

Transcript of the Proceedings of:

PUBLIC MEETING

PG&E DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL

August 24, 2022



I M A G I N E
R E P O R T I N G

PG&E DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL

PUBLIC MEETING

ZOOM VIDEOCONFERENCE

WEDNESDAY, AUGUST 24, 2022

6:03 - 9:41 P.M.

REPORTED BY KRISTI GARCIA, CSR NO. 9111

1 MR. ANDERS: Good evening, everyone. My name is
2 Chuck Anders. And I am the facilitator for the Diablo
3 Canyon Dimensioning Engagement Panel. I'd like to
4 welcome everyone here in person and all of those
5 participating online to tonight's meeting.

6 I want to remind everyone that information about
7 this meeting and the agenda is on the Panel's website at
8 DiabloCanyonPanel.org.

9 To open the meeting I'd like to introduce Michael
10 Lucas one of our panel members.

11 MR. LUCAS: Thank you, Chuck. Welcome to all of
12 those in person and attending online. First, a few
13 issues about our immediate safety. If we could have our
14 safety slide up.

15 In the event of an earthquake there are the safest
16 places to drop, cover and hold, such as under a sturdy
17 desk or table.

18 In the event of a fire, know your escapes; escape
19 routes, your exits, evacuation plans. If safe to do so
20 use your compliant fire extinguisher. Exit the house
21 and call 911.

22 We're grateful to our Diablo Fire personnel in
23 attendance tonight. Thank you.

24 In the event of an active shooter get out, hide
25 out, take out. Call 911. We're grateful to our San

1 Luis Obispo County Sheriff Deputies here tonight in
2 attendance as well.

3 In case of a medical emergency know who can
4 perform first aid and CPR. Call 911 if you are alone,
5 or share your location with the call leader to send
6 help.

7 If you have an automated external defibrillator
8 ensure you and others in your household know where it is
9 and how to use it.

10 For your psychological safety. We care for each
11 other. We look out for one another. Create a safe
12 space for all. Welcome new ideas from everyone.
13 Practice self care.

14 With Ergonomics. Practice 30-30; every 30 minutes
15 move and stretch for 30 seconds. Ensure proper
16 ergonomics. Use an update repetitive strain injury
17 guard software. I didn't know that that was out there.
18 And it's pretty good stuff so take a look at that.

19 COVID 19. Wash your hands frequently. Wear a
20 mask where required. Get vaccinated if you are able.
21 Follow current Cal/OSHA regulations and local county
22 health orders.

23 Then I'll add one because I got my notice this
24 week. The emergency planning zone test will be this
25 week. If you reside in one of the 12 planning action

1 zones within the emergency planning zones for Diablo,
2 you received a notice for testing of the alert and
3 notification systems for nuclear, fire or hazardous
4 materials accidents. It'll be tested at full volume
5 this coming Saturday at noon and again at 12:30. Horn
6 stands steady for three minutes.

7 If it was an actual emergency you would turn to
8 local TV or radio stations for directions. Actions,
9 including evacuations, may differ by your zone. So
10 please see the PG&E Website, which is
11 DiabloCanyonPublic.info, for more information on your
12 location.

13 So let's get into -- can you put back the agenda?
14 Let's look at the agenda for tonight. We should go over
15 a few broad points before I hand off to Carol Woodward.

16 First, the panel is not a legislative body. We
17 provide a forum for public comment and information. The
18 mission of the panel is decommissioning. But recent
19 initiatives from the Governor's office speak to that and
20 continuing operations that impact decommission dates and
21 sequences. And that may have additional impacts on the
22 community, subsequent Diablo users and require an
23 extended time horizon.

24 Important to document these issues that the recent
25 proposals have raised based upon discussion inside the

1 panel with PG&E and from national, state and community
2 associations.

3 Second, let me give you a brief timeline of events
4 since our last decommissioning panel meeting May 25.

5 Do you want to go with the slide with the other
6 organizations on it?

7 At the May 25th panel meeting we looked at the
8 issue of fuel storage on site. PG&E has a new vendor
9 with a new storage system. We do not have any panel
10 statements on that yet, but we've had additional
11 questions and responses in a fact finding meeting August
12 9th with the new storage vendor Orano.

13 Several collateral groups with jurisdiction and
14 input have also met. You can get to their websites
15 through links at the bottom of our web page. You can
16 also see them up here on the slide.

17 On June 22nd and 23rd the Diablo Canyon
18 Independent Safety Committee met.

19 On July 21st the Nuclear Regulatory Commission had
20 a public meeting to discuss post-shutdown activities.

21 On August 9th the California Energy Commission
22 hosted an online workshop on electric reliability needs
23 and potential extension of operations. Over 700 people
24 attended on Zoom. And a public comment period went well
25 past the 7:00 PM anticipated close, and after 9:00 PM.

1 Kara Woodruff will give more detail about that
2 meeting and the resultant record. It's possible the
3 state my finalize the decision on continuing operations
4 this week, with a recess scheduled for the end of
5 August.

6 Third, let me speak to issues around time and
7 impacts. Many, if not most, of the impacts of
8 continuing operation and delay of final decommissioning
9 are in relation to specific time proposed for the
10 extended plant operations. It's been noted as little as
11 five to ten years. The California Energy commission
12 slides from August 9th suggest a ten-year window. And
13 it was certainly on the minds of some commenters at the
14 California Energy Commission meeting that it should
15 remain open for as much as 20 years or more.

16 Each continuation window gathers significant
17 questions but all the time frames entail some common
18 impacts. Here are eight that I'd like you to consider
19 tonight as you listen. These are my points. They are
20 not the panel's.

21 First is continuing operation of the review
22 process. Diablo Canyon at one time was submitting a
23 relicensing application. That application required
24 environmental impact statement. A full detailed
25 environmental impact statement will accompany

1 decommissioning and is underway.

2 A license extension by nuclear regulatory rules
3 bypasses the CEQA process and is differently assessed by
4 the NRC. This, for many, is a serious issue and
5 includes problems with public comment and additional
6 studies with an environmental impact statement or a
7 20-year full relicensure may require. During this
8 process what is lost in haste? How much material is
9 grandfathered from the original license?

10 Second is safety, including seismic issues. Given
11 the specific history of the Diablo Canyon plant, what
12 are the safety issues around continuing operation.

13 Panel member Will Almas will moderate a session
14 later tonight on this. He will be joined by Dr. Robert
15 Budnitz of the Diablo Canyon Independent Safety
16 Committee. That committee looks -- includes experts in
17 nuclear operations and is supplemented by additional
18 technical support. We look at them as partners in our
19 key insights into technical aspects of safety. They
20 will be joined by San Louis Obispo County supervisor
21 Dr. Bruce Gibson who degrees are in earth sciences and a
22 member of the prior seismic review committee. I
23 understand we also have a Nuclear Regulatory Commission
24 member as well.

