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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking to Develop and Adopt Fire-Threat Maps and Fire-Safety Regulations | ) ) ) | Rulemaking 15-05-006 Filed May 7, 2015 |

# JOINT PARTIES' WORKSHOP REPORT FOR WORKSHOPS HELD AUGUST – SEPTEMBER 2016


FRANK A. MCNULTY
ALLAN D. JOHNSON

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-6735
Facsimile: (626) 302-6693
E-mail: Allan.Johnson@sce.com


Dated: **October 7, 2016**

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE**

**STATE OF CALIFORNIA**

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# JOINT PARTIES' WORKSHOP REPORT FOR WORKSHOPS HELD AUGUST – SEPTEMBER 2016

Pursuant to the Administrative Law Judge's Ruling Extending the Schedule for the Workshop Report and Associated Filings, dated September 23, 2016, Southern California Edison Company submits this Workshop Report on behalf of the following parties: AT&T California & New Cingular Wireless PCS, LLC, Bear Valley Electric Service, California Cable & Telecommunications Association, California Municipal Utilities Association (CMUC), Safety Enforcement Division – ESRB, City of Laguna Beach, Comcast Phone of California, LLC, Cox Communications California, LLC, Crown Castle NG West, Inc., CTIA-The Wireless Association, County of Los Angeles Fire Department, Los Angeles Department of Water & Power, Liberty Utilities (CalPeco Electric) LLC, Mussey Grade Road Alliance (MGRA), PacifiCorp, Pacific Gas & Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, Consolidated Communications of California Company (formerly SureWest Telephone) and the Small LECs, Sacramento Municipal Utility District (SMUD), Sprint / Nextel, Sunesys, LLC, Time Warner Cable Information Services (California), LLC, T-Mobile West LLC dba T-Mobile, and The Utility Reform Network.

The Workshop Report consists of the following Fire Map 2 Work Plan and 7 Attachments:

Attachment 1: Shape 'A' Development

Attachment 2: Shape 'B' Development

Attachment 3: Shape 'C' Development

Attachment 4: Event/Task Timeline

Attachment 5: Scoping Memo Appendix B Cross-Reference Chart

Attachment 6: Fire Map 2 Development Plan Workshop Protocols

Attachment 7: FSTP Workshop Agendas – Recaps/Notes – Attendee Lists

## FIRE MAP 2 WORK PLAN SUMMARY

## I.

## BACKGROUND AND OVERVIEW

### A. The OIR and 7/15 Scoping Ruling

The California Public Utilities Commission (Commission) issued the Order Instituting Rulemaking (OIR) 15-05-006 on May 7, 2015, which established the preliminary scope of this proceeding including the development and adoption of Fire Map 1. The Commission adopted Fire Map 1 in Decision (D.) 16-05-036. On July 15, 2016, the Assigned Commissioner's Scoping Memo and Ruling ((7/15 Scoping Ruling) was issued. The 7/15 Scoping Ruling established that the "next step in this proceeding is to prepare the Fire Map 2 Work Plan, which will provide a detailed road map for development and adoption of Fire Map 2." The 7/15 Scoping Ruling further directed the Fire Safety Technical Panel (FSTP) to convene and prepare a Fire Map 2 Plan using the same process as the Fire Map 1 Work Plan while addressing the matters identified in Appendices B and C of the 7/15 Scoping Memo.[1]

Appendix B of the 7/15 Scoping Memo provides in part that the Fire Map 2 Plan:

[1] 7/15 Scoping Ruling at 5-7.

> …shall include a detailed work plan for the development, adoption, and implementation of a Fire Map 2 that: i. Incorporates Fire Map 1. ii. Covers the entire state. iii. Identifies the types and locations of overhead power-line facilities in the high fire-threat areas. iv. Identifies the types and locations of aerial telecommunications facilities in close proximity to overhead power-line facilities in the high fire-threat areas. v. Integrates with the fire-prevention measures adopted in R.08-11-005 and this proceeding (R.15-05-006) that rely on fire-threat maps for their implementation. vi. Will be available to Commission staff, fire-safety agencies, and the public, while also protecting information about critical infrastructure or which may be proprietary.[2]

Appendix B also specifies a number of elements that should be included in the work plan including; (i) the types of information, the level of detail and other characteristics Fire Map 2 must possess (Item 2.i); (ii) proposals for contracting with and funding any necessary technical experts for neutral review and the funding of the same (Items 2ii-vi); a recommended schedule, recommended procedures and needed Commission action (Items 2.vii and xii); frequency and process for updating fire map to one is complete (Item 2.ix); and alternative recommendations on any issues where parties cannot reach consensus (Item 2.xi).[3] Appendix B also requires that Fire Map 2 be validated against historical fire data and incorporate utilities' knowledge of local conditions (Item 3).[4] Of note, Appendix B provides that "When possible, the Fire Map 2 Work Plan and any alternatives to the Work Plan should enable the *rapid development and adoption* of Fire Map 2" (Item 6).[5] Appendix C sets forth a specific proposal for the development of a statewide Fire Map 2.

## B. Revised Scoping Memo

Originally, there were two proposals for the Fire Map 2 Work Plan: (i) a proposal by San Diego Gas & Electric Company (SDG&E) (involving a 3-step map creation process); and (ii) the July 15 Scoping Memo, Appendix C proposal. After considerable discussion and consideration

[2] 7/15 Scoping Ruling, Items 1(i) – (vi) at B-1.
[3] 7/15 Scoping Ruling at B-1 – B.3
[4] 7/15 Scoping Ruling at B-3 – B-4.
[5] 7/15 Scoping Memo at b-4 (emphasis added).

at both public workshops and within the FSTP Core Team,[6] a decision was made to try to combine the two approaches into a hybrid approach. While that work was underway, a revised Scoping Memo proposal was issued on September 6, 2016 (Revised Scoping Memo). The Revised Scoping Memo proposed to "combine the advantages of both [SDG&E and Appendix C] proposals" including, but not limited to, the SDG&E proposal to use a 3-step map development process.

After clarification of the Revised Scoping Memo proposal with the ALJ, the consensus of the group was generally to proceed with the process of the 3-step map development as outlined in the Revised Scoping Memo,[7] which would involve the development of Shape A, followed by B and then by Shape C as described below:

> Shape A: The initial map based the inputs from Fire Map 1, Cal Fire's FRAP map, historic fire perimeter data, and communities at risk from wildfire.
>
> Shape B: Shape A further refined based on the utilities' and other stakeholders' knowledge of local conditions and fire hazard s/risks in particular areas.
>
> Shape C: Shape B further refined based on the overlay of utility facilities and other operational concerns. Shape C is the final Fire Map 2 work product.

## C. S.B. 1463

In an email dated September 6, the assigned ALJ directed the parties to include in the Fire Map 2 Plan provisions regarding compliance with S.B. 1463. S.B. 1463 would have required the Commission, "in consultation with the Department of Forestry and Fire Protection, [to] prioritize areas in which communities are subject to conditions that increase fire hazards associated with overhead utility facilities.…" The legislation further would have required that "[a]ny findings supporting a decision to approve the boundaries for areas described in

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[6] The Core Team is composed of FSTP members or representatives of FSTP members with unique knowledge and skill sets appropriate to the task of creating necessary technical details for the development of the FM 2 Plan.

[7] The Revised Scoping Memo also provided that the FM 2 Plan should address the proposals in the Revised Scoping Memo in lieu of the original Scoping Memo Proposal set forth in Appendix C. *See* Revised Scoping Memo at 5.

subdivision (a) shall describe how the commission incorporated the concerns of local governments, fire departments, or both in determining those boundaries."

Consistent with the ALJ's direction, the parties worked to incorporate compliance with S.B. 1463's requirements into the Fire Map 2 Plan. On September 24, 2016, however, Governor Brown vetoed S.B. 1463 noting that the Commission has already been working to prioritize areas with increased fire hazards associated with overhead utility facilities through R.15-05-006 and that this "deliberative process should continue and the issues this bill seeks to address should be raised in that forum."[8] Because the veto occurred after the conclusion of the workshops, the Fire Map 2 Plan set forth below continues to reflect compliance with S.B. 1463 particularly with respect to the public notice and input provisions (see Section III below) and the inclusion of communities at risk from wildfires (CARs) in Shape A. *See* Section III below. If any workshop participant or party believes that the work plan requires adjustment as a result of the S.B. 1463 veto, any proposed adjustment should be addressed in comments on the workshop report.

## II.

## ROLES AND RESPONSIBILITIES OF THE PDP, TRT AND TERRITORY LEAD

The process described herein is based on existing peer review approaches found in scientific, engineering, architectural and utility disciplines[9] and applicable requirements relating to stakeholder input. The composition and roles of the groups are more specifically described as follows.

*Peer Development Panel (PDP).* The PDP has overall responsibility (working with the Territory Leads) for developing statewide Shape B, and Shape C maps which will ultimately form the basis for Fire Map 2. The PDP is primarily composed of a small number of subject

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8 Gov. Brown's S.B. 1463 veto message.

9 The use of peer panels is widely used to develop and reconcile technical issues in various industries including the utility industry. See for example, the North American Transmission Forum http://www.natf.net/, and for the North American Electric Reliability Corporation http://www.nerc.com/Pages/default.aspx.

matter experts in areas directly related to development of the maps and may include specialists in fire weather, fire behavior, fire protection engineering, vegetation management, risk management, forestry, structural engineering, utility and/or electrical engineering and computational modeling (among others) who are willing to devote resources to develop the statewide Fire Map 2 effort. SDG&E and Reax Engineering have agreed to be the co-leads of PDP, and based on workshop discussions, it is anticipated that the PDP will include personnel from PG&E, SDG&E, SCE, PacifiCorp, Reax Engineering, AT&T, SMUD, LADWP, and possibly other organizations. The PDP co-leads will prepare the final PDP roster and will serve the final PDP roster on the parties to the OIR.[10]

*Territory Leads*. The Territory Leads are the individuals or entities responsible for assisting the PDP by developing territory-specific proposals for Shape B and Shape C. The investor-owned utilities (IOUs) or publicly-owned utilities (POUs) with facilities in a given territory will presumptively be the Territory Lead for its service area, but are not required to be the lead.[11] If there is no utility with electric facilities in a given territory or the IOU or POU does not want to take the lead for its territory, the PDP will be responsible for creating the Shape B for that territory. Communications providers with facilities *in* the territory and communications providers, IOUs, or POUs with facilities *adjacent* to or in the territory can have specialists (with the appropriate technical expertise) participate with the Territory Lead in the Shape B and C development effort for a given territory. Parties participating as Territory Leads or working with the Territory Leads in Shape B development are not necessarily a part of the statewide PDP (but may be).[12]

*Technical Review Team (TRT)*. The primary role of the TRT is to critically, and independently, review the Shape B and Shape C development executed by the PDP. Like the PDP, the TRT is to be composed of technical experts in areas related to development of the maps

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[10] The Assigned Commissioner or the Assigned ALJ will resolve disputes, if any, over the composition of the PDP roster.

[11] IOUs and POUs that choose not to be the lead would have input later in the process.

[12] For example, Territory Leads not serving on the PDP might include Liberty and Bear Valley.

and may include specialists in fire weather, fire behavior, fire protection engineering, vegetation management, risk management, forestry, structural engineering, utility and/or electrical engineering, and computational modeling (among others) who are willing to devote resources to develop the statewide Fire Map 2 effort. Collectively, members of the TRT should have the expertise necessary to independently execute the work being performed by the PDP in development of Fire Map 2.

During the September 21-22 workshops it was not possible to affirm that the TRT will be led by CAL-FIRE. To the extent CAL-FIRE is willing and able to lead this effort, it is proposed that it do so. It is further proposed that external independent experts (to be funded and hired as specified in Section IV below) would be provided to support CAL-FIRE's effort -- much in the way that the Fire Map 1 effort was led by CAL-FIRE using the support and guidance of an external independent expert team. In addition to the TRT lead, representatives from state agencies, city and county fire departments, qualified intervenors, and others as-needed, may serve on the TRT, provided such participants possess the requisite expertise. The TRT lead (e.g., CAL-FIRE) will prepare the final TRT roster and serve the final TRT roster on the parties to the OIR.[13]

*(*Non consensus Item)* During the September 21-22 workshops, attendees surmised that if CAL-FIRE or a Commission designee cannot lead the TRT, the TRT could be led by a SED – ESRB engineer. However, SED was unable to affirm its ability to take on this role and thus, there was no consensus reached on this point among workshop participants. Alternate arrangements may be proposed in comments to this Work Plan.

*PDP/TRT Coordination and Decision Making*. The TRT shall provide expertise and resources for the purpose of technical review of PDP work product. The TRT should communicate on a regular basis with the PDP and the Territory Leads. The PDP and the TRT shall make good faith efforts to resolve all disputes; obtaining, when necessary and appropriate,

[13] The Assigned Commissioner or the Assigned ALJ will resolve disputes, if any, over the composition of the TRT roster.

input from outside resources including Territory Leads, academic experts, and consulting experts. It shall be the goal of PDP/TRT interaction to reach agreement on all refinements on Shape B so that rapid, final approved Fire Map 2 is facilitated**.** Only as a last resort, shall the Commission be called upon to resolve technical disputes.

*Stakeholders (Stakeholders)*. Stakeholders consist of entities that may be subject to regulations based on Fire Map 2 (i.e., IOUs, POUs, and CIPs) as well as other entities or interest groups (CAL-FIRE, local municipalities, land managers, fire safe councils, community groups, TURN, etc.). Stakeholders will be provided with the ability to publicly comment on the Fire Map 2 development process but will not (unless they are also participating as a member of the PDP, TRT or are a Territory Lead) play a role in the creation of Shapes A, B or C or Fire Map 2 in general (which is the purview of the PDP) or their review and approval (which is the purview of the TRT).

## III.

## SHAPES A, B AND C DEVELOPMENT, REVIEW AND APPROVAL PROCESSES

*Overview of Fire Map 2 Plan Development*. During the Workshops, consensus was reached that Fire Map 2 will be developed in a three-step process starting with the development of Shape A, which is then refined to a Shape B, and then is further refined to Shape C. A summary of the development process for each of the Shapes, along with the process for review and approval of the shapes is set forth below. Additional details and technical guidance for (i) the creation of Shape A, (ii) moving from Shape A to Shape B, and (iii) moving from Shape B to Shape C, is provided in **Attachments 1, 2, and 3**. The estimated time for the completion of each of these steps is discussed below and a comprehensive timeline is provided in **Attachment 4**.

Consensus was also reached at the workshops that the shapes will be initially developed by the PDP, with assistance from Territory Leads. Shapes B and C will then be reviewed by the TRT. The composition, roles, and responsibilities of the PDP, the Territory Leads that will assist the PDP, and the TRT are described in Section II above.

## A. Shape A

*Shape A Development Process*. Under the Revised Scoping Memo, an initial map (called Shape A) is to be the starting point for the development of Fire Map 2. Shape A will be developed by Reax and SDG&E, generally using the inputs specified in the Revised Scoping Memo proposal, as further refined and clarified in this docket. Given the breadth of the specified Shape A inputs, it is anticipated that Shape A will necessarily be over-inclusive with respect to the areas identified and is not specifically designed to identify high fire areas or for any purpose other than as a starting point for Fire Map 2.

The Fire Map 2 Plan proposes a 2-week process to develop Shape A. Moreover, in order to "enable the rapid development and adoption of Fire Map 2" that is contemplated by the Revised Scoping Memo (at B-4), the Fire Map 2 Plan proposes that Shape A be developed in October 2016 —before the approval of the Fire Map 2 Plan. **Attachment 1** provides more detailed guidance regarding the development of Shape A.

Shape A Review and Approval Process. Once Shape A is developed, it will be provided to CAL-FIRE (or another neutral fire safety expert designated by the Commission) for confirmation that it was prepared consistent with the factors specified in the Revised Scoping Memo.

Subject to the approval of the Fire Map 2 Plan, if CAL-FIRE or Commission designee agrees that that Shape A was properly prepared, Shape A will be filed in the docket via a Tier 1 advice letter, which would be effective when filed, pending Energy Division disposition. (*See* General Order (G.O.) 96-B, General Rule 7.3.) Any person may protest or respond to the advice letter within 20 days of the date of filing of the advice letter. (*See* G.O. 96-B, General Rule 7.4.) If a protest is submitted, minor revisions to Shape A may be filed. If major revisions are required, the Energy Division, in consultation with the assigned ALJ, will determine whether the advice letter must be resolved by Commission resolution. (*See* G.O. 96-B, General Rule 7.3.)

If CAL-FIRE or Commission designee believes that Shape A was *not* properly prepared, Shape A will be referred back for refinement until either (i) CAL-FIRE approves Shape A (at which point it will be filed as a Tier 1 Advice letter in accordance with the procedure outlined above) or (ii) there is an impasse reached. (See Section II above regarding *PDP/TRT Coordination and Decision Making.)* The Work Plan proposes two weeks for CAL-FIRE's review of Shape A.

**B. Shape B**

*Shape B Development Process*. The next step will be the creation of Shape B. Shape B is a statewide map which will refine Shape A based on the utilities' and other stakeholders' knowledge of local conditions and fire hazards/risks in particular areas. As the Revised Scoping Memo recognizes: "the area covered by Shape B could be less than Shape A based on utilities' demonstrable knowledge that Shape A overstates the fire hazards/risks in particular areas."[14] Additionally, tiers will be added to the Shape B map to delineate the level of risk from utility fires in various areas of the state. Shape B boundaries may be informed by additional data and consideration of fire rotation, probability and consequence. **Attachment 2** sets forth more detailed logistical and technical guidance regarding the development of Shape B.

*(i) Number of Tiers (*non-consensus item).* It should be noted that consensus was not reached on the appropriate number of tiers to be included in Fire Map 2. The draft work plan that was circulated for discussion at the Workshops, and the primary option discussed during the workshops, contemplated a 3-tier map. It should be noted that a 3-tier approach is foundational to the methodology described in the Scoping Memo and is used throughout the work plan. These tiers have previously been described as:

- Tier 3: Extreme
- Tier 2: Elevated
- Tier 1: Moderate (Not extreme or elevated. Baseline.)

[14] Revised Scoping Memo at 4.

*Alternate Proposal.* At the September 22, 2016 workshop, attendees engaged in a brief discussion on the 3-tier mapping described above. AT&T stated that it was premature to predetermine the number of tiers at this time and offered that the number of tiers ultimately to be included in Fire Map 2 should be left for the PDP to determine based on the level of differentiation observed after the development of Shape A. AT&T's comment was primarily borne out of concern that the three-tier classification noted above essentially resulted in only two substantive fire threat areas (extreme and elevated) and thus would potentially place nearly all of the northern and central parts of the state's high fire district into a single "elevated" risk category despite what appear to be some substantive differences between some of these areas. AT&T's view is that such a result would likely constrain the Commission's and utilities' ability to tailor regulations pursuant to wildfire risks within a very large and diverse area. In the course of the discussion on this alternate proposal, ALJ Kenney indicated that different regulations may be applied to areas having different fire risks within the same tier.

AT&T's proposal directs the PDP to consider classification of the "elevated" area in northern and central California into more layers if observation of the underlying data and analysis justify such further identification of fire risk zones within tiers to provide the Commission and utilities a means by which to implement different regulations in areas having different fire risk levels within the same tier.

