

**PG&E WaveConnect™**  
**Humboldt Working Group**  
**Freshwater Tissue Plant**  
**Samoa, CA**

**July 20, 2009**

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**Meeting Summary**

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**Introductions**

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

**Project Overview**

*Presented by Bill Toman, PG&E Senior Program Manager*

Bill gave an overview of the proposed Pacific Gas and Electric's (PG&E) WaveConnect™ pilot project. He explained that the proposed pilot project is intended to be a testing and demonstration facility. This type of project is very new and it will be the first facility of its kind in North America. He explained that the funding received to date is to be used on baseline studies for the development of the Federal Energy Regulatory Commission (FERC) pilot license application, which is due by March 1, 2010. The FERC Pilot license is a new temporary (five-year) license that restricts the output of energy from a wave energy facility to five megawatts (MW) or less, and requires removal of all equipment at the end of the five-year license term. Bill explained that 5MW is a relatively small amount of energy. He also explained that adaptive management is a condition of the FERC pilot license. This adaptive management plan will include a plan for how to take actions to adjust should certain impacts be found, and/or remove the pilot project efficiently if something goes wrong.

Bill described the location of the preliminary permit area as between two statute miles and three nautical miles from shore and stretching 18 statute miles in length along the Humboldt County coastline. Bill explained that this preliminary permit area was reduced from its original size to the area described for permitting reasons (to be in FERC jurisdiction area only). PG&E is looking to zero-in on the best square nautical mile (in the shape of a rectangle) to begin preparing baseline studies for the draft pilot license application.

Bill further described the process. Once the final FERC pilot project license application is filed in May 2010, FERC will take up to a year and a half to evaluate the application. The timeline for this is a bit uncertain because this is a brand new license. FERC licenses have only been used for hydropower facilities on land in the past. Since this is such a new license, the idea is to start small with a pilot "test" project. PG&E anticipates beginning construction in 2012 and beginning operations by early 2013. These timelines are all estimates and may change a bit. After the five-year operation (estimated at 2018) the project will be removed. Any other wave energy project or a future commercial project would be an entirely separate FERC license application and environmental

review process. If PG&E were to pursue a commercial project in the future, it would be further offshore where the wave energy is greater.

Bill explained that costs for the pilot project are recovered through PG&E rate-payers. He explained that more transparency is better and encouraged everyone to scrutinize the information as the project proceeds.

Doug Davy, environmental studies and permitting consultant from CH2M Hill, explained that background information for the project site will be gathered from baseline sources. He explained that there are several federal and state-level permits needed for the project to proceed. The main permit is the FERC Hydrokinetic Pilot Project License. Other significant federal permits include an Incidental Take Permit from the National Marine Fisheries Service (NMFS) under the Federal Endangered Species Act for listed marine species and a separate Incidental Take Permit from the U.S. Fish and Wildlife Service (FWS) for listed terrestrial resources. PG&E will be filing the biological assessment with NMFS and FWS at same time as the FERC pilot project license application. A series of California state permits are also required, including a California Coastal Commission permit (required under the California Coastal Act) and a Humboldt County permit (required under the Local Coastal Plan). A land lease is required from the California State Lands Commission for the land used to bring the sub-sea power cables ashore, as well as the footprint of the actual generation facility itself. This land lease requires a separate environmental review process under the California Environmental Quality Act (CEQA). PG&E will be coordinating the development of these permits as the process moves forward.

### **Draft Operating Protocols: Review and Approval by HWG**

Anna reviewed the draft operating protocols and the role of the Humboldt Working Group (HWG). She explained that the Ad Hoc group took some time to review them. Anna asked the group if there was any need to discuss or clarify these operating protocols.

The following clarifications were discussed:

- The commitment of the HWG is for the duration of the WaveConnect pilot project (approximately seven years); however, the group is anticipated to convene more intensively between now and the filing of the FERC draft license application. During the course of the implementation of the WaveConnect pilot project, the HWG may be called to convene on an as needed basis.
- The role of the HWG members is to actively communicate and gather input from their constituencies and to bring this information to the HWG for consideration.
- The draft operating protocols will be posted on the WaveConnect web site on a HWG sub-page. Contact info of HWG members will also be posted on the web site (a contact release form must be signed by HWG members in order to have their contact info posted on the WaveConnect web site).
- PG&E will host a public meeting if the HWG feels one is needed.
- A mechanism for determining new members of the HWG needs to be further explored. It was generally agreed that if an HWG member leaves the group, the sector or individual nominates a replacement to the HWG. The HWG selects the replacement.
- Any primary member that has not identified an alternate or a proxy within the HWG should do so now. Please inform Briana Moseley of alternates selected.

