BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

In the matter of the Application of San Diego Gas & Electric Company (U 902-E) for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project

Application No. 06-08-010
(Filed August 4, 2006)

OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE 2 ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT

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A.06-08-010 – MUSSEY GRADE ROAD ALLIANCE PHASE 2 OPENING BRIEF

OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE 2 ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT

SUMMARY OF RECOMMENDATIONS

1. The application should be denied and non-transmission alternatives listed as Alternatives 1 and 2 in the Draft EIR/EIS[1] should be implemented to meet San Diego County's future energy needs. Non-wire alternatives will reduce environmental impacts from wildland fire as well as reduce potential fire-related costs. The Commission should also favor non-wires alternatives from a reliability standpoint with regard to wildland fire. This recommendation is fully consistent with Alliance analysis and testimony.

2. The Draft EIR/EIS contains sufficient inaccuracies and deficiencies especially in regard to wildland fire issues to warrant a **recirculation** of the document. The Draft EIR/EIS should be recirculated once the inaccuracies and deficiencies are resolved.

3. The costs of potential wildland fire(s) to ratepayers ignited by SPL must be included in the overall cost/benefit analysis of the line. For the proposed route, the Alliance estimates these costs to ratepayers as $2 million/year; for the 40-year life of the line, the fire related costs are approximately $80 million. This estimated cost takes into account the probability of damage as well as both direct damages and additional potential liability. This $80 million must be added to the overall cost of the proposed project. The Commission should also include the cost of potential environmental damage from wildland fire as part of the cost/benefit analysis for the proposed project. The Alliance estimates the environmental costs borne by ratepayers to be approximately $700,000/year; for the 40-year life of the line the environmental fire

[1] California Public Utilities Commission and U.S. Department of Interior Bureau of Land Management; DRAFT Environmental Impact Report/Environmental Impact Statement and Proposed Land Use Amendment (Draft EIR/EIS); San Diego Gas & Electric Company Application for the Sunrise Powerlink Project; SCH #2006091071; DOI Control No. DES-07-58; Prepared by Aspen Environmental Group January 2008; pp. ES-2 – ES-4.

costs are $28 million. This $28 million must be added to the overall cost of the proposed project. The Commission should also consider the potential cost of liability due to environmental damage from wildland fire as part of the cost/benefit analysis for the power line. The Alliance estimates this cost to be $500,000/year; for a 40-year of the line this would total $20 million. This $20 million must also be added to the overall cost of the proposed project. The probability-weighted total cost for potential property and environmental damages due to wildland fire, both direct and due to liability, is $128 M. The costs for alternative routes can be easily derived from the costs applied to the proposed route using a multiplier described on p. 72 of this Brief.

LIST OF FURTHER RECOMMENDATIONS AND WORK TO BE DONE

1. The Final EIR/EIS should not be accepted as complete unless it explicitly contains analyses of areas burned in San Diego County during the October 2007 Firestorm for the proposed and alternative routes. The analyses should include effects and mitigation costs for potential type conversion as a result of future wildland fire.
2. The Commission should find the Final EIR/EIS acceptable and complete only if it contains a full analysis of the 230 kV and 500 kV system expansions.
3. The Commission should find the Final EIR/EIS acceptable and complete only if it contains an analysis of wind conditions and how they would affect different potential routes. The most conservative wind load assumptions should be used and applied to the rugged areas of the western mountain slopes where catastrophic fires have started in the past.
4. Due to the large number of power line fires in San Diego County, the Commission should require that the Final EIR/EIS provide guidance on wind intensities throughout the SDG&E service area and compare these to other areas in Southern California.
5. If a line is approved, transmission routes should be avoided which pass through the fire-scars of the 2003 and 2007 firestorms, including the Witch Fire, Harris Fire, Mine/Otay Fire, and Cedar Fire footprints. Additionally, if a transmission alternative is chosen, greater reliability can be obtained by selecting transmission routes with a lesser exposure to wildland vegetation, high winds, and mountainous terrain.

6. The Commission should dismiss all claims made by SDG&E that there are twice the number of wildland fires along alternative southern routes, since this conclusion was based on a flawed analysis.
7. The Commission should not assume that a Category C RAS will be supplied to a southern route, since the data underlying this proposed classification was provided by SDG&E and is inaccurate. The Commission should not rely on SDG&E claims of additional costs associated with a Category C RAS associated with proposed southern routes, since these costs were derived from all outages and not those solely having to do with wildland fire.
8. The Commission should assume that based upon historical data, N-1-1 outages will occur due to simultaneous wildland fires with a return interval of 10-20 years, regardless of route separation. For purposes of estimating ignition hazards, the Commission should assume the equivalency of 230 kV and 500 kV ignition rates having been presented no significant evidence to the contrary.
9. Mitigating for fire risk by providing defensible space grants to homeowners in areas potentially affected by power line fires does not mitigate all risk. Therefore, if a measure such as homeowner grants is adopted to provide a means for wildland fire risk mitigation, it should allow not only for vegetation management, but also for structural modifications and other protective measures to reduce the risk of ember ignition.
10. The Commission should request that engineering requirements for any SPL transmission route be sufficient to prevent catastrophic fires using at the least a 200 or 300 year return interval.
11. The Commission should preferentially favor rooftop solar photovoltaic generation components of In-Area All-Source and Renewable Generation Alternatives.
12. The Commission should fully investigate the causes of all October 2007 power line fires and should initiate measures that will prevent the recurrence of such an event, including further investigations, hearings, and rule-making.

I. INTRODUCTION

MG-21; Testimony of Jeff Wood; (Wood Ranch, Eastern Ramona following the Witch Fire) Photo 110 – old oak one of hundreds down in the area

Pursuant to Rule 13 of the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission") and the schedule established by Administrative Law Judge Steven Weissman, the Mussey Grade Road Alliance ("Alliance") files this opening brief on Phase 2 issues in opposition to the Application of the San Diego Gas & Electric Company ("SDG&E") for a Certificate of Public Convenience and Necessity ("CPCN") for the Sunrise Powerlink Transmission Project ("SPL") in the above-captioned proceeding.

The Alliance is a grassroots citizen organization begun in 1999 and dedicated to the preservation and protection of historic Mussey Grade Road and environs in Ramona, California. The Alliance has chosen to highlight the **wildland fire risks** posed by this proposed transmission line project in its submitted testimony in these proceedings The Alliance believes that testimony on the subject is critical to the Commission's understanding of these risks and to the Commission's decision on this application. The Alliance is also interested in wildland fire because of the collective experience of the Mussey Grade Road community and the personal experience of this intervener in past fire catastrophes.

The Alliance recommends the Commission deny the application and choose the Number 1 or Number 2 Environmentally Superior Alternative for San Diego County's energy future. Alternatively, the Alliance respectfully requests that the Draft EIR/EIS be recirculated due to the massive effects of Firestorm 2007 on the backcountry of San Diego County and which are yet undocumented in the environmental record. The proposed route, as well as all of the alternative routes with the exception of LEAPS, runs through areas of the county that have burned either once or twice in the past five years. See Summary of Recommendations for the complete list of actions requested by the Alliance.

Suffice it to say, this power line project is probably one of the worst ideas ever proposed for San Diego County. Perhaps it is the nature of the place to attract such terrible development. Isolated at the southern end of California bordering Mexico, a huge rural, mountainous and desert area attached to a strip of the Pacific coast, San Diego is a place that has historically languished in the shadow of the bigger, richer, more famous, film star-ridden Los Angeles, and consequently suffers from a vague inferiority complex.

The history of San Diego County is the history of a place that was out of time and out of mind, despite the best efforts of 19th and early 20th century boosters. Identified as a military town, few stayed after their service was over. Only in the recent bubbles, dot-com and then housing that followed the dot-com bust, has San Diego garnered national attention. But that seems to be over too. House prices are plummeting, the county is losing population, and repeated fires – some started by power lines - have ravaged the backcountry spilling into exclusive enclaves like Rancho Santa Fe and onto the front page headlines of the New York Times. Now, water is in question. Due to these and other woes, San Diego doesn't seem quite as sexy or promising as it did yesterday.

Nevertheless, there is always hope. Hope for more people, more development, more real estate deals and fortunes to be made; hope for more built-in and home bred unsustainable growth and so here's an idea: Let's import more electricity into the county from wherever instead of producing it locally and let's get the hardware to do this *fast* before anyone catches on and maybe objects— before San Diegans realize that this horrible result is just the *cover story*. This seems to have been San Diego Gas & Electric Company's plan. Unfortunately for SDG&E and fortunately for the rest of us, it doesn't seem to be working.

SDG&E has not been its own best advocate in this process, and perhaps that is a natural outcome of the difficulty of putting lipstick on a pig. Though supposedly in such a big hurry, the company stepped on their own shirttails when they originally insisted that *they didn't have to look at the environment* when they came up with their first application in December 2005. Then they

had *to reapply* in August 2006. They didn't get their *figures* right re reported money savings to ratepayers in Phase 1 early on and again during the July 2007 hearings. Then July hearings had to be *interrupted and rescheduled* until they did. They didn't talk about all the elements of their plan that they should have and were *reprimanded by the Commission*. They didn't know which witnesses sponsored what portions of their testimony and as a consequence *were still releasing that information* while the Phase 2 hearings were ongoing. This has been the more than $100 million dollar process that we, the ratepayers, are paying for, and now are we supposed to trust SDG&E with the investment of our money (up to $1.4 billion or more of it) and rely on the judgment of a company that also burned a major part of the county down last year?

The Witch Fire that swept through San Diego County burning 197,990 acres and 1,650 structures[2] was started on a historic ranch in eastern Ramona by an SDG&E power line. The result of the fire was two deaths, extensive property losses and great destruction of the land.

MG-21; Testimony of Jeff Wood; (Wood Ranch, Eastern Ramona, close to the proposed route, following the Witch Fire); Photo 111

There are also long term effects of frequent burning to consider – the threat of ecological change beyond imagination, called type conversion. If areas of San Diego County, already so fragile in our desert ecology and already so fragmented through human settlement and disruption, burn time and again in too frequent cycles, this could induce a change of plant life from the traditional chaparral to even more flammable dry weedy grasses.

[2] MG-31 CAL FIRE NEWS RELEASE, California Department of Forestry and Fire Protection, October Fire Causes, November 16, 2007

After the Witch Fire, fear crept into the hearts of people in the backcountry about the proposed project because now they knew that power lines can cause catastrophic fires and that fires can potentially cause great ecological changes where they live. Simply put, they are afraid of being burned out again and seeing all around them destroyed.

That fear has a great deal to do with the growing resistance to this line and resentment on the part of backcountry San Diegans concerning the entire project. Of the 239[3] registered speakers (out of the estimated 700 persons who attended) at the Borrego Springs May 12th public participation hearing, where a quorum of the Commission (President Peevey and Commissioners Grueneich, Simon and Bohn) listened to hours of public comments, the issue of "fire" or "fires" was mentioned 121 times.[4] Janet Gilbert of Ramona, a biologist and teacher, and a former member of the Ramona Community Planning Group, who installed a photovoltaic system on her home only to have it burn down in the Witch Fire, expressed the general apprehension about living with this proposed power line in a fire-prone environment and the consequences to that environment.

Janet Gilbert:

I'm concerned that the San Diego Gas and Electric power line is going to increase the frequency of fires. And I'm very concerned that, not only to human life and property, but there's going to be significant impact to chaparral with increased number of fires. These fires -- chaparral is adapted to fires. I'm a biologist and a teacher. And it's going to be 20 years for fires to regenerate themselves. And increased fire frequency allows nonnative invasive plants to come in, and this will only provide more fuel for more fires. And we're going to see a big, big change in our chaparral community that's not really addressed in the environmental impact result.[5]

But there is also the raw terror of fire by those who have experienced it. The commissioners heard at that same hearing from Michelle Upczak of Descanso, Anne Gurnee of Jamul, Juliana Jordan of Wynola, and Anita Nichols.

Michelle Upczak:

I can't tell you, if you haven't lived through an experience with a firestorm, how absolutely terrifying and life changing that is. And to think that any one would even consider proposing any kind of possibility, even if it was a 1-percent possibility, if you had lived through that, it is just

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[3] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p. 6226

[4] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42

[5] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p. 6226

absolutely the most hellish stuff I've ever been through. So I wanted to share that with you personally.[6]

Anne Gurnee:

Then of course if you all allow these lines to go through our neighborhood or any one else's, you force us to live with the added unnecessary risk of fire, and then maybe we'll get to do this all over again in ten years or less. Please don't do that. Please don't do that to us.[7]

Juliana Jordan:

My husband and I were fire victims back in the 2003 fire. We lost our house which we'd had for over 25 years. We were able to rebuild our home, but almost lost it again seven months ago when the Witch Creek fire came within two miles of our house; and the Witch Creek fire was caused by downed power lines. We get tremendously strong winds around here, and I think that was one of the reasons, of course, that the fire spread so quickly, and that the power lines were downed. So consequently I'm very worried about the potential fire damage that the Sunrise Powerlink project could possibly cause.[8]

Ms. Nichols told the commissioners that accidents can happen and, in terms of the consequences of fire, it doesn't even matter if SDG&E is at fault or not.

Anita Nichols:

We live in a world where anything can happen. Even the most outlandish, unexpected accident causing a fire, no fault of SDG&E, from the Sunrise Powerlink is an unacceptable risk. None of our communities should be subjected to this ill-conceived link.[9]

People are also worried about the effectiveness of fighting fires near big powerlines, as Tom Myers of Alpine told the commissioners:

SDG&E proposes to build its Sunrise Powerlink over many miles of pristine yet highly volatile wild lands in Eastern San Diego County. After the devastating wild fires of 2007 I had the opportunity to speak with a firefighter from CAL FIRE about the risks posed by overhead transmission lines. He told me about three problems. Overhead lines get in the way of aerial firefighting activities, severely hampering efforts to contain an advancing fire. Firefighters on the ground are instructed to stay clear of overhead lines. For personal safety they're not permitted to

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[6] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p. 6206-7

[7] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p. 6219

[8] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p. 6085-6

[9] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p. 6176-7

pass under the lines. When fighting the fire or building their defensive lines, valuable time is often lost when the firefighters must be relocated to the other side of the power line to continue their work. The heat and smoke from an active fire generates ionized particles in the air; and as these heated particles rise around the active power lines, they create a pathway for discharging electrical current to the ground, in effect a lightning bolt discharge. Evidence suggests that overhead power line were very likely to cause several of the October 2007 wildfires in San Diego County. For the protection and preservation of our homes, our wildlife, our parks, our historic and cultural, culturally significant resources, and our scenic backcountry, please say no to the Sunrise Powerlink.[10]

And ranchers are worried about the possibility of SDG&E's existing lines causing more fires. Jim Davis, Mesa Grande rancher and President of the San Diego Imperial County's Cattleman's Association, asked:

Should we allow SDG&E to build additional power lines which increase the risk of fire when we need to have SDG&E take steps to reduce fire risk of the -- reduce fire risk in the backcountry? [11]

The issue of power line fires is so crucial to residents that one of member of the San Diego County Board of Supervisors, Dianne Jacob, implored the commissioners to not approve the line due to fire risks:

At the very least I would beg the Commission to seek a formal opinion from Cal Fire before it makes a final determination on this line. If you find you need the line, at underground the whole thing. The stakes are simply too high to put above [ground] lines in these areas. I stand opposed to this project. I do not think it's needed. I think there are better ways. Your environmental document points that out. But, please, if I leave you with one thing in your minds today, please be sensitive to what's in your own environmental document in terms of the fire risks of this line. It could be deadly.[12]

What bothered many speakers in the series of public hearings held throughout San Diego County in Phase 2 of these proceedings also regarded Los Angeles and what may really be going on with this power line project. People have noticed the northward pull of the proposed route, which is

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[10] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p.6166-7

[11] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p.6111-2

[12] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p.5934-5

the route SDG&E really, really wants. This route doesn't seem fully home grown, fully engaged with San Diego County, fully intended for the sole and exclusive benefit of local ratepayers. People have heard about Sempra Energy's Mexicali generation plant, and the "full loop" idea and the desire of SDG&E to "expand" northward. At the same time, they are well aware that they will pay double for this line – first in ratepayer costs and second in the environmental destruction it will bring by simply being built. The general feeling is that mitigation will never make it right.

And so while the sun shines and the earth warms up and the crustaceans are moving northward along the California coast and Pacific gray whales are starting to birth there instead of the Golfo de California, this proposed power line, should it be approved in any of its forms, would pump more electrons the old way – long distance wires covering the county – 150 miles or so – on huge towers because in the end *some important people* wanted it. That is one sorry scenario. A better scenario is that the line will not be built because a lot of people did not want it and because it was recognized for what it has always been – a boondoggle for the company; a deficit to their customers; a drag on a different energy future.

All eyes are now on the Commission. Californians and even people in other parts of the nation are watching this decision because of how it may impact them and their futures. The case involves many elements, not the least of which is SDG&E's arrogant assertion that they must have exactly what they asked for or there will be a price to pay. For example, there have been a number of threats made regarding this project. SDG&E has threatened that if they don't get this line, the "lights will go off." This from a company whose parent Sempra Energy was the subject of numerous law suits and even Commission proceedings following the 2000-01 "energy crisis", and who settled one law suit for hundreds of millions of dollars rather than go to court.

SDG&E has also made the threat that without the renewables they are supposed to be importing on this line they won't meet their legally required renewable goals, implying we will be dependent on polluting electricity and it will be our fault. This, while Sempra Energy, along with the other major gas companies in the state, fought tooth and nail against solar water heaters in the legislature and SDG&E lags behind neighboring Southern California Edison in even proposing a rooftop solar photovoltaic project for this county.

The biggest threat made includes the implicit assumption that the Commission doesn't matter; hell even California doesn't matter. SDG&E has openly made the threat that the company will go to the feds if they don't get what they deserve from California. In this game, the only thing that matters is SDG&E and Sempra Energy. They figure that if Californians can take electricity deregulation and then its baby – the electricity crisis – and then its baby's progeny – ever higher

electricity prices (especially in San Diego County, second highest in the nation to Con Ed in New York City) – then we can certainly take more overhead transmission.

After the formation of CUSP, Communities United for Sensible Power in May 2006, a coalition made up community organizations and individuals[13] (which I coordinate), another organization was formed in San Diego called CASP, Community Alliance for Sunrise Powerlink. That group, organized by chamber of commerce types and funded partly by SDG&E, has never represented any communities that are familiar to CUSP and those around San Diego County who oppose this project and want a different energy future. Nevertheless, we felt complimented that CASP came into being because it meant we were making a difference, even if much of the political class in San Diego chose to ignore the difference we are making.

This has been the battle all along. The opposition to this line is *much larger* than even we who work daily against it can imagine. Yet there has been an official blanketing of public opinion by local media and politicians. There are a few elected officials in San Diego County who have stood up and spoken out against this power line, but they are outnumbered by the cheerleaders, who are the usual suspects in certain circles and who take up a lot of the oxygen.

However, despite the SDG&E-funded noise machine for this line, those making the noise do not represent the majority of people, once they know something about the line and what it will do to the county. The Commission and the governor should know this as a fact. This line is not popular and is getting more unpopular day by day as the lid comes off the information that has been bottled up for almost two years. Word is getting out about the line despite the fact that people in San Diego have been sold out by their newspapers and media generally. This kind of chicanery is happening around the country. The unjustified support for this power line project is just our own, local, weird variant of the national problem of being on the wrong track and going in the wrong direction. And as there will be consequences if the line IS NOT built, there are sure to be consequences if the line IS built. People's concerns will have been shunted aside and that will be remembered, ratepayer assets will have been dedicated to the wrong project, new technologies to secure energy will be starved of support and the safety of San Diegans may be jeopardized if the line were to be the cause of a catastrophic fire over its 40-year lifetime.

The Commission should also know that people in San Diego began to organize in December 2005 as soon as they learned about the proposed project. They came together first in their individual communities and then in CUSP, in the Protect Our Communities Fund (POC) and in the

[13] CUSP is composed of representatives of these communities: Boulevard, Canebrake, Carmel Valley, Campo, Julian/Wynola, Lake Henshaw, Ocotillo Wells, Ramona, Ranchita, San Felipe, Warner Springs, Mesa Grande, Santa Ysabel, Rancho Penasquitos, Torrey Hills, Witch Creek

Community Planning and Sponsor Group Alliance and other organizations to assist each other. They have included regular folks and specialists and hailed from all parts of the county and a number of specialized fields. They are not always apparent to the Commission as an organized force but they are busy working on the project of getting a sustainable energy future for our area.