*(ii) Tier Definition.* No official vote was taken at the closing workshop in regards to the strict definition, or means of mapping, of each tier. Mapping the tiers could be accomplished in a number of ways, including identifying parameters related to fire probability and consequence (risk). If the Commission adopts, for example, a 3-tier system, Tier 3 would represent the areas with the highest risk (and require the most restrictive fire safety regulations), Tier 2 would represent areas with lesser risk than extreme (but may require enhanced fire safety regulations), and Tier 1 would represent areas with the least risk (and current regulations are sufficient to protect public safety).

In order to ensure statewide consistency, the PDP will develop written definitions for each tier. The specific criteria and parameters used to define Shape B tiers should be developed by the PDP in consultation with, and subject to the approval of, the TRT. Generally, the highest tier should be associated with areas where significant fire potential exists. Two examples of possible definitions are provided below:

1. Areas where fire poses a significant threat to human life, has potential to damage/destroy multiple homes, or cause significant damage to the environment or other values at risk, or
2. Areas where fire consequences could be similar to the catastrophic fire Southern California firestorm of 2007.

In defining tiers, the PDP may assess potential fire consequences within the geographic areas designated in the draft Shape C and develop tier definitions consistent with fire risk in those tiers. Tier definitions should be developed in a manner to facilitate statewide application. For Territory Leads using the optional matrix methodology in Section 5, several tools are available for use including Table 2 (Table of Values, which will need to be updated at project execution) and Figure 1 (tier based metrics for the Tier Quadrant).

*(iii) Timing.* Once the number of tiers is determined in the Decision on the Work Plan, and the tiers are defined by the PDP, Territory Leads (presumptively the IOU or POU in a given service territory) will develop the Shape B proposal (with tiers) for their service territory. It is anticipated that it will take 16 - 24 weeks for the development of a statewide Shape B with tiers.

*Public Input on Shape B*. The Fire Map 2 Plan developed at the workshops, contemplated the need to obtain input on the fire map from "local governments, fire departments or both" and communities at risk, as contemplated by S.B. 1463. As noted above, to the extent that parties believe that the veto of this legislation necessitates any changes to the public input process outlined below, that should be reflected in their comments on the workshop report.

The Draft Statewide Shape B Map will be made available for public review and comment. Notice of availability of Draft Statewide Shape B Map will be provided to all city and county points of contact designated for emergency preparedness purposes pursuant to A.B.1650

(Pub. Util. Codes § 768.1) and to all Communities at Risk (CARs).[15] Notice will also be provided to all parties in R.15-05-006 (CARs and emergency preparedness contacts will be included in the term "Stakeholders," as defined above).

The PDP will establish a mechanism for the Stakeholders to provide comments and for those comments to be considered by the PDP. Any such mechanism must allow for the tracking and documentation of Stakeholder comments and responses thereto. The workshop participants recommend that one or more workshops will be held to: (i) explain the Shape B development; and (ii) explain how stakeholders can provide comment on the draft Shape B and the justification they need to provide for any proposed changes to Shape B. The PDP will consider all comments offered by Stakeholders, will make any necessary adjustments to Shape B, and will prepare a Revised Draft Statewide Shape B Map for review by the TRT. It is anticipated that the public input process and resulting PDP refinement of Shape B will take approximately 4-8 weeks, depending on the level of comments received.

*Shape B Review and Approval Process*. The TRT will review the Revised Draft Statewide Shape B Map and supporting material provided by the PDP. In order to facilitate and expedite the TRT review and approval process, it is anticipated that the PDP will regularly consult with the TRT about the methodology used to develop Shape B and on key questions. The TRT may also request, in specific instances, that the PDP or Territory Leads provide additional rationale or justification for certain boundaries or tier designations. The TRT may propose modifications to the boundaries of certain proposed polygons based on a written scientific rationale that is consistent the work plan methodology and the requirements and scope of the rulemaking. An iterative process of repeated refinement is contemplated until Shape B is sufficiently refined to the TRT's reasonable satisfaction (See Section II *PDP/TRT Coordination and Decision Making.)* It is anticipated that the TRT review and approval of Shape B will take

[15] The list of California communities at risk from wildfire is available at: http://osfm.fire.ca.gov/fireplan/fireplanning_communities_at_risk.

approximately 1 - 4 weeks, assuming there are no matters for which dispute resolution is required.

If the TRT approves Shape B the Shape B Map will be filed via a Tier 1 Advice letter in the docket,[16] effective pending approval of Energy Division. Any person (including Stakeholders) may protest or respond to the advice letter within 20 days of the date of filing of the advice letter. (*See* G.O. 96-B, General Rule 7.4.) If a protest is submitted, PDP/TRT may file minor revisions, or if major revisions are required, the Energy Division, in consultation with the assigned ALJ, will determine whether the advice letter must be resolved by Commission resolution. (*See* G.O. 96-B, General Rule 7.3.)

If the TRT does not approve Shape B, a report will be filed in R. 15-05-006 and any issues in dispute will be put out for comment and Commission resolution (which may require evidentiary hearings).

### C. Shape C

*Shape C Development Process*. The next step is the development of Shape C, which is the final mapping product. Shape C will further refine Shape B, taking into account the location of utility facilities and other operational concerns. It is anticipated that the development of Shape C will take approximately 6-8 weeks. The mechanics and criteria for Shape C development are set forth in **Attachment 3** and summarized below.

Territory Leads (in coordination with Communications Infrastructure Providers (CIPs) will work with the PDP to refine Shape C into a final map product. During the Shape B to Shape C process, Shape B will be overlaid with utility infrastructure and minimal changes will be made Shape C to account for facility location and operational concerns. The PDP will deliver the final Shape C with justification for any changes to the TRT for review and approval. It is anticipated that the TRT review and approval of Shape C will take approximately 2 weeks.

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[16] A notice of availability of the map will be served on the service list for R.15-05-006 and on the city and county points of contact designated for emergency preparedness purposes pursuant to A.B.1650 (Pub. Util. Codes § 768.1) and CARs identified in Section II above.

*Shape C Review and Approval Process*. If the TRT approves of Shape C, Shape C will be filed in the docket via a Tier 1 advice letter, which would be effective when filed, pending Energy Division disposition. *See* G.O. 96-B, General Rule 7.3. Any person (including individuals, groups, or organizations) may protest or respond to the advice letter within 20 days of the date of filing of the advice letter. (*See* G.O. 96-B, General Rule 7.4.) If a protest is submitted, PDP/TRT may file minor revisions, or if major revisions are required, the Energy Division, in consultation with the assigned ALJ, will determine whether the advice letter must be resolved by Commission resolution. (*See* G.O. 96-B, General Rule 7.3.)

If the TRT is not satisfied that Shape C was properly prepared, Shape C will be referred back to the PDP for refinement until either (i) TRT approves Shape C (at which point it will be filed as a Tier 1 Advice letter in accordance with the procedure outlined above) or (ii) there is an impasse reached. See Section II, *PDP/TRT Coordination and Decision Making*. If an impasse is reached then a report will be filed in R. 15-05-006 and any issues in dispute will be put out for comment and Commission resolution (which may require evidentiary hearings).

## D. Tree Mortality.

The Revised Scoping Memo Proposal proposes that Fire Map 2 was a separate layer for Tree Mortality that is independent of Shape A (and Shapes B and C). This independent layer would consist of Tier 1 zones on the United States Forest Service (USFS) and CAL-FIRE's joint map of Tree Mortality High Hazard Zones (HHZs). The PDP, in consultation with the TRT, should undertake this work. Parties are encouraged to provide comments.

### 1. Publication / Dissemination of Fire Map 2

Once completed, Fire Map 2 will be disseminated in two forms:

1. High resolution .pdf file (no special software required for viewing)
2. Zip archive of native GIS files (when unzipped, requires GIS software and/or Google Earth for viewing)

A simple static web page will be created to provide basic information regarding Fire Map 2 and static download links to each of the two above files which should both be less than 50 MB in size. One example is FRAP's Fire Threat Map download page. (See attached link) (http://frap.fire.ca.gov/data/frapgismaps/fire_threat_download) Ideally, the analogous Fire Map 2 web page would be hosted on a Commission or FRAP server since there is already a precedent for hosting maps on both sites.

## IV.

## APPENDIX B ITEMS

In addition to the key components of the map development itself, Appendix B of the 7/15 Scoping Memo directed that the fire map work plan address a number of other items. Many of those items are addressed above and others are addressed below. For ease of review, attached as **Attachment 5** is a table that provides the locations where each of the Appendix B items is addressed in the workshop report.

### A. Protection of Critical Infrastructure Locations

Appendix B to 7/15 Scoping Ruling contemplated the fire map to will identify both the (i) "types and locations of overhead power-line facilities in the high fire-threat areas," and (ii) "[t]he types and locations of aerial telecommunications facilities in close proximity to overhead power-line facilities in the high fire-threat areas."[17] The 7/15 Scoping Ruling further contemplates that Fire Map 2 "vi. Will be available to Commission staff, fire-safety agencies, and the public, while also protecting information about critical infrastructure or which may be proprietary."

During the workshops representatives of the communication infrastructure providers (CIPs) recommended that in order to protect information about critical communication infrastructure which is proprietary to the CIPs and which raises national security concerns, Fire

[17] 7/15 Scoping Ruling at B-2.

Map 2 should not—and cannot—include the location of CIP facilities consistent with both state and federal precedent.[18] Moreover, the consensus of the September 22, 2016 workshop participants was that the locations of communications facilities *is not necessary* to develop Fire Map 2—especially since the map will include IOU faculties. Thus, subject to further clarification from the Assigned Commissioner or the Assigned ALJ, the CIPs do not anticipate that such information will be provided.

### 1. Payment of Neutral Experts

- 2.ii, iv, v, vi (re contracting with and paying for neutral experts)

Assuming CAL-FIRE is willing and able to lead the TRT, it is expected that funding will be required to support CAL-FIRE's use of experts. Experts will assist CAL-FIRE in its review of both the methodology to be used by the Territory Leads and the PDP in developing Fire Map 2, as well as the proposed map products developed by the Territory Leads and the PDP, as further described elsewhere in the Fire Map 2 Plan.

It is contemplated that CAL-FIRE will identify the resources and experts it deems necessary to represent CAL-FIRE on the TRT. The selection and supervision of those resources would be directed by CAL-FIRE and would be secured under the following procurement procedures and funding mechanism which are substantially similar to the procedures and funding mechanism adopted by the Commission in connection with the development of Fire Map 1.

Based on CAL-FIRE's determination of a need for expertise and resources and the expectation that expenses would be limited, consistent with the funding arrangements that supported the engagement of the independent expert team in the Fire Map 1

[18] The CIPs provided a detailed but informal analysis of relevant state and federal law to the workshop participants. The CIPs intend to update and refine this analysis in their comments filed on the workshop report.

development phase, the three largest IOUs, PG&E, SCE and SDG&E, have volunteered to pay the cost of such resources—subject to the following additional provisions:

1. Total expenditures for any funding of needed experts or resources, as determined by CAL-FIRE, up to and including the creation of a final statewide Fire Map 2, will not exceed the sum of the balance of the remaining funds authorized for Fire Map 1 and $250,000 unless the requirements of No. 5 (below) are met.

2. The payment of costs by PG&E, SCE and SDG&E for the limited purpose identified in No. 1 shall have no precedential value as to the percentage of cost responsibility or non-responsibility of other parties for any other aspects of this proceeding.

3. PG&E, SCE and SDG&E may expense these costs to their Fire Hazard Prevention Memorandum Accounts (FHPMAs) that are described in D.12-01-032 at pages 153-156.

4. Based on the fact that the need for the TRT expertise will be determined by CAL-FIRE and that the work will be directed and reviewed by CAL-FIRE, expenditures by PG&E, SCE and SDG&E that do not exceed the cost cap specified in No. 1 shall be presumed reasonable by the Commission.

5. CAL-FIRE and/or SED must seek Commission approval to exceed the cost cap, if needed. The cost responsibility for any additional expenditures above the initial cost cap specified in No. 1 will be considered at that time. If PG&E, SCE and SDG&E again volunteer to pay the cost of any additional expert expense, any costs incurred and booked in the respective FHPMAs will be presumed reasonable up to any new/revised cost cap authorized by the Commission.

6. Arrangement of Contract Relationships

Parties have expressed a preference to simplify the contract structure based off the experiences encountered with Map 1 experts. Alternatives are being explored at the time of this reports submission. There are three potential solutions. The quantity of expert vendors required by the TRT to support the review process is yet to be determined and significant in recommending which approach will be most efficient.

a. Use the same contract structure as Map 1. While complex it has proven to be effective.

b. Assign one IOU as a lead to prepare and execute the appropriate contract or contracts under terms and conditions appropriate to TRT requirements[19] and the utility's normal contracting practices.[20] The contractor(s) would be required to record the billable cots of its time, materials and expenses, which would be reviewed for accuracy and reasonableness by the TRT and/or SED. After approval from the TRT and/or SED, the contractor would directly bill the lead IOU, which in turn will bill the two other IOU's for their respective proportionate shares of the total cost paid to vendors. PG&E, SCE and SDG&E agree to share the total billable costs using the following allocation: PG&E (49%), SCE (41%) and SDG&E (10%). This allocation is based on 2011 annual electric revenue as an allocation proxy.

c. Assign one expert vendor as a lead to prepare and execute the appropriate contract and sub-contracts with other expert vendors under terms and conditions appropriate to TRT requirements[21] and the utility's normal contracting practices.[22] The lead contractor manages and makes payment to the sub-contractors. The lead contractor would be required to record the billable cots of its time, materials and expenses, which would be reviewed for accuracy and reasonableness by the TRT and/or SED. After approval from the TRT and/or SED, the contractor would directly invoice the three IOU's. The lead contractor would have contracts in place with PG&E, SCE and SDG&E. The IOU's agree to share the total billable costs using the following allocation: PG&E (49%), SCE (41%) and SDG&E (10%). This allocation is based on 2011 annual electric revenue as an allocation proxy.

## B. Other Appendix B Items

- 2.ix (updates of Map 2)

Fire Map 2 can be incorporated into G.O. 95 and other G.O.s, if applicable, by way of reference to a webpage that can be accessed via the Commission's website. SED is reviewing the requisite technical and administrative requirements of this approach. Parties may suggest

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[19] As an example, the contract would provide that services would be subject to the supervision of CAL-FIRE and any limits as to time, expenses and costs to be determined by CAL-FIRE, with the understanding that payment would be subject to the five provisions above or any provisions adopted by the Commission

[20] As an example, IOUs routinely include provisions encourage any contractor, to the extent subcontractors are engaged, to utilize Commission-audited firms owned by women, minorities and/or disabled veterans.

[21] See fn. 20.

[22] See fn. 21.

additional means for incorporating Fire Map 2 into the G.O.s by submitting comments to this Fire Map 2 Plan.

It is recommended that the Fire Map 2 be updated in ten (10) year cycles as part of a rulemaking process that provides for public input, expert review and workshops that will (i) examine whether to incorporate recent advances, if any, in fire science modeling, (ii) incorporate recent fire history, and (iii) address any notable changes in the fuel landscape, urban growth and utility infrastructure and operational practices.

Parties may suggest additional means for incorporating Fire Map 2 into the G.O.s by submitting comments to this Fire Map 2 Plan.

- 2.x (CEQA)

The development of Fire Map 2 and this Proposed Work Plan are exempt from environmental review under Section 15378 of the CEQA Guidelines because their approval and adoption do not constitute "projects" under the terms of the Act and will not have any potentially significant impact on the environment. Thus, the Proposed Work Plan schedule does not provide for a CEQA review.

- 3.(iii) (Butte fire inclusion)

Consideration of the fire hazards associated with historical power-line fires, including the Butte Fire, is addressed in both the Shape A and Shape B development processes described in this Fire Map 2 Plan.

- 3.iv (Laguna Beach as High)

The fire threat classification of the geographic area comprising and surrounding the City of Laguna Beach will be evaluated in the same manner as other geographic areas are evaluated using the Shape B methodology described in this Work Plan. In addition, parties, including the City of Laguna Beach, SCE and SDG&E, may address the issue of fire threat classification and/or Shape B methodology by submitting comments to this Fire Map 2 Plan.

- 3.vii and 1.v (transitioning regulations to Fire Map 2)

The FSTP did not address this Appendix B item in during the workshops. It is expected that the fire hazard tiers developed as part of the Fire Map 2 process will be defined and calibrated and, accordingly, may be correlated with the fire hazard designations utilized in the interim fire-threat maps. Parties may address this issue more specifically by submitting comments to this Fire Map 2 Work Development Plan.

## V.

## CONCLUSION AND ACKNOWLEDGEMENTS

Over the course of recent months, the FSTP has worked diligently to complete the Fire Map 2 Plan. Nearly ten full days of noticed public meetings were convened, including the initial FSTP teleconference on August 1, in-person/teleconference workshops held on August 11, August 18-19, August 29-30, September 7-9, and September 21-22, and a final teleconference on October 5, to review and discuss this workshop report prior to filing. Additionally, numerous teleconferences and in-person meetings were convened by FSTP's Core Team, many of whom also contributed to the content and refinement of this Workshop Report.

The FSTP wishes to recognize the efforts of SDG&E for their original proposal and initiative in promoting a 'hybrid' Fire Map 2 proposal; the Commission's Legal Division, Safety Enforcement Division, the Commission's technical staff; as well as PG&E, AT&T, and SCE for helping organize and host the above referenced in-person workshops, teleconferences, and meetings.

The FSTP also wishes to recognize the efforts of the Core Team and Editing Team members who have worked tirelessly before, during and after the workshops to refine the content of this work plan and reach consensus on material items both small and large.

Finally, the FSTP gratefully acknowledges the participation of ALJ Timothy Kenney and Ms. Charlyn Hook, advisor to Commissioner Florio, for their valuable input and encouragement throughout.

Respectfully submitted,

FRANK A. MCNULTY
ALLAN D. JOHNSON

/s/ *Allan D. Johnson*
By: Allan D. Johnson

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-6735
Facsimile: (626) 302-6693
E-mail: Allan.Johnson@sce.com

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**ATTACHMENT 1**

**SHAPE A DEVELOPMENT**

## ATTACHMENT 1

## SHAPE A DEVELOPMENT

The Revised Scoping Memo Proposal provides that Shape A will consist of the five elements listed below. Shape A will be created by REAX Engineering and SDG&E. Given the specific direction in terms of the inputs to include, it is anticipated that the creation of Shape A will be largely formulaic, (with some manual processing) and should be readily confirmed by either CAL-FIRE in consultation with the Peer Development Panel ("PDP"), a Commission's designee, or the Technical Review Team.

Shape A Elements

1. Cells on Fire Map 1 with a Utility Fire Threat Index value that is equal to or greater than 800.[1]

2. Cells on the Fire Resource Assessment Program (FRAP) Fire-Threat Map classified as Very High or Extreme.[2]

3. Historic fire perimeter data (all causes) in CAL FIRE's FRAP data base.

4. Cells on the FRAP Fire-Threat Map classified as High. With respect to Item 4, the Revised Scoping Memo Proposal would include in Shape A the great majority (but not all) of cells on the FRAP Fire-Threat Map classified as High.[3]

5. The intersection of the following areas associated with communities at risk from wildfire ("CARs"): [4]

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[1] A PDF version of Fire Map (FM) 1 was filed in this proceeding on February 16, 2016, and is available on the Commission's Docket Card for this proceeding (R.15-05-006). The GIS version of FM 1 can be obtained in accordance with the instructions in the Notice of Availability that was concurrently filed with the PDF version of FM 1.

[2] The FRAP Map (Fire-Threat) has four fire-threat classes for wildland areas: Extreme, Very High, High, and Moderate. It has two classes for non-wildland areas: Non-Fuel and Not Mapped. The map is available at: http://frap.fire.ca.gov/data/frapgismaps/pdfs/fthreat_map.pdf.

