APPENDICES

With the Advisory review on the Environmental Impact Assessment for the Bujagali Hydropower Project in Uganda

(appendices 1 to 7)

APPENDIX 1

Letter from the Netherlands Minister for Development Co-operation, dated the 28th June 2001 in which the Commission has been asked to submit an advisory review on the Environmental Impact Assessment for the Bujagali Hydropower Project in Uganda.

Ministerie van
Buitenlandse Zaken

Netherlands Commission for EIA
att. Mr. J.J. Scholten, Secretary General
P.O.Box 2345
3500 GH Utrecht
The Netherlands

Sub-Saharan Africa Department
Central and Eastern Africa Division
Bezuidenhoutseweg 67
2594 AC Den Haag
The Netherlands

Date	June 28, 2001	*Contact*	Fons Gribling (DAF MA)
Our ref.	DAF 493/01	*Tel.*	+31 70 348 5196
Page	1/1	*Fax*	+ 31 70 348 6607
Encl.	Executive Summary of the EIA	*email*	fons.gribling@minbuza.nl
Re	WW 050203/Uganda Bujagali Hydropower Project		
Cc	DML/MI		

As you know, Parliament has -by way of written questions- expressed its concern about the envisaged so-called Bujagali Hydropower Project in Uganda. In reply to the question whether your Commission would review the Environmental Impact Assessment (EIA-Report) as soon as it would be available and whether the results thereof would be shared with Parliament, I have answered in the affirmative.

By this present letter I thereupon request you, in the framework of the current agreement between Development Co-operation and your Commission, to review the said EIA, now that I have been informed by your Commission that it has become available.

I look forward to the results thereof.

Yours sincerely,

Mr. Fons Gribling
Senior Policy Advisor, Central and Eastern Africa Division
For the Minister for Development Cooperation

APPENDIX 2

Project Information

Proposed Activity: The project is to build and operate a 250 MW final capacity run-of-the river power plant on a Build-Own-Operate-Transfer basis, at Bujagali Falls in Jinja province. It will be located approximately 8 km downstream from the existing Owen Falls hydro facility (built in 1954) on the Victoria Nile in Uganda. The project also includes the construction of about 100 km of 220 KV and 132 KV transmission lines and associated substations. The developer will sell electricity to the Uganda Electricity Board under a 30 year Power Purchase Agreement. The project is sponsored by Applied Energy Systems Nilepower, AES (private company). Total investment amounts to 530 million US$. AES is pursuing financing through the International Finance Corporation (IFC, World Bank Group) and other development finance institutions.

The project intends to help meet Uganda's need for electricity and allow the economy to grow unconstrained. The project site was selected after several studies as 'one of the least cost and environmentally as well as socially benign options on the Nile in Uganda'. The reservoir's inundation remains within the riverbank (the reservoir area will be 451 hectares of which 296 hectares will remain within the existing riverbank). Resettlement is needed for both the hydro facility and transmission line.

Since 1995, AES has consulted local residents, local and national government bodies, the private sector, non-governmental organisations and the public at large on the project. During this time, WS Atkins UK conducted an Environmental Impact Assessment (EIA) on behalf of AES, which was reviewed publicly by Uganda's National Environmental Management Authority (NEMA) throughout 1999. NEMA's approval of the EIA and Parliament's approval of the government guarantee required for the project was granted in November 1999.

In accordance with World Bank Group policies, an International Panel of Experts has been reviewing the environmental and social aspects of the project since 1997. The IFC and World Bank have been undertaking their own environmental due diligence since 1998. This lender due diligence resulted in releasing an expanded NEMA approved EIA in the World Bank Info Shop for international review and comment in April 2001.

By a letter dated 28 June 2001, the Netherlands Minister for Development Co-operation invited the independent Netherlands Commission for Environmental Impact Assessment to review the EIA-studies. The Commission's advice is to be used by the Minister to determine the Netherlands' position on the Board of Directors of the World Bank, when decision-making on a loan of 155 million US$ to the total project cost is about to take place.

