Procedures for accounting eligible HFC-23

1. Background

AM0001 implicitly assumes that the amount of HFC-23 eligible for crediting for a year y ($Q_{HFC23,e,y}$)[1] is calculated on an annual basis. Furthermore, AM0001 tacitly assumes that HFC-23 is destroyed in real time (i.e. no storage and subsequent destruction takes place). However, project participants (PPs) of project activities routinely submitted under AM0001 requests for issuance of CERs for shorter periods of time than one year. Further, in a few cases the verification reports also included the amount of HFC-23 stored due to temporary shut-downs of HFC-23 destruction facility, as the quantity destroyed in the monitoring period.

The Board at its 35th meeting requested the Meth Panel to provide clarification on the approved methodology AM0001 on how to address situations where HFC-23, generated in production of HCFC-22, is stored, when the HFC-23 incineration plant is temporarily not functioning, and subsequently destroyed. Furthermore, the Board requested the panel to provide guidance on whether to take into account the HCFC-22 produced during the down times of HFC-23 incineration plants including its implications on the calculation of CERs (para 29, EB 35 meeting report).

Also, the Board took note of the reporting of the HFC-23 waste generation rate/HCFC-22 production ("w") values by the project activities while applying the approved methodology AM0001. The Board agreed that the Designated Operational Entities (DOEs) should ensure, for each request for issuance, that the value of "w" shall not exceed the maximum value as registered in the Project Design Document (PDD), taking into account the issuances that have occurred in the past one year period, in order to ensure that the annual maximum "w" value has not been exceeded (para 90, EB 35 meeting report).

2. Procedure

The following procedure aims to account for storage needs as well as to ensure that the issuance is in compliance with the cap established by the methodology.

The Meth Panel recommends the EB to adopt the following guidance:

1.   CERs can be issued for a monitoring period shorter than one year, upon request for issuance and its subsequent approval by the Board.

2.   A year y of the crediting period is defined on the basis of the starting date of the crediting period of a project activity. For example, if the starting date is 15 June, then a year y of the crediting period for the project is 15 June to next year 14 June.

   (i)   A monitoring period (the period for which the request for issuing CERs is made by PPs of a registered CDM project activities) can be of a shorter duration than a year, but all the monitoring periods within a year y of the crediting period should add up to the duration of the year. For example, if issuance is requested four times in a year y, the starting date of the first monitoring period should be the same as the starting date of the year y of the crediting period and the end date of the last monitoring period (fourth in this case) should be the end date of the year y of the crediting period. The last monitoring period of a year should have a duration of at least 60 days;

   (ii)   The quantity of HFC-23 eligible for crediting ($Q_{HFC23,e,y}$) should be determined for each year y of the crediting period and not for any other length of time period.

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[1] This term ($Q_{HFC23,e,y}$) is not directly used in the methodology AM0001 (up to Version 5.2). In AM0001 (up to version 5.2) Q_HFC23$_y$ refers to the quantity of HFC-23 destroyed. This term is the lower value between the quantity actually destroyed ($Q_{HFC23,d,y}$ in this guidance) and the quantity of HFC-23 eligible for crediting ($Q_{HFC23,e,y}$ in this guidance).

3.   The maximum amount of HFC-23 that is eligible for crediting ($Q_{HFC23,e,y}$) in a year y is the sum of (a) any HFC-23 that is stored at the end of the year $y\text{-}1$ and that is eligible for storage and subsequent destruction according to the conditions outlined in paragraph 5 below and (b) the minimum of the following values (the procedure to calculate this for a year y is provided in the equations below):

(i)   The actual generation of HFC-23 in year y of the crediting period less the quantity sold, used or vented in year y;

(ii)   The product of actual production of HCFC-22 in year y of the crediting period (Q_HCFC_y) and the historical waste generation rate (w) as determined and fixed in the registered CDM-PDD;

(iii)   The product of the maximum historical annual HCFC-22 equivalent production (Q_HCFCe_{HIST}) determined as per procedure in the approved methodology and the historical waste generation rate (w) as determined and fixed in the registered CDM-PDD; and

(iv)   The product of the maximum historical annual HCFC-22 equivalent production (Q_HCFCe_{HIST}) determined as per procedure in the approved methodology and fixed in the registered CDM-PDD and the actual average HFC-23/HCFC-22 waste generation rate in year y (this represents the amount of HFC-23 that would have been produced at historic production level with current ratio of HFC-23 generation

Note for the EB: This provision is not contained in approved methodology AM0001. It addresses potential incentives to increase HCFC-22 production beyond levels that would be produced in the absence of the CDM project activity for situation where the HFC-23/HCFC-22 waste generation rate has decreased below the ratio observed in the historic period from 2002 to 2004.

