

NOTES | 7/20/2009 Conference Call

Altamont Pass Wind Resource Area Scientific Review Committee

Prepared by the Center for Collaborative Policy

Approved by the SRC on August 20, 2009

SRC Members Present

Joanna Burger

Jim Estep

Sue Orloff

Shawn Smallwood

Discussion Topics

Meeting Summary Approval

Monitoring Team Update

Overview of Seasonal Shutdown Approach

Unresolved Analytical Issues Relating to the Monitoring Report

Meeting Outcomes

- SRC May 18, 2009, conference call meeting notes (P110) approved.
- The Monitoring Team's Seasonal Shutdown Analysis is proceeding. The SRC recommended that the Monitoring Team not spend time analyzing crossover study design data because of the large uncertainty in classifying fatalities into a shutdown or operational period.

Action Items

- Monitoring Team to hold SRC Subcommittee (Shawn Smallwood and Julie Yee) meeting and produce meeting notes before July 29, 2009, SRC conference call
- Monitoring Team to develop database table download instructions for SRC website.
- Monitoring Team to update and standardize site names on data tables
- Monitoring Team to post data table for shapefile creation on SRC website for baseline study
- Jim Hopper to send Enertech shutdown data to Monitoring Team
- NextEra will provide baseline annual or monthly operational data and updated operational data for the current period to the Monitoring Team

Next Conference Call

Date: July 29, 2009, 9-11 a.m.

Agenda:

- County Update: Permits Governing SRC
- SRC Comments on the 48-Hour Search Interval (KB) Study and the Scavenger Removal Memo
- Second Subcommittee Meeting Notes

Next In-Person Meeting

Date: September 22-24

Introductions, Ground Rules and Agenda Review

This meeting is the first of several conference call meetings that will occur before the SRC's first 2009 in-person meeting on September 22-24. The goal of the meetings is to give the Monitoring Team an opportunity to ask the SRC questions, and SRC members an opportunity to provide guidance. SRC members expressed frustration that the planned in-person meeting in July has been postponed to September 22-24, saying in-person meetings are very useful to further collaboration with the Monitoring Team. Sandi Rivera of Alameda County had decided to postpone the meeting because Monitoring Team products would not be ready in time for the meeting, and in-person meetings are costly.

Meeting Summary Approval

Related Documents

[P110 SRC Meeting Notes 5-18-09 Conference Call](#)

The SRC approved the Meeting Notes with no changes.

Monitoring Team Update

Monitoring Team members Doug Leslie, Steve Citron-Pousty, Jesse Schwartz and Brian Karas provided an update on the database and the Team's upcoming schedule.

- **Status of Database:** Progress has been made toward an integrated database, but there has been a setback with the current study fatalities table. The Monitoring Team has resolved string identification numbers; created a unified search table; and finalized baseline and WRRS data except for string numbers. However, it has been discovered that there are more than 100 duplicate fatality numbers assigned to fatalities in the current fatalities table. This issue is expected to be resolved by the end of the week.
- **Schedule:** The Monitoring Team asked that any SRC comments on two of the Team's draft reports, the draft 48 Hours Search Interval (KB) Study (M32) and the Carcass Removal/Scavenging Trials Draft Memo (M31), be submitted soon so that they can be discussed at the next SRC conference call meeting on July 29, 2009.

Public Comment/Questions

Jim Hopper said he has been unable to download data tables from the SRC website. In addition, site names in the database are not consistent. Some SRC members said they also have been unable to download the data.

In regards to downloading, Monitoring Team members said there is a workaround, involving right clicking, selecting all and pasting text into Excel. The Monitoring Team will place download directions on the SRC website. Site names on the database will be updated. The Monitoring Team encouraged call participants to look at the database and report any important issues.

Emre Ergas asked about the extensive database cleanup process, and what type of quality assurance had the monitoring team completed.

Steve Citron-Pousty of the Monitoring Team said some of the issues being found now date back to the beginning of the study, and were only discovered when the data was placed in the database and queried.

Renee Culver said NextEra has been unable to determine the attributes for a small number of Altamont Power Group turbines, and asked if a map of the baseline study can be placed on the website. The Monitoring Team will post a data table on the SRC website that can be used to create a GIS shapefile map.

Overview of Seasonal Shutdown Approach

Related Documents

[P112 Briefing Memo: Previous SRC Discussions on Seasonal Shutdown Analysis](#)

Jesse Schwartz of the Monitoring Team said he has been unable to find the founding documentation on the seasonal shutdown study design and asked the SRC for guidance.

Shawn Smallwood said the idea originated in 2005 from the wind companies, who had consultant Wally Erickson of WEST, Inc. request that Smallwood look into it. After Smallwood and Linda Spiegel produced three reports recommending a four-month winter shutdown, Erickson developed a crossover winter shutdown design that was incorporated in 2005 permit conditions. The design was slightly modified by the Settlement Agreement. The SRC later recommended eliminating the crossover design out of concern that it caused fatalities through habituation, as formerly non-operating turbines surprise birds when put back into operation in the middle of the winter. Habituation was seen as a hazard during the middle of winter when raptor numbers peak in abundance.

Jesse Schwartz said there are **two general approaches** to analysis of the seasonal shutdown data:

- A categorical analysis by treatment type (crossover, complete shutdown, ongoing operations)
- A regression analysis looking at each plot and each year and the amount of operating turbines, operating megawatts and other correlates such as bird use

The data is messy because a crossover design occurred for one period, complete shutdown more recently, and no shutdown during the baseline study period. There are barriers to the analysis, such as processing bird use.

