up to two years. However, for projects where the reliability and persistence of savings is high, a single year of M&V may be appropriate. It is useful to distinguish between efficiency measures and control measures in assessing the appropriate duration for M&V.

k. The efficiency measures involve the replacement of existing equipment with more efficient equipment on a one-for-one basis where the basic function, control and operation remain the same. Levels of persistence of savings are expected to be high based on demonstrated quality of installation and single years of M&V.

l. Control measures involve a change in the control of the end-use and the persistence of savings is less certain. These projects require M&V to extend for up to two years. Examples include:

    i. Occupancy sensors/lighting control

    ii. Variable-speed drives

    iii. Energy management and control systems

7. CONTRACT AND PROJECT EXECUTION PROCESS

a. A contract will be established between the Project Developer and the SOP Administrator. The contract will contain at least the parties to the contract (SOP Administrator and Project Developer); the agreement to pay for verified electricity savings by a specified technology at a specified site; the duration of the contract being from date of signature for a predetermined sustainability period; and the minimum and maximum payment to be made under the contract. A back-to-back contract will be established between the SOP Administrator and Eskom as the purchaser of the savings.

b. The contract may be terminated by the contracting parties and under conditions mutually agreed upon by the SOP Administrator and the Project Developer.

c. No reimbursement of any project costs incurred by participating in the SOP, including costs of preparing the Project Application, reviewing or executing the SOP Agreement, or preparing and submitting implementation reports will be provided in the absence of verified energy

savings.

d. The applicant will determine the Baseline Consumption of the facility where the EEDSM project will be installed. The M&V teams will audit the Baseline Consumption determination and confirm whether it is correct or not. If it is correct, the Approved Technology will be installed within a predetermined period after the M&V audit of the Baseline Consumption.

e. After the installation and commissioning of the approved technology, a Measurement Acceptance Period (MAP) will commence. The M&V entity will verify the savings achieved during this time as a basis for payment.

f. Towards the end of the MAP, the M&V entity will issue a Performance Assessment Certificate indicating the initial verified energy savings determined during the MAP.

g. The SOP Administrator will make an initial payment for the Verified Energy Savings in accordance with the rules.

h. The energy savings achieved during the subsequent years of the Sustainability Period will be measured and verified and subsequent payments made in accordance with the Verified Energy Savings, after the end of each year of the Sustainability Period.

i. The SOP Administrator will pay for all of the Verified Energy Savings achieved by the Project Developer during the Sustainability Period subject to minimum and maximum amounts set out in the contract and subject to the terms and conditions of the Contract.

j. The price per kWh saving will remain fixed and firm for the duration of a contract.

8. OWNERSHIP OF EEDSM MEASURE

The assets installed by the project developer will be owned and maintained by the project developer for the duration of the savings payment period. At the

end of the period the asset will be transferred to the owner of the facility where the asset is installed.

9. EEDSM ADMINISTRATION

a. The cost of project administration to be used by Eskom when estimating the EEDSM funding requirement may not exceed 10% of the total EEDSM program costs applied for in MYPD.

b. The cost of M&V shall not exceed 8% of the total EEDSM project costs applied for in MYPD

c. Administrative costs include all reasonable and necessary costs incurred by the SOP Administrator in carrying out its responsibilities, including: conducting informational activities designed to explain the standard offer programs to Project Developers; providing informational programs to improve customer awareness of energy efficiency programs and measures; reviewing and selecting energy efficiency programs in accordance with these rules; providing regular and performance reports to the Energy Regulator, including reports of energy and demand savings and payment of the associated rebates and any other activities that are necessary and appropriate for successful program implementation.

d. The SOP Administrator shall adopt measures to foster competition among energy service providers, such as limiting the number of projects or level of incentives that a single energy service provider and its affiliates is eligible for.

