

# Hydropower Sustainability Assessment Forum

## Instructions for Conducting a Trial of the Draft Hydropower Sustainability Assessment Protocol July 2009

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### REPORTING TEMPLATE

#### Trial of the Hydropower Sustainability Assessment Protocol

This Report is based on the Draft Hydropower Sustainability Assessment Protocol July 2009 (the "Draft Protocol"). It is intended to provide feedback to the Forum on practical experiences with the Draft Protocol. This feedback will be used, together with that from other participants in the trialling program, as input to the final revision of the Draft Protocol.

The Report is primarily designed for those trials conducted or observed by HSAF members. Project owners are also encouraged to participate in the Trialling Program through self-assessments, or assessments involving invited external experts and partners. In these cases, they are invited to utilize or adapt this template. All trial reports submitted to the HSAF will be made public on the HSAF's website, and so assessment teams should only provide the information they want to be in the public domain. The assessment team may choose to produce two separate reports, with the public report back to the HSAF focusing on experiences with the draft Protocol, and the internal report to the project owner focusing on project performance. The credibility of the individual trials and the overall HSAF process will be enhanced by assessments that are as inclusive and transparent as possible.

Each assessment should be conducted by a designated assessment team. All members and a nominated representative of the owner (who could or could not be a team member) should sign the assessment report. Where there are divergent views, they should be made explicit in the report. We ask that reports be submitted to Dr. Helen Locher, HSAF Coordinator, before the end of October, 2009.

#### **Assessment Team and Owner's Representative<sup>1</sup>**

Mrs. Paloma Cavalcanti, EDP

Mrs. Eltiza Rondino (ER), Environmental Analyst, EDP

Mrs. Julie Mischima, Trainee, EDP

Mr. Pedro Sirgado, Sustainability Director, EDP

Dr. Jörg Hartmann (JH), Dams Initiative Leader, WWF Germany

Mr. Pedro Bara-Neto, Amazon Network Initiative Infrastructure Strategy Leader, WWF Brazil

Mrs. Barbara Fischer Aupperle (BFA), Head of Communications, Voith Hydro Holding

Mr. Tadeu Valencio (TV), Head of Sales Brazil, Voith Hydro Ltda.

Dr. Jürgen Schuol (JS), Manager Environmental Engineering, Voith Hydro Holding

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<sup>1</sup> Name, function, organization & signature for each individual. This does not include interviewees.

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### Trialling Report Part 1 – Introductory Information

#### Company<sup>2</sup>

EDP

WWF

Voith Hydro

#### Project<sup>3</sup>

HPP Sinop is a hydroelectric plant on the Teles Pires River, a tributary of the Tapajos which itself is a tributary of the Amazon, located in the state of Mato Grosso, Central-West region of Brazil. Designed to have an installed capacity of 461 MW. According to the preliminary study conducted by the Research Energy Company - EPE, SINOP has a reservoir of 330 km<sup>2</sup>, extending over parts of the districts of Sinop, Itaúba, Tapurá, Sorriso and Claudia.

#### Current Status of Project, and Protocol Section Applied

Project is not yet auctioned and construction will probably start in June/July 2011.

Applied HSAP Section I: Strategic Assessment

#### Motivation for and Purpose of the Assessment

To recognize, identify and demonstrate, based on a actual project, the effectiveness of implementing the new Sustainability Protocol from IHA. Thereby providing a feedback to those responsible for its development, including as the strengths and areas for improvement.

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<sup>2</sup> Basic information on the company, such as country of operation, public/private ownership, installed hydro capacity and annual generation. Membership in the IHA and other associations, and formal commitments to and reporting on sustainability etc. would also be of interest. For a Section I assessment, this would be replaced by who is undertaking the assessment.

<sup>3</sup> Basic information on the project, such as location, physical lay-out, single-/ multiple-purpose, installed capacity, etc. Note for a Section I assessment where there is not a project of focus, this would describe the focus of the assessment.

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### Disclaimers and Confidentiality Agreements, if any<sup>4</sup>

It is Important to know, "Sinop" is still one project among others to be included in a future concession auction to be held by the Government of Brazil. Thus, all information used in this evaluation process are public, except those relating to the qualification of companies involved in the assessment process.

