Humboldt Working Group

Biological Resources Agencies Subcommittee Meeting

Humboldt Bay Aquatic Center
Eureka, CA

November 9, 2009

Meeting Summary

Introductions

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

Project Overview

Bill Toman, PG&E, gave an overview of the project description. The offshore components of the project include the Wave Energy Converters (WECs), environmental buoys (that measure various metrics), and marker buoys (required per international navigation standards). The land-based components of the system include cables from the surf zone to the monitoring station, the monitoring station, and power poles and cables that run a quarter mile to the existing substation. The offshore and onshore components of the project would be connected by five sub-sea power cables. It is PG&E's preference to plow and bury (3-6 ft deep) four of the cables and surface-lay the fifth cable (the spare). The one surface-lay cable would be monitored and evaluated to determine if the cable will self bury. This information could be very useful for a cost/benefit analysis. The five sub-sea cables would be laid 100 ft apart and routed from the offshore site, south and parallel to shore (at a depth of 20 fathoms (40 meters) or greater) until due west of the Freshwater Tissue Plant. The cables will then make a sharp turn directly toward shore. At the depth of approximately 17 meters (50 ft), the separation between cables will reduce to 10 ft. The four plowed/buried cables will be trenched or horizontal directional drilled (HDD) ashore. The fifth surface-lay cable could be brought ashore in the same manner as the other cables, or potentially be brought ashore through the Freshwater Tissue outfall.

Decommissioning of the project was discussed. PG&E is designing the project to allow for complete removal. However, PG&E would like to explore the possibility of leaving some structures in place, particularly if removal would cause more environmental harm than good. FERC is open to this consideration. Until further information about the environmental impacts of removal are known, the California Department of Fish and Game (CDFG), California Coastal Commission (CCC), and National Marine Fisheries Service (NMFS) support the total decommissioning of the project. However, the current plan is complete removal unless additional information suggests a different outcome is warranted.

ACTION: PG&E plans to do an environmental analysis for each of the following four scenarios and bring these back to the group for consideration.

	Decommission	Leave in Place
Surface Lay Sub-sea Cable	Scenario 1	Scenario 2
Bury Sub-sea Cable	Scenario 3	Scenario 4

The following clarifications about the project facilities were made:

- Burying the cable costs approximately $1 million; the cost of a surface lay is currently unknown.
- In conjunction with the Coast Guard, this area will be properly lit and charted to enable safe transit around the project site.
- WEC manufacturers will absorb the cost of the machines and moorings, including decommissioning costs. Each will design and install the mooring system appropriate for their device.
- 14 WEC manufacturers responded to the RFI. All are under consideration for the Humboldt WaveConnect pilot project or for future sites. All devices use multi-point catenary mooring systems.

Process Next Steps

PG&E plans to have a draft project description prepared by February 2010. This gives the HWG Biological Resources Agencies Subcommittee time between now and February to work together and build consensus on what information should be included in the project description. Future meetings are planned for:

- December 2, 2009: Conference Call, 3 pm – 4 pm
- January 7, 2010: In-person meeting, 9 am – 4 pm
- February 2, 2010: In-person meeting, 9 am – 4 pm

Marine Mammal Protection Act Discussion

The group reviewed the list of marine mammal species to be included in the Biological Assessment (BA) (list provided by HT Harvey and Associates, consultant to PG&E). The group began discussing what baseline information is needed for the BA for each species. The following clarifications were made:

- The species included in the list are those that could potentially encounter or hear the project to some degree.
- HT Harvey's goal is to map out the probability that a given species will be routinely affected by the project, recognizing that the project has a physical effect on some species and not others.
- The Killer Whale migration patterns are rare and random, and the trends seem to be changing.
- Only the Eastern Steller Sea Lion is being studied, not the Western Steller Sea Lion.
- The Sei Whale and the Short-finned Pilot Whale are extremely rare and may be removed from the list.
- ACTION: NMFS will review and provide edits regarding completeness of the species list and accuracy of characterizations of the species.

- The species listed to occur rarely in the project area will be recognized in the BA as having the potential to transit the project area, but will be addressed to a lesser extent than other species in the BA.
- NMFS explained that they will need to know the number of species exposed to the project both spatially and temporally in order to do their environmental analysis. This can be obtained through modeling the existing data. Doug Davy, CH2M HILL, explained that species density estimates could be provided as soon as January of February, 2010.
- Density estimates do not need to be included in the Draft License Application (DLA) as long as progress is being made.
- Passive acoustic monitoring will be conducted throughout the project's duration.
- CDFG suggested that monitoring should occur before, during and after the project's duration.
- Where baseline information is lacking, all potential effects will be evaluated in the effects analysis.
- NMFS highlighted that this pilot project is an information-gathering opportunity to discover the real effects of wave energy on marine mammals; the group should further explore what adaptive management has occurred in Europe.

