



SAINT HELENA **AUDIT SERVICE**

ELECTRICITY



VALUE FOR MONEY REPORT

V03 - MAY 2009

Value For Money audits are conducted by the Audit Service on behalf of the Legislative Council, in order to determine whether St Helena Government resources have been used with proper regard to economy, efficiency and effectiveness.

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Report Distribution: PW&SD Manager, Chief Secretary, Financial Secretary and Legislative Council.

The executive summary is provided to the Public Accounts Committee and Audit Committee.

It is available to the public through our website (www.audit.gov.sh), in the Public Library and at the Audit Service Offices.

ELECTRICITY AUTHORITY

EXECUTIVE SUMMARY

This review forms part of the Value For Money (VFM) Audit Plan 2008/09. The objective of the audit was to determine whether SHG resources in this area are used with due regard to economy, efficiency and effectiveness.

To generate income from the sale of electricity you need to send out bills for electricity. The efficiency of this process was examined in the review of the Central Billing Unit completed in January 2008 and we have not re-examined it as part of this review. To send out a bill for electricity, you need a meter reading, as a record of the quantity of electricity made available to the customer, and a price for electricity. The arrangements for meter reading were also examined as part of our review of the Central Billing Unit and aspects of this function are currently being examined in a separate piece of work. We have reviewed the pricing policy as part of this audit, considering whether it is a suitable means of achieving SHG's objectives in this area, in particular the objective of moving to reducing hidden subsidy. To make electricity available to customers, you need to distribute it. We have reviewed both the regular distribution operations of the Energy Division and the Electricity Distribution Project. Before you can distribute electricity you need to generate it. We have examined both the regular generation operations of the Division, which rely principally on diesel generators, and the Wind Turbine Project. Before you can generate electricity from diesel, you need to buy the diesel. Diesel is purchased from the Bulk Fuel Installation, the only bulk supplier on the island. A Value for Money audit of the BFI also forms part of the 2008/09 Value for Money Audit Plan.

Based upon the work undertaken and the findings detailed in the body of this report, the overall opinion is given below. The range of possible audit opinions given for Value For Money is good, adequate and inadequate. Definitions of the audit opinions can be found at Appendix A to the main report.

ADEQUATE	Management arrangements are generally conducive to achieving Value For Money – but further important enhancements could be made.
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Our review of a sample of personnel records revealed that no annual appraisals had been conducted for 2007/08 nor had mid-year reviews for 2008/09 taken place. These are both required under the Code of Management so we conclude that SHG's performance management policy, as laid out in the Code of Management, is completely disregarded in the Division. We acknowledge that the Division is currently suffering a severe shortage of management and senior technical staff and that many key positions are vacant while their staff are on training. The prospects for improving performance management in the Division are good, as newly trained staff are due to return shortly. Key indicators of performance monitored within the Division provide a measure of assurance on the efficiency of electricity generation, which accounts for the majority of the Division's costs, but no corresponding indicators exist for installation and maintenance activities, where the majority of the Division's staff are employed. (Although there is a job costing system recording information

at the level of individual jobs.) It is in regards to installation and maintenance that the scope for improved efficiency through performance management would appear greatest.

Although key indicators of efficiency are monitored within the Division, there is no regular reporting to the Head of the Department, Departmental Committee or Finance Committee on the efficiency of the Energy Division. There are 'performance indicators' in the Business Plan but these are measures to gauge whether particular actions have been achieved on schedule rather than measures of the Division's efficiency.

The Wind Generation Project is at least 18 months late and expected savings of around £20,000 a month are not being realised. This was a result of the delay in receiving planning permission and procuring a suitable concrete batcher. The original project funding was exhausted and all further expenditure apart from a visit of a WES engineer, has to be met from PW&SD's departmental budget.

We reviewed the pricing policy. The biggest cost in generating electricity is the cost of diesel which is unpredictable and decisions on cost recovery have to be made with this in mind. A model forecasting demand and the costs and revenue of the Division predicts that electricity generation costs will be covered without subsidy from elsewhere by 2015/16, achieved by moderate price rises together with increased efficiency, lower overheads and more wind power. We found that the tariff introduced in September 2008 and the model adopted is suitable for meeting SHG's objective of reducing hidden subsidy.

