Projects to Reduce Emissions

Palmerston North Awapuni Landfill Gas to Electricity Generation

2011 Annual Report

Independent Verification Report

Project verified:	*Palmerston North Awapuni Landfill Gas to Electricity Generation Project* *Palmerston North City Council* *Philip Burt* *Services Engineer – Water & Waste* *64 (0) 6 356 8199* *phil.burt@pncc.govt.nz*
Independent verifier:	*Noim Uddin* *DNV Australia*
Date of verification:	*3 April 2012*

PRE Project Information	
Name of Project: Palmerston North Awapuni Landfill Gas to Electricity Generation Project	
Project Site Address: Awapuni Ward, Palmerston North City	
Name of Project Participant: **Palmerston North City Council**	
Name of Project contact: **Philip Burt**	**Telephone:** **64 (0) 6 356 8199**
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Verifier Information	
Name of Company: **DNV Australia**	**Telephone:** **61 (0) 2 9922 1966**
Name of Lead Verifier: Noim Uddin	**Fax:** **61 (0) 2 9929 8792**
Email: Noim.uddin@dnv.com	**Date(s) of Verification:** **03/04/2012**
Verification Team Members: Noel Peters (Peer Review)	
PRE Annual Report Verified	
Annual Report 2011	

1 Verification Statement

To:

Phillip Burt
Services Engineer – Water & Waste,
Palmerston North Awapuni Landfill Gas to Electricity Generation Project
Palmerston North City Council

1.1 Introduction

DNV Australia has been engaged by Palmerston North City Council to undertake a verification of the Palmerston North Awapuni Landfill Gas to Electricity Generation Project's 2011 Emission Reduction Units. Palmerston North Awapuni Landfill Gas to Electricity Generation Project (PNCC LFG) is an approved PRE Project by the New Zealand Government. This verification is performed according to the PRE Project Requirements as set by the New Zealand Government. The ERUs verification has been planned and performed in accordance with the Verification Plan dated *12/03/2012* and our contract dated *22/05/2010.*

We have reviewed the nature of the *PNCC LFG 2011 Annual Report* and have concluded that we are able to conduct a reasonable assurance verification of the criteria items directly related to operation of the project and limited assurance verification of the scope items which describe competence of the Project Participant and the interaction of the project with local regulatory authorities. We have indicated the relevant scope items in the Scope of Verification below.

1.2 Objective

The objective of the verification engagement is to form an opinion as to whether the *PNCC LFG 2011* Annual Report is prepared in accordance with the PRE Project Agreement between the Crown and the Project Participant and is free from material discrepancy.

1.3 Criteria

DNV Australia conducted sufficient verification procedures to enable us to express a reasonable assurance verification opinion on the following matters that, in all material respects:

1. The *PNCC LFG 2011 Annual Report* includes the information detailed in Schedule 4 of the PRE Project Agreement;

2. The recording and calculation of the emission reductions for the year uses the relevant (e.g., electricity) emission factors set out in Schedule 2 (or elsewhere as defined with another applicable Agreement);

3. The calculation behind the Emission Units claimed for *2011*, uses the net emission reduction and the request ratio ("C") set out in clause 5.1 of the Project Agreement;

4. The construction emissions calculations uses (a) the emission factors set out in Schedule 2, and (b) the records of the quantities of materials, fuels, electricity purchased etc. relevant to emissions during construction;

5. Metering and recording equipment installed has been certified by an independent reputable quality assured service provider;

6. Any other (electricity, heat) generation, not part of the project, that flows through these meters has been identified, measured and subtracted from the gross total;

7. If applicable, records of emissions as a result of the operation of the project are fairly stated;

8. The participant has justified and documented any significant changes to the PRE project and its baseline scenario that lead to material change in the project's emissions, removals and emission reductions since the previous verification, and which affect the projects ability to conform to the principles, and requirements of the PRE project; and

9. Within the context of verification, any other requirement relating to the PRE Project Agreement.

DNV Australia conducted sufficient verification procedures to enable us to express a limited assurance verification opinion on the following matter that, in all material respects:

10. The participant has adequate understanding of the principles and requirements of the PRE programme and is competent to conform to those principles and requirements; and

11. Compliance with the regulatory requirements of local and central government agencies.

1.4 Verification scope

The scope of verification of the *PNCC LFG 2011 Annual Report* is as follows:

1.4.1 GHG project and baseline scenarios relevant to the Project

The relevant project and baseline scenarios are as follows:

1. Baseline scenario: business as usual electricity generation without electricity from PNCC LFG project.

2. Project scenario: electricity generation from PNCC LFG is additional.

1.4.2 Physical infrastructure, activities, technologies and processes of the GHG project

The elements of the project subject to verification are as follows:

1. Physical infrastructure: rated capacity of the electricity generation unit; construction of the LFG collection facility, flaring of LFG, electricity supply to the grid;

2. Project activities: destruction of LFG by flaring, generation of electricity by using LFG;

3. Technologies: gas-to-electricity conversion, treatment of LFG; and

4. Processes: collection of LFG, treatment of LFG, monitoring of LFG flow, supplying of electricity to the national electricity grid, maintenance of metering, calibration and data archiving.

1.4.3 GHG sources, sinks and/or reservoirs included within the Project boundary

Project GHG sources, sinks and reservoirs within the Project boundary are:

1. All GHG sources.

1.4.4 Types of GHGs included within the project boundary

The GHG species included within the Project Agreement are:

1. CO_2.
2. CH_4 – yes (any leakage)
3. N_2O, SF_6, PFCs, and CFCs – not applicable

1.4.5 Time period of the Annual Report

The verification is of all project activities in the period *1 January 2011 to 31 December 2011*.

1.5 Verification Principles

DNV Australia conducted the verification in accordance with ISO14064-3, ISO 14065 and our contract with *PNCC* and the verification principles under clause 7 of the Project Agreement between the Project Participant (PNCC) and the Crown.

1.6 Project Participant's Responsibilities

PNCC is responsible for preparing the PRE *PNCC LFG 2011 Annual Report* and maintaining an effective internal control environment and data management system, including control procedures supporting the inputs into this documentation, in accordance with accepted good practice.

