

Humboldt Working Group
Humboldt Area Foundation
Bayside, CA

January 6, 2010

Meeting Summary

Introductions

Roundtable introductions were led by Anna West, Kearns & West (K&W) Facilitator.

Humboldt WaveConnect 2010 Schedule and HWG role

Led by Anna West, Kearns & West (K&W) Facilitator

In response to requests from Humboldt Working Group (HWG) members for better clarity on the process to date and future plans, Anna reviewed the Humboldt WaveConnect pilot project timeline, HWG discussion topics for 2010, and a proposed schedule for 2010 HWG and HWG Permitting Authority Subcommittee meetings. Anna also referenced a list of completed, ongoing, and outstanding action items from previous HWG and HWG Permitting Authority Subcommittee meetings.

Updates

Led by Anna West, K&W Facilitator

The following updates were reviewed.

- **PG&E/U.S. Coast Guard (USCG) Meeting:** PG&E met with representatives of the USCG on December 4, 2009 to review safety requirements for the pilot project (eg: lighting, notation on charts, and other unique requirements for offshore renewable energy facilities, etc.). PG&E and the USCG agreed to work together and with local stakeholders to ensure the project is properly marked, annotated and consistent with regulations.
- **Next Steps on Wave Energy Converter (WEC) Manufacturer Selection:** The PG&E process to select WEC manufacturers is taking longer than initially anticipated. The Request for Proposals (RFP) will be released worldwide in April 2010. PG&E is planning a bidder's conference for early March 2010 (to coincide with the March HWG meeting) where WEC manufacturers will be invited to visit Eureka, tour the project site, and answer questions from the public on their particular devices. There was general interest from the HWG in participating in a bidder's conference.
 - Doug Davy, CH2M Hill, clarified that the particular devices will not be known before the draft pilot license application (DPLA) is due to the Federal Energy Regulatory Commission (FERC) on February 26, 2010. Therefore, the DPLA will propose the general types of technologies that are likely to be part of this project. Ken Hogan, FERC, expressed that this approach would be acceptable if it seems feasible, but suggested he needs to see the technology descriptions that will be submitted in the DPLA to more specifically address this. The exact devices will be known and included in the final pilot license application (FPLA), anticipated to be filed in Fall 2010.

- **Vendor Quotes for Cable Costs:** PG&E and its consultants have solicited quotes for cable costs and have found the average cost of the cable, including burial, to be \$1.4 million per nautical mile (nm) of cable.
- **Department of Energy Briefing:** In late December, Bill Toman, PG&E, met with the Department of Energy (DOE) in Washington D.C. to present an update on the WaveConnect program. The DOE has funded \$1.2 million towards this project to date. The DOE was very appreciative of the HWG structure and its progress. It views this pilot project as a national facility to test and facilitate hydroelectric energy. In light of the project's progress so far, there is a possibility DOE could provide additional funding for future permitting activities and to finance the building of the project. PG&E will continue to explore this with DOE.
- **HWG Member Updates:**
 - Erin Iya Mahan and Dave Meserve, Public-at-Large, are now primary members of the HWG.
 - Welcome to new academic HWG member, James Howard, HSU, replacement for Greg Crawford.
 - New Wiyot Tribe representative, Briannon Fraley, has joined the HWG as a replacement for Helene Rouvier.
- **Central Coast WaveConnect Project:** Bill explained that WaveConnect's goal has always been to develop two projects. Initially, the team looked offshore of Humboldt and Mendocino counties, but had to abandon the Mendocino effort when it became apparent the site could not support a project. PG&E is now pursuing a second project in Santa Barbara County. This larger project, initially 10 megawatts (MW) and then expanding up to 100 MW thereafter in a phased buildout, will follow the Humboldt pilot project by roughly two years. This project does not displace Humboldt, which is a cornerstone project, but will build on the Humboldt WaveConnect experience.
- **Crabbing Ground Tour:** Rick Williams reported on the tour that Aaron Newman, Humboldt Fisherman's Marketing Association, Rick Williams, SAIC, and Alison Talbott, PG&E, took of the crabbing grounds off the coast of Humboldt on January 5, 2010. From the harbor, they went to the 2¾ nautical mile line and saw intense crabbing activity there. As they moved north, activity decreased then increased again as they approached the proposed pilot project site. The following points about the crabbing grounds were made:
 - This analysis of the crabbing grounds is a snapshot of one day.
 - Currently, fishermen can move easily through the buoys; however, the pilot project structure could impede this movement and endanger fishermen.
 - There will be a program established for compensation of entanglement and gear loss.
 - The FERC pilot license requires the complete removal of the project in five years and PG&E is required to set aside funds for this purpose.
 - There was a preference expressed for smaller WECs with fewer moving parts, to minimize the risks of collision or breaking.
 - All devices in the project area will have three kinds of maintenance: regularly scheduled maintenance, condition based maintenance, and alert maintenance. The WECs will all be inspected frequently because they are in a pre-commercial demonstration phase.
 - PG&E is the lead on the project and can require the manufacturers to repair or remove their devices from the water, as needed.