25 Note in our web threat is an August 15 opinion

1 piece by Edward Lyman, Director of Nuclear Safety for
2 the union of concerned scientists. It gets into a
3 detailed history of Diablo's seismic conditions past
4 PG&E position statements and prior NRC statements.

5 3. New fuel. While nuclear fuel advocates speaks
6 of clean energy, this term is limited to carbon-free
7 discharge and does not consider the extraction of
8 uranium and downplays the status of spent fuel storage.
9 At the origin point of fuel, at the opening of the
10 plant, uranium was mined extensively in the American
11 Southwest. Those mines have mostly shut down. And the
12 trail of that form of extraction still has major social
13 and environmental social justice issues remaining
14 unsettled. New minds are challenged by Dene, Pueblo,
15 and other indigenous groups who are concerned about
16 surface water aquifers as well as the purity of these
17 aquifers.

18 Today less than 5 percent of the uranium is
19 domestically produced, with 49 percent coming from
20 Kazakhstan and Russia. Over sourcing is not the direct
21 purview of PG&E. These are indirect ethical issues for
22 some.

23 At the other end of fuel life current plant
24 operations through scheduled decommissioning will fill
25 the current onsite storage facility located in the hill

1 above the plant. All parties agree storage onsite in
2 the casks are superior to remaining in spent fuels
3 pools. All fuel -- new fuel will have to have some kind
4 of accommodation, perhaps with additional onsite storage
5 and perhaps indefinitely.

6 While storage does not impact the initiation of
7 continued operations it does potentially add a larger
8 spent fuel facility site to the eventual
9 decommissioning.

10 While the new vendor is exploring intermediate
11 storage in other states, that license is not yet
12 obtained. While spent fuel reprocessing is now
13 happening in some parts of the world, it is not proposed
14 for Diablo Canyon. Plans for a long-term storage site
15 at Yucca Mountain have been abandoned.

16 Shutdown, startup, maintenance and continuing
17 operations. Continuing operations mean new cycles of
18 plant shutdown for refueling and maintenance. While the
19 plant has a demonstrated safety record, two of the
20 highest risk periods are when pressures and velocities
21 in the system are changed at shutdown and startup. This
22 is a prime factor in the need for an inflexible
23 continuous operation and inability to modify production
24 over the course of the day to match specific renewables
25 generation.

1 Ongoing maintenance is a replace before failure
2 kind of probable life of the component, be it valve,
3 gasket,
4 et cetera. Some maintenance has been fine based on the
5 decommissioning schedule and will need to be greatly
6 revised. If this involves issues with supply chains and
7 potential expanded craftspersons staff, both of which
8 the CDC stated were reasons for renewables delay.

9 Cost and economics. The various proposals involve
10 federal and state grants and forgivable loans. And the
11 likely total cost as now unknown -- as of now unknown
12 will be borne by a mix of taxpayers, ratepayers and
13 passed on to those enrolled in the recent choice --
14 community choice aggregation efforts, an option across
15 of much of SLO County. Determining the actual cost to
16 produce this power may be very difficult to calculate,
17 and the rates paid may not reflect additional subsidies.

18 What's the impact of continuing operations when
19 previous payments made to local government officials
20 were done under decommissioning? This was a concern of
21 the letter of this last week by local mayors. Enormous
22 cost begs the questions of time again. If the cost is
23 significant how could a short duration pay for itself?

24 Loss of wind farm support, number 6. With the
25 decommissioning, facilities of Diablo Canyon are under

1 study to help support the massive new wind farm proposed
2 off our cost. With continued operations there is the
3 loss of repurpose plant facilities such as harbor and
4 massive machine shop that could be available to help
5 wind farm progress to completion. Conditioned
6 operations could inhibit this possible completion.

7 Environmental justice and once-through cooling.
8 Diablo has no signature cooling towers. Continuing
9 operations require the state change the criteria where
10 once-through fueling is evaluated and its impact on the
11 ocean.

12 8. Social justice and delay of site reuse. With
13 decommissioning there are profound opportunities in the
14 disposition of the 14 miles of coast and 12,000 acres
15 that constitute Diablo Canyon lands. These have been
16 discussed in the panel commission vision statement you
17 can see on our website.

18 Issues of indigenous cultural heritage including
19 returning lands to Chumash care, recreation, research,
20 and other development of the plant parcel itself and
21 their potential income streams are lost for another
22 period of time with continuing operation and required
23 safety zones.

24 Other concerns related to potential continuing
25 operations will be noted by panel member Bruce Severance

1 a little bit later.

2 With that, I'll turn it back to you, Chuck.

3 MS. ZAWALICK: Hey, Chuck? Excuse me. Chuck?

4 Just -- thank you, Michael, for all of that.

5 Especially the safety message. I did want to add on
6 around the siren test for some clarification.

7 The sirens around the San Luis Obispo County are
8 for all hazards, which is really important. PG&E
9 maintains the sirens and the county office of emergency
10 services runs that annual test and activates the sirens
11 in case of an emergency. I just wanted to add that on.
12 And thank you for that message and talking about the
13 Saturday's test.

14 MR. ANDERS: Thank you, Michael.

15 Next slide, please. Just want to point out this
16 slide which indicates how you -- anyone in the public
17 can contact key people that are part of the decision
18 process. And just this information will be available on
19 the panel website. And it just indicates there's
20 activities at the Independent Safety Committee, NRC, and
21 in the California Legislature.

22 So next slide. Next item on the agenda is Item
23 Number 3. And that is will to discuss the background
24 and summary of the Governor's workshop on August 12th.

25 And I'm going to introduce Kara Woodruff, one of

1 our panel members. Kara.

2 MS. WOODRUFF: Thank you Chuck. Greetings and
3 thank you for everyone participating in person and
4 virtually tonight. This is what the Diablo Canyon
5 Decommissioning Engagement Panel is all about. And
6 we're sincerely grateful for your engagement.

7 A lot has been said in the news about the
8 potential continued operation of Diablo Canyon beyond
9 its scheduled full closure in three years. This is a
10 great and profound debate. And what happens here in our
11 backyard, of course, has considerable impact on the
12 future of energy delivery across the state.

13 But I'd like to stress that the question we're
14 considering now is not about pronuclear versus
15 antinuclear. It's a question about specifically Diablo
16 Canyon. And given its particular circumstances and
17 particular location whether it should carry on beyond
18 its current license term.