1.7 Verifier Responsibilities

The verification has been conducted in accordance with ISO14064-3 and ISO14065 in order to provide a reasonable and limited level of assurance as described in the Scope of Work above to *PNCC*. As such *DNV Australia* has undertaken the following procedures that we considered appropriate to be able to provide a reasonable and limited level of assurance.

1.8 Verification Procedures

Our verification has been conducted in accordance with New Zealand Government PRE Project verification procedure in order to provide reasonable assurance that the ERUs as contained in the 2011 Annual Report is free from material misstatement. Accordingly, we have conducted such tests and procedures as we considered appropriate including:

- On-site visit at the PNCC LFG facility at Awapuni Ward, Palmerston North City Council, New Zealand to examine collection and destruction of LFG, generation of electricity from LFG, supply of electricity to the grid, on-site record keeping procedure, consumption of any other fossil fuels and electricity.

- Interviews with operational, management and record keeping personnel responsible for maintenance, operation, management and reporting at the facility.
- Review of key documents, including:
    - Projects to Reduce Emissions Agreement with the Crown dated 13 April 2004.
    - Amendment PRE Project Agreement with the Crown dated 3 March 2005.
    - Amendment 2 PRE Project Agreement with the Crown dated 18 February 2010.
    - PNCC LFG 2011 Annual Report to be submitted to the Ministry for the Environment, New Zealand.
- Random sample testing of source data, including:
    - Flow, pressure, temperature and concentration of LFG.
    - Electricity generation, supply and import.
    - Any other fossil fuel consumption (LPG, diesel and petrol).
- Confirmation that the calculation methodology is in compliance with the Schedule 2 of the PRE Project Agreement.
- Observation and review of relevant documentation.

The results of the verification procedures undertaken are set out in the following verification checklist.

PNCC personnel have overall responsibility for the project including maintenance and operational data management.

DNV Australia confirms that it is not aware of any actual or perceived conflict of interest in having completed this engagement.

1.9 Independent Review

DNV Australia has completed an independent review, undertaken by competent personnel who did not participate in the verification, to:

- confirm that all verification activities have been undertaken; and
- conclude whether or not the ERUs are free from material discrepancy and whether the verification activities provide either a reasonable level of assurance or a limited level of assurance in accordance with the scope items nominated above.

In making this verification statement, we confirm that Det Norske Veritas is currently accredited as a *DOE by* CDM Executive Board as per the Ministry for the Environment requirements, that this verification has been conducted in accordance with the requirements of the accreditation and that the findings and conclusions documented in this report are guided by professional judgment and supported by verification records held by *DNV Australia*.

The findings and conclusions documented in this verification protocol are guided by professional judgment and supported by verification records held by *DNV Australia*.

1.10 Inherent Limitations

Because of the inherent limitations in any internal control environment and data management system, it is possible that fraud, error, or non-compliance with the Project Agreement may occur and may not be detected. Further, the verification was not designed to detect all weakness or errors in the internal control environment and data management system so far as they relate to the scope set out above, as the verification has not been performed continuously throughout the period and the procedures performed on the relevant internal information and data management system were on a test basis. Any extrapolation from this verification to future periods is subject to the risk that the procedures may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

DNV Australia did not conduct any verification procedures with respect to the internal control environment and data management system of the PP as a whole. As such, no assurance is provided on any internal control environment and data management system not associated with the PNCC LFG 2011 ERUs.

The verification opinion expressed in this Report has been formed on the above basis.

1.11 Verification Opinion

During on-site audit we found that:

- Arrangements proposed in the project description had been implemented accordingly.
- Metering of total electricity generation and recording of electricity exported to the grid was in accordance with good practice and provided reliable data.
- Generation of electricity from the PNCC LFG Genset was interrupted during the year of reporting. This is due to LFG methane volume and quality not meeting the requirements of the Genset.
- LFG instrumentation failed on two separate occasions. Under normal operating condition LFG flow is measured by an Instromet gas flow meter and gas composition is monitored by a Drager gas composition meter. An alternative method was adopted to calculate amount of LFG generated during the periods from 1 January 2011 to 11 January 2011 and 23 April to 10 May 2011 as no LFG data was recorded during those periods. During those periods LFG data was recorded as ‘no data’. However electricity generation data was recorded via STREAM during those periods. The adopted calculation method based on the tested energy conversion efficiency of the Genset using default energy content for methane is in accordance with PRE Project Agreement and is reasonable. LFG destruction during these period amount 1163.6700 tonnes CO_2-e.
- LFG destruction due to generation of electricity 17 357.3200 tonnes CO_2-e
- The electricity generation during the period was 4.0218 GWh. The import from the grid amounted to 1.7769 GWh.

- A total of 1 346.9400 tonnes CO_2-e of emission was avoided by the net (export – import) displacement of grid electricity (4.0218 - 1.7769 = 2.2449 GWh).
- The project boundary does not include any flaring of methane other than electricity generation via the Genset.
- The project emissions include emission due to combustion of methane, import of electricity, use of fossil fuel. Following project emissions are estimated as per following table.

Source	**Emissions tonnes CO_2-e**
Combustion of methane	2 425.3688
Purchase of electricity	1 066.1400
Emissions from diesel use (construction)	9.5520
Emissions from iron/steel (construction)	0.9750
Emissions from diesel use (operation)	1.1776
Emissions from petrol use (operation)	0.3332
Total project emissions	**3 503.5466**

- Emissions avoided due to methane combustion and displacement of grid electricity is estimated as per following table.

Source	**Emissions tonnes CO_2-e**
Combustion of methane	18 520.9983
Generation of electricity	2 413.0800
Total emission avoidance	**20 934.0783**

Total project emissions due to combustion of methane, import of electricity, and use of transport fuel amount are estimated as 3 503.5466 tonnes CO_2-e.

Hence, the total claims for emission reduction of 17 430.5320, (calculated as total emission avoidance of 20 934.0783 - project emissions of 3 503.5466 = 17 430.5317) tonnes CO_2-e during the calendar year 2011 was found, in all material respects, to be fairly stated.