The Electricity Distribution Project appears to be meeting its planned outputs successfully with three (out of sixteen) component projects being completed and another three currently in progress. Two of the component projects, in relation to the recruitment of international staff and the procurement of equipment, are no longer required because a local private sector contractor is being used instead.

There are four recommendations made from this audit. The three rated as high priority are:

1. We recommend that the Head of Energy agree regular performance reporting arrangements with the Head of the Public Works and Services Department.
2. We recommend that line managers manage the performance of their staff, by following the procedures outlined in the Code of Management, or by using any alternative procedures agreed between the Head of Department and the Chief Human Resources Officer.
3. We recommend that quarterly monitoring reports are compiled and submitted to the DEPD Project Officer to assess progress as required in the Project Memorandum or Project Concept Note.

The assistance given by all SHG staff is acknowledged with appreciation. A list of those involved is included at Appendix C.

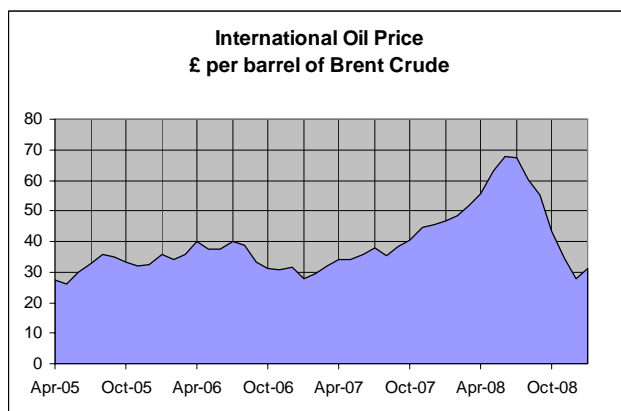
1. FINDINGS AND CONCLUSIONS

1.1 The main findings and conclusions are presented here and are based upon the actual work undertaken and evidence gathered.

Pricing Policy

1.2 The sustainable development plan notes (on page 22) that whereas there is a genuine need to protect the vulnerable, services provided at fees and charges that only recover part of the costs constitute a subsidy to higher income groups. It goes on to say that the charges for infrastructure services will need to be reviewed in the light of moving to increased cost recovery. Targets were set to increase the recovery of electricity costs from a 2006/07 baseline of 51% to a 2009/10 benchmark of 64%.

1.3 The biggest cost in generating electricity is the cost of diesel which is volatile, and decisions on cost recovery have to be made in this context. The international price of oil is illustrated below:



1.4 Before December 2007, electricity bills consisted of a standing charge of £2 per quarter plus a usage charge of 16.5 pence per kWh. From 1 December 2007 a revised charging

structure was adopted. A sharp increase in standing charges was combined with a heavily discounted price for the first three hundred units used in a quarter and a slightly discounted price for the next seven hundred. This had the effect of increasing costs for absentees using no electricity but most consumers benefited from reduced bills, and a rebate system was introduced for resident customers with low usage. In theory those using a lot of electricity would pay more as the rate for units of electricity after the first thousand was increased from 16.5p to 17p, but only those using over four thousand units, that is with quarterly bills of over £660, would have paid higher bills under the December 2007 tariff compared to the previous tariff.

1.5 While non-residents were contributing more under the December 2007 tariff, the subsidy benefiting high income residents actually increased. The overall effect of the tariffs introduced in December 2007 was to decrease revenue collection and cost recovery ratios.

