

FINDINGS FROM VALIDATION OF LANDFILL GAS CAPTURE AND UTILIZATION AT MATUAIL LANDFILL, DHAKA, BANGLADESH, CDM VAL 0010

Each Table below represents a findings from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified.

Type: Findings are either New Information Requests (NIR) or Corrective Action Requests (CAR). NIRs may lead to the raising of CARs; CARs are items that must be addressed before a project can receive a recommendation for registration. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE.

Issue: Details the content of the finding

Ref: refers to the item number in the Validation Protocol

Response: Please insert response to finding, starting with the date of entry.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Please note that this is an open list and more findings may be added as validation progresses.

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
1	CAR	No letter of approval from non-host	1.1
<p>Date: [Comment] WWR GJE action: after discussion with EcoS/ SGS and Dutch DNA reps. The following:</p> <p>Dutch Government is reluctant to sign Letter of Approval unless they buy credits. EcoS and DNA rep pointed out that recently a project was REGISTERED unilateral (condition was apparently that the name of the non-host party (in our case WWR) was mentioned as responsible in the letter of approval of host DNA. According to the rep of the Dutch DNA the letter of the approval only needs to be provided upon ISSUANCE of credits. Letter is then provided by Annex country of Project Participant or CER buyer. Can we proceed in similar way?</p> <p>OPEN?</p>			
<p>Date: 4/05/05 [Comment] GP: You can turn the project into a unilateral project as you propose, in which case the actions described above would be adequate. Please review the letters at http://cdm.unfccc.int/Projects/DNV-CUK1110827392.89/view.html and prepare yours accordingly</p>			
<p>Date: 23-5-05 [] GJE: We took out the references to the Dutch DNA. Making it a Unilateral project.</p>			
<p>Date: [Acceptance and closure] OK CAR Closed 24th May 2005</p>			

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
2	CAR	A Letter of Approval has been issued by the Government of Bangladesh's DNA, but it no longer conforms with the guidance from the CDM EB.	1.2
<p>Date: [Comment] WC action: provide new letter to DNA BGD ;</p>			

31-3-2005: PENDING: Sent e-mail to WC
 19-4-2005: resent e-mail to WC
 2-5-2005: received copy of new letter by e-mail and per fax

COMPLETED

Date: 4/05/05

[Comment] GP: Unfortunately, letter does not quite follow the guidance of the CDM EB and the conditions attached to the letter are likely to be rejected by EB. Please revise letter according to guidance and also, see Cuyamapa letters referred to above if the project is going to be unilateral

Date: 23-05-05

[Comment] : GJE: we sent you a revised version of the letter per mail on 9-5-05. This version is now also copied in the PDD. Please advise if you require original/ hard copy, which is currently in Bangladesh.

Date: [Acceptance and closure] OK CAR Closed 24th May 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
3	CAR	<p>Page 9 – please give full URL for website providing 12% average interest rate (in two places)</p> <p>NPV in table B2 must be supported by cash flow information (ref CDM M&P para 27 h). Please add a summary to the PDD and provide the full details to validator.</p> <p>Please justify use of 2% technology risk factor – is NPV still negative without this factor?</p> <p>Average inflation rate – please provide full reference; alternatively, http://www.bangladesh-bank.org/econdata/inflatn.html seems to provide a comparable figure</p> <p>Currency devaluation rate available at http://www.imf.org/external/pubs/ft/scr/2004/cr0427.pdf - please indicate exactly where in this document the data is obtained</p>	1.10

Date: [Comment]. April 4 2005

We've added the URL providing 12% interest rate on page 9. OK

We added cash flow information. We will send valuator full details. OK

For clarity we took out the 2% technology risk. Discount factor now is assumed to equal average interest rate (12%). OK

We added full reference on avg. inflation rate and on currency deval rate. OK

We discovered an error in a cell reference in our excel model. We corrected it and recalculated the NPVs. OK

COMPLETED

Date: [Acceptance and closure] OK CAR closed 3rd June 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
4	CAR	<p>Please ensure that Sections E1, E2 and E3 apply to both ACM0001 and ACM0002 Done by RK – 1 april OK</p> <p>FE on page 26 is taken to be 100%. This is not consistent with the requirement to monitor FE quarterly. Done bij RK – 1 april OK</p> <p>Please provide a copy of the spreadsheet used to calculate baseline emissions using the multiple phase first order decay model to validator in order to confirm correct use of parameters – Henk Oosterdijk: provide a full copy of the model to SGS for verification-purposes. OK</p>	2.2a
<p>Date: [Comment]</p> <p>01-04-05: Completed by RK WWR</p> <p>Meeting took place Thursday 21 April 13:30 in Nijmegen between Marco van der Linden and Henk Oosterdijk to verify the LFG model.</p> <p>COMPLETED</p>			
<p>Date: [Acceptance and closure] OK CAR Closed 24 May 05</p>			

