

**Renewable Energy Development and Deployment**  
**in Indian Country**  
**Topic Area 1: Feasibility Study**

**a. Project Summary/Abstract File**

Name of the Applicant: Passamaquoddy Tribal Council  
Pleasant Point Reservation / Perry, Maine

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Project Title: Passamaquoddy Tribe Benefits Associated  
With Proposed Half-Moon Cove Tidal Barrage Project

With the assistance of consultants, the Passamaquoddy Tribe at the Pleasant Point Reservation propose to conduct a feasibility study to ensure a proper consideration of previously identified benefits associated with the construction and operation of a proposed tidal energy project. The project being developed by Tidewalker Associates of Perry, Maine will utilize the tidal range which averages an astounding eighteen (18) feet of Half-Moon Cove for the generation of renewable energy. The Pleasant Point Reservation borders Half-Moon Cove.

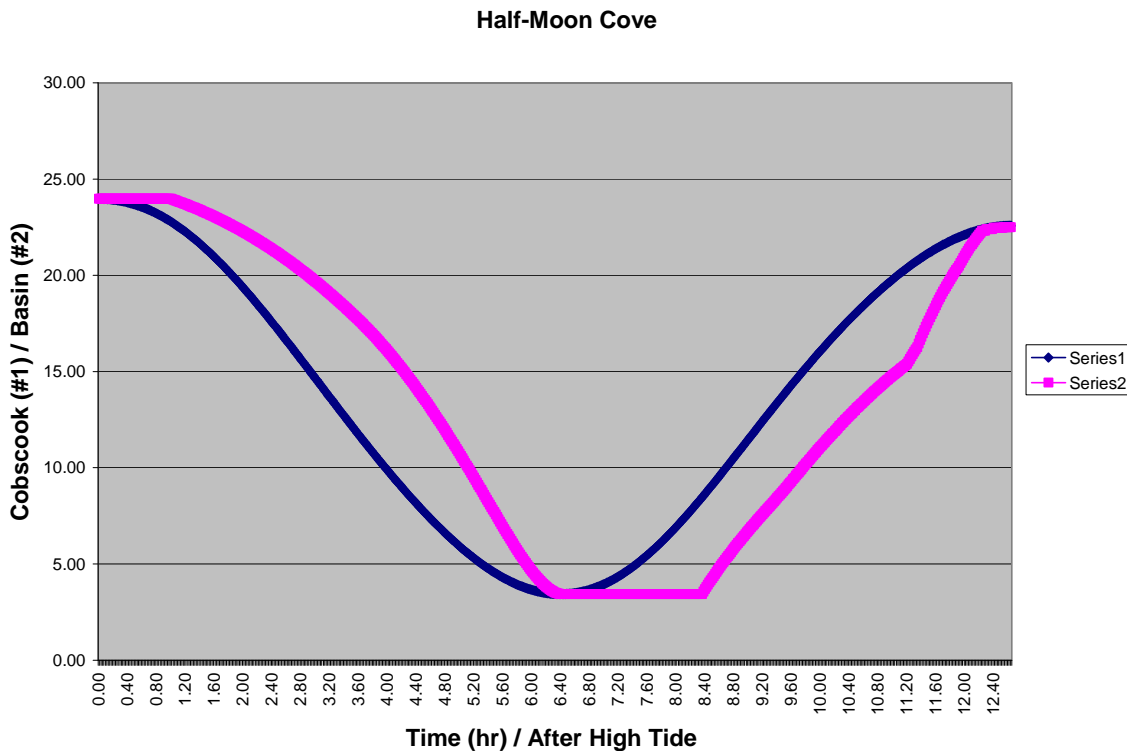
Under the proposed feasibility study, the following topics will be investigated to determine the positive benefits associated with the development of Half-Moon Cove resources:

- Placement of underwater transmission line from the entrance to Half-Moon Cove to the southern tip of the Reservation;
- Installation of emptying / filling gate on the causeway between Pleasant Point and Moose Island (Eastport) to improve efficiency of tidal barrage operation and to correct environmental impacts created from construction of two rockfill dams in the 1930s;
- Placement of roadway across tidal barrage to reduce traffic through the Reservation as a remedy to a decision made in the 1950s to locate main thoroughfare to Eastport on Passamaquoddy property; and,
- Conceptual design of electrical distribution station on Pleasant Point Reservation for the transmission of tidal energy for local demands and for potential use in economic development projects (e.g., greenhouse).

The inclusion of these four elements into the scope of the feasibility study is being timed with the submission of a license application by Tidewalker Associates with the Federal Energy Regulatory Commission (FERC). A complete description of the proposed tidal barrage appears in this application.

The resolution approved by the Passamaquoddy Tribal Council authorizes the submission of this request for funding support in coordination with Tidewalker Associates. The actual work comprised of engineering, planning, environmental, and public policy factors will be performed by consultants under the control of the Passamaquoddy Tribe in accordance with the scope of work outlined in this proposal.

The tidal barrage project will not affect the tidal range within Half-Moon Cove by using an innovative process to control the level of Half-Moon Cove for the optimization of electrical production. In the figure below, the pink line depicts the elevation of the Half-Moon Cove in relation to the black line which portrays the natural tide cycle. Generation occurs when an elevation difference exists between the two surfaces for both ebb and flood tide production.



The project's immediate benefit refers to the production of renewable energy for local consumption at a competitive rate. Possible benefits for the Passamaquoddy Tribe include restoration of historical flow pattern, the inclusion of a roadway across the barrage to reduce traffic on the Reservation, and a direct transmission link from the power house for potential use as long-term energy source with price stability derived from renewable "fuel" supply.