	CDM: Form for submission of requests for deviation prior to submitting request for issuance *(To be used by the DOE for requesting a deviation prior to submitting request for issuance)*
Name of the entity (DOE) submitting this form	DNV
Project Ref./Title of the project activity	1286: Enercon Wind Farms in Karnataka Bundled Project - 73.60 MW
Title/subject of deviation	Request for Deviation - Apportioning of generated electricity between project and non-project wind turbines for one participant in the bundle for the period 01/07/2010 to 25/06/2011
Specify the monitoring period for which the request is valid	01 Jul 2010 - 31 Jul 2011
Date and signature for the DOE	24 January 2012 Agnes Dudek

Please use the space below to describe the deviation and substantiate the reason for requesting a deviation from provisions of registered monitoring plan.

The general metering plan for the project activity as per the revised monitoring plan, involves installation of meters for all sub project activities in the 33 kV line (transformer yard) and another set of bulk meters at the

uploading substation on the 66 kV feeder lines to which the sub project activity is connected along with other non project activities. Based on individual 33 kV export readings and the bulk 66 kV export readings,

transmission loss is calculated by the statutory authority and is applied for the 33 kV meter readings to arrive at net export from the sub project activity.

However, in the case of one sub project activity, namely, Enercon Wind Farms (Krishna) Ltd, which contributes 15 MW (25 x 600 kW) to the bundled project capacity of 73.6 MW, the meter installed at the 33 kV line was clubbed with another ((4 x 600) kW = 2.4 MW) non-project activity between 1 July 2010 and 25 June 2011. Hence the energy meter on the 33 kV line for this sub project component reads the generation from 25 machines included in the project activity and 4 non-project machines for the specified duration. Since the net

energy for the 25 Wind Energy Converters (WECs) of the project cannot be calculated directly from the meter readings, the deviation sought is for apportioning the electricity generated between the project and non project

machines based on the individual WEC tower energy meter readings. In the absence of a clear approved monitoring plan to apportion the generated power between the project and non-project turbines, the calculation /

apportioning could not be carried out to arrive at the actual generation obtained from the 15 MW of Enercon Wind Farms (Krishna) Ltd (EWFKL1-25). This apportioning procedure could not be included in the monitoring plan, as this constraint of having to share the meter for the project activity with a non-project activity was not foreseen at that time.

The step-wise details of procedure for such apportioning is detailed below:

The individual export readings of the WECs are recorded at the controller meters of each of the WEC. The monthly Joint Meter Reading (JMR) contains the net electricity exported by 17.4 MW (including 15 MW (25 x 600 kW) of Enercon Wind Farms (Krishna) Ltd and 2.4 MW (4 x 600 kW)non-project) and is denoted by

the subscript EWFKL. Hence in order to arrive at the net electricity exported by 15 MW by EWFKL1-25, the readings of the 33 kV metering points are apportioned on the basis of controller meter readings. This apportioning procedure is standard in India where project and non project machines are connected to the common meters and share common JMR reports (Ref: CDM reference numbers 4679 & 4700).

STEP 1: Electricity Export at 33kV metering point: Electricity export at 33 kV by 15 MW (25 WECs) of EWFKL is arrived at by multiplying the meter reading recorded at the 33 kV metering point for 29 WECs with an apportioning fraction. The apportioning fraction is equal to the ratio of the sum of electricity generated by 25 project WECs to the sum of electricity generated by all 29 WECs connected to the common metering point, both as per the controller meter readings. This is represented by equation (1) provided in the attachment (Appendix 1)to this request.

STEP 2: Electricity Import at 33 kV metering point: Electricity import at 33 kV by 15 MW (25 WECs) of EWFKL has been conservatively taken as total electricity import by 17.4 MW (29 WECs) measured at 33 kV metering point. This is represented by equation (2) provided in the attachment (Appendix 1) to this request.

STEP 3: Transmission Loss between 33 kV and 66 kV metering points

Transmission loss for export: Meter reading is taken by state utility at 33 kV metering point and 66 kV metering point at the substation. Transmission loss is applied to the meter reading at 33 kV to compute the net electicity exported to the grid. Transmission loss for export for 15 MW (25 WECs) of EWFKL has been

conservatively taken as the total transmission loss for export recorded for 17.4 MW (29 WECs). This value will be taken from JMR. This is represented by equation (3) provided in the attachment (Appendix 1) to this request.

STEP 4: Transmission loss for import:

Transmission loss for import is applied as 15% by the state utility in the JMR. The transmission loss for export is less than 5% for the period from 1 July 2010 to 25 June 2011 for which the deviation applies. However, as

per practice of state utility, transmission loss for import is applied as 15%. Further still to be conservative,transmission loss for import is applied to total of 17.4 MW (29 WECs) instead of 15 MW (25 WECs). This is represented by equation (4) provided in the attachment (Appendix 1) to this request.