[3] It may not be feasible to draw boundaries for Shape A that include all cells on the FRAP Fire Threat Map classified as High. For example, some cells classified as High are isolated and could be difficult to include in a coherent Shape A.

[4] There may be some CARs that do not meet the intersecting criteria in Item 5 (i.e., none of the CAR is within an area classified as "Very High" on CAL-FIRE's map of Fire Hazard Severity Zones) and thus not included in Shape A.

a. Areas classified as "Very High" on CAL-FIRE's map of Fire Hazard Severity Zones ("FHSZs"),[5] and

b. Areas within the boundaries of communities on record with CAL-FIRE as being at risk from wildfire and to a distance of 1.5 miles outside the edges of the CARs boundaries.[6] In cases where there are no municipal boundaries for a particular CAR, the area for the CAR that would be used to develop Shape A would be the CAR's point location on CAL-FIRE's statewide map of CARs[7] plus a radius of 1.5 miles around the point location.[8]

During the workshops, SDG&E reported that CAL-FIRE had produced a map of all the CARs that it would make available to the PDP for Shape A development.

[5] Maps of FHSZs are available at: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps.

[6] There are approximately 1,329 communities currently on record with CAL-FIRE as being at risk from wildfire, including the City of Laguna Beach. The list is available at: http://osfm.fire.ca.gov/fireplan/fireplanning_communities_at_risk.

[7] A PDF version of CAL-FIRE's statewide map of CARs point locations is available at: http://frap.fire.ca.gov/data/frapgismaps/pdfs/comrisk_map.pdf.

[8] It would only be necessary to determine CAR boundaries for those CARs that are not otherwise included in Shape A as a result of applying Factors 1 – 4.

**ATTACHMENT 2**

**SHAPE 'B' DEVELOPMENT**

# ATTACHMENT 2

# SHAPE 'B' DEVELOPMENT

## 1.0 INTRODUCTION

This Attachment 2 describes how Shape A will be refined into Shape B and is based on the assumption that Shape A has been successfully developed and approved as part of a separate work stream.

Section 2.0 describes roles and responsibility of the participants, Section 3.0 describes the logistical framework, Section 4.0 describes the technical framework for development and approval of Shape B, and Section 5.0 describes an optional methodology.

As described in Section 4.0, Territory Leads will have primary responsibility to develop and refine Shape A for their assigned territories and, as described in Subsection 4.3, will be responsible for drafting and compiling a written proposal for submission to the peer development panel (PDP), which, at each Territory Lead's option, can take the form of:

- A narrative describing adjustments on the basis of considerations described in Table 1 and the tier definitions developed as described in Subsection 4.1;
- A matrix driven approach that evaluates key criteria as described in Section 5.0; or
- A combination of the narrative and matrix approaches.

## 2.0 ROLES AND RESPONSIBILITIES

To ensure consistency, transparency and technical rigor, this portion of the Fire Map 2 development process (i) will be executed by the PDP, which will assign territory specific mapping roles to Territory Leads, (ii) will be reviewed and approved by a Technical Review Team (TRT), and (iii) will provide for stakeholder (Stakeholder) input. The roles and responsibilities of each of these entities are set forth in the Work Plan Summary.

## 3.0 LOGISTICAL FRAMEWORK FOR SHAPE B CREATION

### 3.1 Overview of Shape B Creation and Adoption

As described in more detail in Section 4, the PDP, with heavy reliance on the Territory Leads, will create statewide Shape B polygons and designate the appropriate tier level. Proposed Shape B polygons will be internally reviewed and approved by the PDP before a statewide Shape B map is submitted for Stakeholder and TRT review. After the TRT reviews Shape B, it will be submitted to the Commission for approval. The review and approval process is described in more detail in Section III.B of the Fire Map 2 Work Plan Summary.

## 3.2 Protocol and Management Process

The PDP will create internal protocols and management processes that promote:

- Transparency to TRT
- Version control (described in Section 3.2.1 below)
- Documentation (feedback/review)

### *3.2.1 Web-based integrated project management / version control software*

It is proposed that the Shape B creation process be executed with web-based integrated project management / version control software. This makes the Shape B creation process completely transparent and provides a mechanism for stakeholders, municipalities, etc. to provide input to or comment on the Shape B creation process.

The concept of version control is prevalent in software development. With version control, each revision or modification to a project's source code is tracked. Particularly for open source projects, version control is often integrated with web-based project management and bug/issue tracking systems.

One possibility is to create a web site based on Trac (https://trac.edgewall.org/) with Subversion (https://subversion.apache.org/) for version control. This software has basic Wiki functionality, user accounts, and issue tracking. An example of a live site using this software combination can be seen at http://reaxengineering.com/trac/gpyro. Such a web site could be hosted on a vTRTual server for a cost of approximately $500 per year. Another possibility is to host the site on GitHub (https://github.com).

Using this type of software allows each member of the PDP and TRT and each Territory Lead (including those providing assistance to each Territory Lead)[1] to create accounts that make it

[1] It is possible that Stakeholders could also use this or another web-based integrated system; this is an issue to be determined by the PDP.

possible to initiate and comment on "tickets" that feature proposed changes. As an example, a Territory Lead or the PDP may propose a modification to Shape B by creating a ticket, attaching a GIS shapefile for the polygon being proposed for change, and providing a written justification for the proposed change. This ticket and proposed change would be immediately viewable by anyone with a web browser. The TRT would be able to comment on the proposed revision by adding a comment to the ticket. The TRT could ask questions, request additional information, accept the revision, or reject the revision. In this way, the entire process of Shape B creation is well documented.

# 4.0 TECHNICAL FRAMEWORK FOR SHAPE B CREATION

## 4.1 Step 1: Calibration and Tier Definition

### *4.1.1 The Number of Tiers (**Non-Consensus Item)*

It should be noted that a 3-tier approach is foundational to the Work Plan. However, consensus was not reached on the appropriate number of tiers to be included in Fire Map 2. The draft Work Plan that was circulated for discussion at the workshops, and the primary option discussed during the workshops, contemplated a 3-tier map. These tiers have previously been described as:

- Tier 3: Extreme
- Tier 2: Elevated
- Tier 1: Moderate (Not extreme or elevated. Baseline.)

*Alternate proposal* (**Non-Consensus Item) : To provide the Commission and utilities a means through which different regulations could be implemented in areas having different fire risk levels within the same tier, the PDP may consider further classification of Tier 2 into sub tiers—if the underlying data and analysis justify such further identification of fire risk zones. (See additional details on AT&T's alternate proposal in Summary of Fire Map Work Plan.)

### *4.1.2 Tier Definitions*

No official vote was taken at the closing workshop in regards to the strict definition, or means of mapping, of each tier. Mapping the tiers could be accomplished in a number of ways, including identifying parameters related to fire probability and consequence (risk). If, for example, the Commission adopts a 3-tier system, Tier 3 would represent the areas with the highest risk (and require the most restrictive fire safety regulations), Tier 2 would represent areas with lesser risk than extreme (but may require enhanced fire safety regulations), and Tier 1 would represent areas with the least risk (and current regulations are sufficient to protect public safety).

In order to ensure statewide consistency, the PDP will develop written definitions for each tier. The specific criteria and parameters used to define Shape B tiers should be developed by the PDP

in consultation with, and subject to the approval of, the TRT. Generally, the highest tier should be associated with areas where significant fire potential exists. Two examples of possible definitions are provided below:

1. Areas where fire poses a significant threat to human life, has potential to damage/destroy multiple homes, or cause significant damage to the environment or other values at risk, or
2. Areas where fire consequences could be similar to the catastrophic fire Southern California firestorm of 2007.

Tier definitions should be defined in a manner that can be applied statewide using the "narrative" approach. In addition, to support the efforts of Territory Leads using the optional matrix methodology described in Section 5, the PDP should, based on the final tier definitions, update the parameters for Low, Medium and High set forth in the Table of Values, **Table 2** and the tier based metrics for the Tier Quadrant, depicted in **Figure 1**.

### 4.2 Step 2: Create Statewide Refinements to Shape A

The (large group) PDP will execute statewide GIS operations to "carve out" areas of Shape A that are incapable of supporting propagating fires, perhaps using a burnable/non-burnable mask from LANDFIRE or CalVeg/FVEG. This includes waterbodies, barren cover types, irrigated agricultural land, and high-density urban areas. A raster sieve function could be used to prevent small groups of non-burnable pixels from being included in the non-burnable mask.

After areas incapable of propagating fire have been removed from Shape A, the result is a first draft of Shape B. The PDP's next step is to further refine and render Shape B on a statewide basis to: (i) include and exclude polygons from Shape B based on demonstrable incorrect logic in Fire Map 1 or FRAP Fire Threat Map, e.g., Northern California bias and (ii) to exclude cells that are isolated spatially.

Before moving on to **Step 3**, which involves a refinement process that is specific to the region assigned to each Shape B Territory Lead, the PDP should consult with the TRT regarding the work performed in **Step 2.**

### 4.3 Step 3: Territory Leads Develop Refinements to Shape B and Propose Tier 2 and Tier 3 Polygons for their Assigned Geographical Areas

Each Territory Lead will develop a proposed Shape B for its assigned territory.

The proposed Shape B may contain inclusions or exclusions from the Shape B as specified in the table below[2] and will include proposed tier designations for specified polygons based on the tier definitions established in **Step 1**. Alternatively, the Territory Lead may use the matrix methodology described in Section 5 as the basis for including or excluding geographical areas from Shape B and proposing tier designations to specified polygons.

**Table 1. Inclusion / Exclusion Criteria for Shape B**

| Considerations for movement either way | Considerations for including an area into Shape B | Considerations for removing an area from Shape B (where there is no significant fire history and no proximity to area at risk or community at risk) |
|---|---|---|
| **Burnable/un-burnable mask (CalVeg)-** 2015 CalVeg data was used as a 'mask' and the area under consideration needs to be moved based on whether or not it is covered by burnable vegetation. It was either included or excluded from Shape A in the course survey and this burnable/unburnable "test" will help determine its final disposition. | **Community at risk not captured elsewhere-** This area is covered by the CAR shape but did not get picked up when drawing the initial Shape A. It might not have had significant fire history or Fire Threat score, or its Map 1 signal fell below a visual threshold. Nonetheless, it falls within CAR and therefor needs to be included into Shape B. | **Cells that are isolated spatially-** These areas (cells) were captured 'wholesale' as part of one or more of the building block layers but due to their spatially isolated nature, they don't necessarily require consideration for enhanced regulations. They may be surrounded by cells of lesser threat, they may not represent significant fire history or they may not be proximate in a significant way to CAR or AAR. From an operational perspective, these cells may just be too small or isolated to require consideration for enhanced regulation. |
| **Known land use changes-** This area has undergone significant land use changes such as previously irrigated cropland reverting to a burnable landscape, or, an area of recent, significant construction/development. | **Demonstrable incorrect logic in Fire Map 1 or FRAP Fire Threat Map, e.g., Northern California bias -** This area lacked signal in one (or more) of the foundational layers but is known to represent significant threat of wildfire should an ignition occur. There may have been a singular, significantly damaging fire that is spatially removed from the preponderance of fire perimeters, or possibly, the area may have been omitted from Map 1 signal simply because of weather anomalies. | **Cells are too small to be significant when taken individually or in small clusters-** This guideline does not differ significantly from the one immediately above. |
| | **Known specific hazard such as fuel accumulations, ingress/egress issues, proximity to dense assets at risk-** These areas are likely to be small. The factors that make them candidates for inclusion into Shape B were not necessarily mapped or quantified in any of the foundational layers; assets at risk and ingress/egress for firefighters are but two examples. | **Demonstrable incorrect logic in Fire Map 1 or FRAP Fire Threat Map, e.g., Northern California bias -** A good example of this type of area is the north coast where significant fire signal is observed in Fire Map 1 but actual conditions are known to offer significantly less fire threat. |
| | **Past catastrophic fires or exceptionally dense fire history-** For some reason, the Shape A step did not capture an area of frequent or repeated burns, or there are known, significant fires on the landscape here but they are small in size or isolated from the main fire history footprint. | **Scarcity of Assets at Risk-** These areas, although they may be good candidates for enhanced regulations, do not abut areas of significant CAR/AAR nor do they have a history damaging fires originating in them. |

[2] Application of the considerations in the table requires that local knowledge be combined with reasonable judgment. The greater the degree to which these considerations apply to an area under review, the greater the likelihood that the considerations will support a proposed change.

| | | |
|---|---|---|
| | | **Lowered hazard due to fuel and weather -** These areas present a lower requirement for enhanced regulations because of fuel or weather considerations not elsewhere captured. |
| | | **Good ingress/egress-** These areas are well served by larger, more consistent traffic corridors (freeways, highways) to allow for either fire-fighting resource ingress or civilian egress. This travel corridor is sufficient to allow for a lessened need for enhanced regulation. |

Since Shape B Tier 3 is based on a specific definition, it may be created in parallel with applying inclusions and exclusions from Shape B. For example, if Shape B Tier 3 is defined to be areas where elevated hazard associated with ignition and rapid spread of power line fires due to strong winds, abundant dry vegetation, or other environmental factors may negatively impact communities, structures, or people, then each Territory Lead should identify areas where communities, structures, or people (through communities at risk or wildland urban interface / intermix layers) intersects areas possessing the hazards above (using Fire Map 1 and possibly other data sources). [3]

Each Territory Lead will submit to the PDP one or more proposals for Shape B for the applicable geographic area which proposal(s) shall be in such form as is directed by the PDP. Such submissions may include:

- A GIS shapefile for proposed Shape B in the territory;
- An image comparing the **Step 2** version of Shape B to the **Step 3** version of Shape B for the territory for which the proposal is submitted; and
- Reasonable justification / rationale for the proposed Shape B, setting forth in reasonable detail:
    - A narrative describing adjustments on the basis of considerations described in Table 1 and the tier definitions developed as described in **Step 1**;
    - A matrix driven approach that evaluates key criteria as described in **Section 5**; or
    - A combination of the narrative and matrix approaches.

Each Territory Lead will submit its proposal package to the PDP within the timeframe indicated on the work plan schedule. Each proposal will be reviewed by the members of the PDP who will

[3] It is contemplated that additional information such as the location of Wildland Urban Interface (WUI) zones on the basis of census data (*e.g.*, http://silvis.forest.wisc.edu/maps/wui) may also be used to develop Shape B and differentiate between tiers.

confer with the Territory Lead. Each proposal will be either referred back to the applicable Territory Lead for further consideration or approved by the PDP. This process will repeat until the PDP approves a revised, statewide Shape B. The TRT may be consulted on proposals unresolved by the Territory Leads and PDP.

### 4.4 Step 4: Stakeholder Input Process

Once the PDP has approved all of the proposals submitted by the Territory Leads, the PDP will compile a proposed statewide map for comment by the Stakeholders and solicit Stakeholder comment. Specifically:

(1) **Map Availability:** The maps will be made available for public review and comment on a website (for example GitHub)
(2) **Notice:** Notice of availability of Draft Statewide Shape B Map and workshop[s] will be provided to all city and county points of contact designated for emergency preparedness purposes pursuant to A.B. 1650 (P.U. Codes section 768.1) and to all Communities at Risk (CARs). Notice will also be provided to all parties in R.15-05-006.
(3) **Workshops:** It is recommended that one or more workshops will be held to: (i) explain the Shape B development; and (ii) explain how stakeholders can provide comment on the draft Shape B and the justification they need to provide for any proposed changes to Shape B.
(4) **Comment on Draft Shape B Map:** The PDP will establish a mechanism for the Stakeholders to provide comments and for those comments to be considered by the PDP. The mechanism must allow for the tracking and documentation of any stakeholder comments and responses thereto.
(5) **Draft Shape B Map Modification** The PDP will consider all comments offered by stakeholders, will make any necessary adjustments to Shape B and will prepare a Revised Draft Statewide Shape B Map for review by the TRT.

### 4.5 Step 5: TRT Review and Adoption of Shape B

After the statewide PDP makes any adjustments to the map to address local concerns, the Shape B map will be sent to the TRT for review and approval. In addition, the PDP shall deliver to the TRT a complete set of all the proposals submitted to the PDP by the Territory Leads and the PDP's responses to any Stakeholder comment. The TRT may also request, in specific instances, that the applicable Territory Leads (i) provide additional rationale/justification for certain boundaries or tier designations and/or (ii) modify the boundaries of certain proposed polygons based on a written scientific rationale that is consistent the work plan methodology and the requirements and scope of the rulemaking. An iterative process of repeated refinement is contemplated until Shape B is

sufficiently refined to the TRT's reasonable satisfaction or any impasses are resolved and Shape B is provided to the Commission for approval. *See* Summary of Fire Map Workplan 2 for details on Commission Review and Approval Process and TRT/PDP dispute resolution process.

### 4.6 Process Flow Chart

A process flow chart for the process described in this Section 4 is depicted graphically in **3**. It is anticipated that it will take between 16 and 24 weeks for the development of a statewide Shape B with tiers.

## 5.0 Optional Matrix Methodology

As indicated in Subsection 4.3, Territory Leads may develop and support proposed changes to Shape B and tier designations using the matrix methodology set forth in this Section 5. Generally, this methodology will result in support for inclusion of geographic areas within Shape B where:

1) Populations at high risk are not included in Shape A; and
2) Areas having a history of past catastrophic fires were not included in Shape A.

Conversely, this methodology should result in support for the exclusion of geographic areas where:

1) Shape A shows isolated or small clusters of cells that do not pose a risk of fire spread;
2) Shape A provides designations not supported by fire history and/or climatology.

### 5.1 Optional Matrix Methodology Step 1: Define Candidate HEZs

The Shape B Territory Lead will begin developing Shape B by within the assigned territory by partitioning the applicable portion of Shape A into *candidate* homogenous exposure zones (HEZs) for initial evaluation based on Key Criteria (defined below) values derived from a representative sampling of GIS coordinates and the Shape B Territory Lead's general knowledge of the region.

An HEZ is an identifiable geographic area in which the key criteria (Key Criteria) for assessing the level of fire risk are substantially uniform in value and impact. Each of the Key Criteria are enumerated on **Table 2**, including specified value ranges (for High, Medium and Low) to aid in the evaluation of the appropriate fire threat tier for each HEZ (Table of Values).

By way of example, PacifiCorp expects to identify 10-12 candidate HEZs within its service territory in Northern California, including, e.g., Crescent City area, Patrick's Creek, Happy Camp/Scott Bar, Alturas/Tulelake/Newell, Weed/Mt. Shasta, Round Mountain, etc.

### 5.2 Optional Matrix Methodology Step 2: Subdivide/Finalize Boundaries of HEZs

For each candidate HEZ, the Shape B Territory Lead will review/evaluate the relative values for each of the Key Criteria at numerous representative GIS coordinates within the geographic area comprising the candidate HEZ and determine whether it is logical to subdivide the HEZ area into two or more new smaller HEZs.

### 5.3 Optional Matrix Methodology Step 3: Complete Key Criteria Spreadsheets for HEZ Coordinates and Worksheet for Assigning Key Criteria Values to Each HEZ

For each HEZ, the Shape B Territory Lead will create spreadsheets of Key Criteria values for each representative GIS coordinate within each HEZ to support the final HEZ boundaries and the Key Criteria values that are ultimately assigned to the HEZ. The HEZ values will be entered into the Worksheet for Assigning Key Criteria Values, a template of which is included in **Table 3**.

