

**Hydropower Sustainability Assessment Forum
Trial of the Draft Hydropower Sustainability Assessment Protocol August 2009
Project: Waldeck I, E.ON Wasserkraft, Germany
Dates: 12-15 October 2009**

This Report is based on the Draft Hydropower Sustainability Assessment Protocol August 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 Representative¹

Trial Team: Joerg Hartmann, WWF
Kirsten Nyman, GTZ
Kristin Schumann, IHA

EWK Trial Team: Joerg Lingelbach, Senior Project Manager E.ON Wasserkraft GmbH
Sebastian Palt, Senior Project Manager E.ON Wasserkraft GmbH
Martin Rau, Senior Project Manager E.ON Wasserkraft GmbH

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

Trialling Report Part 1 – Introductory Information

Company²

E.ON Wasserkraft GmbH
Luitpoldstrasse 27
84034 Landshut, Germany
Country of Operation: Germany
Installed Capacity: 2,285 MW
Annual Hydro Generation: 7,190 GWh
IHA member since 2007, IHA Board member since 2009
IHA Reference Group member Klaus Engels, Sebastian Palt

Project³

Waldeck I, Germany
Located in Northern Hesse, near the Edersee Lake
Modernization of existing pumped storage power plant Waldeck I (4 units). Existing power plant with 4 horizontal pumped storage units needed modernization after 75 years of operation.
Implementation of new build project Waldeck I with 70 MW, pumped storage plant, one pumpturbine unit,
During a phase of strategic assessment until 2004, three alternatives were investigated in detail:

- a. decommissioning
- b. modernization with maximum use of existing infrastructure
- c. modernization of existing infrastructure and parallel construction of new build project

Finally on the existing site the plan C was developed with use of upper basin including rehabilitation, use of existing penstock development and construction of new shaft powerhouse on site of E.ON. Two units of the existing powerhouse were rehabilitated and were used during as reserve power. Therefore implementation of new shaft powerhouse was considered as special, since it was parallel to operation of existing plant.

The new plant and operating procedures are expected to improve circulation efficiency from 63% to 75%.

The project is partially located inside of a national park.

² 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.

³ 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.

Current Status of Project, and Protocol Section Applied

The project has undergone the project preparation phase, including an EU-wide prequalification process, a design competition with three consortia, planning permission application with the regional council (Regierungspräsidium) in Kassel.

Construction commenced after the contract was awarded to Bilfinger Berger AG/Voith Siemens Hydro in April 2006. Construction involved the renewal of two of the existing penstocks, extensive refurbishment of the upper basin, as well as a 40 metre deep shaft for the new power plant beside the old power station as an extension to the existing penstock.

At the time of the trial, the project was in operation and in the middle of the four-week probation period. It was therefore decided that the project is exactly at the end of the implementation period and that the trial should be done using section III of the Draft Protocol.

Motivation for and Purpose of the Assessment

As a committed member of IHA as well as of the IHA reference group, E.ON Wasserkraft ("EWK") GmbH has a great interest in the sustainability work of the IHA and in the progress of the Hydropower Sustainability Assessment Protocol ("Protocol"), which is currently being reviewed by the Hydropower Sustainability Assessment Forum ("HSAF"). EWK is therefore hoping that the reviewed Protocol will be a widely applicable assessment tool for sustainable hydropower and contributes to the revision progress by trialling the Draft Protocol at one of their projects. Having used the previous version of the Sustainability Assessment Protocol, EWK hopes to provide feedback on a comparison between the two and on progresses made and possible improvements

Furthermore, EWK aims to produce an internal assessment document, which will inform on the sustainability performance of the project.

Disclaimers and Confidentiality Agreements, if any⁴

Three separate confidentiality agreements have been signed between EWK and GTZ, IHA, and WWF.

Due to time constraints the audit was carried out on the site only, there was no time for a visit of the headquarter 500 km in the south of the project, where the entire project documentation is filed. Therefore, EWK provided every auditor with a folder with a selection of the documentation thought to be useful as piece of written evidence for each aspect as well as with a translation of Aspects and Attributes into German to facilitate communication in absence of the Draft Protocol in the national language.

The agenda foresaw consultations with a site manager and several senior project managers of EWK as well as consultation sessions with stakeholders, such as representatives of the regional council (Regierungspräsidium Kassel), of the national park (Nationalpark Kellerwald-Edersee) and a local administration of the area (Waldeckische Domänialverwaltung), the later is in charge primary for fishery rights in this context.