Our opinion, following the reasonable assurance verification undertaken at the DNV Australia office in Sydney and on site at Palmerston North, New Zealand of the GHG assertions included in the *PNCC LFG 2011 Annual Report* and the subsequent review of associated documents is that the following matter is fairly presented, in all material aspects, in accordance with the PRE requirements:

1. The *PNCC LFG 2011 Annual Report* includes the information detailed in Schedule 4 of the Project Agreement;

2. The recording and calculation of the emission reductions for the 2011 uses the relevant emission factors (e.g., electricity) set out in Schedule 2 of the Project Agreement (or elsewhere as defined with another applicable Agreement);

3. The calculation behind the Emission Units claimed for the 2011 period uses the net emission reduction and the request ratio ("C") set out in clause 5.1 of the Project Agreement;

4. Metering and recording equipment installed has been certified by an independent reputable quality assured service provider;

5. Electricity generation, not part of the project, that flows through these meters has been identified, measured and subtracted from the gross total;

6. Records of emissions as a result of the operation of the project are fairly stated;

7. The 17 430 ERUs claimed in respect of the Project for the 2011 calendar year
    a. has been fairly and accurately stated and calculated and is:
    based on accurate and reliable electricity generation data and amount of landfill gas flared records and other relevant supporting documentation; and
    b. has been calculated in a manner generally consistent with the intent of the monitoring and calculation clauses of the Project Agreement between the New Zealand Government and Palmerston North City Council dated 13 April 2004 and Amendment dated 3 March 2005 and Amendment 2 dated 16 February 2010.

In our opinion, nothing came to our attention during the limited assurance verification of the *PNCC LFG 2011 Annual Report* and subsequent review of associated documents, except as noted below.

The participant has adequate understanding of the principles and requirements of the PRE programme and is competent to conform to those principles and requirements;

No issues have been identified in 2011 Annual Report or during the on-site visit that would lead to a material change in consent compliance requirements as specified in Resource Consent Decision 1, 2, 3, 4, 8, and 9 issued by Manawatu-Wanganui Regional Council.

With regard to compliance with the regulatory requirements of local and central governmental agencies, PNCC is yet to conform to the requirements as specified in the Resource Consent the Decision 5, 6, 10 and 11.

1.12 Suggestions

No suggestions are made during current verification.

1.13 Limitations on use

This Verification Statement has been prepared for PNCC solely for use in relation to the *Projects to Reduce Emissions* programme. The *DNV Australia* disclaims any liability for reliance upon this Report by any other party or for any other purpose other than for which it was prepared.

Name of Lead Verifier(s):	**Noim Uddin**
Position:	**Lead Climate Change Verifier**
Company and Location:	**DNV Australia**
Signature of Lead Verifier:	
Date:	**2 August 2012**
Name of Independent Reviewer(s)	**Noel Peters**
Signature of Independent Reviewer:	
Date:	**2 August 2012**

Attachment 1 – Verification Procedures and Findings Protocol

Attachment 1 is a record of the verification procedures conducted in accordance with PRE Project Requirements by the New Zealand Government and of the verification findings. The checklist is not a comprehensive description of all the verification procedures performed or all verification evidence obtained during the verification process, but is a fair presentation of the procedures and findings in sufficient detail to enable all findings (both positive and negative) to be verified.

1. Attachment 1 – verification procedures and findings protocol

<table>
<tr><td>Criteria Item 1 verified</td><td colspan="3">The PNCC LFG 2011 Annual Report includes the information detailed in Schedule 4 of the PRE Project Agreement.</td></tr>
<tr><td>Description of requirement</td><td colspan="3">That all of the information detailed in Schedule 4 of the Project Agreement for inclusion in the Annual Report has been included and is fairly stated.</td></tr>
<tr><td rowspan="2">Verification procedures</td><td>Verification item</td><td>Information Source/Evidence</td><td>Comments</td></tr>
<tr><td>Cross check of Annual Report information with the requirements documented in Schedule 4 of the Project Agreement.</td><td>Project Agreement dated 13 April 2004.

Amendment 1 Project Agreement dated 3 March 2005.

Amendment 2 Project Agreement dated 16 February 2010.

PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.</td><td>The PNCC LFG 2011 Annual Report is in compliance with Schedule 4 of the Project Agreement.

An alternative method was adopted as a proxy measure to estimate the amount of LFG (as tonnes of methane) combusted for the periods 1-11 January 2011 and 23 April to 10 May 2011.</td></tr>
<tr><td>Findings</td><td colspan="3">The PNCC LFG 2011 Annual Report has been completed according to the Schedule 4 of the Project Agreement. Following items were checked against Schedule 4 of the Project Agreement (Contents of Annual Reports), these being:
total LFG (methane) combusted: 881.9523 tonnes
total electricity generated: 4.0218 GWh
total electricity imported/purchased: 1.7769 GWh
An alternative method was adopted to calculate the amount of LFG during the periods 1 January 2011 to 11 January 2011 and 23 April to 10 May 2011. During those periods LFG data was recorded as ‘no data’ in the SCADA system. However electricity generation data was recorded via STREAM during those periods.

The adopted calculation method is based on the tested energy conversion efficiency of the Genset using default energy content for methane, is in accordance with Schedule 4 of the</td></tr>
</table>

	PRE Project Agreement and is reasonable. Energy content of methane 37.7 MJ/m^3 is sourced from National Greenhouse Accounts (NGA) Factors from the Australian Department of Climate Change and Energy Efficiency (July 2011, Table 2) and verified to be correct. During the periods 1 January 2011 to 11 January 2011 and 23 April to 10 May 2011 the electricity data was recorded and amount of methane combusted was estimated as follows: Electricity generated: 299 539.90 kWh Methane combusted: 55.41 tonnes A total emission reduction of 17 430 tonnes CO_2-e has been calculated in accordance with the methodology as per Schedule 2 of the Project Agreement.
Conclusion	All of the information detailed in Schedule 4 of the Project Agreement has been included and is fairly stated.