### 5.4 Optional Matrix Methodology Step 4: Assign Tier to Each HEZ

Based on the Key Criteria values assigned to the HEZs, the Shape B Territory Lead will assign a tier to each HEZ based on the tier definitions established in the calibration work stream (which definitions shall be incorporated, as applicable, into each tier quadrant in **Figure 1** below).

| **Tier 2** | | **Tier 3** | |
|---|---|---|---|
| Key Criteria | Value | Key Criteria | Value |
| Fuel | | Fuel | |
| Type | High | Type | Med/High |
| Moisture Content | Low | Moisture Content | Low |
| Density | High | Density | High |
| Climatology | | Climatology | |
| Fire Wind | High | Fire Wind | High |
| Temperature (During Fire Season) | High | Temperature (During Fire Season) | High |
| Precipitation (During Fire Season | Low | Precipitation (During Fire Season ) | Low |
| Terrain | | Terrain | |
| Slope | High | Slope | Med/High |
| Ruggedness | High | Ruggedness | Med/High |
| Access | Low | Access | Low |
| Fire Break | Med/High | Fire Break | Low |
| Based on definition of Tier 2: If [_____], then the HEZ falls into this Quadrant.* | | Based on definition of Tier 3: If [_____], then the HEZ falls into this Quadrant.* | |
| **Tier 1** | | **Tier 2** | |
| Key Criteria | Value | Key Criteria | Value |
| Fuel | | Fuel | |
| Type | Low/Med | Type | Med |
| Moisture Content | Med/High | Moisture Content | Low/Med |
| Density | Low/Med | Density | Med/High |
| Climatology | | Climatology | |
| Fire Wind | Low/Med | Fire Wind | Med/High |
| Temperature (During Fire Season) | Low/Med | Temperature (During Fire Season) | Med/High |
| Precipitation (During Fire Season | Med/High | Precipitation (During Fire Season | Low/Med |
| Terrain | | Terrain | |
| Slope | Low/Med | Slope | Med/High |
| Ruggedness | Low/Med | Ruggedness | Med/High |
| Access | Low/Med | Access | Low/Med |
| Fire Break | Med/High | Fire Break | Low |
| Based on definition of Tier 1: If [_____], then the HEZ falls into this Quadrant.* | | Based on definition of Tier 2: If [_____], then the HEZ falls into this Quadrant.* | |

Populations at Low Risk Populations at Moderate Risk Populations at High Risk

*Final language will be determined by the PDP and TRT, weighting the key criteria based on final Tier definitions and results of calibration work stream.

**Figure 1. Tier Quadrant.**

## 5.5 Optional Matrix Methodology Process Flow Chart

A process flow chart for the optional matrix methodology described in this Section 5 is depicted graphically in **Figure 2.**

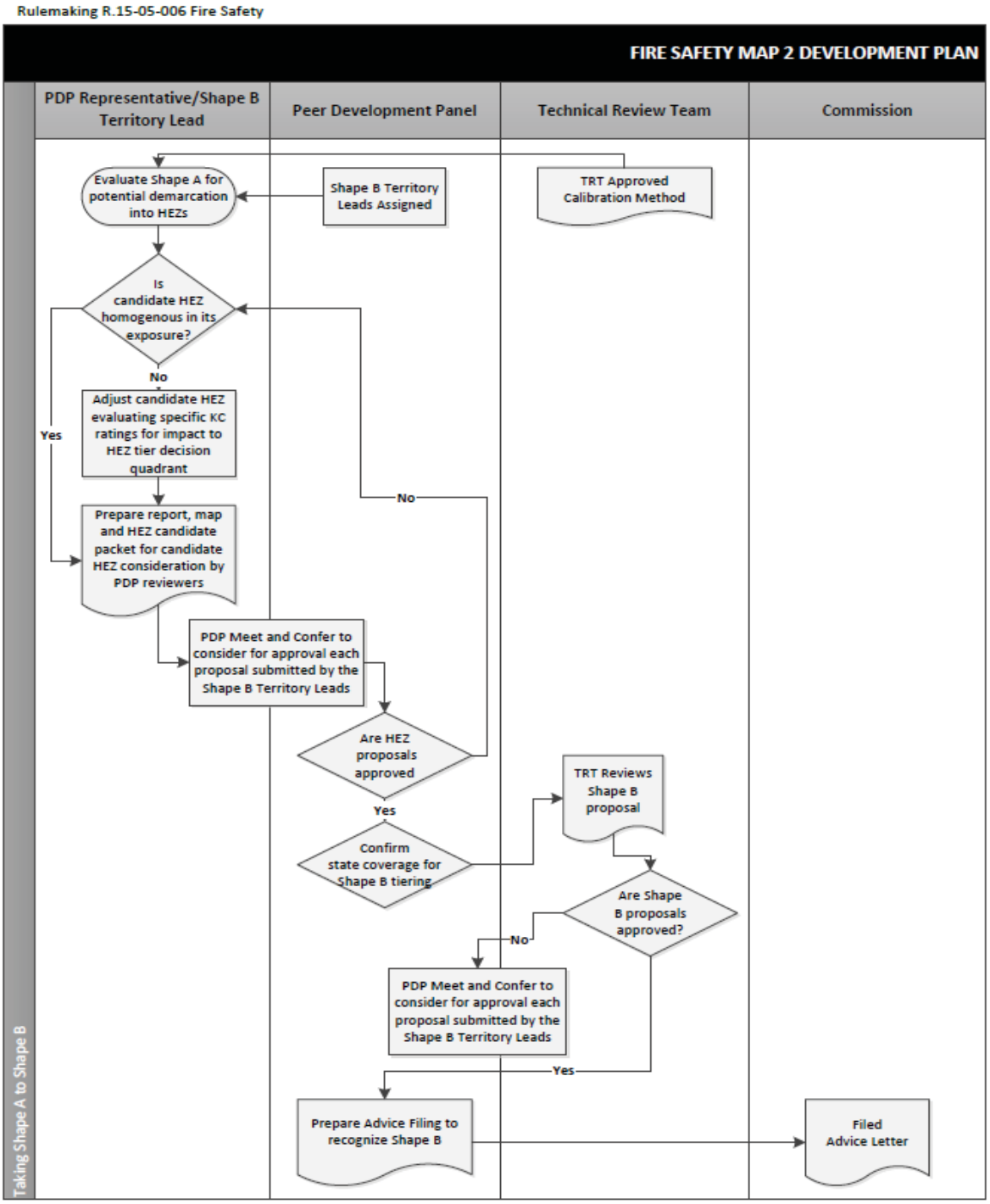


**Figure 2. Process Flow Chart for Optional Matrix Methodology.**

## 6.0 FIGURES AND TABLES (NOT DEPICTED ABOVE)

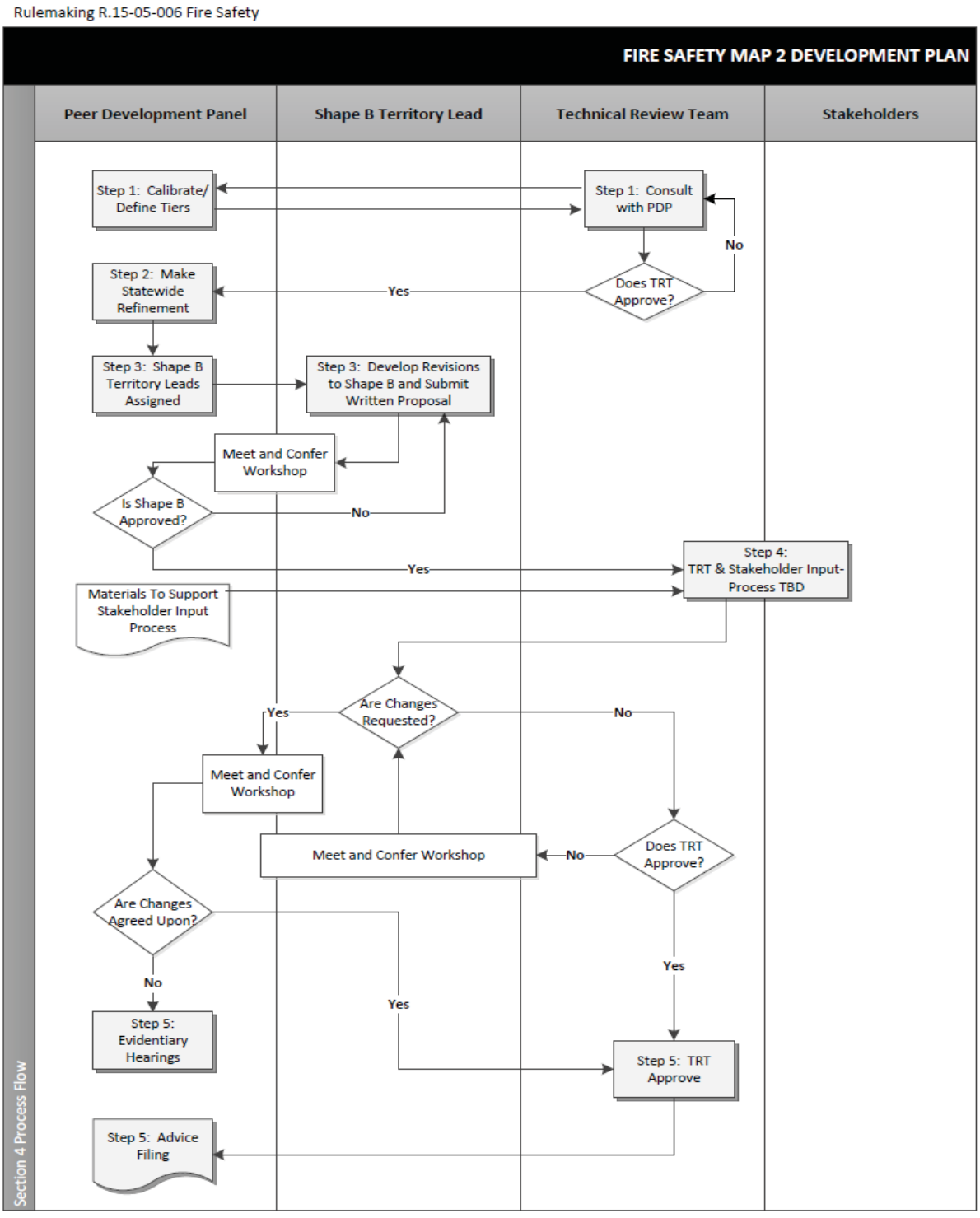


**Figure 3. Process Flow Chart For Shape A to B Process.**

**Table 2. EXAMPLE -Key Criteria-Table of Values. Values are Subject to Adjustment by PDP and TRT as Part of Calibration Work Stream. Low, Medium High values address fire threat level associated with the specified Key Criteria ranges.**

| Key Criteria | Low | Medium | High | Data Source |
|---|---|---|---|---|
| **Fuel** | | | | |
| Type | Predominantly low fuel load fuels (e.g., non-burnable surfaces, pavement, grasslands) | Predominantly moderate low fuel load fuels (e.g., timber (> 15 feet in height) without ladder fuels, brush (< 15 feet in height)) | Predominantly high fuel loads (e.g., timber (> 15 feet in height) with ladder fuels) | FRAP Map: GIS layer (GRID format) of Surface Fuels data (FBPS) compiled from multiple sources http://frap.fire.ca.gov/data/firedata-fuels-fuelsfr as adjusted by local knowledge |
| Average Dead Fuel Moisture Content (During Fire Season*) | >2% by weight | 1-2% by weight | 0-1% by weight | National Climatic Data Center, a division of NOAA (Past 30 years) |
| Density | Predominantly 0-30% crown cover | Predominantly 31% to 70% crown cover | Predominantly 71% to 100% crown cover | Crown cover codes and data -- FRAP Map: GIS layer (GRID format) of Surface Fuels data (FBPS) compiled from multiple sources http://frap.fire.ca.gov/data/firedata-fuels-fuelsfr as adjusted based on local knowledge |
| **Climatology** | | | | |
| Fire Wind (Peak Gusts During Fire Season*) | Not Med or High | 25 or more days of >10 mph winds without precipitation in prior 10 day period | 25 or more days of >30 mph winds without precipitation in prior 10 day period | RAWS or WRF data (Past 20 years) |
| Maximum Temperature (During Fire Season*) | Not Med or High | 500 or more days of >65°F & <80°F | 500 or more days of >80°F | National Climatic Data Center, a division of NOAA (Past 30 years) |
| Precipitation (During Fire Season*) | Average annual measurable precipitation (during fire season) >10 days | Average annual measurable precipitation (during fire season) 5-10 days | Average annual measurable precipitation (during fire season) <5 days | National Climatic Data Center, a division of NOAA (Past 30 years) |
| **Terrain** | | | | |
| Slope | Predominantly flat, 0-5% grade (rise over run) | Predominantly moderately steep, 5-15% grade (rise over run) | Predominantly extremely steep, >15% (rise over run) | GIS data |
| Ruggedness | Predominantly smooth, >[___]TRI | Predominantly moderate, >[___] TRI but <[___] TRI | Predominantly rugged, >[___] TRI | GIS data—Topographical Ruggedness Index |
| Access | Accessible to majority of ground based fire fighting resources/ equipment | Accessible to limited types of ground based fire fighting resources/ equipment | Arial access required for firefighting resources | Confer with local fire fighting resources |
| Fire Break | Nature and quantity of breaks substantially limits flame/ember spread | Nature and quantity of breaks mitigates flame/ember spread when combined with expected fire wind conditions | No or limited breaks | Confer with local fire fighting resources/evaluate fire spread history—CAL-FIRE |

| **Populations at Risk** | **Definition** | **Data Source** |
|---|---|---|
| Populations at Low Risk | Low population density OR populations substantially insulated from fire spread due to non-burnable infrastructure or otherwise (e.g., San Francisco) | Census track data (REAX work product), CARs (CAL-FIRE work product); GIS data for infrastructure |
| Populations at Moderate Risk | Moderate population density OR populations with some insulation from fire spread due to non-burnable infrastructure or otherwise | Census track data (REAX work product), CARs (CAL-FIRE work product); GIS data for infrastructure |
| Populations at High Risk | High population density OR populations with little or no insulation from fire spread due to non-burnable infrastructure or otherwise | Census track data (REAX work product), CARs (CAL-FIRE work product); GIS data for infrastructure |

*Fire Season to be determined on a per HEZ basis by PDP based on fire rotation data set underlying CAL-FIRE's FRAP Map.

**Table 3. Worksheet for Assigning Key Criteria Values to Each HEZ**
**[NAME OF SERVICE TERRITORY/OTHER GEOGRAPHIC AREAS COVERED]**
**[INSTRUCTIONS: Include both the assigned key criteria values (e.g., Low, Med and High) as well applicable descriptions and comments/considerations]**

| | HEZ 1 [Name] | HEZ 2 [Name] | HEZ 3 [Name] | HEZ 4 [Name] |
|---|---|---|---|---|
| **FRAP Fire Threat Value(s)** | | | | |
| **FM 1 Index Range of Values** | | | | |
| **Fire History (From 1950-present)** | | | | |
| **Fuel** | | | | |
| Type | | | | |
| Average Live Fuel Moisture Content (During Fire Season*) | | | | |
| Density | | | | |
| **Climatology** | | | | |
| Fire Wind (Peak Gusts During Fire Season) | | | | |
| Maximum Temperature (During Fire Season) | | | | |
| Precipitation (During Fire Season) | | | | |
| **Terrain** | | | | |
| Slope | | | | |
| Ruggedness | | | | |
| Access | | | | |
| Fire Break | | | | |
| **Populations (*Check One*)** | | | | |
| Populations at Low Risk | | | | |
| Populations at Moderate Low Risk | | | | |
| Populations at High Risk | | | | |

**ATTACHMENT 3**

**SHAPE ‘C’ DEVELOPMENT**

**ATTACHMENT 3**

**SHAPE 'C' DEVELOPMENT**

Shape C is the final mapping product. Shape C will further refine Shape B, taking into account the location of utility facilities and other operational concerns. It is anticipated that following the approval of Shape B, the development and review of Shape C will take approximately 8-11 weeks.

## 1.0 Process

This step assumes a robust and complete Shape A to B process has delivered a Shape B that will be used to create Shape C. Shape B will have been subjected to stakeholder refinement and scrutiny and approved by the Commission. Shape B will be delivered to Territory Leads for final refinement. Territory Leads (in coordination with the Communication Infrastructure Providers (CIPS) will work with the Peer Development Panel (PDP) to refine Shape B into a final map product. During this process, Shape B will be overlaid with utility overhead infrastructure.

It is anticipated that minimal changes will be made to Shape C to account for overhead infrastructure location and system operational concerns. The Territory Leads will discuss refinements with and reach agreement with CIPs in their respective territories. The PDP will deliver the final Shape C with justification for any wholesale changes to the Technical Review Team (TRT) for review and approval. It is anticipated that the TRT review and approval of Shape C will take approximately 2 weeks.

## 7.0 CRITERIA

The goal is to group overhead electric infrastructure in a logical manner to account for facility locations and operational concerns. Two types of changes can be made—those that move facilities into higher risk tiers, and those that move facilities into lower risk tiers. Changes between Shape B and Shape C are expected to be minimal and not negatively impact public safety. Changes will be visible to and reviewed by the statewide PDP.

In conjunction with the TRT, the statewide PDP will develop more explicit criteria, the required justification (i.e., Tier 3 to Tier 2) and review feedback process for the Shape B to C refinement performed the Territory Leads.

## 3.0 FINAL REVIEW

The proposed Shape C will be reviewed by the TRT to ensure an unbiased view of the changes between Shape B and Shape C. *See* Fire Map 2 Workplan Summary for details of TRT review and Commission approval.