The preparation of the trial was extremely well organized. EWK estimated the effort for preparation and implementation of the trial to be 3 man-weeks of time.

⁴ 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.

Schedule of the Assessment⁵

Please see attachment 1

⁵ Dates with travel schedules, persons interviewed, site visits, presentations etc.

Trialling Report Part 2 –

Assessment Results from the Draft Protocol Trial – 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?

There should be a guidance on the privacy needed for stakeholder consultation. In the case of Waldeck I the stakeholder consultation was done with the stakeholders and company representatives in one room. In this trial this solution was not a problem, but it might become a problem with trials and especially real audits in cases where there might be significant differences between the company perspective and the stakeholder opinion. Finally, both procedures would be recommended, interviews with shareholders and operators and a separate interview with the shareholder only. The reason is that the entire project overview is only with the owner.

Difficulty with arriving at a conclusion with regards to “suitable, adequate and effective”. What if there are no issues (water quality, sedimentation) and the company therefore does not act on it. Is this “suitable adequate and effective” (since no action is required for the attribute) or is the simple action in accordance with current legislation and nothing beyond this, not rather a 3 or a 4?

➔ A problem with the definition of scores was noted and auditors arrived at varying scores for specific aspects (EWK sometimes arrived at lower scores than external auditors who came from a developing country background and found performance comparatively high). Similar behaviours should be noted similarly. However this would challenge the comparability of the outcomes at international projects. Does this mean different scoring (with regard to context) for different regions?

As the results show in attachments II and III, the maximum difference between three independent scoring assessments is maximum 2 scores (for 5% of aspects only), for 20% of aspects it was found as not relevant, for 35% of aspects the maximum difference was 1 score, and for 40% of aspects the difference was nil. Therefore, the big picture matches.

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

The English was found to be difficult in some respect for non-native speaking assessors. This made it difficult to achieve clarity on the meaning and purpose of a few aspects and documents or evidence needed for assessment. However, in general the big picture is understood.

The auditor’s worksheet suggests that 26x7 pieces of evidence will be needed and points will have to be discussed. The question is rather “How was something done?” “What was the result?” The current attributes should rather be seen as guidance notes – they are useful for assessment but they should not be discussed individually for each aspect as a principle. For each aspect there are a couple of evidences, which are very useful for replying the two most important questions: How was it done?, What is the final result?

The stakeholder definition of the introduction is very broad. Also, it is difficult to say which stakeholders are relevant for which aspect. It might be easier to have one single stakeholder support aspect, which specifies how stakeholder were chosen and involved.

Examples of evidence are the most understandable and neutral for the assessor and the assessed. Same evidence for same aspects world-wide. Examples of evidence increase the comparability and objectivity and should be developed even more.

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?

In general all relevant issues for implementing a hydropower scheme are covered in the aspects. Section III was perceived as containing all the necessary aspects. The auditors as well as the project operators agreed that information required by the aspects was complete.

The listing and choice of aspects was helpful and relevant in structuring the discussion. Nothing was obviously missing or duplicated. Duplications between aspects were there, but could easily be solved by referring to documentation brought for a different aspect. None of the aspects seemed obviously superfluous.

Some aspects and their purpose were interpreted differently (such as public sector governance). Furthermore certain scoring descriptions were understood in a different light and left room for interpretation. This is increased by the existence of the protocol in a foreign language and difference occurring in translation. Also, aspects will be interpreted in the light of the regional or national legislation.

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?

The current Draft requires 3 processes and 4 performance attributes during scoring. The auditor's worksheet gave the impression to EWK that this method requires $26 \times 7 = 182$ documents or evidences that will be scored. Since this seems unrealistic, EWK proposes two sub-scores per aspect; one for performance and one for process, which lists all the current sub-attributes.

The assessment of stakeholder support for every aspect is difficult, impractical in the actual interviews and not always easy to determine (i.e. corporate governance or construction management plan). It may be better to have a single aspect for stakeholder support and evaluate the stakeholder support under effectiveness of the crucial aspects (i.e. communications, resettlement, etc.)

One problem were differences in the understanding of requirements and scope of aspects; EWK provided more documentation than necessary for the following aspect: III-1, III-4, III-10, III-14, III-22, III-25. There may be need for more definition of the aspects. The examples for evidence given were very useful and give guidance. These examples may be extended in a revised version.

