

DECEMBER UPDATES

Fish Passage O&M Coordination (FPOM) Team
December 6th, 2007

1. Review/Approve Agenda and Minutes (B. Klatte)
2. Action Items (B. Klatte)
 1. [Oct 07] J. Adams requested some discussion on the Water Management Plan so altered operations for navigation can occur quickly. **ACTION:** B. Hevlin, J. Bailey and J. Adams will discuss appropriate language for inclusion in the FPP.
 2. [Oct 07] Dam Angling and Hazing program plans. **ACTION:** D. Wills will send an example of a lethal take permit application to Klatte, Cordie and Mackey.
 3. [Aug 07] Draft tube grizzly drains. **ACTION:** BON and TDA to work on a design for new grizzly grates.
 4. [long time ago] Switch Gate Seal at BON: **ACTION:** TDA and BON will collaborate on new, possibly air bladder, seals. B. Hausmann needs more information regarding the continuous flushing flow request from NOAA Fisheries.
 5. [Nov 07] TDA stub weir removal. **ACTION:** D. Clugston to work up the cost estimates and get the Schlenker analysis on paper.
 6. [Nov 07] JDA FOG testing procedure. Fredricks would like to see justification for the operation put in the FPP change form. JDA plans on testing the procedure the week of 25 November. **ACTION:** B. Cordie will take the results of the test and make changes to the FPP change request form.
 7. [Nov 07] JDA U16. **ACTION:** B. Cordie to provide an updated status report in December.
 8. [Nov 07] BON VBS cleaning criteria. **ACTION:** D. Schwartz to send out criteria and schedule for FPOM review by the December meeting. **STATUS:** *Dennis will provide everything at the FPP review meeting in January.*
 9. [Nov 07] Pikeminnow removal at Corps collection facilities. **ACTION:** T. Mackey to find the FPOM minutes detailing USACE policy. **ACTION:** J. Bailey and T. Mackey will collect info on pikeminnow collection at the projects. Ask the Project bios if this is time effective. B. Klatte will look into the legal issues. **STATUS:** *The Corps will not pursue this issue further, due to the legal issues involved. The process would have to go through NEPA compliance and the Corps has no authority to take pikeminnow.*
 10. [Nov 07] Pinniped sightings at Bonneville. **ACTION:** FFU will keep an eye on the pinniped numbers and update FPOM at the December meeting. B. Klatte will find the contract information and the proposed hazing start date. **STATUS:** *The contract runs from 1 February to 30 September 2008. The states have requested permission to haze Steller sea lions in December. They are expected to begin the week of 10 December.*
 11. [Nov 07] Video counts and the web. **ACTION:** J. Dalen will look into including additional information on the website. **STATUS:** *Notes are posted at <https://www.nwp.usace.army.mil/op/fishdata/home.asp>.*
 12. [Nov 07] BON spillway erosion repairs and survival information. **ACTION:** D. Schwartz will send out a packet of information prior to Thanksgiving. **STATUS:** *Information sent out on 20 November.*
 13. [Nov 07] TIE crane and TIES. **ACTION:** B. Klatte will head up an ad-hoc committee to put together a fact sheet on the TIES. The committee will consider the impacts of the B2CC, BGS, etc on the effectiveness of the TIES. Committee members include Klatte, Schwartz, Bettin, Fredricks, Wills and Mackey. First meeting is 10 January immediately following FPOM. **STATUS:** *TIE crane funding goes to the capital workgroup on 13 December for approval.*

14. [Nov 07] FPP Comments. **ACTION:** T. Mackey to send NWP drafts to RCC NLT 30 November. **STATUS:** *NWP sections sent to S. Boyd on 28 November. Draft will be posted on the TMT website. S. Boyd will send out the link when the documents are posted.*
 15. [Nov 07] FPP Review meeting. **ACTION:** B. Cordie to look into reserving the Westrick room for 25 January. **STATUS:** *Room reserved on 20 November for 25 January.*
 16. Discussion of JDA SMF future operations. **ACTION:** D. Schwartz will set up a meeting for all the necessary participants to really, thoroughly discuss the future monitoring needs at the JDA SMF. **STATUS:** *Mackey talked with Lorz about a meeting. Lorz indicated he would meet with other FPAC members first to discuss smolt monitoring needs. Mackey is waiting to hear back.*
- 3. Updates. (B. Klatter)**
1. Pinnipeds return to Bonneville. States submit a request to start hazing Steller sea lions in December.
 2. Bonneville U18 went out of service on 3 December for FGE mods. Seven sturgeon were rescued from the draft tube on 5 December.
 3. JDA south fishway dewatered on 4 December. TDA east fishway dewatered on 5 December. In total, five lamprey were given to the tribes.
 4. There was a change in the lamprey distribution policy. The Umatilla and Nez Perce tribes will each be collecting 500 lamprey from JDA and TDA dewaterings. Any lamprey salvaged, after the tribes have collected their fish, will be returned to the river. This policy change occurred on 3 December.
- 4. Sea lion hazing methods.** BPA would like FPOM to review specs for the [sea lion deterrent device \(SLDD\)](#) and [ACTIX's proposal](#). Please be prepared to provide comments at the January meeting.
- 5. FPP Comments.** Please see [Rick Martinson's proposed changes below](#).