10. FUNDING AND COST RECOVERY

a. An EEDSM project plan based on the IRP and providing for national EEDSM funding requirements shall be included in Eskom's multi year price increase application to obtain funding to purchase energy savings during the MYPD period and permit Project Developers to timely recover

the reasonable costs of providing the projected energy efficiency programs and demand-side management programs.

b. Based on the EEDSM plan the estimated EEDSM costs shall be included in Eskom's MYPD increase application to allow Eskom to recover the reasonable costs incurred under the EEDSM program.

c. Eskom must show that the costs of EEDSM to be recovered through the price increase are reasonable estimates of the costs necessary to provide energy efficiency programs and to achieve the goals of EEDSM in electricity supply industry

d. The Energy Regulator shall make a final determination of the reasonableness of the EEDSM costs that Eskom provides for the MYPD application.

e. NERSA shall implement the financial reconciliation of EEDSM funds in relation to target savings and require Eskom to make the necessary over and under recovery adjustments in the MYPD price control process.

11. MONITORING AND REVIEW

a. The SOP program is subject to review, which may be initiated by the Energy Regulator or through the MYPD process.

b. The review under this section may relate to an existing program, proposed new programs, or the failure of the SOP administrator to implement a program.

c. The development and review of the EEEDSM plan will be done in relation with the IRP updates.

d. The SOP administrator shall submit the quarterly and annual reports with verified savings to the Energy Regulator

12. REGULATORY REPORTING REQUIREMENT

a. The SOP administrator shall submit EEDSM performance reports in line with the requirements shown in **Schedule 2**.

b. The SOP Administrator shall use standardized forms, procedures, deemed savings estimates and program templates to administer the EEDSM programme. Any standardized materials, or any change to it, shall be filed with the Energy Regulator for approval at least 60 days prior to its use. In filing such materials, the SOP Administrator shall provide an explanation of changes from the version of the materials that was previously use

SCHEDULE 1 – ACCREDITATION OF M&V TEAMS

1. Introduction and Background

The EEDSM policy on the Standard Offer program requires the National Energy Regulator of South Africa (NERSA) to accredit the Measurement and Verification (M&V) teams that will perform the measurement and verification functions of Standard Offer programs or incentives under the Energy Efficiency and Demand Side Management (EEDSM) projects. The International Performance Measurement and Verification Protocol (IPMVP) framework was used as a benchmark on which the Measurement and Verification (M&V) protocols for EEDSM projects will be based. The intention is to adopt the existing IPMVP as a benchmark for the EEDSM projects. The primary function of the M&V will be to verify and report on initiative savings for the purpose of facilitating payment to the Energy Services Company (ESCO).

As mandated by the EEDSM policy, NERSA will offer accreditation to individual(s) or companies who meet the criteria, specified herein, to qualify as Accredited Measurement & Verification Team (AMVT).

2. Accreditation process

2.1. Request for Qualification

Pursuant to the market invitation of Request for Offering (RFO) by the DoE, the Regulator will issue Request for Qualification (RFQ) to enable potential market participants to express interest in becoming accredited M&V teams. Applicants expressing interest by submitting qualification submissions will be evaluated on the basis of their submission on criteria outlined in rule 2.2 below.

2.2. Qualification process

The qualification submissions will be evaluated and applicants complying or attaining higher percentage scores emanating from the evaluation process will be qualified and invited to submit detailed proposals of their offer. The applicants will be qualified through the following considerations:

(a) Individuals must have either a degree or diploma from an accredited institution in the fields of science, engineering, technology or related field and must be registered with the Engineering Council of South Africa (ECSA) as professionals.
(b) Individuals complying with criterion 2.2(a), should as an addition have at least three (3) years M&V experience in the energy or facility management industries.
(c) Notwithstanding criteria 2.2(a) and 2.2(b), individuals with more than ten (10) years experience in the M&V industry will be considered for qualification.
(d) Teams or companies must have within their groupings, individuals complying with criteria 2.2(a), 2.2(b) and 2.2(c).
(e) Demonstrate skill and expertise in the M&V sector by enlisting past and current projects undertaken.

Failure to submit proof of compliance with criteria above might result in unqualified submissions. Any other documentation the applicant deem relevant might be submitted for consideration.

2.3. Notification of Qualification

Applicants will be notified in writing within thirty (30) days from the RFQ submission closing date regarding their qualification status. If no written communication is received within forty-five (45) days from the RFQ closing date, applicants must regard their submissions as unqualified.