Thus, the maximum amount of HFC-23 that is eligible for crediting in a year y is calculated as follows:

$$Q_{HFC23,e,y} = Q_{HFC23,co,y} + MIN \begin{cases} Q_{HFC23,g,y} \\ QHCFC22_y \times w \\ QHCFC22e_{HIST} \times w \\ QHCFC22e_{HIST} \times Q_{HFC23,g,y} / Q_{HCFC22,y} \end{cases}$$

Where:

$Q_{HFC23,e,y}$	=	The maximum amount of HFC-23 that is eligible for crediting in a year y
$Q_{HFC23,co,y}$	=	Quantity of HFC-23 that has been stored in year $y\text{-}1$ and is eligible for destruction in year y
$Q_{HFC23,g,y}$	=	Quantity of HFC-23 generated in year y
$QHCFC22_y$	=	Quantity of HCFC-22 produced in year y
Q_HCFCe_{HIST}	=	The maximum annual HCFC-22 production that is eligible for crediting as determined and fixed in the registered CDM-PDD
w	=	The historical waste generation rate (w) as determined and fixed in the registered CDM-PDD

4.   HFC-23 that is generated after the start of the crediting period, temporarily stored and subsequently destroyed can be accounted for calculation of emission reductions under AM0001. The destruction of HFC-23 that was generated before the start of the crediting period cannot be accounted towards emission reductions. Note that since 1 April 2007 the start of the crediting period cannot be earlier than the registration of the CDM project activity.

5.   The quantity of HFC-23 stored by the end of year $y\text{-}1$ and eligible for crediting in year y is the difference between the maximum amount of HFC-23 that is eligible for crediting in the year $y\text{-}1$, the actual amount destroyed in year $y\text{-}1$ and the amount sold, used or vented to the atmosphere. Note that if the quantity credited and the quantity that has been sold, used or vented to the atmosphere is larger than the eligible quantity, a value of zero should be used for the quantity that is eligible for storage.

$$Q_{HFC23,co,y} = MAX\left(Q_{HFC23,e,y-1} - Q_{HFC23,cr,y-1} - Q_{HFC23,other,y-1};0\right)$$

Where:

$Q_{HFC23,co,y}$ = Quantity of HFC-23 stored by the end of year *y-1* and eligible for destruction in year *y*

$Q_{HFC23,e,y-1}$ = The maximum amount of HFC-23 that is eligible for crediting in year *y-1*

$Q_{HFC23,cr,y-1}$ = Quantity of HFC-23 destruction credited in year *y-1*

$Q_{HFC23,other,y-1}$ = Quantity of all HFC-23 that has been sold, used or vented to the atmosphere in year *y-1*

This provision is illustrated in the following table:

Table 1: Calculation of the quantity of HFC-23

Period	Maximum amount of HFC-23 that is eligible for crediting in the year *	Quantity of HFC-23 destruction credited in the year	Quantity of HFC-23 sold, used or vented to the atmosphere in the year	Quantity of HFC-23 eligible for storage and destruction in the subsequent year
	A	B	C	D=MAX(A–B–C;0)
year 1	100	80	0	20
year 2	120	110	0	10
year 3	110	50	80	0
year 4	100			
year 5				

* Assuming that Min $(Q_{HFC23,g,y}, Q_{HCFC22,y} * w, Q_{HCFC22,y,max} * Q_{HFC23,g,y}/ Q_{HCFC22,y}, Q_{HCFC22,y,max} * w)$ is 100.

Procedures for requests for issuance

6.   For the case that project participants use monitoring periods shorter than one year, the following procedures are prescribed, in order to ensure that the overall CERs issued in a year y ~~is~~ are consistent with the provisions of the methodology and to minimize the risk of excessive issuance.

$$Q_{HFC,cr,i,y} = MIN\left\{ \frac{MIN\left(QHCFC22_{HIST}; \sum_{n=1}^{i} Q_{HCFC22,n,y}\right) \times MIN\left(w; \frac{\sum_{n=1}^{i} Q_{HFC23,g,n,y}}{\sum_{n=1}^{i} Q_{HCFC22,n,y}}\right) + Q_{HFC23,co,i,y}}{\sum_{n=1}^{i} Q_{HFC23,d,n,y}} \right\} - \sum_{m=1}^{i-1} Q_{HFC23,cr,m,y}$$

Where:

$Q_{HFC23,cr,i,y}$ = Quantity of HFC-23 destruction credited in the monitoring period *i* of year *y*

$Q_{HCFC,y,max}$ = The maximum annual HCFC-22 production that is eligible for crediting as determined and fixed in the registered CDM-PDD

$Q_{HCFC22,n,y}$ = Quantity of HCFC-22 produced in monitoring period n of year *y*

$Q_{HFC23,co,y}$ = Quantity of HFC-23 stored by the end of year *y-1* and eligible for destruction in year *y* (as defined above)

$Q_{HFC23,g,n,y}$ = Quantity of HFC-23 generated in the monitoring period *n* of year *y*

$Q_{HFC23,d,n,y}$ = Quantity of HFC-23 destroyed in the monitoring period *n* of year *y*

$Q_{HFC23,cr,m,y}$ = Quantity of HFC-23 destruction credited in the monitoring period *m* of year *y*

I	=	Monitoring period for which issuance of CERs is requested
n	=	Monitoring periods from the start of the year up to the monitoring period i
m	=	Monitoring periods of year y that preceded the monitoring period i

7.   In the unlikely event that the sum of the quantity of HFC-23 destruction credited before the last issuance period of the crediting year y has exceeded the amount eligible, for example.

$$\sum_{i=1}^{n-1} Q_{HFC23,cr,i,y} > Q_{HFC23,e,y}$$

Then the quantity of HFC-23 destruction credited in the final issuance period of crediting year y is zero, and the subsequent issuance is made only after the excess amount has been recovered.

8.   In order to prevent eventual over-estimation, the request for issuance for the final year of the crediting period shall be done on an annual basis, according to the provisions in the methodology itself.

9.   All the data required for a applying above guidance shall be reported in the issuance report for each issuance period.

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