Criteria Item 2 verified	The recording and calculation of the emission reductions for the year uses the relevant (e.g., electricity) emission factors set out in Schedule 2 (or as otherwise defined).		
Description of requirement	That the emission factors used in the Annual Report are the same as those in Schedule 2 (or as otherwise defined) of the Project Agreement, and that the mathematical calculation of emission reductions using the emission factors and project activity parameters are fairly stated		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Cross check of emission factors used in the emission reduction calculation with the emission factors in Schedule 2 (or as otherwise defined) of the Project Agreement.	Project Agreement dated 13 April 2004. Amendment 1 Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	The relevant emission factors have been correctly applied in accordance with 'Schedule 2 – Measurement of Emission Reductions' of the Project Agreement. Energy content from landfill gas is sourced from NGA Factors by Australian Department of Climate Change and Energy Efficiency, July 2011
	Emission factors not included in Schedule 2 are from properly authorised sources or are based on test results from properly accredited laboratories.	Not applicable	Not applicable as no emission factors were used other than in Schedule 2.
	Confirmation that the measurement of project activity parameters has been properly	Project operational control documents including: • methane flow	All project activity parameters are monitored and reported.

	undertaken.	and methane percentage data • gas pressure and gas temperature data • auxiliary electricity consumption data • fossil fuel and LPG consumption during operation of the LFG gas-to-electricity	LFG (methane) flow is measured by an Instromet gas flow meter. No LFG data was recorded during the periods 1 January 2011 to11 January 2011 and 23 April to 10 May 2011. During those periods LFG data was recorded as 'no data' in the SCADA system. Where the original spreadsheet from SCADA system has "no data" entered, "no data" has been substituted with the numeric value 0 in the emission reduction calculation spreadsheet. An alternative method was adopted to calculate the amount of LFG during the periods 1 January 2011 to 11 January 2011 and 23 April to 10 May 2011 as no LFG data was recorded. An export electricity meter monitors and records total electricity generation from the PNCC LFG Genset facility. An export/import electricity meter monitors and records electricity export to the national grid and electricity import from the grid.

	Confirmation that the measured project activity parameters have been accurately transcribed to the Annual Report.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	The measured project activity parameters have been accurately transcribed in the Annual Reports.
	Confirmation by alternate or check calculation that the determination of emission reductions is fairly stated.	DMS-#686571-v1-XLS (dated 6 March 2012)	The total emission reductions calculation was checked and found to be fairly stated.
Findings	The emission factors of electricity, diesel and petrol have been correctly applied in accordance with Schedule 2 of PRE Project Agreement – Measurement of Emission Reductions. The emission factors used in the Annual Report are: • Electricity – 600 tonnes CO_2e/GWh • Diesel – 0.002617 tonnes CO_2e/litre • Petrol – 0.002298 tonnes CO_2e/litre • Iron/Steel – 1.95 tonnes CO_2e/tonnes • Amount of methane combusted for electricity generation is monitored and measured. There is no provision for flare as per PRE agreement. Hence flaring has been excluded from the project boundary, which is in accordance with PRE agreement. • An alternative method was adopted to calculate amount of LFG during the periods 1 January 2011 to11 January 2011 and 23 April to 10 May 2011 as no LFG data was recorded. During this period LFG data was recorded as 'no data' in the SCADA system. The adopted calculation method based on the tested energy conversion efficiency of the Genset using default energy content for methane is in accordance with the PRE Project Agreement and is reasonable.		

The following tables summarise the total net emission reductions:

Emission avoided:

Element	**Annual Production**	**Emission factor (Schedule 2)**	**tCO_2e**
Electricity generation	4.0218 GWh	600 tCO_2e/GWh	2 413.0800
Methane combustion for electricity generation	881.9523 tonnes	21 tCO_2e/tCH_4	18 520.9983
Total			**20 934.0783**

Emission due to project activities:

i) Construction:

Element	Uses	**Emission factor (Schedule 2)**	**tCO_2e**
Diesel	3 650 litres	0.002617 tonnes CO_2e/litre	9.5520
Iron/Steel	0.5 tonnes	1.95 tonnes CO_2e/tonnes	0.9750
Total			**10.5270**

ii) Operation

Element	Uses	**Emission factor (Schedule 2)**	**tCO_2e**
Diesel	450 litres	0.002617 tonnes CO_2e/litre	1.1776
Petrol	145 litres	0.002298 tonnes CO_2e/litre	0.3332
Total			**1.5108**

iii) Other operation

Element	Uses	**Emission factor (Schedule 2)**	**tCO_2e**
Amount of methane combusted for electricity generation	881.9523 tonnes	Tonnes of CH_4 multiplied by 44/16	2 425.3688
Electricity purchase	1.7769 GWh	600 tCO_2e/GWh	1 066.1400
Total			**3 491.5088**

Net Emission Reduction

	<table><tr><td>Total emission avoided</td><td>**20 934.0783 tCO_2e**</td></tr><tr><td>Emission due to project activities (sum of emission due to construction, operation and other operation)</td><td>**3503.5466 tCO_2e**</td></tr><tr><td>**Total Net Emission Reductions**</td><td>**17 430.5317 tCO_2e**</td></tr></table> In summary: the CO_2 emissions avoidance due to electricity generation (gross) is 2413.0800 tonnes CO_2-e. A total of 18 529.9983 tonnes CO_2-e of emission avoidance was achieved due to use of CH_4 (methane) (881.9523 tonnes) for electricity generation.
Conclusion	The recording and calculation of the emission reductions for the year uses the relevant emission factors set out in Schedule 2 of PRE Project Agreement. A total emission reduction of 17 430 ERUs has been calculated as per PRE Agreement.

Criteria Item 3 verified	The calculation behind the Emission Units claimed for 2011 uses the net emission reduction and the request ratio ("C") set out in clause 5.1 of the Project Agreement.		
Description of requirement	That the calculation of Emission Units properly uses the net emission reduction calculated for the year *2011* taking due account of the request ratio ("C") set in Clause 5.1 of the Project Agreement.		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Confirm that the calculation takes proper account of the request ratio.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	The correct request ratio (C=1) has been used to estimate 2011 emission unit claims.
	Confirm that the calculation of Emission units is based on net emission reductions.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	The calculation of the emission units is based on net emission reductions.

Findings	Request ratio (C=1) has been applied correctly.
Conclusion	Request ratio (C=1) was used as defined in the Project Agreement.