**ATTACHMENT 4**

**Event / Task Timeline**

# ATTACHMENT 4
# Event / Task Timeline

| | EVENT / TASK SUMMARY | Estimated w/ Consensus | Estimated w/o Consensus |
|---|---|---|---|
| i. | **REAX and SDG&E create Draft Shape A and submit to CAL FIRE or CPUC designee.** *(This task performed concurrently with Technical Review Team (TRT) and Peer Development Panel (PDP) formation.)* | October 2016 (2 weeks) | |
| ii. | **1. CAL-FIRE or CPUC designee review Draft Shape A with REAX and SDG&E.**<br>**2. REAX-SDG&E revise Draft Shape A, as-necessary.**<br>**3. Tier 1 Advice Letter filed; OR CAL FIRE or Commission Designee consults with Assigned Commissioner or ALJ to resolve impasse.** | November 2016 (2 weeks) | |
| iii. | **PDP formed and Territory Leads identified** *(This task performed concurrently with TRT formation and Shape A creation.)* | Oct. - Nov. 2016 (2 weeks) | |
| iv. | **PDP develops work/review process and decision making criteria** *(May include Territory Leads.)* | Nov. – Dec. 2016 (4 - 5 weeks) | |
| v. | **1. TRT formed.**<br>**2. Contract negotiations initiated.**<br>**3. Contracts finalized with TRT members following CPUC Decision.** *(This task performed concurrently with PDP formation and Shape A creation.)* | Nov. – Dec. 2016 | |
| vi. | **CPUC issues Decision approving FM 2 work plan** | December 2016 (Day "0") | |
| vii. | **CPUC approves Shape A** | Day 0 | Day 28 - 35 (4-7 weeks) |
| viii. | **Shape A refined by Territory Leads and PDP to create Draft Shape B (w/tiers).** *(Consultation w/TRT regularly to affirm refinement processes and protocols are followed.)* | Day 112 – 168 (16-24 weeks) | Day 140 – 203 (16-24 weeks) |

| | | | |
|---|---|---|---|
| ix. | **1. PDP prepares Draft Shape B for public comment.**<br>**2. Public Comment period on Draft Shape B is completed.**<br>**3. TRT and PDP address comments and refine Draft Shape B as-necessary.**<br>**4. Tier 1 Advice Letter filed, OR Report filed with CPUC identifying impasse areas (all).** | Day 140 - 196<br>(4 Weeks) | Day 168 - 259<br>(4-8 Weeks) |
| x. | **Comment on and CPUC approval of Shape B**<br>*(Assumes no Evidentiary Hearings.)* | Day 140 - 217<br>(0-3 weeks) | Day 224 – 343<br>(8-12 weeks) |
| xi. | **Territory Leads in coordination with CIPs refine Shape B and create Draft Shape C** | Day 182 – 273<br>(6-8 weeks) | Day 266 – 399<br>(6-8 weeks) |
| xii. | **1. TRT reviews Draft Shape C**<br>**2. PDP refines Draft Shape C (as-needed)**<br>**3. Tier 1 Advice Letter filed; OR Report filed with CPUC identifying impasse areas.** | Day 196 – 294<br>(2-3 weeks) | Day 280 – 420<br>(2-3 weeks) |
| xiii. | **Comment on and CPUC approval of Shape C**<br>*(Assumes no Evidentiary Hearings.)* | Day 196 - 315 days<br>(0-3 weeks) | Day 336 – 504<br>(8-12 weeks) |
| xiv. | **CPUC disseminates Fire Map 2** | Day 203 - 322<br>(1 week) | Day 343 - 511<br>(1 week) |

**ATTACHMENT 5**

**Scoping Memo Appendix B Cross-Reference Chart**

**ATTACHMENT 5**

**Scoping Memo Appendix B Cross-Reference Chart**

| Appendix B Section | Appendix B Topic | Section where App B Topic is Addressed in Workshop Report |
|---|---|---|
| 1. | The Fire Map 2 Work Plan prepared jointly by the parties shall include a detailed work plan for the development, adoption, and implementation of a Fire Map 2 that: | |
| 1.i | Incorporates Fire Map 1. | I.A; Attachment 1 |
| 1.ii | Covers the entire state. | III.B; Attachment 2 |
| 1.iii | Identifies the types and locations of overhead power-line facilities in the high fire-threat areas. | III.C; IV.A; Attachment 3 |
| 1.iv | Identifies the types and locations of aerial telecommunications facilities in close proximity to overhead power-line facilities in the high fire-threat areas. | III.C; IV.A; Attachment 3 |
| 1.v | Integrates with the fire-prevention measures adopted in R.08-11-005 and this proceeding (R.15-05-006) that rely on fire-threat maps for their implementation. | Attachment 1 |
| 1.vi | Will be available to Commission staff, fire-safety agencies, and the public, while also protecting information about critical infrastructure or which may be proprietary. | II; III; IV.A |
| 2. | The Fire Map 2 Work Plan shall include the following: | |
| 2.i | The types of information, the level of detail, and other characteristics that Fire Map 2 must possess. | I.A; III; Attachments 1-3 |
| 2.ii | A detailed work plan for the funding (if needed), development, expert review (if needed), adoption, and implementation of Fire Map 2 | III; IV.B |
| 2.iii | The specific technical expertise from neutral third parties such as CAL-FIRE that is needed, if any, to develop and/or review Fire Map 2, and an explanation of how this expertise can be obtained. Recommendations for obtaining assistance from CAL-FIRE should take into account that CAL-FIRE's ability to provide assistance is limited. (PHC Transcript at 58 – 63.) | II; IV.B |
| 2.iv | If the Fire Map 2 Work Plan anticipates contracting with neutral experts, the work plan shall (a) identify who will select the neutral experts; (b) explain how the contracting process will work; and (c) identify who will oversee the work performed by the neutral experts. | IV.B |
| 2.v | The estimated cost to carry out Item 2.ii above, including the cost of contracting with neutral experts, if necessary. | IV.B |
| 2.vi | A recommended funding mechanism, if needed, for the development, expert review (if needed), and | IV.B |

| Appendix B Section | Appendix B Topic | Section where App B Topic is Addressed in Workshop Report |
|---|---|---|
| | implementation of Fire Map 2. One option is to provide utility funding and cost recovery using the Fire Hazard Prevention Memorandum Accounts that are described in D.12-01-032 at pages 153 – 156. | |
| 2.vii | A proposed schedule, recommended procedures (e.g., workshops), and milestones for the actual development, expert review (if needed), adoption, and implementation of Fire Map 2, including conforming revisions to GO 95 and GO 165. | Attachment 4 |
| 2.viii | A discussion of whether electric utilities and communication infrastructure providers (CIPs) should be able to adjust the boundaries of Fire Map 2 based on their own expertise and local conditions and, if so, whether and how such adjustments should be vetted and incorporated into the approved Fire Map 2. | III.B; Attachment 2 |
| 2.ix | A description of how the adopted Fire Map 2 should be updated, the frequency of such updates, and the procedure by which the updated Fire Map 2 will be incorporated into GO 95 and other GOs, if applicable. | IV.C |
| 2.x | A statement of whether the adoption of Fire Map 2 is subject to the California Environmental Quality Act (CEQA) and, if so, when and how the CEQA review would occur. | IV.C |
| 2.xi | Alternative recommendations if the parties cannot reach a consensus on all issues. The alternatives should provide the same level of detail as the Fire Map 2 Work Plan. It will be the responsibility of any party proposing an alternative to prepare the alternative that is included in the Fire Map 2 Work Plan. | See III.B (alternative re number of tiers) II (backup plan for TRT leadership).<br><br>Additionally parties have been invited to comment on several other issues where there was a change since the workshops (e.g. III.B , public input in light of SB 1463 veto) or which were not thoroughly discussed (e.g. IV.C, tree mortality layer, updates to Map 2, transitioning regulations) |
| 2.xii | A list of Commission actions that may be required to implement the Fire Map 2 Work Plan and alternatives, such as rulings and/or Commission decisions approving the (a) work plan, (b) any associated funding mechanism, and/or (c) the final Fire Map 2. | III.A-C; Attachments 2-3 |
| 3. | The Fire Map 2 Work Plan shall address: | |
| 3.i | Validation of Fire Map 2 against historical fires. | IV.C |

| Appendix B Section | Appendix B Topic | Section where App B Topic is Addressed in Workshop Report |
|---|---|---|
| 3.ii | Incorporating into Fire Map 2 additional factors and conditions that affect fire hazards associated with overhead utility facilities generally and at specific locations (e.g., Laguna Beach). Such factors and conditions may include the parties' knowledge of (A) terrain; (B) vegetation (e.g., potential contact between trees and power lines in low-wind areas); (C) areas designated as high hazard zones pursuant to the Governor's Proclamation of a State of Emergency issued on October 30, 2015; (D) microclimates; (E) historical power-line fires besides the October 2007 fires in Southern California (e.g., the September 2015 Butte Fire in Amador and Calaveras Counties); (F) other historical fires; and (G) other factors and conditions. | IV.C; Attachment 2 |
| 3.iii | Incorporating into Fire Map 2 the fire hazards associated with historical power-line fires besides the October 2007 fires in Southern California. These other power-line fires include the Butte Fire that burned 71,000 acres in Amador and Calaveras Counties in September 2015.2 | IV.C; Attachment 2 |
| 3.iv | Whether historical fires and other factors demonstrate that the City of Laguna Beach should be designated as a high fire-hazard area on Fire Map 2.3 | IV.C |
| 3.v | Incorporating into Fire Map 2 the utilities' knowledge of local conditions in setting the boundaries of the High Fire-Threat District. | III.B; Attachment 2 |
| 3.vi | Incorporating into Fire Map 2 the consequences (i.e., risks) of power-line wildfires. | IV.C |
| 3.vii | Transitioning existing regulations that rely on interim fire-threat maps to Fire Map 2. | IV.C |
| 4. | The Fire Map 2 Work Plan shall address the proposal for a statewide Fire Map 2 contained in Appendix C of this Scoping Memo and Ruling. | III |
| 5. | Any other matters the parties deem appropriate, provided that such matters are within the scope of the Fire Map 2 Work Plan. Such matters may include those listed in Item 2 of the ruling dated June 2, 2016, at pages 4 – 5, but parties should be careful about slowing and/or overloading the development of Fire Map 2 with additional topics. | |
| 6. | When possible, the Fire Map 2 Work Plan and any alternatives to the Work Plan should enable the rapid development and adoption of Fire Map 2. | Attachment 4 |

**ATTACHMENT 6**

**Fire Map 2 Development Plan Workshop Protocols**

**(based on Appendix D – R.08-11-005, Phase 3, Track 3, Workshop Report)**

# ATTACHMENT 6

**Fire Map 2 Development Plan Workshop Protocols** *(based on Appendix D – R.08-11-005, Phase 3, Track 3, Workshop Report)*

## 1. PURPOSE

The Fire Map 2 Work Plan prepared jointly by the parties shall include a detailed work plan for the development, adoption, and implementation of a Fire Map 2 that: i. Incorporates Fire Map 1; ii. Covers the entire state; iii. Identifies the types and locations of overhead power-line facilities in the high fire-threat areas; iv. Identifies the types and locations of aerial telecommunications facilities in close proximity to overhead power-line facilities in the high fire-threat areas; v. Integrates with the fire-prevention measures adopted in R.08-11-005 and this proceeding (R.15-05-006) that rely on fire-threat maps for their implementation; and vi. Will be available to Commission staff, fire-safety agencies, and the public, while also protecting information about critical infrastructure or which may be proprietary.

## 2. PARTICIPANTS

"Participant" is defined as any representative of a party to this proceeding who participates in one or more scheduled workshop. A party may bring as many representatives to participate in a workshop as necessary. A primary contact or spokesperson for each party shall be designated for purposes of notices and document distribution.

## 3. AGENDAS

An agenda for each workshop will be developed by the chair or co-chairs (with assistance from Participants as-needed) starting with the first meeting, and may be updated at the meeting as agreed upon by the Participants. The agenda will specify the date, time, location and host /contact person for the meeting and will list the matters to be addressed.

3.1 To the extent possible, work items requiring the presence of Participants with special qualifications or expertise are to be scheduled on the same or consecutive days.

3.2 To the extent possible, PRCs requiring the presence of Participants with special qualifications or expertise are to be scheduled for discussion on the same or consecutive days.

3.3 The Participants may agree to defer a work item or PRC if, during discussion, it becomes apparent that participants with special qualifications or expertise, not then present, are needed.

3.3 A party represented by a single Participant may request that a work item or PRC of particular interest to them not be addressed on a specific date if they cannot be present on that date. Such a request should be made as soon as the party's scheduling constraint becomes known to them, and reasonable efforts will be made to accommodate such requests.

**4. DISCUSSION PRINCIPLES**

4.1 The discussions will be governed by the following general principles:

4.1.1 Describe the specific proposal. (Specific circumstances at issue in an OII pending before the Commission will not be considered.)

4.1.2 Identify and understand the Participants' respective points of view, interests and desired outcomes relative to the subject matter.

4.1.3 Obtain (to the extent feasible) information that Participants believe is necessary to understand the topic and make an informed decision.

4.14 Address all interests insofar as possible.

4.2 During workshops or meetings, opportunities will be allowed for a brief ongoing evaluation of progress and process ("process checks").

**5. DECISION MAKING PROCESS**

5.1 Consensus will be sought utilizing a "levels of agreement" process:

5.1.1 "Consensus" is defined as no "Level 2" votes.

5.1.2 Levels of agreement scale:
Level 1 - I support/can live with this recommendation or PRC.
Level 2 - I do not support/cannot live with this recommendation or PRC.
Level 3 - I abstain/am neutral.

5.1.3 Each party will state a single level of agreement, regardless of how many Participants it has brought to the workshop or meeting.

5.1.4 A “straw vote” to ascertain the level of support for, or opposition to a recommendation or PRC may be called for at any time and should be held prior to a final vote.

5.1.5 Tentative working agreements may be reached on parts of a recommendation or complex PRCs.

5.1.6 If no party gives a recommendation or PRC a “2”, the item is agreed upon. Otherwise the item is either:

5.1.6.1 Submitted to a smaller working group to refine outside of the workshop process and then brought back for later consideration; or

5.1.6.2 Assigned as an Alternative Recommendation (AR) or Alternative Proposal (AP) in which one or more parties, individually or in small working groups, return to a later workshop meeting with an alternative to an existing recommendation or PRC;

5.1.7 If an AR or AP does not lead to agreement, the proponent(s) may submit their AR (or AP) for a vote by Participants. Each AR or AP, together with the voting results and any statements of rationale Participants wish to provide, should be included in the Workshop Report.

5.1.7.1 An AR or AP not voted on by Participants or withdrawn by its proponent(s) will not be included in the Workshop Report.

5.2 Parties are responsible for having an informed Participant at each meeting who has authority to discuss the topics to be addressed, and who will seek

management input prior to a final confirmation vote in order to expedite workshop efforts.

5.3 Any party that, without prior notice to the other parties, is absent from a meeting, is deemed to have abstained from the determination of levels of agreement, and waived the opportunity to challenge or propose an alternative.

5.3.1 This protocol may be waived by agreement of the parties at a subsequent meeting in the event a party's absence was due to circumstances beyond its control.

5.4 Agreed-upon items will be placed on a confirmation agenda, to be addressed at the start of the subsequent group of meetings, in order to allow parties time to seek final approval by their respective management, when such approval has been stated by parties to be necessary. Except for the final scheduled workshop(s), any party may remove an item from the confirmation agenda for further consideration, based on their management's direction.

5.5 Each Participant is responsible keeping their own organization or constituency group(s) informed of the progress of the workshops and to timely seek advice, comments and authorization as required.

5.6 Participation by Proxy
Parties represented by a single Participant may designate another Participant to serve as their proxy for purposes of expressing levels of agreement, if they are unable to attend a workshop. In order to utilize a proxy, the party must satisfy the following:

5.6.1 The party shall notify the other parties by email or facsimile at least one (1) business day prior to the meeting at which they expect to be absent; and

5.6.2 The party shall provide clear directions to the proxy regarding any limitations on the proxy's authority, in the event a work item is modified in the course of discussion; and

5.6.3 The Participant serving as a proxy must inform the facilitator and Participants of their role at the beginning of the meeting.

## 6. COMMUNICATIONS

6.1 Participants may meet or conference among themselves between workshops.

6.2 Audio and video recording devices are not to be used in meetings for any purpose. Participants are encouraged to explore ideas freely and the only agreements are those explicitly reached.

6.3 A chair or co-chair shall be designated to keep the assigned ALJ informed of the dates, times, location and host contacts for upcoming workshops, in time for that information to be posted on the Commission's website and to be periodically issued in rulings as the ALJ deems appropriate.

## 7. INFORMATION MANAGEMENT

7.1 A summary will be prepared following each workshop, noting:

7.1.1 Participants;

7.1.2 Key points of discussion;

7.1.3 Consensus, if reached, with supporting rationale and vote tallies (if taken); and

7.1.4 ARs or APs (if any).

7.2 The meeting summary will be prepared by a chair, co-chair, or designated Participant. Meeting summaries will be available as soon as practicable and will be emailed to all Participants. The meeting summary will be reviewed by the Participants. Necessary corrections will be addressed at the next workshop.

7.3 Information will be posted to the SED website, as necessary.

7.3.1 Participants, and the parties they represent, reserve all rights to preserve the confidentiality of information in their possession, and participation in the workshop shall not be implied or understood to constitute a waiver of such rights.

## 8. ROLES

8.1 Chairs, co-chairs, and facilitators:

8.1.1 Work on behalf of the Participants.

8.1.2 Make participation easier and encourage participation by all who wish to do so;

8.1.3 Remind Participants of the protocols as necessary;

8.1.4 Suggest strategies to move the discussion along, as appropriate;

8.1.5 Carry out such other supportive activities as agreed upon by the Participants or as directed by the ALJ.

8.2 Participants:

8.2.1 Listen carefully, ask pertinent questions and educate themselves and others regarding the issues and interests that must be addressed, in a collaborative rather than confrontational manner.

8.2.2 Fully and thoughtfully explore the issues before forming conclusions.

8.2.3 Search for creative solutions that best serve the issues and interests that must be addressed.

## 9. REPORTING

The final product will be a written Workshop Report that documents consensus recommendations and ARs; or consensus PRCs and APs. The Workshop Report will be filed with the Commission or otherwise made a part of the official record as directed by the assigned Administrative Law Judge (ALJ).

9.1 If specific instructions regarding the outline and content of the Workshop Report are not included in a Scoping Memo or Decision, previously submitted workshop reports may be used as guides.

9.2 It is recommended that the Participants select a chair, co-chair(s), and a small number of Participants to serve as the Workshop Report committee.

## 10. ACCESS AND ACCOMMODATIONS

Workshops shall be noticed on the Commission's Daily Calendar and scheduled in locations that comply with the Americans with Disabilities Act.

**ATTACHMENT 7**

**FSTP Workshop Agendas – Recaps / Notes – Attendee Lists**

# ATTACHMENT 7

## FSTP Workshop Agendas – Recaps / Notes – Attendee Lists

**Rulemaking 15-05-006, FSTP Workshop Teleconference – Fire Map 2 Work Development Plan**

Aug. 01, 2016

Agenda

1. Call to order, 10:00 am
2. Welcome, introduction of FSTP co-chairs, participant self-introductions
3. Opening remarks by Comm. Florio and ALJ Kenney (at their discretion)
4. Review Agenda (revise as-needed)
5. Review Scoping Memo and associated documents
    a. Appendix A - D.14-01-010
    b. Appendix D – Workshop Protocols, Workshop Report Fire Map 1 Development Plan
6. Amended as-needed and affirm Workshop Protocols for Fire Map 2 Development Plan
7. Review Appendix B – Assigned Commissioner's Scoping Memo and Ruling (07-15-16)
8. Discuss and determine outcomes of Aug. 18-19, 2016 workshop
    a. Identify pre-workshop tasks and responsibilities
9. Discuss need for additional FSTP teleconference before Aug. 18, 2016
10. Create a draft agenda for Aug. 18-19, 2016 workshops
11. Determine preliminary schedule for Aug. 29-30, 2016 workshops (PG&E host in San Francisco)
12. Roundtable and closing remarks (as time allows / as-needed)
13. Adjourn – 12 pm noon

**Recap**: The teleconference was convened as scheduled and was well attended. ALJ Kenney advised Parties and FSTP members that the Commission wants to move forward quickly with the development of a Fire Map 2 work plan. Attendees reviewed Appendix-A of D.14-01-0101 and Appendix D from the Fire Map 1 Workshop Report. SED will host the initial FSTP workshop at the CPUC offices in San Francisco on Aug. 18-19. A draft agenda and workshop protocols will be circulated in advance, and the workshops will be publically noticed in the CPUC's Daily Calendar. (SED/Legal Div. to submit notices.) PG&E volunteered to host the next set of workshops in San Francisco, on Aug. 29-30. Workshop facilitation performed by SCE (Sam Stonerock) and SED-ESRB (Raffy Stepanian or Koko Tomassian). A draft agenda and workshop protocols will be circulated in advance, and the workshops will be publically noticed in the CPUC's Daily Calendar.

| **Party** | **Aug. 01, 2016** | |
|---|---|---|
| AT&T California | X | |
| Bear Valley Electric Service | X | |
| CAL-FIRE | X | |
| CCTA | X | |
| CMUA | X | |
| City of Laguna Beach | X | |
| Comcast | X | |
| Cox Communications | | |
| Crown Castle | X | |
| CTIA | X | |
| Frontier Communications (formerly Verizon) | | |
| Hans Laetz | | |
| IBEW 1245 | X | |
| LA County Fire | X | |
| LADWP | X | |
| Liberty Utilities | X | |
| MGRA | | |
| PacifiCorp | X | |
| PG&E | X | |
| SCE | X | |
| SDG&E | X | |
| SED (Advocacy) | X | |
| Small LECs | | |
| SMUD | X | |
| Sprint / Nextel | | |
| Sunesys | X | |
| Time Warner | | |
| T-Mobile | | |
| TURN | | |
| **Other Attendees** | | |
| Office of Comm. Picker | | |
| Office of Comm. Florio | | |
| ALJ Kenney | X | |
| SED (Advisory) | X | |
| REAX Engineering | X | |

**R.15-05-006, Public Workshop, Fire Map 2 Presentation by SDG&E**

Aug. 11, 2016

**Meeting Notes**

The workshop was called to order at 1:30 pm by Mr. Hal Kane

Participants were welcomed and a safety briefing was offered

A roll call was taken (attendance list included below)

ALJ Kenney remarked on progress made in the rulemaking thus far, outlined expectations for this workshop, and reviewed the Scoping Memo Proposal. (See attached PowerPoint slides)

Advisors from Commissioner Picker's office and Commissioner Florio's office also offered brief remarks.