Another recurring problem was the scoring of aspects where the result was good but, since the issues did not exist or were not a major perceived issue to the project developer, the process had to be poorly scored whereas the performance and effectiveness was scored high. This occurred in the case of water quality and sedimentation & erosion.

Based on the experience of the trial, there remained questions / lacking evidences for a few aspects. Through discussion it was observed, that these were based on misunderstandings and evidences were not shown in the documentation. Therefore, there should be two rounds of evidence discussions. In the first round the owner describes all evidences. After consultation with the auditors, the owner should have the opportunity to provide more evidences for missing documentation in a second round.

Furthermore, it should be avoided to take only written documentation as evidence. The interview with the owner is an essential part of the audit to have an overall impression. Otherwise, the audit becomes a major administrative act with less interest for practical use.

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?

There is a common understanding on the appropriateness of the aspects, but there is a need for clarification of scoring.

For EWK the exercise was very useful to identify some room for improvement, especially in terms of process. Things seem to be clear for the operator, but need some formalization in terms of process to be transparent to third parties. This applies to communication, project affected communities, etc. and will definitely be considered in future for new developments and the operation of the project.

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?

The current draft was perceived to be applicable to different scale or regions. Questions remain with regard to scoring and appropriateness according to regions.

“Benefit sharing” was seen as an aspect which was difficult to deal with using the current description in an industrialised country and with a private investor.

The question of scoring aspects in their regional context was discussed which raises the question of global comparability. (What is a 3 in a developing country should not be a 3 in Germany, but how to compare performance then?)

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?

The guidance was very useful including introduction and guidance notes. The standard attributes were judged useful in the preparation of aspect scoring. Also the choice of aspects was very useful in the preparation because it allowed the efficient collection of all necessary documentation before the trial. There are a few repetitions in the aspects; however, this is not considered as critical, since reference to another aspect can be given in the evidences mentioned.

Introductory Section (20 pages)

This section is necessary to understand the whole context. The English is sometimes complex and there is a lot of text and less diagrams. There remains potential to shorten the text. Does the introduction need to be in front of every section? A standardized introduction in form of a powerpoint presentation with visual support in terms of diagrams and charts may be useful as a stand-alone document. Thereby, the volume of side pages for each section could be reduced to a short practical guidance note.

It should be mentioned that auditors need to be able to interview stakeholders jointly with or separately from company representatives, depending on their judgement of what the specific situation requires in order to have a full picture of the situation.

There was no reference or mentioning of the guidance notes for “standard” attributes.

Guidance Notes:

The examples of evidence were perceived as the most useful for the assessed as well as for the auditor. They were looked at first by both parties and then the detail was considered. Examples of evidence also helped with preparation of the project trial in a time efficient manner. As mentioned earlier, the examples of evidences could be extended.

The table in each aspect is too bulky. Content should be included in Guidance notes. The listing of scale 1-5 is repetitive and says very little. Principle short examples (case studies) of range of scores (1-5) would be helpful for auditors and owners to identify differences in scoring than the boxes listing vague definitions.

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

Auditor’s worksheet gives equal scoring importance to all seven attributes. Unnecessary evidence needed. The current worksheet suggests that there needs to be a piece of evidence for each attribute. Attributes with relevance to the aspect should be listed in one box. EWK proposes 1 scoring for process and 1 for performance in the context of the two main questions “How was it done” and “What was the result”. Alternatively, an additional scoring could be given to Effectiveness, however difference to performance should be clearly described.

Current scoring considerations were useful as guidance notes, but for the project developer count the questions of How? What? (Process and Performance) and the effectiveness. The suggestion is therefore to summarize the attributes to two or alternatively three: process & performance or process & performance & effectiveness. In order to not lose the question of stakeholder support out of sight, this could be a separate aspect.

Is the auditor obliged to show that he scored every single attribute or is the approach up to the auditor. The implication of the auditor’s worksheet is that the auditor has to score. However, the intention is to leave the approach up to the auditor. Therefore the presentation of the auditor’s worksheet might need to be reviewed. The worksheet as such is useful in guiding the audit and supporting the philosophy behind. EWK may develop a worksheet from their perspective, if interested by the forum.

Trialling Report Part 3 –

Assessment Results from the Draft Protocol Trial – 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 provides a summary comments for the aspects:

The report focuses on the critical issues, where difficulties in understanding, etc. were found. If the aspects and attributes were found clear to everybody, no comments were given in the following.