People have donated time, money and talent, including conducting long distance runs to raise funds, organizing rock concerts, reaching out to various communities every time the goal posts were shifted to a new route idea. They became interveners, spoke at pre-hearing conferences and the many public participation hearings, met with politicians, attended Phase 1 and 2 hearings, attended regional governmental meetings, participated in scoping hearings, researched the issue of renewables and what Sempra Energy was building in Baja , sharing results of all knowledge learned, emailing lists, writing letters to the Commission and the Governor. They staffed Earth Day booths, wrote columns and letters to the editor, choreographed a special dance, attended community planning group meetings and other local governmental meetings, wrote original songs and performed them in various venues, signed petitions, held rallies and protests… This list is hardly comprehensive.

Both nationally and locally, folks have seen their government veering off track – going in the wrong direction for the wrong reasons – too many times. Unhappiness about this state of affairs has motivated many to become the subjects rather than the objects in their lives. That is certainly true with regard to this power line project proceeding. Witness the number of individuals who have spoken out for the first time ever in public. The public participation hearings are replete with examples of people talking about their nervousness and the courage it takes for them to speak out. Their comments are both a general statement on the lack of democracy they feel in their lives and on their own passion that has motivated them to step forward. It is also a tribute to the Commission that the Commission has provided repeated opportunities for people to become engaged – and has not been disappointed in the participation. Regarding democracy, listen to the heartfelt comments to the commissioners of Descanso civics teacher Michelle Upczak. Remember, this is a *civics teacher* speaking:

I drove over the mountains -- to support the people that were here in opposition to the Powerlink. And I was just marveling at the democratic process here because we don't see that. And I appreciate you guys being here so I can feel that I'm part of that... And then I decided, no, even if I'm terrified, I need to stand here and say what I believe because it's very important and it's important for to us stand up and be brave. And so I'm terrified. I really have strong feelings about it. And I think it's a safety issue among many other things. I appreciate you guys being here and

allowing us to have a sample of that democratic process. And I hope you too will oppose the electric Powerlink.[14]

That thousands of people like Ms. Upczak have taken the time from their lives year in and year out and on a purely volunteer basis to raise their voices in objection to this project, which represents a juggernaut of money, power and desire, is a continual source of inspiration. The Commission needs to be inspired by their efforts while recognizing that the growing number of engaged citizens are becoming engaged because: 1) they know more about the line now; 2) they believe in their system of government; and 3) they trust that the Commission will exercise its independent judgment in this matter and that the decision of the Commission will be based on the extensive record that they, as participants in the process, had a part in making.

Yet, in these times even the people who are personally involved are sorely in need of reassurance that their reliance on the Commission is not misplaced; reassurance that the Commission represents their interests as much as it represents the interests of the utilities industry and whichever administration is in power. Whatever reliability SDG&E talks about, it holds no candle to the reliance that people place in their government. When that reliance is spurned a great harm occurs that ripples throughout the body politic. How many blows the system of democratic governance can absorb before it earns the complete disrespect of its citizenry is not a gamble the Commission, or the governor, should want to take.

It is the intention of the Alliance to assist the Commission with a collection of measurements that, hopefully, would both scientifically and rationally aid in producing a correct result based on the fullest expression of the facts: a decision by the Commission that this line is an unsafe idea and should not be granted an application. The Alliance has informed the Commission, to the best of our ability, concerning what we believe is a major public safety consideration – that big power lines do start fires.

It was 96 degrees at our home for days in a May Santa Ana event. In fact, another power line came down in Ramona and burned 5 acres and threatened houses. This was the second Santa Ana event this spring; the first occurred in April These Santa Ana winds traditionally start in fall, roughly around the end of September or the beginning of October and have blown as late as February or March, but rarely if ever in May. People know that it is getting warmer and anxious to make that next step toward renewable, sustainable, local energy production. They hope this line doesn't get in the way.

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[14] Transcript of Sunrise Powerlink CPUC Public Participation Hearing; Borrego Springs, CA; May 12, 2008; A0608010_051208_PPH_Vol_42, p.6207

I, like Ms. Upczak, also have strong feelings about this project. Those feelings involve the beauty of the world and the great divorce of modern life from the life of the earth. They involve the sense of looming ecological catastrophe that faces all humankind globally, and the sadness over the ignorance that produces the same old methods of exploitation to enlarge private wealth that future generations may in hindsight view as the greatest form of poverty.

We risk losing much more than we will ever gain when the engines of the market are solely concentrated on maximizing position and profit without being adequately balanced by considerations of the public good by regulators who are charged with protecting the public. Even the words "public good" sound strange to the ear, as if the concept is some idealistic, anachronistic appendage of our society that doesn't matter anymore. But it does matter and it matters very much in regard to this project.

SG&E really didn't want to talk about power line fires in these proceedings. It was obvious that their rebuttal testimony in Phase 1 was a Johnny-come-lately effort to make up for what they should have done to begin with. Firestorm 2007 and its ramifications changed all that. Now, SDG&E is interested in fire and telling everyone the big lines don't cause fires.. But it isn't true and they know it. What they didn't know before October 2007 (though Sempra Energy CEO Donald Felsinger may understand because big chunks of his subdivision in Rancho Bernardo burned to the ground in a fire started by his utility company's – SDG&E's – power lines) is what it feels like to be caught up in such a calamity.

To give the Commission and anyone else who is interested a little bit of an idea of what it is like, here is this intervener's personal Fire To Do list typed up quickly at 6:25 p.m. on October 21st in anticipation of the spreading Witch Fire, which later threatened our area on three sides:

FIRE TO DO:

1. **CHARGE CELL PHONE**
2. **REMOVE GASOLINE FROM ALL HOME SITES**
3. **REMOVE GAS FROM GRILL**
4. **CLOSE ATTIC DOOR ON PORCH**
5. **ROLL UP ALL HOSES**
6. **MOVE WOOD FROM SHED AREA**
7. **WATER UPHILL CHIPS**
8. **PACK COMPUTERS AND ALL SPL FILES IN ONE JEEP AND DRIVE JEEP SOMEWHERE ELSE**
9. **WHITE BENCH TO GARAGE**
10. **PUT ALL DOCUMENTS IN CAR**

11. **PUT ALL LAPTOPS AND COMPUTER BOXES IN CAR**
12. **CLEAN GUTTERS**
13. **REMOVE ROCKING CHAIRS AND TABLE FROM PORCH**
14. **REMOVE PAD FROM LOUNGE AND LOUNGE FROM BALCONY**
15. **REMOVE GRILLE FROM BALCONY**
16. **DISENGAGE GAS LINE**
17. **DISENGAGE GARAGE DOOR OPENER**
18. **LINE GARAGE DOOR OPENINGS**
19. **PACK FINANCIAL FILES**
20. **PACK HOUSE PICTURES**
21. **PACK MEDICINES**
22. **PACK CLOTHES FOR OVERNIGHTS – USE SUITCASES**

The great irony was that during that weekend we were preparing to write our Opening Brief**.** I think it might be hard for the Commission to imagine the unreality of not being able to write your brief because the subject matter of your testimony – wildland fires started by power lines in Santa Ana wind conditions – was threatening your home. But that's what happened.

And still today, as this Phase 2 Opening Brief is being written, thousands of people are continuing to put their lives back together after the October 2007 Firestorm, which occurred a mere seven months ago. Most don't have time to write to the Commission. Most don't have the energy to come to public participation hearings, though some of them have come and have even spoken. They are still working on their house plans and getting their insurance payments straightened out (if they even had insurance). We read about it in the local newspaper: the meetings about insurance, the charity drives and the individual stories of loss and starting over that the Firestorm 2007 continues to generate.

While most may be finished with sifting through the rubble of their homes, their lives are irrevocably changed along with the landscapes they love. Those landscapes are a metaphor for the people themselves -- not fully recovered, not the same as they once were, possibly never will be. The lesson here for the Commission is this: Your decision on this application will be lived out by people on the ground whose very lives depend upon the choice you make. Think hard.

A. Summary of Phase 1 Evidence

In Phase 1, the Alliance presented evidence regarding the threat of wildland fire from power lines generally and from the proposed project specifically. Using SDG&E data collected over the past several years for both outages and fire, the Alliance demonstrated that not only were there an

increased number of outages during severe wind storms, but also that larger fires were attributed to power lines due to winds. The Alliance reported that there was one fire from a 230 kV line associated with wind, belying the assertion that higher voltage lines were not prone to failures that could cause fires. Historical fire data were also examined and it was shown that power line fires, while rare, were responsible for 19% of the area burned in San Diego County since 1960. Vegetation exposure along the proposed SPL route was measured using different fire threat metrics and the result compared to the existing SWPL line, since no complete alternative route had as yet been put forward. The results showed that, contrary to SDG&E's arguments, the fire threat along the SWPL and the proposed route are not significantly different. Alliance testimony also contained analysis of wind conditions in areas near the proposed route. The Alliance also conducted a study of the effectiveness of wildland fire suppression as a function of wind gust speeds near the point of ignition. Using a small sample of Cal Fire data from San Diego County, the analysis showed that the suppression rate for fires under normal conditions was over 98%. When nearby wind gusts exceeded 30 mph, though, suppression efficiency dropped to only about two-thirds. Using this information, the analysis then went on to estimate the likely costs to be incurred by the proposed project due to catastrophic wildland fire, applying an actuarial approach. The Alliance suggested that damages due to loss of property and also environmental damage due to type conversion of habitat be incorporated into the project costs by applying a set amount in a yearly charge over the lifetime of the project when performing the cost/benefit analysis for the project. Additionally, the Alliance flagged as critical a number of issues to be investigated as part of the EIR/EIS process, including analysis of wildland fire hazard, vegetation, and wind.

Community testimony was also presented that described the strong community values and rich historical tradition of the Mussey Grade area. The beauty and unique attributes of historic Mussey Grade Road were detailed, including the incongruous nature of the addition of 150-foot steel towers to the mountainous and remote environs of Mussey Grade. The abundant wildlife of the area – mule deer, mountain lion, coyote, red-tailed hawk – was described along with the historical memory and enjoyment of long-time residents (some over 35 years) who have called Mussey Grade their home. The surrounding pristine wilderness, composed of tens of thousands of acres of chaparral-covered mountains forming an extensive watershed, the presence of the 2,200-acre Boulder Oaks preserve, purchased by San Diego County and which the proposed route would slice through destroying extraordinary mountain ridge line vistas, was also described. The fact that the Boulder Oaks Ranch was preserved through the efforts of the Alliance and others was recounted.

During cross-examination of SDG&E witness and fire expert Hal Mortier, some other issues were raised. SDG&E's assertion that a northern route was less exposed to hazardous fire conditions than a southern route was challenged and shown to be based upon the fact that the proposed route traversed the path of the October 2003 Cedar Fire, which had removed significant vegetation that the witness conceded would grow back quickly. Also presented were photos of lattice tower collapses in other utility service areas, collapses which occurred in strong winds, and which the witness conceded did not cause fires only because they fell where there was no vegetation. The assertion by SDG&E's fire expert that the proposed route did not cross the path of the Cedar Fire was shown to be erroneous based on the Company's misleading study of the line that not include the entire Inland Valley or Coastal Link areas.

B. Summary of Phase 2 Evidence

Setting the stage for the Phase 2 testimony was the fire storm of October 2007, in which a number of fires were ignited by power lines, including three in the SDG&E service area. The largest of these, the Witch Fire, was the most destructive of the entire fire storm, and ironically ignited near the right-of-way of the proposed route. Naturally, the testimony begins with a discussion of these events, and discusses the implications for SPL. Among these are the ecological devastation caused by these fires, especially in the areas burned in both the 2003 and 2007 fire storms, making the area much more sensitive to type conversion than it had been when the surveys for the EIR/EIS had been done. Noting that the most power line fires and the most destructive occurred in San Diego County, the Alliance testimony then explored the historical data and found a significant historical trend – there are more power line fires in San Diego County than elsewhere in Southern California. A number of possible causes were examined, including overall vegetation, number of homes in wildland areas (which should scale with the length of distribution lines), wind, and fire suppression quality. Of these, only vegetation showed any correlation with the number of power line fires. The testimony went on to use the techniques developed for Phase 1 testimony to compare the various alternatives against the proposed route, and found the proposed and southern alternatives to be roughly equivalent in exposure to flammable vegetation. Noting that there was an additional wind-induced 230 kV fire in the 2007 SDG&E fire data, the Alliance testimony refined its estimate of lifetime cost for the proposed project, and bolstering its conclusions from Phase 1. It also applied its predictive methods to other routes, allowing a comparison of potential fire rates. Review of the Draft EIR/EIS was also completed, and a number of material factual deficiencies and inaccuracies were noted, especially that the survey had been done prior to the Witch Fire, which had changed

environmental conditions in the affected areas. The Alliance review also showed that the surveys in the 2003 fire areas would be biased due to the recent (and temporary) reduction in fuel load. Finally, problems were noted in the SDG&E wind analysis, some of which were subsequently corrected by SDG&E in its rebuttal testimony, though the Alliance testimony still shows that it would be appropriate to apply more stringent wind gust loading to portions of the line

In addition to the fire testimony, the Alliance also presented testimony from community leaders of both northern and southern communities potentially affected by the project, as well as the testimony of Ramona ranchers whose land was profoundly affected by the Witch Fire and whose land would also be impacted by the proposed route.

In Phase 2 rebuttal testimony, the Alliance definitively challenged the assertion made in SDG&E Phase 2 direct testimony that the southern route would experience "double" the number of fires that the proposed route would. The Alliance rebuttal testimony showed that the analysis presented in the SDG&E testimony made a key error by using fire sizes smaller than that approved by Cal Fire. When this error was corrected the number of fires along the southern route was no more than 25% larger than those along the proposed route. Additionally, it challenged the testimony of SDG&E witness Oatman, whose claim of WECC penalties for the southern alternative made no sense in the light of the fact that the risk of dual-mode outages was small even for the southern route. In fact, a historical comparison of fires showed that dual-mode outages for any two separated routes would be expected to occur due to simultaneous fire starts during Santa Ana wind conditions. This was clearly demonstrated during the October 2007 Firestorm, when the SWPL was shut down by encroachment of the Harris Fire (which also overran the Environmentally Superior Southern Route) at the same time the proposed route was overrun by the Witch Fire.

II. PROCEDURAL HISTORY

There is one issue that should be raised regarding the Phase 2 procedural history as it relates to the Mussey Grade Road Alliance testimony in the interest of having a clean record. As part of its Phase 2 rebuttal testimony, SDG&E provided a critique of the Alliance's statistical analysis[15]. While we will argue that this critique is almost entirely without merit, we note for now that it contained no calculations or statistical analysis of any type. This is relevant procedurally, because no calculations by SDG&E were provided prior to the cross-examination of Alliance expert witness Joseph Mitchell. However, on the witness stand, the witness was asked about a "factor of five"

[15] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; pp. 4.27-4.34.

error, and was in fact asked to perform SDG&E's calculation for them[16]. The witness refused to do this without being able to study the factual basis behind the technique he was being asked to apply. No further testimony on this issue has been entered into the record.

Following the cross-examination of the Alliance expert, on April 30, 2008, the Alliance received an extensive data request from SDG&E, in which the issue of a "factor of five" error was raised again and this time (finally) calculation results were included. As cross-examination was complete at this time, this was regarded as inappropriate, and SDG&E was directed to meet and confer with the Alliance on the issue[17]. Upon review, the Alliance discovered a copying error in two cells of one table, which do not match the results in the original Alliance worksheet. This table can be found on line 4 of page 41 of the Alliance testimony, with the lower two values in the right-hand column (6.27E-03 and 2.01E-02, the upper limit values for 69 kV and 230 kV fire rates) in fact being roughly a factor of five two large. This is a de minimis error in that these values do not propagate into any other table or calculation and are used in no argumentation. In fact the graphical depiction of the table, shown on line 13 of the same page, shows the correct values for upper limits. This point was raised in the "meet and confer" with SDG&E and concordance on the issue was reached. The Alliance brings this to the attention of the commission in the interest of clarifying Phase 2 testimony and to warn the Commission and parties about using these two values in argumentation. While we regret that this de minimis error could not have been corrected prior to the submission of testimony, we note that the correct value was apparently known to SDG&E at least as early as the cross-examination of the Alliance expert witness Mitchell in early April.

III. THE PROPOSED PROJECT, ALTERNATIVES IN THE DEIR AND ROUTE ALTERNATIVES PROPOSED BY PARTIES

A. The Proposed Project

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

The probability weighted costs of wildland fire over the lifetime of the line are calculated in Section VI.C. A method for applying these for different routes and assumptions is demonstrated in Section VII.C. Two different sets of assumptions are used. The first is whether 500 kV lines are

[16] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; pp. 3379-3381.
[17] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Instructions from Weissman; v. 38; p. 5509-5513.

assumed to have the same fire ignition rate as 69 kV or 230 kV lines (R500=R230) and the second that the fire rate for 500 kV lines is negligible with respect to other transmission lines (R500=0). The second assumption is whether a second pair of 230 kV circuits is added after 10 years (B230+10) or whether it is not (B230+0).

This allows the following estimates for lifetime costs, assuming a 40-year lifetime (costs will be proportional to lifetime).

Applying these to the proposed route gives the following:

	R500=R230	**R500=0**
B230+0	$128 M	$102.4 M
B230+10	$204.8 M	$175.4 M

4. Effect on system reliability

Addressed in Wildland Fire section (VI)

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

Addressed in Wildland Fire section (VI) and in EIR/EIS (V) section

7. Meets Project objectives?

B. SDG&E's Enhanced Northern Route

Due to the lateness of presentation of this modified route, it was not analyzed within the Alliance testimony. We hold it to be equivalent to the proposed route unless shown otherwise by analysis methods used by the Alliance.

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

C. Aspen's Environmentally Superior Northern Route Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

The probability weighted costs of wildland fire over the lifetime of the line are calculated in Section VI.C. A method for applying these for different routes and assumptions is demonstrated in Section VII.C. Two different sets of assumptions are used. The first is whether 500 kV lines are assumed to have the same fire ignition rate as 69 kV or 230 kV lines (R500=R230) and the second that the fire rate for 500 kV lines is negligible with respect to other transmission lines (R500=0). The second assumption is whether a second pair of 230 kV circuits is added after 10 years (B230+10) or whether it is not (B230+0).

This allows the following estimates for lifetime costs, assuming a 40-year lifetime (costs will be proportional to lifetime).

Applying these to the Environmentally Superior Northern Route gives the following:

	R500=R230	**R500=0**
B230+0	$91 M	$65 M
B230+10	$140 M	$114 M

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

Addressed in the Comparison section (VII)

7. Meets Project objectives?

D. Aspen's Environmentally Superior Southern (SWPL) Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

The probability weighted costs of wildland fire over the lifetime of the line are calculated in Section VI.C. A method for applying these for different routes and assumptions is demonstrated in Section VII.C. Two different sets of assumptions are used. The first is whether 500 kV lines are assumed to have the same fire ignition rate as 69 kV or 230 kV lines (R500=R230) and the second that the fire rate for 500 kV lines is negligible with respect to other transmission lines (R500=0). The second assumption is whether a second pair of 230 kV circuits is added after 10 years (B230+10) or whether it is not (B230+0).

This allows the following estimates for lifetime costs, assuming a 40-year lifetime (costs will be proportional to lifetime).

Applying these to the Environmentally Superior Southern Route gives the following:

	R500=R230	**R500=0**
B230+0	$124 M	$40 M
B230+10	$154 M	$69 M

4. Effect on system reliability

Addressed in the Wildfire section (VI)

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. *Addressed in the Wildfire section (VI) and Comparison section (VII)*

8. Meets Project objectives?

E. SDG&E's Modified Southern Route

Due to the lateness of presentation of this modified route, it was not analyzed within the Alliance testimony. We hold it to be equivalent to the "Environmentally Superior Southern Alternative" route unless shown otherwise by analysis methods used by the Alliance.

