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Response to Request for Review - Request for Registration 5142 "The Colomba-Guabal Landfill Gas Project

Dear Members of the CDM Executive Board

Please find the summary of the responses to six issues raised and the action taken to correct the project-related documentation as part of the request for review for requesting registration for the No. 5142 project. The response is in accordance with para 9 a) in the Procedures for Review of Requests for Registration (EB55, Annex 40).
Please find below our summary of the answers; full details are in the PDD and Validation Report submitted in Clean and Track Changes versions.
Request 1:

> *"The DOE has validated the choice of baseline scenario (LFG) and adjustment factor (0%), based on CVC Resolution 0100 No. 0740 – 0612 which removed the obligation for passive flaring of the landfill gas from the Environmental License of the landfill. The DOE shall further explain in detail the passive flaring obligation in the original license which was applied to the proposed project activity and the consequence of removing this obligation to the compliance of the landfill to applicable regulations. In doing so, the DOE shall provide full information on local/national regulations in this respect, and further substantiate the choice of baseline and adjustment factor used. Please refer to VVM 1.2 Paragraph 84."*

Response to Issue 1:
The National legislation on landfill and MSW management in Colombia includes a venting obligation for newly built landfills in order to improve the physical stability of landfills and to reduce odours, but there is no mandatory regulation indicating that the vented LFG must be flared. Neither national, nor regional legislation - including the permits of the MSW landfill - requires any flaring; this regulatory and enforcement environment has been confirmed by the permitting Authority, CVC by David-Alejandro Arango of CVC's Environmental Permitting Unit in person on 7 December 2010 and in writing on 14 December 2010 as referred in the Validation Report Appendix C: Documents reviewed item no 19. The flaring requirement as mentioned in the initial permit was only an odour control mitigation issue. Therefore, there is no flaring obligation in the baseline scenario – whatever version of the environmental licence it is based on –and a zero adjustment factor is appropriate. This means that even if the first licence would have remained in force no passive flaring would have occurred and passive flaring would not have been enforced.

SQS was able to verify by documented evidence that passive flaring systems (i.e. venting systems with a burner attached to the top of the venting pipe) are, with the exception of one specific case at the Curva de Rodas landfill near Medellin, not operated in Colombia. A fully detailed content and history description of the six environmental license versions/amendments dealing with venting and the CDM project flaring aspects and the applicable national regulations has been added to the Validation Report (page 12-14) as an answer for RfR Request No. 1 justifying the zero adjustment factor used. Further details regarding the national legislation and the environmental licences of the site are added to PDD (page 32) as well.
Based on the above, SQS is of the opinion that VVM paragraph 84 requirements have been addressed sufficiently in the updated Validation Report.

Request 2:

> *"The DOE is requested to explain why a 5% cost escalation is applied in OPEX of the project activity (flaring and electricity O&M, administration and insurance costs) while no escalation has been considered for the electricity tariff in the investment analysis. In doing so the DOE is also requested to confirm the appropriateness of these values in the context of the project activity. Please refer to VVM 1.2 Paragraph 95."*

Response to Issue 2:
SQS was able to verify by documented evidence that electricity prices have been stable, even decreased in the last ten years. Moreover, SQS confirms that without a signed PPA it is not possible to forecast any increase in tariffs. SQS confirmed the 5% increase for CAPEX as plausible based on the historical industrial price index of Colombia. For plausibility, SQS furthermore checked also a "0% escalation scenario for all factors"; the resulting is an 11.8% IRR, that is below the benchmark 13.25% post-tax IRR. The sensitivity analysis confirms that a 26% increase of electricity prices would be required to reach the benchmark. However, such an increase in electricity tariff is not likely to happen in Colombia, where cheap coal and hydropower are abundant.
The PP has extended the PDD (page 22-24) and SQS has extended its Validation Report (page 15-16, 26) and confirmed the appropriateness of these values based on sectoral, regulatory and statistical grounds.
Based on the above, SQS is of the opinion that VVM paragraph 95 requirements have been addressed sufficiently in the updated PDD and Validation Report.

Request 3:

> *"The DOE validated that a gas utilisation right cost ("share of gas") has been defined by contract between the PP and landfill gas owner and included in the financial model. The financial analysis provided "with CDM" indicates that these values were calculated based on the amount of CERs produced every year, and the same values have been used in the financial analysis "without CDM". The DOE is requested to further explain the basis of this share of gas costs, which have been calculated based on the CDM revenues and whether it would be the same in the scenario without the CDM benefits. Please refer to VVM 1.2 Paragraph 111."*

Response to Issue 3:
The gas utilisation right ("share of gas") has to be purchased from the landfill gas owner and defines the fee payable on the basis of the utilised LFG and the prevailing CER prices. However, tying gas utilisation to the CER prices does not imply that this price is to be paid only in the instance where the project is registered for CDM. The gas right ("share of gas") has to be paid by the third party, the PP, implementing the LFG utilisation project. It is therefore appropriate that the project scenario "with CDM" and "without CDM" both contain the same price for the gas utilised. Furthermore, SQS has checked for plausibility purposes a scenario in which the landfill gas owner implements the project on its own assuming a

hypothetical zero price of LFG. In case the LFG is obtained for free of charge the IRR, without the CDM revenues, is 8.2%, which is still is below the benchmark of 13.25%.
The Validation Report has been extended (page 23), further elaborating the share of gas explanation provided on page 25.
Based on the above, SQS is of the opinion that VVM paragraph 111 requirements have been addressed sufficiently in the updated Validation Report.