Doug Davy, CH2M HILL, shared a resource list for baseline information. He also shared that additional studies are being obtained from the following groups/individuals:

- US Forest Service's Redwood Sciences Laboratory – near-shore studies on marine birds and animals
- Dawn Goley – Humboldt State University

Essential Fish Habitat Discussion

The group discussed information available regarding the habitat of the project area. HT Harvey & Associates provided a species list to guide the discussion. Cited in the species list are resources for local habitat info (see EFH species list attached). The following items were discussed in regards to baseline information needs for EFH:

- The resources listed are dated. Research needs to be done to determine these resources are still viable data sources.
- Marbled Murellet data could serve as a surrogate data source to extrapolate that the Murellet is an indicator species for other species in the area (i.e. indicates species that are the forage base for the Murrellet to be in the area)
- Doug Davy, CH2M, shared the U.S. Geological Survey's preliminary information on seafloor data around the project area. The Santa Cruz NMFS Laboratory will analyze this information. The group agreed that this is exactly the type of information that is desired for EFH.
- Water and sediment chemistry data will most likely be available though existing information (i.e. Recent survey of the Freshwater Tissue outfall includes sediment reports). Doug Davy, CH2M HILL will look into this.
- Information regarding antifouling paint, hydraulic fluids, and the like used in/on the WECs will need to be provided for the EFH permit. Although some of these materials are not considered toxic (e.g. mineral oils), they still need to be reported.
- There is data available for sediment dynamics from harbor dredging and the Eel River oceanographic studies. Sharon Kramer, HT Harvey, will look into this.

- Monitoring should be done pre-construction of the project. This data would be included in the Final License Application (FLA). Then monitoring could continue post-filing and through the duration of the project.
- It would be best to gather more sediment grab samples.
- The FERC preliminary permit does not exclude PG&E from gaining the necessary permits to obtain sediment grab samples for baseline information.

Threatened and Endangered Fish and Marine Invertebrate Species Discussion
The group discussed Threatened and Endangered Fish and Marine Invertebrate Species list and made the following comments/distinctions:

- Black Abalone: Probably not in the project area
- Tidewater Goby: Probably not in the project area
- Great White Shark: In the project area; should be added to the species list.
- Steelhead: Extremely likely in the project area.
- Salmon: Extremely likely in the project area.
- Green Sturgeon: The southern Distinct Population Segment (DPS) is in the project area and has extensive migration patterns. This is the only species with listed critical habitat. The Northern DPS is not in the project area.
- Southern Eulachon DPS: In the project area. Its habitat has not been identified for the northern California coast yet. Monitoring needed pre-construction, not pre-application.
- Longfin smelt: Species is in the project area. Monitoring needed pre-construction, not pre-application.
- Sea Turtles: Unlikely in the project area. NOAA Fisheries is currently designating critical habitat for these species.
- Dungeness Crab: This species needs to be added to this list or as a prey species on the EFH list.

The group discussed additional baseline information needs and potential studies and monitoring that could be done to obtain this needed information. The following clarifications were made:

- Additional information is desired to understand the extent to which electromagnetic fields (EMF) disrupt migration patterns and feeding opportunities. CDFG clarified that any precautions to reduce EMF are preferred. PG&E clarified that offshore studies on EMF will be available in January/February of 2010 and they will share this info when it becomes available.
- Additional information on species transiting through the project area/region could be obtained through existing buoy arrays that track tagged species. Discussion ensued around expanding these arrays to collect baseline information for Green Sturgeon, Salmon, Steelhead, and Great White Shark, There was a broader discussion about potentially expanding the arrays to gather information specific to the project, including: costs, cost-sharing, permitting, and study design. It was agreed that baseline information gathered from the arrays should be available prior to construction of the project, anticipated for 2012. It is not necessary to have this information prior to filing of the FERC Final Pilot License Application. Ideally the arrays would be installed in March/April of 2010. PG&E should check with both the U.S. Coast Guard and the California Coastal Commission (specifically Tom Luster) to determine what permits are necessary.

- For species without baseline information, it should be assumed that the species are present in the project area, and the impact analysis and adaptive management and monitoring plan should be designed based on this assumption.
- NMFS clarified that they do not propose new studies for endangered species (late fall run salmon and steelhead trout).
- CDFG clarified that baseline information for Longfin Smelt and Eulecon will need to be collected pre-project construction to asses if direct take by the project will be required for these species, but not before the license application.
- CDFG and NMFS clarified that take could occur if the WEC designs have an overtopping device or entrapment structure.
- NMFS expressed interest in knowing project effects on the crabbing industry.
- The biological assessment should include a table of species that are not considered further with a short description on why.

Plant Species Discussion
Stillwater Sciences, consultant to PG&E, shared the plant survey information available for the project. Preliminary plant surveys were conducted in the spring of 2009. Further surveys will be conducted once the project description is further defined. The CCC and CDFG emphasized that accurate descriptions of the plants and plant communities are very important, including descriptions of invasive plant populations that will help the reader identify how degraded the habitat is. CCC, CDFG, and USFWS agreed to provide feedback on the plant species list and coordinate with Stillwater sciences when the plant surveys are conducted in the spring.