Criteria Item 4 verified	If applicable: the construction emissions calculations uses (a) the emission factors set out in Schedule 2 (or as defined elsewhere), and (b) the records of the quantities of materials, fuels, electricity purchased etc. relevant to emissions during construction.		
Description of requirement	That calculation of construction emissions uses the emission factors set out in Schedule 2 (or as defined elsewhere) and measured quantities of construction materials, accurately transcribed to the Annual Report.		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Confirm that the calculation uses the correct emission factors.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Email dated 17 January 2012 from Stewart Hay, Tenders and Contract Officer of PNCC.	All major construction work and commissioning of the project activity occurred in 2005-2006. During 2011, some landfill has well depth extension and revitalization works have been carried out as detailed below. During the 2011 reporting period landfill gas collection well depth was extended and revitalization construction work was carried out. A total of 500 kg of steel tube was used in well depth extension. A total of 3 650 litres of diesel was used during well depth extension and revitalization construction work. An emission factor for Iron/Steel of

			1.95 tonnes CO_2-e/tonne (Schedule 2 of the PRE Agreement) has been adopted in order to estimate emissions from construction. An emission factor for diesel of 0.002617 tonnes CO_2-e/litre (Schedule 2 of the PRE Agreement) has been adopted in order to estimate emission from diesel use during construction.
	Confirmation that all appropriate construction materials have been included.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Email dated 17 January 2012 from Stewart Hay, Tenders and Contract Officer of PNCC.	During the 2011 reporting period landfill gas collection well depth was extended and revitalization construction work was carried out. A total of 500 kg of steel tube was used in well depth extension. To perform the well depth extension and revitalization construction work a total of 3 650 litres of diesel was consumed.
	Review of the record keeping arrangements to confirm that the measured quantities of construction	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March	During the 2011 reporting period landfill gas collection well depth was extended and revitalization

	materials are a fair presentation of actual usage.	2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Email dated 17 January 2012 from Stewart Hay, Tenders and Contract Officer of PNCC.	construction work was carried out. A total of 500 kg of steel tube was used in well depth extension. To perform the well depth extension and revitalization construction work a total of 3 650 litres of diesel was consumed. A record of iron/steel used and amount of diesel consumed has been sourced from the Tender and Contracts Officer of PNCC. The record confirms that the measured quantity of construction material is a fair presentation of actual usage.
	The exercise of professional judgement in relation to whether the claimed quantity of construction materials was reasonable.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	To perform the well depth extension and revitalization construction work a total of 3 650 litres of diesel was consumed. A record of iron/steel used and amount of diesel consumed has been sourced from the Tender and Contracts Officer of PNCC. The record confirms that the measured quantity of construction material is a fair presentation of actual usage, which is reasonable.

	Alternate calculations and cross checks to confirm that the calculation of construction emissions is fairly presented.	PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	A record of iron/steel used and amount of diesel consumed has been sourced from Tender and Contracts Officer of PNCC, which confirms that the measured quantity of construction material is a fair presentation of actual usage, which is reasonable.
Findings	By 2011, the year under verification all initial construction and commissioning activity had been completed. During 2011 reporting period landfill gas well depth extension and revitalization work was carried out. A total of 500 kg of steel tube was used in well depth extension. A total of 3 650 litres of diesel was used during well depth extension and revitalization construction work. A record of iron/steel used and amount of diesel consumed has been sourced from the Tender and Contracts Officer of PNCC. The record confirms that the measured quantity of construction material is a fair presentation of actual usage, which is reasonable. An emission factor for Iron/Steel of 1.95 tonnes CO_2-e/tonne has been adopted in order to estimate emission from construction. Total emission due to construction material: 0.9750 tonnes CO_2-e. An emission factor for diesel (consumed during performing the well depth extension and revitalization construction work) 0.002617 tonnes CO_2-e/litre has been adopted in order to estimate emission from diesel consumption. Total emission due to consumption of diesel: 9.5521 tonnes CO_2-e.		
Conclusion	This is, in the opinion of the verifier, reasonable for well depth extension and revitalization construction work for this facility.		

Criteria Item 5 verified	Metering and recording equipment installed has been certified by an independent reputable quality assured service provider.		
Description of requirement	That the metering and recording equipment installed has been certified by an independent reputable quality assured service provider.		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Examination of calibration and maintenance certificates to ensure that they are current.	Site visit during 3 April 2012. Calibration certificates: Export meter (serial no. 334950848) Installation Certificate of Compliance No. 33815M dated 23 June 2006 (valid until 18 October 2015 by TSL E&T Meter Test House). Revenue meter Certificate of Compliance No CERT-2011-305 dated 30 August 2011 (valid until 15 March 2016) by AccuCal. Gas Composition meter (ARWN-0015) (CH_4%) Test Certificate No 13811 dated 8 November 2011 (valid until May 2012) by Drager Service. Gas Composition meter (ARWN-0013) (CH_4%) Test Certificate No 13811 dated 8 November 2011 (valid until May	The export meter and revenue meter calibration certificates are maintained and were found valid during the 2011 monitoring period. The gas composition meter certificates were examined and are valid until May 2012. The gas flow meter installation certificate dated 12 April 2006 was examined and it was found that Instromet recommends a routine inspection after two to three years of installation. The Gas flow meter has been calibrated by Vector on 04 April 2011. ENGERGEN as owner of the Genset ensures engine maintenance as per schedule.

		2012) by Drager Service. Gas flow meter Installation Certificate dated 12 April 2006 by Instromet New Zealand Ltd. Gas Flow meter calibration certificate dated 6 April 2011 by Vector. Genset DEUTZ TCG 2020 V12 Engine Maintenance Schedule. ENERGEN Solutions Maintenance and Service Confirmation Letter dated 20 March 2012	
	Examination of installed instruments to confirm that the installed instruments are those covered by the calibration certificates.	Site visit during 3 April 2012. Calibration certificates: Export meter (serial no. 334950848) Installation Certificate of Compliance No. 33815M dated 23 June 2006 (valid until 18 October 2015 by TSL E&T Meter Test House). Revenue meter Certificate of Compliance No CERT-2011-305 dated 30 August 2011 (valid until 15 March 2016) by	Installed electricity meters were examined and it was found that the installed instruments are covered by the calibration certificates. The gas composition meters were inspected and it found that the installed instruments are covered by the calibration certificates. The Gas flow meter has been calibrated by Vector on 04 April 2011.