### Schedule of the Assessment<sup>5</sup>

- 1st day - Seminar among members of assessment team and other EDP employees and Voith Hydro staff, focusing on the following main aspects: Introduction to sustainability aspects, experience of the two businesses in CSR issues, and expectations in using the new protocol;
- 2nd day - Travel and visit to project area and discussion on sustainability aspects, meetings with partners and stakeholders that could benefit from stakeholder involvement and consultation according to the protocol to the outcome of the assessment: ECODAM (Amazonia Ecological Association for Development), State University researchers and Representative of the fisherman of the region; Farmer's association and Secretary of Environment for Sinop District;
- 3rd day - Visit to the areas affected by flooding, discussion and planning of final evaluation of the project, according to the systematics of the new protocol; site of dam could not be entered due to weather conditions and road construction work accumulation in unpassable roads. Also, owner of future dam had announced he did not want to allow access to his currently private property for the team.
- 4th day - Final impressions of the team members, evaluation and presentation of the individual assessments and consolidation of the final document of the evaluation.

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<sup>4</sup> Any qualifications the assessment team wishes to make regarding the information provided (e.g. limited number of stakeholders interviewed, depth of review of documents etc.); scope of confidentiality agreements, if any. Note these can also be made as relevant to particular aspects in the body of the report.

<sup>5</sup> Dates with travel schedules, persons interviewed, site visits, presentations etc.

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### Trialling Report Part 2 - Assessment Results – General

This part of the trial report is about general observations on the assessment results, while the following section provides aspect-by-aspect results and observations. The purpose of this part of the report is to provide feedback on the following issues. Where possible, examples for problems encountered should be given and improvements suggested.

**Objectivity and replicability.** How robust do you feel the Protocol is in terms of assessment teams arriving at consistent and unbiased results?

JS/BFA: In our case the impressions/scores within the trial team were in some cases quite different. The main reason for this is probably that most trial participants had no experience with the protocol before. This problem will remain with this type of self-assessments in the future and is hopefully less severe if trained auditors do an assessment. (Remark: preparation is of the essence, probably the poor information base upfront without complete information on project and poor readings of protocol by some participants during the first hours contributed to this effect and the feeling of vagueness).

ER: The regulatory model for electricity and Brazilian environmental licensing has specific characteristics, different from other countries, which makes one think of adaptations to the protocol to be suggested.

TV: It is true that a certain degree of subjectivity always exists. For example, from the point of view of different observers (government and investor, for example) a particular aspect can be considered appropriate or not. But it is evident that the document tried to establish clear guidelines for each of the elements under analysis. I understand that the result may be considered good.

JH: Given the immense amount of information available on the project in government documents, and the fact that the company has not yet analyzed all of this information in detail to determine whether to participate in the auction, the participants found it challenging to first understand the specific aspects in the Protocol, and then to identify the relevant elements in the documentation. This made the application of the Protocol more of an exercise in awareness building than a trial.

**Understandability.** Which parts of the Protocol did the assessment team find hard to understand?

JS/BFA: Selection of the right section due to the fact that the national Brazilian project stages don't fit exactly with the described project stages in the protocol. The maturity of the project was felt exactly between Section I and II.

ER: For the above reason, there were some difficulties in understanding the protocol. It is essential that the parties responsible for examining the protocol know the regulatory model of energy and environmental licensing in Brazil; this way, it is easier to reach satisfactory results.

TV: The assessment team spent several hours to identify the most appropriate stage for the project. We had doubts whether the project Sinop would be classified in Section I or II (initially, we had opted for Section II, but one day prior to the trip we concluded for Section I). Due to the Brazilian regulation for concessions, there is some difficulty with this classification.

JH: In the Brazilian system, the auction happens midway through the project preparation stage, and determines which company will take over from government agencies and complete the detailed project design.

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**Scope and comprehensiveness.** Do you feel the Section includes the right aspects? Which issues did the assessment team encounter that are not covered in the Protocol, or that are duplicated unnecessarily?

JS/BFA: Merging of I-1 and I-3 should be considered.

The attribute "Management" evaluates the existence of a "management system". I am not convinced that this is something that can be asked for in section I. Management as a term must be better defined

ER: The Section includes the right and necessary aspects.

TV: In some situations, the aspects I-1 and I-3 are mixed, both of which somehow deal with inter-related themes. Eventually, these aspects, with certain adaptations, could be merged.

I do not understand that there are gaps related to aspects not evaluated.

**Ease of use.** How practicable do you feel the Protocol is as an assessment tool? Is any information required to apply the Protocol not available or available only with undue cost or effort?

JS/BFA: The assessment protocol is a very complex tool and the practicability in the current form is questionable, especially if you have assessed with the former tool. Even with the vagueness in the old SAP, it seemed more pragmatic by less complexity and number of aspects etc. Even for a self-assessment a minimum of two weeks might be necessary (definitely for sections II-IV) - far more than the 3-5 days mentioned in the "Conducting a protocol assessment" chapter. Travelling barriers in project region (road construction, weather conditions) have to be planned for with a safety timing included.

