INTEGRATED SAFEGUARDS DATA SHEET
CONCEPT STAGE

Report No.: AC6452

Date ISDS Prepared/Updated: 07/24/2011

I. BASIC INFORMATION

A. Basic Project Data

Country: Macedonia, former Yugoslav Republic of	Project ID: P112730
Project Name: Lukovo Pole Water Regulation and Renewable Energy Project	
Task Team Leader: Mohinder P. Gulati	
Estimated Appraisal Date: May 16, 2012	Estimated Board Date: November 1, 2012
Managing Unit: ECSS2	Lending Instrument: Specific Investment Loan
Sector: Renewable energy (100%)	
Theme: Other environment and natural resources management (60%);Water resource management (20%);Climate change (20%)	
IBRD Amount (US$m.): 50.00 IDA Amount (US$m.): 0.00 GEF Amount (US$m.): 0.00 PCF Amount (US$m.): 0.00 Other financing amounts by source: Borrower 33.00 33.00	

B. Project Objectives [from section 2 of PCN]

In pursuit of full membership of the European Union, Macedonia has adopted EU#s energy directives as a strategic commitment and decided to implement EU 2020 vision which envisages provision of energy from renewable energy sources in the amount of 20% of the final energy consumption by the year 2020. The Development Objective of the proposed project is to help Macedonia increase the share of renewable energy resources in its energy consumption and contribute to reducing its vulnerability to climate change.

C. Project Description [from section 3 of PCN]

The proposed project is located in Northwest Macedonia in Korab mountain range at an altitude of 1500 meters, upstream of an existing Mavrovo cascade that includes three hydropower power plants: (i) Vrben (a run-of-river plant upstream of Mavrovo lake), and (ii) Vrutok and Raven (dam-storage plants downstream of the lake). The proposed Lukovo Pole Renewable Energy Project (LPREP) comprises: (a) construction of about 20 kilometer long covered feeder channel, running slope parallel, to transfer water from Korab catchment to Lukovo Pole storage and Crn Kamen river, (b) about 70 meter high dam at Lukovo Pole that will have a storage capacity of

about 39 million cubic meters, and (c) a small hydropower project (Crn Kamen) of about 5 MW downstream of Lukovo Pole. Between the maximum and minimum reservoir levels, the reservoir area will fluctuate between 1.5 and 0.1 square kilometers. Total energy generation is expected to be 160 GWh/year.

The Project will provide additional inflow (about 77Mm3/year) to existing hydropower plants by means of the feeder channel. The regulation effect of Lukovo Pole storage (38Mm3) will reduce spills from the existing Crn Kamen intake (up to 35 Mm3/year) and increase power generation from the downstream cascade. Among ECA countries, Macedonia ranks twelfth on vulnerability and fifth on exposure to climate change. The water infrastructure created by the project will act as an adaptation measure against expected reduction and variability in precipitation due to climate change.

D. Project location (if known)

The project area lies within Mavrovo National Park. The area is a sub-alpine to alpine landscape of considerable natural beauty with diverse fauna and flora and a relatively untouched landscape. The wider area around the project location belongs to the #Mavrovo# National Park and has been used for hydropower production since the mid 1950#s.

The planned reservoir site is largely in a natural state, but some anthropogenic impacts are found, such as a watchtower, bunker ruins, foundations, garbage and barbed wire from a former UN military post, a Macedonian (active) border post (consisting of a compound with several containers), a former, now abandoned Kosovo border post (a one story house) and various small gravel roads. It is nevertheless apparent that the project area is also characterized by pristine, natural conditions and that there is a probability of rare or protected species occurring. Thus the Terms of Reference for a planned environmental and social impact assessment (ESIA) ensures that specific attention is directed to biodiversity and protection of rare and protected species

The geological situation of dam and reservoir area appears favorable. At the dam location the slopes are stable with competent bedrock at shallow depth (indicated by various outcrops). The orientation of the main discontinuity set (either original bedding or schistosity) is favorable, as it dips against the slopes at both abutments of the proposed dam site. The slopes of the reservoir have moderate to low steepness and show no signs of instabilities. The dam and reservoir area is dominated by clastic meta-sediments (metamorphic sedimentary rocks including clay/mudstones, slates, schists and quarzitic sandstones), while limestone appears absent. This indicates good hydro-geological properties in terms of seepage in the dam area and general tightness of the reservoir.