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

F. UCAN's Southern Route

Due to the lateness of presentation of this modified route, it was not analyzed within the Alliance testimony. We hold it to be equivalent to the "Environmentally Superior Southern Alternative" route unless shown otherwise by analysis methods used by the Alliance.

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

G. Aspen's In-Area, All-Source Generation Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

No additional wildland fire costs are anticipated.

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

H. Aspen's In-Area Renewable Generation Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

No additional wildland fire costs are anticipated.

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

I. Aspen's LEAPS Transmission-Only Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

The probability weighted costs of wildland fire over the lifetime of the line are calculated in Section VI.C. A method for applying these for different routes and assumptions is demonstrated in Section VII.C. Two different sets of assumptions are used. The first is whether 500 kV lines are assumed to have the same fire ignition rate as 69 kV or 230 kV lines (R500=R230) and the second that the fire rate for 500 kV lines is negligible with respect to other transmission lines (R500=0).

The second assumption is whether a second pair of 230 kV circuits is added after 10 years (B230+10) or whether it is not (B230+0). No 230 kV expansion is planned for LEAPS.

This allows the following estimates for lifetime costs, assuming a 40-year lifetime (costs will scale with lifetime).

Applying these to the LEAPS gives the following:

	R500=R230	**R500=0**
B230+0	$58 M	$18 M
B230+10	$58 M	$18 M

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

Addressed in the Wildfire section (VI) and Comparison section (VII)

7. Meets Project objectives?

J. Aspen's No Project Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

No additional wildland fire costs are anticipated.

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

Addressed in the Comparison section (VII)

7. Meets Project objectives?

K. RPCC's Coastal Link Alternative – NOT ADDRESSED

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

L. UCAN's No Action Alternative

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

Wildland fire costs –

No additional wildland fire costs are anticipated.

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

Addressed in the Comparison section (VII)

7. Meets Project objectives?

M. Other Party Alternatives – NOT ADDRESSED

1. Scope and Description

2. Feasibility of Obtaining Necessary Approvals and Construction

3. Estimated Cost

4. Effect on system reliability

5. Effect on "ability to deliver renewable energy to SDG&E customers."

6. Environmental impacts

7. Meets Project objectives?

IV. MATERIAL FACTUAL INACCURACIES OR DEFICIENCIES IN THE DRAFT EIR/EIS

The Draft EIR/EIS for the Sunrise Powerlink Proposal is a 7,000+ page document representing a tremendous expenditure of high quality talent and effort. Its thoroughness, which we understand is unprecedented for projects of this type, should set a new, and we think appropriate, standard by which future projects should be analyzed. Furthermore, the draft EIR/EIS contains more than 300 pages of analysis related to wildland fire and power lines, and conducts a fire and fuels analysis for every alternative to the project. This is highly commendable work. However, the fire issues associated with the SPL are numerous, and the Draft EIR/EIS does not adequately address all of them. Material factual deficiencies and inaccuracies in the Draft EIR/EIS are addressed in detail in Appendix 2E of the Alliance testimony[18].

[18] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix E.

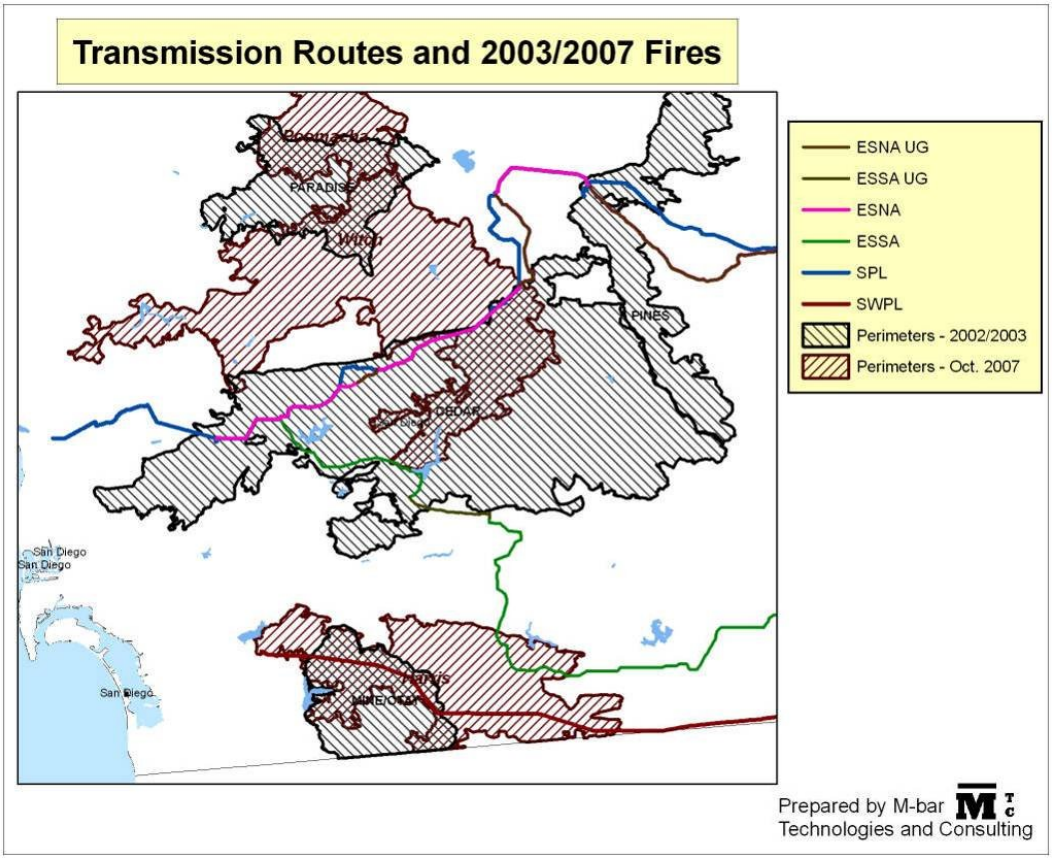
The Draft EIR/EIS did a number of things very well: Every route and alternative was analyzed with respect to wildland fire, field data were collected to perform DEIR analyses, worst-case fire modeling was used to examine the impacts of fire spread, and the impact of the chosen routes on the effectiveness of firefighting was performed. ***We note that all transmission alternatives resulted in Class I, immitigable impacts due to potential fire dangers, which is consistent with Alliance Phase 1 and Phase 2 testimony.*** We also note that these impacts were used in the determination of the environmentally superior alternatives. The Draft EIR/EIS also finds non-transmission alternatives preferable overall from an environmental standpoint, which is consistent with Alliance findings.

- **Non-transmission alternatives listed as Alternatives 1 and 2 in the Draft EIR/EIS[19] should be implemented to meet San Diego County's future energy needs. Non-wire alternatives will reduce environmental impacts from wildland fire as well as reduce potential fire-related costs. The Commission should also favor non-wires alternatives from a reliability standpoint with regard to wildland fire.**

A. The EIR/EIS needs to take into account the effects of the October 2007 fires and should be recirculated

The primary shortcoming of the Draft EIR/EIS is that it does not take into account in any serious way the effects of the October 2007 fires. All surveys informing the Draft EIR/EIS were done prior to these fires, yet the fires have had a profound impact on the environment of the area where the proposed and alternative routes would be located. Alliance testimony[20] displays a map of the overlap of the 2003 and 2007 fires, which shows that a substantial portion of especially the proposed route but also the southern alternative pass through affected areas. This is displayed below:

[19] California Public Utilities Commission and U.S. Department of Interior Bureau of Land Management; DRAFT Environmental Impact Report/Environmental Impact Statement and Proposed Land Use Amendment (Draft EIR/EIS); San Diego Gas & Electric Company Application for the Sunrise Powerlink Project; SCH #2006091071; DOI Control No. DES-07-58; Prepared by Aspen Environmental Group January 2008; pp. ES-2 – ES-4.
[20] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 48-50.



Areas burned twice are at extreme risk of type conversion, the permanent replacement of native plant and animal communities with invasive grasses and weeds[21,22]. Both the proposed and southern routes pass through previously burned areas. What is remarkable is that biological surveys have been performed the DEIR that may have little relevance to the current status of the environment along the proposed routes. There is no mention whatsoever in the Draft EIR of either the Harris or Witch Creek fires in the biological sections of either the SPL route analysis or of any of the alternative routes. Yet, for significant portions of the proposed project, the October 2007 fires may be the determining factor of the ecology of the areas along the route for the coming years – and perhaps permanently.

B. Habitat loss through "type conversion" is not quantitatively addressed

The areas that have recently been burned once are highly sensitive to type conversion. It was for this reason that the Alliance argued in its Phase 1 Opening Brief that an exhaustive study of type conversion and the sensitivity of lands be performed for and applied to areas along the proposed

[21] Draft EIR/EIS; p. D.2-82.
[22] C-19; PHASE II DIRECT TESTIMONY OF RICHARD HALSEY ON BEHALF OF THE CENTER FOR BIOLOGICAL DIVERSITY AND THE SIERRA CLUB; p. 4.

route and any alternatives[23]. Sensitivity of each route to further disturbance by fire based upon prior recent fire history should have been one of the factors used in comparing the ecological sensitivity of comparative routes. This was not done, and is a major material factual deficiency in the Draft EIR/EIS.

- **A final EIR/EIS should not be accepted as complete unless it explicitly contains re-analysis of the areas burned in the October 2007 Firestorm and also analyzes each area affected by the line with respect to its sensitivity to type conversion.**
- **The EIR/EIS should be recirculated after the surveys and analysis of the area burned in 2007 are incorporated.**

C. Expansion of the 230 kV and 500 kV network is easily foreseeable and should be considered "full build-out" of the project, and therefore should be analyzed as part of the EIR.

The Alliance testimony notes that 230 kV network expansions should be fully analyzed as part of the final EIR/EIS, since they are easily foreseeable and because the transmission network has been designed with the capacity for this expansion[24]. The topic of expansion of the proposed project has been addressed at the direction of the July 24, 2007 ruling by Commissioner Grueneich, in which she stated that "the Commission must thoughtfully consider how this potential future expansion should be analyzed in the EIR/EIS"[25]She cites and quotes from the case *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1998): "All phases of a project must be considered when evaluating its impact on the environment."[26] For the 230 kV expansions in particular, there is a very strong case to be made that these expansions should be considered "full build-out" of the project and therefore need to be fully analyzed within the scope of the EIR/EIS. The 500 kV transmission line that would form the backbone of the SPL transmission infrastructure has twice the capacity of the transmission line that would feed from it at the proposed Central Substation.[27] The DEIR notes that adding additional circuits might be possible within 10 years after completion of the primary route. The routes for these additional circuits, if approved, would most likely follow the ROW already disturbed by construction of the SPL or other routes: "From a planning perspective,

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[23] MGRA; Phase 1 Opening Brief; A.06-08-010; p. 8.
[24] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 50-51.
[25] California Public Utilities Commission; Assigned Commissioner's Ruling Addressing Newly Disclosed Environmental Information; A.06-08-010; July 24, 2007; p. 6.
[26] *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1988) 47 Cal.3d at 396; 14 Cal. Code Regs. Sec. 15126
[27] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 51.

SDG&E would, to the extent possible, site additional lines in already disturbed corridors using existing ROWs. As a result, at least one or two additional circuits could follow segments of the proposed Sunrise Powerlink 230 kV transmission corridor..."[28]

Furthermore, northward expansion of the 500 kV network has been foreseen through the interconnection of a link running from the Central Substation northward to the SCE network[29]. This expansion should be considered part of the SPL "grand project" and should be included in the final EIR/EIS

- **The Commission should find the final EIR/EIS acceptable and complete only if it contains a full analysis of the 230 kV and 500 kV system expansions. The Draft EIR/EIS should be recirculated after the analysis of the 230 kV system expansion is incorporated.**

D. Wind induced power line infrastructure failures, not human activity or access, represent the primary threat of catastrophic fires originating from SPL, constituting a material factual inaccuracy in the DEIR/EIS.

The Draft EIR/EIS states that "The primary ignition threats associated with higher-voltage transmission lines like the Proposed Project are indirect, consisting of human-caused accidents during construction and maintenance activities and as a result of increased access to wildlands."[30] Alliance testimony addresses this claim as a factual deficiency in the Draft EIR/EIS[31], and provides evidence that wind-induced power line infrastructure failure is the primary cause of concern in regard to wildland fire.

The Draft EIR/EIS provides qualitative arguments why the engineering of 230 kV and 500 kV is superior to that of distribution and lower voltage transmission lines. While not taking issue with this assertion, the Alliance testimony argues that these measures do not necessarily prevent failures that can create arcing and ignition (including the inadequacy of automatic fault detection and shut-off). More importantly, we know from SDG&E fire history data that fires from 230 kV lines due to component failures have occurred over the last four years. It would be proper to either mention this fact in the Draft EIR/EIS, or to remove the assertion that the primary expected cause of fires due to the lines are expected to be due to construction and human access, which implies that transmission lines left to themselves are relatively safe. This is an extremely important point.

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[28] Ibid; Sec. B.2.7.1; p. B-24.
[29] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix E; pp. 4-5.
[30] Ibid.; Section D.15; p. 15-4.
[31] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 54-55.

Alliance testimony demonstrates that fires due to line faults in high winds are over ten times more likely to develop into large fires than fires started by construction (which can be curtailed during red-flag warning days) and access by people along service roads. ***The Alliance's extreme concern regarding power line fires is focused on the issue of catastrophic fires and wind-initiated faults or failures because these fires are the most devastating to people, property and the environment.*** However the Draft EIR/EIS completely ignores the issue of fires due to high-voltage transmission infrastructure failures under high-wind conditions, which constitutes a material factual inaccuracy.

E. The effect of local wind conditions has not been analyzed or modeled in the Draft EIR/EIS

A final point raised in the Alliance testimony regarding the Draft EIR/EIS[32] is that even though a thorough wind analysis was requested as early as the Alliance Phase 1 Opening Brief[33], no such analysis was performed. The only wind analysis was performed by SDG&E as part of its engineering studies for the line[34]. Problems with this analysis were identified in the Alliance testimony[35], and corrections made as part of the SDG&E rebuttal testimony[36]. However, these corrections are incomplete, and at the least there should be an independent review of wind tolerances by the Commission.

- **The Commission should find the final EIR/EIS acceptable and complete only if it contains an analysis of wind conditions and how they would affect different potential routes. The EIR/EIS should be recirculated after the wind analysis is incorporated.**

F. Significant issues affecting communities have not been addressed in the Draft EIR/EIS

SDG&E's transmission line project affects communities across the width and breadth of San Diego County. The variety of communities affected offers another perspective on the massiveness of the project and all of its alternatives, including the huge environmental impacts that the project, regardless of route, would inflict on people, whole communities and the natural world.

Concerning the proposed route, Alliance Witness Laura Copic of Carmel Valley, a coastal community of the City of San Diego, has represented the area known as Carmel Country Highlands (Neighborhood 10) on the Carmel Valley Community Planning Board for eight years. The Planning

[32] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 59.
[33] MGRA Phase 1 Opening Brief; pp. 7-8.
[34] MG-30; SDG&E Response to MGRA Data Request #6.
[35] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2G.
[36] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.20-4.24.

Board is an elected advisory group to the City of San Diego that reviews and evaluates proposed development plans and issues affecting the entire Carmel Valley community.

In her testimony[37] she points out that maps in the DEIR *have misplaced Carmel Country Highlands* as north of the 56 freeway and therefore far from the proposed project and adjacent preserves and, as a result, makes little mention of the impacts to her community, much of which is within 2,000 feet of the proposed route. This omission is a material factual deficiency and should be addressed.

Her testimony highlights the fact that the DEIR notes the potential for additional 230kV transmission lines to follow as a result of the proposed project at a later date: "The Central East Substation that would be built as a part of the Proposed Project would accommodate up to six 230 kV circuits. [38] At least one of these additional lines is likely to follow the same path as the proposed project into the Penasquitos substation through Carmel Valley.[39] The final result would be three 230 kV lines (including one pre-existing), one 138kV line (pre-existing) and one 69kV line (pre-existing) all following the same path through Carmel Country Highlands. The cumulative effects of all of these transmission lines taken as a whole are not included in the DEIR, represent material factual discrepancies, and need to be analyzed."

Concerning the alternative southern routes, Alliance Witness Donna Tisdale, a resident of the community of Boulevard near the border with Mexico and the 20-year chair of the Boulevard Community Planning Group, an elected advisory land use group established by the County of San Diego, points to problems her community would face regarding wind development as part of the DEIR number 1 recommendation for New In-Area All-source generation.[40] As founder of the non-profit group Backcountry Against Dumps, Inc, ("BAD"), which she organized to defend her ground water-dependent community's environment, community character and quality of life, she has also been engaged with other Sempra Energy wind projects, described below[41].

She states: *While I much prefer the number one New In-Area All-source Generation Alternative (DEIR/EIS ES-2) there will still be significant and irreversible impacts to our rural community character and treasured panoramic viewsheds, natural resources and overall quality of life associated with this alternative. Our area is identified in both alternatives number one the, New*

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[37] MG-24; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Laura Copic.
[38] Draft Environmental Impact Report / Environmental Impact Statement and Draft Land Use Plan Amendment for San Diego Gas & Electric Company's Sunrise Powerlink Project (Applications A.05-12-014 and A.06-08-010), p.D10-45, Section D10.11.1
[39] Ibid
[40] DEIR/EIS ES-2
[41] MG-25; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Donna Tisdale.

In-Area All-source Generation Alternative (DEIR/EIS ES-2) and number two, the New In-Area Renewable Generation Alternative (DEIR/EIS ES-2) for increased industrial wind facilities, on both tribal and public lands, which come with their own separate and cumulative high-power transmission lines, substations, property devaluation, community character destruction, visual and environmental impacts, and potential eminent domain issues.

In her testimony, she addresses the destruction of viewsheds in the area that would be affected by other proposed wind development planned by Sempra Energy for the southern portion of the county:

Also highly visible from our higher elevation areas with geographically extensive views like Tierra Del Sol Road, Ribbonwood Road, I-8, and Historic Route 80, as well as from homes located on hilltops and ridges, is the site for the Baja Wind proposed for La Rumarosa, just across the border in Mexico near Jacumba /Jacume. Not only will all of these turbines, for all of these projects, be visible during the day with their towering and churning industrial silhouettes and strobe lights, starkly replacing the existing calming and uncluttered views, but at night they will also have row upon row of blinking red lights that will impact our currently gorgeous dark skies. The issue of blinking night lighting, and daytime strobe lighting, is an existing fact at the Kumeyaay Wind Facility on the Campo Reservation at I-8. It was confirmed in an e-mail message to me, dated 3/11/08 from Francisco J. Urtasum, Sempra's Director of Local Governmental Affairs, that similar lighting would be mounted on turbines for the La Rumarosa project. This issue was not found in the DEIR/EIS in the section related to the La Rumarosa project on pages B-118-148. Nor was it found in the Visual Resources Section D.3. We have one of the few dark sky areas left in all of southern California, which is why Boulevard is home to the San Diego Astronomy Association's Tierra Del Sol Observatory that attracts stargazers from around the world. This is a material factual deficiency and should be address in the DEIR/EIS.

She also notes that the scope of the proposed La Rumarosa project has been significantly expanded beyond that foreseen in the Draft EIR/EIS:

As for the La Rumarosa Baja Wind US Transmission, LLC, site in Mexico, referred to in the DEIR/EIS as Rumarosa Wind Developers II, new information available in Sempra's December 2007 filing with U.S. Department of Energy (DOE), and noticed in the February 22, 2008 Federal Register (DOE Docket No PP-334), documents an increase in the size of the project, the substation, and the cross-border transmission capacity. The location of the Jacumba substation as well as the apparent location of the wind generation site (Fig. B-48) have also changed. The proposed project increased from 250 MW (pg. B-123) to 1,250 MW. The generation location changed from Eastern

side of the Sierra Juarez Mountains (pg. B-124) to what appears to be a more westerly location. The proposed substation location changed from northwest of Jacumba (Fig. B-47) to the east of Jacumba closer to the Jacumba Wilderness Area and Big Horn Sheep habitat. The size of the substation has increased from 20 acres (pg D.2-236) to 80 acres. The proposed transmission line has increased from 230kV (pg. D.2-244) to one 500 kV or two 230 kV transmission lines per the Sempra DOE application for a Presidential Permit.