2.4. Request of Proposals

Request for Proposal (RFP) documents will be issued to all applicants qualified in accordance with rule 2.2. All proposals must be received on or before the closing date stipulated in the RFP documents. Qualified applicants shall advise the Energy Regulator

immediately if they wish to submit a proposal but are unable to meet the closing date requirement. The Energy Regulator reserves the right to grant an extension of the closing date. Telefaxed or telephonic proposals are not acceptable. Only complete written proposals received by no later than the closing date will be considered. Proposals shall not be opened publicly.

2.5. Evaluation and selection process

Proposals submitted on or before the closing date stipulated in the RFP documents will be subjected to an evaluation and selection process. Proposals will be selected for accreditation in accordance with attained scores from the evaluation process. The evaluation and selection criteria will be based on the following criteria:

(a) Financial proposal.
(b) Equipment list, i.e. owned or leased, to perform M&V functions.
(c) Proposed contract management structure.
(d) Broad Based Black Economic Empowerment Declaration.
(e) Safety and Health track record.
(f) CEM certification will be an added advantage.

Failure to submit proof of compliance with criteria above might result in unsuccessful proposals. Any other documentation the applicant deem relevant might be submitted for consideration.

The Energy Regulator reserves the right to accept any proposal and not necessarily the lowest financial proposal and to accept or reject any proposal in whole or in part, or to reject all proposal with or without notice or reasons, and if no proposal is accepted, to withdraw this RFP.

Submission of the applications with the above requirement from the interested M&Vs (individuals or teams) to NERSA

Postal Address to: P O Box 40343

Arcadia, 0007

Pretoria, South Africa

OR

Physical Address: Kulawula House

526 Vermeulen Street

Arcadia, 0083

Pretoria, South Africa

2.6. Notification of Accreditation

Within thirty (30) days of the RFP closing date, successful applicants will be notified of the accredited status.

2.7. AMVT Pool

Applicants qualified in accordance with rule 2.5 will be included in an AMVT pool database. The AMVT pool database will be published and maintained on the NERSA website www.nersa.org.za.This database will be maintained in accordance with rule 3.

3. Maintaining Accreditation

Continuing education is essential to maintaining high standards of professional competency. AMVT must accumulate ten (10) professional credits every three years to maintain certification.

3.1. Activities Applicable as Credits for AMVT Renewal

Continued employment in measurement and verification- or energy efficiency-related activities	2credit per year
Membership in a professional engineering society such as ECSA	1 credit per year
BEE compliance	4 credits per year
Papers presented and published on measurement and verification or energy efficiency	1credits each
Professional awards or papers presented and published re: measurement and verification or energy efficiency	2 credits each

The above serves as a guideline for the 10 credits to be accumulated during each three year renewal period. The accredited M&V teams will only last for 3 years from the date accreditation was received. It is responsibility of the teams to keep records the expiry date of the accreditation. The teams are required to keep arecord of their credits to assist with completing the renewal form.

SCHEDULE 2 - REGULATORY REPORTS TEMPLATE

The SOP Administrator will be required to submit the annual report and quarterly reports to the Energy Regulator. The report must include the following information to support the electronic Table 1 overleaf:

a) The results of the M&V reports for each project as provided by the relevant M&V team
b) The amounts spend on each energy efficiency program and the total amounts spent on all programs.
c) Number of successful projects within financial year
d) Total cumulative savings in MWs and MWhs for the financial year
e) Actual result per project on the EEDSM (Units saved & R-value). This must show:
    a. Opex results (Budget v/s Actual)
    b. Capex results (Budget v/s Actual)
    c. Units saved (Budget v/s Actual)
    d. Rebates paid
f) Total savings in MW and MWh achieved for each project.
g) The report should also include the full avoided cost of each program.
h) The amounts spent on each M&V project and the total amounts spent on all M&V projects
i) The project management costs per project and for projects administered in the financial year
j) The marketing and advertisement costs per project category

Table S2: Quarterly/Annual Reports Format

Project Name	ESCO	M&V Team	Project Category	Project Description	Project Starting Date	Target Completion Date	Project Status	Completion Date	Expected Energy Savings - MWh	Actual Energy Savings - MWh	Budgeted M&V Cost (Rm)	Budgeted Project Cost (Rm)	Actual M&V Cost (Rm)	Actual Project Cost (Rm)