



Maquatua Mini Dam:

Challenges of producing and distributing energy in a community

Chief Rodney Mark

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Cree Nation of Wemindji



Maquatua Mini Dam

- The location of the mini dam is about 1.3 km upstream from the community.
- The power plant consists of a 12 meter high overflow concrete gravity dam across the narrowest section of the river valley and a 5 meter high rockfill dyke closes the reservoir on the south end. The mini dam has a single generating unit with a capacity of 1,1 MW.

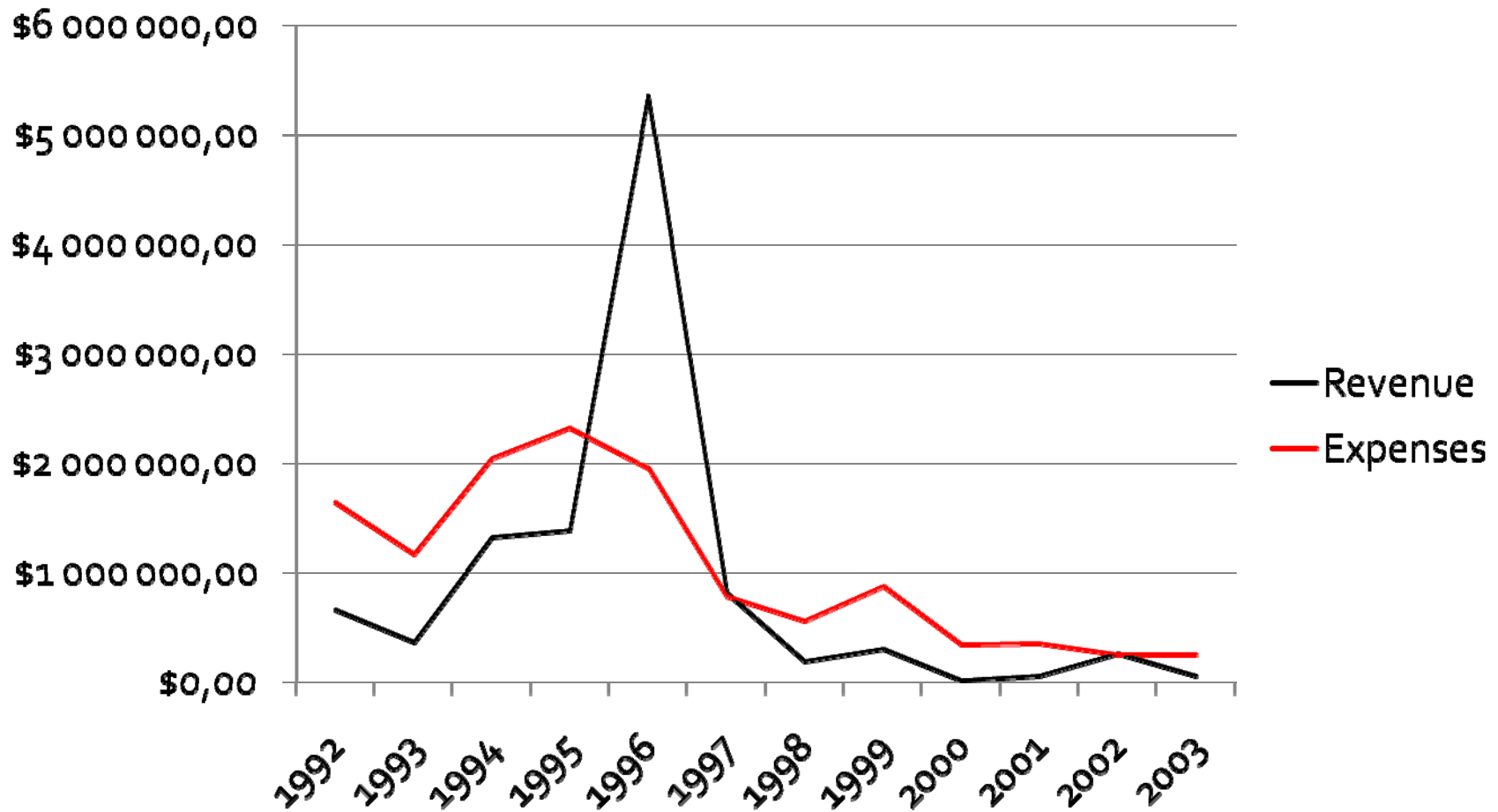
Maquatua Mini Dam



History

- The pre-feasibility study for the Mini Dam was done in September 1981. The study was made possible through grants and sponsorship by Sakami Eeyou Corporation. The CRA, GCCIE, the James Bay Energy Corporation and the Department of Indian and Northern Affairs also supported the study.
- Maquatua Hydro Dam was completed in 1984 and was in service since January 1985.
- The purpose of this mini dam was to provide energy needs for the community of Wemindji.

Operations



Operations

- The Cree Nation of Wemindji is responsible for the operation and maintenance of the mini dam and the local distribution network.
- Hydro-Quebec supplies the energy to the community and purchases all energy generated by the community.
- Unfortunately, the mini dam has never generated more energy than what has been consumed by the community.

Challenges

- Capacity – The lack of trained Cree personnel is a serious problem in just about any technical field in the territory. If we are talking seriously about development by Crees in Cree territory we need to address the education/training issue....yesterday.
- Management Styles – Band Administrations have difficulty balancing the opposing demands of a economic mandate versus a social mandate. The challenge of instilling a philosophy of private entrepreneurship is very difficult when using public funds.

Challenges

- Purpose – Cree communities and needs grow faster than most development models. The cost of energy is \$900,000 per year today versus \$150,000 per year 20 years ago.
- Collection. There is no such thing as free electricity as there is always a cost associated with generating it. This cost may not be passed on directly to the community but represents a real opportunity cost as other services cannot be provided with the diverted financial resources.

Future

- This small project has allowed us to learn some very difficult lessons at a reasonable cost:
 - We are developing small scalable energy projects, i.e. such as wind and hydro, which will allow us to diversify energy sources and spread operating costs.
 - We must always participate in management as profit and loss is always determined by management style.
 - We must concentrate and developing a trained workforce.
 - We must actively manage community expectations

Conclusion

“We cannot demand
success unless we
endeavor to deserve
it”

Meegwetch