River Basin & Transboundary Issues (III-1):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** No changes were done to the river basin by the project, since they were not necessary. Is the aspect therefore not considered to be relevant or should the scoring be very good since impacts were avoided, even though they were never intended?
- **Recommendations for Improvements:**

Economic Viability including Additional Benefits (III-2)

- **Comprehensiveness:**
- **Understandability:** In the preparation of the trial, the operator focussed on additional benefits as piece of evidence. The aspect of economical viability has to be seen in the context of the project and environment, the issue is very different in developing countries and industrialized countries, private and state owned operators.
- **Difficulties or Issues:** Question remains open, whether it is the obligation of an operator to analyse the maximisation effort that could be done to increase the additional benefit beyond the already existing benefit.
- **Recommendations for Improvements:** Last bullet point under III-26 could rather be a guidance note to additional benefits (the identification of waste and recycling measures beyond regulatory requirements, might be one way of generation additional benefits) but this would also apply to other aspects like water quality (III-25).

The first sentence of the aspect description should primarily make reference to the economic viability.

Financial Viability (III-3): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**

- **Recommendations for Improvements:**

Public Sector Governance (III-4):

- **Comprehensiveness:**
 - **Understandability:** Was misunderstood by the operator because the regulatory environment in Germany is so strong that it did not occur to the operator to evaluate the existence of an efficient public sector governance.
 - **Difficulties or Issues:** The regulatory environment in Germany specifies during the issue of permission, who are the stakeholders, if an EIA and SIA is necessary, and in this case stakeholder consultation and impact assessments will be done by the regional government before allowing the implementation to go ahead.
 - Basically there are two procedures, the so called "Plangenehmigung" and the "Planfeststellungsverfahren". The administration has certain guidelines and decides, which procedure needs to be applied. In a "Plangenehmigung" all concerns are handled by one point of contact, the administration, who informs and asks affected stakeholders and makes decisions for all relevant aspects, environment, social issues, etc.. In a "Planfeststellungsverfahren" a certain procedure of public public announcement, public hearings, consultations, etc. has to be fulfilled over a long period of time, before any decision is taken from administration. In the present case a "Plangenehmigung" was applied, since majority of issues were inside the existing premises of E.ON and existing rights (water, environment, etc.) were not changed.
 - Therefore, even in a project that has no stakeholder opposition, the project might be presented in a light of not having consulted with stakeholders, because this was done by the regional government during the project preparation. This approach has been developed from past experience in governance to make planning in infrastructure efficient, if impact is relatively small. Problem: it would be inappropriate to give a bad score in this case but lack of clarity of how to integrate this issue in the protocol.

The aspect description states that the aspect aims to assess the capacity of the legal, judicial and institutional structures. However, in effectiveness, only the avoidance of shortfalls is scored.

- **Recommendations for Improvements:** Since the project is to be evaluated in the context of the regulatory environment, the aspect description should state that this aspect addresses the effective avoidance of regulatory shortfalls.

Corporate Governance (III-5):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** The operator is generally seen as a company with a very good and strict corporate governance. However, the management attribute requires a code of ethics, which The operator has not shown to high degree in the examples of evidence. Difficult to assess the attributes of performance: discussion with external stakeholders on support for company visions, or company compliance with its own vision and values? Therefore, should the operator, as a strong corporate governance

performer, not get a score of 5 in this category, because the protocol demands potentially unfeasible attributes?

The E.ON code of ethics were not included as written documentation in the file, however, they can be added to the documents.

- **Recommendations for Improvements:**

Regulatory Approvals (III-6): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Integrated Project Management & Communications (III-7):

- **Comprehensiveness:**
- **Understandability:** Difficulty in determining which communication is meant; external, internal? This would need very different documentation as examples of evidence.
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Construction Management (III-8):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** Aspect does not provide for changes in the construction management plan, which occurs in practice due to unforeseen conditions, such as soil conditions, weather conditions, safety issues, licensing issues, etc. How is compliance with plans scored in this case?

Should one of the requirements for scoring be translated documents of safety instructions, or how is it verified that situations with foreign workers were dealt with.
- **Recommendations for Improvements:**

Procurement (III-9):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** Compliance with plans is difficult to achieve, if construction plans have to be adopted to the existing boundary conditions at the site.