Due to the size, scale, and location of this project it will not only be visible from La Rumarosa and Jacumba (DEIR/EIS page D3-205) it will also be highly visible from Tierra Del Sol Road, Ribbonwood Road, and homes located on higher elevation locations throughout the Boulevard area, as well as from Historic Route 80, adding significant Visual Resource impacts as well as additional cumulative impacts. These impacted viewing points were not included on the list of significant impacts at page D.3-205 or under cumulative Visual Resources impacts at page G-39. While Figure B-50 shows views from La Rumarosa, there is no figure showing views of La Rumarosa from these, or any, impacted viewing points. These omissions constitute material factual deficiencies in the DEIR/EIS.

In combination with La Rumarosa, the existing Kumeyaay Wind Facility and other and additional industrial wind generation proposed at McCain Valley and Crestwood (DEIS/EIR Figure ES 2) there will be additional cumulative impacts that are not analyzed in the DEIR and are a material deficiency. The loss of significant visual resources will be compounded with no viable mitigation. At page E.5-103 under the header Key Viewpoint 60-McCain Valley North (VRM) the DEIR/EIS states that "the existing Management Plan is currently being revised and VRM Class for McCain Valley West area is proposed to change to VRM Class IV." For the record, both BAD and the Boulevard Community Planning Group filed protest letters opposing the unjustified downgrading of our VRM classifications simply to accommodate for-profit wind generation.

- **The Commission should preferentially favor rooftop solar generation components of In-Area All-Source generation option.**

V. THE ECONOMIC BENEFIT OF THE PROPOSED PROJECT, THE DEIR ALTERNATIVES, AND PARTY-PROPOSED ROUTE OPTIONS – NOT ADDRESSED

VI. WILDFIRE CONSIDERATIONS

In October 2007, Southern California was struck by an unusually strong Santa Ana event. As was typical in such events, wildland fires that started while this event was underway tended to grow uncontrollably, resulting in catastrophic fires which destroyed more than 2,500 structures and caused over $1.6 B in property damage[42]. While this type of firestorm has been observed before – most notably in October 2003 – ***the Firestorm of 2007 was remarkable in the number of fires attributed to power lines.*** While full investigations are still underway for most of these fires, seven of the 20 fires were attributed in press reports to power lines[43], and a November press release by Cal Fire confirmed that three fires in San Diego County (Rice, Guejito, and Witch – the largest of the Firestorm 2007) were caused by power lines[44]. The mechanism by which catastrophic power line fires arise during Santa Ana winds was described in the Alliance Phase 1 testimony:

1) "A section of transmission line, tower, or other hardware is unusually vulnerable due to aging, material defects, assembly defects, poor maintenance, or exposure to unusually extreme conditions.
2) This section of transmission line, tower, or other hardware is also in the proximity of flammable vegetation.
3) Weather conditions with strong gusting winds and low humidity (i.e. 'Santa Ana' conditions) are present.
4) Stress from the wind causes a component failure.
5) The component failure causes arcing and the ejection of hot or flaming materials.
6) The hot or burning materials ignite the adjacent vegetation.
7) The fire is rapidly spread due to the high wind and low moisture conditions.
8) Remoteness of the site or the rapid growth of the fire foils initial firefighting response, and the fire grows to a large size."[45]

During the October 2007 Firestorm, this scenario was repeated over and over in one fashion or another, and the issue of power lines as a fire source was raised in both state and national press[46]. While SDG&E has argued and continues to argue that power lines represent a small fraction of

[42] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 7-8.
[43] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 5-7.
[44] MG-31; Phase 2 Cross Examination Exhibit of the Mussey Grade Road Alliance, CALFIRE News Release, October Fire Causes, November 16, 2007.
[45] MG-1; Phase 1 Direct Testimony of the Mussey Grade Road Alliance; pp. 2-3.
[46] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 3, line 7.

fires[47], it is no longer possible to argue this remains a small fraction when it really counts – when the Santa Ana winds are ripping through the mountainous back country of Southern California. The probability of seven of twenty fires arising from random chance, when the fraction of power line fires overall is less than 1%[48] is negligible. A causal link is involved, and this link is described above and in the Phase 1 testimony.

Deep and bitter ironies arose from these devastating fires, which affected not only the communities involved in the SPL proceedings but even those persons involved in the proceedings themselves, such as this intervener and her expert witness, who found themselves surrounded on three sides by a power line fire – the Witch Creek Fire – as they were preparing the Phase 1 brief for these proceedings. The foremost irony is the fact that the Witch Fire, which was the largest of the Firestorm 2007 and now the fourth largest in recorded California history[49], began along the proposed ROW for the SPL route, along the 69 kV transmission line that is planned for consolidation with SPL[50].

One consequence of this fact is that some of the ranchers who have fought against the Sunrise Powerlink proposal, such as Jeff Wood[51], Glenn Drown[52], and Ken Childs[53], have been burned out by a power line fire started in the very right-of-way of the line they oppose – an injury commensurate with the insult that SDG&E proposes to deal them. As residents of the twice-burned areas – the 100,000 acres in San Diego County that were burned in both the 2003 and 2007 fires, they are observing first-hand the ecological devastation that occurs when our normally fire-resilient vegetation is burned too frequently, a process known as type conversion[54]. These ranchers, intimately familiar with the landscape and wildlife of the land they manage, write clearly and movingly of the human and environmental costs of wildland power line fire – a hidden cost of the electricity we consume. Writes Wood[55]: "*The vegetation on the east side of the ranch was devastated. Trees fell down throughout the ranch, and the Sage Scrub area that was in recovery from the Cedar Fire was burned so bad it looked like the surface of the moon. I am sure the plants, animals and reptiles of this Sage Scrub Community are threatened. As I walked over every inch of*

[47] SD-35; SDG&E Phase 2 Direct Testimony; pp. 5.5-5.6.
[48] Ibid.
[49] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2A; p. 6.
[50] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 67-68.
[51] MG-21; PREPARED PHASE 2 DIRECT TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; MR. JEFF WOOD.
[52] MG-22; PREPARED PHASE 2 DIRECT TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; MR. GLENN DROWN.
[53] MG-23; PREPARED PHASE 2 DIRECT TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; MR. KEN CHILDS.
[54] Draft EIR/EIS; page D.2-82 and others.
[55] MG-22; JEFF WOOD; p. 1.

the ranch after the Witch Creek fire, I found it hard not to cry, but I was able to keep the tears back until I began to once think this land now burned to near total destruction will soon be finished off with bulldozers and drilling rigs brought in for the Sunrise Power link." Wood also offers photos of the decimated landscape[56].

The proposed and alternative SPL routes will be subject to the same hazardous conditions that led to catastrophic fires in the past.

As we have previously noted, catastrophic power line fires require the presence of dry, flammable vegetation, extreme winds, and a failure of a power line component that causes an ignition. To see how this applies to the proposed SPL project, we can divide this problem into two parts: the presence of hazard conditions, and the probability that a power line will cause an ignition. The first we can study through analysis of historical data for *all* power line fires and from other forms of hazard condition data, such as vegetation and wind maps. The second part can be studied by examining the probability of ignitions from transmission lines under windy conditions. This is the overall approach of the Alliance analysis. Here, we examine only the hazard conditions that apply to routes through San Diego County.

San Diego, which constitutes the SDG&E service area, historically has had more wildland power line fires than other areas.

All parties acknowledge that there are more fires started by distribution lines than by transmission lines. We can therefore use historical power line fire data collected by Cal Fire to tell us something about the hazard conditions within the SDG&E service area, and determine whether it is more or less subject to catastrophic power line fires than other areas. This analysis was performed and the results presented in the Alliance Phase 2 testimony, both in Appendix 2B and in the body of our testimony[57]. What the historical data immediately shows is that there are significantly more large power line fires in San Diego County than there are in other counties in Southern California – six fires versus eight fires in all other counties combined. A cross-checked statistical analysis demonstrates that this has less than a 1% probability of occurring through chance[58]. Of course, there is no reason to a priori expect that there should be an equal number of fires in each county, so the analysis goes on to attempt to find an explanation.

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[56] Ibid; pp. 23-26.
[57] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 15-31.
[58] Ibid; p. 17.

The Alliance testimony sought to correlate excess with some potential causes. Among those examined were the amount of hazardous vegetation, the presence of population along with hazardous vegetation (we would expect to see the bulk of distribution line fires in such areas), wind, and quality of fire protection.

The first thing the Alliance studied was what happened if we assumed that the number of power line fires would be proportional to the amount of flammable vegetation in each county. The Alliance analysis used Cal Fire "Fire Threat" data maps to determine the areas considered to be at a "High" fire threat level or greater on a per-county basis. San Diego had the largest area of this type, with nearly 1.6 million acres, followed by Riverside with 1.3 million acres and Los Angeles County with 1.2 million acres[59]. While the number of observed fires is still larger than would be expected, this excess could reasonably be a statistical fluctuation. This is shown graphically in the map below[60]:

Carrying this one step further, the Alliance analysis presented in the testimony suggested that one would expect the number of housing units to be a possible proxy for the amount of distribution line run: the more houses there are, the more distribution line is required. Ideally, the distribution line itself would be mapped onto the hazard area, and this would be the best measure of the overall fire threat. However, SDG&E has refused to supply infrastructure maps, citing security concerns[61]. Furthermore, such data would not be available for other counties.

[59] Ibid; pp. 18-20.
[60] Ibid; p. 19.
[61] Ibid. p. 20.

Oddly, the possible correlation between hazardous vegetation and power line fires seen in the first analysis disappears when we try to add in the power lines via the proxy of housing units. In fact, this analysis once again shows a highly significant excess of events in San Diego County, with less than a 0.2% chance of arising from chance[62]. The result for counties aside from San Diego and Riverside is very uniform, with San Diego County having a value 3.5 times larger than the average. (While there is no definitive explanation for the apparent inconsistency of the results from the two analyses just described, such an effect would be observed if power line fires were more likely to start from power lines or escape suppression in remote rural areas than in areas where population is more concentrated. It should be mentioned at this point that the SPL proposed and alternative routes pass primarily through remote areas of hazardous vegetation.

Wind was also examined as a causative factor, with ambiguous results[63]. Primarily, the problem is that there currently is no fine-grained and accurate method of determining where Santa Ana winds have been the most intense. Very accurate historical weather data exists from 1999, when the US Forest Service & BLM's Remote Automated Weather Station (RAWS) system data began to be centralized, but there are not enough of these stations to use them for local predictions. For simulation and prediction, the National Climate Data Center (NCDC) provides hourly predictions of wind gusts in the form of a coarse-grid map. These are predictions, not measurements, and also don't take into account local topography.

Both RAWS and NCDC data were compared for Santa Ana events that hit Southern California in 2006 and 2007. Analysis of the RAWS data suggested that San Diego County's wind conditions were no worse than anywhere else. The NCDC maps, though, indicated during the October 2007 event that initiated the fire storm, winds were more intense in the central region of San Diego County near the time of the initiation of the Witch Fire than they were anywhere else in Southern California during the entire Santa Ana event[64].

Another factor examined in the Alliance testimony was whether the excess of power line fires in San Diego County was due to inadequate fire protection[65]. Within San Diego County, there has been considerable criticism of the fact that our fire protection is Balkanized into many independent agencies, and that the county fire department is under-funded. If fire protection in San Diego is inadequate, one would expect this to lead to an excess of large fires in San Diego County when compared to other counties in Southern California. Looking at more recent fires (1991-2006),

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[62] Ibid. pp. 21-22.
[63] Ibid. pp. 23-27.
[64] Ibid. p. 26.
[65] Ibid. pp. 27-28.

the Alliance testimony examined fire sizes – not just power line fires – and discovered that while the average fire size in San Diego was the largest (after Ventura County), the median fire size was only fourth largest. Additionally, the average fire size for San Diego is driven by the immense size of the 2003 Cedar Fire. If this fire were to be taken out of the sample, the average would be significantly smaller. We conclude that whatever funding or organizational irregularities may exist in San Diego County, these do not lead to a measurable reduction in the quality of fire protection in comparison to other Southern California counties.

It should be mentioned that the number of fires was also examined in SDG&E Phase 2 rebuttal testimony as a possible explanation for the excess of fires in San Diego County[66]. Upon review by the Alliance expert, it was found that the probability of the excess being a statistical fluctuation was only 6% (with 5% typically used by statisticians as a significance threshold)[67]. We still consider this noteworthy. In fact, being that there is a possible correlation of the San Diego power line fire excess with vegetation, one should not consider this to be a surprising result.

Finally, there is the possibility that maintenance of lines and equipment by SDG&E is worse than that practiced in other utility service areas, leading to greater fault rates and fire starts. With this possibility in mind, the Alliance requested maintenance records for SDG&E's 230 kV and 500 kV network[68], but was unable to determine anything from these records, having nothing to compare them with.

In relation to the proposed project, we conclude that it is being built in an area that has seen more power line fires than equivalent areas of Southern California. Hence, if the same conditions that cause ignitions from distribution lines or 69 kV lines can also cause ignitions from 230 kV or 500 kV lines, we would expect the project to present a greater hazard than would be expected based upon experience gained elsewhere in Southern California.

- **The Commission should require that the Final EIR/EIS provide guidance on wind intensities throughout the SDG&E service area and compare these to other areas in Southern California.**

The Alliance has requested that a full wind study be conducted as part of the final EIR/EIS, and urges that the Commission reinforce this request by not considering the EIR/EIS adequate

[66] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.29.
[67] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; p. 3373; l. 8-12.
[68] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p 30.

unless wind is fully and properly addressed. While SDG&E has conducted its own wind study for engineering purposes[69], the conditions in the mountainous regions of San Diego where the project will be built merit special consideration. Comparison is also needed to other counties to help ascertain whether San Diego has especially intense Santa Ana winds compared to other areas.

All transmission alternatives present a significant fire threat and have comparable vegetation exposure and number of historical fires along the route.

The proposed and alternative routes all have significant wildfire risks due to their exposure to hazardous vegetation, which the Draft EIR/EIS classifies as Class I immitigable impacts, as listed in the Alliance testimony[70]. The Draft EIR/EIS analyzed every route and alternative with respect to wildland fire and relied on a three-pronged analysis that included field data collection. This was used to determine fire risk due to vegetation and fuel load, worst-case fire modeling to examine the impacts of fire spread, and impact of the chosen routes on the effectiveness of firefighting. All transmission alternatives resulted in Class I, immitigable impacts due to potential fire dangers, which is consistent with Alliance Phase 1 and Phase 2 testimony, and that these impacts were used in the determination of the environmentally superior alternatives. The Draft EIR/EIS finds non-transmission alternatives preferable overall from an environmental standpoint. One flaw in the Draft EIR/EIS is that a quantitative route comparison has not been performed using the metrics that were used to analyze the routes, a factual deficiency of the Draft EIR/EIS[71] which we assume will be corrected for the final draft.

An much more significant material error in the Draft EIR/EIS[72] is that it suffers from the same bias that some of the data (particularly the Cal Fire Fuel Load and Fire Threat metrics) suffer from in that the region burned in the October 2003 Cedar Fire (which a significant segment of both the northern and southern routes traverse) has a *temporarily* reduced fuel load. Within the early lifetime of the proposed project, this area would be expected to regenerate a significant fuel load. This was confirmed by SDG&E's witness during Phase 1 cross-examination[73], and re-confirmed

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[69] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Torre; v. 24; p. 3463:21 to p. 3465:23.
[70] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2E; pp. 1-2.
[71] Ibid; p. 5.
[72] Ibid; pp. 13-14.
[73] Cross Examination of witness Mortier; Public Utilities Commission, State of California; A0608010; July 17, 2007; p.1007.
Exhibit MG – 10; CDF Fire Threat - Pre-Cedar (2003)/Pines(2002) Fires;
Exhibit MG – 11; CDF Fire Threat - Post Cedar (2003)/Pines (2002) Fires;
Exhibit MG – 12; CDF Fire 2003 - Pre-Cedar/Pines Enlarged "Sunrise" Northern Loop

during Phase 2 cross-examination[74]. The implication is that certain routes will show an abnormally low exposure to wildland fuels compared to what their average exposure would be expected to be over the lifetime of the project. This effect may also explain the observation of Jacqueline Ayers in her testimony regarding the LEAPS project that shows a very large exposure to areas of "high burn probability" in the Draft EIR when compared to other projects[75].

In order to find a data set that was less biased by recent fires, the Alliance expert also used a data set created by the multi-agency "Landfire" project, which included a dataset based upon the "Scott-Burgan" vegetation type analysis. Unlike the Cal Fire data, which clearly shows the footprints of recent fires in its Fuel and Threat maps[76], the Landfire Scott-Burgan vegetation type map indicates no visible demarcations between fire and non-fire areas[77]. The vegetation types were used in conjunction with flame lengths for each type to classify each type with a rank of zero to three that represents relative fire hazard[78]. First used in Phase 1 Alliance testimony, it was used as one method of route comparison in Phase 2 testimony[79].

Mortier argues in the SDG&E Phase 2 rebuttal testimony that the Scott-Burgan metric is not reliable and probably redundant because it represents only vegetation type[80]. However, this is its strength. By relying heavily on current fuel loading, as the Cal Fire Fuel and Threat metrics do and the Draft EIR/EIS burn probability apparently does, these methods give a very biased view when applied to recently burned areas. Chaparral grows back quickly under normal conditions, and a low fuel load today may be a heavy one in ten years. Hence, these methods are very good at predicting the CURRENT fire threat, but are of much less use in predicting FUTURE fire threat. The Scott-Burgan metric, relying as it does on vegetation type rather than current fuel load, is much more robust against this type of variation, and should also be considered as a guide when examining projected future fire hazards in recently burned areas.

Comparing the relevant metrics in the Phase 2 Alliance direct testimony[81], we see three results emerge. These are shown in the table below:

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[74] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mortier; v. 23; p. 3296-3297.
[75] Phase 2 Testimony of Jacqueline Ayer; pp. 6-7.
[76] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mortier; v. 23; p. 3296.
[77] MG-1; Phase 1 Direct Testimony of the Mussey Grade Road Alliance; Appendix E; p. 15.
[78] Ibid. p. 17.
[79] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 34-35.
[80] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.17.
[81] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 34-35.

COMPARISON OF FIRE METRICS FOR ALL ROUTES

Route	CF Fuel > 1	CF Threat >1	SB Vegetation >1
SPL	106	104	127
ESSA	129	131	121
SWPL	95	95	83
ESNA	48	49	65
LEAPS	56	54	62

These results can be summarized as follows: First, the southern "environmentally superior" route is roughly equivalent to the proposed route (Scott-Burgan metric) or has slightly (25%) larger fire risk (Cal Fire metrics). Secondly, the LEAPS project is exposed to roughly the same hazard as the "environmentally superior" northern alternative (Scott-Burgan metric) or slightly larger (25%) fire risk (Cal Fire metrics). Finally, the "long" routes (the proposed route and southern alternative) are exposed to roughly double the hazard as the "short" routes (the "environmentally superior" northern route and LEAPS). Until the fire scars regenerate from the 2003 fires, taking perhaps 10 to 15 years, the Ayer analysis[82] of the Draft EIR burn probability may also be taken into consideration, and implies that the proposed LEAPS route would also present a significant immediate wildland fire threat. The Draft EIR/EIS finds significant and immitigable wildland fire impacts for *all* transmission routes, and the Alliance analysis concurs with these findings.

- **From the standpoint of wildland fire, non-wire alternatives will reduce environmental impacts from wildland fire as well as reduce potential fire-related costs.**

A. Environmental Impacts

1. The Draft EIR/EIS as well as the Alliance Phase 1 testimony grossly underestimated the environmental impacts of power line wildland fire.

While the Alliance Phase 1 testimony was relatively accurate in predicting the level of property damage occurring during catastrophic wildland fires, it grossly underestimated the

[82] Phase 2 Testimony of Jacqueline Ayer; pp. 6-7.

potential for environmental harm that could occur as a result of such fires. The Alliance cost estimates used $1 B as a canonical estimate of property damage that typically accrued during a catastrophic wildland fire encroaching on an urban area. This is within the range of damage estimates for the October 2007 San Diego County fires[83].