		AccuCal. Gas Composition meter (ARWN-0015) (CH_4%) Test Certificate No 13811 dated 8 November 2011 (valid until May 2012) by Drager Service. Gas Composition meter (ARWN-0013) (CH_4%) Test Certificate No 13811 dated 8 November 2011 (valid until May 2012) by Drager Service. Gas flow meter Installation Certificate dated 12 April 2006 by Instromet New Zealand Ltd. Gas Flow meter calibration certificate dated 6 April 2011 by Vector. Genset DEUTZ TCG 2020 V12 Engine Maintenance Schedule. ENERGEN Solutions Maintenance and Service Confirmation Letter dated 20 March 2012	ENGERGEN as owner of the Genset ensures engine maintenance as per schedule.
	Confirmation that the calibration agency is appropriately qualified and accredited for the	Agency Accreditation scope	TSL E&T Meter Test House is an accredited test house under the Electricity

	instruments which have been calibrated.		Commission. AccuCal is a registered electricity meter test service provider under the Electricity Commission. Vector is an accredited calibration laboratory.
Findings	The metering and recording equipment installed at the PNCC LFG was found to be appropriate for its purpose and appeared to be in good operating condition.		
Conclusion	Copies of all calibration, maintenance and installation certificates are maintained by PNCC LFG. The gas flow meter installation certificate dated 12 April 2006 was examined and it was found that Instromet recommends a routine inspection after two to three years of installation. Gas flow meter has been calibrated by Vector on 04 April 2011.		

Criteria Item 6 verified	Any other (electricity, heat) generation, not part of the project, that flows through these meters is identified, measured and subtracted from the gross total.		
Description of requirement	That any other (electricity, heat) generation, not part of the project, that flows through these meters is identified, measured and subtracted from the gross total and fairly stated.		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Review of the process and instrumentation diagram of the project to confirm the presence or absence of other energy flows through the project metering installation.	Site visit during 3 April 2012. Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. PNCC LFG Project Design Document V6, 8 April 2005. PNCC Landfill Generation and Waste Water Treatment Plant 11kV System Diagram dated 30 January 2009 prepared by Power Distribution Solutions Ltd (PDS). Electricity import statement from Mighty River Power Ltd dated 19	PNCC LFG project only uses gases from the Awapuni Landfill. PNCC confirms that there are no supplementary gas supplies for the LFG Genset. The PNCC LFG gas-to-electricity generation facility generates electricity for on-site consumption (Waste Water Treatment Plant and Recycle Plant) and to supply excess electricity to the national grid. PNCC purchases electricity from Mighty River Power Ltd (which is not part of the project) which flows through the export/import meter and is appropriately accounted for. There is no additional energy (electricity or gas) flow through the project metering installation other than those identified in the

		January 2011.	project boundary. The electricity meters are not shared with any other electricity generation facility.
	Consideration of the nature and design of the project.	Site visit during 3 April 2012. PNCC LFG Project Design Documents V6, 8 April 2005. Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.	PNCC LFG only generates electricity from captured LFG from the Awapuni Landfill and supplies excess electricity to the national grid. Although, thermal energy generation is included in the Project Design Document and the PRE Project Agreement, at present the only electricity produced is from the gas-to-electricity conversion facility and there is no facility for generating thermal energy. Monitoring of total generated and exported electricity is included for the 2011 monitoring and reporting period.
	Review of the record keeping process to confirm that the metered data is accurately measured and recorded.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011	PNCC purchases electricity from the national grid (which is not part of the project) which flows through the export/import meter and is appropriately accounted for. The imported electricity data were

		PRE Annual Report submitted Ministry for the Environment, New Zealand. Site visit during 3 April 2012. PNCC LFG Project Design Document V6, 8 April 2005. Electricity import statement from Mighty River Power Ltd. dated 7 February 2012.	cross checked with statements from Mighty River Power Ltd and was found to be consistent.
	Review of the metering arrangements to confirm that the measurements of other energy flows truly represent those flows.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Site visit during 3 April 2012. PNCC LFG Project Design Document V6, 8 April 2005. PNCC Landfill Generation and Waste Water Treatment Plant 11kV System Diagram dated 30 January 2009 by Power Distribution Solutions Ltd (PDS).	PNCC purchases electricity from the national grid (which is not part of the project) which flows through the export/import meter and is appropriately accounted for. There is no additional energy flow through the project metering installation other than those identified in the project boundary. Electricity meters are not shared with any other electricity generation facility.

	Review of the energy calculation methodology to confirm that any other energy flows has been correctly subtracted and that the final result truly reflects the net energy flow attributable to the project.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Site visit during 3 April 2012. PNCC LFG Project Design Document V6, 8 April 2005.	A review of the energy calculation methodology has been performed and confirms that imported electricity has been subtracted. The net electricity export truly reflects the net energy flow attributable to the project activity.
Findings	No additional energy (electricity, heat) requirement not part of the project that flows through the electricity meter was identified. Imported electricity was monitored and recorded correctly via export/import meter. The net electricity export truly reflects the net energy flow attributable to the project activity.		
Conclusion	The energy calculation method was reviewed and import electricity flows due to purchase by PNCC have been subtracted from the total electricity exported to the national grid. The final result truly reflects the net electricity export attributable to the project.		

Criteria Item 7 verified	If applicable, the record of emissions as a result of the operation of the project is fairly stated		
Description of requirement	That the record of emissions as a result of operation of the project is fairly stated.		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Confirm that the calculation uses the correct emission factors.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. PNCC LFG Project Design Document V6, 8 April 2005.	All emissions factors used in the emission reduction calculation are sourced from Schedule 2 of the PRE Project Agreement.
	Confirmation that all appropriate operational activities have been included.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. PNCC LFG	Following are the operational activities where monitoring is required as per PRE agreement include: • Methane fraction in the LFG is monitored and data are recorded by a gas composition meter. • Amount of LFG used for electricity

		Project Design Document V6, 8 April 2005. Email dated 17 January 2012 from Stewart Hay, Tenders and Contract Officer of PNCC. Site visit during 3 April 2012.	generation is monitored and data are recorded by a gas flow meter. • Amount of electricity generated is monitored and data are recorded by an export meter. • Combustion efficiency is monitored and is maintained by the engine supplier ENERGEN. • Diesel and petrol consumption during the operation of the project is monitored. Following are the operational activities where monitoring is not required as per PRE agreement include: • Amount of LFG collected from the project wells (currently not monitored). • Amount of LFG flared via the back-up flare (currently not monitored). • Heat rate of generator (currently not monitored). • Amount of LFG flared (currently

			not monitored). • Back up flare working hours (currently not monitored). • Flare temperature (currently not monitored). • Engine exhaust gases (currently not monitored). Amount of LFG flared, flare working hours and flare temperatures are not included in the project boundary, as there is no provision for flare as per PRE agreement. Monitoring and reporting of engine exhaust gases are not required as per PRE Project Agreement.
	Review of the record keeping arrangements to confirm that the measured quantities of operational materials are a fair presentation of actual usage.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Site visit during 3 April 2012.	Operational data (LFG consumption for electricity generation and gas composition) are monitored and maintained in a SQL central database. Data are transferred from the PNCC LFG facility to the SQL database located at Waste Water Treatment Plant. Electricity generation data are obtained via an on-line data source