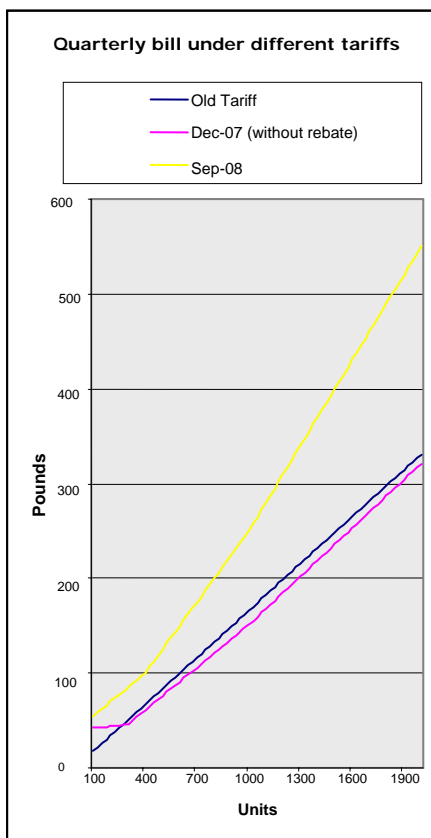
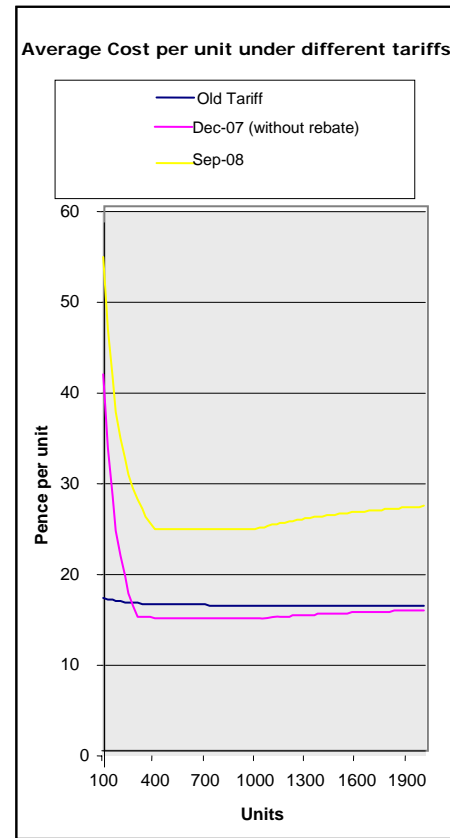
1.6 In June 2008, when oil prices were at a historic high, SHG decided to increase charges steeply, and these increases took effect from 1 September 2008. Regardless of any policy objective of improving cost recovery, the price of fuel at that time meant that either prices would have to increase or money would have to be found elsewhere to fund a large increase in subsidy.

1.7 Since the policy was adopted international fuel prices have fallen sharply. This has meant that although cost recovery is still expected to be

behind target for 2008/09, the 2009/10 target of 64% should be met.

1.8 A financial model forecasting demand and the costs and revenues of the energy division is in place and predicts that electricity generation costs will be being covered without subsidy from elsewhere by 2015/16, achieved by a combination of moderate price rises together with increased efficiency, lower overheads and more wind power.

1.9 In conclusion, while the December 2007 tariff represented a step away from SHG’s objectives as stated in the SDP, the pricing structure and model now in place is appropriate for meeting the policy objectives and targets outlined in the SDP.



Energy Division

1.10 While government aims to increase cost recovery in electricity, the achievement of this goal depends largely on the price charged for electricity and on the cost of diesel and neither of these factors are within the control of the Energy Division. The principle drivers of the cost of electricity that are within the control of the Energy Division are as follows:

- Fuel consumed per KWh generated from diesel
- KWh generated from wind
- KWh billed/KWh generated
- Non Fuel costs

1.11 These are all key parameters in the model referred to above. However they are not mentioned in the business plan and are not regularly reported by the Head of Energy to the Head of Department, the

Departmental Committee (which is also the Electricity Authority) or Finance Committee, despite them being vital to the achievement of Government's objectives. Indeed there is no regular reporting of any such set of performance indicators. (See recommendation 1)

1.12 There are 'performance indicators' in the Business Plan but these are measures to gage whether particular actions have been achieved on schedule rather than measures of the Division's performance. Both types of information are needed.

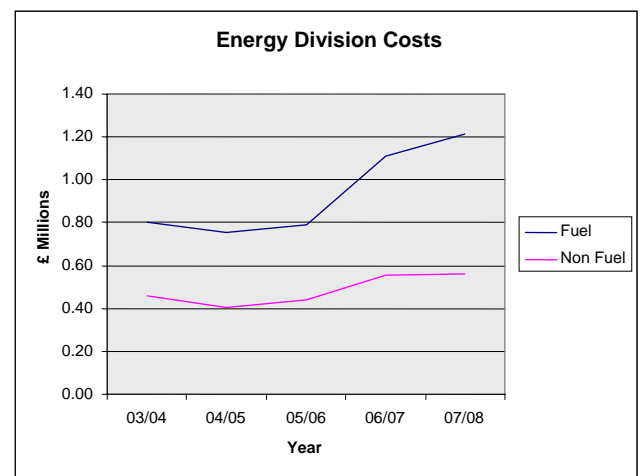
1.13 Within the Division close attention is paid to fuel consumed per KWh generated from diesel. This is monitored closely, by day, by generator, and the deterioration in this indicator that was suffered in 2006/07 has been reversed. Progress in wind generation is monitored and so are costs.