However, Alliance significantly underestimated the potential environmental damage that could accrue in a catastrophic fire. For its estimate of area at-risk, Alliance chose a preserve of 2,000 acres that had 50% of its area at risk for type conversion. The actual area subject to type conversion as a result of the October 2007 fires is much larger than this. The Alliance analyzed the fire perimeters for the October 2003 and October 2007 fires and found that the total overlapping area that was burned in both sets of fires is almost 100,000 acres[84].

Likewise, as noted in the Alliance testimony, the DEIR did not directly address the problem of type conversion due to the October 2007 fires. In fact, no quantitative estimate of the environmental impact of the October 2007 fires is made at all in the DEIR. This was the most serious factual deficiency of the Draft EIR/EIS noted by the Alliance in its testimony[85]. The maps found in the Alliance testimony highlight the regions that have experienced such devastation. Most of the affected areas are public lands, particularly national forest lands, which have been set aside and maintained with taxpayer dollars to preserve our natural resources. According to experts on type conversion, these are under significant risk.

The Center for Biological Diversity witness Richard Halsey, writing of the effect of the Witch Fire on the proposed route states: "This event has radically altered the biological landscape and increases the level of risk the proposed Project creates[86]." Specifically, he notes that one of the last stands of mature big-berry manzanita was burned in this fire, and its recovery is dependent upon its protection from further burns for another 30 years. In areas where re-burn is not prevented, such as in the areas burned in both 2003 and 2007, the ecological outlook is serious, based upon some initial assessments: "In study sites I am currently examining, obligate-seeding species (plants that recover from a fire only by seed germination) have been eliminated in areas with a fire return interval of 10 years. Within the 2003 Cedar Fire scar, the areas re-burned by the 2007 Witch Fire are showing similar results[87]."

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[83] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 9.
[84] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 9-10.
[85] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; pp. 48-50.
[86] C-19; PHASE II DIRECT TESTIMONY OF RICHARD HALSEY ON BEHALF OF THE CENTER FOR BIOLOGICAL DIVERSITY AND THE SIERRA CLUB; p. 4.
[87] Ibid.; p. 10.

- **Transmission routes should be avoided which pass through the fire-scars of the 2003 and 2007 firestorms, including the Witch Fire, Harris Fire, Mine/Otay Fire, and Cedar Fire footprints.**

The extensive areas covered by these fires will be extremely sensitive to disturbance and future ignitions, and as has been pointed out by Halsey's testimony this sensitivity will be extend into the future. As he notes regarding the potential recovery of the big-berry manzanita: "These 'redwoods of the chaparral' are now gone, having burned during the 2007 Witch Fire… The primary land management responsibility for this area now is to insure fire is kept out of the ecosystem for at least 30 years to allow the chaparral to recover to the point where there will be a sufficient seed bank for the manzanita to recover. This is one of the few areas in San Diego County that have the promise of restoring an old-growth stand of manzanita chaparral. The increased fire risk the proposed Project represents with its associated access roads and maintenance activity is not consistent with the efforts required to protect this area from fire[88]."

The great extent of the 2003 and 2007 fires, as shown in Figure 2A-2 of Alliance testimony[89], shows that nearly any east-west route through San Diego County would pass through burn areas. The proposed SPL route, as well as the Environmentally Superior Northern Alternative and the Environmentally Superior Southern Alternative all pass through these burn scars. In Phase 1 testimony, the Alliance noted that the avoidance of current fire scars only provided short-term protection, since these scars will regenerate over time if left undisturbed and because it is inevitable that future fires will burn over any route that is chosen[90]. However, in the light of the extraordinary environmental damage and sensitivity arising from the massive firestorms of 2003 and 2007 occurring so close together, it would appear to us to be prudent to avoid these areas. Halsey's testimony concurs when it recommends that the manzanita recovery area be protected from fire "for at least 30 years".

- **A final EIR/EIS should not be accepted as complete unless it explicitly contains re-analysis of the areas burned in the October 2007 Firestorm and also analyzes each area affected by the line with respect to its sensitivity to type conversion.**

[88] Ibid; p. 4.
[89] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 49 and Appendix 2A; p. 14.
[90] A.0608010 – Sunrise - OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE I ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT; p. 32.

As stated in the Alliance testimony: "What is remarkable is that biological surveys have been performed the DEIR that may have little relevance to the current status of the environment along the proposed routes. There is no mention whatsoever in the Draft EIR of either the Harris or Witch Creek fires in the biological sections of either the SPL route analysis or of any of the alternative routes. Yet, for significant portions of the line, the October 2007 fires may be the determining factor of the ecology of the areas along the route for the coming years – and perhaps permanently.

This situation can only be addressed properly by resurveying these areas in the aftermath of the October 2007 fires to determine the risk posed to these lands and their ecology by future power line fires and other impacts associated with the lines[91]."

Since this information was omitted from the draft EIR/EIS, we urge that it must be included and that time be allotted for a recirculation of the EIR/EIS since we would expect there to be substantive changes based on the new information.

2. SDG&E does not understand and has not correctly estimated the meaning and costs of type conversion.

Based on the total area potentially affected by power line ignited wildland fire, and the environmental change and damage it causes, it is possible to conclude that it represents by far the most significant potential impact of the project. In particular, the process of type conversion ***represents a potentially permanent loss of native vegetation and its replacement by invasive weeds***, according to testimony by the Center for Biological Diversity[92] and the Mussey Grade Road Alliance[93], based upon referenced literature. This process is also described in several places within the Draft EIR/EIS[94].

However, in SDG&E's rebuttal testimony, SDG&E fire expert Hal Mortier takes issue with the application of type conversion threat to the project in a section entitled "*SDG&E is not responsible for type conversion and the Sunrise project does not significantly increase the risk of*

[91] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 50.
[92] C-19; PHASE II DIRECT TESTIMONY OF RICHARD HALSEY ON BEHALF OF THE CENTER FOR BIOLOGICAL DIVERSITY AND THE SIERRA CLUB; March 12, 2008; pp. 4-6.
[93] MG-1; Phase 1 Direct Testimony of the Mussey Grade Road Alliance; Appendix H; p. 9-12.
[94] California Public Utilities Commission and U.S. Department of Interior Bureau of Land Management; DRAFT Environmental Impact Report/Environmental Impact Statement and Proposed Land Use Amendment (EIR/EIS); San Diego Gas & Electric Company Application for the Sunrise Powerlink Project; SCH #2006091071; DOI Control No. DES-07-58; Prepared by Aspen Environmental Group January 2008; page D.2-82 and others.

type conversion in the future[95]. This section would appear to be mis-titled, since one of the arguments it raises is that distribution lines and lower voltage transmission lines are responsible for fires that cause type conversion: "distribution lines, and smaller transmission lines, which directly serve development (such as the 69 kV and 12 kV system in the eastern portion of San Diego County), have the highest risk of fire and subsequent type conversion[96]." While correctly pointing out the fire risk from the lower voltage lines, this section does not indicate that power line fires are larger and more severe, and therefore expose more area to potential type conversion. It also ignores the fact that this line, because it crosses through some of the windiest[97] and most heavily vegetated[98] portions of the County will be unusually exposed to conditions that are prerequisite for catastrophic fire, unlike distribution lines which are more common in population centers. Furthermore, it misses the point that a central theme of the Alliance analysis is to determine the incremental increase in risk from this particular project, with all other lines being used only for comparative purposes.

Of particular concern are sections of the SDG&E Phase 2 Rebuttal Testimony by Hal Mortier that deal with the correlation of transmission lines and what he refers to as "type conversion". Quoting from his testimony: "This can be shown by the fact that electric systems have been in existence in San Diego County for 100 years and currently there is no correlation between type conversion and transmission lines as shown above.[99]" The analysis he then presents has enough significant defects that its conclusions cannot be relied upon.

- **The portion of SDG&E Hal Mortier's Phase 2 rebuttal testimony that deals with an analysis of "type conversion" due to transmission lines, presented between pp. 4.13 and 4.16 of the testimony, has a number of severe defects and should not be given weight.**

While the Alliance is gratified that SDG&E has attempted to quantify risks and impacts due to wildland fire, there are enough problems with this analysis – conceptually, analytically, and procedurally, that we don't believe that it leads to any valid conclusions. Briefly, the intent of the analysis presented by the witness is to look at the number of acres of type-converted areas adjacent to transmission lines and to compare this to overall type-converted areas in order to see if there is

[95] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.10.
[96] Ibid., p. 4.12.
[97] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 58-60.
[98] Ibid. pp. 32-37.
[99] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.13.

any correlation between transmission lines and type conversion. We find a number of significant problems with this analysis:

- The primary **conceptual** problem with the analysis presented by Mortier is that power-line fires are rare events that tend to be very large, and type conversion can occur anywhere within the burn area, not just at the point of origin near the transmission line. For instance, the Witch Fire covered 200,000 acres[100] while the Laguna fire, the second largest power line fire in San Diego County's history, burned 174,000 acres[101]. The danger of type conversion scales with the total area burned, since the larger the fire the larger the chance that it will overlap other recent fire scars and destroy recovering vegetation in the affected area. Hence most of the type conversion occurs nowhere near the power line that caused the fire during power line fires. Therefore it is not reasonable to expect type conversion to be correlated to power line adjacency even if an analysis such as the one presented by the witness were to be properly done.
- There are a number of **analytical** problems with the analysis as well. One of them is that the metric used by the witness to determine whether "type conversion" has occurred were the "California Land Cover Mapping and Monitoring Program, 1997 to 2002 Landsat TM" and "SANDAG 2007 GIS Data"[102]. No description or reference is provided for either of these, so it is impossible to tell whether the classification of "Non-native vegetation" used in the testimony corresponds to what has been defined as "type conversion" in the Draft EIR/EIS and other testimony. Landscaping and other plantings might be regarded as "non-native vegetation" as well. Type conversion, on the other hand, refers to a change of plant communities. The witness was unable to describe any other classifications that were available in the mapping during cross-examination[103], which suggests that the classification of "type conversion" may have been naively applied.
- This observation would account for some apparent oddities in the rebuttal testimony, which bizarrely claims that[104]:

  - There are only 47 acres of non-native vegetation on all agricultural lands in San Diego

[100] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2A; p. 13.
[101] MG-1; Phase 1 Direct Testimony of the Mussey Grade Road Alliance; p. 19.
[102] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.14.
[103] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mortier; v. 24; p. 3338; l. 14.
[104] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.14; table at top of page.

County.

- There are only 122 acres of non-native vegetation on all rural residential properties in San Diego County.

- There are a number of other similar examples in the table.

Compare this to the 100,000 acres of land under extreme threat of type conversion because of burning during both the October 2003 and October 2007 fire storms[105], and we see that there would appear to be a significant discrepancy between the witness's definition of type conversion and the definition used in the Draft EIR/EIS and elsewhere[106].

- Also lacking is a definition of "adjacency" when the metric is applied to power lines[107]. Without knowing this definition it is impossible to ascertain the method used to obtain the figures used in the rebuttal testimony.
- **Procedurally**, we note there is a lack of citations or references. Also notable is the witness's unfamiliarity with the definitions used for the classifications in the analysis, suggesting that he may not have been the originator. When questioned on a GIS map produced by SDG&E during Phase 1 testimony, the witness was unable to provide details, stating that "to be perfectly frank, I would have to ask our GIS folks. I don't know the answer.[108]"

While the witness has had a distinguished career in the fire services, and we commend his data collection abilities as demonstrated in the SDG&E fire records that he has collected since 2004 he has not demonstrated a full comprehension of either type conversion or the use of the analytical tools that would be necessary to make conclusions regarding it using geographical analysis.

Based on the stated deficiencies, we argue that the analysis presented from pages 4.13 to 4.16 is invalid and should be given no weight.

3. Many of those who would be affected by the Sunrise Powerlink also suffered in the October 2007 firestorm, particularly in the Witch Fire, which was started by an SDG&E transmission line.

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[105] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2A; pp. 13-17.
[106] Draft EIR/EIS; page D.2-82 and others.
[107] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.16.
[108] A.06-08-010 Sunrise Phase 1 Hearings Transcript; Witness Mortier; p. 1005; l. 13.

Several ranchers were among the community members who submitted testimony included in the Mussey Grade Road Alliance submission. Their testimony graphically illustrates the emotional scars inflicted on them and their families personally by the firestorm as well as the physical scars on their lands. Jeff Wood eloquently sums up his feelings:

> *From my great grandfather to me, this knowledge has been passed down through the generations. The Witch Creek fire was devastating to our ranch. My father and I worked to save the structures on the ranch property, including my father's home and the Old Cottage which was built around the Civil War era. I worried more about my father's psychological state than his physical state. No doubt his heart was broken by the destruction wreaked upon the ranch.*
>
> *...I began to break down a little as I came across an ancient oak tree lying on its side. It seemed that every step would bring more pain as I found more trees and chaparral gone; possibly forever. I began to think that I might be the only one who cares or even knows about what has been lost here—and how the fire has changed the land. I noticed as I was walking that there wasn't even one lizard running from the rocks. The bees weren't flying; it was if the world was coming to an end here. I thought, "I am glad my grandparents didn't live to see this." My grandfather would have been devastated; he loved these woodlands the same way I do. This thought reminded me. On one side of the ranch there is an old oak tree that has great meaning to me. You see, it was the tree that my grandfather rested against one day at lunch time. I was a little boy and was helping him and my dad fix a fence. My grandfather sat at the base of this tree and took a nap. When he woke he didn't know any of us as he had had a stroke. He never recovered and died about a month later. I began to walk that way, and as I approached, I could see the old tree was gone too—destroyed by the fire.*
>
> *At this time the land is turning green and the water is flowing this year. But, The Poor Will isn't calling in the night from the ridge and quail have gone missing. The reptiles of the chaparral are almost gone, and I haven't seen a rabbit in this area since the Witch Creek fire. There deer aren't here to eat blossoms from the Chamise bush as it was all burned away. It's possible that we may even have habitat change occurring before our very eyes.*
>
> *We must make sure that the Environmental Impact Study, which was done before the Witch Creek fire describes what happened here. As it is, this current Study is irrelevant due to the fact that the ecological communities may have changed from the fire. I am attaching photos of my ranch taken after the fire, which shows a small percentage of the environmental damage the land has suffered.*
> *Thank you.*
> *Jeff Wood*[109]

[109] MG- 21; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Jeff Wood.

Glenn Drown describes the historic 5000-acre Tulloch Ranch, most of which burned in the 2003 Cedar Fire, and where the Witch Fire started. His children are the fifth generation to live on the ranch:

> *…We have lived in our current location for 13 years and Margaret has lived on this ranch for about 27 years. The two ranches are about 5,000 acres and if I recall correctly we will have approximately five miles of the proposed Sunrise Powerlink on our property.*
>
> *…The Witch Creek fire started on our ranch, near the alignment for the proposed Sunrise Powerlink. The fire burned about 3,500 acres of the ranch on Sunday. Monday night and Tuesday the fire had burned upwind along the San Diego River canyon to the south of us and came out east of the origin and burned another 1,000 acres that was upwind of the origin. We had to deal with fire twice in three days, protecting our homes and livestock structures. To see Mr. and Mrs. Tulloch work so hard through three days and nights to protect their home, their children's homes and livestock made you realize these people are truly devoted to this land.*
>
> *The portion that burned Sunday was generally the lower portion of our ranch and it suffered significant damage. It was basically completely denuded, burned to the dirt. The oak trees were all that remained, some burned, some not and some have yet to show if they will survive. After the fire passed on Sunday the winds increased on Monday, and being much greater than when the fire started, removed all of the ash and topsoil from much of that lower area. In many areas there was little sign of a fire. The meadows were just barren, nothing but hard dirt and rock was all that remained. This will have a long lasting impact on the ranch. Sand dunes were created in one area along a small canyon that was out of the thrust of the wind, allowing the sand to drop out. The grasses and sage are going to be slow to recover where the soil has been stripped away.*
>
> *We do not have the resources to re-seed or even clean up all of the downed oak trees. There are hundreds of trees affected and as stated above only time will tell just how many of them actually survive. They will continue to fall through wind and snow storms for years to come, creating more fuel for future fires. There are just too many for us to deal with. Our focus has been to repair the fencing and water sources in order to sustain the cattle this winter and spring.*
>
> *Nearly the entire ranch had burned during the Cedar Fire in 2003…. and now the entire ranch has burned again, the second time in four years. This will certainly be a setback to any recovery that was occurring on the ranch after the Cedar Fire.*
>
> *This ranch is home to many other species that were obviously documented prior to the fire during the many studies that occurred last spring and summer. Obviously the habitat has changed and there will be changes to the species on the ranch as it recovers. As the DEIR assessments were done prior to the fire it does not seem reasonable that they can be accurate at this time, after the fire. .*
>
> *Respectfully submitted, Glenn E. Drown*[110]

[110] MG-22; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Ken Childs.

Ken Childs testifies to the aftermath on his ranch where he raises buffalo:

…The Witch Creek fire started nearby our ranch. I think my wife and I were some of the first to see where and when this fire started. From the front porch of our home we could see the first signs that there was a fire and it was headed directly for us. My natural instincts kicked into gear and I told everyone on the ranch to gather their dogs and cats and leave the ranch immediately. We were not ordered to evacuate, we virtually ran for our lives. Within 10 minutes of seeing the smoke the fire was overtaking the ranch.

My wife lead our family and employees down the hill to a safe zone and set up house at a local hotel with seven dogs, two cats and a rabbit. I stayed behind to do what I could to protect our homes, property and Buffalo herd. I was willing to risk my life in an effort to protect our land, our livestock and our livelihood.

In the days after the fire passed through our ranch, we began to realize just how much damage we had. Ninety per cent of our 1,164 acre ranch was burned one way or another. Some areas had total destruction of all vegetation and some areas were scorched. We lost one house on the property and suffered over $250,000 in damages to fencing, pasture, animals, equipment and materials. To this day the inconvenience of it all still exists.

The environmental losses to the ranch are overwhelming. It's impossible for me to personally evaluate the total damage; and the draft Environmental Impact Report does not evaluate the effects of the Witch Creek fire on the land or the surrounding area, which is changed so much. This study should be performed; otherwise no one will know and fully understand the impact of the fire on both the land and the animals.

In our case alone:

- *We lost well over 300 oak trees of various sizes including approximately 35 giant ancient oak trees. Others are burned at the trunk and likely won't survive.*
- *Hundreds of Manzanita bushes have been either destroyed or damaged and we won't know how many until new growth starts.*
- *The lakes and streams on the ranch are clogged with debris, soot and ash and I'm unsure at this time how many of the various species of fish have survived.*
- *The hillsides that were thick with chaparral are now bare with thousands of burnt branches sticking up from the ground.*
- *We found hundreds of dead animals after the fire including deer, rabbits, rats, mice, turkeys and many burnt beyond recognition.*
- *We lost two prized Buffalo due to respiratory infections.*

It will take decades to fully recover from this fire.[111]

[111] MG-23; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Ken Childs.

None of these witnesses were cross-examined by SDG&E.

B. System Reliability Impacts

1. There is a rough equivalency between proposed and southern routes in terms of number of significant historical fires, with the southern route having an excess of only 25%.

In its Phase 2 direct testimony, SDG&E presented results of an analysis that showed that the southern route (the Environmentally Superior Southern Alternative) would be expected to have roughly double that of the proposed route. It states that "*The Proposed Route has experienced approximately one half the number of fire occurrences, 10 acres or larger within a 3 mile radius, compared to the Southwest Powerlink from 1980-2006. The number of fire occurrences in the other northern routes is comparable*[112]." The cited data source for this information was Cal Fire's FRAP data.

The Alliance rebuttal testimony does not arrive at the same results using the same data and analysis purportedly used by SDG&E[113]. The selection of fire size (10 acres or larger) is inappropriate, and using a wide swath is also inappropriate for small fires. According to Cal Fire, the criterion for entry into the fire perimeter database is that it "include[s] timber fires 10 acres and greater in size, brush fires 50 acres and greater in size, grass fires 300 acres and greater in size, wildland fires destroying three or more structures, and wildland fires causing $300,000 or more in damage." This admonition as to data criteria and usage is printed verbatim in every Alliance Phase 1 and Phase 2 appendix in which these data are used[114]. So the first mistake in SDG&E's analysis is the inclusion of fires too small to be considered as a reliable data sample by Cal Fire, which artificially inflates the number of fires along the southern route. The second mistake is its use of a very wide swath (six miles) to collect the number of fires. Smaller fires present little danger to a transmission line unless they are immediately proximate to it, so use of a wide swath is not appropriate for such fires. Performing its own analysis using the same data used by SDG&E, the Alliance placed a cut of 50 acres on the fire size, and found that there was only a 25% excess in the number of fires along the southern route as compared to the proposed route[115].

