Renewable Energy from NAWASA's Pipes

Hydropower plants use pressure energy and kinetic energy stored in water to drive an electric generator. One of the most widely used turbine types is the Francis turbine. In its appearance and functionality, the Francis turbine is very similar to centrifugal pumps that we know from our every-day life. The question is therefore obvious: why not using a pump instead of a turbine?

Pump as Turbine Wernigerode, Germany

Indeed, it is possible to utilize ordinary centrifugal pumps operating in reverse mode as turbines. Additionally, the cost of the standardized pumps is much lower than of individually made turbines. Therefore, so called "pumps-as-turbines" (PaT) can then be used at any pipeline that provides a useable excess pressure.

In Grenada, NAWASA captures drinking water high in the mountains and conveys it to lower areas for consumption. Several pressure reducing valves are used to reduce the excess pressure in the pipeline and hence to protect the pipes from bursting under the high pressure. It is these pressure reducing valves that can be replaced by PaT. The excess renewable energy can be converted into electricity instead of wasting it.

To this end, NAWASA, with the support of GIZ will host a seminar for key stakeholders and the interested public to provide a more in-depth insight into PaT-technology and the project. The half-day seminar will take place on Friday, 21st January 2022. The invitation is also extended to local specialists in pump technology, electrical contracting or process engineering, or similar fields. To obtain more information and apply for participation in the free of charge seminar please contact Curllan Bhola at +1 (473) 423-2409 or curllan.bhola@giz.de. We monitor the COVID-19 situation closely and safety is our overall concern. When registering, please indicate, if you prefer a virtual or physical meeting.

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Over 6 years, the Government of Grenada, the Grenada Development Bank and the National Water and Sewerage Authority (NAWASA) in partnership with the German Development Corporation (GIZ) implement the project's five components.