E. Borrower's Institutional Capacity for Safeguard Policies [from PCN]

Elektrani Na Makedonija (ELEM) the state-owned power generation company will implement the project. While the technical expertise and engineering experience of ELEM staff are good the organization#s skills and capacities in environmental due diligence and practical environmental management will require upgrading during project preparation and early implementation. There will thus have to be a focus on capacity building early in the project and continuing throughout its initial phases. As the situation of hydropower development within a national park is quite specific and highly sensitive, study tours to Alpine national parks which share the space with hydropower development use was identified as a potential measure, as this could provide

examples of best practice on how the associated potential problems and risks have been mitigated.

Key stakeholders for the proposed project are: Ministry of Economic Development, ELEM, Ministry of Environment and Physical Planning, the National Park Authority (NPA), the municipalities adjacent to the project (mainly Mavrovo and Rostuse) and the civil society. The European Commission has interest in improving the management of the National Park and strengthening the capacity of the NPA. NGOs interested in preservation of bio-diversity and users of the National Park are likely to oppose the project, while those interested in climate change may not be as strongly opposed due to increase in share of renewable energy resource in an otherwise carbon intensive electricity sector in Macedonia. ELEM is conscious of the concerns of the opposing NGOs and has expressed strong interest in designing and implementing the project in an environmentally sustainable and socially responsible manner, hold meaningful consultations and participation with the CSOs even while being aware that one often cannot reach consensus on such issues, and put in place a communication strategy for proactive dissemination of information and outreach to the civil society.

Representatives of the Environmental Administration Unit of MOEPP confirmed their need for capacity building, knowledge transfer and training with special respect to the project being located in a protected area and the specific World Bank policy requirements (OP4.04) for sensitive or critical natural habitats.

F. Environmental and Social Safeguards Specialists

Mr Bekim Imeri (ECSS4)
Mr Wolfhart Pohl (ECSS3)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies Triggered	Yes	No	TBD
Environmental Assessment (OP/BP 4.01)	**X**		

The project has the potential to cause significant negative environmental impacts if not managed well. It will include large scale civil works, material sourcing, and operation of heavy machinery and plant during the construction period. During the operation period it will cause inundation of an area up to 1.5 square kilometers, the diversion of water from streams and creeks at the surface into canals and tunnels, change the local hydrology, and also cause some diversion of water (an average of less than 2 m3/s) across the watershed from the Adriatic to the Aegean basin. The sensitivity and vulnerability of the project area is aggravated by the fact that it is under protection as National Park due to its ecological significance. Significant negative social impacts could not be identified, as the project area, due to its protected status, is not economically used. Animal grazing is tolerated in some zones of the park in principle, but not practiced in the reservoir area.

There is an ongoing study on National Park management to which National Park Authority is one of the key stakeholders: a study on #Mavrovo NP Valorization# which commenced in 2008 with EU funding (#3 million). This study, headed by the Department of Forestry of Skopje University and supported by an Italian NGO as external Consultant, includes a comprehensive assessment of the NP#s environmental baseline as well as a park management plan (PMP) for the

Safeguard Policies Triggered	Yes	No	TBD
next decade. According to NPA about 80% of the study has been completed. The data have passed the first stage of Ministerial approval (MEPP) and are now in the public domain and thus fully available for the Consultant to be commissioned by ELEM for the ESIA. This would be a significant contribution to the project#s ESIA, as more baseline data will be available and less additional field investigations would be expected to be required. In addition, the new park management plan is expected to define management zones, i.e. allowable activities in different areas of the park.			
Natural Habitats (OP/BP 4.04)	**X**		
Being located in a protected area (national park) OP4.04 is triggered and a number of questions and issues need to be followed up during project preparation. It is apparent that the project area is characterized by pristine, natural conditions and that there is a probability of rare or protected species occurring. Thus the TOR for the planned EIA will ensure that specific attention is directed to biodiversity and protection of rare and protected species. During the project preparation and specifically the planned ESIA, issues such as the following will be thoroughly investigated: Have Natura 2000 sites already been identified in the park/project area? Have such sites been legally established and delineated? If so, which protection status do they have? What is the purpose of their protection, and could this purposeful function remain largely intact under project implementation? Does the designated project area meet the criteria for a critical natural habitat as defined in OP 4.04? Is Mavrovo Park in general, and the proposed project location in particular, a globally important site? Does it contain unique habitats or species (among the #last of their kind#)? A biodiversity specialist will be included to the team in the project to examine and contribute to the resolution to above questions. Also environmental NGOs will be consulted during the ESIA process to provide data, information and assessments on potential effects on critical habitats.			
Forests (OP/BP 4.36)	**X**		
No large forested areas are expected to be converted by the project or significantly affected in their ecological function. However, some forested areas will be affected mainly by the channel construction, and the required environmental due diligence and management measures will be covered by the comprehensive ESIA and associated EMPs developed due to the triggering of OP4.01 and OP4.04.			
Pest Management (OP 4.09)		**X**	
Physical Cultural Resources (OP/BP 4.11)			**X**
No obvious signs of physical cultural properties were detected; however the relevant authorities will have to be consulted on the status of the area. Final clarity will be provided from the ESIA			
Indigenous Peoples (OP/BP 4.10)		**X**	
Involuntary Resettlement (OP/BP 4.12)			**X**
The resettlement policy is currently not seen as triggered, as all of the project area lies within the national park; the land is state owned and no individual economic activities are currently allowed. Animal grazing is allowed in the wider park area, but has not been practiced for a			