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
5	CAR	<p>Please ensure that Sections E1, E2 and E3 apply to both ACM0001 and ACM0002</p> <p>The calculation of OM and BM is not in accordance with the approved methodology for two reasons:</p> <p>a) The calculation of respective emission factor (for both OM and BM) has been made as follows: the sum of (plant specific heat rate * CO2 emission factor * oxidation factor * electricity generated) / total generation from all plants. Whilst this is scientifically appropriate, it is not in compliance with the approved methodology. However, it appears that the necessary data to complete the correct calculation are available on pages 48 and 49 (Annex 3). The methodology requires that fuel use, expressed in volume or mass units is summed for each relevant power source, then multiplied by the CO2 emission coefficient for that fuel, summed for all power sources and then divided by total generation. Where plant specific fuel emission coefficients are not available and country or IPCC values are used, total consumption of a given fuel can be summed and then multiplied by the default emission factor (it looks like total fuel consumption data are available on pages 48 and 49). The answer should be same or close since the method currently used does take into consideration plant specific heat rates. To complete the calculation, the Net Calorific value of each fuel is required. As described in table 2.1.3, plant or country specific values are preferred, but IPCC default may also be used.</p> <p>b) In the calculation of the build margin, it is not clear which of the ex post options has been used. In annex 3 table 3.5, four plants are highlighted contribution 24% of the grid. If a fifth plant is added (Fenchuganj?), generation will increase which would satisfy the first bullet in option 1 (on page 8 of the meth) and also meet the requirement that the sample group comprising the larger annual generation is used. The second bullet in option 1 should only be used in the case that the 5</p>	2.2b

	most recent plants do not account for 20% of annual generation.	
Date: [Comment] WWR RK supported by RH HO action: please align/ verify		
COMPLETED		
Date: [Comment] GP 24 May 05		
<p>It is noted that several grades of oil are classed as FO – for example Table Annex 3.5 lists FO, SKO, HSD and LDO as fuels, but applies the carbon emission factor for FO (21.1) to all of these. This could introduce a small error to the baseline. Although the error will be small, those plants listed as diesel engines should at least have the default factor for diesel applied (20.2). It is noted that this will not introduce a significant error since less than 5% of energy comes from fuel oil / diesel and none of these plants contribute to the build margin, further reducing the impact of the change.</p> <p>RK 27 may I changed the concerned file and the consequences for the documenter are also incorporated. 8 hours of calculating and incorporating the changes in the PDD, made a difference of 2 ton CER's during the first credit-period. But it is done!!!</p>		
Date: [Acceptance and closure] OK CAR closed 3 rd June 2005		

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
6	NIR	Section E1 states that the emissions from dozers are not attributable to the project, however the project will undertake the re-shaping of the landfill which will presumably result in emissions from dozers. Please clarify.	2.3

Date: [Comment] WWR RK supported by RH HO action: please align/ verify
01-04-05: Done by RK WWR

COMPLETED

Date: [Comment] GP 24 May 2005

Please clarify that reshaping is part of the baseline scenario Figure B1 indicates that all landfill activities are within the project boundary

Date: GJE 25 May 2005

Added the following text:

The project activity does not use any vehicles on-site. The dozers used on the landfill site are not attributable to the project activity. They are part of the baseline; they are used to continue the current way of waste-disposal and they are used to reshape the landfill in order to extend the lifetime of the landfill (independently from gas-extraction-activities). In addition it should be noted that if reshaping isn't done, the landfill lifetime will shorten considerably (estimated 5 years shorter), with as logical consequence that the city would have to acquire new land for a new landfill. Emissions will result from the shaping & construction activities for this new site. Also, this land would undoubtedly be further from the current city boundaries (developing cities like Dhaka tend to grow drastically, enclosing existing landfills and forcing new ones to be constructed even further from current urban development) thus increasing diesel consumption of trucks used to transport the waste to the new site. Hence, any emissions related to landfill reshaping are off-set by this increase in transport emissions

Question to GP: please confirm that this text answers will answer all open questions, without raising any new ones

DONE

Date: [Acceptance and closure] OK NIR Closed 3rd June 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
7	CAR	The project boundary for ACM0002 is not detailed in section B4 Done by RK-1 april	2.6

Date: [Comment] WWR RK supported by RH HO action: please align/ verify 01-04-05; Done by RK WWR

COMPLETED

Date: [Acceptance and closure] OK CAR Closed GP 24 May 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
8	NIR	At the bottom of page 8 it is stated that the monitoring plan will record changes in LFG regulations that may impact upon the project and modify the project accordingly. Please clarify whether this takes place at the time or at the start of the next crediting period. What would be the result in the sensitivity analysis of reducing the discount rate from 14% to 12% and 10%? (sub-step 2d) Please re-run the NPV calculation showing the impact of carbon revenues at \$3 and \$5 per tonne on NPV (step 5)	3.2

Date: [Comment] 2005-04-04

We corrected the statement at the bottom of page 8. OK

We ran the NPV at 14% and at 10% (see also comment no. 3 regarding the discount rate of 12%) OK

Step 5 has been adjusted, We took \$3 and \$7 as carbon revenues. The NPVs have been added.