1.14 KWh billed/KWh generated is monitored by the Division, but only on an annual basis. While the Division has detailed information on KWh generated, obtaining detailed information on Electricity billed is more difficult. Electricity is billed based on quarterly readings. These readings are staggered in three groups with quarters ending on different months, and within each group readings are spread over two weeks. The result is that it is not possible to precisely measure the consumption of electricity between any two dates. In particular a crude comparison of electricity billed in a month to electricity generated in the same month would not be useful. The other complication is that information on billings is in the possession of the Central Billing Unit rather than Energy Division.

1.15 Nevertheless improvement in this ratio is key to achieving the efficiency gains predicted in the pricing model and is a measure of the success of the Electricity Distribution Project, and of individual elements within it. It is also important in monitoring the efficiency of the distribution system.

1.16 There is no formula to forecast annual monthly billings based on data on electricity generation, so that deviations from expectations can be monitored and remedial action taken. The annual measure used, shows a marked deterioration in 2007/08, with units billed being only 83.6% of units generated, compared to 87.2% in 2006/07. We do not understand the causes of this deterioration; it may just be the effect of the changes in billing methods and rates towards the end of 2007/08. (See recommendation 2)

1.17 The majority of the Division's costs are fuel costs, and most of the increase in its costs over recent years is attributable to the rise in fuel costs, which in turn are driven mainly by the increase in international fuel process.



disregarded in the Division. (See recommendation 3)

1.26 The severely constrained management capacity is largely due to the absence of staff on training, which, while temporary, is of relatively long duration and is planned in advance. It should therefore have been possible to plan better cover arrangements. Current inflexible staffing arrangements across SHG as a whole make it difficult for senior SHG management to ensure that temporary gaps in management capacity are filled and we note that the Public Sector Modernisation Programme is expected to help address these issues. Other sections in SHG may well find themselves in a similar situation if senior staff are selected for training and have similar difficulty in putting cover arrangements in place.

1.27 While the financial and other performance measures of the Division allow us to assess the overall performance of the Division, especially in regards to generation, the absence of documented performance management means that we can provide no assurance that the installation and maintenance works are carried out efficiently. (Although there is a job costing system in place recording information at the level of individual jobs.)

Wind Generation Project

1.28 The renewable energy project has delivered worse than expected results because it is at least 18 months late, and so expected savings of about £20,000 a month are not being realised. This was principally the result of the delay in receiving planning permission (a foreseeable risk) although problems procuring a

suitable concrete batcher also contributed significantly to the delay. As the project's budget fell under the £500,000 threshold, the project was approved on the basis of a project concept note rather than a full project memorandum, which would have necessitated a full risk assessment. SHG have conducted an internal review of the project which resulted in ways of improving project management being identified.

1.29 Environmental screening began in February 2007 and discussions between DEPD, PW&SD, and Legal and Lands staff continued until August. However no agreement could be reached on where the turbines should be located. Action in the



face of these disagreements was not initially pushed by the Project Manager, as he only returned from leave in July 2007 and was also acting Manager of PWSD for most of the rest of 2007. Planning permission was not granted until April 2008, 14 months after environmental screening began.

1.30 As a result of the late start due to delays in environment screening, obtaining planning permission and procuring a suitable concrete batcher, the original project budget has been exhausted. All further expenditure, apart from a visit of a WES engineer for which DFID granted additional funding, has to be met from PW&SD's departmental budget. Additional funding had to be sought from the Consolidated Fund.

1.31 The Project Concept Note requires monthly account statements to be submitted to the Development and Economic Planning Department and this was done. The project concept

note also requires quarterly monitoring reports to be submitted to the Development and Economic Department to assess progress made. Reporting has been poor and the Project Manager has to be reminded to submit reports. (See recommendation 4)

the Development and Economic Department to assess progress made. Reporting has been poor and the Project Manager has to be reminded to submit reports and when submitted, changes have to be made to them. (See recommendation 4)

Electricity Distribution Project

1.32 This project is intended to improve the security of the electricity supply on the island by increasing the numbers of feeders and upgrading other priority parts of the electricity distribution system. From our review, the project appears to be meeting its planned outputs successfully. While not an explicit target in the project memorandum, the project should increase the efficiency of distribution and so save on losses.

