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# PFS confirms viability of Monont'sa pumped storage power plant

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Rueters

A 12-month prefeasibility study (PFS) by consulting firm GIBB to investigate the viability of the Monont'sa pumped-storage power plant, in Lesotho, has concluded that the scheme will provide significant power to South Africa's rapidly developing neighbour when required to do so.

The 1 200 MW pumped-storage project, if executed, would meet medium- and long-term energy requirements of the region as well as that of Lesotho, which was seeking ways to generate its own energy through hydrogeneration.

The main conclusion drawn from the PFS was that the project was technically "very" feasible, with relatively limited risks identified.

The PFS, which began in December 2012, included a topographical survey of the entire site, an assessment of geological and geotechnical conditions, an assessment of dam types and locations, an assessment of reservoir capacities based on dam construction and production costs, hydrology and siltation studies, an assessment of environmental and social impacts, the preliminary design of main components of the scheme and the assessments of the technical and economic feasibility of the scheme.

While finding that the benefits of a large pumped-storage project, such as Monont'sa, were too small in the short term to adequately compensate for the cost of such a project, by 2035, the Southern African region would indeed require additional peak power capacity.

"The project appears feasible, provided that mitigation measures are instituted for the preservation of environmentally sensitive areas and that the correct procedures are followed for resettlement of

communities as set out by the International Finance Community and the World Bank,” the report found.

GIBB dams, hydropower and tunnelling technical executive **Colin Logan** added that pumped storage was a proven technology and various projects of this type had been in operation around the world, including several in South Africa.

“Many of the latest developments are centred around the role that pumped storage can have in support of other renewable technologies,” he noted.

Logan believed that pumped-storage schemes should not be viewed as standalone or base-load solutions but rather as a reliable supplement to a mix of existing generation technologies.

“The current [view] that renewables, such as wind and solar, [are] the answer [to] our future energy needs is, in my opinion, misguided. These technologies, while appearing to offer great benefits, have to be viewed in totality and what longer-term effects they might have on the environment they were initially thought to protect [must be considered],” he commented.

GIBB was a member of the Électricité de France joint venture (JV) commissioned by the Lesotho Electricity Company to produce the report.

The JV included engineering, design and construction firm URS, local consultants Knight Piésold, Royal Haskoning DHV and GWC, a Lesotho consulting engineering firm.



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