COMPLETED

Date: [Comment] GP 24 May 05

The financial model shows that you only breakeven at a CER price of USD16.45. At 3 and 7, the project is still strongly negative – so why are you doing it and how does revenue at this level help you o implement the project

Date: GJE 25 May 05

Added the following text as last paragraph under step 5:

Despite the fact that the NPV still shows negative, the project developers will continue developing the project:

- Since – in line with conservativeness – the LFG production is expected to be higher than calculated in this PDD.
- In addition, for strategic reasons which are hard to quantify, the discount rate the project proponents consider in their own business analyses is lower than 12%.

DONE

Date: [Acceptance and closure] OK NIR Closed 3rd June 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
9	CAR	No indication of the length of time for which the data in Table 2.1.3 will be archived Question to GP (by GJE): what is expected here? DONE The project intends to determine baseline emission factor for electricity ex post. What will happen if the necessary data is not available? In PDD Section E4, as permitted by the meth., the option for ex post calculation of OM and BM is selected due to non availability of data in 2001 and 2002. What will the project do in the absence of such data in a future year? Henk Oosterdijk	4.2

Date: [Comment]WWR RK with support from RH HO;
First issue: comment by Gareth: mismatch between PDD format and Methodologies. Just add length of time in 8th column. Advise: 2 years after last issuance of credits (i.e. 7 year crediting period, 9 years of archive.

COMPLETED

Date 18 may: Second issue, modifications in text, chapter E4 as follow:

The second option, $EF_{OM,y}$ is updated based on ex-post information, is selected. .

Step 2: Calculate the Build Margin emission factor ($EF_{BM,y}$) as the generation-weighted average emission factor of a sample of power plants. The sample group consists of either:

- *the five power plants that have been built most recently, or*
- *the power plants capacity additions in the electricity system that comprises 20% of the system generation (in MWh) and that have been built most recently.*

The sample group that comprises the larger annual generation shall be used.

The first option, the five power plants that have been built most recently, is used (see table annex 3.5 (copy of spreadsheet) in annex 3).

In line with Step 1, an ex-post calculation will be applied. . The required data will be available since it is an obligation of BPDB to publish the data in their annual report. Normally BPDB publishes its annual report within in six month after ending of the year.

Date: 04/05/05

[Comment] GP: Second issue still outstanding OK

Date: [Acceptance and closure] OK CAR Closed GP 24 may 05

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
10	CAR	No indication of the length of time for which the data in Table D2.2.1will	4.3

		<p>be archived DONE OK</p> <p>Page 19 parameter 5, column 6 please indicate periodic measurement for flare efficiency and continue measurement for flare operation RK done 1 april OK</p> <p>Page 20 parameter 10 please correct typographical errors in column 2 and reference the parameters in Table 2.1.3 RK done 1 april OK</p>	
<p>Date: [Comment] WWR RK</p> <p>First issue: See above No. 9.</p> <p>Second issue: take out the word discontinue from column 6. Then all is okay.</p> <p>COMPLETED</p>			
<p>Date: [Acceptance and closure] OK CAR Closed 24 May 05</p>			

Date: 16/03/05 Raised by: Gareth Phillips

No.	Type	Issue	Ref
11	CAR	In section D.2.3 Please confirm that there are no leakage effects under ACM0002 RK done 1 april	4.4
<p>Date: [Comment] WWR RK and RH HO action:</p> <p>COMPLETED OK</p>			
<p>Date: [Comment] GP 24 May 05</p> <p>Formatting around D.2.3 and D.2.3.1 has been corrupted in the process.</p>			
<p>Date GJE 25 May 05</p> <p>Formatting corrected</p> <p>DONE</p>			
<p>Date: [Acceptance and closure] OK CAR closed 3rd June 2005</p>			