Primaries are responsible for keeping their alternates informed on the effort and alternates are encouraged to attend HWG meetings.

- HWG members should send information to be shared with the full group to Briana Moseley who will distribute it to the group.
- A telephone for call-ins will be provided, if needed, although it is preferred that HWG members attend in person.
- The protocols will be revised to reflect these additions (actions below).

### **Input on Site Selection**

Bill Toman presented maps of the permit area and explained that PG&E would like to site the project in a two nautical mile by one-half nautical mile rectangle along the three nautical mile line in the northern section of the preliminary permit area. Bill explained that PG&E would like to identify this site area soon to begin environmental effects analyses for the draft FERC pilot project license application. He explained that there are several feasible alternate sites within this area and with the help of the HWG he believes an agreeable site can be selected. He explained that the goal is to reduce the footprint of the project as much as possible.

The following clarifications regarding site selection were discussed:

- The outfall on the map is being considered as a potential route for the sub-sea power cable to come ashore. There are significant feasibility studies that need to be done to determine if the outfall can be used.
- A longer and skinnier project site is better than a square-shaped project site for fishing interests, whale migration issues (most likely – further information is needed) and device manufacturers' interests. Crabbers generally place pots in a linear manner parallel to shore. Having the project track in this way reduces impacts to crabbers/fishing interests. A thinner project line would reduce whale migration concerns since they also travel in a linear manner.
- There are a number of ways to bring the sub-sea power cable ashore: dig a trench ashore and bury the cable, directional drill, or site along/through an existing sleeve (i.e. an existing outfall).
- The PG&E Fairhaven substation is adequate to support the added load of the pilot project.
- The sub-sea cable bundle will be 12" to 16" in diameter.
- Sub-sea cable protection (trenching, armoring, jacketing) will be designed for the specific site.
- PG&E is looking at lessons learned from other test facilities so that mistakes are not repeated, for example, having systems in place for rapid retrieval if something happens to the buoys or installation.
- Characteristics of a good site include the following: water with a depth of as near to 50 meters as is possible, close proximity to the Fairhaven substation, sandy substrate, avoidance of sub-sea cables and pipes, close proximity to the three mile line for better wave energy, avoidance of prime crabbing and surfing locations.
- The fishing community prefers the longer, more linear approach, as close to the three-mile limit as possible. If it's in the northern section there are varied perspectives on which portion of the northern section would be preferred, but the

fishing community appreciates the need for the project to connect to shore efficiently, and the environmental constraints in different areas.

- The surfing community could be okay with the northern proposed area as long as it remains approximately three miles away from the north jetty, which is a very important surfing area for the surfing community.
- NMFS prefers a site which is long and narrow, which has as short a cable line as possible to shore, and a site which is as far away from shore as possible for whale migration purposes. Therefore, the current northern area appears to be a good area from NMFS perspective.
- The shortest cable route ashore is preferred for a number of reasons: cost, practicality, minimum interference to fishing and minimum environmental impact.
- The Coast Guard requires a light to be mounted on the wave energy conversion (WEC) devices for navigation purposes.
- Access within the site is important to some fishing interests. PG&E is open to exploring this with the local community. Access and liability issues need to be explored.
- The U.S. Coast Guard would not have responsibility for policing access within the site; this would be the project applicant's responsibility.
- There are many different anchoring techniques for the WEC devices. Each manufacturer will recommend the technique best suited for their device. Anchoring techniques used will help to determine the overall project footprint.
- The FERC preliminary permit does not allow for core samples to be taken at this stage in the project.
- Outcome: After a lengthy discussion, there was agreement that the next step is to have PG&E develop three or so alternative options with pros/cons of each for the group to further explore. A subcommittee of key interested stakeholders was identified to work with PG&E in advance of the next meeting to review/refine the alternatives and prepare a recommendation for the group (see actions below).

### Next Meeting Date

The group selected August 26, 2009 at Freshwater Tissue (same place) for the next HWG meeting. K&W will work via email to confirm the remaining dates for 2009 and early 2010.

### WEC Device Selection Criteria

Participants each had five dots and placed these on WEC Device selection criteria they believe are important for the selection process.