Categories: DAC-CRS codes: hydropower 41011, power transmission lines 41019

Project numbers: Netherlands Ministry of Foreign Affairs, DAF 493/1, WW 050203, Commission for EIA 047

Procedural information:
Request from the Minister for Development Co-operation: 28 June 2001
Visit to Uganda: 2 to 10 October 2001
Advisory review submitted: 26 October 2001

Significant details: Recognising and valuing the virtues of the EIA-studies, the Commission concludes that the EIA-studies as published in April 2001 are incomplete, with serious gaps in information and therefore not sufficient for decision-making. Important studies addressing some of these shortcomings have been undertaken between April and October 2001. However, as these studies were prepared after completion of the EIA-studies, the normal EIA procedure regarding disclosure for public consultation was not applied. This is one reason that the issue of lack of transparency is frequently put forward by different segments of society. Moreover, there still remain other omissions, mainly at the strategic level which are not addressed in the EIA-studies and which need immediate attention. These essential shortcomings are listed below and should be acted upon before decision-making takes place. The Commission recommends:

- the urgent completion and approval of a Masterplan for expansion of the electricity sector, taking into account the possible primary sources of energy, constraints and priorities to be satisfied. The role of Bujagali within this Masterplan has to be clarified;

- a specific assessment on the economic and financial implications of Bujagali including the consequences for the energy prices to the consumer;

- a complete definition of hydraulic operation conditions and hydraulic safety of the cascade of dams along the Victoria Nile;

- the justification of site selection using an improved and quantified approach, uniformly applied to all alternative locations and in which economic, social and environmental arguments are equally weighed;

- a comparison of possible layout alternatives for the dam/power station and transmission system with appropriate reporting. Possibly, information resulting from ecological surveys on the rapids can be integrated with this alternative design and lead to the development of an alternative most friendly to the environment.

In section 3, 4 and 5 further explanation is given. Recommendations mentioned in sections 6 to 9 are equally important indeed but can be acted upon later, during project implementation.

The Commission feels that it is not a very time-consuming task to follow-up on these recommendations, since most of the information can be obtained from already available and scattered documents.

In addition, the Commission is of the opinion that a clear process of decision-making is of the utmost importance as well as ultimately how costs and benefits associated with this project are to be shared by the stakeholders. Therefore, and in order to meet the desire for transparency on this project, the Commission recommends to:

- develop a multi-stakeholder communication strategy for bringing together the disparate pieces of information that have and will become available after the completion of the EIA-studies. The information should be presented in straightforward, simple formats targeted at the various needs of a wide variety of audiences. Key pieces of information that have to be shared widely are e.g. the economic benefits and the forthright comparison of the proposed Bujagali project with other possible energy sources.

Members of the working group:
Mr. P. Denny
Mrs. I. Guijt (phase prior to site visit)
Mrs. D. Johnson (Uganda)
Mr. J.W. Kroon (chairman)
Mr. B. Petry
Mr. A. Pijpers (chairman prior to site visit)

Secretary of the working group: Mrs. I.A. Steinhauer

APPENDIX 3

Programme for Netherlands commission for environmental Impact Assessment 2nd to 10th October 2001.

Date	Time	Activity	Contact Person
2-10-2001		Arrival	
3-10-2001	8.30-12.30	Hold discussions with AES corporation	Christian Wright, country director
	12.30-13.30	Travel to Jinja	
	13.30-17.00	Working lunch and discussions with field staff, visit to the construction site at Bujagali and Nimaya resettlement area	Peter O'neill, project manager Henry Kikoyo, project manager
	17.00-18.00	Visit to Bujagali Engeneering Consortium	Ove Jonsson, liaison manager
	18.00	Return to Kampala	
4-10-2001	8.30-9.30	Briefing at the Embassy. In attendance were the development co-operation staff of the Embassy lead by the Ambassador and Head of Development co-operation	Mr. Peters, Mr. Hilberink, Mr. Drazu, Mr. Koelstra. Mr. Idema and Mrs. Kanabahita
	9.45-12.00	Hold discussions with National Environment Management Authority	Robert Wabunoha Justine Ecaat
	13.00-14.00	Lunch	
	14.15-15.00	Hold discussions with World Bank Country office	Norbert Mugwagwa, country operations manager
	15.00-16.00	Hold discussions with International Finance Corporation	Dan Kasirye, investment officer Eastern Africa
	17.00-18.00	Discussion with Uganda Investment Authority	Maggie Kigozi, executive director and Ruth…
5-10-2001	8.30-10.30	Hold discussions with ministry of energy	Godfrey Turyahikayo, commissioner for mineral development and energy and Moses Mulengezi, assistant commissioner
	10.45-12.00	Hold discussions with Uganda Land commission	Prince Mulondo, chairman and assistant commissioners Cyril Acuku and Ruth…
	12.45-13.45	Lunch	
	14.00-17.00	Hold discussions with NGOs. The meeting is to be	see separate list **