STEP 5: Net Electricity Supplied to the Grid at 66 kV by 15 MW of EWFKL

For calculating the emission reductions achieved by the sub-project activity EWFKL (25 x 600 kW), the net electricity supplied to the grid at the final 66 kV point by the sub-project activity is required; this is calculated as

the difference between the quantum of electricity exported by the 25 x 600 kW turbines at the 33 kV metering point less sum of transmission loss suffered by the exported electricity between the 33 kV and 66 kV metering points and the quantity of power imported by the 25 x 600 kW project turbines adjusted suitably for transmission losses. The quantum of electricity exported by the 25 x 600 kW project turbines at the 33 kV metering point is calculated as per procedure shown in STEP 1, using equation (1) in Appendix 1. For sake of transparency, conservativeness and simplicity, the transmission loss suffered by the exported electricity between the 33 kV and 66 kV points is considered to be equivalent to the transmission loss suffered by the entire lot of (29 turbines) turbines connected at the metring point as calculated and entered in the JMR by the statutory authority; this is in line with STEP 3 above and equation (3) in Appedix 1.Similarly, the import by the project turbines is considered as being equal to the import by the whole lot of turbines (29 turbines) connected to the metering point, which is as per STEP 2 above and equation (2) in the Appendix; this is suitably incremented with the transmission losses by conservatively applying 15% as practiced by the statutory authorities for all imported electricity. The details of the same are provided in STEP 4 and the corresponding equation (4) is provided in Appendix 1.

In the above procedure, the export is apportioned on an equitable basis (standard practice across states and cross checked from registered CDM projects 4679 & 4700) between project and non-project turbines; but, the import

and transmission losses of the non-project turbines are also deducted from project turbine account rendering it conservative. Thus, the deviation procedure is considered appropriate and acceptable.

Please use the space below to describe and substantiate the assessment of the DOE that the deviation does not require a revision of monitoring plan or the changes from the project activity as described in the registered project design document.

The project was registered (Ref No. 1286) with a fixed crediting period of ten years from 1 July 2010 to 30 June 2020; the first monitoring period for this bundled project covers the period 1 July 2010 to 31 July 2011 (13 months). The deviation request is only for the accounting of the twenty five project machines for the period 1 July 2010 to 25 June 2011 for the sub activity Enercon Wind Farms (Krishna) Ltd. which contributes 15 MW to the total

installed capacity of 73.60 MW. The meter installed to monitor electricity generated from Enercon Wind Farms (Krishna) Ltd. (25 x 600 kW)(15 MW) is also connected to 4 x 600 kW (2.4 MW) non-project wind energy converters which is not a part of the project activity under consideration. However, with effect from 25 June 2011, the 4 x 600 kW (2.4 MW) activity is disconnected from the common metering system and from that day onwards, the sub-project activity of

capacity 15 MW is independently metered. Thus, this need for deviation in the monitoring plan is required only for a definite period of time (1 July 2010 to 25 June 2011) within the approved fixed crediting period of ten years (from 1 July 2010 to 30 June 2020) and is not applicable to the entire fixed crediting period of ten years; thus, only a deviation from the registered monitoring plan for the period 1 July 2010 to 25 June 2011 is required.

Please use the space below to describe the impact of the deviation on the estimates of the emissions reductions for the proposed project activity with the use of approved methodoly as existing and with the deviation. Please substantiate the estimations with relevant and verifiable data.

The approved monitoring plan does not have a procedure for apportioning the generated power between the project activity and non-project activity WECs. The requested deviation provides a means of recording the actual site conditions and proposes an acceptable method for apportioning the recorded quantum of generated electricity. The proposed deviation assures accuracy of the monitored parameters in a transparent manner which was not available earlier. And it has no impact on the estimate of emission reductions for the project activity. As per existing procedure, estimated emission reductions were calculated as the product of estimated generated electricity from the registered project activity multiplied with the emission factor of the system grid. With the deviation, the method of estimating emission reduction remains unaltered as also the emission factor of the system grid. The deviation applies only as a means of arriving at the net quantity of electricity generated by the project activity in an appropriate manner thus contributing to a higher degree of transparency.
Link to the monitoring report
https://cdm.unfccc.int/Projects/DB/SGS-UKL1186566570.26/iProcess/DNV-CUK1314960807.37/view
If necessary, list attached public files containing relevant information which is not available through the above link
1286_RFD- request submission form. 1286_Attachment with formula