19 For those who don't know it, I'll provide a brief
20 history leading up the great decision that now stands
21 before this community and the State of California. The
22 two-unit Diablo power plant began operations in the mid
23 1980s and under a 40-year license issued by the Nuclear
24 Regulatory Commission. Today it operates as the only
25 remaining nuclear plant in the state. And unit one is

1 scheduled to close in 2024. Unit two is scheduled to
2 close in 2025.

3 In 2009 PG&E filed an application with the NRC to
4 renew its license for an additional 20 years, 16 years
5 before the scheduled closure. In 2016 everything
6 changed. PG&E entered into a settlement agreement with
7 environmental labor groups to end Diablo Canyon's
8 operation upon the termination of the existing licenses.
9 And the closure was approved by the State of California.

10 As of March of this year, a mere five months ago,
11 the Governor and PG&E assured the public that the plans
12 to close and decommission Diablo Canyon were on track.
13 However, in mid-April the Biden administration announced
14 its intention to save nuclear plants with a \$6 billion
15 federal cash infusion.

16 Shortly thereafter, the Governor and PG&E reversed
17 their stance. And PG&E announced its intentions to
18 apply for those funds, probably, and consider the
19 continued operation of the plant beyond 2025.

20 Less than two weeks ago the Governor released
21 draft legislation to continue Diablo's operation and
22 also hosted a virtual workshop on the topic with
23 cosponsors, the California Energy Commission and the
24 California Independent System Operator, also known as
25 Cal ISO. And incidentally, Cal ISO manages the flow of

1 electricity across the high voltage long distance power
2 lines that make up 80 percent of California's power
3 grid.

4 Almost 700 people participated in that Governor's
5 workshop. And the comment period went two and a half
6 hours beyond the scheduled time with an emotional and
7 formidable split between those in favor of Diablo's
8 extension and those opposed to it.

9 During the workshop the Governor's team made the
10 case for Diablo's extension of operation. In a
11 nutshell, they argued that Diablo's nuclear was needed
12 as a stop gap measure for five to ten years beyond 2025
13 to ensure the reliability of the state's energy grid
14 because of unexpected extreme heat, drought and wild
15 fire events stemming from climate change, as well as
16 supply chain disruptions due to COVID and otherwise and
17 the impact of terrorists disputes and inflation.

18 In an opening statement at that workshop by
19 Senator Laird, who represents this district, he called
20 out a dozen issues of concern that would have to be
21 addressed before a decision were to be made on Diablo
22 Canyon's future, including the future of spent nuclear
23 fuel generated at Diablo, safety and deferred
24 maintenance, seismic issues, once-through cooling
25 technology employed at Diablo Canyon, and the Diablo

1 Canyon lands.

2 My fellow panel member Bruce Severance will be
3 covering these concerns in detail during his
4 presentation later tonight.

5 And when it comes to the future of spent nuclear
6 fuel storage we hope to address this in a future panel
7 meeting. Surely future generations burdened with this
8 radiated waste need us -- we need to make the right
9 decisions for them today.

10 Under the Governor's legislative language the
11 state would loan PG&E up to \$4 billion to keep Diablo
12 Canyon open, also included in the language was to a plan
13 to bypass much of the regulatory framework that would
14 normally be involved in relicensing, including the
15 California Coastal Act.

16 In response to the Governor's legislative proposal
17 just five days ago the California State Assembly issued
18 its clean, diverse, safe and reliable energy proposal.
19 It promoted a different vision for California's short to
20 midterm energy challenges providing \$1.4 billion, the
21 same amount as what the Governor was proposing to go to
22 PG&E, and monetary incentives to get zero carbon
23 generation online faster to accelerate electric
24 transmission projects and to reduce permit delays for
25 new clean energy generation. The proposal was offered

1 in lieu of extending Diablo Canyon's operation.

2 In the last few days members of the public,
3 including from academia, have offered their own views of
4 the Governor's and the Assembly's proposal to extend
5 Diablo's operation. I think we've seen a lot of
6 thoughtful consideration of the Diablo question. And I
7 encourage you to visit the panel's website to see and
8 read some of these analyses.

9 And just yesterday mayors of nine Central Coast
10 cities chimed in on the Diablo Canyon extension
11 proposal. And in their letter they urge, among other
12 things, that any legislation concerning the future of
13 the plant also include assurances of plant safety; that
14 any extension should be of limited term and tied to when
15 the state has sufficient renewable energy online; that
16 the Governor should partner with this region and invest
17 now in renewal energy sources and create what Senator
18 Laird referred to as a marshall plan for renewables.

19 Also that the community mitigation monies first
20 awarded after the plant closure decision was made in
21 2016 would not have to be returned. And that the 12,000
22 acres that surround the plant known as the Diablo Canyon
23 lands be conserved in perpetuity.

24 If you'd like to see the materials prepared for
25 the Governor's workshop on August 12th, the legislative

1 language proposed by the Governor, and its response by
2 the state assembly, the SLO County mayors' letter to the
3 Governor, Senator Laird's statements, or other related
4 materials and comments, I encourage you to visit the
5 panel website at www.DiabloCanyonPanel.org. These
6 materials are located under the "get involved" tab with
7 a label "view public comments." You can also leave your
8 own comment on the website by simply clicking that blue
9 "submit comment" that's on the upper right-hand page on
10 every page of the website.

11 So where to we go from here? This whole debate
12 about the future of Diablo Canyon Power Plant began with
13 the Biden Administration's launching the \$6 billion
14 initiative to save nuclear plants. The deadline for
15 PG&E to apply for that money is in early September. And
16 utility can't do that so unless they get the legislative
17 authority to move forward. The legislative session ends
18 a week from today on August 31st.

19 And tomorrow, when the Senate session adjourns,
20 the Senate Committee on Energy, Utilities and
21 Communications will be holding an oversight non voting
22 meeting about the quote proposal to extend operations,
23 the Diablo Canyon Power Plant. This may be the only
24 legislative hearing on Diablo's future before new
25 legislative language is introduced which will probably

1 be the day after tomorrow, Friday. And that will mean a
2 vote next week, a week from today.

3 That, my friends, is a very, very large decision
4 in a very, very short time. Thank you.

5 MR. SEVERANCE: My name is Bruce Severance. I'm
6 a recent inductee. I'm sorry. Go ahead, Chuck.

7 MR. ANDERS: Our next agenda item is to hear from
8 PG&E on the PG&E update. So Maureen Zawalick.

9 MS. ZAWALICK: Thank you, Chuck. Good evening
10 everyone, members of the panel, and public. Appreciate
11 the opportunity to try to update from PG&E. Go to the
12 next slide, Chris. Thank you.