		organised by National association of environmental professionals and save the Bujagali crusade	
6-10 -2001	10.00-12.00	Working group meeting	
	12.30-15.30	Working lunch with members of the Parliament, representing the Committee on Natural Resources	Ken Lukyamuzi, chairman James Mwadna Geofrey Ekanya Kiwalabye
	16.00-18.00	Working group meeting	
7-10-2001	08.30-10.00	Travel to Jinja	
	10.00-12.00	Meeting with 5 spiritual leaders and Nabamba Budhagali, in attendence of advisor and secretary, visit to Bujagali rapids	
	12.00-13.30	Meeting with management of campsite at Bujagali, touroperators Speke Camp	Peter Knight Shirray
	13.30-15.30	Visit to Itanda falls (other side of Kalagala)	
	16.00-17.00	Discussions with Local Council representative at Nimanya	Mary Laaki Nabirye, LC 1 Naminya
	17.30-18.30	Hold discussions with Fisheries Resources Reseach Institute, Jinja	Richard Ogutu-Ohwayo, director John Balirwa
8-10-2001	7.30-8.45	Travel to Entebbe	
	9.00-10.30	Hold discussions with Lake Victoria Environmental Management Project and Water Resource Management Departmet	John Mwabende, director Mr. Okanga
	10.45-12.30	Return to Kampala and travel to Jinja	
	12.30-15.30	Visit to Owen Falls and Owen Falls extension	operational manager
	16.00-17.00	Debriefing at the Embassy. In attendance will be development co-operation staff lead by the Ambassador	
9-10-2001	09.00	Working group meeting and report finalisation	
	12.00	Interview by telephone with InterAid	David Bizimana, project manager for Bujagali RAP monitoring
	13.30	Lunch at the Ambassador's residence	
		Departure	

**

Frank Murazumi, National Association of Professional Environmentalists (NAPE)
Martin Musumba, Save Bujagali Crusade (SBC)
Robert Kugonza, National Adult Education Association, Environmental Education Programme
Alfred Bakinda, NAPE
Deo Lubega, SBC
Morten Heise, Joint Energy and Environment Project
Darius Kabona, Cultural Heritage Exchange Centre
Moses Isooba, Uganda Wildlife Society (UWS)
Isoto Bibian, UWS
Irene Makumby, UWS

Other resource persons in Uganda:
Ronald Mugambe, Ministry of Lands, Water and Environment
Ali Mohammed Karatunga, Biomass project

Resource person in the Netherlands (prior to site visit):
Monique de Lede, Friends of the Earth, The Netherlands

APPENDIX 5

List of key documents

Documents available prior to site visit via NGO's (not including each and every copy of e-mail correspondence):

- Comparing Uganda's Bujagali Dam to the World Commission on Dams' Guidelines and Recommendations, IRN, November 16 2000
- Complaint about the Bujagali Hydropower project to the Ombudsman at IFC by NAPE and SBC, November 29, 2000
- Responses to AES' December 4, 2000 rebuttal to IRN's Case Study on Bujagali, January 19, 2001
- The AES Bujagali Hydro Project, AES briefing facilitated by IUCN, February 14, 2001, including minutes of meeting with WB, IUCN, Both Ends, Friends of the Earth Netherlands
- Silencing the Nile, a report on the Bujagali Hydropower Project by Stan Frankland, The School of Oriental and African Studies, University of London, 2000
- Note from biologist Les Kaufman, working on fisheries on the Nile, May 4 2001
- Notes of meetings between NAPE representatives and Ronald Anderson (IFC) on May 24 and May 25 2001 in Kampala
- NAPE's and SBC's partial comments on the AES EIA reports submitted to IFC/WB on the Bujagali Project, June 2001
- Notes form the public meeting on Bujagali, Jinja, Uganda, June 12, 2001
- Analysis of Bujagali's Resettlement and Community Development Action Plan , Ryan Hoover, July 12, 2001
- several copies of News paper articles
- Notes on Fisheries Issues and Cumulative Impacts from IFC sponsored meeting on Bujagali, July 17-18 2001 Washington
- Cumulative effects of dams- a resource file, Trons-Inge Kvernevik and Nazli Ghazali
- Likely Tariff Implications of Bujagali Dam, IRN, submitted to World Bank on July 17, 2001
- Comments of Uganda Wildlife Society on the EIA studies for the Bujagali dam

Documents available prior to site visit from AES and IFC websites:

- Documentation of the Panel of Experts (PoE) for the Bujagali Project, Reports 1 till 7 and a General Summary and Introduction (Lee Talbot), Summary of Social Issues (Jason Clay) and Summary of Health Issues (William Jobin), 2001

- Bujagali Hydropower Project Uganda, Executive Summary, ESG international & W.S. Atkins, March, 2001.

- Bujagali Project - Hydropower Facility, Uganda, Environmental Impact Assessment, ESG international & W.S. Atkins, March, 2001.