Date: 16/03/05 Raised by: Gareth Phillips

No.	Type	Issue	Ref
12	CAR	<p>Please provide further justification as to why FE is considered low uncertainty RK done 1 april</p> <p>Please justify low level of uncertainty for parameters D.2.1.3 1 to 8, considering that data has not been available for 2 out of 3 of the past years. Question to GP: What do you expect here? Do you expect a D3 table for these values here too? DONE</p>	4.5
<p>Date: [Comment] RH HO action, WWR RK in support</p> <p>Second issue: Comment Gareth/ GJE: values are already in table D3. Issue here is that Methodology prescribes the use of actual data, but we indicated that data is not always available... It is likely that the BPDB cannot provide data in a later phase; HO, how can we resolve? Adding a comment enough to satisfy the Validator and raise the issue afterwards (suggest MethPanel to update the methodology to allow the use of historic data, get approval from verifying DOE or approval from EB), add in contracts that the data is out of our control...</p> <p>COMPLETED</p>			
<p>Date: [Comment] GP 24 May 05</p> <p>2.1.3.1 is duplicated</p>			

Still need to know why you class 2.1.3.2 to 10b as low level of uncertainty. Alternatively, what will do if no data is published?

Date 27 May 05 GJE

Took out duplication

Added text

Public data source (Bangladesh Power Development Board (BPDB)) will be used. The data itself is accurate, but might hard to be obtained by project proponent from the BPDB. If data will not be obtained on time, the currently obtained data (see tables Annex 3.5) will be used.

In table D3

DONE

Date: [Acceptance and closure] OK CAR Closed 3rd June 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
13	CAR	No. Although the assessment of environmental impacts does not identify any negative impacts, the project claims a variety of positive environmental, economic and social benefits (Section A2). No provisions have been made to set targets or monitor these benefits as indicators of sustainable development DONE	5.1

Date: [Comment] WWR, RH, EcoS: align answer

Date: 25-05-05 GJE:

We have revised the section and altered text:

The following environmental, economic, and social benefits are achieved by executing the project:

- 1 Environmental benefits – assist in mitigating uncontrolled GHG emission from the landfill by capturing 50% of the landfill gas emitted, reducing the risk of on-site fires by reducing the methane emissions and degassing the landfill, control the release of volatile organic compounds;
- 2 Economical benefits – LFG as a new indigenous fuel source for Bangladesh; foreign expertise and training (consultants and staff from a.o. the Netherlands for the initial stages of the project) to facilitate smooth technology transfer; foreign capital inflow for investment by the project proponent, World Wide Recycling from the Netherlands;
- 3 Social benefits – improved health conditions due to reduction of gaseous emissions; jobs for locals and staff training to improve skills of locals.

Explaining some of them, and other can be proven to any verifying DOE because records will exist.

DONE

Date: [Acceptance and closure] OK CAR Closed 3rd June 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
14	NIR	Please confirm whether the SPC has been formed yet or not	5.2.1

Date: [Comment] WWR answer:

SPC has not been formed yet. We are registering our company name in BGD.

COMPLETED
Please detail in section D4

Date: GJE 25-05-05

The Project Proponents will erect a Special Purpose Company (SPC) for the project and will be shareholders of the company and will seat in the board of directors.

DONE

Date: [Acceptance and closure] OK NIR Closed 3rd June 2005

Date: 16/03/05

Raised by: Gareth Phillips

No.	Type	Issue	Ref
15	CAR	Odour and dust emissions are listed in the PDD but they are not identified as transboundary impacts in section F1. Please list these (and also leachate?) and comment on the project's impact upon them.	6.4

Date: [Comment] Text in PDD is changed as follows:

The odour, dust and also leachate emissions are in the present situation transboundary emissions. These emissions are consequences of non-capturing of landfill gas and dumping of waste. The landfill-gas project captures landfill gas and as a consequence the project will reduce odour. Additional to that, it is the project-proponent intention, to improve the current way of waste disposal, by collecting leachate and moisturing the landfill. Doing so, will lead to a reduction of dust and leachate emission. Hence a considerable elete elimination of these transboundary emissions is to be expected.

All other activities at the landfill site will not change; therefore no negative change in impact will occur

COMPLETED

Date: [Acceptance and closure] OK – but please revise for spelling and language

Date: GJE 25-05-05

Changed to:

The odour, dust and also leachate emissions are in the present situation trans-boundary emissions. These emissions are consequences of non-capturing of landfill gas and of dumping of waste. The landfill gas project captures landfill gas and as a consequence the project will reduce odour. Additional to that, it is the project-proponent's intention, to improve the current way of waste disposal, by collecting leachate and moistening the landfill. Doing so, will lead to a reduction of dust and leachate emissions. Hence a considerable elimination of these trans-boundary emissions is to be expected.

All other activities at the landfill site will not change; therefore no negative impact change will occur.

DONE

GP 3/6/05: This raises the possibility that you could moisten the site but not collect leachate,

thereby increasing leachate... please re-word so that this issue does not come up.