1.33 Three of eleven components planned have been completed, two have been delayed, one is in the design stage and three are in progress. Two components which was the recruitment of personnel and procurement of necessary equipment has been abandoned as it was planned to recruit internationally to relieve pressure on Energy Division staff, but the use of a local private sector contractor means that this is no longer needed.



1.34 As stated above for the Wind Generation project, the project memorandum requires monthly account statements to be submitted to the Development and Economic Planning Department and this was done. However, the project memorandum also requires quarter monitoring reports to be submitted to

2. MANAGEMENT RESPONSE AND ACTION PLAN

	RECOMMENDATION	Officer responsible for implementation	Priority	Implementation expected to be complete by: (Month, Year)	Management Comments
1.	We recommend that the Head of Energy agree regular performance reporting arrangements with the Head of the Public Works and Services Department.	Head of PWSD	<i>High</i>	<i>April 2010</i>	Agreed
2.	We recommend that a formula be developed to forecast expected monthly billings based on data on electricity generation, so deviations from expectations can be monitored and remedial action taken. We would be happy to assist in developing such formula.	Head of Energy	<i>Medium</i>	<i>April 2010</i>	Agreed
3.	We recommend that line managers manage the performance of their staff, by following the procedures outlined in the Code of Management, or by using any alternative procedures agreed between the Head of Department and the Chief Human Resources Officer.	Head of PWSD/Head of Energy	<i>High</i>	<i>April 2010</i>	Agreed

	RECOMMENDATION	Officer responsible for implementation	Priority	Implementation expected to be complete by: (Month, Year)	Management Comments
4.	The Project Memorandum or Project Concept Note (if the amount is lower than the £500,000 threshold) requires quarterly monitoring reports to be submitted to the DEPD Office to assess progress made. However, reporting has been poor and the Project Manager has to be reminded to submit reports. We recommend that quarterly monitoring reports are compiled and submitted to the DEPD Project Officer to assess progress as required in the Project Memorandum or Project Concept Note.	Head of Energy	<i>High</i>	<i>From now on</i>	The severe shortage of management and senior technical staff noted by the auditors made timely reporting difficult.

AUDIT OPINION DEFINITIONS

Every Value For Money audit concludes with an overall opinion based upon individual opinions that are applied to each of the review areas identified in the scope of the audit. The range of opinions, together with an explanation of their meanings, is as follows:

<i>Value Form Money Opinions</i>	
GOOD	Management arrangements are conducive to achieving Value For Money and only minor enhancements, if any, can be identified.
ADEQUATE	Management arrangements are generally conducive to achieving Value For Money – but further important enhancements could be made.
INADEQUATE	Management arrangements are not considered to be adequately conducive to achieving maximum Value For Money.

SCOPING AND RESOURCING

To examine whether the Project's objectives were achieved with regard to economy, efficiency and effectiveness, the Audit Service planned programmes to assess:

- Whether SHG's objective with regard to cost recovery and pricing policy is being followed;
- Whether the Energy Division is achieving value for money;
- Whether the outputs for the Wind Generation project as per Project Concept Note is being achieved; and
- Whether the outputs for the Electricity Distribution project as per Project Memorandum is being achieved.

This was done by:

- Interviewing Head of Energy, Chief Development Officer (CDO) and other key SHG employees;
- Reviewing spreadsheets, tariffs and models relating to the Energy Division;
- Reviewing documentation relating to the projects; and
- Analysing the costs of the projects.

The audit was undertaken during the period October 2008 to February 2009. The total cost of undertaking the audit was £6,000.

LIST OF PERSONS CONSULTED

The assistance given to the Audit Service by all those listed below during the course of the audit is acknowledged with appreciation.

Names	Title	Department
Derek Richards	Manager/HoD	PW&SD
Simon Oliver	Head of Energy	PW&SD
Alan Hudson	Chief Engineer	PW&SD
Janetta Leo	Senior Executive Officer	PW&SD
Brenda Stevens	Executive Officer	PW&SD
Mandy Constantine	Senior Customer Services Officer	PW&SD
Dr. Corinda Essex	Chief Development Officer	DEPD
Brenda Thomas	Executive Officer	DEPD
Aldhelm Garner	Clerk of Council	OCS