- Bujagali Project - Hydropower Facility, Uganda, Technical Appendicies, ESG international & W.S. Atkins, March, 2001.

- Bujagali Project - Hydropower Facility, Uganda, Resettlement and Community Development Action Plan , ESG international & W.S. Atkins, March, 2001. [Includes Cultural Property Management Plan].

- Bujagali Project - Transmission System, Uganda, Environmental Impact Statement, ESG international & W.S. Atkins, March, 2001.

- Bujagali Project - Transmission System, Uganda, Technical Appendices, ESG international & W.S. Atkins, March, 2001.

- Bujagali Project - Transmission System, Uganda, Resettlement Action Plan, ESG international & W.S. Atkins, March, 2001.

- Bujagali Hydropower Project, World Bank Group's Requirement of an Offset at Kalagala Falls, April 25, 2001

- Mitigation for Loss of Bujagali Falls, Minister of Energy and Mineral Development, Uganda, April 25, 2001.

- Joint Agreement: Mitigation for Loss of Bujagali Falls: The Kalagala Offset, World Bank Group and Government of Uganda, April 25, 2001.

Documents available prior to site visit (other sources)

- EIA guidelines of Uganda , National Environmental Management, Authority, 1997

- Parliament questions dated 23rd March and 13th July

Documents made available during site visit

- AES Brief on Bujagali Hydro Consultation and Review, September 2001

- Steadman's Independent Survey of NGOs in Uganda, April 2000

- NGO Forum Minutes of Washington meeting, 17-18 July 2001

- BEC, Bujagali EPC contract, Bill of Quantities 2p.

- CAO, Compliance Advisor Ombudsman Assessment report September 2001

- National Environmental Management Authority (NEMA), the revies process of the EIA for the proposed Bujagali hydropower project 9 p.

- NEMA, Certificate of Approval of the EIA for the hydropower electric power project, November 1, 1999

- NEMA, Certificate of Approval of the EIA for the power transmission line, July 17, 2001
- NEMA, Certificate of Approval of the EIA for the addendum to the original design of the hydropower electric power project, July 18, 2001
- NEMA EIA regulations, May 1998
- National Environmental Statue, May 1995
- State of Environment Report for Uganda, 1998
- Project Appraisal Document for Rural Electrification (World Bank?)
- Draft Summary of Economic Due Diligence Bujagali Hydropower Project, IFC, 2001 (confidential)
- Ten Year Renewable Energy Power Generation Capacity Expansion Assessment in Uganda, Interim Report, August 2001, IT Power, prepared for Ministry of Energy and Mineral Development
- Electricité de France, Uganda Load Forecast Review (update 2001)
- Environmental Analysis for Power IV Extension Owen Falls Dam Uganda, Geometric Technology Corporation, August 2000, prepared for UEB
- Evaluation of Small Hydropower Potential Sites in Uganda with capacity in the range of 0.5 – 50 MW, March 2001, SWECO International, prepared for Ministry of Energy and Mineral Development
- IFC Draft Report REV 3, Economic Review of Bujagali Hydroelectric Project, July 2001, Acres International (confidential)
- Current Electricity Tariffs, rural electrification and the proposed Bujagali Dam, what a myth, NAPE, August 2001
- Cultural Heritage Exchange Centre, Memorandum on special reference to Kalagala offset, June 2001
- Report from the consultation of the 75 spirits all over Uganda at Bujagali falls, September 2001
- Kafuko Advocates, October 5, letter to the Chairman LC V in Jinja re: Nabamba Budhagali Shrine at Budgagali

APPENDIX 6

List of abbreviations and definitions

AES	-	Applied Energy Systems
BOOT	-	Build Own Operate Transfer
EIA	-	Environmental Impact Assessment
FIRRI	-	Fisheries Resources Research Institute
GIS	-	Geographic Information Systems
IFC	-	International Finance Corporation
KW	-	KiloWatt
MW	-	MegaWatt
NEMA	-	National Environmental Management Authority
POE	-	Panel Of Experts
PAP	-	Project Affected Person
PPA	-	Power Purchase Agreement
PWHA	-	Person with HIV/AIDS
RAP	-	Resettlement Action Plan
RCDAP	-	Resettlement Community Development Action Plan
ToR	-	Terms of Reference
UEB	-	Uganda Electricity Board

APPENDIX 7

Detailed observations on impacts on the natural environment and on public consultation

Terrestrial vegetation and associated animals

The riverbank survey reported in the EIA-report is of poor quality (eg. frequent inaccuracies in the spelling of species), thus one loses confidence in the findings.