13 So Kara already covered this when unit one and
14 unit two came into operations in 1985 and 1986. It just
15 shows a two the three years remaining until the license
16 -- the 40-year license expires for unit one in 2024 and
17 unit two in 2025.

18 What I wanted to walk through and just to give the
19 regulatory events that have occurred -- Kara covered a
20 few of these -- actually, most all of them. But I
21 wanted to kind of emphasize some key points here. As
22 Kara mentioned, in August of 2016 the joint proposal was
23 submitted. And the CPC reviewed that. And had some
24 hearing processes. And then eventually approved that in
25 January of 2018 for the shutting down of Diablo Canyon

1 after its 40-year licenses.

2 Also in the 2018 time frame PG&E withdrew its
3 licensed renewal application with the Nuclear Regulatory
4 Commission and it submitted a permanent cessation letter
5 as part of that process.

6 Then there was four years of active
7 decommissioning that we've been doing and we continue to
8 do today and yesterday and last week as we still are on
9 the plan to decommission the plant since no energy
10 policies of the State of California have changed.

11 Kara has outlined what the next week may look
12 like, but I want to take us back to April of 2022 when
13 the Biden administration did allocate \$6 billion for the
14 civil nuclear credit program and gave a deadline
15 initially in May for those plants that have stated that
16 they will be retiring and have stated that before 2016,
17 which we have.

18 The Governor's office submitted comments regarding
19 Diablo Canyon's continued operations. And in May also
20 sent a letter to the US Secretary Granholm on the
21 criteria to apply for that program and asking also for
22 an extension for that program.

23 At this point up to this time PG&E -- this is not
24 being given by PG&E. This is being given by the State
25 of California the Governor's office around a compound

1 reliability risk that is out there for the energy in
2 California and the demands that are there, coupled with
3 extreme drought, extreme heat, wild fires, tariffs,
4 sanctions, inflation, supply chain and other things that
5 were discussed by the California Energy Commission
6 during the August 12th workshop that Kara was talking
7 about.

8 In June PG&E did send a letter that we did
9 support. The Governor's office letter that he sent in
10 May regarding the DOE program. And at the end of
11 legislative cycle -- I'm sorry. At the end of June
12 during of the California legislation they approved
13 Assembly Bill 180 which included \$75 million for plants
14 in the State of California that have announced their
15 retirement to work with the DWR, Department of Water
16 Resources, to take interim actions to preserve the
17 option to continue to operate. We have not been
18 directed -- PG&E has not been directed by the State of
19 California, the Governor's office, to submit a license
20 renewal application, pursue license renewal or make any
21 change in course with decommissioning.

22 So then also in June of 2022, a couple months ago,
23 the DOE did change the criteria for being -- changed the
24 criteria for the first, um -- the first tranche of that
25 application process and also change the deadline to

1 September 6th.

2 So let's go to the next slide. So what are the
3 anticipated next steps? So we need direction from the
4 Governor's office and legislation to be passed prior to
5 September 6th. And we know this legislative cycle ends
6 August 31st, next week. So we need that as part of our
7 application of the DOE to show that we have a
8 sustainable plan to move forward with continued
9 operations of Diablo Canyon. Not having that
10 legislation, we cannot show the DOE that we have than
11 kind of plan and regulatory pathways that are needed to
12 continue to operate Diablo Canyon.

13 We have some short-term needs that I talked about
14 already that's part of the \$75 million on the Assembly
15 Bill 180 regarding fuel procurement and spent fuel tax
16 that are needed. Those have two-year manufacturing,
17 procuring and contract efforts that are needed. So we
18 would need that. And that's why we needed that now to
19 get going.

20 Just so reemphasize -- Kara already talked about
21 August 31st. I feel like I'm repeating a lot of that.
22 And the Senate Energy Utility and Communications
23 Committee tomorrow at 8:45. But if it does pass then we
24 would take immediate actions to be working with the
25 Nuclear Regulatory Commission on the license renewal

1 application and restarting those efforts. And we would
2 be submitting the Civil Nuclear Credit Program
3 application to the Department of Energy before the
4 deadline of September 6th. If there is no legislation,
5 then we will not be applying for the Civil Nuclear
6 Credit Program and we will not have the opportunity to
7 have that federal funding.

8 Next. And then what I wanted to show here if
9 California does change their energy policies we would be
10 continuing on concurrent paths. We can't stop the
11 efforts that we've been doing for decommissioning
12 because there's tremendous efforts there. And so if
13 something were to change in three years and then we
14 haven't been doing active decommissioning, then we would
15 find ourselves in a situation where we'd have a risk of
16 going into safe store; not being able to go right into
17 decommissioning. And we want to avoid that.

18 So we would continue with important things such
19 as, you know, the engagement panel and the topics that
20 we have on spent fuel management and other things that
21 are related. We would continue with San Luis Obispo
22 County on the decommissioning development planning. We
23 would continue with all of the regulatory actions or
24 license amendment requests we have with the Nuclear
25 Regulatory Commission for decommissioning.

1 And regardless if we're operating or shut down, we
2 always have an every three-year nuclear decommissioning
3 cost training proceeding. And we would continue in that
4 cycle as well as the next one would be in 2024.

5 And then absolutely continue on the Diablo Canyon
6 lands activities. A lot of those activities are,
7 regardless, again, if we are operating or if we are
8 decommissioning.

9 Then concurrent -- mentioned on the previous
10 slide. If California legislation is passed and revised
11 then we would immediately start that license renewal
12 application, standing up a project team, working with
13 the regulator, conducting studies, and all the other
14 activities that are needed.

15 So, again, I just want to emphasize on the last
16 slide -- if you want to -- is that, you know, we are a
17 state-regulated utility. And we will abide by the
18 regulatory path set by the State of California. We have
19 done so to date. And we will continue to do so.

20 We are very proud of the clean, reliable, safe
21 operations of Diablo Canyon and what we do provide for
22 almost 9 percent of Californians. And with that, I will
23 turn it back over to Bruce.

24 MS. WOODRUFF: Maureen, I had a quick question
25 for you. I think you said that the energy committee

1 meeting -- the Senate and Energy Committee meeting is at
2 8:45 tomorrow. My understanding it will start sometime
3 between 11:30 in the morning and 12:30, after the Senate
4 sessions adjourns.

5 MS. ZAWALICK: Oh, I don't know. I've heard both.
6 I've heard 8:45. I've heard 9:05. I've heard 11:30.
7 I'm not an expert in that area. That's more in your
8 area, Kara.