It is also difficult to evaluate the transparency of procurement, if the construction is realized by an external contractor on basis of an EPC contract, as it is the case for Waldeck I. Therefore even if the choice of the contracting company was done transparently, the operator has little impact on the transparency of the subcontracting procurement procedures. The regulatory framework is to be considered in this aspect and context as well.

Whenever found equal in terms of quality and price and accordance with standards, the social effect of having local contractors on site is considered .

Recommendations for Improvements:

Social Management Plan (III-10):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**

Aspect is always relevant according to Draft Protocol. According to the operator, this aspect was not relevant since the plant is a rehabilitation/new build project of an existing plant on the premises of the operator without social impacts. However, the operator recognises the importance of the aspect and will consider it in operation and / or future developments.

One consideration was that the social impact might be seen as the avoidance of lay-offs, since the alternative to rehabilitation would have been the eventual closure of the power station.

- **Recommendations for Improvements:** The aspect description is not considered as relevant. A better phrasing should be: "This Aspect is always relevant; at least a screening of potential impacts should be done as a minimum."

Project Affected Communities (III-11): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Indigenous Peoples (III-12): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Resettlement & Land Acquisition (III-13): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Benefit Sharing (III-14):

- **Comprehensiveness:**
- **Understandability:** Difficulty of drawing the line between benefit sharing and additional benefits. Which benefits for the region can be considered as shared or as additional?
- **Difficulties or Issues:** The effectiveness is difficult to prove in writing in the present case for two reasons: (1) there is little written proof of creation of workforce and apprenticeships for the area, increased tourism and fishing opportunities; (2) how can the benefits be associated with a single project if, as in the case of Waldeck I, the project is part of a larger complex or even, as in other cases, part of a cascade of projects.

How far can a project developer / operator realistically go in order to create benefit sharing in the community? How should a score 5 be evaluated in a developed country compared to a developing country? The same monetary amount in an industrialized country is different from a developing country, in terms of effect and impact on the owner.

- **Recommendations for Improvements:**

Labour & Working Conditions (III-15):

- **Comprehensiveness:**
- **Understandability:** The focus by the operator was on accidents and efforts to avoid them. Labour & working conditions were considered by the operator to be according to legislation.
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Cultural Heritage (III-16): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Public Health (III-17):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** The aspect is always to be considered relevant according to Draft Protocol. However, Waldeck I is a rehabilitation / new build project in a temperate climate zone without any health impacts. How should that be reflected?
- **Recommendations for Improvements:** The aspect description is not to be considered relevant. A better phrasing should be: "This Aspect is always relevant; at least a screening of potential public health issues should be done as a minimum."

Asset & Community Safety (III-18):

- **Comprehensiveness:**
- **Understandability:** There were differences in interpreting the required documentation. The operator understood this point as safety provisions during construction management (III-8) rather than showing the evidence for provision of asset and dam failure. However, this was clarified during the discussion and evidences from yearly inspection reports were shown.
- **Difficulties or Issues:** Through auditing questions, it was clarified that the operator is obliged to publish a report on plant safety every year, but the wording of the aspect had not made it clear to the operator. The relevant report was shown to the auditors. In addition to that, the expertise report was prepared by an independent third party for the assessment of the safety of the upper basin and the rehabilitation of the basin.
- **Recommendations for Improvements:**

Environmental Management Plan (III-19):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** The operator does not have an EMP because it was not required by the law through the "Plangenehmigung" administrative act and there were no expected environmental impacts by the project. If the operator does not need to do an EIA, because this is assessed by governmental regulators, it should not be penalized, especially if environmental protection measures are implemented (water quality measurements, provision of substitute fruit trees and a fishery area).
- **Recommendations for Improvements:** In order to make sure an EIP is at least done as a screening the line for this aspect not to be considered relevant should read: "This Aspect is always relevant. At least a screening of environmental impacts should be done" This should (a) help the auditor to evaluate the relevance of III-19 as well as to assess the relevance of the following aspects.

