CDM: Proposed New Methodology
Meth Panel summary recommendation to the Executive Board (version 01)
(To be used by the Meth Panel in addition to the full recommendation to the Board regarding a proposed new methodology (F-CDM-NMmp))

Date of Meth Panel meeting:	6 - 9 September 2005 Meth Panel 17
Related F-CDM-NM document ID number (electronically available to EB members)	**F-CDM-NM0112:** "Increased electricity generation from existing hydropower stations through Decision Support System optimization"
Title of proposed new baseline methodology:	Increased electricity generation from existing hydropower stations through Decision Support System (DSS) optimization
Title of underlying project activity:	Increased electricity generation from existing hydropower stations through Decision Support System optimization
History of submission: (new section)	First submission (Round 10, 19 April 2005) Clarification received as response to preliminary recommendation at Meth Panel 16. Final recommendation at Meth 17

1. One sentence describing the purpose of the methodology.
(new section)

>> To estimate the emissions reduction from use of Decision Support System (DSS) optimization in hydro systems.

2. Suggested applicability of methodology
(former section A.I and B.I)

>> The methodology applies:

- Only to existing hydropower generation units and reservoir capacity. The methodology can include multiple units linked in a cascade including both run of the river and reservoir-based units.
- Where the data required to determine the efficiency of the existing hydro units and the total flow index is reliable and readily available
- To hydropower systems that lack advanced Decision Support System (DSS) optimization controls and modelling required to optimize generation potential
- Only includes optimization of generation units that were online as of the historical data year(s) used for the methodology
- Only to those power generation units that have not undergone significant upgrades beyond basic maintenance, which would affect the expected operational efficiency levels during the duration of the project.
- Only where accurate data is available to measure and document the additional energy generated by existing hydro stations beyond the baseline case
- Only where no dam height is added as a result of the project to increase reservoir size.
- Only where either no additional hydro power units are located down river from the last unit within the project boundary, or the first hydro unit downstream from the final hydro unit within the

project boundaries has the capacity to regulate at least 24 hours of maximum flow from upstream (24 hour capacity in m3 = Mean annual flow m3/s *24 hr*3600 s/hr).

3. Summary description of baseline methodology . Short statements on each on how the proposed methodology: *(chooses the baseline scenario, demonstrates additionality, calculates baseline emissions, calculates project emissions, calculates leakage, calculates emission reductions)*
(former section B.I.)

>> The methodology provides a means to parameterize the historical relationship between river flow (or volume) and generation. The actual generation under DSS operation for a given flow can then be compared to the generation under the historical operation, for the same flow. [Decision Support Tools are designed to calculate the optimal use of the generating capacity of a hydro generating unit or a series of hydro generating units by taking advantage of all the controllable factors (head, reservoir capacity, spillage, time of use, etc.) and best available information.]

This difference in generation is summed over each week of the year to establish the total amount of additional energy generated (in megawatt-hours). This energy is assumed to displace the other grid based electricity sources; for this purpose, ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources" is applied to estimate these emissions.

4. Suggested "recommendation level" for the baseline and monitoring methodologies (A, B or C).
(former section A.I and A.II.)

>> B. To be reconsidered.

5. Major reasons for B/C choice from the proposed baseline methodology: (outline the major reasons for needing revision/rejection)
(former section A.I.)

>> The methodology builds upon existing methodologies and provides a rigorous approach to assessing the benefits of decision support systems (DSS system). The methodology is especially well-written and easy to follow. During the feedback loop, the proponent addresses most of the key concerns. The remaining issues are the following.

- Number of historical data years.

  Proponent has provided a response to our concerns that the range of flows during the index development year does not span the range that might be encountered in future (post-implementation) years and that one year of data may not be adequate to robustly characterize the baseline flow-output relationship. The suggested solution is that "For weekly flow index data points in the project year that are higher or lower than the limits of baseline data set, the project developer will not seek to claim emission credits." The proponent suggests that this will "provide incentives to gather additional years of baseline data beyond the minimum one year through market mechanisms rather than mandates." While this nicely addresses the first concern (range of data) it does not appear to address the concern about how representative one historical years' data might be. For instance, the proponent will have no "market-based incentive" to include data for historical years that fall within the same flow range and provide a higher output per flow relationship. In fact, this approach provides a "market-based incentive" to do just the opposite. It is thus still suggested that either the baseline data should in general consider multiple years, and that use of a single year should be an exception with clearly articulated circumstances in which this is acceptable. Or that an alternative be proposed that adequately addresses the above concern.

- Flow measurement uncertainty.

  The proponent has responded with some useful comments and additions with respect to uncertainty. However, it has been remarked that uncertainty in flow measurements may equal or exceed the project-driven improvement in efficiency of the system. Given this possibility, it would be useful for the proponent to address the uncertainties in a more systematic manner.

- Confidence in Emission Reduction Calculations.

  Given that both flow rate measurement and the flow-output relationship present significant

uncertainties, together with the small relative difference in output due to the DSS project, the proponent should provide a procedure to ensure the statistical significance of estimated emission reductions.

6. Any major issues arising from the assessment of the proposed monitoring methodology (if different to those already raised above).

(former section A.II.)

>> None.

7. Any other issues arising to be stated, if necessary (e.g. cross-cutting, general or precedent-setting issues raised by the proposed new baseline or monitoring methodology).

>> None.

Signature of Meth Panel Chair ……..

Date:14/09/2005 *(Jean-Jacques Becker)*

Signature of Meth Panel Vice-Chair ……..

Date: 14/09/2005 *(José Miguez)*

Information to be completed by the secretariat	
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