9 MS WOODRUFF: Well, I certainly don't understand
10 it.

11 MR. ANDERS: Thank you, Maureen. Our next agenda
12 item is item -- agenda item number 5. And as many of
13 you have heard since the announcement of potential
14 extended operation, a number of concerns and issues have
15 been raised. They were raised in the August 12th joint
16 agency workshop. And they are -- also additional issues
17 have been raised outside of that process.

18 And one of our members Bruce Severance is going to
19 provide an overview of the issues that were raised at
20 the workshop and other issues that may not have been
21 discussed at this point. Bruce.

22 MR. SEVERANCE: Thank you. Sorry, Maureen, for
23 that false start earlier.

24 My name is Bruce Severance. I'm one of the panel
25 members. I want to summarize some of Senator Laird's

1 comments that were given on the August 12th California
2 Energy Commission and Governor's office presentation, as
3 a number of the panelists felt that they were extremely
4 relevant and concise. Though following that, I'm going
5 to give a few additional comments.

6 First, from Laird's comments. Can we complete the
7 deferred maintenance in time? These are quoted from his
8 script -- excerpts from his script. Bottom line is we
9 are faced with a situation where everything that would
10 have been done to renew Diablo Canyon's operation beyond
11 2025 during the last six years is now being collapsed
12 into a three-year window.

13 Item 2, safety requires experienced staff. This
14 issue has been raised by Diablo Canyon and Safety
15 Committee and requires full diligence by the state,
16 including support for training and retention so the
17 skilled work force needed to deliver plant safety can be
18 assured for years to come.

19 Item 3, who pays? Existing rate system puts major
20 costs on rate payers in a manner that stresses lower and
21 middle income rate payers and -- who are already
22 shouldering the cost of the state's climate efforts.
23 How will we know who pays and how much before we make a
24 commitment to go forward on the extended life of the
25 plant?

1 Item 4, spent nuclear fuel storage. The existing
2 facility onsite at Diablo Canyon where the spent nuclear
3 fuel is stored is large enough to accommodate the waste
4 generated by the plant until 2025. The capacity
5 question must be answered now as there is today no place
6 that can accept Diablo's radioactive waste.

7 Item 5, seismic concerns. Serious questions have
8 been raised in the community about the completeness of
9 existing seismic studies and their possible lack of full
10 review by neutral third parties. We need to explore the
11 state of existing seismic analyses and get answers as to
12 where there may be gaps and whether retrofitting is
13 required to reduce risk if the plant's life is extended.

14 Item 6, once-through cooling. Diablo Canyon is
15 permitted to use once-through cooling technology only
16 until 2025. And that technology either needs to be
17 replaced or the right to continue using OTC would have
18 to be extended. If an extension is in order it needs to
19 be done in a manner that adequately mitigates for the
20 significant environmental impact of releasing warm water
21 into the marine environment over an extended time.

22 Item 7, permitting. There would likely not be
23 sufficient time to complete permitting before the plant
24 life would be extended, yet the engagement process that
25 involves stakeholder involvement and agreement on the

1 previous decision to decommission would only have
2 happened around possible extension if environmental
3 processes are completed. There is a fine line between
4 overriding processes and speeding them up.

5 Item 8, community transition funding. The state
6 legislature passed SB 1090 shortly after the settlement
7 agreement was completed which allowed \$85 million for
8 community funding to ease the transition away from
9 Diablo Canyon's revenue and labor base. Assurances are
10 needed that those funds, much of which have already been
11 spent, will not need to be returned to Sacramento. And,
12 further, that additional mitigation will be available in
13 future years when the plant would close.

14 Item 9, Diablo Canyon lands. The community has
15 fought hard for the conservation of and public access to
16 the Diablo Canyon lands which were expected to be
17 transferred away from PG&E upon Diablo Canyon's closure
18 in 2025. This process need not be delayed. It is not
19 only good for the community it implements the Governor's
20 30-by-30 biodiversity initiative in one of the richest
21 ecological regions in the state.

22 Number 10, retirement date certainty. The
23 uncertainties regarding Diablo Canyon's future causes
24 significant anxiety and interferes on many levels with
25 sound planning in

1 San Luis Obispo County for this reason I believe there
2 must be a date certain on the final closure date if the
3 lift of the plant is to be extended.

4 Item 12, offshore wind. San Luis Obispo County
5 will be opened to offshore wind development. One of the
6 allures of this location is the existing transmission
7 lines from Diablo Canyon. How do we ensure that an
8 extension of the life of the nuclear power plant does
9 not hinder the ability to onboard and transmit new
10 renewable power on the grid using local transmission.

11 That ends our summary of Senator Laird's comments
12 at the August 12th Joint Energy Commission and
13 Governor's office presentation.

14 The following are additional concerns not raised
15 by either Laird or the CEC CAISO Governor's
16 presentation.

17 Reactor vessel embrittlement. The reactor vessel
18 of unit one was found to be among the most embrittled in
19 the nation in 2002. Although the NRC has allowed
20 continued operation and waived further testing,
21 embrittlement could inhibit rapid shutdown of the
22 reactor in an emergency and should be evaluated by the
23 Diablo Canyon Independent Safety Committee as well as
24 other independent experts.

25 Second item, incomplete contamination and

1 monitoring records. There was a historical site
2 assessment published by PG&E which cites numerous likely
3 contamination points at the plant that should be
4 routinely checked for radioactive contamination. But
5 PG&E did not make records available to fully complete
6 the report with actual monitoring data. Any further
7 discussion of and operations extension should be
8 predicated upon access to these records and a properly
9 completed historic site assessment. The public deserves
10 to know.

11 Item 3, rate payer and taxpayer equity. Proposed
12 legislation seeks to offer \$1.4 billion forgivable loan
13 from the state's general fund to PG&E to fund the cost
14 of license extension and deferred maintenance and
15 continued operations. Costs will also be transferred to
16 community choice aggregators, also known as CCAs,
17 statewide. This will affect both -- place a
18 disproportional burden on low income families as well as
19 undermine the efforts and financial solvencies of CCAs
20 that are the primary competition to investor-owned
21 utilities and are run by local government agencies to
22 speed the transition to 100 percent renewables on the
23 grid.

24 PG&E has suggested that CCAs should pay the
25 additional operating cost through the PCIA, that is the

1 Power Charge Indifference Assessment.

2 20-year license extension. PG&E has suggested,
3 although not confirmed, that they may apply for a
4 20-year license extension. This is in direct conflict
5 with the Governor's plan to extend the life of the plant
6 for five to ten years. There is a very low probability
7 that a five-to-ten-year life extension would make
8 economic sense given the level of investment needed to
9 operate the plant safely.