ACTIX

SLDD – Sea Lion Deterrent Device

Stand-off Sea Lions from 50 to 200 meters

Specifications:

Input power - 208-240vac, 1Ø, 60 Hz									
Stored energy	3kJ			6kJ			12kJ		
Distance m	50	100	200	50	100	200	50	100	200
Pressure Psi	4	1	¼	8	2	½	16	4	1
Line power kva	3			6			9		
Duty Cycle									
Ave. sec.	5			5			5		
Burst sec.	2			2			2		



ADVANCED CONVERSION TECHNOLOGIES, INC.

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December 1, 2007

Bonneville Power Administration
Integrated Fish and Wildlife Program, Mailstop KEWR-4
P.O. Box 3621
Portland, OR 97208-3621

Attention: Mr. Scott Bettin, Fish Biologist

Subject: Information on ACTIX's Sea Lion Deterrent System (SLDD)

Reference: 30 November 2007 telecon between S. Bettin/BPA and E. Ayers/ACTIX

Dear Mr. Bettin:

Advanced Conversion Technologies, Inc. (ACTIX) is pleased to provide the subject information in response to our telephone conversation. I will provide a short narrative on how the technology was developed and its current state of deployment.

The technology was developed in response to serious attacks by sea lions on the sportsfishing industry in San Diego, California. Our technology, originally developed for military applications, develops a tremendous shock wave that travels omni-directional in the water without the tremendous energy release into the ocean environment that explosives cause. We arranged a test in 1995 with the Sportsfishing Association of California on a fishing charter outside of San Diego bay with our own demonstration test unit. We were able to stand off all sea lion attacks while the fishing was able to continue. Additionally, we were able to scare away two other sea lions from another vessel at over 50 yards distance and by the end of the day the sea lions did not return to the area.

Based upon the successful results of our test in 1995, we received a contract in 1997 to build a portable device to be operated from San Diego sportsfishing vessels. Initial test data for the pressure levels and waveforms were captured and recorded by Greeneridge Services, Inc. and testing against sea lions was to be started in late 1998. However, due to the threat of a lawsuit brought by the Humane Society, all further testing was halted. In the following year the California Coastal Commission denied a permit to deploy the technology. In 2000, a comprehensive study was conducted by the U.S. Navy's SPAWAR facility at Point Loma, which showed the device did not permanently harm two sea lions subjected to several hundred shots from the device. The publication of this data did not change any decision by the California Coastal Commission and no further work was done. Given the political climate in California, where any means to effectively deal with the sea lion problem is considered inhumane, we did not pursue the program any further. However, based upon recent news reports detailing the use of lethal measures for problem sea lions at the Bonneville Dam, I thought the time was right to contact someone involved with this issue.

Our technology is able to more effectively couple the shock wave energy when compared to conventional explosives and offers the ability to adjust the power levels when needed, making it difficult for sea lions to acclimate to the pulses. Most recently in 2004, in tests on human divers at the U.S. Navy's Naval Underwater Weapons Center (NUWC) at Dodge Pond, Connecticut, our technology developed sufficient sound pressure to force the diver out of the water at over 120 yards. We believe this system can be deployed at fixed locations such as a buoy mooring and set to fire at either a random pattern to keep the sea lions from congregating in the area or set to go off when they arrive at a specific distance. The device is also compact enough to be mounted on a boat to provide mobile enforcement.

I have provided a picture our portable device along with its specifications. This is the same unit used in testing at the U.S. Navy's SPAWAR facility and the collection of data by Greeneridge Services, Inc. We also have copies of all independent reports from Greeneridge Services, Inc. and the U.S. Navy verifying the sound pressure and waveform measurements.

I have also included a copy of the Navy's SPAWAR report and I need to address a couple of issues relative to our technology. One major point I would like to make is that our system is not the same as the "sparker" technology developed by EG&G in the early 1950s. Our technology releases all of its energy in the microsecond domain versus the sparker technology in the millisecond domain. The faster energy release greatly increases the strength of the shock wave and produces no air bubble. We do not saturate the area with sound, unlike low frequency active sonar devices. Another point is in 2001, ACTIX became the successor to all the technology developed by Pulse Power Technology, Inc. (PPTI). I am clarifying this issue because PPTI is listed in the SPAWAR test documentation and report noted above, prior to the 2001 date.

I would like to further discuss our system in more detail and find hope we can find a way to have it tested at the Bonneville Dam. I look forward to your reply and can be reached at actix@att.net or at (619) 670-1612.

Sincerely,

Evan Ayers
Contracts Manager

Enclosures

Draft FPP Change Form

9/14/07

Change Request Number:

Date: November 7, 2007

Proposed by: Jerry McCann, FPC, Rick Martinson, PSMFC

Location of Change

Appendix J, 3.g.

