

***Draft Minutes of CALMAC Website Committee Status Call
September 8, 2021, 2 PM PDT***

Re: Bi-monthly in person status call of the CALAMC Website Committee.

Present: Dan Hudgins, San Diego Gas and Electric

Kim Sides, Southern California Gas Company

Lauren Garcia, Pacific Gas and Electric

Tim Caulfield, Caulfield Consulting

Jeff Yip, Third Strand

Absent: Cynthia Rogers, California Energy Commission

Reginald Wilkins, Southern California Edison

Kevin Valenzuela, San Diego Gas and Electric

Unassigned, California Public Utilities Commission

Summary: The Website Committee video call lasted approximately 35 minutes. The attached power point presentation was narrated by Tim Caulfield with assistance from Jeff Yip. The only question at the completion of the presentation concerned billing under the co-funding agreement. Lauren Garcia said that she intended to catch up on that and bill quarterly.

The presentation lacked a conclusion slide. The current conclusions are as follows:

- The Project has established that the weather files can be created using an online version of the White Box Technologies programs, and that the output product is the same.
- For the last three months Third Strand has created the weather files with approximately one hour per month of manual input.
- The future work will focus on maximizing the automation process.
- The project team is currently anticipating that most of the automation objects can be achieved, and that the project will come in on budget.

The next status report will be a written report, approximately October 15th. The next planned video meeting will be November 10, 2021 at 2 PM Pacific Time.



CALMAC Maintenance and Weather File Creation Project

Status Report to CALMAC Website Committee

September 8, 2021



Primary Project Structure

- Task 1 – Management and Maintenance of CALMAC Website
- Task 2 – Administration of the CALMAC Website Committee
- Task 3 – Creation, Automation and Posting of California Weather Files
- Task 4 – Host Updates of the California Weather Reference Files



Maintenance of CALMAC.org and Website Committee Support Tasks 1 and 2

- These tasks are a continuation of the project that has been going on since CALMAC.org was taken over by the CALMAC Website Committee in 2000.
- **Tasks completed from May 2021 through August 2021:**
 - Posted reports and monitored website; hosted website.
 - Third Strand completed the parallel website based on updated server software; tested the website and brought it on line; removed old website from the web.
 - Facilitated CALMAC Website Committee calls.
 - These tasks run for the duration of the contract.



(Slide from PI Meeting Presentation)

Create, Automate and Host Weather Files Tasks 3 and 4

- This is the new portion of the CALMAC project.
- The objective is to “automate” the process of creating and posting of the weather files needed by California evaluators.
- There was considerable uncertainty about how successfully the team can automate the process of creating the weather files. This is meticulous work and often requires judgement and expertise that is difficult to automate.
- The Project Team will work on a best efforts basis to set up a file creation process that can be reproduced accurately and reliably, but complete success is far from guaranteed.



Project Steps – Task 3.1 and 3.2

Move code to web and validate


- Task 3.1 – Move the current White Box Technologies code for creation of weather files to the web
 - Create a Web-based platform - **Complete**
 - Transfer the White Box Technology to the platform – **Complete**
 - Study the current code and attempt to automate the processes – **75% Complete**
 - Adapt the computer code as necessary to work in the web environment – **Complete**
- Task 3.2 – Validate the Code
 - Create weather files using the web based code – **Complete, weather files can be created, process still requires some manual manipulation.**
 - Confirm that the web based code produces the same results as the files previously produced by White Box Technologies – **Complete – the weather files are created using the same software used previously, it is simply done on the web. Checks will continue as process is refined.**



Project Steps – Task 3.3 and 3.4

Adapt code to web and Annotate

- Task 3.3 – Adapt Software to Automate Processes
 - Review results of Task 3.1 and 3.2 with CALMAC Project Manager and Website Committee. **Today's discussion constitutes this review.**
 - Refine and adapt software to automate the process for creation of weather files. **40% Complete.**
 - Minimize the time and subject matter expertise needed to operate the software and clean its output. **60% Complete.**
 - “The level of “automation” that will be possible with the budget of this contract will be determined by the Statewide Project Manager and/or the CALMAC Website Committee.” [quote from the contract language.] **Proof of concept has now been accomplished! The project team believes the process can mostly be automated.**
- Task 3.4 - Annotate the code developed and approved in Task 3.3 so that routines and subroutines can be reviewed by CPUC. Note: Confidentiality of proprietary software is an essential element of this review. **20% Complete**



Project Steps – Task 3.5, 3.6, 3.7 and 4

Make the Weather Files Available

- ▶ Task 3.5 – Develop a web interface for the creation of the weather files. **20% Complete**
- ▶ Task 3.6 – Modify the code to use National Renewable Energy Laboratory (NREL) radiation data to create annual weather files based on actual radiance data, rather than modeled data. **0% Complete**
- ▶ Task 3.7 – To the extent possible, create an Applications Programming Interface (API) to facilitate the ease of downloading the weather files by users. **0% Complete**
- ▶ Task 4 – Host the weather files and download applications on CALMAC.org to make monthly and annual files available to the evaluation community. **80% Complete – The weather files are already hosted on the CALMAC website. The new version of the website is setup to host the software. Note: The new weather files will not be in a monthly format, but will simply be year-to-date files to the last date the file was created.**



Project Budget/Expenditure Specifics

- Contract Duration – January 2021 through December 2022.
- Total funding – \$195,000, Original budget split detailed below:
 - Task 1 – Management and Maintenance of Website - \$70,000
 - Task 2 – Administration of Website Committee - \$25,000

Tasks 1 & 2 have been combined for billing purposed since distinguishing the effort spent on administering the Website Committee from managing the website is difficult. Total budget for Task 1/2 reset to \$71,000. **This task is at 42% expenditure as of July 31st.**

Expenditure is running ahead of prorated based expenditure due to the cost of setting up the website using the new server software and incorporation of the platform for the weather file creation software. Task 1/2 is expected to come in on budget.

- Task 3 – Development and deployment of weather code - \$80,000
- Task 4 – Maintenance and hosting of weather files - \$20,000

Tasks 3 & 4 have been combined for billing purposed since distinguishing the effort spent on weather file code creation and automation from the creation and storage of files is difficult. The total budget for Task 3/4 is reset to \$124,000. **This task is at 54%**

expenditure as of July 31st. Expenditure is running ahead of prorated based expenditure but both subcontractors project completing the work within budget. The level of automation achievable is still uncertain.



Questions?