RK 6 June 2005: Made an additional footnote:
¹ If, due to non-foreseen and non-expected circumstances, the collection of leachate and run-off water would not be possible, the situation regarding leachate and dust-control, would remain as it is now (no worsening).

Date: [Acceptance and closure]
 OK CAR Closed 27th June 2005

Date: 16/03/05 Raised by: Gareth Phillips

No.	Type	Issue	Ref
16	CAR	<p>Page 6 reference to (ACM0002) should be (ACM0001) OK</p> <p>Page 8 there is a number "8" at the end of the text. Please remove or clarify. OK</p> <p>Please be consistent in use of subscript "flare" or "flared" in Section E4 [it is noted that AM0001 introduces the confusion] OK</p> <p>Density of methane on page 26 – please decimal point "." Not " ," OK</p> <p>Suggest inconsistent use of tones, tonne and tonnes is resolved by use of "t". Similarly, please apply the SI Units g and l in Annex 3 (not gr and ltr) or for l use litres (to avoid confusion with number 1) OK</p>	8.1
<p>Date: [Comment] WWR RK action (partly GJE): Number 8 on page 8 has been identified (last sentence above step 2) – verify if it is a lost reference: GJE Page 6 ref. corrected</p> <p>COMPLETED</p>			
<p>Date: [Acceptance and closure] OK CAR Closed 24 May 2005</p>			

Date: 16/03/05 Raised by: Gareth Phillips

No.	Type	Issue	Ref
17	CAR	<p>There is considerable duplication of text in section F1 and F2. Please remove duplicate text from F2 and refer to sub-headings and guidance for clarification of what information should be included.</p> <p>Sectoin G paragraph 4 says that local stakeholder consultation has not been completed and documented so far. Please update this section</p>	8.2
<p>Date: [Comment] WWR GJE</p> <p>COMPLETED OK</p>			
<p>Date: GJE: 25-05-05 Text added under F2: No impacts are considered to be significant.</p> <p>DONE</p>			
<p>Date: [Acceptance and closure] OK Please state under F2 that no impacts are considered significant OK CAR Closed 3rd June 2005</p>			

The following were copied from UK.Findings.CDM.Val issue 1 0010 050325

Date: Raised by:

No.	Type	Issue	Ref
18	CAR	The detail on EIA could be placed in an Annex (optional) The EIA section at the end of F2 and letter from DOE should be under section F1, not F2	8.2
Date: [Comment] WWR GJE			
COMPLETED OK			
Date: [Acceptance and closure] CAR Closed 24 May 05			

Date: Raised by:

No.	Type	Issue	Ref
19	NIR	In table 3.2, the percentage of degradable components is high and reduces after composting is introduced. Can you please provide any data to support these values? Were studies done on the composition of waste?	2.2
Date: [Comment] WWR RK			
<p>More details regarding the composition of the waste is shown in 'the study on the solid waste management in Dhaka city' This reports contains tables showing that the amount of degradable components (paper, food, wood) is higher than calculated with in the current PDD. A reference to this report has been made in the PDD. OK</p> <p>We will calculate with a waste-composition that does not change in the future (no link between LFG-project and possible composting project). OK</p> <p>However, despite above modifications in the PDD, in the end the measurement of gasflow through the meter, determines the amount of CER's. Noted</p> <p>COMPLETED</p>			
Date: [Acceptance and closure] NIR Closed 24 May 05			

Date: Raised by:

No.	Type	Issue	Ref
20	NIR	On Page 54, efficiency of extraction equipment is shown to be 80%; cf 50% in Table Annex 3.4. Please clarify	2.2
Date: [Comment] WWR RK supported by RH HO			
<p>The 80% figure relates to the efficiency of the blower. A less-efficient blower will consume more electricity. The amount of electricity consumed by the blower is deducted from the gross amount of electricity generated by the LFG-project. We changed the terminology in the concerned sheet.</p> <p>COMPLETED</p>			
Date: [Acceptance and closure] OK NIR Closed 24 may 05			

Date: Raised by:

No.	Type	Issue	Ref
21	Obs	In general, the monitoring plan in Annex 4 provides an overview consistent with a greenfield development project. We are still awaiting guidance from CDM EB about what they expect to find – given that they raised the issue of inadequate monitoring plans for Greenfield	4.1

		development projects as a reason for review of several projects. If the CDM EB agree, we would raise this as an observation for the verifying DOE.	
Date: [Comment] SGS GP, is it correct that no action is required from our side?			
COMPLETED			
Date: [Acceptance and closure] Correct – at this stage no further action is required, but watch for the outcome of the request for review on http://cdm.unfccc.int/Projects/under_review.html - I think projects 9 and 29 may have the same problem (I cannot open the files at present to check) so you need to see what EB says at the next meeting. Update 24 May – still no guidance. Observation remains.			