- The proposed site location is the result of ongoing meetings which has included members of the fishing community, as well as the surfing community.
- Moving the site further south would potentially save on cable costs and may be preferable to some members of the fishing community.
- The National Marine Fisheries Services (NMFS) believes moving the project closer to the harbor (further south), and reducing the cable length, may potentially be better for maintenance and monitoring, and would reduce the environmental impacts of disturbance.
- **Local Infrastructure Planning:** Local firms Winzler & Kelly and Pacific Affiliates are now under contract for the WaveConnect pilot project. PG&E also plans to work with Fred Divine Diving and Salvage Company to assess marine salvage capabilities along the coast of California.
- **PG&E Contracted Studies with Humboldt State University (HSU):** PG&E has met with HSU President Rollin Richmond, who interviewed faculty members to find what research projects might be useful to the project's pre-installation phase. RFPs were released in August 2009 and many proposals were submitted in October 2009. Of those, PG&E is finalizing contracts. All studies will be complete by the end of 2010, pre-installation of the pilot project. The HSU Foundation grants contracts for HSU and is a separate, independent organization, ensuring the academic integrity of the studies.
 - The U.S. Geological Survey study, by Jeff Cordell, is producing a bottom profile of sediment in and around the proposed project area. This study is being conducted independent of the WaveConnect pilot project.

Monitoring and Adaptive Management Approach Overview

Presented by Sharon Kramer and Jeff Jacobsen, H.T. Harvey, and Christine Champe, Stillwater Sciences

A presentation of the proposed approach to preparing the monitoring and adaptive management plans was presented. PG&E and the consultants aim to produce and share a draft of the plans with the HWG at the end of January 2010 so edits and comments may be incorporated in time for submittal of the DPLA on February 26, 2010. The complete presentation is available on the WaveConnect website at <http://www.pge.com/waveconnect/projects.shtml>

The following clarifications were made regarding the monitoring and adaptive management plans:

- WEC manufacturers will be asked in the RFP to identify how haul-out issues will be addressed.
- The PG&E and consultant team is currently developing the decision making process for the monitoring and adaptive management plan. This will be further developed with the HWG and the HWG Permitting Authority Subcommittee between now and the filing of the Final Pilot License Application (FPLA).

Security and Safety Overview

Presented by Rick Williams, SAIC

Rick gave an overview of the proposed design status of the pilot project's security, safety and contingency plan. The complete presentation is available on the WaveConnect website at <http://www.pge.com/waveconnect/projects.shtml>.

The following points were clarified regarding the facility's security and safety.

- PG&E intends to share operational and environmental data with the public. However, WEC manufacturers may have proprietary knowledge about their Technologies that PG&E cannot release to the public.
- The City of Eureka is interested in creating a showroom where the public can see information on the project, including an interactive display that shows how much energy is being and has been produced. PG&E supports this idea.
- The offshore facilities will be clearly marked, particularly for people passing through who are not familiar with the project.
- The facility will probably have four to six lit boundary buoys, one every half-mile to mile.
- All WECs installed offshore will have a GPS module that alerts PG&E when a WEC has moved beyond the project boundary area.
- The total cost of the project will be upwards of \$100 million. PG&E will not cut costs on safety.
- There will be a risk assessment methodology prepared to address tsunami events.