SDG&E's Mason Withers and Randy Lyle introduced themselves and started their presentation at approximately 1:45 pm by giving an overview of the materials to be covered and asked participants to hold their questions (if possible) until the end of first segment.

*Note: SDG&E's presentation was too large to include with the meeting notes, but is available. By ALJ ruling, the deck has been added to the proceeding record, and is included by reference in the Fire Map 2 Workshop Report.*

**Workshop Notes - Questions / Answers** *(Initiated during presentation)*

- Regarding the drafting of 'Shape 1', who are the "utilities"?
    - Process is not set. Likely the IOUs first, then communication companies and similar stakeholders.
    - Reference slides 49-80
- Regarding a three-tier approach, is there a 'no-risk tier'?
    - For various reasons, a no-risk tier is not included in the SDG&E model
    - After some discussion, it was asserted that bodies of water, coastal beaches, and desert areas could be considered 'no' or 'low-risk' but making such a designation was not necessary for modeling purposes.
- Regarding the 'operational' aspect of a mapping process, in refining boundaries for Shape 2 is there any consideration given to overhead CIP facilities attached to joint use poles or in close proximity to OH electric facilities?
    - Response and subsequent discussion included a review of Slide 56. SDG&E made decisions based on the location of their overhead facilities.
    - Per the previous question, to move the process forward quickly it makes sense to start with electric facilities, but then include other facility owners like CIPs
- Regarding the drafting of 'Shape 1', are there other factors involved besides Fire Threat map and Fire History?

    - Yes, there could be some discretionary judgement applied, including known or localized risk factors.
- Regarding moving Shape 1 to Shape 2. What defines Shape 2?
    - The Electric T&D system, local risk assessment and fire history
- Regarding 'Shape 2', is it possible to standardize the decision criteria or methodology?
    - Regardless of the proposed methodology, it's impossible to create a one-size fits all approach or weighting factor that does not require some discretionary judgement.
- Regarding Slide 78, what is being presented with respect to fire perimeters
    - Essentially, Cal-Fire's data base is utilized which has categorizes wildland, grass, timber fires dating back to the 1950's. 300 Acre fires down to 50 acres for conifer and 100 acres for brush.
- Regarding Slide 76, why values greater than 800?
    - It is believed these are reasonably conservative values. Changing from 700 to 1000 doesn't have a big impact. A sensitivity analysis was done.
- What Map 1 was used?
    - Fire Map 1 (unadjusted), as adopted by the PUC is the version presented in this analysis
- Regarding Slide 82, what is being represented?
    - Apparently the top 10% or highest classification is represented on Fire Map 1 but is not precise for land based values
- Regarding Slide 92, what is being represented?
    - Slide 92 is a composite of Slides - 84, 85, 86, and 90
- Regarding Slide 96, what is being represented?
    - The blue colored field are areas that do not appear on the Cal-Fire Fire Threat map.
- Regarding Slide 99, what is being represented?
    - This is SDG&E's proposed Shape 1 overlapped with Scoping Memo model without the Cal-Fire 'high' fire threat layer
- Regarding Slide 100, what is being represented?
    - This is a comparison of SDG&E's proposed Shape 1 and the Scoping Memo model with the Cal-Fire 'high' fire threat layer

Presentation of materials resumed, with review and discussion of Slides 104 – 112. Discussion among participants occurred during presentation.

- Slides 106 – 112 included to illustrate the complexity of not fine-tuning proposed tiers in Appendix C, as there could be a dozen or more combinations of applicable tiers even before layering on communities at risk.

- There are significant differences between the SDG&E/IOU proposal and the Scoping Memo proposal that will produce different outcomes and levels of complexity for operational and regulatory purposes
- The FRAP communities at risk information is point based, not a mapped polygon
- Local risk and situational analysis should be used to determine supplemental boundaries

Parties took a short break at 3:20 pm

Presentation of materials resumed with review and discussion of Slides 113-118

- Discussions focused on down side of any approach to creating Fire Map 2 that did not include local knowledge. Although there is currently no exact list or one-size fits all criteria to refine a Shape 1 map, when creating a Shape 2 map - local knowledge and principals of fire science must be applied, and reasons for applying discretionary judgement must be documented.
- Discussions among participants continued regarding –
    - the use of Fire Map 1 to create Fire Map 2
    - value of SDG&E/IOU methodology
    - inherent problems with Scoping Memo proposal for creating Fire Map 2
    - the use of local knowledge
    - Communities at risk is more illustrative of the potential impact of a fire not where a fire might originate
    - Question on why layer on other maps i.e. FRAP, Fire Perimeter?
        - It's consistent, it's easy. Other maps were used because Map 1 missed some areas and included other inappropriate areas. SDG&E didn't think the very high and extreme areas on the FRAP map could be ignored.
    - the concerns with including Cal-Fire 'high' fire threat areas in Fire Map 2
    - the SDG&E/IOU proposal includes very high/extreme fire threat areas ( does not include high)
    - the use of a computer based program for modeling Shape 1 rather than a hand drawn boundary
- ALJ Kenney's closing questions/comments
    - How does SDG&E method address Northern California issues?
    - ALJ Kenney is concerned with creating a labor intensive and regulatory intensive approach
    - Does there need to be an independent evaluation?
    - Would Fire Map 1 need to be fixed before creating Shape1 and if so, is it a data driven fix?
    - Would Fire Map 1 need to be fixed if Cal-Fire Fire Threat 'high' areas are used?
    - Isn't creating Shape 1 and then refining to produce Shape 2 labor intensive?

- Is there a framework or formula that addresses all decision making for producing a Shape 2 map? And doesn't including judgements on communities at risk make the process unwieldy?
- With respect to FM1 how is wind factored in? Thinks wind data is critical towards creation of Fire Threat areas and new rules.
- More details on the transitions between Shapes 1, 2, and 3 are needed

Prior to closing, there was a brief discussion regarding the Aug. 18-19 workshop agenda.

- An agenda for the Aug. 18-19 workshops is in development.
- Mr. David Sapsis (Cal-Fire) volunteered to lead the discussion at Aug. 18 workshop regarding the development and content of the Scoping Memo Fire Map 2 proposal.
- Mr. Mark Rosenburg (Cal-Fire) accepted an invitation to speak at the Aug. 19 workshop on the Tree Mortality Map's High Hazard Zone.
- ALJ Kenney affirmed that an agenda for the Aug. 18 status conference will be issued.

In closing, Mr. Kane and ALJ Kenney thanked SDG&E for their time, effort and presentation of the proposed methodology, and thanked participants in the room and on the phone for their thoughtful questions and comments.

The workshop was adjourned at 5:10 pm.

# R.15-05-006
# CPUC Workshop
# Fire Map 2 Presentation by SDG&E

August 11, 2016

## Workshop Agenda

| Presenter | Topic | Time p.m. |
|---|---|---|
| **SED (Advisory)** | Welcome<br>Workshop Safety<br>Workshop Objectives<br>Workshop Notes | 1:30 – 1:40 |
| **SED (Advisory)** | Roll Call | |
| **Judge Kenney** | Remarks | 1:40 – 1:50 |
| **Mason Withers and Randy Lyle (SDG&E)** | SDG&E approach to developing Fire Map 2 and SDG&E proposal for workplan | 1:50 – 3:20 |
| | Break | 3:20 – 3:40 |
| **Question & Answer re: SDG&E Presentation Moderated by SED (Advisory)** | All participants & SDG&E | 3:40 – 4:30 |
| **Discussion of SDG&E Presentation Moderated by SED (Advisory)** | All participants, as time permits | 4:30 - 4:55 |
| **SED (Advisory)** | Closing | 4:55 – 5:00 |

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## Safety Information

- In the event of an emergency, please proceed calmly out the exits.
- The Evacuation Location is the park between the Opera House and the Herbst Theater.
- To reach the Evacuation Location, exit the building at Van Ness Avenue and McAlister streets. Proceed south on Van Ness Avenue past the Herbst Theater.

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## Practical Information

**Restrooms:**
**To the left of the front reception desk, as you face it—and next to the cafe.**

**WiFi Access:**
**SSID: cpucguest**
**User: guest**
**Password: cpuc72916**

**Call in information:**

- Phone line: 1-866-859-2737
  Participant code: 1682922

**WebEx:**

https://van.webex.com/van/j.php?MTID=m24e72e5f37783bde8351f1f9b132af38

- Meeting Number: 746 366 252
- Meeting Password: hk1-FM2!

4

# Workshop Objectives

The purpose of this workshop is to:

- Learn about SDG&E's proposal for Fire Map 2
- Learn about SDG&E proposed workplan for developing Fire Map 2
- Understand SDG&E's proposals: Q & A re: SDG&E Presentation
- Discuss SDG&E's presentation
  - Identify and explore areas of consensus and disagreement regarding SDG&E's proposals
  - Compare SDG&E's proposals to other approaches
  - Other Topics re: SDG&E's presentation

5

# Workshop Notes

- SCE or its designee has agreed to be the note taker and to distribute notes to interested parties.

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## Roll Call

| Party | Roll Call Participating Yes | No |
|---|---|---|
| Liberty Utilities | | |
| LADWP | | |
| LA County Fire Dept. | | |
| SCE | | |
| Mussey Grade | | |
| SDG&E | | |
| Verizon California | | |
| Sprint / Nextel | | |
| SED - Advocacy | | |
| TURN | | |
| PG&E | | |
| Time Warner | | |
| City of Laguna Beach | | |
| CTIA-The Wireless Association | | |
| The Small LECs | | |

| Party/State Service | Roll Call Participating Yes | No |
|---|---|---|
| Cox Communications | | |
| Sunesys/Comcast/ Crown Castle | | |
| T-Mobile | | |
| AT&T California | | |
| Frontier Communications | | |
| Calif. Municipal Utilities Assoc. | | |
| Calif. Cable & Telecom. Assoc. | | |
| Bear Valley Electric Service | | |
| Sacramento Muni. Util. District | | |
| PacifiCorp | | |
| CAL FIRE | | |
| OFFICE OF SENATOR HILL | | |
| Other | | |

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## ALJ Kenney - Remarks

- Workshop slides will be included in the record by ruling.
- Workshop notes (and slides) should be included in the workshop report in the same manner as other workshop materials.
- The Scoping Memo Proposal for Fire Map 2.
  - SDG&E's proposal is one of two proposals thus far.
  - Parties should address the Scoping Memo Proposal in the Workshop Report.
  - The following slides of the Scoping Memo Proposal are provided to refresh memories and as reference material for this workshop.

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## Summary of Scoping Memo Proposal

- Statewide map consisting of four (4) Layers, each with its own boundaries and Tiers for ranking fire hazards.

**Layer 1**: Fire Map 1.

Three Tiers representing the top 40% of FM 1's Utility Fire Threat Index:

- Tier 1: Extreme fire threat. Top 10% of FM 1's Utility Fire Threat Index
- Tier 2: Very High. Next 10% of FM 1's Utility Fire Threat Index
- Tier 3: High. Next 20% of FM 1's Utility Fire Threat Index
- Note: The "percentages" in each Tier are subject to refinement and correction.

**Layer 2**: CAL FIRE's FRAP Map (Fire-Threat).

Three (3) Tiers corresponding to the top three tiers on the FRAP Map

- Tier 1: Extreme fire-threat zone on the FRAP Map
- Tier 2: Very High fire-threat zone on the FRAP Map
- Tier 3: High fire-threat zone on the FRAP Map

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## Summary of Scoping Memo Proposal

**Layer 3**: USFS/CAL FIRE's map of Tree Mortality High Hazard Zones.

- One (1) Tier consisting of zones in direct proximity to communities, roads, and utility lines.
- The one (1) Tier ranked as Very High fire threat.

**Layer 4**: Communities at risk from wildfire (CARs).

- One (1) Tier consisting of CARs boundaries extended outward by +1.5 miles, overlaid on areas shown as "Very High" risk on CAL FIRE's map of Fire Hazard Severity Zones.
- The one (1) Tier ranked as a Very High fire threat.

The main focus of today's workshop is SDG&E's proposal for Fire Map 2.

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# SDG&E Presentation



# Questions and Answers re: SDG&E Presentation

**Moderated by SED Advisory**

- Questions from Participants in the Room.
- Questions from Participants on the Phone.
- Questions submitted by Webex.



# Discussion of SDG&E Presentation

**Moderated by SED Advisory**

- Areas of consensus and disagreement regarding SDG&E's Fire Map 2 work plan.
- Compare SDG&E's proposals to other approaches.
- Other topics re: SDG&E's presentation.

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# Conclusion

- Ruling to enter today's slides into the record.
- Workshop notes.
- Technical Panel Workshop: Aug. 18 – 19, 2016.
- Status Conference: August 18, 2016 (Afternoon).

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| **Party** | **Aug. 11, 2016** | |
|---|---|---|
| AT&T California | X | |
| Bear Valley Electric Service | X | |
| CAL-FIRE | X | |
| CCTA | X | |
| CMUA | X | |
| City of Laguna Beach | X | |
| Comcast | X | |
| Cox Communications | | |
| Crown Castle | X | |
| CTIA | X | |
| Frontier Communications (formerly Verizon) | | |
| Hans Laetz | | |
| IBEW 1245 | X | |
| LA County Fire | X | |
| LADWP | X | |
| Liberty Utilities | X | |
| MGRA | | |
| PacifiCorp | X | |
| PG&E | X | |
| SCE | X | |
| SDG&E | X | |
| SED (Advocacy) | X | |
| Small LECs | | |
| SMUD | X | |
| Sprint / Nextel | | |
| Sunesys | X | |
| Time Warner | | |
| T-Mobile | | |
| TURN | | |
| **Other Attendees** | | |
| REAX Engineering | X | |
| Office of Comm. Picker | X | |
| Office of Comm. Florio | X | |
| ALJ Kenney | X | |
| SED (Advisory) | X | |

**R.15-05-006, Public Workshop – Fire Safety Technical Panel - Fire Map 2 Development Plan**

Aug. 18-19, 2016

| | |
|---|---|
| ***August 18, 2016***<br>*8 am – 12 noon* | *California Public Utilities Commission*<br>*505 Van Ness Avenue, Golden Gate Room*<br>*(Corner of Van Ness Avenue and McAllister Street)*<br>***San Francisco, CA 94102***<br><br>***Conference Call Dial-In*:** (877)-601-1455 (Toll Free)<br>***Passcode**: 9066738* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 08:00 – 08:15 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 08:15 – 08:20 am: Remarks by Commission Advisors and ALJ Kenney
3. 8:20 – 8:30 am: Review Workshop Protocols
4. 8:30 – 10:00 am: Review the Fire Map 2 development plan outlined in Appendix C of the Scoping Memo issued July 15, 2016. *Dave Sapsis (Cal-Fire)*
5. 10 – 10:15 am: Break
6. 10:15 – 11:30 am: Review the IOU Fire Map 2 development plan. *Mason Withers and Randy Lyle (SDG&E)*
   - Link to presentation - https://www.sdge.com/sites/default/files/regulatory/OIR%20Fire%20Threat%20Mapping%20%20CPUC%20Presentation%20081116%20v2.pdf
7. 11:30 am – 12:00 pm: Review/ discussion of questions submitted by ALJ Kenney
8. 12:00 pm: Adjourn FSTP Workshop

**Recap:** Dave Sapsis (Cal-Fire) discussed the content of Appendix C (July 15 Scoping Memo) and answered questions regarding the inputs, corrections to FM 1 and the proposed programmatic approach. After the break, SDG&E presented materials to supplement the Aug. 11 workshop materials and provide responses to ALJ Kenney's questions.

| | |
|---|---|
| ***August 19, 2016***<br>*8 am – 3:30 pm* | *California Public Utilities Commission*<br>*505 Van Ness Avenue, Auditorium*<br>*(Corner of Van Ness Avenue and McAllister Street)*<br>***San Francisco, CA 94102***<br><br>***Conference Call Dial-In*:** (877)-601-1455 (Toll Free)<br>***Passcode**: 9066738* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 08:00 – 08:15 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 08:15 – 08:20 am: Remarks by Commission Advisors and ALJ Kenney
3. 08:20 – 9:00 am: Review Tree Mortality TF High Hazard Zones. *Mark Rosenberg (Cal-Fire)*
4. 9:00 – 10:00 am: Discuss (contrast / compare) Scoping Memo development plan and IOU development plan (identify consensus items, if any)
5. 10 – 10:15 am: Break
6. 10:15 – 12:00 pm: Status check / Continue morning session discussion
7. 12:00 – 1:15 pm: Lunch
8. 1:15 – 2:30 pm: Status check / Continue morning session discussion and/or identify work assignments for consensus or separate FM2 development plans to be completed and circulated to Parties in advance of Aug. 29-30 workshops.
9. 2:30 – 2:45 pm: Break
10. 2:45 – 3:15 pm: Continue afternoon discuss, Identify work assignments to be completed in advance of Aug. 29-30 workshops.
11. 3:15 – 3:30 pm: Roundtable / Closing remarks
12. 3:30 pm: Adjourn FSTP Workshop

**Recap:** Mark Rosenburg (Cal-Fire) presented information related to the Tree Mortality Task Force efforts, High Hazard Zones, and Tree Mortality viewer. Parties reached high level agreement on a hybrid proposal that combines essential elements of the SM Appendix C proposal and SDG&E's proposal. A 'Core Team' was formed to work on refinements to the basic methodology for creating Shape A, Shape B, and Shape C.

**ALJ Kenney's Questions / SDG&E Responses**

**1. Questions re: SDG&E Presentation on August 11, 2016**

A. Is the Shape 3 depicted in Slides 13 and 71 of SDG&E's presentation on August 11, 2016, representative of the final Fire Map 2 for SDG&E's service territory? What additional revisions, if any, does SDG&E contemplate?

***SDGE Response:*** Yes, the shape is representative for the SDG&E service territory, pending the statewide work plan reviews.

B. Are the Orange (Tier 2) and Red (Tier 3) colors shown on Slides 11 & 71 completely solid, i.e., do not include Tier 1 areas that are too small to be seen on Slides 11 & 71?

***SDGE Response:*** Yes, the shapes are solid.

C. For all cells on the statewide Fire Map 1 that have a score of 10+, what percent have a score in the range of 10 - 799, and what percent have a score of 800+?