Date: 14th April 2005

Raised by: Gareth Phillips

No.	Type	Issue	Ref
22	NIR	<p>During the site visit, Mr Shetty spoke with M.Amzad Hossian Deputy Director Power Cell, Ministry of Power Energy and Mineral Resources, BTMC Bhaban(8th Level), 7-9 Kawran Bazar,Dhaka-1215, Bangladesh, 880-2-9130914</p> <p>Mr Hossian indicated that despatch data might be available on request. This raises the question as to whether the despatch data should be used in preference to the average OM. Please state why you rejected the use of despatch data</p>	

Date: [Comment]
WWR RK with support of HO.

PDD has been modified as follow:

The ACM0002 indicates that method c should be the first methodological choice. However method c is not appropriate for this project for the following reasons:

- *No information is available regarding the grid system dispatch order of operation for each power plant of the system*
- *No information is available regarding the amount of power (MWh) that is dispatched from all plants in the system during each hour that the project activity is operating.*

The composition of the electricity generation park in Bangladesh is such that low-cost/must run power plants are not present (see annex). 90% of the electricity generated is based on gas as fuel. Almost 5% is fuel oil based. The remainder is hydro. Method a or b is therefore not appropriate. Therefore method d is applied (the average OM).

The average OM is calculated as the average emission factor rate of all power plants including low-cost/must run power plants.

The average OM, as the simple OM, can be calculated using either of the two following data vintages:

- *a 3-years average, based on the most recent statistics available at the time of PDD submission;*
- *the year in which project generation occurs, if $EF_{OM,y}$ is updated based on ex-post.*

COMPLETED OK

Date: [Acceptance and closure] CAR Closed 24 May 05

Observations:

Observation: The data is made available for the financial year, therefore the project will only be able to report emission reductions on the basis of financial years. This should be noted in the monitoring and verification plan (4.2) are there projects that report per Q or per H year?

GJE: Discuss with EcoS, MvD

BE AWARE!!!: it's not the issue of reporting per Q or H... the data from the BPDB is based on their financial year, which apparently (see table page 49) is from July to June, this would indicate a HALF YEAR DELAY of credits when we base our data on current data!! We should change the text such that we use the data of the FY starting half a year BEFORE the calendar year we want to obtain credits for! Q1: is this possible under the methodology????

GP: If you stick to calendar year reporting then for, for example, 2007 report, you will have to use Jan – June from the 06/07 report and then wait until August 2008 to use the July to December data from the 07/08 report. Can you change to suit their financial year? Unless you can get the data monthly in arrears...?

Observation: monthly analysis of methane fraction in LFG may need to be increased if it is found to be variable (4.3) WWR: understood; do we need to comment on this?

GP: No, it is enough to simply raise it

WWR adjustment made in table D2.2.1 (see below)

Data will be measured monthly by gas quality analyser through measurement device M1 (see above). If it is found that W_{CH_4} , varies too much, frequency of measurement will be increased (in discussion with DOE)

Observation: The organisational structure in, and the formation of, the Special Purpose Company cannot be validated at this stage and will be checked prior to verification by the verifying DOE (4.5) WWR: understood; do we need to comment on this in the PDD?

GP: No

Observation: The preparation and implementation of the detailed monitoring procedures will need to be checked by the verifying DOE (5.2.2) idem previous observation

Observation: Lack of availability of BPDB records could be an issue in for procedures identified for dealing with possible monitoring data adjustments and uncertainties (5.2.9) RH HO, is the lack of availability an issue from BPDB side (they don't have it) or from our side (we couldn't get hold of it?) – please comment

Observation: The plan to set up a forum to communicate progress to stakeholders and promote this type of project elsewhere should be included as one of the sustainable development indicators in the monitoring plan and should be checked by the verifying DOE (7.5) We will add this to the document: ACTION: WWR GJE

GP:OK

GJE: The suggestion was made by Mr. Khursheedul Islam, a consultant working for Energy Project in Bangladesh, not by a resident stakeholder to the project. Because of this we feel that this activity is outside the scope of this project per se, and therefore doesn't require follow-up within the PDD/ project.

