Temporary deviations from registered monitoring plan or applied methodology for the calculation of the discounter factor

<u>Background information:</u>

The project activity was registered on 01 Apr 2011 with methodology AM0079 version 2 applied. In the registered PDD (version 7), $Q_{SF6,y}$ is required to be monitored to calculate discount factor (DFT_y) for baseline emission calculation.

$$BE_y = MIN\{V_{SF6,hist}, DFT_y * EA_y\} * GWP_{SF6}$$

BE_y	=	Baseline emissions year y, tCO_2e
DFT_y	=	Discount factor for testing in year y
EA_y	=	Quantity of SF_6 reclaimed during the year y, tonnes SF_6
$V_{SF6,hist}$	=	Historical annual baseline venting of SF_6, tonnes SF_6
GWP_{SF6}	=	Global warming potential of SF_6, tCO_2e/tonnes SF_6

DFT_y is obtained through:

$$DFT_y = \frac{\sum_k (Q_{SF6,k,y} * RT_{k,y})}{Q_{SF6,y}}$$

Where:

DFT_y	=	Discount factor for testing in year y
$Q_{SF6,k,y}$	=	Total amount of SF_6 filled in the testing of equipments in category k in year y, tonnes SF_6
$Q_{SF6,y}$	=	Total amount of SF_6 filled in testing of all equipments in the project activity in year y, tonnes SF_6
$RT_{k,y}$	=	Ratio of number of eligible testing items in category k (maximum value is set at 1)

In PDD, all the equipments were classified into two categories. Therefore,

$$DFT_y = \frac{\sum_k (Q_{SF6,k,y} * RT_{k,y})}{Q_{SF6,y}} = \frac{Q_{SF6,1,y} * RT_{1,y} + Q_{SF6,2,y} * RT_{2,y}}{Q_{SF6,y}}$$

The project started commissioning at the recovery site on 29 April 2008.

The project consists of two sites, one is the SF_6 recovery site and the other is the SF_6 reclamation site. The operational period for both sites is presented in the table below.

The operational period at KERI and SFK site

	SF_6 Recovery at KERI site		SF_6 Reclamation at SFK site	
i	Recovery Period from	Recovery Period to	Reclamation Period	Reclamation Period to

			from	
CDM-11003	2-Apr-11	10-Jun-11	19-Jul-11	28-Jul-11
CDM-11004	11-Jun-11	13-Jul-11	23-Aug-11	2-Sep-11
CDM-11005	13-Jul-11	30-Sep-11	25-Oct-11	3-Nov-11
CDM-11006	1-10-11	1-Dec-11	20-Dec-11	29-Dec-11
CDM-11007	2-Dec-11	6-Feb-12	29-Feb-12	9-Mar-12
CDM-12001	8-Feb-12	29-Mar-12	19-Apr-12	26-Apr-12

Note that recovery-reclamation cylinder *i* refers to each recovery-reclamation cycle that a cylinder goes through (i.e. from the moment the cylinder is taken to the recovery site until the moment the gas contained in the cylinder has been injected into the reclamation facility) and not the physical cylinder. The project uses bundles of two interconnected gas cylinders as its unit of transport; therefore one cylinder *i* for the purposes of the methodology refers to a “bundle”, or two connected physical cylinders, also referred to as the “cylinder bundle”.

Actual measurement situation:

$Q_{SF6,k,y}$ was not monitored and recorded for the cylinder bundle CDM-11003, CDM-11004 and CDM-11005 during the recovery period from 02 April 2011 to 30 Sep 2011.

Proposal of the Deviation:

As analysed above,

$$DFT_y = \frac{\sum_k \left(Q_{SF6,k,y} * RT_{k,y}\right)}{Q_{SF6,y}} = \frac{Q_{SF6,1,y} * RT_{1,y} + Q_{SF6,2,y} * RT_{2,y}}{Q_{SF6,y}}$$

There are two scenarios:

Scenario a): $RT_{1,y}$ is bigger than or equal to $RT_{2,y}$ ($RT_{1,y} \geq RT_{2,y}$),

$$DFT_y = \frac{\sum_k \left(Q_{SF6,k,y} * RT_{k,y}\right)}{Q_{SF6,y}} = \frac{Q_{SF6,1,y} * RT_{1,y} + Q_{SF6,2,y} * RT_{2,y}}{Q_{SF6,y}} \geq \frac{Q_{SF6,1,y} * RT_{2,y} + Q_{SF6,2,y} * RT_{2,y}}{Q_{SF6,y}}$$

And

$$\frac{Q_{SF6,1,y} * RT_{2,y} + Q_{SF6,2,y} * RT_{2,y}}{Q_{SF6,y}} = \frac{RT_{2,y} * (Q_{SF6,1,y} + Q_{SF6,2,y})}{Q_{SF6,y}},$$

For $Q_{SF6,1,y} + Q_{SF6,2,y} = Q_{SF6,y}$,

$$\frac{RT_{2,y} * (Q_{SF6,1,y} + Q_{SF6,2,y})}{Q_{SF6,y}} = \frac{RT_{2,y} * Q_{SF6,y}}{Q_{SF6,y}} = RT_{2,y}.$$

Therefore, when $RT_{1,y} \geq RT_{2,y}$, $DFT_y \geq RT_{2,y}$.

Scenario b): $RT_{2,y}$ is bigger than $RT_{1,y}$ ($RT_{2,y} > RT_{1,y}$),

$$DFT_y = \frac{\sum_k \left(Q_{SF6,k,y} * RT_{k,y}\right)}{Q_{SF6,y}} = \frac{Q_{SF6,1,y} * RT_{1,y} + Q_{SF6,2,y} * RT_{2,y}}{Q_{SF6,y}} > \frac{Q_{SF6,1,y} * RT_{1,y} + Q_{SF6,2,y} * RT_{1,y}}{Q_{SF6,y}}$$

And

$$\frac{Q_{SF6,1,y} * RT_{1,y} + Q_{SF6,2,y} * RT_{1,y}}{Q_{SF6,y}} = \frac{RT_{1,y} * (Q_{SF6,1,y} + Q_{SF6,2,y})}{Q_{SF6,y}}$$

For $Q_{SF6,1,y} + Q_{SF6,2,y} = Q_{SF6,y}$, $\frac{RT_{1,y} * (Q_{SF6,1,y} + Q_{SF6,2,y})}{Q_{SF6,y}} = \frac{RT_{1,y} * Q_{SF6,y}}{Q_{SF6,y}} = RT_{1,y}$

Therefore, when $RT_{2,y} > RT_{1,y}$, $DFT_y > RT_{1,y}$.

Deviation proposal: when $RT_{1,y}$ is bigger than(or equal to) $RT_{2,y}$, the value of $RT_{2,y}$ being used as the discount factor (DFT_y); when $RT_{2,y}$ is bigger than $RT_{1,y}$, the value of $RT_{1,y}$ being used as the discount factor (DFT_y)

It can be concluded from above analysis that when the data of $Q_{SF6,k,y}$ was not monitored the deviation proposal of using the value of $RT_{1,y}$ or $RT_{2,y}$ under different scenarios to substitute DFT_y is conservative.