10 There doesn't seem to be a low capitalization
11 alternative to allow continued operation for the few
12 years between 2025 and 2029 during which the projected
13 shortfall on the grid is anticipated. We're stuck
14 making a 20-year investment to solve a five-year
15 problem.

16 Item 5. A further discussion of the grid
17 shortfall is needed. Senator Laird suggested that there
18 should be further discussion about whether there will,
19 in fact, be a periodic shortfall of power in the 2025 to
20 2030 time frame. And that other options for meeting
21 resource adequacy should be explored. I would suggest
22 reexamination Loretta Lynch's study of August 2020 -- of
23 the August 2020 blackouts which suggests that CAISO had
24 the capacity online but was contractually obligated to
25 export it to other states. This would suggest that

1 better modeling and protections and possibly a higher
2 resource adequacy requirement may have solved the
3 problem.

4 Item 6, peak demand is intermittent. Diablo is a
5 constant source of power. There is an inherent mismatch
6 in the strategy to solve a periotic peak demand problem
7 with large continuous generation. Peak demand is driven
8 by residential HVAC. And exceptional peak demand events
9 are driven by heat waves that occur once in five years.
10 There seems to be an obvious mismatch between the
11 problem and the proposed solution. A further indication
12 that continuation of DCPD operations cannot be more cost
13 effective than other strategies that are suited to
14 address the intermittent problem.

15 Items 7, study is needed. Economics safety issues
16 and alternatives should be fully explored before the
17 legislature elects to mandate life extended operations
18 at the plant. There are better technological solutions
19 to provide grid stability. For example, electric
20 vehicle batteries feeding into the grid during peak
21 demand hours would have prevented the 2020 blackouts.

22 Hydrogen peaker plant turbines with flexible fuel
23 that can run on both natural gas and hydrogen are now
24 commercially available and can facilitate gradual
25 decarbonization of gas peaker plants. This would solve

1 all long term grid storage problems and harmonize
2 renewables on the grid while avoiding all possible
3 stranded asset scenarios that pose a much larger
4 economic risk with continued Diablo Canyon operations.

5 Senator Laird calls for a marshall plan for
6 California energy. And we feel that a further study is
7 needed before Diablo Canyon extension is approved. If
8 PG&E rushes head long into applying for license
9 extension we may face consequences that will not serve a
10 higher public good.

11 MR. ANDERS: Thank you, Bruce.

12 MR. LATHROP: Chuck, could I ask for some
13 clarification?

14 MR. ANDERS: Yes.

15 MR. LATHROP: In reference to these other
16 concerns, just for the house and also for the general
17 public it would be good to state where these other
18 concerns came from or who they are actually
19 representing. I know there's been a lot of discussion
20 --

21 MR. SEVERANCE: I said they were my additional
22 concerns that were added to Laird's. But I did work on
23 those in collaboration with some of the other --

24 MR. LATHROP: And the last statement as far as
25 "we," who are "we"?

1 MR. SEVERANCE: You know, that's a really good
2 point. I meant to take "we" out. And I apologize if I
3 left it in. I did take it out one other place. I
4 should correct that now for the record and say "I"
5 instead.

6 MR. LATHROP: Okay. Thank you.

7 MR. ANDERS: Thank you very much. And thank you,
8 Bruce, for your work in compiling that list. Thanks for
9 the clarification, Scott.

10 Now is the time for a ten-minute break. We have
11 agreed to be biologically friendly in this meeting. And
12 recognizing we tend to go on a little long in previous
13 meetings. So we've got two breaks scheduled. And let's
14 plan to be back at 6:55. We'll start on time 6:55.
15 Thank you.

16 (Brief recess.)

17 MR. ANDERS: Time's up. Before we proceed I
18 would like to ask Kara to recognize a guest that we have
19 here in the audience.

20 MS. WOODRUFF: Yeah. I just want to take a
21 moment. We have a special guest this evening,
22 Congressman Salud Carbajal has come a long way to be
23 with us tonight. So greetings. Welcome. And thank you
24 for being here. I know you are very involved in this
25 issue. So we appreciate you showing up. Thank you.

1 MR. ANDERS: Okay. Our next item on the agenda
2 is a discussion of the safety issues related to the
3 Diablo Canyon Power Plant's potential continued
4 operation.

5 And one of our panel members, Will Almas, is going
6 to introduce this topic and moderate a couple of
7 speakers that we have here. Will, are you online?

8 MR. ALMAS: Yes, I am. Can you hear me?

9 MR. ANDERS: Yes, we can. We can see you too.

10 MR. ALMAS: Well, good. Well, that's a plus.
11 Thank you, Chuck.

12 Well, as we've heard there are many arguments both
13 pro and con for the future operation of the Diablo
14 Canyon Plant. But there is one issue that elected
15 officials, PG&E, California Energy Commission, Nuclear
16 Regulatory Commission and oppositions group all agree
17 on. If the Diablo plant life is to be extended, safe
18 operation is to be first priority.

19 But how is safe defined? Not an easy question.
20 And one that requires involvement and discussion by all
21 parties. Please, as public, stay involved with this
22 process. There's going to be a lot happening over the
23 next year, I guess, if the plant -- if PG&E goes ahead
24 with applying for a new -- for relicensing.

25 In an attempt to shed light on the process for

1 engagement going forward, we have invited several
2 experts to speak briefly on several of the most
3 important issues and be available for questions from the
4 public.

5 First, Dr. Budnitz is a member of the Diablo
6 Canyon Independent Safety Committee. Dr. Budnitz is a
7 nuclear engineer and spent a career dealing with nuclear
8 safety issues. He will talk about how the Diablo Canyon
9 Independent Safety Committee will proceed in considering
10 the important safety issues related to the extension of
11 the Diablo Canyon Nuclear Plant.

12 Then Dr. Bruce Gibson has joined us. Dr. Gibson
13 is a geophysicist by training and experience in an
14 earlier career and has been involved in the seismic
15 review of Diablo Canyon. He is best known to us,
16 though, on the Central Coast as a County Supervisor for
17 San Luis Obispo County.

18 Dr. Gibson will summarize the current state of
19 knowledge regarding seismic conditions affecting safe
20 operation of the Diablo Canyon Power Plant.

21 Also available for questions related to Diablo
22 Canyon are two staff members of the nuclear regulatory
23 commission. The -- I may remind you that the nuclear
24 regulatory commission is the federal regulatory agency
25 with the sole jurisdiction related to nuclear operations

1 and materials at the Diablo plant. So they are a very
2 important part of this whole scenario.

3 Dr. Clifford Munson is senior technical advisor
4 for the Office of Nuclear Reactor Regulation.

5 Loren Gibson is a branch chief for license renewal
6 projects with the Office of Nuclear Regulatory
7 Regulation -- or Reactor Regulation. I'm sorry.