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[112] SD-35; SDG&E Phase 2 direct testimony; Chapter 5; p. 5.13.
[113] MG-26; Phase 2 Rebuttal Testimony of the Mussey Grade Road Alliance; pp. 8-11.
[114] See for example, MGRA Phase 2 direct testimony; Appendix 2C; p. 1.
[115] MG-26; Phase 2 Rebuttal Testimony of the Mussey Grade Road Alliance; p. 11.

- **The Commission should dismiss all claims made by SDG&E that there are significantly more fires along alternative southern routes, since this conclusion was based upon a flawed analysis, and a corrected analysis shows a much smaller excess of 25%.**

2. SDG&E cost estimates based upon incorrect fire risk assumptions are unreliable

SDG&E claims that there is a significant economic benefit to be obtained by choosing the proposed or an alternative northern project route as opposed to any southern alternative:

"According to the WECC Reliability Subcommittee, because Aspen's Southern Route is at a much higher risk of a common corridor outage than the northern routes, it would be subjected to a protection scheme that could result in up to 1000 MW of load being dropped in the event of a simultaneous outage of this route and the Southwest Powerlink."[116]

"The planned category C remedial action scheme required for the Southern Route will automatically drop up to 1000 MW of load, creating a major outage in San Diego when both lines are interrupted and load is above 3,100 MW… The high fire-danger areas that these lines must cross make this risk more severe." [117]

"The proposed category C operating RAS imposed on the Sunrise Southern route would result in customer outage costs between $3 and $6 million/hour each time a fire or other failure results in a dual outage of SWPL and the Sunrise Southern Route."[118]

This argument is examined in the Alliance rebuttal testimony[119], in which we conclude that the WECC decision to propose a category C RAS on the southern route alternatives is 1) only a proposal and 2) predicated on the theory that the southern route poses a substantially greater fire risk and therefore is at significantly greater risk of outages, and 3) based upon SDG&E's incorrect estimates. We have already shown that the fire hazards of the ESSA are equivalent to those of the proposed SPL route in our Phase 2 direct testimony[120], and in the preceding section have shown that the excess of fires along the ESSA has only been 25%, and not double those of the proposed route as claimed in the SDG&E testimony[121]. Furthermore, analysis in the UCAN Phase 2 rebuttal testimony[122] aptly demonstrates that the WECC conclusion upon which the Category C designation

[116] SD-36; SDG&E Phase 2 direct testimony; p. 10.15
[117] SD-36; SDG&E Phase 2 direct testimony; p. 13.11.
[118] SD-36; SDG&E Phase 2 direct testimony; p. 13.19.
[119] MG-26; Phase 2 Rebuttal Testimony of the Mussey Grade Road Alliance; pp. 11-12.
[120] MG-20; MGRA Phase 2 direct testimony; Appendix 2C; p. 12.
[121] SD-35; SDG&E Phase 2 direct testimony; p. 5.13.
[122] U-101; UCAN Phase II Rebuttal Testimony by David Marcus on Behalf of UCAN; p. 26.

is based relies solely upon SDG&E's own fire analysis. Put simply, SDG&E prefers not to build the southern route, and so communicated its erroneous analysis to WECC which concludes that southern route is unreliable based upon fire considerations. WECC responded by applying a Category C RAS to the southern route, which SDG&E now uses to bolster its argument for a northern route. The fact that this classification is based upon an incorrect analysis implies that it would likely change once an alternative is chosen by the Commission.

- **The Commission should not assume that a Category C RAS will be supplied to a southern route, since the data underlying this proposed classification was provided by SDG&E and is inaccurate.**

3. Historical fire data indicates that N-1-1 fire-related outages must be expected for SWPL paired with either the proposed route or any of the suggested alternatives.

In response to the Oatman testimony regarding reliability and wildland fire[123], the Alliance rebuttal testimony also addressed the question of which routes would be expected to see more or fewer simultaneous outages based upon historical fire data. In the Alliance analysis[124], two types of fire-related outages were examined: very large fires whose footprint would cover both the SWPL and the Environmentally Superior Southern Alternative (ESSA), and simultaneous fires affecting multiple routes. Remarkably, all routes had potential common-mode outages due to simultaneous fires at approximately the same rate as the single-fire common mode outages affecting the southern routes.

There were two significant fires that spanned SWPL and the ESSA in the 47 year period studied: The Laguna fire of 1970 and the Harris fire of 2007. However, clusters of fires that would have potentially caused N-1-1 outages of geographically dispersed lines had those lines existed at the time were fairly common in the fire history. These occurred in 1975 (SWPL/LEAPS), in two separate events in 1995 (SWPL/ESSA) and (SWPL/SPL/ESSA), in October 2003 (SWPL/SPL/ESSA/LEAPS), and in October 2007 (SWPL/SPL/ESSA)[125]. This is further illustrated by SDG&E testimony that describes simultaneous outages of SWPL and the San Luis Ray – San Onofre 230 kV transmission line during the October 2007 Firestorm[126].

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[123] SDG&E Phase 2 direct testimony; p. 13.11.
[124] MG-26; Phase 2 Rebuttal Testimony of the Mussey Grade Road Alliance; pp. 13-16.
[125] MG-26; Phase 2 Rebuttal Testimony of the Mussey Grade Road Alliance; Table at p. 14, l.3.
[126] SD-35; SDG&E Phase 2 direct testimony; p. 5.37.

This trend of multiple fires during severe Santa Ana events can be expected to increase along with the population, since almost all fires in the San Diego area are generated by people[127] and the more ignitions that there are during a Santa Ana event the more fires we would expect. It should be pointed out that these are not random coincidences, but instead arise from the fact that clusters of large fires occur during extreme Santa Ana wind events[128].

- **The Commission should assume that based upon historical data, N-1-1 outages will occur due to simultaneous wildland fires with a return interval of 10-20 years, regardless of route separation.**

4. Estimates of costs arising from application of Category C RAS to a southern route are a factor of five to seven too large if only estimated wildland fire contributions to outages are taken into account.

The Alliance attempted to estimate the lifetime cost that would be applied to a southern route due to large fires that spanned both lines, given that the historical rate for such fires[129]. Projecting the historical rate forward, it estimated 1.7 events over a 40 year lifetime, and the costs were then estimated to be $4.5 M/hr as a typical customer outage cost[130], with each event lasting 24 hours, we would calculate an expected cost of $183 M over the lifetime of the project. For a "worst case" contingency, a $6 M/hr rate, with 4.0 events occurring over the lifetime of the project. The costs of this worst case contingency would be $576 M. This is significantly less than the cost estimate by SDG&E witness Oatman: : "It is our finding that a range of probable customer major outage losses over the life of the line for the Southern Route Alternative, range from $360 million to $3 billion, with a base case of $1.37 billion. This result is based on historical patterns of outage frequency and duration along SWPL, conservative assessments of the probability of joint interruptions, the economic value of power and the automatic nature of the 1000MW load drop when the RAS is triggered."[131]

The discrepancy between the SDG&E figures and those calculated for predictable common-mode fire outages is a factor of 5 to 7. This can be understood by the fact that the SDG&E analysis takes into account *all* outages, and not just those caused by fire. *Hence, the great majority of the*

[127] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mortier; v. 24; p. 3298-3299.
[128] MG-26; Phase 2 Rebuttal Testimony of the Mussey Grade Road Alliance; pp. 15–16.
[129] Ibid; p. 16, l.17 – p. 18, l. 14.
[130] SD-36; SDG&E Phase 2 direct testimony; p. 13.11.
[131] Ibid. p. 13.19.

added costs that would be accrued under a Category C RAS would not be due to added reliability costs associated with the southern route's fire risk Instead, they would be arbitrarily imposed on the southern route for simultaneous outages that would also have occurred along any other potential route.

The proposed penalty that would be imposed by the RAS is greatly out of step with the actual differential fire risk associated with the southern route. The company could argue this point strongly to the WECC. Instead, it has publicly stated that the fire risk for southern routes is double that for northern routes[132], a claim that the analysis in this document and attached workpapers contradicts.

- **The Commission should not rely on SDG&E claims of additional costs associated with a Category C RAS associated with proposed southern routes, since these costs were derived from *all* outages and not those solely having to do with wildland fire**

C. Estimated Cost Impacts

1. Costs arising due to property damage from wildland fire

The costs of property damage due to wildland fire must be taken into account by the Commission as part of the cost / benefit analysis[133]. As we have stated, because power line fires are rare but can be extremely costly, an actuarial approach should be taken that assumes a per annum charge be assessed against the line for the purposes of any cost / benefit analysis. This charge would consist of the probability of a catastrophic event multiplied by its cost, amortized over the lifetime of the line.

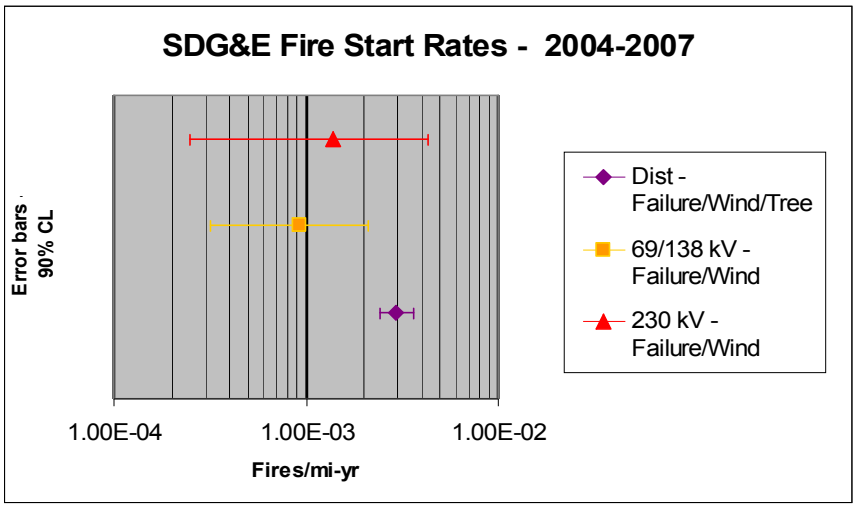
The Alliance assessed the probability of a fire in Phase 1, and additional data from SDG&E obtained during Phase 2 strengthens our claim that we should expect to see several significant fires that escape firefighting initial attack within a 40 year lifetime of the proposed project[134]. Two events strengthened our conclusions in this regard[135]:

- The October 2007 firestorms demonstrated clearly the link between power lines, vegetation, and Santa Ana winds that at the heart of the Alliance Phase 1 testimony

[132] SD-35; SDG&E Phase 2 direct testimony, p. 5.13.
[133] A.0608010 – Sunrise - OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE I ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT; pp. 23-29.
[134] Ibid; p. 47.
[135] Ibid; p. 38.

and brief. The property damage costs associated with this event were roughly equivalent to those predicted in Phase 1 testimony by the Alliance for a "typical" catastrophic power line fire[136].

- Yet another significant fire occurred due to a 230 kV line in the SDG&E service area, when according to SDG&E records, a 230 kV started a fire under windy conditions on Stuart Mesa in June of 2007. This is very important. It means that the Camp Pendleton event in 2006 is not a singular event. and allowed the Allowance to make more accurate predictions of the actual fire rates expected for 230 kV lines. Based on this new data, no statistically significant difference is seen between fire rates for 230 kV lines and rates for 69 kV lines, as illustrated by the figure below[137]. The error bars represent 90% confidence intervals.



Taken together, these facts strengthen the arguments made in the Phase 1 brief for including potential property damage in the cost benefit analysis by demonstrating that the conceptual model of catastrophic powerline fires used by the Alliance is valid, and by reducing the uncertainty of estimates of fire rates from 230 kV lines.

- **We urge the Commission to use the cost per year requested in the Alliance Phase 1 opening brief[138] for amortized potential property damage from wildland fire.**

During Phase 2, attempts were made by SDG&E to discount the analysis underlying these cost estimates. Their arguments have little merit. In particular, the argument made by SDG&E

[136] Ibid; pp. 8-9.
[137] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 41.
[138] Ibid.; p. 5, recommendation 2.

witness Lackritz that extrapolation from current conditions is not valid argument, even if statistical uncertainties are taken into account[139], is simply incorrect from a logical and scientific standpoint. Additionally his assertion is backed up by no analysis, calculation or citation whatsoever[140]. The Alliance has stated clearly and consistently, as well as quantitatively, that the uncertainties are large[141]. However, this does not excuse SDG&E from providing its own estimates if it does not like ours[142] – something that it has consistently failed to do through both phases of these proceedings, possibly because it does not want to know or want the Commission to know what the result would be.

SDG&E Witness Hal Mortier, on the other hand, presents a hypothesis regarding fire causes for the fires caused by SDG&E 230 kV lines in his rebuttal testimony[143]. While the spatial proximity of the two observed fires is worth noting, no evidence as to a causal mechanism is presented that would argue that the proposed project would be immune to the static line failures that caused these fires. These fires demonstrate that there can be "weak links" in the design and construction of transmission lines that manifest themselves as the infrastructure ages under high-stress conditions, and which finally cause failures during high-wind conditions.

In conclusion, the best predicted rate for catastrophic fire remains the one currently observed, and this should provide the cost basis for assessing "the cost of wildland fire" as shown in the Alliance Phase 1 and Phase 2 testimony.

2. Costs arising from potential environmental damage due to wildland fire

We reiterate our request made in the Alliance Phase 1 Brief that the cost of environmental damage from type conversion be estimated and used for the cost/benefit analysis of the line[144]. However, based on information not available during Phase 1, we recommend that some of the assumptions be modified. As described in Alliance Phase 2 testimony, a preserve of 2,000 acres with a type conversion of 50% was used for calculating preserve loss, since this is a typical size of

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[139] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.43.
[140] This is true of virtually all argument made by this particular witness, which in addition to procedural irregularities will be a point which we will discuss at length in Section X.
[141] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 41.
[142] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; pp. 3385-3386.
[143] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.5-4.6.
[144] A.0608010 – Sunrise - OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE I ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT.; pp. 31-33.

preserves managed throughout western San Diego County and through many of which the proposed project is routed[145].

However, the Alliance paid insufficient attention to its own arguments about wind and power line fires. Unlike ordinary development, for which it is easy to predict how much land will be taken up by human activity, construction, and maintenance, facilities that have the potential to generate wildland fire ignitions can have an impact that far exceeds the area directly disturbed by the project. The impact from the ignition of the Witch Fire by an SDG&E power line extended over almost 200,000 acres[146]. Roughly 40, 000 acres of the land that burned during the October 2003 Firestorm were re-burned in the Firestorm of 2007, putting this area at extreme risk of type conversion. Most of this land is under public ownership[147]. Hence, the loss of this land is a loss to the tax-paying public, since public monies were used to preserve this land. Cost estimates include remedial costs, and any costs to obtain new lands to replace those that are permanently disturbed or have their environmental value destroyed. And since SDG&E ratepayers are also taxpayers, they will be saddled with these costs.

If we look at the October 2007 fires as the "typical catastrophe" that can occur due to a power line ignited wildland fire, this is probably far more indicative of the type of environmental damage that can occur than the estimates made during Phase 1 testimony. Hence when applying a "risk premium cost" to the project as suggested during Phase 1, a higher value needs to be applied to the base cost. Costs range from $4-6 k per acre (current replacement cost) to $50 k per acre (current rehabilitation cost). The range of costs then for a canonical estimation of 40,000 acres would be between $160 M to $2 B[148].

In Phase 1 testimony, we recommended 1) amortization of the risk over 40 years (this assumes only ONE catastrophic fire – and therefore is not the most conservative assumption), and 2) adoption of a "pessimistic" and "optimistic" scenario for catastrophic fires. In Phase 1 testimony we also recommended a 10% probability and 2% probability, respectively, for these two values[149]. These are still reasonable values and are fully consistent with the SDG&E fire records in the aftermath of the 2007 fires. As stated previously, the estimate for fire start rates based on new data remain close to those predicted during Phase 1 testimony, with a mean return interval of 40 years[150]. During the four year history provided by SDG&E, there have been three catastrophic fires (Guejito,

[145] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 10-14.
[146] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2A; p. 13.
[147] Ibid.
[148] Ibid; pp. 13-14.
[149] MG-1; Phase 1 Direct Testimony of the Mussey Grade Road Alliance; p. 39.
[150] Ibid.

Rice and Witch) out of the 81 recorded ignitions from SDG&E power lines due to equipment failure or wind[151]. Looking only at transmission lines, there were six fires, one of which may have been catastrophic (the Witch Fire – assuming the ignition was caused by the 69 kV line). Hence the observed values for the rate of catastrophic fires from power lines appear to fall between the "optimistic" and "pessimistic" limits suggested by the Alliance.

Using the 10% pessimistic value and assuming rehabilitation would give a worst-case amortized cost of 10% X ($50 k/acre) X (40,000 acres) / 40 years = $5 M / year. The best case would assume replacement at current land values and a 2% probability of catastrophic fire: 2% X ($5 k/acre) X (40,000 acres) / 40 years = $100 k / year. As in the Phase 1 testimony, we would recommend adopting a geometric mean of the most pessimistic and optimistic cases, which in this case would be approximately $700k / year as the cost of environmental damage amortized over the lifetime of the line.

It should be pointed out that this does not take into account potential liability costs or cost recovery that could be applied to SDG&E. This is discussed in the next section.

- **The Commission should consider the cost of potential environmental damage from wildland fire as part of the cost/benefit analysis for the power line. Based on data newly available in Phase 2, we estimate the center of the cost estimate range to be $700 k/year.**

3. Costs arising from potential liability for environmental damage due to wildland fire

It is important to break the potential costs into those arising from direct damage, which measure the overall costs to California and to ratepayers, and liability costs, which directly affect SDG&E. As discussed in Phase 1[152], it is likely that costs incurred due to wildland fire liability will be passed on to ratepayers, either directly or through cost of liability insurance passed on to ratepayers.

The portion of liability that compensates for direct costs does not represent an additional charge to ratepayers. If SDG&E ratepayers or their property incurs damage, the overall damage is the same whether they bear the burden or if SDG&E pays for it. However, there could also be potential for multiple damages due to the application of the theory of inverse condemnation or of

[151] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2D; p. 7.
[152] A.0608010 – Sunrise - OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE I ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT; pp. 26-29.

trespass. The basis for these additional charges was discussed in the Alliance's Phase 1 Opening Brief[153], as well as their method of application[154]. The base values need to be adjusted based on the new information entered into the Phase 2 testimony.

Applying the method described in the previous section and in the Phase 1 brief, the maximum (worst-case) loss value should be adopted with triple damages applied for recovery of environmental damages. This would increase the geometric mean of the loss values stated in the previous section to $1.2 M ($700 k times the square root of three).

Of course, for liability to actually be assessed, there must be a party willing to and capable of successfully pressing a claim against the utility for recovery of damages arising from environmental recovery or land replacement. In fact, such parties exist, and have a large exposure to environmental damage and an incentive to prevent it. It was noted in the Phase 1 testimony that large tracts of land in eastern San Diego County are in the hands of public agencies, and the burden of restoration would fall upon these agencies in the event of fires that threaten type conversion[155]. New information from Phase 2 with regard to the October 2007 Firestorm is that two-thirds of the twice-burned areas threatened with type conversion (65,000 of 96,000 acres) are administered by public agencies, including the US Forest Service, the Bureau of Land Management, the City of San Diego, and others[156]. To date, none of the public agencies have to our knowledge initiated environmental recovery efforts in the aftermath of the 2007 Firestorm, nor are any to our knowledge pursuing claims of this type against SDG&E for fires that are claimed to originate from SDG&E lines. However, as native California habitat becomes more precious, it will be increasingly in their interest to do both, and it would not be prudent to ignore this risk over the next 40 years of planned SPL operation.