ER: If the parties responsible for examining the protocol to know the regulatory model for electricity and Brazilian environmental licensing, it is easier to reach satisfactory results. The difficulty increases when the protocol is analyzed by laymen.

TV: For Sinop, a good set of information were available: Ten-Year Energy Plan (Plano Decenal), Inventory and Study of the Integrated Environmental Analysis (not utilized for this assessment). However, information of Demonstrated Need and also policies and regional plans were not present. Also, information concerning to technical and logistical risks that are generally not available at this phase.

**Impact and effectiveness.** To what extent did the assessment team find the application of the Protocol a useful exercise in terms of identifying weaknesses/opportunities, encouraging dialogue, and encouraging improvement of performance?

JS/BFA: The trial definitely was a very useful exercise for all participants. The discussions on the different aspects within the team but in particular also the discussions with different stakeholder groups helped a lot to raise awareness, understand and in the end to work towards improvements. However, the question of when this process of awareness raising should start in the stakeholder dialogue is difficult to plan for. Too early involvement/information/consultation hinders project progress, too late info creates anger and resistance from stakeholder groups against the whole project. Set at the right time, the encouragement of dialogue works great, however, dialogue has to be guided in a structured way with stakeholders. Capacity to do this and authority to do this is with whom?

ER: The implementation of the Protocol allows for deeper understanding of the development process and team work.

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TV: I realized that the application of the protocol (Section I) serves as useful exercise for the preliminary analysis of the project., The aspects evaluated provide satisfactory overview for this stage of development and a good basis for possible weaknesses and opportunities identification.

**Applicability to a range of scale and regions.** Did the assessment team identify any special problems in applying the Protocol in relation to project scale, region, developed versus developing economy, type of project, etc.? How did the assessment team make its scoping decisions with respect to aspect relevance, and considerations relevant to project context or scale?

JS: There was a long discussion on which Section should be applied for this project. The hydropower project preparation had started but it was in the very beginning and much information necessary for a Section II assessment was not yet available. Finally we decided to apply section I. **One general problem is that applying e.g. Section II in the beginning of the project preparation phase and once shortly before its end will lead to quite different results.** Guidance on how to deal with this is really needed as this caused some confusion for us.

The reason for the puzzlement on which section to apply is also related to the specific project development situation in Brazil. Strategic assessment and a considerable part of the project preparation are done by the government before the project is auctioned. Potential developers/operators have more or less no influence on this part.

ER: The protocol does not distinguish between models of regulation of electric power and models for obtaining environmental permits, among countries, point where doubts arise.

TV: In fact, the protocol makes no distinction between developed and developing economies. In other words, it is thought that models of concession and power generation are similar, which can provide significant distortions in the evaluation process. Nor does it distinguish the type of project (a Small Hydro may have a type of analysis quite different from Large Hydro).

There are no other reviews related to the overall impacts of the project. Thus, a degree of contextualization is necessary.

**Adequacy of implementation guidance.** How did you find the introductory section and the auditing guidance notes? Where would additional implementation guidance be helpful to the assessment teams?

JS: The chapter "conducting a protocol assessment" might be misleading. Even for section I, which is by far the shortest, 1, 2 or 3 intermediate days are by far not sufficient for an in-depth assessment. Two intermediate days were hardly enough for a trial assessment where we didn't look at examples of evidence in detail.

In the guidance notes "level of stakeholder supply" for a score of 5 nearly all stakeholder groups have to support but e.g. for the attributes II-15 and II-16 a "full consent" is required. The general guidance note should be valid also for these attributes.

ER: The introductory guide is useful and provides concrete information.

TV: The introductory guide is useful and provides concrete information. However, sometimes it becomes too repetitive.

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**Presentation of Results.** How useful did you find the auditor worksheet and the suggestions for summary presentation of results provided in the Introduction?

JS: Concerning the aggregation of bullet points I recommend that it is done based on personal judgement and this opinion was also shared by some other trial participants. An average doesn't make necessarily sense and selecting the lowest value could be too strict.

The presentation of the trial assessment results in a figure similar to figure 5 in the draft protocol is not very meaningful. Most bars were between 2 and 4 so that it was almost not possible to draw conclusions based on this figure. The "spider" diagram that exists might be a better representation but we had no template for that. In general, the use of different colours in a presentation figure would visualize the results much better.

ER: The auditor worksheet and the suggestions for summary presentation of results are satisfactory.