8 Lastly, and this is something I am adding from my
9 viewpoint, not as a panel necessarily. But I do want to
10 draw your attention to the issue not included in this
11 discussion tonight, that is top safety concerns, but one
12 that is certainly on the list of these top safety
13 concerns. That is, the handling and storage of spent
14 nuclear fuel onsite. Should there be a plant life
15 extension?

16 This is a process that requires multiple steps and
17 involves storage in water pools as well as dry casks.
18 Although not dealt with in tonight's discussion, it is
19 an issue that will evolve quickly once the relicensing
20 process begins. And will require continued regulation,
21 political and public attention.

22 So with that, Dr. Budnitz, or Chuck, take it away.

23 DR. BUDNITZ: Is it to me. Chuck, are you all
24 set?

25 MR. ANDERS: Yes. Go ahead, Dr. Budnitz.

1 DR. BUDNITZ: By the way, I've got a couple of
2 slides. I don't want to show them now. Yeah. Just
3 don't show them now. I'll come to them in a few
4 minutes.

5 I want to start off by a disclaimer, which is: I
6 am a member of the Diablo Canyon Independent Safety
7 Committee. By the way, it says chairman but I -- the
8 chairman is a rotating thing. I rotated as -- I'm no
9 longer the chairman as of July 1st. Peter Lamb is the
10 chairman. But I am still a member. So that slide there
11 isn't up-to-date, but that's okay.

12 I need to start out by saying that I can't speak
13 for the Diablo Canyon Safety Committee here. I'm
14 speaking for myself. And I have all of this experience.
15 And a lot of what I'm going to say I know my colleagues
16 agree with. But this is not an official position of the
17 committee. It's my own. It's just how we operate.

18 The committee only takes formal positions in
19 writing or at public meetings that we -- formal public
20 meetings where we speak. And, by the way, our next
21 public meeting is going to be in Avila Beach on
22 September 28th and 29th. And every member of the public
23 that wants should come and join or join us remotely.
24 You can find it on our Website.

25 Now, let me describe the committee structure and

1 how we work. There are three of us. We serve
2 three-year terms, rotating. One each year gets
3 reappointed or a new member. One is appointed by the
4 Governor. One is appointed by the chair of the
5 California Energy Commission. And the third one is
6 appointed by the Attorney General. I'm the Attorney
7 General's appointee.

8 Now these aren't political appointments, you know,
9 Republicans or Democrats. These are appointments in
10 which in order to qualify you have to be a nuclear
11 engineer, an expert in this stuff. And all three of us
12 are. And I'm proud to be able to say I'm one of them.

13 The committee operates with three of us and also
14 two consultants part-time who -- there are really five
15 of us together working on this -- on this committee.
16 And we hold three public meetings every year, every four
17 months for two days in Avila Beach. And then in the --
18 in the intermediate months, nine of the other months, we
19 go to the station -- a small group, one -- two of us,
20 let's say. We go to the station. We spend time. And
21 we go around. And we look at things. And we interview
22 people. And we read documents. And we ask questions.
23 And we probe around. And we have nine of those so
24 called fact-finding visits every year. I'm going on one
25 in a couple weeks, another one. And I was on one a

1 couple months ago.

2 And in the course of that, we review all sorts of
3 different programs in order to understand the safety
4 status of the plant. Because our remit is to review the
5 safety status of the plant, the operational safety, and
6 to write reports about it, which we do. We have an
7 annual report. You can find it on our website.

8 We write intermediate reports, so-called
9 fact-finding reports in between on all sorts of
10 different topics. And so in writing you can find out
11 what we think about all sorts of different things.

12 Now, our particular role of reviewing the safety
13 is -- it goes on all the time. But when we come to the
14 question -- and it's a crucial question of -- of the
15 safety of the plant as it goes forward past 2025, if it
16 were to happen, we find ourselves forced to be in a
17 reactive mode. Because nothing has happened yet. And
18 when it does, PG&E is going to do certain things and
19 take certain decisions and make certain plans and -- and
20 do certain analyses. And we're going to review them.

21 We're not in a position to do any of that. We
22 can't order anybody to do anything. We're going to
23 review them. And our plan and approach is to be very
24 active in reviewing all the different things that go on
25 so as to make sure that our coverage and the scope is

1 thorough so that we can come to an independent
2 evaluation about the safety of the plant. And then
3 we'll write it up. We'll write a public report about it
4 or maybe more than one. And share it with everybody.
5 And, of course, you can come to our public meetings in
6 between and hear what we think and say.

7 Now, the problem is very complex. And it's very,
8 very diverse. And I'm going to try to describe that
9 diversity in the next slide. Put up my first slide.
10 And then -- I just have two slides here. There, can you
11 see it? Everybody see my first slide? That's the title
12 side. It just shows my name. If you can see that slide
13 -- and I hope people can -- no, the second one with
14 all -- with all that -- all those things on it. That's
15 an eye test. You're not supposed to be able to see that
16 because the print is too small.

17 But I put on one page something that we call our
18 open items list; list of systems. And what I'm going to
19 describe here is that in the course of our work we
20 periodically, but systematically, review about 30
21 different plant systems. They are listed there on the
22 left-hand side. And I'm going to show you an example in
23 a minute.

24 And we also review about 50 plant programs. The
25 difference between a system and a pro -- a system is,

1 let's say, a DC electrical bus system. And a program
2 is -- let's say, a program to make sure all the fire
3 doors work or a program to make sure that the -- that
4 fire safety is assured. So we review about 50 programs
5 and about 30 systems periodically. And we have a --
6 some of them we review every few months. And some of
7 them we review every two or three years, because it's
8 not so urgent or nothing is changing or we don't have
9 any reason to -- to do it more frequently.

10 So now go to the next slide. And I'm going to
11 show an example to show how complex this is. And the
12 next slide, if you can see it -- and I hope everybody
13 can see it -- you'll just see what I mean. Of the 30
14 systems that we review I just extracted five of them
15 just to show on the list -- they are just examples. And
16 it shows the last time we reviewed this. There's
17 refueling equipment. There's control rod equipment.
18 There's safety injection pumps. If you lose water in
19 the system you have to inject new water. And those
20 pumps have to work. And if they don't it's a real
21 safety compromise.

22 There are steam generators. And steam generators
23 are a real crucial piece of safety equipment. If they
24 don't work the plant is going to get in real trouble and
25 real fast.

1 The special protection system is a system that the
2 grid -- offsite grid uses to assure that offsite power
3 is available to the plant. Because the plant, it
4 crucially depends on offsite power. And its loss can
5 initiate an accident.