A comprehensive survey of terrestrial fauna is not undertaken. Animals such as red-tailed monkeys, are considered as pests by local farmers. However, this is not a valid reason for considering them unimportant in terms of biodiversity and ecosystem dynamics.

Aquatic flora and fauna

The EIA and FIRRI-report indicate that the Victoria Nile originally had a very rich fish fauna dominated by riverine species but populations have suffered from the presence of introduced species and environmental degradation. Still, in sharp contrast to the state in lake Victoria, the Upper Victoria Nile contains large stocks of fish keystone species. Genetically, it may be considered that these stocks are distinct from those of lakes Kyoga and Victoria. FIRRI has evidence of fish migrations along the affected stretches of the Victoria Nile.

A fuller ecological/biodiversity survey, including fish taxonomic studies, is needed for the development of a biodiversity data-base of the Victoria Nile for planners, decision-makers and the development of an Upper Nile management plan. The critical sites are likely to be the rapids and associated rocky habitats. These are extremely difficult and, sometimes, dangerous localities to survey. They would require special procedures which might be demanding. However, some attempt to obtain additional data should be undertaken. These habitats, especially, might support specially-adapted species and species flocks, and a unique biological diversity. The presumed lack of major biological diversity value in the proposed impact area is just as likely to be the result of shortage of information and appropriate studies. There may be collections of some preserved fish species in stores from earlier surveys which could contribute to the data-base.

Water-borne diseases

Schistosomiasis is transmitted through two species of snails. These are not recorded from the sites but the EIA-report states that the snails deposit their eggs on the leaves of vegetation such as Nile lettuce. Likewise, the vectors of malaria, the mosquito, breed in shallow pools and areas of grassy swamp along the edge of Lake Victoria. Thus, vectors of both diseases are attracted to aquatic and semi-aquatic vegetation. It is planned to plant Hippo grass along the shores at the 'drawdown' area of the new reservoir as an impact mitigation measure. This will, surely, create a favourable habitat for the mosquito. Likewise, the water hyacinth will provide an ideal habitat for snails and mosquitoes. The water hyacinth on Lake Victoria caused an increase in malaria and schistosomiasis.

Landscape

It is argued that aesthetically and for birdlife, the impoundment might, perhaps, be more attractive to tourists than the current landscape. Contrarily, it could be argued that cascades and rapids with numerous sites for roosts for birds on islands might be more attractive. The EIA-report itself states that scenically, the surrounding area is unexceptional but the rapids and islands have high scenic interest and is a 2nd order tourist site (not a National Park).

Impacts of the transmission lines on the natural environment

The main wetland which will be affected by the transmission lines, is Lubigi swamp, a papyrus swamp similar to many others in Uganda with no special, extra biodiversity value. The natural functioning of the wetland will be unaffected by the constructions. Appropriate consideration has been given to the proposed location of the transmission lines.

Cumulative impacts on the natural environment

With insufficient appropriate ecological and taxonomic surveys of the rapids and falls along the Victoria Nile it is impossible to draw any conclusion as to the significance of the cascading, cumulative effects of multiple dams. Migrations of fishes are known to occur at present. Genetic diversity of flocks at different reaches is probable. Isolation from longitudinal connectivity by dams and impoundments, the loss of rapids and the accompanying creation of reservoirs will change the system and will negatively affect biodiversity.

Example of problematic consultation process

A key example is connected with the provision of water (PART II of the RPCDAP, p. 127). When asked about community development priorities, people in the area have indicated water supply as one of the their top concerns. However, many of them likely meant 'free water' rather than 'water'. The report does not go on to clarify this point through consultation/study on willingness or ability to pay. It simply assumes a stance on behalf of people in the villages. It is true that Uganda's policy is to encourage/insist on cost sharing in the delivery of services since it recognises that it is unable to provide sufficient services freely to all residents. However, the issue is not to make conclusions on behalf of the people being consulted.

After water came up as a priority, it was AES (with support of consultants/experts) that decided that boreholes would be the best solution to the need. Pages 129 – 130 of Part II, RCDAP goes on to elaborate the 'consultation process' that will happen with the provision of water. The process is to present the following main points: (i) AES' objectives in the supply of water, (ii) the community ownership policy (which means the community must contribute to the construction and the maintenance afterwards), (iii) advantages and constraints of 'modern water,' and (iv) details about the water committee. The consultation process as outlined was not even couched in 'participatory' language so it would seem that to AES this is the way to conduct a 'consultation' process.

Explicit discussion of the shorter and longer-term negative impact of the project with villagers should be a key topic. In the example of the water, alternative ways to provide water (protecting springs, gravity water flow, shallow wells, etc.) should be discussed as well as any opportunity for community contributions to decision making.