TV: Although the Protocol meets reasonably well its function, in my opinion the summary worksheet, due to the complexity of the subject, does not provide a concrete basis for conclusions. As I suggested during the seminar, I propose an amendment, for example, to the use of colors (green, yellow and red).

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### Trialling Report Part 3 - Assessment Results – Aspect by Aspect

The intention of this part of the trial report is to provide an aspect-by-aspect summary of who was interviewed; what evidence was brought forward; and views of the assessment team on how well the Draft Protocol addresses that particular aspect.

**This section of the report would provide the following summary comments for each aspect:**

- **Aspect name: I-1 Demonstrated Need**
- **Comprehensiveness:** TV: Very good, but some information may not be available or stay unidentified at this stage of the project.
- **Understandability:**  
Not really clear what is meant by consultation!?  
In general the scoring on this aspect was quite different through the trial participants.
- **Difficulties or Issues:**  
There was some confusion if the aspect is applicable to developers -> it was questioned if they can and should judge on the government study.  
Why is the effectiveness attribute relevant for developers!? From my point of view it should be only relevant for governments.  
Not clear why stakeholder involvement and evaluation is necessary for this aspect!?
- **Recommendations for Improvements:**  
**In general it would be very useful if the stakeholders relevant for a certain aspect would be roughly defined - similar like the “examples of evidence”.** This would help a lot to avoid confusion  
While it is already done, it should be emphasized and clarified even more that some aspects have to be filled out only in assessments for governments and some only in assessments for developers. Furthermore it is not clear if the “for governments / for developers”-aspects shouldn't be filled out (and thus evaluated) by the other group or if they only don't need to be included!?

- **Aspect name: I-2 Options Assessment**
- **Comprehensiveness:** TV: Very good, but some information may not be available or unidentified at this stage of the project.
- **Understandability:**  
In the auditing guidance notes: how is a tributary stream and a mainstem river defined?
- **Difficulties or Issues:**  
It was not clear to all participants what should be expected in an options assessment. How detailed could/should it be!?
- **Recommendations for Improvements:**

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- **Aspect name: I-3 Regional & National Policies & Plans**
- **Comprehensiveness:** TV: Very good, but some information may not be available or stay unidentified at this stage of the project.
- **Understandability:** since policy and plans are varying from country to country the question is, how the protocol tries to embrace these without getting even complexer.
- **Difficulties or Issues:**  
Not exactly the same but quite similar to the aspect "Demonstrated need" -> governments will judge the need based on policies and plans!? Merging with I-1 should be considered.
- **Recommendations for Improvements:**  
I don't understand the difference between bullet point 1 and 2 of the attribute "Assessment". No additional information in bullet point 2 -> it can/should be deleted.

- **Aspect name: I-4 Political Risks**
- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**  
Some trial members found that evidence for this point is difficult and it would be more a personal feeling.
- **Recommendations for Improvements:**  
Bullet point 1 of the attribute "Effectiveness" should read "For governments, level of likelihood of **NO** political risks".

- **Aspect name: I-5 Institutional Capacity**
- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**  
The examples of evidence should be revised! They don't make sense.

- **Aspect name: I-6 Technical Issues & Risks**
- **Comprehensiveness:** TV: Very good, but some information may not be available or unidentified at this stage of the project.
- **Understandability:**  
Not clear if an assessment of the reliability of the hydrological resource includes an assessment of climate change impacts!?
- **Difficulties or Issues:**

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- **Recommendations for Improvements:**

- **Aspect name: I-7 Social Issues & Risks**
- **Comprehensiveness:**
  - **Understandability:**
  - **Difficulties or Issues:**
  - **Recommendations for Improvements:**

- **Aspect name: I-8 Environmental Issues & Risks**

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**  
The goal of a hydropower project is not to deliver **environmental benefits**. In some cases this might happen but it is not the reason why a project is build and can't be a criteria/requirement for a new project. **Therefore the bullet point 2 of the effectiveness attribute should be deleted.**

- **Aspect name: I-9 Economic & Financial Issues & Risks**

- **Comprehensiveness:**
- **Understandability:**  
Consultation attribute is not very clear -> should be reworded.
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

#### General remarks:

- In Aspect II-24 one effectiveness bullet-point is "change in greenhouse gas emissions ...": While this topic is definitely of high importance it is by far not state of the art to asses the net GHG emissions (measurements before and after impoundment required). Furthermore the definition of minor or significant net GHG emission increases seems to be quite arbitrary and too strict. For a score of 5 a "reduction or no change" is required, which is not realistic in tropical regions. A qualitative assessment of the reservoir vulnerability to GHG emissions is at this point in time and most probably also in the next few years the maximum that can be required.