Wildlife Species Discussion

The group discussed the Terrestrial Animal Species list and made the following comments/distinctions:

- Behren's Silverspot: Species not in project area and can be removed from the list.
- Clapper Rail: Species can be removed from the list.
- All of the federally listed species should remain on the list.
- Ashy Storm-Petrel: Species should be added to the list.
- Black-footed Albatross: Species should be added to the list. This species does not currently have a special status, but may in the near future.
- USFWS and CDFG clarified that only a subset of the species on the list will need to be included in the main document; the rest can be included as an appendix. They will work closely with Stillwater Sciences to determine which species should be included where.
- Stillwater Sciences will look into methods for bird monitoring, including COASST Watch.
- USFWS clarified that they have enough information for Marbled Murrelets and Snowy Plovers to analyze the effects of the project.

Adaptive Management and Monitoring Discussion
These plans should be clear by January 2, 2010. This topic will be further discussed at a later meeting.

Action Items

Action Item	Who	When
1. Find information on Platform Irene's cable	1. PG&E	1. ASAP
2. Define pros/cons of surface-lay vs. plowed-in cables	2. PG&E	2. January 7 meeting
3. Ongoing discussion regarding acceptable anchoring and mooring systems	3. K&W to put on February agenda	3. February 2 meeting
4. Contact Rick Golightly, HSU, regarding Murrelet radio telemetry study.	4. CH2M HILL and/or HT Harvey	4. ASAP
5. Contact Eric Bjork, HSU, regarding HSU stranding records.	5. Sharon Kramer, HT Harvey	5. ASAP
6. Request NMFS 2010 & 2011 stranding information on pinnipeds.	6. HT Harvey	6. ASAP
7. Connect NMFS with Redwood Sciences Laboratory to review data	7. Sharon Kramer, HT Harvey	7. ASAP
8. Email information on essential fish habitat to Briana	8. NMFS	8. Done
9. Provide a full bibliography list to the group on essential fish habitat	9. Sharon Kramer, HT Harvey	9. ASAP
10. Share when the NMFS Laboratory will be analyzing the grab samples for the USGS study	10. Doug Davy, CH2M HILL	10. ASAP
11. Post CH2M Hill study on the website or FTP site	11. Doug Davy, CH2M HILL	11. ASAP
12. Share book name regarding sediment dynamics from harbor dredging and eel river oceanographic studies.	12. Sharon Kramer, HT Harvey	12. ASAP
13. Speak with Guy Cochrane, NMFS Santa Cruz Laboratory	13. Doug Davy, CH2M HILL	13. ASAP
14. Include Density estimates as an upcoming agenda topic	14. Kearns & West	14. January/February 2010
15. Share Dungeness Crab Study to be released in December 2009	15. Sharon Kramer, HT Harvey	15. December 2009
16. Find status of array monitoring off the Humboldt Coast	16. Bill McIver, USFWS	16. ASAP
17. Share information on monitoring buoy permits	17. Bill McIver, USFWS	17. ASAP
18. Revisit EMF topic	18. K&W to put on	18. January/February 2010

	agenda	
19. Update resource list with EMF studies and distribute to group	19. CH2M HILL	19. January/February
20. Share Department of Interior's EMF report to congress	20. Doug Davy	20. ASAP
21. Contact COASST watch via Pete Nelson	21. Christine Champe, Stillwater Sciences	21. ASAP
22. Complete an environmental analysis for four possible scenarios involving facility removal	22. PG&E	22. January/February
23. Review and provide edits on the species list and characterizations of the species	23. NMFS	23. ASAP

Attendees

Agencies:
John Dixon, California Coastal Commission
Vicki Frey, California Department of Fish & Game
Michael Van Hattem, California Department of Fish & Game
Laura Engeman, California Ocean Protection Council (by phone)
John Dye, California State Lands Commission (by phone)
Steve Mindt, California State Lands Commission (by phone)
Ken Hogan, Federal Energy Regulatory Commission (by phone)
Diane Ashton, National Marine Fisheries Service
Monica Deangelis, National Marine Fisheries Service (by phone)
Laura Hoberecht, National Marine Fisheries Service
Dave White, National Marine Fisheries Service
David Woodbury, National Marine Fisheries Service (by phone)
Bill McIver, U.S. Fish and Wildlife Service

PG&E & Consultants:
Bill Toman, PG&E
Ian Caliendo, PG&E (by phone)

Doug Davy, CH2M HILL
Jeff Jacobsen, H.T. Harvey
Sharon Kramer, H.T. Harvey
Rick Williams, SAIC (by phone)
Christine Champe, Stillwater Sciences
Emily King Teraoka, Stillwater Sciences

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