		PNCC LFG Project Design Document V6, 8 April 2005. Spreadsheet *Emission Reduction Calc. 2011.xls* Email dated 17 January 2012 from Stewart Hay, Tenders and Contract Officer of PNCC.	(STREAM Information) linked to the export/import meter. Electricity import data are obtained from a revenue meter and are cross checked with statements from the Mighty River Power Ltd. Consumption of diesel due to well pumping and water injection operations is monitored by Tenders and Contact Officer of PNCC. Consumption of petrol due to monitoring the site by engineers is monitored by Tenders and Contact Officer of PNCC. All data are inserted into an emission reduction spreadsheet with active emission reduction calculation algorithms. In the opinion of the verifier the measured quantities of operational materials are a fair presentation of actual usage.
	The exercise of professional judgement in relation to whether the claimed quantity of operational materials	PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New	All monitoring data records are kept electronically with a backup in the main server and archived

	was reasonable.	Zealand. Project Design Documents V6, 8 April 2005. Spreadsheet *Emission Reduction Calc 2011.xls* Site visit during 3 April 2012.	accordingly. In the opinion of the verifier the data is a fair presentation of actual destruction of LFG, generation of electricity and use of other fossil fuels.
	Alternate calculations and cross checks to confirm that the calculation of operation emissions is fairly presented.	PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. PNCC LFG Project Design Documents V6, 8 April 2005. Spreadsheet *Emission Reduction Calc 2011.xls* Site visit during 3 April 2012.	Cross checking of sample raw data with the emission reduction calculation spreadsheet was performed. The verifier found that the calculation of emission reductions is fairly presented.
Findings	All operational activities were duly included in the emission reduction calculation. The record keeping arrangement was found to be satisfactory. All exclusions are duly justified.		
Conclusion	The record of emissions as a result of the operation of the project is fairly stated.		

Criteria Item 8 verified	The participant has justified and documented any significant changes to the PRE project and its baseline scenario that lead to material change in the project's emissions, removals and emission reductions since the previous verification, and which affect the projects ability to conform to the principles, and requirements of the PRE project.		
Description of requirement	Identify any additional requirements related to the PRE Project Agreement which require verification and verify those requirements		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Availability of LFG to generate electricity.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Site visit during 3 April 2012. PNCC LFG Project Design Documents V6, 8 April 2005.	The PNCC LFG facility has been built at the Awapuni Landfill site which does not accept any new waste. Generation of electricity was reduced due to a decline in gas quantity being drawn off the gas field. PNCC advised that it is due to insufficient clay capping over part of the closed landfill. No new gas wells were installed since last wells upgrading in 2008. However. PNCC continued strenuous efforts and intensive investigation to regain gas quality and quantity. During the 2011 reporting period landfill gas collection well depth was extended and revitalization construction work was carried out. However, the availability of gas remained intermittent.

Findings	Currently PNCC LFG facility captures and uses landfill gas to generate electricity and the project activity is additional. PNCC failed to generate sufficient ERUs for 2011 to meet agreed target as per ERPA. This is because declining in gas quantity being drawn off the gas field as insufficient clay capping over part of the closed landfill. PNCC has completed installation of a biogas-to-electricity generation facility which is a project independent from this project. However, this is not included in the project boundary.
Conclusion	Currently there are no changes to the PRE project and its baseline remains same.

Criteria Item 9 verified	Within the context of verification, any other requirement relating to the PRE project Agreement.		
Description of requirement	Identify any additional requirements related to the PRE Project Agreement which require verification and verify those requirements		
Verification procedures	Verification item	Information Source/Evidence	Comments
	The procedures are to be established by the Verifier based on professional judgement.	Project Agreement dated 13 April 2004. Amendment Project Agreement dated 3 March 2005. Amendment 2 Project Agreement dated 16 February 2010. PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand. Site visit during 3 April 2012. PNCC LFG Project Design Documents V6, 8 April 2005.	All PRE project Agreement requirements have been met. Currently the project generates electricity for on-site consumption and excess electricity exported to the national grid. Currently no thermal energy (heat) is generated from the facility for on-site use or for export.
Findings	All requirements under the PRE Project Agreement are met.		
Conclusion	There are no other requirements relating to the PRE Project Agreement that have not been met.		

<table>
<tr><td>Criteria Item 10 verified</td><td colspan="3">The participant has adequate understanding of the principles and requirements of the PRE programme and is competent to conform to those principles and requirements.</td></tr>
<tr><td>Description of requirement</td><td colspan="3">Identify any additional requirements related to the PRE Project Agreement which require verification and verify those requirements</td></tr>
<tr><td rowspan="2">Verification procedures</td><td>Verification item</td><td>Information Source/Evidence</td><td>Comments</td></tr>
<tr><td>The procedures are to be established by the Verifier based on professional judgement.</td><td>Project Agreement dated 13 April 2004.

Amendment Project Agreement dated 3 March 2005.

Amendment 2 Project Agreement dated 16 February 2010.

PNCC LFG 2011 PRE Annual Report submitted Ministry for the Environment, New Zealand.

Site visit during 3 April 2012.

PNCC LFG Project Design Documents V6, 8 April 2005.</td><td>During the on-site visit interviews were held with

• Phillip Burt, Water & Waste Services Engineer, PNCC

• Natasha Simmons, Water & Waste Planning Engineer, PNCC

Mr Burt has been responsible for the operation, maintenance and monitoring of the Project since its inception in 2005. He has a very good understanding of LFG management and the gas-to-electricity facility.

Ms Simmons has been responsible for ensuring compliance to the requirements of local and regional governments.