We urge the Commission to recognize this risk, and assess a $500 k / year risk premium in addition to the $700 k / year risk premium (due to potential environmental damages discussed in the previous section for the purpose of cost-benefit analysis) for a total of $1.2 M per year.

- **The Commission should consider the direct and indirect cost of liability due to environmental damage from wildland fire as part of the cost/benefit analysis for the power line. Based on data newly available in Phase 2, we estimate the center of the cost estimate range to be $500,000/year.**

[153] Ibid; pp. 33-34.
[154] Ibid; pp. 24-25.
[155] MG-1; Phase 1 Direct Testimony of the Mussey Grade Road Alliance; pp. 42-43.
[156] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2A; p. 14-16.

4. Cost of homeowner grants as a potential means of mitigation as proposed in the Draft EIR/EIS.

One possible means of applying a "risk premium" to the project would be to require that mitigation be provided to homeowners potentially affected by the project. The Draft EIR/EIS has suggested this as mitigation measure F1-e[157], the defensible space grants fund, the novel idea that SDG&E pay into a pool of funds that could be used by homeowners in the potentially affected area (determined by the fire behavior modeling study). This payment of $2,000 per year would be used by affected homeowners to create "defensible space" around their homes.

Adequate vegetation clearance is an essential part of structure survivability during wildland fires. Therefore, this suggested program would be expected to save structures – even from the more numerous fires *not* started by power lines. This measure could create a situation where the probability of the power line fire burning a structure is less than the probability that a structure would be saved from a wildland fire by the mitigation, thus creating a net societal benefit.

However, as noted in the Alliance Phase 2 direct testimony[158], there are several shortcomings in this approach. First and foremost is the fact that the catastrophic nature and large sizes of fires that cause significant loss of homes and property, such as the Witch Fire that extended for 29 miles from east to west, will result in many structures being destroyed outside of a reasonable mitigation area. So even if it paid into a mitigation fund that saved numerous homes in a major fire, SDG&E (and thereby its ratepayers) might have to pay damages for homes not eligible for the mitigation program.

Furthermore, the type of mitigation being offered – payment into a "defensible space" fund – is not adequate to protect homes and could lead to a false sense of security. While adequate vegetation clearance is necessary to protect structures from radiant heat and flame, scientific studies have shown that it is only one factor in structure survival during wildland fires and that the mass transport of embers during catastrophic fires and their penetration into structures is responsible for the majority of home losses. Because embers (firebrands) are transported great distances by strong winds, "defensible space" is not an adequate solution[159]. Only measures that prevent ember (or firebrand) ignitions in combination with defensible space are effective in protecting homes.

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[157] Draft EIR/EIS; Section D.15 (multiple); Section E.X.15 (multiple). Mitigation measure F1-e – defensible space grants fund.
[158] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2E; pp. 10-11.
[159] Ibid; cited references 9-14.

- **Mitigating for fire risk by providing defensible space grants to homeowners in areas potentially affected by power line fires does not fully mitigate risk.**

- **Therefore, if a measure such as this is adopted to provide a means for wildland fire risk mitigation, it should allow not only for vegetation management, but also for structural modifications and other protective measures to reduce the risk of ember ignition.**

D. Items set forth in ALJ Jan. 9 Ruling[160]

1. The cost of supplemental steps to be taken by SDG&E to mitigate future transmission-caused and substation/transformer-caused wildfires in the planned route.

The Alliance was unable to find any changes to the proposed or alternate routes or system design which SDG&E claims was as a result of the October 2007 fires. Additionally, in its own testimony, SDG&E states that "SDG&E does not plan on taking 'supplemental steps' beyond its established mitigation and management practices when addressing the potential fire risk from the Sunrise project"[161].

This should not be surprising, as SDG&E is being sued for its role in starting the October 2007 fires, and changes to design based upon the fact that the fires occurred might be taken as a tacit admission that their system was not adequate to begin with.

2. The impacts of the wildfires on transmission-related insurance costs and transmission-related Operation & Maintenance costs;

SDG&E claims that there are no insurance costs related to transmission infrastructure for the October 2007 fires, since they self-insure wires and towers, and there was no damage to substations, which are insured[162]. However, this does not preclude increases in insurance costs that may arise as an indirect result of these fires. Nor does it discuss the impacts on liability-related insurance costs that could be accrued as an indirect result of these wildfires. The topic of insurance as related to

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[160] A.06-08-010; California Public Utilities Commission; ADMINISTRATIVE LAW JUDGE'S RULING GRANTING UCAN'S MOTION TO COMPEL ADDITIONAL SDG&E TESTIMONY RELATING TO WILDFIRES IN PHASE 2 OF THE PROCEEDING; Jan. 9, 2008.
[161] SDG&E Phase 2 direct testimony, p. 5.20.
[162] Ibid.

wildland fire and SDG&E was thoroughly discussed by the Alliance in our Phase 1 Opening Brief[163].

3. The real and potential financial liabilities to which SDG&E (and its customers) will be exposed to by the October 2007 wildfires and other future SDG&E-caused wildfires;

This is thoroughly addressed by the Alliance in Section VI (Wildfire), A (Costs).

4. The need to consider alternate routes as a result of the fires and the costs of those alternate routes and alternative means of construction (e.g., undergrounding additional segments of the line);

The Alliance testimony is centered on wildland fire, and so all comparisons that we do between alternative routes are based upon risks. These comparisons can be found in Section VII (Comparison).

Questions 5-10 – NOT ADDRESSED

11. The impact that the recent fires likely would have had on the condition and operation of the Sunrise line if it had been constructed along the proposed route, or any of the major alternative routes developed in the draft Environmental Impact Report.

Addressed in Section VI (Wildfire), B (Reliability).

12. The comparative reliability during a period of wildfire similar to that experienced this past October of generation close to the load center of the type identified as the superior environmental alternative as opposed to the proposed or alternative transmission options.

Addressed in Section VI (Wildfire), B (Reliability).

E. Other

1. Public safety – return intervals for catastrophic events

[163] A.0608010 – Sunrise - OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE I ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT; pp. 26-29.

- **The Commission should request that engineering requirements for any SPL transmission route be sufficient to prevent catastrophic fires using at the least a 200- or 300-year return interval.**

A 200-year return interval was first requested in the Alliance Phase 1 testimony and opening brief[164], and this has been extended to *at least* 200-300 years in the Alliance Phase 2 testimony[165]. This is justified by the fact that even with a 300-year return interval, there still is a 12% of the maximum design limits would be exceeded within a 40-year project lifetime. Component failure under these conditions would almost certainly lead to catastrophic fire. SDG&E has challenged the Alliance on this recommendation, suggesting that this requirement is more stringent than those historically placed upon transmission projects[166].

However, very long return intervals are routinely used for potentially catastrophic events, such as earthquakes. This can be seen clearly in the seismic analysis presented by SDG&E regarding the reliability of the Imperial Valley substation[167]. On page 2 of this memorandum we find: "*The 72-year ground motion is sometimes used to check that a building or facility remains operational with no structural damage. Until recently, the 475-year ground motion was the basis for the seismic coefficients appearing in codes, such as UBC. This ground motion has been replaced by the 2,475-year ground motion, which has become the primary basis for determining the seismic coefficients in new codes, such as the IBC. The first edition of the IBC was published in 2000 as a replacement of the UBC. A 950-year ground motion (~975-year motion) is defined as the Upper Bound Earthquake for hospital design in California, for example*."

Long return intervals are appropriate for earthquakes because they are capable of causing massive and widespread loss of life and property. So are fires caused by power lines. Historically, this has not been recognized, and power line failures have been primarily viewed as a reliability issue, which explains SDG&E reticence at being the first to have such requirements applied to their project. However, based upon what we have observed in October 2007 and as explained in the Phase 1 and Phase 2 testimony by the Alliance, it is now impossible to regard

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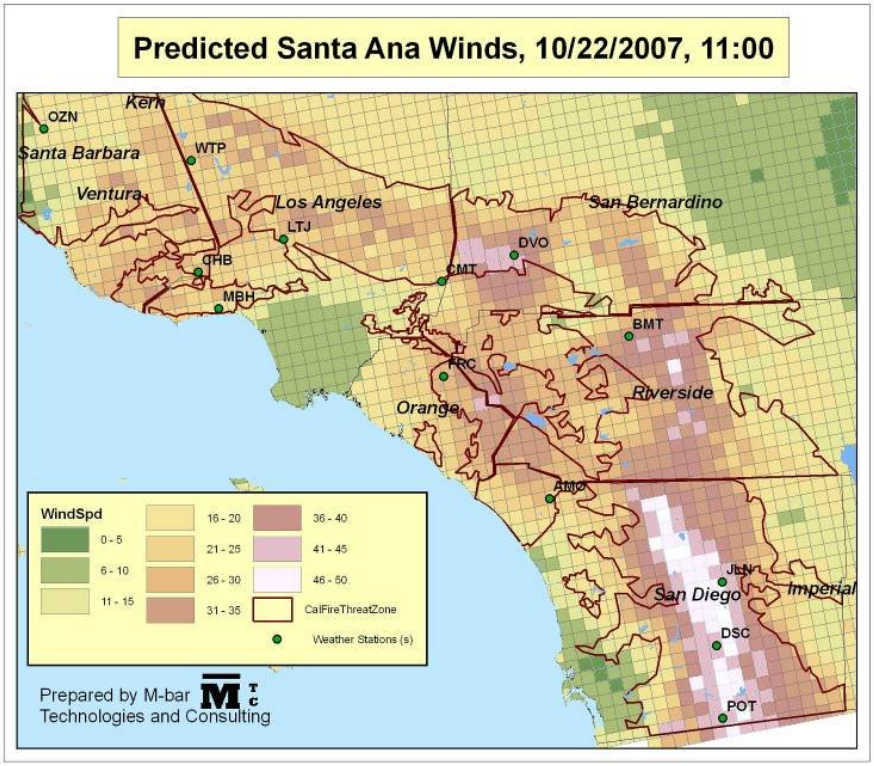
[164] A.0608010 – Sunrise - OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE I ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT; p. 7.
[165] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 68.
[166] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; pp. 3386-3387.
[167] SD-141; C. B. Crause; Earthquake Ground-Motion Evaluation for Imperial Substation, Imperial Valley, California; Technical Memorandum to Michael Hatch; June 23, 2003.

power line resilience as only a reliability issue – it must be regarded as a public safety issue of extreme importance.

It should be pointed out that a long return interval would be most appropriately applied to the occurrence of failures that can cause fires. If techniques or technologies were to be used that would prevent a line infrastructure failure from causing a fire, then it would not be necessary for the engineering analysis to use such long return intervals. However, no such techniques or technologies have been proposed for this transmission project, and so the most reasonable approach would be to apply long return intervals to engineering requirements of the transmission infrastructure.

As stated in the Alliance testimony, these limits would be applied to the analysis done by SDG&E regarding wind, and the derived engineering requirements applied to the project[168]. While the SDG&E wind analysis in the Company's rebuttal testimony had the initial problems noted by the Alliance corrected[169], the Alliance still maintains that the design limits may not be adequate for the extreme conditions that could be encountered along the proposed and alternative transmission routes. The standard method used by SDG&E to estimate wind loads requires significant historical data in order to predict future wind loads accurately[170]. While we do not contest the method used, the key flaw in this approach is that the weather stations used in the analysis are generally much nearer the coast, or are at airports which are centrally located in broad valleys. These do not have the same topography or geographical conditions as the routes suggested for the SPL and alternatives, which would lead wind conditions to be more extreme[171]. This is aptly demonstrated by the wind prediction map from the National Climate Data Center, which shows maximum wind predictions shortly before the start of the Witch Fire[172].

[168] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 69.
[169] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.21.
[170] Ibid; p. 4.22.
[171] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix G; pp. 5-9.
[172] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 26.



The problem faced by SDG&E's analysis is that long-term data is only available where the topography is flat, whereas only recent data records are available near where the SPL would be run. SDG&E compensated for this on the eastern slopes of the central range by applying criteria from a station that experiences extreme conditions in Riverside County. We think it highly appropriate to apply these same design criteria to the western slopes of the central mountains of San Diego, since this is where catastrophic fires (such as the Cedar and Witch fires) typically start.

- **The Commission should ask the most conservative wind load assumptions used on the project to be applied to the rugged areas of the western mountain slopes where catastrophic fires have started in the past.**

VII. COMPARISON OF THE PROPOSED PROJECT, THE DEIR ALTERNATIVES, AND PARTY-PROPOSED ROUTE OPTIONS

A. Ability to Provide System Reliability

The Alliance testimony studies reliability due to wildland fire risk, which takes into account both exposure to hazardous conditions and the historical rate of outages.

1. Non-wires alternatives are preferable from a wildland fire reliability standpoint

Because the non-wires alternatives do not entail substantial exposure of the electrical system to wildland vegetation, high winds and mountainous terrain, they would be much less likely to be affected by wildland fire, especially massive and numerous wildfires such as seen in the October 2003 and October 2007 Firestorms. All of the proposed transmission alternatives introduce substantial additional exposure of the electrical systems to hazardous conditions.

- **The Commission should favor non-wires alternatives from a reliability standpoint with regard to wildland fire**

2. Shorter routes and those with significant undergrounding of lines have less exposure to fire hazards than longer routes.

The Alliance testimony analyzed a number of the proposed alternatives, using exposure to vegetation, hazardous fire conditions, and number of historical fires as a means of differentiating the relative hazards presented by all routes.

The methods used for comparison of the relative fire hazards along various routes are discussed in Section VI.3 of this brief, on p. 40. In summary, the Environmentally Superior Northern Alternative (ESNA) and Lake Elsinore Advanced Pumping Station (LEAPS) alternatives will have roughly half of the exposure to hazardous conditions as the proposed SPL route and the Environmentally Superior Southern Alternative (ESSA). While the Alliance's analysis has not studied the claim made by Ayer[173] that fire hazards as presented in the DEIR are significantly worse along LEAPS than other alternatives, we have argued that if true it is likely due to the massive fuel reduction that took place due to the Cedar Fire in 2003, and is not likely to remain true over the greater part of the project lifetime.

- **If a transmission alternative is chosen, greater reliability can be obtained by selecting transmission routes with a lesser exposure to wildland vegetation, high winds, and mountainous terrain.**

3. There is a rough equivalency between the fire hazard presented by the proposed SPL route and the Environmentally Superior Southern Alternative.

Fire rates are also a significant determinant of reliability, and we addressed SDG&E's claim that there were significantly more fires along the ESSA than along the proposed SPL route in our

[173] Phase 2 Testimony of Jacqueline Ayer; pp. 6-7.

rebuttal testimony, and have presented our arguments in Section VI.B.1 on p. 52 of this brief. We found a significant error in the SDG&E approach, in which fires smaller than those approved for use in the Cal Fire data were used, and when this is corrected it is found that the number of historical fires along ESSA exceeds that along the proposed SPL route by only 25%, not 100% as claimed by SDG&E. We repeat below our request:

- **The Commission should dismiss all claims made by SDG&E that there are significantly more fires along alternative southern routes, since this conclusion was based upon a flawed analysis, and a corrected analysis shows a much smaller excess of 25%.**

B. Ability to Facilitate Renewable Energy - NOT ADDRESSED

C. Estimated Cost

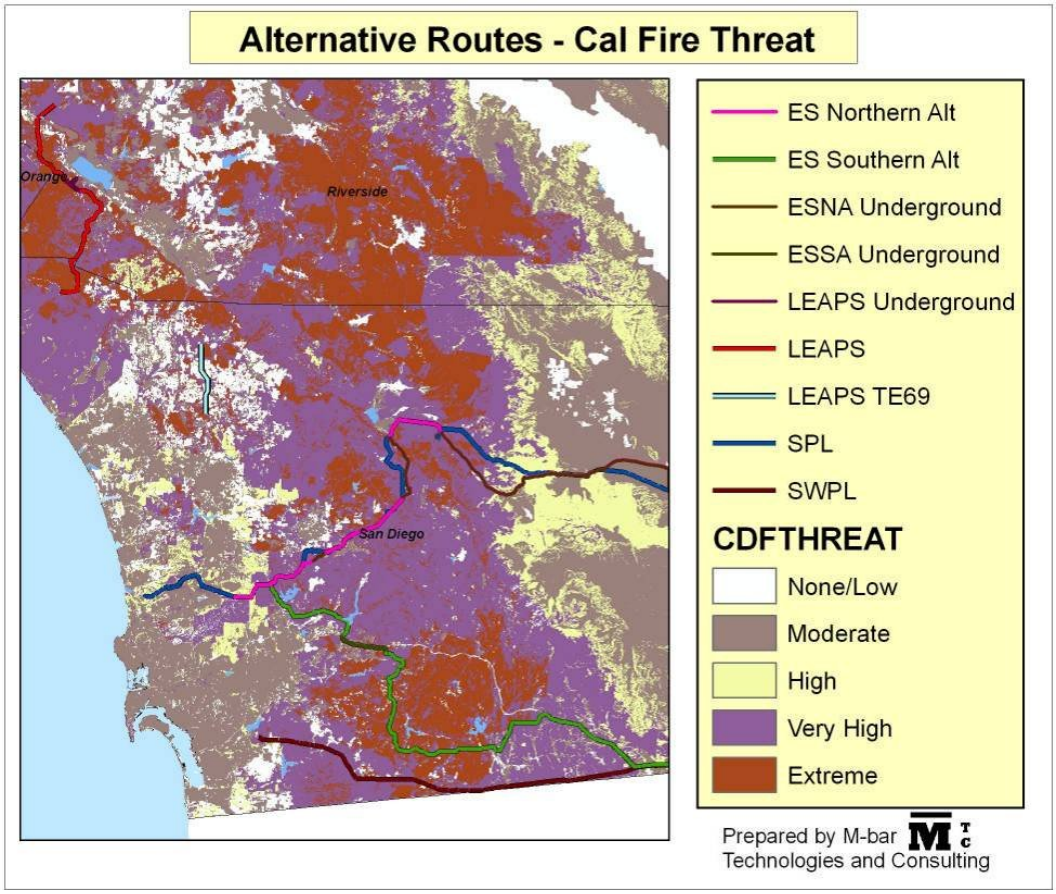
The Alliance has so far discussed three sources of cost for this project arising from wildland fire: the **cost of property damage from fire and possible additional liabilities**, the **cost of environmental mitigation from fire and possible additional liabilities**, and **costs associated with reduced reliability**. We can compare these costs on the basis of overall exposure of each route and the lines contained within over time. Costs due to property damage have been discussed in Section VI.C.1 on p. 56, from environmental damage and liability in Section VI.C.2 on p. 58 and Section VI.C.3 on p. 60, and from reliability impacts in Sections VI.B.2, 3, and 4 starting on p. 53. Holding to the model that the overall risk associated with powerline induced fires will be proportional to the length of exposed line, we assume that the risk to property and to the environment from catastrophic wildland fires are equivalent, and can compare the potential costs based upon comparative fire threat for various routes. Costs arising from reliability are different, because they will not take into account additional exposure due to system expansion and the addition of lines along existing routes.

1. Non-wires alternatives are preferable from a wildland fire cost standpoint

By adopting non-wires alternatives, potential property damage and environmental mitigation costs can be averted.

2. Shorter routes and those with significant undergrounding of lines have less exposure to fire hazards than longer routes, and routes with less potential for expansion in high-risk areas will present less of a fire risk.

A comparison of overall length of line in hazard areas is shown in the Alliance Phase 2 testimony[174], along with commensurate fire risk. This is tabulated in Tables 2D-4, which shows the mean recurrence time, and 2D-5, which shows the number of fires predicted over lifetime of the line, and includes line expansion. The map below also shows the exposure of different routes to wildland fire threat[175]. (Note that as previously discussed, the Cal Fire Threat metric is biased by a short-term removal of fuel by the 2003 fires):



Estimation of fire risk from different routes strongly depends on how the fire risk from 500 kV lines is treated. No 500 kV-induced fires are in the four year SDG&E fire record, though as pointed out in the Alliance testimony, this is not a strong limit because SWPL represents the only 500 kV transmission line and is quite short in extent compared to the rest of the network. Even if the fire rates for 500 kV lines were the same as those for 69 kV lines, the fact that no fires were observed on SWPL, even if this were to be for a 20 year period rather than the four for which records exist, would be statistically insignificant[176].