***SDGE Response:*** Currently, there are issues obtaining necessary data within Fire Map 1. It is impossible to ascertain percentages for any Fire Map 1 range of values. A visual examination of Fire Map 1 indicates that approximately 80-85% of the 10+ areas are scored between 10-799, and 15-20% are scored greater than 800.

D. For all Fire Map 1 cells (whole cells and partial cells) in SDG&E's service territory with a score of 800+, what percent is in Shape 3's Tier 1, what percent is in Tier 2, and what percent is in Tier 3?

***SDGE Response:*** Of the cells that are scored greater than 800 within SDG&E service territory, less than 1% is in Shape 3 / Tier 1, 15-25% is in Shape 3 / Tier 2, and 75-85% is in Shape 3 / Tier 3.

E. Why is it reasonable to place Fire Map 1 cells with a score of 800+ in Shape 3's Tier 1? Does it adversely affect public safety?

- See SDG&E Slides 7, 11 and 13; and 49, 59, and 71 from SDG&E's presentation on 8/11/2015.

***SDGE Response:*** When evaluating the appropriate threshold to use for Shape 1,

SDG&E viewed the statewide areas affected and simultaneously viewed historical fires, CAL FIRE FRAP data (including Fire Threat, Fire Hazard Severity Zone). The value of

800 is in general agreement with the other data sources, and SDG&E's view of fire risk. The threshold of 800 is a conservative starting point including more area as a margin of safety and it accomplishes the goals of the OIR.

F. For all Fire Map 1 cells (whole cells and partial cells) in SDG&E's service territory that are in the top 20th percentile (for the statewide Fire Map 1), what percent is in Shape 3's Tier 1, what percent is in Tier 2, and what percent is in Tier 3?

***SDGE Response:*** Of the cells that are in the top two quantiles (for the statewide Fire Map 1) within SDG&E service territory, less than 1% is in Shape 3 / Tier 1, 5-15% is in Shape 3 / Tier 2, and 85-95% is in Shape 3 / Tier 3.

For the sake of clarity, the following is a brief discussion about the usage of quantiles rather than percentages. In the case of Fire Map 1, each quantile does not represent 10% of the map area. The table below shows a comparison between the map quantiles and estimated areas.

| Appendix C "percentile" / Quantile | Approximate Area[1] | Fire Map 1 Values |
|---|---|---|
| "Top 10%" / Top 1 Quantile | 3-5% | 4237-56852 |
| "Top 20%" / Top 2 Quantiles | 5-8% | 2899-4236 |
| "Top 40%" / Top 4 Quantiles | 9-11% | 1562-2898 |
| Top 65% / 6.5 Quantile[2] | 15-20% | 800 |
| Butte Fire ignition[2] | 70% | 93 |

[1]SDG&E visually inspected the map with several volunteers for estimation.

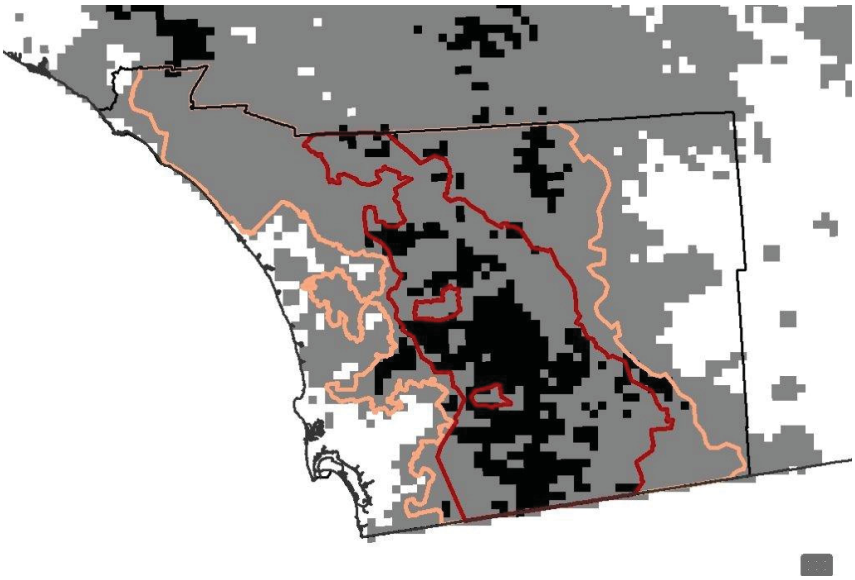
[2]The last two lines of this table illustrate the percentage of Fire Map 1 using SDG&E's proposed threshold of 800, and how low the threshold would need to be lowered to encompass the Butte Fire ignition location

G. Why is it reasonable to exclude from Shape 3, Tier 3, Fire Map 1 cells with a score in the top 20% (statewide)? Does it adversely affect public safety?

- See SDG&E Slides 11 and 13; and 59 and 71.

***SDGE Response:*** It is only reasonable to place Top 20%cells from Fire Map 1 in a lower tier if there is justification for doing so; either through fire science or through separate risk assessments.

For review, a map of the SDG&E service territory with top 20% is shown overlaid with the tiers below it. Shape 3 Tiers 3 and 2 are shown in red and pink outline, respectively. The black represents the top 2 quantiles, and the gray represents the bottom 8 quantiles. Note that the black areas are contained completely within Tiers 2 and 3.



In SDG&E's proposed statewide workplan, any situation where an area in Shape 3 concludes with a lower risk assignment than Fire Map 1, a justification by the electric utility and/or stakeholder is mandatory.

Below is a table that reflects SDG&E's position on the justification of Tiers vis a vis the data inputs from Fire Map 1, Fire Threat, and Fire History.

| | | Source Data | |
|---|---|---|---|
| | | FM1 Top 20% or Fire Threat Extreme | FM1 Top 40% or Fire Threat Very High or Fire History |
| Shape 3 | Tier 3 | | |
| | Tier 2 | Needs Justification | |
| | Tier 1 | Needs Strong Justification | Needs Justification |

For example, if the source data indicates Fire Map 1 Top 40%, a Shape 3 / Tier 1 will need justification.

H. Why is it reasonable to place Fire Map 1 cells with a score in the top 20% (statewide) in Shape 3, Tier 1? Does it adversely affect public safety?

***SDGE Response:*** Although Fire Map 1 is the best starting point available, it is not a perfect map. SDG&E believes no mechanically built map can accurately reflect all the variables of fire safety. But the fact that the Fire Map 1 is not perfect does not take away from its usefulness. It is possible that Fire Map 1 has identified an area as a top 20% but, upon further analysis by people with local known risks in mind, the area is determined to be of lower risk. Please see the table in response to 1.G. above.

I. For the total number of FRAP cells in SDG&E's service territory ranked as Extreme, what percent is in Shape 3's Tier 1, what percent is in Tier 2, and what percent is in Tier 3 (Slides 64 and 71)?

***SDGE Response:*** This answer assumes "FRAP cells" refers to the Fire Threat layer on the FRAP website.

Of the cells that are in Fire Threat Extreme within SDG&E service territory, less than 1% is in Shape 3 / Tier 1, 35-45% is in Shape 3 / Tier 2, and 55-65% is in Shape 3 / Tier 3.

The percentages shown above reflect SDG&E service territory and will vary, perhaps dramatically, across the state. The Fire Threat layer was published in 2005, after the 2003 fires that altered the landscape dramatically in SDG&E service territory. If the same methodologies were used in 2016 to create a Fire Threat layer, much of the burn areas from the 2003 areas would be designated as Extreme, rather than the Very High they have in the 2005 map.

J. Why is it reasonable to exclude FRAP cells ranked as Extreme from Shape 3, Tier 3 (Slides 64 and 71)? Does it adversely affect public safety?

***SDGE Response:*** This answer assumes "FRAP cells" refers to the Fire Threat layer on the FRAP website.

It would only be reasonable to exclude a Fire Threat Extreme from Shape 3 / Tier 3 if there was very strong justification to do so. Please see the table in response to 1.G. above.

SDG&E does not anticipate a large amount of Fire Threat Extreme to be excluded from Shape 3 / Tier 3. However, because the Fire Threat layer is comprised of many, very small cells, there are likely to be instances where a single cell, or few cells, are rated as Extreme but are not as significant a risk as that rating would presume; possibly due to the cells being surrounded by less burnable land or not being near electric utility equipment. Additionally, the Fire Threat map is over a decade old and land use may have changed since its conception. Both instances point to a person reviewing the raw data generated by the Fire Threat or Fire Map 1 maps. There would be no reduction in public safety if the principles of the workplan are adhered to.

K. Why is it reasonable to place FRAP cells ranked Extreme in Shape 3, Tier 1? Does it adversely affect public safety?

- See SDG&E Slides 54, 64, and 99.

***SDGE Response:*** This answer assumes "FRAP cells" refers to the Fire Threat layer on the FRAP website.

Please see the response to 1.J. above. There would be no reduction in public safety if the principles of the workplan are adhered to.

L. For the total number of FRAP cells in SDG&E's service territory ranked as Very High (Slides 8 and 64), what percent is in Shape 3's Tier 1, what percent is in Tier 2, and what percent is in Tier 3 (Slides 64 and 71)?

***SDGE Response:*** This answer assumes "FRAP cells" refers to the Fire Threat layer on the FRAP website.

Of the cells that are in Fire Threat Very High within SDG&E service territory, 1-2% is in Shape 3 / Tier 1, 45-50% is in Shape 3 / Tier 2, and 45-50% is in Shape 3 / Tier 3.

M. Why is it reasonable to place FRAP cells ranked Very High in Shape 3, Tier 1? Does it adversely affect public safety?

- See SDG&E Slides 54, 64, and 99.

***SDGE Response:*** This answer assumes "FRAP cells" refers to the Fire Threat layer on the FRAP website.

Please see the response to 1.J. above. There would be no reduction in public safety if the principles of the workplan are adhered to.

N. What percentage of the Local Fire History (Slides 9, 50, and 65) is included in Shape 3's Tier 1, what percent is in Tier 2, and what percent is in Tier 3 (Slides 13 and 71)? Why is this result reasonable?

***SDGE Response:*** The data provided below refers to Fire History since 1970. Of the areas that are shown as being part of a fire area within SDG&E service territory, 2-5% is in Shape 3 / Tier 1, 20-25% is in Shape 3 / Tier 2, and 70-75% is in Shape 3 / Tier 3.

Discussion Local Fire History in response to this question is a complex topic for several reasons. The two main reasons are: a) land use can change over time and no longer represent the same threat currently as when the fire occurred, and b) the location of a fire's path is not always the best indicator of where the ignition risk is located. Reason a) can be easily seen in areas that have gone from rural to urban, and no longer have the same vegetation conditions as before. Reason b) is more complicated due to how local conditions affect fire behavior.

As others, such as Mr. Sapsis of CAL FIRE, have also pointed out, a fire would not always behave the same, nor have the same impact, if it started in a different part of the eventual burn area. The case of the Oakland Hills/Tunnel fire (discussed on Slides 113-115) highlights this topic. For clarity, the burn area of that 1991 fire will be called "the Actual Burn Area". It is clear that the consequences of a fire that ignited in the southwest section of the Actual Burn Area would not have caused the same degree of fire damage. Only because the fire started in the northeast section of the Actual Burn Area was the fire able to gain strength, spread out by burning laterally, and eventually hit the populated area with a fire front thousands of feet wide. A fire starting in the southwest corner would also have continued southwest from its ignition point, but with a smaller fire front, with far less heat and embers emanating from it.

To conclude, all areas that have a fire history would not be expected to be included in Tiers 2 and 3 of Shape 3

O. Why are two high-fire threat Tiers reasonable (e.g., Elevated and Extreme)?

- See SDG&E Slides 13, 72, and 73.

***SDGE Response:*** If a mechanical approach is undertaken, any number of tiers is mathematically possible. Deciding how those tiers are best grouped is not as straightforward. SDG&E actually began its pilot with three high-fire threat Tiers in mind. At the beginning, we believed that we could identify discrete differences between the tiers. At the same time, we began meeting with business units to determine their needs and desires. Every single business believed that 1 or 2 tiers was enough. During a meeting with the SED, it was communicated to SDG&E that audit programs should be straightforward and that more Tiers and exceptions could complicate enforcement and intent.

The reasonableness is derived from SDG&E's learnings during the pilot: a) it is difficult to confidently determine 3 discrete high-fire threat Tiers, b) it is simpler to operate and audit. An approach that uses two high-fire threat tiers and one tier of "business as usual" allows for plenty of headroom for escalating restrictions in areas of risk.

**2. Questions re: Fire Map 2 Design Using the SDG&E Proposal as a Starting Point.**

A. Is there a minimum threshold for the percentage of Fire Map 1 cells, FRAP cells, and burn perimeters that should be included in Shape 3, Tiers 2 and 3? For example, should Tiers 2 and 3 include 95% of:

- Fire Map 1 cells with a score of 800+.
- FRAP cells with a rank of Very High and Extreme.
- Burn perimeters.

***SDGE Response:*** The differences in Service Territories of across the state might point away from pre-determined thresholds. In SDG&E service territory, the threshold might be quite high, but in other areas where Fire Map 1, Fire Threat, and Fire History are not as closely aligned, local input will be valuable to the final assessment.

To answer a slightly modified question, but in the spirit of 2.A., SDG&E would expect a very large percentage of area to be in Tier 2 and Tier 3 if the areas had all three Shape 1 ingredients collocated (Fire Map 1, Fire Threat Extreme or Very High, and Fire History).

B. Is there a minimum threshold for the percentage of Fire Map 1 cells and FRAP cells that should be included in Shape 3, Tier 3? For example, should Tier 3 include 95% of:

- Fire Map 1 cells with a score in the top 20$^{th}$ percentile (statewide).
- FRAP cells with a rank of Extreme.

***SDGE Response:*** SDG&E would expect the vast majority of the areas that have both Fire Threat Extreme and FM1 top 20% to be in Tier 3. Please review the response to 2.A. for more information.

C. In defining Fire Map 2, why is it reasonable to include/exclude the FRAP "High" fire-threat zone?

***SDGE Response:*** SDG&E believes that Fire Threat High areas are not necessarily indicative of a Fire Threat District designation. There doesn't appear to be a strong visual correlation between areas of Fire Threat High and fire history or fire risk, unless those areas are intermixed with Fire Threat Very High or Extreme.

In the SDG&E presentation on 8/11, Slides 99 and 100 show a comparison between Shape 1 and Appendix C. The difference is that Slide 99 doesn't include Fire Threat High in the Appendix C method. The comparison places the Appendix C areas in the background in red, and the SDG&E / IOU method in gold in the foreground. Whenever the red areas are visible without the gold on top, it indicates that Appendix C addresses areas that SDG&E / IOU Shape 1 does not. In comparing Slide 99 to Slide 100 (the only difference being the

addition of Fire Threat High to the Appendix C method), one can see the large areas of land that get added in Slide 100. The fact that the red areas are added, and not underneath the Gold areas is indicative that little fire history has occurred in the additional Fire Threat High areas.

D. In defining Fire Map 2, why is it reasonable to include/exclude Communities at Risk from Wildfire using the process outlined in the Scoping Memo, Appendix C, Layer 4?

***SDGE Response:*** Consideration of communities that may be threatened by fires is included in the SDG&E proposed workplan, as part of the assessments made by local utilities or stakeholders.

It is unclear how to specifically incorporate the Communities at Risk data set as discussed in Appendix C, Layer 4. These data need considerable manipulation to be useful, otherwise they are subject to interpretation by those preparing them for use.

**3. What specific refinements are needed to Fire Map 1?**

***SDGE Response:*** None.

SDG&E believes that Fire Map 1 is a worthy start to the Fire Map 2 process, if the SDG&E / IOU statewide workplan is adhered to; specifically, the ability of the local electric utilities to utilize discretion where justifiable. Utility discretion is mandatory for the operationalization of the map. Because the final map products will be modified for operations, Fire Map 1 will not be adhered to precisely. Additionally, discretion is preferred when local risk assessments can justify the increased risk ranking of Fire Map 1 input.

Groups that can show strengths or shortcomings of Fire Map 1's output should be allowed to include those findings in their justifications for Shape 2 and Shape 3 steps.

| Party | Aug. 18, 2016 | Aug. 19, 2016 |
|---|---|---|
| AT&T California | X | X |
| Bear Valley Electric Service | X | X |
| CAL-FIRE | X | X |
| CCTA | X | X |
| CMUA | X | X |
| City of Laguna Beach | X | X |
| Comcast | X | X |
| Cox Communications | | |
| Crown Castle | X | X |
| CTIA | X | X |
| Frontier Communications (formerly Verizon) | | |
| Hans Laetz | | |
| IBEW 1245 | X | X |
| LA County Fire | X | X |
| LADWP | X | X |
| Liberty Utilities | X | X |
| MGRA | | |
| PacifiCorp | X | X |
| PG&E | X | X |
| SCE | X | X |
| SDG&E | X | X |
| SED (Advocacy) | X | X |
| Small LECs | | |
| SMUD | X | X |
| Sprint / Nextel | | |
| Sunesys | X | X |
| Time Warner | | |
| T-Mobile | | |
| TURN | | |
| **Other Attendees** | | |
| REAX Engineering | X | X |
| Office of Comm. Picker | | |
| Office of Comm. Florio | | X |
| ALJ Kenney | X | X |
| SED (Advisory) | | |

**R.15-05-006, Public Workshop – Fire Safety Technical Panel - Fire Map 2 Development Plan**

Aug. 29-30, 2016

| | |
|---|---|
| ***August 29, 2016***<br>*10 am – 5 pm* | *Pacific Gas and Electric's*<br>*851 Howard Street, Pacific Energy Center*<br>***San Francisco, CA 94103***<br><br>***Conference Call Dial-In:*** *(866)-652-7690 (Toll Free)*<br>***Passcode****: 3780533158* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

## Agenda

9. 10:00 – 10:15 am: Call to order, welcome, safety briefing, roll call and self-introductions *(S. Stonerock)*
10. 10:15 – 10:20 am: Opening Remarks. *(Commission Advisors /ALJ Kenney)*
11. 10:20 – 10:25 am: Review Agenda *(All)*
12. 10:25 – 11:45 am: Presentation of draft FM2 work plan. *(FSTP Core Team)*
13. 11:45 am – 1:00 pm: Lunch break
14. 1:00 – 3:00 pm: Review/discuss draft FM 2 work plan *(All)*
15. 3:00 am – 3:15 pm: Break
16. 3:15 – 4:45 pm: Review/discuss draft FM 2 work plan *(All)*
    - Shape A status check – starting point (options) for FM 2 work plan process
    - Shape B discussion – Core team to work on finite elements
17. 4:45 – 5:00 pm: Status Check /Adjustments for 08/30 workshop. *(S. Stonerock)*
18. 5:00 pm - Adjourn