All project personnel are competent to conform to the PRE requirements.</td></tr>
<tr><td>Findings</td><td colspan="3">Project personnel and monitoring personnel have a deep understanding of the PRE project and its requirements.</td></tr>
</table>

Conclusion	It is the opinion of the verifier that the participant has an adequate understanding of the principles and requirements of the PRE program and is competent to conform to those principles and requirements.

Criteria Item 11 verified	Compliance with the regulatory requirements of local and central government agencies.		
Description of requirement	That nothing came to the notice of the verifier to indicate that the project was not compliant with the regulatory requirements of local and central government agencies.		
Verification procedures	Verification item	Information Source/Evidence	Comments
	Review compliance conditions made within the Resource Consent or other regulatory approvals.	Resource Consent Nos 103661 and 103790 – Discharge Permits – PNCC LFG, dated 19 July 2006. Maintenance Clarification Certificate, PNCC LFG Facility, Energen, 20 March 2012.	Resource Consent has been granted to PNCC with a term of 25 years as per Resource Consent Nos 103661 and 103790. The following conditions were the basis for issuing a Resource Consent that: • The activities will have minor actual or potential adverse effects on the environment. • The activities are not contrary to any relevant plans or policies. • The activities are consistent with the purpose and principles of the Resource Management Act 1991. PNCC personnel have confirmed that the Project meets all the requirements as specified under the Decision Clauses 1, 2, 3, and 4. According to the Resource Consent

			requirements as specified under the Decision Clause 5, 6, and 10: • The gas combustion engine shall be tuned at least once annually in the period between 1 July and 30 June of each year commencing 1 July 2006 – 30 June 2007. • PNCC shall submit an annual report including operational efficiency for energy generation and emissions by 30 July of each year, commencing 30 July 2007. • The Permit Holder shall ensure that the opacity of the emission from the discharge from the gas-to-electricity (cogeneration plant) is not darker than Ringelmann Shade 1 as determined in accordance with the New Zealand standard NZS 5201:1973. It is found that the gas combustion engine has not been tuned since installation. However, ENERGEN, the gas combustion engine supplier confirmed that ENERGEN

			maintains the engine according to the Engine Maintenance Schedule and OEM Standards and recommendations. PNCC is yet to submit an annual report including operational efficiency for energy generation and emissions. Currently PNCC does not monitor engine exhaust emissions. According to the Resource Consent requirements as specified under the Decision Clause 11: • The Manawatu-Wanganui Regional Council, under section 128 of the Act, may initiate a review of all conditions of the permit in the month of August 2007, 2008, 2009, 2010, 2015, 2020, 2025, and 2030. PNCC has advised that no such review has been initiated by the Manawatu-Wanganui Regional Council.
	Review correspondence between the local authorities and the project operator to evaluate compliance with requirements.	Resource Consent Nos 103661 and 103790 – Discharge Permits – PNCC LFG, dated 19 July 2006.	PNCC personnel have confirmed that it meets all the requirements as specified under The Decision Clauses 1, 2, 3, and 4. It is found that the

		Maintenance Clarification Certificate, PNCC LFG Facility, Energen, 20 March, 2012.	gas combustion engine has not been tuned since installation. However, ENERGEN, the gas combustion engine supplier confirmed that ENERGEN maintains the engine according to the Engine Maintenance Schedule and OEM Standards and recommendations.
	Review the activities at the site to confirm that the project arrangements are generally compliant with regulatory requirements.	Resource Consent Nos 103661 and 103790 – Discharge Permits – PNCC LFG, dated 19 July 2006. Site visit during 3 April 2012.	No issues have been identified in 2011 Annual Report or during the on-site visit that would lead to a material change in consent compliance requirements as specified in Resource Consent Decision 1, 2, 3, 4, 8, and 9 issued by Manawatu-Wanganui Regional Council. PNCC advised that PNCC is yet to conform to the requirements as specified in the Resource Consent Decision 5, 6, 10 and 11.
	Confirm that project monitoring includes relevant regulatory and compliance conditions.	Resource Consent Nos 103661 and 103790 – Discharge Permits – PNCC LFG, dated 19 July 2006. Site visit during 3 April 2012.	PNCC advised that PNCC is yet to conform to the requirements as specified in the Resource Consent The Decision 5, 6, 10? and 11.

Findings	No issues have been identified in 2011 Annual Report or during the on-site visit that would lead to a material change in consent compliance requirements as specified in Resource Consent Decision 1, 2, 3, 4, 8, and 9 issued by Manawatu-Wanganui Regional Council. PNCC is yet to conform to the requirements as specified in the Resource Consent the Decision 5, 6, 10 and 11.
Conclusion	No issues have been identified in 2011 Annual Report or during the on-site visit that would lead to a material change in consent compliance requirements as specified in Resource Consent Decision 1, 2, 3, 4, 8, and 9 issued by Manawatu-Wanganui Regional Council. PNCC advised that PNCC is yet to conform to the requirements as specified in the Resource Consent The Decision 5, 6, 10 and 11.

2. Documents Reviewed	3. Please include author, date prepared and date reviewed by Verifier
PNCC LFG 2011 Annual Report prepared for the Ministry for the Environment	Phil Burt, prepared in March 2012, verified in May 2012
PRE Project Agreement	The Crown, dated 13 April 2004, verified in May 2012
Amendment PRE Project Agreement	The Crown, dated 3 March 2005, verified in May 2012
Amendment 2 PRE Project Agreement	The Crown, dated 16 February 2010, verified in May 2012
Project Design Document Version 6	PNCC, dated 8 April 2005, verified in May 2012
Electricity import statement from Mighty River Power Ltd	Mighty River Power, prepared in February 2011, verified in March 2011
Spreadsheet *Emission Reduction Calc 2011.xls*	Phil Burt, prepared in March 2012, verified in May 2012
PNCC Export Meter data generated from STREAM, 3 April 2012	Phil Burt, generated from STREAM on 3 April 2012, verified in May 2012

4. Site Visit location	5. Address, date of visit, personnel interviewed
Palmerston North City Council and Awanpuni Landfill Site	Address: The Square, Palmerston North, New Zealand Date of visit: 3 April 2012 Personnel interviewed: • Phil Burt, Water & Waste Services Engineer, PNCC • Natasha Simmons, Water & Waste Planning Engineer, PNCC