Date: 25 April 2005

Raised by: Gareth Phillips following initial Technical Review

No.	Type	Issue	Ref
22	CAR	Throughout the PDD the generation activity is referred to as Co-generation; CHP; gas engines (all on page 2) LFG Gas engines (page	1.10

		5). Somewhere I think there is reference to gas turbines and also to reciprocating engines (spelt incorrectly). Is there a use of the heat generated – if not, it should not be described as Co-generation or CHP; can you please clarify whether it is turbines or internal combustion engines and be consistent throughout the PDD	
Date: [Comment] WWR: we will use 'gas-engine' and replace other words meaning the same by 'gas-engine'.			
Done (20 may 2005) OK			
Date: [Acceptance and closure] CAR Closed 24 May 05			

Date: 26 April 2005 Raised by:Gareth Phillips following initial Technical Review

No.	Type	Issue	Ref
23	CAR	Page 6 UNFCCC not UNFCC	8.1
		Page 6 Please refer to both Scope 1 and Scope 13 under Project Activities A.4.2 and in section D.1	8.2
		No reference in the text to M7 (page 18) although this should be linked to FE in table D.2.2.1	4.3
		Fuel use for igniting the flare is not included under ACM0001 in section B4	2.6
Date: [Comment] changed UNFCC to UNFCCC (20 may) OK Scope 1: energy-industries (renewable and non-renewable sources) been added to A42 and D.1 OK but note typo GJE: NOTED & CORRECTED Reference in text to M7 on page 18 removed. OK Fuel use for ignition is part of measurement device M2 (kwh-measurement). Figure is changed OK			
Date: [Acceptance and closure] CAR Closed 24 May 05			

Date: 13th May 2005 Raised by: Gareth Phillips following response from Accreditation Team

No.	Type	Issue	Ref
25	CAR	Table E.2 of the PDD includes a sentence at the column "DOCf" that reads "See sub section E.1 from New Baseline Methodology". This document is not clearly referenced and is difficult to locate. Please either find a better reference or provide the necessary information in a footnote or other alternative.	8.1
		7.533 g/m3 LFG is shown as a figure for "CO2 eq Emission reduction" at the table of P54 of the PDD, but it is not clear how the figure is calculated. Using the figures of 0.0007168 ton/Nm3 as density of methane (DCH4 at Table Annex 3.4 P46), Methane fraction in the landfill gas of 50% (WCH4 at Table Annex 3.4 P46) and 21 tCO2/tCH4(GWPCH4 P25) , CO2 eq Emission reduction results as 7,526.4 g/m3 =0.0007168 ton CH4/Nm3 x 1,000,000 g/ton x 50%/100% x 21 tCO2/tCH4.	2.2A
		Table D.2.2.1 shows recording frequency as continuous at the raw for the 8. p (pressure of landfill gas) but the comment reads "Data will be measured monthly" meaning not continuous	4.3
		Table D.3 reads at D.2.2.1-2 LFGflare,y is a flow meter and should be treated in the same way as instruments M3 and M8.	4.3
		In the same table, parameter D.2.2.1-6 WCH4,y. refers to M6 when it should be M1.	4.3
Date: [Comment] sentence "see sub section E.1 from New Baseline Methodology" was confusing and overdone. Sentence removed. (done 20 may) OK			

We will change the figure for CO₂-eq emission reduction from 7,533 g/m³ into 7,526.4 gr/m³ (however the difference is less than 0,1%):done

Regarding the frequency at Table D.2.2.1 regarding 8.p, situation is as follow:

The pressure will be measured continuously through measurement device M4 However to determine (calculate) the density of methane D_{CH₄} this information is to be combined with 6. w_{CH₄,y} which is a monthly collected parameter. Hence the pressure is a continuous measurement, but the calculation for methane density can be done on monthly basis.

Remarks regarding table D3: Done OK

Date: [Comment] GP 24 May 05 In Table D2.2.1 8p, please keep proportion of data to be monitored as 100% and add "see comment" to the previous column. Also not typo in comment "continuous"

Date: 25 May 05 GJE

DONE

Date: [Acceptance and closure] OK CAR closed 3rd June 2005

Date: 26 April 2005

Raised by: Gareth Phillips following initial Technical Review

No.	Type	Issue	Ref
26	NIR	<p>In the PDD (pages 62 and 63) a list of questions and answers is attached. The first question addresses an important issue but the description of the answer is not very detailed. Is this an accurate description or was more information provided, and if, please detail in the table.</p> <p>In PDD A.4.1.4. the developers say that the landfill will be reshaped according to Western Standards. What are those standards?. The developers should, at least give the reference of them.</p> <p>N sections A.4.3 and A.4.4, please provide more background information through references or web-sites – for example to explain the technology better and to support the claims about Royal Haskoning and Waste Concern. OK – can you actually give a URL for a general publication that provides a description of the technology? Also, please give URL to Royal Haskoning website</p> <p>The diagram shown in figure D-1 of page 18, leaves undefined the measurement of the pressure of the gas arriving to the flaring torch. Is there a need for a meter at this point? Likewise, should pressure also be measured at the entry to the generator? See comment</p> <p>Table D.2.2.1, show the data to be collected in order to monitor the emission of the project activity. Please clarify the responses to recording frequency:</p> <ul style="list-style-type: none"> - "Continuously" from a metrology point of view, it is rather unrealistic, and should not be interpreted in a literal manner from the approved methodology text. Modern data acquisition and storage techniques are based upon a sampled recording. If the developers want to indicate that 	Accreditation Team report Appendix 1