***RECAP:*** *FSTP members discussed alternatives approaches to developing the Shape 'A' map but did not reach agreement. The process and method for developing the Shape 'B' map will be discussed on 08/30.*

| | |
|---|---|
| ***August 30, 2016***<br>*8:30 am – 5:00 pm* | *Pacific Gas and Electric's*<br>*851 Howard Street, Pacific Energy Center*<br>***San Francisco, CA 94103***<br><br>***Conference Call Dial-In:*** *(866)-652-7690 (Toll Free)*<br>***Passcode****: 3780533158* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 8:30 – 8:45 am: Call to order, welcome, safety briefing, roll call and self-introductions *(S. Stonerock)*
2. 8:45 – 08:50 am: Opening Remarks. *(Commission Advisors / ALJ Kenney)*
3. 08:50 – 9:00 am: Recap 08/29 workshop / Agenda adjustments *(S. Stonerock)*
4. 09:00 – 10:15 am: Discuss draft FM 2 work plan *(All)*
5. 10:15 - 10:30 am – Break
6. 10:30 – 11:45 am: Discuss draft FM 2 work plan *(All)*
7. 11:45 am – 1:00 pm: Lunch break *(FSTP workshop concluded)*
8. 1:00 – 3:00 pm: Status check / Discuss draft FM 2 work plan *(All) (Core Team meeting, 1-5 pm)*
9. 3:00 am – 3:15 pm: Break
10. 3:15 – 4:45 pm: Recap progress / identify remaining work for Core Team / finalize dates and times of next workshops / identify workshop report team members and deliverables *(S. Stonerock/ All)*
11. 4:45 – 5:00 pm: Roundtable *(All)*
12. 5:00 pm - Adjourn

***RECAP:*** *Discussed process/methodology for producing Shape 'B' map. Discussion on Shape 'A' map deferred to special Core Team meeting at 1 pm. FSTP workshop adjourned at noon. Core Team meeting held from 1-5 pm. No decision on Shape A map development. Next Core Team meeting on Thursday, Sept. 1 to discuss Shape A map and work assignments for Sept. 7-9 workshops.*

Additional Work Assignments for Sept. 07 -09 workshop

- Koko – check with PUC's IT department on Map 2 administration
- Sam/Gwen – continue work on WR shell
- Sam/Koko – draft outline for FM2 work plan process
- Sam - brief parties on outcome of today's core team meeting

Workshop Report Team: Gwen Johnson, Heide Caswell, Ty McCartney, Joy Mustache, Suzanne Toller, Rashid Rashid (Legal), Randy Lyle, Sam Stonerock

| Party | Aug. 29, 2016 | Aug. 30, 2016 |
|---|---|---|
| AT&T California | X | X |
| Bear Valley Electric Service | X | X |
| CAL-FIRE | | X (core team) |
| CCTA | X | X |
| CMUA | | |
| City of Laguna Beach | X | X |
| Comcast | X | X |
| Cox Communications | | |
| Crown Castle | | X |
| CTIA | | |
| Frontier Communications (formerly Verizon) | | |
| Hans Laetz | | |
| IBEW 1245 | X | X |
| LA County Fire | X | X |
| LADWP | X | X |
| Liberty Utilities | X | X |
| MGRA | | |
| PacifiCorp | X | X |
| PG&E | X | X |
| SCE | X | X |
| SDG&E | X | X |
| SED (Advocacy) | X | X |
| Small LECs | | |
| SMUD | X | X |
| Sprint / Nextel | | |
| Sunesys | X | X |
| Time Warner | | |
| T-Mobile | | |
| TURN | | |
| **Other Attendees** | | |
| REAX Engineering | X | X |
| Office of Comm. Picker | | |
| Office of Comm. Florio | X | |
| ALJ Kenney | X | X |
| SED (Advisory) | | |

**R.15-05-006, Public Workshop – Fire Safety Technical Panel - Fire Map 2 Development Plan**

Sept. 7-9, 2016

| | |
|---|---|
| ***Sept. 07, 2016***<br>*10 am – 4 pm* | *California Public Utilities Commission*<br>*505 Van Ness Avenue,* ***Auditorium***<br>*(Corner of Van Ness Avenue and McAllister Street)*<br>***San Francisco, CA 94102***<br><br>***Conference Phone Line*:** (877)-601-1455 (Toll Free)<br>***Passcode****: 9066738* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 10:00 – 10:15 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 10:15 – 10:20 am: Remarks by Commission Advisors and ALJ Kenney
3. 10:20 – 10:30 am: Review Agenda, Workshop Protocols / Code of Conduct
4. 10:30 – 11:45 am: Review and discuss Core Team work product for the Fire Map 2 development plan.
5. 11:45 am – 01:00 pm: Lunch Break
6. 01:00 – 02:30 pm: Continue discussion on Core Team's work product for the Fire Map 2 development plan
7. 02:30 – 02:45 pm: Break
8. 02:45 – 03:45: Continue discussion on Core Team work product for the Fire Map 2 development plan.
9. 03:45 – 04:00: Status check / Identify overnight work assignments / Straw vote
10. 04:00 pm: Adjourn

| | |
|---|---|
| ***Sept. 08, 2016***<br>*8:30 am – 4 pm* | *California Public Utilities Commission*<br>*505 Van Ness Avenue,* ***Auditorium***<br>*(Corner of Van Ness Avenue and McAllister Street)*<br>***San Francisco, CA 94102***<br><br>***Conference Phone Line*****:** (877)-601-1455 (Toll Free)<br>***Passcode****: 9066738* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 08:30 – 08:45 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 08:45 – 08:50 am: Remarks by Commission Advisors and ALJ Kenney
3. 08:50 –10:00 am: Review and discuss Core Team work product for the Fire Map 2 development plan
4. 10 – 10:15 am: Break
5. 10:15 – 11:45 am: Status check / Continue morning session discussion
6. 11:45 am – 01:00 pm: Lunch
7. 01:00 – 2:30 pm: Status check / Continue morning session discussion
8. 02:30 – 02:45 pm: Break
9. 02:45 – 03:30 pm: Continue afternoon discussion
10. 03:30 – 04:00 pm: Status check / Identify work assignments / Straw vote
11. 04:00 pm: Adjourn

| | |
|---|---|
| ***Sept. 09, 2016***<br>*8:30 am – 4 pm* | *California Public Utilities Commission*<br>*505 Van Ness Avenue,* ***Auditorium***<br>*(Corner of Van Ness Avenue and McAllister Street)*<br>***San Francisco, CA 94102***<br><br>***Conference Phone Line*****:** (877)-601-1455 (Toll Free)<br>***Passcode****: 9066738* |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 08:30 – 08:45 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 08:45 – 08:50 am: Remarks by Commission Advisors and ALJ Kenney
3. 08:50 –10:00 am: Review and discuss Core Team work product for the Fire Map 2 development plan
4. 10 – 10:15 am: Break
5. 10:15 – 11:45 am: Status check / Continue morning session discussion
6. 11:45 am – 01:00 pm: Lunch
7. 01:00 – 2:30 pm: Status check / Continue morning session discussion (if needed) / Straw vote (if-needed)
8. 02:30 – 02:45 pm: Break
9. 02:45 – 03:45 pm: Determine next steps (Motion for extension?) / Future Workshops (meetings / teleconference/web-ex) Workshop Report Team (communication plan, due dates, assignments, report filing)
10. 03:30 – 04:00 pm: Roundtable
11. 04:00 pm: Adjourn

**Recap**: Three days of workshops, mainly reviewing and discussing work product from Core Team members, has resulted in a FM2 work development plan that has general consensus from the FSTP. Essentially, a 'Peer Development Team' or PDP will produce Shape A based on the CPUC's requirements, and an Independent Review Team or IRT will also be formed. Following CPUC approval of Shape A the PDP will begin refinements via a combination of high level criteria followed by a more detailed analysis that leads to the creation of 3 tiers (w/ Tier 3 representing 'extreme', Tier 2 representing 'elevated' and Tier 1 representing 'baseline' or business as usual). The IRT will be involved in the development process to resolve questions/concerns and ultimately submit a draft Shape B to the CPUC for approval. After the CPUC approves Shape B, the PDP in association with the responsible electric utilities and CIPs will make final small scale refinements to Shape B to create draft Shape C. The IRT and PDP will review draft Shape C, and assuming agreement, the IRT will submit draft Shape C to the CPUC for final approval. The version of Shape C adopted by the Commission will become Fire Map 2 and will be published in the form of a downloadable .PDF and possibly included in General Order 95.

There are still some unresolved aspects of the work development plan, including:

- Leadership/membership of the IRT and funding of contract members of the IRT
- Written explanation draft Shapes to the CPUC and approval mechanism
- Additional details on creating Tiers in Shape B
- Additional details on refining Shape B into Shape C
- Creation of a work plan timeline (end-to-end)
- Presentation of the Fire Map

Parties and FSTP members in attendance agreed that additional time is needed for the Core Team to refine and develop work plan materials. Suzanne Toller volunteered to draft a Motion For Extension and submit on behalf of the FSTP.

Additional, closing workshops have been scheduled for Sept. 21-22 in Sacramento at the AT&T offices on Watt Ave. Assuming the motion for extension is granted, the workshop report will be filed on Oct. 7 or Oct. 10.

| Party | Sept. 7 | Sept. 8 | Sept. 9 |
|---|---|---|---|
| AT&T | x | x | x |
| Bear Valley Electric Service | x | x | x |
| CAL-FIRE | | | |
| CCTA | x | x | x |
| CMUA | x | x | |
| City of Laguna Beach | x | x | x |
| Comcast | x | | x |
| Cox Communications | x | | x |
| Crown Castle | x | | x |
| CTIA | | | |
| Frontier Communications | | | |
| Hans Laetz | | | |
| IBEW 1245 | x | x | x |
| LA County Fire | | | x |
| LADWP | | | |
| Liberty Utilities | x | x | x |
| MGRA | | | |
| PacifiCorp | x | x | x |
| PG&E | x | x | x |
| SCE | x | x | x |
| SDG&E | x | x | x |
| SED | x | x | x |
| Small LECs | | | |
| SMUD | | x | x |
| Sprint / Nextel | | | |
| Sunesys | x | | x |
| Time Warner Cable | | | |
| Time Warner Comm. | | | |
| T-Mobile | | | |
| TURN | x | | |
| | | | |
| **Attendees** | | | |
| ALJ Kenney | x | x | x |
| Comm. Florio's office | | x | x |
| REAX Engineering | x | x | x |
| (President Picker's office) | | | |
| | | | |

**R.15-05-006, Public Workshop – Fire Safety Technical Panel - Fire Map 2 Development Plan**

| | |
|---|---|
| ***Sept. 21, 2016***<br><br>*9:30 am – 5 pm* | *AT&T Building*<br><br>*2700 WATT AVE*<br><br>*Room A100*<br><br>*Sacramento, CA 95821*<br><br>To connect to the Web Conference:<br>==========<br>Click here: https://connect12.uc.att.com/attinc4/meet/?ExEventID=84009885<br><br>TO CONNECT WITH YOUR *TELEPHONE ONLY* (no computer):<br>==========<br>1. Choose one of the following numbers to dial:<br>* Caller-Paid number: 312-777-1449<br>* Toll-Free Number (in USA): 888-331-6293.<br>* Blackberry (Caller-Paid): 3127771449x4009885#<br>* iPhone (Caller-Paid): 3127771449,,4009885#<br>* A number in your country or in a country close to you (may be toll free):<br>https://www.teleconference.att.com/servlet/glbAccess?process=1&accessNumber=8883316293&accessCode=4009885<br><br>2. When prompted, enter the Meeting Access Code: 4009885#<br><br>To prepare in advance for the conference (for all devices): https://connect12.uc.att.com/attinc4/Prepare/.<br>To view supported Operating Systems and devices: http://www.corp.att.com/attconnectsupport/supporteddevices |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 9:30 – 9:45 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 9:45 – 9:50 am: Remarks by Commission Advisors and ALJ Kenney
3. 9:50 – 10:00 am: Review Agenda (adjust as-needed)
4. 10:00 – 11:00 am: Review and discuss Core Team work product for the Fire Map 2 work development plan.
    a. Shape A creation (affirm definition of Shape A)
    b. Refine Shape A to create Shape B (affirm definition of Shape B)
    c. Refine Shape B to create Shape C (affirm definition of Shape C)
    d. Determine PDP and IRT members / roles and responsibilities / timeline for above items
    e. Other content of work development plan for the workshop report

5. 11:00 – 11:10 am: Break

6. 11:10 am – Noon: Continue discussion on Core Team's work product for the Fire Map 2 work development plan

7. Noon – 1:15 pm: Lunch Break

8. 1:15 – 3:00 pm: Continue discussion on Core Team's work product for the Fire Map 2 work development plan

9. 3:00 – 3:15 pm: Break

10. 3:15 – 4:45 pm: Status check / Continue discussion on Core Team work product for the Fire Map 2 work development plan.

11. 4:45 – 5:00 pm: Recap progress / Identify overnight work assignments / Straw vote on completed work items (if-needed).

12. 5:00 pm: Adjourn

**R.15-05-006, Public Workshop – Fire Safety Technical Panel - Fire Map 2 Development Plan**

| | |
|---|---|
| ***Sept. 22, 2016***<br><br>*8:30 am – 5 pm* | *AT&T Building*<br><br>*2700 WATT AVE*<br><br>*Room A100*<br><br>*Sacramento, CA 95821*<br><br>To connect to the Web Conference:<br>==========<br>Click here: https://connect12.uc.att.com/attinc4/meet/?ExEventID=84009885<br><br>TO CONNECT WITH YOUR *TELEPHONE ONLY* (no computer):<br>==========<br>1. Choose one of the following numbers to dial:<br>* Caller-Paid number: 312-777-1449<br>* Toll-Free Number (in USA): 888-331-6293.<br>* Blackberry (Caller-Paid): 3127771449x4009885#<br>* iPhone (Caller-Paid): 3127771449,,4009885#<br>* A number in your country or in a country close to you (may be toll free):<br>https://www.teleconference.att.com/servlet/glbAccess?process=1&accessNumber=8883316293&accessCode=4009885<br><br>2. When prompted, enter the Meeting Access Code: 4009885#<br><br>To prepare in advance for the conference (for all devices): https://connect12.uc.att.com/attinc4/Prepare/.<br>To view supported Operating Systems and devices: http://www.corp.att.com/attconnectsupport/supporteddevices |

*Day of meeting contact: Samuel Stonerock, 951-317-6149 (Samuel.Stonerock@sce.com)*

**Agenda**

1. 8:30 – 8:45 am: Call to order, welcome, safety briefing, roll call and self-introductions (in-person and on teleconference)
2. 8:45 – 8:50 am: Remarks by Commission Advisors and ALJ Kenney
3. 8:50 – 09:00 am: Review Agenda (adjust as-needed)
4. 09:00 – 10:30 am: Review and discuss remaining Core Team work product for the Fire Map 2 work development plan.
    - Shape A creation (affirm definition of Shape A)
    - Refine Shape A to create Shape B (affirm definition of Shape B)
    - Refine Shape B to create Shape C (affirm definition of Shape C
    - Determine PDP and IRT members / roles and responsibilities / timeline for above items
    - Other content of work development plan for the workshop report

5. 10:30 – 10:45 am: Break

6. 10:45 – Noon: Continue discussion on Core Team's work product for the Fire Map 2 work development plan.

7. Noon – 1:15 pm: Lunch

8. 1:15 – 3:00 pm: Continue discussion on Core Team's work product for the Fire Map 2 work development plan.

9. 3:00 – 3:15 pm: Break

10. 3:15 – 4:45 pm: Conduct 'straw vote' on content of the Fire Map 2 work development plan.

11. 4:45 – 5:00 pm: Recap straw vote and affirm date/start time for final vote (Sept. 30, 2016, 3:00 – 4:00 pm)

12. 5:00 pm: Adjourn

**Recap:** Content of the FM 2 work development plan came in to focus with the review of revised materials supplied by the Core Team. There is better clarity around the now Technical Review Team – TRT (formerly Independent Review Team), the PDP and new 'Territory Leads'. The roles and responsibilities for each group are fairly straightforward and will be explained in the WR. Chris Lautenberger (Reax Eng.) and Mason Withers (SDG&E) have volunteered to lead the PDP.

Leadership of the TRT is still undecided. Also, there is still some uncertainty about the 'public input' process, in that the process being discussed (educational workshops and websites for comments) assumes SB 1463 will be signed into law and that a robust public input process is or will be mandated. If it is SB 1463 is not signed, it's possible the public review process could be streamlined to save time.

AT&T suggested that additional segregations in Tier 2 might be useful, at least in Northern California. A proposal will be circulated after these workshops.

The CIPs stated they have concerns with including their overhead infrastructure in FM 2 and will provide a comment and supporting documentation for the WR.

PacifiCorp's attorney led a brief discussion on July 15 Scoping Memo items still to be addressed in the WR. City of Laguna Beach attorney volunteered to draft text addressing applicable regulation. Reax Eng., PacifiCorp, and AT&T volunteered to revise some exiting materials and draft new materials for the Workshop Report.

The FSTP also reviewed a draft event-task calendar to establish an estimated end-to-end timeline for completing the work plan. Overall, and assuming no additional time is needed for a CPUC decision or dispute resolution, approximately 54 weeks will be needed.

Due to the compressed schedule (even with the time extension), it was not possible to hold an 'official' vote on the WR as a whole or on separate sections at the closing workshop. When asked about providing public notice in advance of an FSTP call to review the final draft of the WR (likely Nov. 4), ALJ Kenney advised that given the nature and intent of the call, and assuming Parties are notified via email, a 10-day public notice might not be required, and to continue with the WR development and review process. The workshop facilitator will develop on a WR review and comment process timeline and circulate to Parties and the FSTP.

At the Sept. 21-22 workshops, an alternative to incorporating the CARs data specified in Item 5 (above) into Shape A was introduced and discussed. This alternative proposes the use of WUI data as the means of identifying communities at risk from wildfire. Specifically, this approach requires the development of a proximity layer, 5 miles from intermix or wildland urban interface based on housing density (e.g. <40 structures per square mile), the annual burn probability from FRAP, and Map 1. The resulting continuous scale shape includes historical fires. Such an approach, when compared with the proposed CAR's layer, captures all of Southern California Shape A for SDGE and SCE, but significantly reduces areas of concern in Northern California.

Because no consensus was reached, Parties and FSTP members were encouraged to provide written comment on this alternative proposal.

Development of the FM2 work development plan has been, by any measure, a 'heavy lift' and finding levels of consensus on the various aspects of the plan was challenging for everyone involved. Unquestionably, the consensus building process was aided greatly by ALJ Kenney's attendance and participation.

Special recognition is also warranted for members of the FSTP's 'Core Team': Heide Caswell, Cynthia Mifsud, Chris Lautenberger, Mason Withers, Joseph Mitchell, Jeff LaTendresse, Milla Buckner, Koko Tomassian, David Rich, Randy Lyle, Mark Yip, Fassil Fenikle, Suzanne Toller, and Gwen Johnson. Most of whom are also serving as members of the WR editing team.

| Party | Sept. 21 | Sept. 22 |
|---|---|---|
| AT&T California | x | x |
| Bear Valley Electric Service | x | x |
| CAL-FIRE | | |
| CCTA | x | x |
| CMUA | x | |
| CPUC / SED | x | x |
| City of Laguna Beach | x | x |
| Comcast | x | x |
| Cox Communications | x | x |
| Crown Castle | x | x |
| CTIA | | x |
| Frontier Communications (formerly Verizon) | | |
| Hans Laetz | | |
| IBEW 1245 | x | x |
| LA County Fire | | x |
| LADWP | x | x |
| Liberty Utilities | x | |
| MGRA | | x |
| PacifiCorp | x | |
| PG&E | x | x |
| SCE | x | x |
| SDG&E | x | x |
| SED | | |
| Small LECs | | |
| SMUD | x | x |
| Sprint / Nextel | | |
| Sunesys | x | x |
| Time Warner Cable | | |
| Time Warner Comm. | | |
| T-Mobile | x | x |
| TURN | | |
| **Attendees** | | |
| ALJ Kenney | x | x |
| Charlyn Hook (Advisor to Comm. Florio) | x | x |
| REAX Engineering | x | x |
| (President Picker's office) | | |