Request 4:

> *"The DOE is requested to explain how it has validated that the costs associated with the flares have been confirmed against real costs (purchase agreement), considering that while a purchase agreement has been signed for a John Zink flare as indicated in the registered PDD, the costs for both flares used in the financial analysis sheet are sourced from a Hofstetter quotation. Please refer to VVM 1.2 Paragraph 111."*

Response to Issue 4:
SQS had raised CL 1 in the course of validation requesting further details from the PP regarding the electricity generation phase. The first flare (Hofstetter) planned for purchase was replaced by another manufacturer´s flare (John Zink). By the time of completing the validation the total costs (purchase, shipping, customs, etc.) of the purchased flare became known and the financial analysis has been updated accordingly. This resulted in an insignificant, 1.17%, decrease of capital expenditures for the project. The second flare (Hofstetter) has not been purchased yet and all the information included in the PDD is based on a quotation from Hofstetter. A plausibility check was carried out for the investment costs and only a decrease of more than 50% (of investment costs) would lead to an IRR above benchmark. Hence, the project costs are considered appropriate and conservative.
The replacement of the planned flare (Hofstetter) with the John Zink flare and its impact on the financial calculations has been elaborated upon in the PDD (page 20-22), the excel calculation sheet and the Validation Report (page 24).
Based on the above, SQS is of the opinion that VVM paragraph 111 requirements have been addressed sufficiently in the updated PDD and Validation Report.

Request 5:

> *"The monitoring plan indicates that, if no records for monitoring of flare efficiency exist, the default value for enclosed flare will be used. However the manufacturer specifications for the operation of the flare and the required data and procedures to monitor these specifications have not been documented in the CDM-PDD as required by the Tool to determine project emissions from flaring gases containing methane, and validated accordingly by the DOE. Please refer to VVM 1.2 Paragraph 91."*

Response to Issue 5:
The high efficiency flares to be installed have an operational temperature range well above 500 ℃ therefore the conditions defined by the Tool to use the default 90% efficiency value are always guaranteed whenever the flare operates. Manufacturer specification defines the lowest operational flare efficiency as 98% for the John Zink and as 99% for the Hofstetter Flare. In the absence of monitoring flare efficiency records or in cases when the flare efficiency monitoring devices are non-operational, the required data on flare temperature and operational status (ON or OFF) of the flare are continuously recorded. The manufacturer specifications for the operation of the flare and the required data and procedures to monitor these have been added to the PDD (page 11-12). This additional data is based on supporting documentation (e.g. manufacturer technical specifications, quotations) of the PDD that had been reviewed during the validation process.

Based on the above, SQS is of the opinion that VVM paragraph 91 requirements have been addressed sufficiently in the updated PDD.

Request 6:

> *"The DOE is requested to clarify how it confirmed the compliance of the monitoring plan with the requirements of the applied methodology, considering that the applied methodology requires continuous monitoring of the total amount of landfill gas captured (LFGtotal,y) while the monitoring plan indicates that the total amount of landfill gas captured is the sum of all flow meters installed at the flares and the gensets. Please refer to VVM 1.2 Paragraph 123 (a) (ii)."*

Response to Issue 6:

PP modified the PDD (pages 63, 79), guaranteeing that LFG_{total} will be measured continuously before the collected gas is diverted towards the flare and the gensets. PP has provided a detailed description/diagram of the location of the monitoring equipment within the gas collecting and flaring system. The flow meters associated with the flares and the gensets are located in a manner that allows the measuring of the total LFG as well as the volumes used by each and every combustion unit (flare and gensets). The PP has now specified the existence of 3 flow meters in order to measure and monitor in an independent continuous manner each of the following parameters: LFGtotal, LFGflare and LFGelectricity. The specific metering/measuring locations for each parameter are correct and are in line with the requirements of the methodology and its applicable tools.

Based on the above, SQS is of the opinion that VVM paragraph 123 (a) (ii) requirements have been addressed sufficiently in the updated PDD.

The PDD and Validation Report have been amended to reflect the six issues raised. The two documents are re-submitted in both clean and tracked-changes versions as part of the RfR process.

If further information is required, Zsolt Lengyel will be the contact person for the review process. He is available to address any questions the Executive Board may wish to clarify during its considerations. Thank you.

Yours sincerely

Silvio Leonardi	Zsolt Lengyel	Christoph Leumann
Leonardi	Lengyel Zsolt	Ch Leumann
Member of the Executive Board	Lead Auditor	Reviewer