		<p>the recording frequency will be very high (each hour, for instance) they should indicate the chosen frequency.</p> <ul style="list-style-type: none"> - “Discontinue 4 times/year”. Normally, the word “quarterly” is used for this frequency - “Periodically”. The meaning of this word is, for the purpose of the validation, void. It is necessary to fix a frequency of the (of course) periodical recording of the data. Not to be interpreted literally from the approved methodology document. OK <p>In general the monitoring plan is weak and could be strengthened by at least referring to the intention to develop procedures, referring to calibration by qualified laboratories and preventative maintenance and identifying the specification of the meters that will be employed.</p> <p>Concerning the QA/QC, ACM0001 clearly indicates in page 7 that “a strong QA/QC procedure for the calibration of this equipment is needed”. The guidelines given in the project do not match with this requirement.</p> <p>There is a contradiction in the data storage in the Monitoring plan where data will be stored “in either electronic form or on paper worksheet”, while in the above referred tables, only electronic storage is foreseen.</p>	
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Date: [Comment]

PDD A4.1.4: sentence has been removed. Although the intentions are correct written down, it is not related to the capturing and combusting of LFG and therefore irrelevant. In view of the lack of information about LFG capture technology in general, is it possible to refer to a publication / website that defines “proper” land filling techniques?

RK: 27 may 2005 There are several publications on the internet available, the European directives also gives good guidelines regarding landfilling. I think it is overdone to indicate the web-site in the PDD. This could been interpreted as that we will completely incorporate the guidelines indicated in that typical website, which might not be the case!!!

The pressure instrument shown in figure D-1 is necessary for a proper operation of the plant, but not for the CDM-procedure. Leave it as it is now.

Although several data is measured continuously, not all measured numbers are filed for 100% and continuously. In the column comment this is explained. OK Good

The expression “periodically” has been replaced (by montly)

Below table D3 following text added:

All instruments, analysers, meters etc necessary for collecting data to meet the project-monitoring-requirements will be subject to maintenance and calibration in accordance with suppliers instructions. To ensure the implementation of dedicated maintenance and calibration, a separate QA/QC department will be

part of the Special Purpose Company, as shown in the graph under paragraph D.4. OK

Only electronic filing OK

Date: [Acceptance and closure] OK CAR Closed 3rd June 2005

Date: 26 April 2005

Raised by: Gareth Phillips following initial Technical Review

No.	Type	Issue	Ref
27	CAR	Further editorial corrections: PDD. Page 11: "simulate" should read "stimulate". PDD. Page 16: "directly measured" should be indicated as "M", according to the abbreviations on the top of the column PDD. Page 25: the sub index of "MDproject" must be "y" and not "yy". PDD. Pages 26 and 46, "ton/year" – "tones/yr" (both detected by AE) – "tonne/Nm3" Table in page 51 of PDD is hardly legible. Page 65, participant 19, should read "executive director".	Accreditation Team report Appendix 1

Date: [Comment] Item 1, 2, 3 corrected and closed
Item 4; I think closed
Item 5, Item 6 CLOSED

Date: [Acceptance and closure] OK CAR Closed 3rd June 2005

Spelling mistakes on page 7 Project Activities and Energy Industries CORRECTED:
taken out, is duplication of information, see also under A.4.2. and D.1.

Pls clarify table B2 that cash flows are in US\$ (the correct notation is USD)
CORRECTED (is in Euros)

Top of page 10, crediting CORRECTED

Page 5 project references and full URL for references CORRECTED

Revise text inserted on transboundary impacts in F1 CORRECTED

Date: 3rd June 2005

Raised by: Gareth Phillips following submission of final PDD

No.	Type	Issue	Ref
28	CAR	Please provide affirmation that FMO grant is not causing diversion of ODA	PDD guidelines

Date: [Comment] 15-06-05 GJE:

We revised the text under A.4. and copied the text of A.4 into Annex 2 where we also included the name and e-mail of the contact person for LDC-fund at FMO, Mr. Marc Buiting.

The main changes to the text are:

- description from Mr. Buiting on how the FMO is planning on supporting the project proponents

through the LDC fund (answer: through a grant and a loan) and the relationship between FMO and the Dutch Government (who is – still – not the Annex I party for the project).

Date: [Acceptance and closure] OK. Reviewed email correspondence between Project Developer and FMO confirming the text. CAR Closed 29/06/05