HWG Communications Subcommittee

Interested HWG members will meet as the HWG Communications Subcommittee on January 12, 2010 @ 1pm-3pm to discuss preparations for the Humboldt WaveConnect Public Meeting on February 2, 2010.

HWG Fishermen's Subcommittee

Members of the HWG and the broader fishing community will meet as the HWG Fishermen's Subcommittee to further discuss site selection and potential community benefits of the pilot project on Tuesday, January 12, 2010 @ 3pm-6pm at the Humboldt Fishermen's Marketing Association Hall.

Action Items

Action Item	Who	When
1. Prepare a safety and security plan that assures that the project's offshore facilities are properly marked and lighted. Review this with the HWG.	1. PG&E	1. Ongoing
2. Convene the HWG Fishermen's Subcommittee, open to other HWG interested members, to review/discuss the ocean site and other topics.	2. Kearns & West	2. January 12, 2010, 3:00 p.m. - 6:00 p.m., Done
3. Convene the HWG Communications Subcommittee	3. Kearns & West	3. January 12, 2010, 1:00 p.m. – 3:00 p.m., Done
4. Share PG&E contracted HSU research projects.	4. PG&E	4. ASAP

5. Research vessel monitoring systems for ground fish and trawlers.	5. Vicki Frey, CDFG	5. ASAP
6. Include a requirement in the RFP for WEC manufacturers to address haul-out issues.	6. PG&E	6. Ongoing
7. Identify WEC data sets that are publicly available and share with the HWG.	7. PG&E	7. Ongoing
8. Identify how individual parts of WEC devices will be tracked in the security and safety plan.	8. PG&E	8. Ongoing
9. Identify a tracking mechanism for individual parts of WECs.	9. PG&E	9. Ongoing

Attendees

Primary:

- Bob Borck, Building and Construction Trades
- Vicki Frey, California Department of Fish & Game
- Michael Van Hattem, California Department of Fish & Game
- John Dye, California State Lands Commission
- Jeff Leonard, City of Eureka
- Julie Fulkerson, City of Trinidad
- Kevin Pinto, Commercial Crab Fisherman
- Paul Hagen, Community-at-Large
- Erin Iya Mahan, Community-at-Large
- Ken Hogan, Federal Energy Regulatory Commission (*by phone*)
- Larry DeRidder, Humboldt Area Saltwater Anglers
- Pete Nichols, Humboldt Baykeeper
- Pat Higgins, Humboldt Bay Harbor District
- Maggy Herbelin, Humboldt Bay Stewards
- Mark Lovelace, Humboldt County
- Aaron Newman, Humboldt Fisherman's Marketing Association
- James Howard, Humboldt State University
- Ralph Armstrong, International Brotherhood of Electrical Workers
- Diane Ashton, National Marine Fisheries Service
- Dave White, National Marine Fisheries Service
- Dana Boudreau, Redwood Coast Energy Authority
- Rob Cozens, Resighini Rancheria
- Jim Zoellick, Schatz Energy Research Center
- Bill Lydgate, Surfrider Foundation, Humboldt Chapter
- David Ammerman, U.S. Army Corps of Engineers
- Rob Starr, U.S. Coast Guard
- Bill McIver, U.S. Fish & Wildlife Service

Alternates:

- Milton Boyd, Humboldt State University
- Colin Sheppard, Schatz Energy Research Center

- Scott Willits, Surfrider Foundation, Humboldt Chapter

PG&E:

- Bill Toman, PG&E
- Ian Caliendo, PG&E
- Alison Talbott, PG&E

PG&E WaveConnect Consultants:

- Doug Davy, CH2M HILL
- Sharon Kramer, H.T. Harvey
- Jeff Jacobsen, H.T. Harvey
- Corey Matson, Pacific Affiliates
- Travis Schneider, Pacific Affiliates
- Aarty Joshi, CH2M Hill
- Rick Williams, SAIC
- Christine Champe, Stillwater Sciences
- David Carter, Winzler & Kelly
- Patrick Kaspari, Winzler & Kelly

Public:

- Kathryn Kempton (*by phone*)
- Three commercial fishermen

Facilitators:

- Anna West, Kearns & West
- Briana Moseley, Kearns & West
- Christine Lim, Kearns & West (*by phone*)