Safeguard Policies Triggered	Yes	No	TBD
considerable time in the immediate project location. During project preparation it will be confirmed whether this assessment is correct or whether there could be impacts on assets or natural resource use which would trigger the requirement for a RAP or Process Framework.			
Safety of Dams (OP/BP 4.37)	X		
The dam safety policy OP4.47 is triggered. ELEM operates a good dam safety (DS) system in the context of a satisfactory regulatory framework. ELEM#s internal DS system follows a well defined ISO9001 standard; procedures are described in a document titled #Annual Plan for technical monitoring of dams at Elem#. Every 5 years, a panel of independent experts is appointed to carry out a thorough review of the safety situation, including site inspections. ELEM has O&M Plans and Emergency Preparedness Plans for all its dams. The latter include information about the potential flooded area in case of large flood releases and/ or dam failure. Emergency response is the responsibility of the Crisis Management Unit within the Prime Minister Office. Under a previous World Bank project ELEM carried out rehabilitation of the mechanical equipment of its power plants; the project also included a dam safety component. A follow-up operation is under preparation by ELEM, with financing from KfW, to complete rehabilitation and upgrading of electrical equipment. For the project, a Dam Safety Review Panel (DSRP) will be constituted. The Bank has given its no objection to a short-list of technical experts and the TORs of the DSRP. ELEM is in the process of hiring the experts to constitute the Panel.			
Projects on International Waterways (OP/BP 7.50)	X		
Due to the diversion of small amounts of water (< 2m3/s) across the watershed from the Adriatic to the Aegean Basin OP7.50 would be triggered. A formal notification according to OP7.50 will be sent to the affected riparian countries (Kosovo, Albania and because of increase in flow through Greece to the Aegean basin, notification will need to be sent to Greece as well).			
Projects in Disputed Areas (OP/BP 7.60)		X	

Environmental Category: A - Full Assessment

III. SAFEGUARD PREPARATION PLAN

A. Target date for the Quality Enhancement Review (QER), at which time the PAD-stage ISDS would be prepared: 04/05/2012

B. For projects that will not require a QER, the target date for preparing the PAD-stage ISDS: N/A

C. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing[1] should be specified in the PAD-stage ISDS.

Terms of Reference for the ESIA have been prepared by ELEM, reviewed by the Bank team, finalized and published. In parallel an invitation to submit expressions of interest (EOI) was issued and a shortlist of six qualified Consultants prepared. ELEM has received the proposals and is currently evaluating those. From the date of contract effectiveness estimated end-June 2011 the ESIA study is expected to take some 9-11 months. Completion of the ESIA and associated Environmental Management Plans (EMPs) is thus foreseen for the first quarter of 2012.

While it is anticipated that OP 4.12 will not be triggered, this is to be verified during project preparation. If a RAP and/or Process Framework is required, they/it will be prepared prior to Appraisal.

IV. APPROVALS

Signed and submitted by:		
Task Team Leader:	**Mr Mohinder P. Gulati**	**07/14/2011**
Approved by:		
Regional Safeguards Coordinator:	**Ms Agnes I. Kiss**	**07/24/2011**
Comments:		
Sector Manager:	**Mr Ranjit J. Lamech**	**07/16/2011**
Comments:		

[1] Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in-country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.