Proposed Change:

I'm proposing that we use the water temperature page on the Technical Management Teams web page as the source of the temperature data for determining when to start and stop high temp sampling protocols. Follow this link to the page.

<http://www.nwd-wc.usace.army.mil/tmt/documents/ops/temp/200707.lcol.html>

This page presents daily averages but a link takes you to a summary of the hourly averages for that day, which could be used as the instantaneous average. The data is from the dissolved gas monitoring network.

Reason for Change:

To simplify. The current procedure is time consuming, redundant, inefficient, and lacks transparency. The proposed change will address all of these shortcomings and provide essentially the same data. The data from this source was compared to the CoE temperature logger used this year and the average difference was 0.2⁰F. See summary below for more details on the comparison.

Thermometers in the holding tank could still be the back up system.

Advantages:

1. This equipment is owned by the CoE but maintained by USGS. It is calibrated every two weeks.
2. The data is available to all interested parties, via the web.
3. Hourly averages are presented and updated regularly, making it easy for SMP staff to get the data needed in a timely manner, eliminating delays and biased sample days. SMP staff will gladly send out a summary of the hourly temps to all interested parties, which could easily be verified on the web.

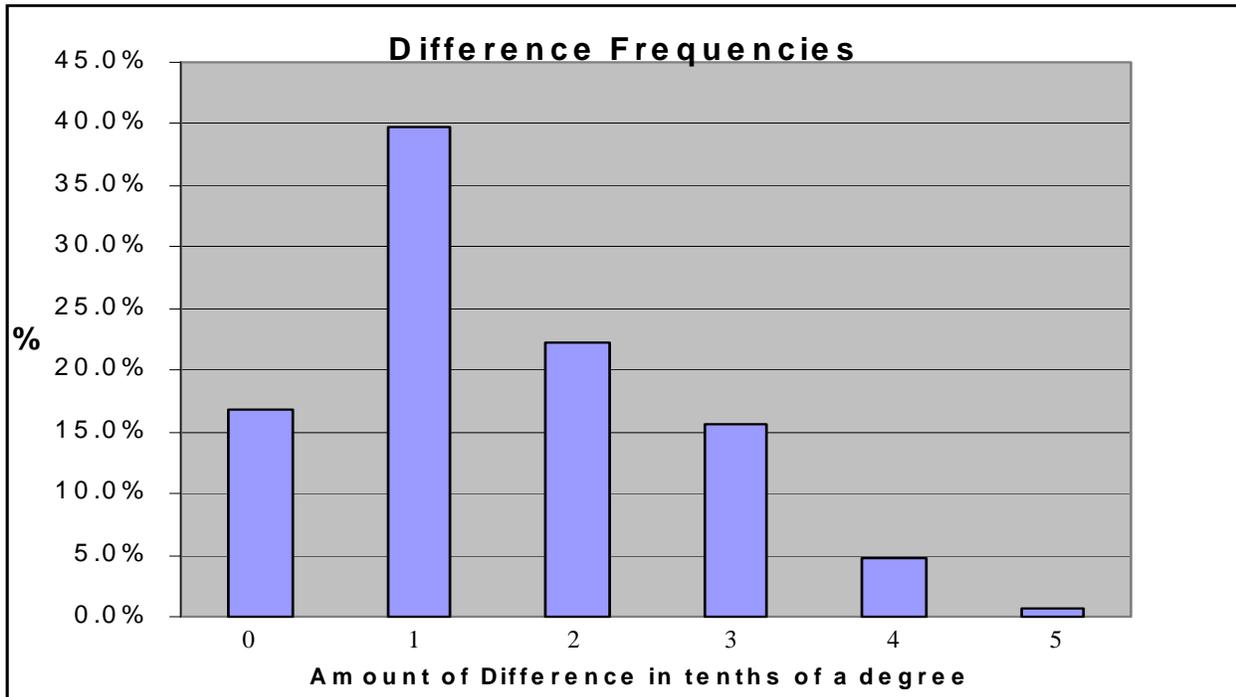
Comparison of Temperatures from the Dissolved Gas Monitoring Network (/forebay) and the Corps Tellog data logger (holding tank), 15 July - 14 September 2007, in degrees Fahrenheit.

How Different Were They?		
Total Data Points:		1,475
Difference	Incidence	Percent Frequency
0	249	16.9%
0.1	585	39.7%
0.2	329	22.3%
0.3	230	15.6%
0.4	71	4.8%
0.5	11	0.7%
	1475	100.0%

Summary Table	
Min Diff.	0.0
Max Diff	0.5
Avg. Diff	0.2

How did the probes differ?		
Forebay = Holding Tank	245	16.6%
Forebay > Holding Tank	359	24.3%
Forebay < Holding Tank	871	59.1%
Total Data Points	1475	100.0%

**Over 99% of the time the difference was less than a half a degree
F.**



Comments from others:

Record of Final Action: