WILDFIRE TECHNOLOGY RESEARCH AND DEVELOPMENT REVIEW ADVISORY BOARD MEETING

Meeting Minutes

Date: Wednesday, March 6, 2024

Time: 1:00 PM to 3:00 PM (PST)

Location: California Department of Technology
Training and Education Center
10860 Gold Center Drive, Suite 100,
Rancho Cordova, CA 95670

Members Present

Ilkay Altintas (Virtual Attendance)
Ronald Eguchi
Scott Gregory (Chair)
Kendall Jarvis
Andreas “AJ” Johansson
Ashish Kakkad
Justin King (Virtual Attendance)
Lisa Lien-Mager
Brian Marshall

Members Absent

None

Office of Wildfire Technology Research and Development Staff Present

Marcus Hernandez
Jose Gutierrez
Vivian Gerlach

1) CALL TO ORDER

The meeting was called to order by Chairperson Gregory at 1:00 PM.

1(a) WELCOME

Chairperson Gregory made brief introductory remarks welcoming Board Members to the March 2024 meeting.

1(b) ROLL CALL/DETERMINE QUORUM

Board Clerk Gutierrez held roll call, and a quorum was determined present.

1(c) POSTING OF THE AGENDA

Board Clerk Gutierrez stated the Meeting Agenda was posted in accordance with Government Code Section 11125.

1(d) MEETING INFORMATION ANNOUNCEMENT

Board Clerk Gutierrez read the Meeting Information Announcement that covers silencing devices, webcasting via Zoom, instructions for virtual attendees, and the order and conduct for public comment.

1(e) WELCOME NEW ADVISORY BOARD MEMBERS

Chairperson Gregory introduced two new Advisory Board Members, Member Lien-Mager and Member Marshall. Both Members introduced themselves and gave a brief statement regarding their background related to the Advisory Board.

2) APPROVAL OF DRAFT MEETING MINUTES

2(a) APPROVAL OF THE DECEMBER 2023 MINUTES (ACTION)

Chairperson Gregory asked if there were amendments or changes to the December 12, 2023, meeting minutes. There were no changes. Member Kakkad made a motion to approve, and Member Eguchi seconded. Chair Gregory called a voice vote. The motion passed unanimously, with Members Lien-Mager and Marshall abstaining due to not being seated on the Advisory Board in December 2023.

3) AGENDA AMENDMENTS AND CHANGES

Chairperson Gregory asked if there were amendments or changes to the March 6, 2024, Meeting Agenda. No changes were requested.

4) APPROVE CONSENT AGENDA

Chairperson Gregory asked for approval of the March 6, 2024, Meeting Agenda. Member Johansson made a motion to approve, and Member Lien-Mager seconded. Chair Gregory called a voice vote, and the motion passed unanimously.

5) OLD BUSINESS

5(a) OFFICE OF WILDFIRE TECHNOLOGY RESEARCH AND DEVELOPMENT ANNUAL REPORT - STATUS UPDATE (INFORMATION)

Chief Hernandez provided an update on the Annual Report. The Report was delivered to the Governor's Office on January 4, 2024. The Board will be informed when the Report is distributed. There were no questions from Members.

5(b) 2024 WILDFIRE TECHNOLOGY RESEARCH AND DEVELOPMENT REVIEW ADVISORY BOARD MEETING CALENDAR – (INFORMATION)

Chief Hernandez provided Members with the 2024 Advisory Board Meeting Calendar. Meeting dates are Wednesday, May 15th, 2024, Wednesday, August 14th, 2024, and Wednesday, November 13th, 2024. The May meeting is scheduled at the same location. Locations for August and November are to be determined. There were no questions from Members.

6) NEW BUSINESS

6(a) INTRODUCTION TO THE ALERT CA CAMERA NETWORK, PRESENTED BY THE UNIVERSITY OF CALIFORNIA SAN DIEGO (INFORMATION)

Chief Hernandez introduced Zachary Wells, Deputy Chief with the Kern County Fire Department, and liaison with the University of California San Diego (UCSD) and ALERTCalifornia (ALERT). Mr. Wells presented an overview of the ALERT system, including how it is used in Kern County, a history on its development, and significant improvements in capabilities that have occurred in the last year, including the growing use of Artificial Intelligence (AI) technology. AI enhancements are a force multiplier that assists in the discovery of and response to incidents; however, the system is not dependent on AI. ALERT and CAL FIRE were recognized as having one of Time Magazine's "Best Inventions" of 2023 due to the incorporation of AI into the ALERT Network.

Mr. Wells cited several examples of how early detection using ALERT had helped contain fires before they got too large and alert first responders before 911 calls were received. One example was a fire that was held at 72 acres and contained within 48 hours and possibly prevented escalation to a more significant incident that would require more resources. A second example cited was a case where two fires started within 12 hours of a lightning event. Firefighters were able to use fire modeling techniques to look at each fire's potential growth and rate of spread. Based on the modeling, one fire was projected to grow to 3,600 acres in eight hours. As a result, additional resources were added to that fire, and it was confined to 52 acres. ALERT can point to several examples where no 911 calls were received, and those fires were contained far below the fire model estimate.

USCD also supports CAL FIRE with enhanced video capabilities and has saved significant time on initial detection. ALERT capabilities have advanced rapidly in the past few years to assist in a variety of all-hazard settings, including detecting hillside erosion and other geologic changes.

Member comments and questions:

Member Eguchi stated that this is an impressive platform and asked how ALERT is using AI and modeling to forecast ahead where the impacted areas are.

Zachary Wells stated that they have focused on building up the competence of AI over the last 12 months and are very aware of false positives,and work hard to avoid watch fatigue where the system provides low-probability AI hits. Increasing confidence through end user feedback is how they see success and they are focused on reliability, that continues to evolve and advance every fire season.

Member Jarvis asked if ALERT has buy-in from all jurisdictions, and who bears the cost.

Zachary Wells noted that there are a lot of fire jurisdictions, including the state (CAL FIRE) and federal (USFS) government, and many local agencies. They're open to sharing with all first responder agencies. Their goal is to support them with advanced tools and defer to their subject matter expertise and let them decide for their agencies. They have over 3,000 users and are trying to work with all public sectors agencies.

ALERT has multiple sponsors, including CAL FIRE and several large utility companies. The goal is to provide to most jurisdictions at no cost.

Member Lien-Mager asked if the system can distinguish a wildfire from prescribed fire.

Zachary Wells stated that what the system sees is "smoke" and it does not know if it is wildfire or a prescribed fire, so ALERT partners with agencies and tries to coordinate prescribed fire activities. For example, in Kern County, we know the active burn permits in our jurisdiction. The goal is to identify an anomaly and disperse to the jurisdiction to make their decisions.

Member Eguchi noted the movement toward crowdsourcing and asked to quantify situational awareness, does ALERT have a crowdsourcing method.

Zachary Wells stated that at UCSD/ ALERT, access to information crowdsourcing is conducted with the firefighters. They are the ones with the most authoritative knowledge of what is a fire. This approach allows us to set ourselves up with those with the best information.

6(b) SELECTION OF 2024 VICE-CHAIR (ACTION)

Chairperson Gregory called for nominations from the Advisory Board to elect a Vice-Chair for 2024. Member Kakkad nominated Member Johansson, followed by a brief discussion. Member Jarvis seconded the motion to nominate Member Johannson. Chair Gregory called for a roll-call vote. All members (Johannson abstained) stated Aye, the motion passed, and Member Johansson was selected as the Advisory Board Vice-Chair for 2024.

6(c) DEVELOP A STRATEGY FOR PRIORITIZING WHAT TECHNOLOGY THE ADVISORY BOARD IS INTERESTED (INFORMATION)

Chairperson Gregory opened the discussion with a reminder of the role of the Advisory Board. Topics the Advisory Board takes on are not only for CAL FIRE but for the fire service as a whole and the Advisory Board has some level of influence on what the fire service looks at. There is a wide range of interest in "fire tech" and the Advisory Board can be part of the conversation at a strategic level.

Member Marshall noted that the Advisory Board could consider how technologies perform in other environments, due to the all-hazard focus and urban environments as well as consider the full spectrum of fire; before, during and after. This is also related to damage assessment during a fire that equated to dollars. Member Jarvis reiterated the importance of damage assessments, noting the gaps in rural areas. Local governments are not well trained and there needs to be a holistic approach.

Chair Gregory, prompted by a question from Member Jarvis related to a starting point for the Advisory Board, pointed to the legislation that established the Advisory Board. The legislation provides an outline for how the Advisory Board looks at how "fire tech" and can bring efficiency and modernization. And the Advisory Board can incorporate damage assessment here especially related to equity issues between urban and rural areas. And at a high level there are some technology categories the Advisory Board can consider regarding how the Advisory Board strategizes their work in this vast field of technology.

Member Eguchi reiterated Chairperson Gregory's comment on a framework, adding additional factors in which to evaluate technology categories that could benefit the fire industry. Member Eguchi noted the value of a framework to assess major attributes including:

- *Level of maturity and novelty*
- *Clear short and long-term benefits*
- *Who benefits and who funds this technology*
- *Leverage existing technologies or opens a path for new technology*
- *Cost of deployment*
- *Role of Government*

Member Marshall reiterated that the Advisory Board cannot force an agency to adopt a product or service, so integration of any technology type across different platforms is key. And outreach to first responders about the technology available to them and how to use it is also important.

Member Johansson asked clarifying questions regarding who the technology is for, the public or the fire agencies, noting some current technologies that are good at detecting fires and getting information to the public.

Chairperson Gregory noted that the categories of technology are for both fire agencies and the public, while also being cognizant of the demand, understanding the needs of the field as well as needs of residents related to alerts and early warning. The Advisory Board can have bigger voice in what the framework looks like, and that can encompass the needs in the field.

Member Johansson stated that needs in the field are a different thing and there are really two ideas at work in this discussion. As the discussion progressed, these two concepts emerged as 1) developing the framework and 2) applying the framework to different categories of technologies to set priorities regarding how the Advisory Board views a technology category. The Board can review different categories of technology and Chairperson Gregory agreed that the Advisory Board could add valuable insight as experts in their respective fields.

Member Kakkad agreed that a framework allows the Advisory Board to be more focused, without artificially limiting they type of technologies that could be of interest. And it is a balancing act of incorporating a framework to initially assess categories of technology, and for the Board to frame what categories of technology they look at.

Member Altintas echoed what Member Eguchi stated regarding the attributes of the framework and added to the discussion with additional elements including:

- *Understanding the need (a needs and / or gap assessment)*
- *The collective impact (benefits and for whom)*
- *Integration and interoperability*
- *Climate justice and equity*
- *Exemplars of technology being used*
- *Workforce and community fire awareness training, and timing aspect of action*

Chairperson Gregory stated that technology equity is important, and this concept applies across many facets of the framework.

Following the discussion on framework attributes, the conversation pivoted to next steps and Member Jarvis asked what the next steps and next actions are given that the Advisory Board is not taking any formal action.

Member Kakkad suggested as a follow up that the Advisory Board consider actions at future meetings and Member Kakkad and Member Jarvis suggested this topic remain on the Advisory Board agenda at future meetings so discussions can continue.

Member Eguchi reiterated the idea of this framework in two parts and that setting priorities are a different item from the framework itself and requires a different dialog with different people. The Advisory Board probably needs both, but they are separate items.

Member Johannson stated that when the Advisory Board becomes aware of an emerging technology, how many gaps it fills might be very useful in determining the priority it gets.

Member Marshall also expressed how a lot of existing technology is not specifically fire-related but can be very useful in a fire situation. And the work of the Advisory Board can improve existing technology that is not wildfire centric yet has a fire-centric application. Member Kakkad reiterated the nexus of commercial technology with fire technology and that the Advisory Board can have an influence on that.

Chairperson Gregory added that fire technology must be easy to use, and there is a variety of consumer-based technology that can be used to help. This is the spirit of this Advisory Board.

The discussion concluded with Member Eguchi noting that he will take ideas from today's discussion back and refine them.

Several members felt this agenda item should remain on the agenda for the next meeting to continue the discussion.

6(d) EMERGENCY TECHNOLOGY STANDARDS DISCUSSION; OVERVIEW PRESENTATION AND BOARD DISCUSSION (INFORMATION)

Chief Hernandez provided an overview of what standards are and examples of technology standards (i.e., Wi-Fi, Matter) to set the stage for the Advisory Board discussion. Chairperson Gregory facilitated the discussion stating that many types of technology are working in silos and do not talk to each other.

Member Eguchi noted that ASTM International (formerly known as American Society for Testing and Materials) is a standards organization focused on models and guidance on models and what they cover is also important as is what you put in hardware.

Member Kakkad recommended the Advisory Board look at the existing standards, reiterated the importance of standards, and suggested that there are broader industry standards that can be imposed. In addition, the technology needs to have certain capabilities. Additionally, in the past few years his organization started enforcing some standards during the procurement phase, and started to see a shift in manufacturers, as they started to have standards "baked in" (incorporated) into their technology.

Member Jarvis inquired if there is a way to ask these questions on a statewide level. Is there a software that most fire agencies are using and is it interoperable for 'most'.

Member Johanssen agreed that it can be frustrating when there are no standards and emphasized the idea of having an Application Programming Interface (API) standard in instances where an open API does not exist.).

Member Marshall acknowledged there are current fire service standards and that these are not California centric. And the Advisory Board should consider if there are national standards built for the fire service.

Chairperson Gregory noted the possibility of looking at national and international standards in the context of existing current standards. And, that this discussion on standards points back to framework discussion and these concepts all tie together.

Several members talked about standards related to security and how those standards have been pushed into Software as a Services (SaaS) and Platform as a Service (PaaS).

Member Kakkad also noted that the National Institute for Science and Technology (NIST) has a suite of security standards based on your industry and has been moving toward this (standardization) in law enforcement and first response as well. Member Kakkad volunteered his expertise from the technologist perspective.

Members felt that this agenda item should remain on the agenda for the next meeting to continue the discussion.

7) PUBLIC COMMENT

One public comment was received by Sashi Sabaratnam, who recently joined PG&E as the Chief of Wildfire Resiliency and is excited to hear what the Advisory Board is working on. Also noted issues related to technology adoption challenges, defining problems and minimum viable products as well as human factors.

8) AGENDA ITEMS FOR NEXT MEETING

Chair Gregory stated that at the next meeting in May 2024, the Advisory Board will discuss the next Annual Report and potential findings to include within the report. And, to

ensure discussions related to priorities and technology standards remain on the agenda, these items will remain on the agenda for the next meeting.

9) ANNOUNCEMENTS

Chairperson Gregory is attending the Wildfire Technology Management Summit, April 23-24, 2024, in Pasadena, CA.

Member Eguchi noted the NASA Innovation Core Pilot Grant Program and Wildfire Technology Management Cohort. In addition to the Fire Behavior and Fuels Conference, April 15-29 in Boise, ID, sponsored by The International Association of Wildland Fire.

Member Marshall noted a meeting occurring in March 2024 at OES related to the Initial Attack Decision Model as well as the Aerial Aircraft Conference that was occurring on the same day (March 6, 2024).

10) MEETING ADJOURNMENT

Chairperson Gregory asked for a motion to adjourn the meeting. A motion to adjourn was made by Member Jarvis and seconded by Member Kakkad. A voice vote was conducted, and the motion passed unanimously. The meeting was adjourned at 2:45 PM PST.