[174] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2D; pp. 11-14.
[175] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 33.
[176] Ibid. p. 10.

The analysis presented in the Tables 2D-4 and 2D-5 therefore presents two hypotheses: the first that 500 kV lines are "fire proof" and never cause fires (the "230 kV" columns), and the second that 500 kV lines are exactly the same in fire rate as 69 kV lines (the "230+500kV" columns). Justification for assuming a system expansion as part of full project build out is discussed in Section IV.3 of this brief on p. 28. The relative fire risk under these assumptions can be gauged from the ratios of number of expected fires shown in Table 2D-5. We summarize these effects as follows:

Low 500 kV fire rate: Assuming that the rate of fires from 500 kV lines is significantly smaller than that from 230 kV lines would imply that lower fire risks would be observed for routes which would utilize more 500 kV line than 230 kV line, such as LEAPS and ESSA. Only a short 69 kV additional segment is planned for LEAPS, otherwise it is fully a 500 kV transmission project. Under this assumption, the proposed SPL route would be expected to start three times the number of fires as ESSA, and five times the number started by LEAPS. Even the ESNA would be expected to start more fires than ESSA or LEAPS.

High 500 kV fire rate: Assuming the rate of fires from 500 kV lines to be equal to that observed for 230 kV lines implies that the ESSA and proposed SPL route are roughly equivalent in number of predicted fire starts. The LEAPS rate would be expected to be roughly half as much, with the ESNA rate being slightly larger than LEAPS.

230 kV system expansion: Only the 230 kV segment of line would likely to be expanded along the current routes, since the lines planned for the project only carry half of the capacity of the 500 kV input feed. Adding lines means additional exposure of line infrastructure to hazardous conditions. Taking this into account significantly amplifies the exposure of the SPL proposed route, which has the longest 230 kV segment, with respect to other routes. This is due to the fact that the 500 kV segment of the proposed route terminates at the San Felipe substation, near the northernmost point of the route. Assuming an expansion after 10 years of service, this would lead to a fire start rate over twice as large for the SPL proposed route as the ESSA assuming low 500 kV fire risk, and a 33% higher exposure using equivalent 230/500 kV fire risk. The ESNA would present a 50% greater risk than the ESSA under the low 500 kV fire risk assumption, and roughly the same rate using equivalent 230/500 kV fire risk. The proposed SPL route would be predicted to have 10

times the predicted start rate as LEAPS under the low 500 kV risk assumption, and over three times the LEAPS rate using equivalent 230/500 kV fire risk.

SDG&E has challenged the statistically allowable assumption of equivalent 230 kV and 500 kV fire rates in both rebuttal testimony[177] and cross-examination[178]. The Alliance, on the other hand favors the assumption that 230 kV and 500 kV fire rates should be expected to be the same, having seen no evidence presented to the contrary. **The point argued by SDG&E would more strongly favor LEAPS and the ESSA over the proposed SPL route from a wildland fire standpoint, which runs counter to their order of preference**.

We have argued elsewhere in this brief that amortized costs for fire should be added to the cost/benefit analysis of the project. These need to be adjusted for the route chosen. The proper method is to take the ratio of the number of fires expected along the route being examined from Table 2D-5 (using the above assumptions being applied toward that route) and dividing this by the number of fires expected for SPL assuming 230/500 kV equivalent fire rates, and then multiplying this ratio by the base rate proposed in this and the Phase 1 brief. The ratios are shown in the table below:

No expansion		
	230 kV Fires	**230+500 Fires**
SPL	0.80	1.0
ESNA	0.51	0.71
ESSA	0.31	0.97
LEAPS	0.14	0.45
10 yr Expansion		
SPL	1.37	1.60
ESNA	0.89	1.09
ESSA	0.54	1.20
LEAPS	0.14	0.45

For example, if the total cost that would be applied to the proposed project is $128 M, then the cost that one would apply to the Environmentally Superior Northern Alternative under the

[177] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.7 & 4.10.
[178] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; p. 3369.

assumption that 230 and 500 kV lines generate fires at the same rate, and assuming a 230 kV expansion after 10 years would be $128 M X 1.09 = $139.5 M.

- **For purposes of cost/benefit analysis of the project, projected lifetime or amortized costs due to wildland fire should be those previously stated in this brief, with a route-specific multiplier as shown on p. 72 of the Alliance Phase 2 Opening Brief.**

- **For purposes of estimating ignition hazards, the Commission should assume the equivalency of 230 kV and 500 kV ignition rates having been presented no significant evidence to the contrary.**

D. Ability to Provide an Economic Benefit - NOT ADDRESSED

E. Feasibility of Obtaining Necessary Approvals and Construction - NOT ADDRESSED

F. Environmental Impact

The environmental impacts of wildland fire will be similar to the potential cost impacts, in that the greatest damage will be due to rare, catastrophic events. Hence, measures that reduce the probability of fire starts, such as reduction in the length of transmission line exposed to hazardous conditions, reduce both the potential costs and the environmental impacts of any given route. The hazards can be quantified in the same manner as for costs, as shown in the table on p. 72 of this brief.

That being said, different areas may have different sensitivities to the impact of wildland fire, and these should also be taken into account. In particular, as argued in Section IV.A.1 on p. 42 of this brief, areas that have had significant exposures to the mega-fires of October 2003 and October 2007 (and particularly those areas exposed to both firestorms) should be preferentially avoided due to their extreme environmental sensitivity to type conversion and permanent, irreversible habitat loss. These considerations affect the proposed SPL route, the ESNA and the ESSA. LEAPS and all non-wires alternatives are unaffected.

G. Expandability

As shown in Section VII.C, route expansion will carry with it increased danger of wildland fire, and the costs of these fires need to be taken into account along with any purported benefit to be

derived from the expansion. Routes which have high potential for expansion in areas of hazardous vegetation, such as the 500 kV interconnection between the proposed Central Substation and the SCE network[179], should be disfavored from a wildland fire safety standpoint.

VIII. EMF – NOT ADDRESSED

IX. COST CAP – NOT ADDRESSED

X. OTHER

While not quite requiring the raising of a procedural issue, one aspect of SDG&E's approach to the Alliance testimony should be noted. Specifically, the submission of the testimony of James Lackritz and the subsequent events needs to be specifically addressed. SDG&E's goal appears to have been to obfuscate and confuse issues relating to statistical analysis and conclusions made as part of the Alliance testimony, rather than to attempt to clarify issues for the Commission. While the other SDG&E witnesses on fire issues, Hal Mortier and William Torre, have made statements, calculations and conclusions with which we disagree, we believe these presentations to have been honest attempts to put forward SDG&E's arguments and perspective. The testimony of Lackritz, on the other hand, and SDG&E's behavior regarding this testimony is different. In this case, the company appears to have made an attempt to confuse issues through legal maneuvering and a (largely unsuccessful) attempt to exploit the supposed legal and procedural inexperience of citizen interveners.

Referring first to the SDG&E Witness Lackritz's testimony itself, there are a number of serious issues with it that undermine its applicability and credibility:

- No claim made in the testimony is supported by either a calculation or a reference.
- The witness makes statements outside of his field of expertise.
- The witness simply gainsays a number of Alliance arguments, ignoring clearly stated suppositions, focusing on trivial points, and by repeating conditionalities raised in the Alliance testimony as criticism.
- The witness did not join the proceedings until March 17th and is unfamiliar with the arguments and principles involved.

[179] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix E; pp. 4-5.

Of these, the lack of support in the form of either citation or calculation for the assertions made by the witness, supposedly an experienced statistics professor, is the most serious and on the face of it inexplicable omission. This was possibly a strategic omission to be further addressed when we discuss the procedural oddities regarding his testimony. Strategic or not, the omission provides the Commission no means by which to gauge the validity of the witness' arguments and opponents no opportunity to constructively analyze the claims.

The witness also makes claims outside of his field of expertise, in particular with regard to fire, stating: "*Fires occur for a variety of reasons, including arson, human accidents, and acts of nature. The total number of fires reflected in the second column of MGRA's Table 2B-1 should account for these diverse reasons that start fires. As power line fires are not human-based, lumping these fires along with all other fires regardless of cause is unfounded and results in misleading conclusions.*"[180] Not only is this conceptually incorrect, since the mentioned table was showing other types of fire simply for reference purposes and not as the basis for calculation, but is at odds even with the testimony SDG&E's own fire expert, who states that lightning is the only natural cause of fire in Southern California[181]. Another instance in which lack of familiarity with the material limits his ability to make a meaningful contribution is when Witness Lackritz states: "*Because the power line is what catches fire, the number of power lines or the total miles of the power line should be the base unit for determining the rate to be used…*"[182] As stated repeatedly in the Alliance testimony, catastrophic power line fires require a coincidence of power lines, vegetation and weather conditions – the vegetation is what catches fire from the power line ignition source, and it is the burning vegetation that is the source of catastrophic fire. This fact is totally ignored by the witness. Furthermore, SDG&E has refused to provide direct information regarding power line locations, citing security issues and the length of power lines is not available for other service areas[183]. Hence the basis of the analysis shown in Alliance Testimony Appendix 2B, in which San Diego power line fire rates are compared against other areas, is to explore whether any other variables can be used as a reasonable "proxy" for power line exposure. This is very clearly stated in the Alliance analysis. This is but one example of this witness's practice of simply ignoring the stated basis of the calculation.

Other cases in which the stated basis for calculation is simply ignored include:

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[180] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.29.
[181] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mortier; v. 24; pp. 3334-3335.
[182] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.32.
[183] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2B, p. 11.

- The witness takes issue with the fact that the period studied was only 45 months[184], ignoring that this constitutes the full fire history available from SDG&E[185]. He also further states that it is not statistically appropriate to project more four years using a four year history, which is a misstatement of fact. While extrapolation introduces uncertainties, these have clearly and consistently been represented correctly in the Alliance testimony.

- The witness states that "there is no basis to make the assumption that 500 kV transmission lines have the same risk as 69 kV and 138 kV lines"[186].This ignores the clearly stated basis that this is a "worst case" hypothesis, and that it is compared directly against the "best case" hypothesis that 500 kV lines can never generate fires. The logical arguments are clearly stated and referenced in Section VI.C.2 on p. 69 of this brief.

- The witness states in his concluding statement is that: "*Similarly unfounded is MGRA's blanket assertion that "[w]e can say definitively that 'the big lines cause fires.'" ... This conclusion, and the causal link needed to support it, is strictly speculative. MGRA is making a judgment; it is not articulating a statistical conclusion. This statement is not supported by any statistical analysis whatsoever.*" [187] This statement is based upon the following paragraph in the Alliance testimony: "*It is evident that there were two 230 kV power line failures that caused fires in the 2004-2007 time frame… We can say definitively that "the big lines cause fires". This is of course relevant to SPL because significant portions of the proposed SPL and some alternatives will consist of 230 kV lines.*"[188] The context of the Alliance statement is obvious, and the logical basis of the Alliance statement simple and inescapable. We cannot say definitively whether this SDG&E witness is simply trying to confuse the argument or whether there is there is such a gap between statistical proof and scientific (and common-sense) proof in his mind that it would lead him to make such a logical gaffe.

Other "trivialities" in the witness's argumentation might lend credence to the latter interpretation. One "substantive triviality" is when he asserts that the excess of power line fires in San Diego County is "not statistically significant" when compared to the total number of fires in each county[189]. Upon review, this was found to have a 6% probability of being due to chance, while

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[184] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.34.
[185] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; Appendix 2D, p. 6.
[186] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.35
[187] Ibid. p. 38.
[188] MG-20; Phase 2 Direct Testimony of the Mussey Grade Road Alliance; p. 39.
[189] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.29.

the standard definition of "significance" used by many statisticians is 5% - a distinction not generally made by physicists, who prefer to present the raw probabilities and let the audience draw its own conclusion[190]. Interestingly, the narrowness of this "significance gap" may imply that the witness did this calculation, but withheld it from both the Alliance and the Commission, despite the fact that the Alliance was told that no work papers existed for it. A less substantive triviality is when the witness took strong issue with the Alliance observation that the number of power line fires in San Diego County (six) was twice that of Los Angeles County (three)[191]. While the Alliance never implied that this was anything more than an observation that six is equal to two times three, the significance of this was deemed to be of such import to SDG&E that it merited its own line of cross-examination[192].

The SDG&E witness's long tenure in the field of statistics implies that he should be perfectly capable of producing fact-based testimony, but chose not to. His extensive experience as an expert witness implies that this was a strategic choice, designed to exploit the Alliance's inexperience in official proceedings. Errors, if pointed out, can be corrected, and so it is likely that his goal was to make sure that any errors he believed to be present in the Alliance testimony remained there until it was too late to correct them. Note that this is the mirror image of Alliance practice – when errors or inconsistencies were found in the testimony of Torre and Mortier, these were pointed out as clearly as possible, and correct calculations with disclosed methods were provided. In fact, upon careful review of the Alliance calculations, the Alliance expert (not the SDG&E witness) found an inappropriate approximation in a portion of the Alliance testimony, and an errata was issued four days prior to cross-examination[193].

So to get what the SDG&E witness considered "correct" calculations into the record there were two possible strategies SDG&E could use:

- Make the Alliance witness do the calculations himself on the witness stand.

- Let the SDG&E witness read in the results of his calculations during cross-examination or re-direct after cross-examination, so that his statements could not be analyzed by the Alliance expert.

SDG&E in fact attempted to employ the first strategy. Whether they intended to employ the second we do not know, because the Alliance declined to cross-examine the SDG&E witness. The

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[190] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; pp. 3372-3373.
[191] SD-37; PREPARED REBUTTAL TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY IN RESPONSE TO PHASE 2 TESTIMONY OF THE MUSSEY GRADE ROAD ALLIANCE; p. 4.29.
[192] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; pp. 3370-3372.
[193] Ibid; pp. 3346-3347.

Alliance witness refused to do the calculation presented by SDG&E, with the reasoning that it was very different from the method he had used to perform the calculation, and that he would need to examine the basis for the calculation[194]. This turns out to have been the correct thing to do. As discussed in some detail in the procedural history in Section II of this brief on p. 18, the origin of this line of questioning post hoc turns out to have been an error copying two numbers into a table from the Alliance workpapers. In fact, results derived by the methods used by SDG&E and Alliance witnesses agree very well; however this would not have been apparent without careful review of the workpapers and testimony. A calculation on the witness stand would have meant misstatements as to the import and implications of the error.

However, that may have been the intent all along. Unlike the great bulk of testimony produced in these proceedings, the testimony of James Lackritz was created to obfuscate rather than to enlighten, in accord with the strategy employed by SDG&E with regard to this issue. This strategy needs to be understood in context. Not only is there much at stake for SDG&E in these proceedings, SDG&E is being sued for its role in the start of the October 2007 fires and has stated its intent to "vigorously defend" against liability in these cases[195]. Part of this defense must be to undermine the idea that these fires were foreseeable. This would also explain why SDG&E, with so many resources at its disposal, has never attempted to do a cost/benefit or quantitative risk analysis of power line fire hazards, and in fact has argued and suggested that such an effort is impossible[196]. If SDG&E were to have done such an analysis only to have the fires occur, this could potentially lead to increased liability judgments against the company. The tack that SDG&E seems to have taken is that not only must fire risk remain uncalculated – it must remain unknowable.

This illustrates the necessity of the Commission's oversight role with regard to public safety. Even if SDG&E had the desire to quantitatively analyze fire risks, it could add to its potential liability by doing so. This pits the interests of SDG&E ratepayers against the interests of SDG&E shareholders, and the management of SDG&E, as with any corporation, must give primary allegiance to the shareholders. Therefore it must downplay any potential problems with fire due to its lines, the damage it causes, and liability that could be accrued. Wildland fire can impact shareholders as well, though, so SDG&E has appealed to the Commission to provide relief by conducting rule changes[197]. This implies to us that it is time for the Commission to take a more active role in the prevention of disasters such as we faced during the October 2007 Firestorm.

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[194] Ibid.; p. 3377-3383.
[195] SD-35; SDG&E Phase 2 direct testimony; Chapter 5; p. 5.21.
[196] A.06-08-010 Sunrise Phase 2 Hearings Transcript; Witness Mitchell; v. 24; pp. 3384-3386.
[197] SD-35; SDG&E Phase 2 direct testimony; Chapter 5; p. 5.10.

- **The testimony of James Lackritz lacks merit, and should not be given weight.**

- **The Commission should fully investigate the causes of all October 2007 power line fires and investigate and initiate measures that will prevent the recurrence of such an event, including further investigations, hearings, and rule-making.**

XI. CONCLUSION

The Alliance has in its testimony and brief brought to the fore numerous aspects of the wildland fire issue as it regards the proposed Sunrise Powerlink project. We have demonstrated that high voltage transmission lines cause fires, and we have done our best to estimate the rate at which we might expect to see this occur should the proposed route or any of the transmission alternatives be constructed. We've also demonstrated how the Commission should factor in the cost of wildland fire so that it can be weighed against the purported benefits of any of these alternatives. We've examined the basis for SDG&E reliability claims regarding southern routes and found them to be in error, and provided corrected versions that show proposed and southern routes to be roughly equivalent. We've explored the impact of the October 2007 fires on the proposed project routes, and found that because the surveys conducted for the Draft EIR/EIS were completed prior to the fires, the environmental effects of the project could be *much larger* than estimated. This is a serious material deficiency in the document warranting recirculation. Noting that the worst of the 2007 power line fires occurred in San Diego County, we also looked to see if there was a historic trend of this type – and we found one. The exact cause is not known, but we do note that there is more flammable vegetation in San Diego County than in any of the other counties studied. This is the environment which San Diego Gas & Electric has chosen to do business in – safely.

We are citizen interveners. We do not have the resources of SDG&E or some of the other parties in this proceeding. However, we have produced more quantitative results on wildland fire than any other party. This is because we are motivated by a line that proposes to pass through the most dangerous parts of San Diego County, affecting us and our neighbors, near and far, in the back country. We understand fire and we've faced fires before, including this last October when we were surrounded on all sides, defying an evacuation order in order to ensure that our lives and home were properly protected. While we are fire-wise we are not fire – or power line – obsessed. We do not claim that power lines cause most fires or that transmission lines are like any other line. We have focused narrowly on THIS particular project, trying to calculate quantitatively whether there is

anything but a negligible chance that it will start a catastrophic fire over the course of its life. Based on the data currently available and presented in these proceedings, the answer is an unequivocal "YES".

The Alliance results are presented in such a way that they can be factored into a cost/benefit analysis for the proposed project. The Alliance recognizes the need for electricity. We don't argue that one should never build transmission because it can start catastrophic fires. We argue that *this* project should not be built because there is no reason to take on this risk when there are safer and better options available.

The Draft EIR prepared by the BLM and CPUC ranked the order of preference of project options, with non-wires alternatives being the first two options, and the project as proposed by SDG&E ranked number six out of the seven alternatives. The Alliance fully concurs with this ranking order, and the evidence and analysis we have presented fully supports this conclusion.

We do not and have not believed that this project is what it is purported to be – a line to renewable energy. We rather think it is a means by which Sempra Energy can extend its control over Southern California through the importation of cheap electricity from Mexico, from Sempra power plants powered by natural gas imported by Sempra. A few power line fires are a small price to be paid for the potential profits to Sempra shareholders – by the public, not Sempra, who "vigorously defends" against claims that it is responsible for fires generated by its lines. That being said, we urge the Commission to take the recommendations made by the Draft EIR/EIS, by the Mussey Grade Road Alliance, and by all the parties with whom we are allied and choose a non-wires alternative instead of this project. We believe this is the only way to promote a truly safe, reliable and economic San Diego energy future, which is based on real renewable energy - not mirages in the desert.

Respectfully submitted this 30th day of May, 2008.

By: __*/S/*___***Diane Conklin***_____

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CERTIFICATE OF SERVICE

I hereby certify that pursuant to the California Public Utilities Commission's Rules of Practice and Procedure, I have served a true copy of **OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE ON PHASE 2 ISSUES OF THE SUNRISE POWERLINK TRANSMISSION PROJECT** to all parties on the service list for Application No. 06-08-010 via electronic mail or first class mail for those for whom an electronic mail address is not provided.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 30th day of May, 2008 at Ramona, California.

/s/ Diane Conklin

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