Action Items	Who	When
1. Revise operating protocols and distribute to HWG.	1. K&W	1. ASAP
2. Look into how exclusion zones have been dealt with in other projects.	2. PG&E team	2. By next HWG meeting - August 26
3. Determine if PG&E can choose to not have an exclusion zone around the project site and allow other uses within the project site (specifically fishing).	3. PG&E team	3. By next HWG meeting - August 26

4. Look into bringing video/photos back from their UK trip to share with the HWG.	4. PG&E team	4. TBD
5. Prepare a cross-section map of the sea floor from the shoreline to the project area.	5. Doug Davy	5. By August 26
6. Prepare a map with the various layers of information being considered for site selection off the northern spit of Humboldt Bay. This will include environmental features, infrastructure/existing features like outfalls, and other elements, as appropriate.	6. Doug Davy	6. By HWG Site Selection sub-committee meeting
7. Look into strataform papers on sedimentation and sloughing.	7. PG&E team	7. TBD
8. Bathymetry data taken west of Arcata will be made available soon.	8. Greg Crawford	8. Greg Crawford to inform HWG
9. Send nourishment study and erosion study to PG&E team.	9. Vicki Frey	9. Done
10. Pilot project impacts on shipping will be further explored by the HWG.	10. K&W	10. upcoming HWG meeting topic
11. Prepare three alternative site options to guide discussion among a sub-committee that will meet prior to the next HWG meeting. The three alternatives include: 1) coming ashore through the Freshwater Tissue outfall, 2) at the Sierra Pacific Mill, and 3) at the Manila Community Center. The sub-committee will include the following interest groups of the HWG: fishing, surfing, regulatory agencies, and the Humboldt Bay Harbor, Recreation and Conservation District.	11. PG&E	11. By HWG Site Selection sub-committee meeting
12. Names and contact information for the agencies participating in the HWG will be distributed to the group.	12. K&W	12. ASAP
13. Confirm next HWG meeting scheduled for August 26, 2009 at 6:00 p.m.	13. K&W	13. Done
14. Identify dates for the HWG for September – February.	14. K&W	14. In progress

### Decisions

1. If a HWG member leaves the group, the sector or individual nominates a replacement to the HWG. The HWG selects the replacement. Primary representatives who do not have an alternate identified can do so, or they can

assign HWG members as their proxy if they can't make a meeting. Telephone service will be provided for calling in, although this is not preferred.

2. With the above additions, the HWG plans to use the Operating Protocols as drafted.

**Meeting Attendees**

David Ammerman, U.S. Army Corps of Engineers	Erin Inya Mahan, Humboldt State University
Dianne Ashton, National Marine Fisheries Service	Jon Mooney, Wiyot Tribe
Bob Borck, Northern California Carpenters Regional Council	Aaron Newman, Humboldt Bay Fisherman's Marketing Association
Dana Boudreau, Redwood Coast Energy Authority	Kevin Pinto, Commercial Fisherman
David Boyd, Redwood Coast Energy Authority	John Placido, U.S. Coast Guard
Milton Boyd, Humboldt State University	Jonas Savage, Trinidad Rancheria
Ian Caliendo, PG&E	Bob Simpson, Freshwater Tissue
Ron Cochran, International Brotherhood of Electrical Workers	Paul Siri, California State Coastal Conservancy, Ocean Science Applications
Kirk Cohune, GreenWay Partners	Alex Stillman, Arcata City Council
Rob Cozens, Resighini Rancheria	Alison Talbott, PG&E
Greg Crawford, Humboldt State University	Bill Toman, PG&E
Doug Davy, CH2M Hill	Dave Turner, Trinidad Bay Fisherman's Marketing Association
Jacqueline Debets, County of Humboldt, Prosperity Center	Adam Wagschal, Humboldt Bay Harbor, Recreation and Conservation District
Larry DeRidder, Humboldt Area Saltwater Anglers	David White, National Marine Fisheries Service
John Dye, California State Lands Commission	Rick Williams, SAIC
Vicki Frey, California Department of Fish & Game	Scott Willits, Humboldt Chapter, Surfrider Foundation
Maggy Herbelin, Humboldt Bay Stewards	Mike Zeppegno, ACA Open Coastal Kayak
Mark Lovelace, Humboldt County Supervisor	Jim Zoellick, Humboldt State University
Bill Lydgate, Humboldt Chapter, Surfrider Foundation	

Facilitators:  
 Anna West, Kearns & West  
 Briana Moseley, Kearns & West