Catchment Management (III-20): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**

- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Reservoir Management (III-21): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Environmental Flows & Downstream Sustainability (III-22):

- **Comprehensiveness:**
- **Understandability:** There is the question of the definition of the project affected area. In the Waldeck I case, an existing pumped storage was rehabilitated / extended with a new build plant with no native fish species existing or being endangered in the upper basin. Therefore the aspect could be considered not relevant for the project. However the lower lake is embedded in a larger river basin, where flows and downstream sustainability could become an issue. The flows turbines into the reservoir of a downstream project, where the minimum ecological flow is regulated and ensured according to water rights.
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Biodiversity & Invasive Species (III-23): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Erosion & Sedimentation (III-24): clear understanding, no comments

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:**
- **Recommendations for Improvements:**

Water Quality (III-25):

- **Comprehensiveness:**

- **Understandability:** the operator provided water quality assessment reports that certified that the water quality would not harm the plant. This may be interesting to the project, however, no additional reports were done or provided that the plant did not have an impact on the water quality of the river, because the regular water quality monitoring program is part of the regional water administration and therefore considered as part of the duties.
- **Difficulties or Issues:** What if no measures to improve water quality were implemented by the operator and no assessment or consultation was made, but the water quality is ? How would an improvement of water quality be scored?
- What if water quality has never been a problem for the project and changes cannot be expected with the project, what should be the score? A 5 would be best proven practice; however, there is little actual action by the company. This may be a good example for the difficulty in scoring, what is more relevant, the process or the performance or even only the effectiveness. In other words, even a high score in process may not overcome a bad result.
- **Recommendations for Improvements:** Last bullet point under III-25 could rather be a guidance note to additional benefits (the identification of waste and recycling measures beyond regulatory requirements, might be one way of generation additional benefits)

Waste, Noise & Air Quality (III-26):

- **Comprehensiveness:**
- **Understandability:**
- **Difficulties or Issues:** Waste, Noise and Air Quality is taken care of by the regional government; through previously existing legislations it is impossible for a project to violate the local population or environment. Waste legislation requires procedures for waste treatment. However, the operator does not regularly make the special effort to consult with the community how waste and noise was improved. Would this be necessary and relevant? Should scoring penalize the project operator for having very thorough pre-existing legislation and not needing to show as much initiative as the same project would require in a developing country context? Is the identification of additional initiatives beyond the strict regulatory requirements not rather additional benefits?
- **Recommendations for Improvements:** Last bullet point under III-26 would rather be a guidance note to additional benefits (the identification of waste and recycling measures beyond regulatory requirements, might be one way of generation additional benefits)

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 Project: Waldeck I, E.ON Wasserkraft, Germany
 Dates: 12-15 October 2009**

Attachment I: Agenda of Trial

"Hydropower Sustainability Assessment Forum"

Trialing of Protocol by auditors of HSAF members, Waldeck I PSP

Trial Team: Mrs. Kirsten Nyman, GTZ
 Mrs. Kristin Schumann, IHA
 Mr. Joerg Hartmann, WWF

EWK Trial Team: Mr. Martin Rau, Senior Project Manager
 Mr. Joerg Lingelbach, Senior Project Manager
 Dr. Sebastian Palt, Senior Project Manager

EWK Management: Dr. Dominik Godde, Managing Director
 Dr. Klaus Engels, Head of Corporate Development
 Mr. Richard Berghoff, Head of Asset Management
 Dr. Thomas Ackermann, Head of International Development

Language with Stakeholders: German
Language with Others: English / German

Detailed Time Schedule

Day	Time	Subject	EWK Responsible
12.10.2009	07:30 - 20:00	Introduction Day & Review Site	
	07:30 - 12:30	Arrival to Waldeck I PSP	
	09:58 - 11:21	Train from Frankfurt Hbf - Kassel Wilhelmshöhe Hbf	
	11:30 - 12:30	Car from Kassel Wilhelmshöhe Hbf to Waldeck	Dr. Palt
	12:30 - 12:45	Welcome and Presentation of teams	Dr. Engels
	12:45 - 13:15	Lunch Break	Dr. Palt
	13:15 - 13:45	Presentation "E.ON Wasserkraft"	Dr. Engels
	13:45 - 14:30	Presentation Project Overview "Waldeck I PSP"	Mr. Lingelbach
	14:30 - 17:30	Site Visit Waldeck I	Mr. Lingelbach
	18:00 - 20:00	Joint Dinner	Mr. Lingelbach, Dr. Palt
		Overnight at Fair Hotel Werbetal, Waldeck	Dr. Palt
13.10.2009	08:30 - 17:30	Review Data Room & Interview Owner Day	
	08:30 - 12:30	Review of Documentation by Auditors	Dr. Palt
	12:30 - 13:00	Lunch Break	Dr. Palt
	13:00 - 17:30	Interviews by auditors to EWK for technical, economic, social and environmental aspects	Mr. Rau, Dr. Palt
			Overnight at Fair Hotel Werbetal, Waldeck
14.10.2009	08:30 - 17:30	Interview Stakeholder & Close Out Day	
	08:30 - 12:30	Interviews by auditors to various stakeholders	Mr. Lingelbach, Dr. Palt
	08:30 - 10:00	Regierungspräsidium Kassel - Obere Wasserbehörde	Mrs. Dippel, Mr. Lehmann
	10:30 - 12:00	National Park administration	Mr. Schock
	12:30 - 13:00	Lunch Break	Mr. Lingelbach
	13:00 - 16:00	Interviews by auditors to various stakeholders	Mr. Lingelbach, Dr. Palt
	13:00 - 14:00	Waldeckische Dominalverwaltung	Mr. Kaufmann
	14:00 - 15:00	Site Manager Civil Engineering, Mr. Gras, EWK	Mr. Gras
	15:00 - 17:00	Comparison trial and self assessment	Dr. Palt
	17:00 - 18:00	Close out meeting	Mr. Rau, Dr. Palt
		Overnight at Fair Hotel Werbetal, Waldeck	Dr. Palt