Study Questions

- Has mortality changed for the four species as a result of the turbine shutdown?
- During the crossover design, what were fatality numbers?
- What do we see with the exceptions: 1) Diablo Winds was not shut down – Are there seasonal patterns? 2) Enertech turbines are shut down each winter because of weather.

Jim Hopper said he has Enertech shutdown data he can share with the Monitoring Team. Shawn Smallwood's short report on the Enertech turbines was noted (P58).

SRC Comment/Questions

- How will the staggered startup of the past year's shutdown be addressed in the analysis? This question is subject to discussion. Factors include the extent of the error and of operational megawatts.
- The Diablo turbines are very different from other turbine designs and may have different mortality effects.

Issue: Crossover Design

SRC Members noted that there was a problem in the execution of the crossover design, and that the search interval was sometimes longer than the shutdown, resulting in lost data and inability to associate a fatality with a particular operational phase. The Monitoring Team can look at SRC comments made in the meeting when the original Monitoring Team seasonal shutdown report (M13) was presented. Another error could be caused by the way birds moved in the APWRA, causing challenges in identifying site of fatality. Another issue was fatalities that weren't cleared in preparation for turbine start-up.

SRC Recommendation

SRC members recommended the Monitoring Team not spend time analyzing crossover design data, given the data problems caused by search interval length and other factors.

One Monitoring Team member said there could be similar issues with bird habituation with the universal shutdown. Because shutdown was phased to allow time for Monitoring Team searches, there was a mix of turbines on and off at the beginning and end of the universal shutdown, possibly causing habituation issues.

Issue: Operational Data

The Monitoring Team has operational data for AIC only. Power output data could be obtained for other firms at the substation level. In addition, the operational data is for 2005-2008, and does not include the baseline period. The Monitoring Team could do a smaller analysis on the NREL turbines common to both the baseline and current periods for which there is some form of broad operational data, looking at operating minutes, shutdown and fatalities.

In regards to baseline operational data, Joan Stewart and Renee Culver said AIC does not keep operational data for an extended period. However it has annual data for each turbine extending back to the baseline period. They agreed to provide the monitoring team this baseline annual operating data, as well as updated current operational data since February 2008.

SRC Members suggested the Monitoring Team do what it can with whatever data is available. For example, the analysis could look at burrowing owl fatalities at operational

versus nonoperational turbines in the current monitoring period for the AIC turbines. As a fall-back analysis, the Monitoring Team could look at estimated fatalities per megawatt per turbine for the same timeframe for the baseline.

Based on the discussion, the Monitoring Team concluded it will bring in an analysis of the EnerTech turbines, only compare the Diablo turbines to themselves, and look at the Santa Clara turbines, which were shut down for one year (P76).

Public Comment/Questions

Bill Warren-Hicks said the numbers differ dramatically year-to-year in the data set so he would encourage an analysis looking year-to-year at whether the average mortality rate changes.

Renee Culver asked what the target date is for the study to be complete. The Monitoring Team will report back on its analysis process in mid-August, and the draft seasonal shutdown analysis will be available by September 8 for discussion at the September 22-24 in-person SRC meeting.

Bill Warren-Hicks was concerned that "search effort" is misrepresented in the current report, because the radius changes in certain parts of the APWRA. This issue will be agendaized for subcommittee discussion and come back to the full SRC at the next call.

Unresolved Analytical Issues Relating to the Monitoring Report

Related Documents

[M33 6-26-09 SRC Subcommittee Meeting Notes](#)

Filtering Criteria

SRC Questions/Comments

- How do we know that a fatality is missed during the first survey? This is based on the estimate of the age of the carcass. One SRC member said there are so few of these cases that it shouldn't make a difference statistically.
- How many fatalities will be filtered out? The Monitoring Team will tally numbers and give specific explanations about excluded records.

Issue: Search Area/Radius

The search area will have changed to some extent between baseline and current periods because of attrition with removal of turbines within and off the ends of strings. The baseline and current studies have the same maximum for including fatalities for analysis, 125 meters. The Monitoring Team has some concern that there may be an issue about whether the various teams participating in the baseline and current studies used the same effort in looking for birds outside the search radius, possibly introducing a bias. One SRC member said the detection of carcasses out that far could possibly contribute a bias. However, turbines do throw carcasses out beyond the search radius.

One possibility might be to tighten the maximum analytical radius used for certain analyses. The larger maximum radius of 125 meters could be suitable for making fatality rate estimates, while the actual search radius could serve as the boundary when testing hypotheses related to treatments.

Public Comment/Questions

Bill Warren-Hicks expressed concern about error being introduced by the component of birds sighted outside the search radius.

Monitoring Team members agreed birds outside the search radius is a concern. This remains an open issue for discussion.

Renee Culver asked if there has been agreement on how to calculate mortality. Jesse Schwartz said the 48-Hour Search Interval (KB) Study will look at whether a different scavenger removal/searcher efficiency rate is warranted for feather spots. Aside from this, the Monitoring Team intends to continue with the scavenger removal/searcher efficiency rate, try to make it as specific to search interval as possible, by season and by plot. Raw data will be presented.

Bill Warren-Hicks said the Monitoring Team will need to determine the sampling unit. Jesse Schwartz said it will be to plot-level by season.

Sampling unit, search area and level of effort in relation to search area may be items for future discussion.

ATTENDEES

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Joanna Burger
Shawn Smallwood
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Consultants

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Jesse Schwartz
Brian Karas
Steve Citron-Pousty

Identified Public

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