Attachment II – Comparison of Aspect Scoring Results

Aspect	Process Attributes			Performance Attributes		
	J.H.	EWK	K.N.	J.H.	EWK	K.N.
River Basin & Transboundary Issues (III-1):	n.r.	3	n.r.	n.r.	4	n.r.
Economic Viability including Additional Benefits (III-2):	3	5	3	4	5	5
Financial Viability (III-3):	5	5	5	4	4	4
Public Sector Governance (III-4):	5	5	5	5	5	5
Corporate Governance (III-5):	5	5		5	5	
Regulatory Approvals (III-6):	5	4	5	5	4	5
Integrated Project Management & Communications (III-7):	5	5	5	5	5	5
Construction Management (III-8):	5	5	5	5	5	5
Procurement (III-9):	5	4	5	4	4	3
Social Management Plan (III-10):	(3)	n.r.	(2)	4	n.r.	4
Project Affected Communities (III-11):	3	3	2	4	3	5
Indigenous Peoples (III-12):	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Resettlement & Land Acquisition (III-13):	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Benefit Sharing (III-14):	3	4		4	4	
Labour & Working Conditions (III-15):	4	4	4	4	3	4
Cultural Heritage (III-16):	5	4	4	5	4	4
Public Health (III-17):	4	4	2	4	4	4
Asset & Community Safety (III-18):	4	3	5	4	4	(?)
Environmental Management Plan (III-19):	3	3	3	4	4	4
Catchment Management (III-20):	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Reservoir Management (III-21):	4	4	4	4	4	4
Environmental Flows & Downstream Sustainability (III-22):	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Biodiversity & Invasive Species (III-23):	3	3	3	4	3	4
Erosion & Sedimentation (III-24):	5	4	4	5	4	4
Water Quality (III-25):	5	4	4	5	4	4
Waste, Noise & Air Quality (III-26):	5	4	4	5	4	4

Attachment III – Maximum Difference between Scoring Results of all three parties

Aspect	Max. Difference Score	
	J.H. EWK	K.N.
River Basin & Transboundary Issues (III-1):	n.r.	n.r.
Economic Viability including Additional Benefits (III-2):	2	1
Financial Viability (III-3):	0	0
Public Sector Governance (III-4):	0	0
Corporate Governance (III-5):	0	0
Regulatory Approvals (III-6):	1	1
Integrated Project Management & Communications (III-7):	0	0
Construction Management (III-8):	0	0
Procurement (III-9):	1	1
Social Management Plan (III-10):	1	0
Project Affected Communities (III-11):	1	2
Indigenous Peoples (III-12):	n.r.	n.r.
Resettlement & Land Acquisition (III-13):	n.r.	n.r.
Benefit Sharing (III-14):	1	0
Labour & Working Conditions (III-15):	0	1
Cultural Heritage (III-16):	1	1
Public Health (III-17):	2	0
Asset & Community Safety (III-18):	2	0
Environmental Management Plan (III-19):	0	0
Catchment Management (III-20):	n.r.	n.r.
Reservoir Management (III-21):	0	0
Environmental Flows & Downstream Sustainability (III-22):	n.r.	n.r.
Biodiversity & Invasive Species (III-23):	0	1
Erosion & Sedimentation (III-24):	1	1
Water Quality (III-25):	1	1
Waste, Noise & Air Quality (III-26):	1	1