6 Those are just five of the 30 things that we
7 review every -- some of them we review twice a year and
8 some of them we review every two years or more. And I
9 just showed that as an example of these things. Because
10 when I can come to the work we're going to do I'm going
11 to come back to this.

12 Now we also review, as I said, about more than
13 four dozen programs. And these are such things as --
14 look at the second one -- the notification review
15 program. What happens is every time something goes
16 wrong at the plant, every single thing -- let's suppose,
17 you know, a valve is leaking. The person that finds it
18 writes it up, puts it into the system. And then they
19 put together a plan to fix it. Sometimes it's fixed,
20 you know, ten minutes later. Sometimes it takes two
21 weeks to fix it and they have to get a spare part.

22 Every one of those is called a notification. In a
23 big complex plant like Diablo Canyon they have 50 or 75
24 or 100 notifications every day. 50 or 75 or 100. And
25 there's a review team that every day reviews all of

1 those several dozen notifications and makes sure that
2 nothing falls through the crack. And that's a program.
3 You understand? And we review that program and makes
4 sure it works. Because if that program isn't working
5 properly, the plant isn't going to be safe enough. It's
6 just an example of a program.

7 Another one. Online maintenance. It's the fourth
8 one on that list. They do some maintenance online while
9 the plant is running. And they do some maintenance -- a
10 lot of maintenance when they shut down to refuel. But
11 imagine the plant is running, something gets in trouble
12 or maybe it's not in trouble, and it's routine, and they
13 maintain it while the plant is running. And they have a
14 program for making sure that that online maintenance is
15 done sensibly and it doesn't cause a safety concern.
16 And that program has procedures and training and reports
17 and benchmarking with other plants to see how they do it
18 to make sure that Diablo is doing it -- you know, using
19 the best practices and so on. And we review that
20 program every year or so.

21 You can see we reviewed that one just as recently
22 as last May as a way of making sure that the plant is
23 actually doing the work that it needs to do.

24 Now, I'll leave this up while I go back to the
25 components one. Because now we're going to come to the

1 issue -- the crucial issue about life extension.

2 When they announced, what, half a dozen years ago,
3 that the plant was going to shut down nine years
4 hence -- it's now three years hence for the second unit.
5 But it was nine -- eight, nine years back then. When
6 they announced that, every single one of those items of
7 equipment and every single one of those programs
8 adjusted their work with the knowledge that 2025 was the
9 end.

10 So I'll just give you an example. Look at the
11 third one down, safety injection pumps under -- that's a
12 system. It's an important system. Let me suppose here
13 -- I'm not sure this is true. But let me suppose to you
14 that every ten years they have to take that system all
15 apart and refurbish it and make sure it's fine. And
16 let's suppose that the last time they did that was 2013.
17 Okay? And the next ten-year thing is going to be 2023.
18 Well, the plant is supposed to shut down in 2024 and
19 2025. And a system like that -- I'm just making this up
20 because I'm not sure that's the schedule. But in a
21 situation like that, they may decide that they are not
22 going to spend several million dollars in 2023 to
23 refurbish it for another ten years. They are just going
24 to let it go not ten years but 12, but to watch it like
25 a hawk to make sure that that extension is not a

1 problem.

2 And for every one of these systems and components
3 they have done an evaluation to see whether or not there
4 is something special they have to do to get to 2024 and
5 2025, or whether they are going to run right through
6 anyway. And then they have arranged their work to make
7 sure that they get to 2025 -- or 2024-5 safely.

8 Now, all of a sudden, suppose a month from now
9 they are told we're not going to 2025 we're going to go
10 to 2030. A whole lot of those things -- someone is
11 going to have to reevaluate them. In fact, every one
12 they have to reevaluate and ask the question: Is the
13 decision we made six years ago or two years ago going to
14 get us there, or is there something new that we have to
15 do? Do we have to now go order spare parts to replace
16 something in 2026 that we didn't have because it was
17 going to shut?

18 Is there some new method of doing something that
19 we didn't want to implement because it was going to shut
20 anyway? And every one of those things is a decision by
21 the plant about what they are going to do for every
22 system and every program in this list. And we have 30
23 systems and 50 programs. And the PG&E staff have to run
24 all of that and get it done right.

25 And for every one of those, Diablo Canyon

1 Independent Safety Committee has been reviewing them
2 right along in a periodic way. And we're going to be --
3 I hate to say stuck because it's a big job. We're going
4 to be reviewing them too. We're going to be seeing if
5 we can agree with -- or if we don't, we'll tell them --
6 the decisions they make about how to assure -- not that
7 they can get to 2025. We've already been doing that.
8 But if they can get to 2030 or whatever it happens to
9 be.

10 And for a lot of these they are going to have to
11 order new equipment. For some of them they are going to
12 have to do enhanced maintenance. For some of them they
13 are going to do a partial replacement. All sorts of
14 different strategies to get to 2030 instead of 2025.
15 I'm just pretending that that's what it is.

16 And for some of the programs they are going to
17 have to readjust the programs and the people and so on
18 to make sure that they get there. And that's the bulk
19 of the work that PG&E has got to do really fast if this
20 is going to happen between now and 2025. Because they
21 not only have to write up all the stuff, but they've got
22 to convince the Nuclear Regulatory Commission that that
23 program is going to work. And the NRC is going to be
24 reviewing it like a hawk.

25 And I'm telling you that the Diablo Canyon

1 Independent Safety Committee, we're going to review it
2 like a hawk also. And it's going to be -- that's what
3 we mean by -- when we talk about deferred maintenance.
4 It's more than just deferred maintenance. It's all
5 sorts of schedule and different things. And we're going
6 to ask the question -- we've already asked the question
7 can they get to 2025 safely? We're suddenly going to
8 have to ask the question can they get to 2030 -- I don't
9 know whether it's going to be 2030. It might be some
10 other day -- safely?

11 How much margin is there? Are there any
12 particularly sensitive components or things that should
13 be really high on everyone's list because they are
14 really important and really difficult? If so, what are
15 they? And are they giving them proper priority? Now
16 that's one whole program, but there is a second part.
17 And you'll understand it as soon as I say it.

18 We also have to assure that the staff remain and
19 remain competent. When they first announced -- you
20 know, six years ago they announced that they were going
21 to end in 2025, we were concerned; they were concerned;
22 everybody was concerned that some of the crucial staff
23 might just -- you know, just say well, heck with this.
24 I'm going to move to Kansas where there's a plant that's
25 running for 40 more years. I'm just making that up.

1 Move to somewhere else to another nuclear plant. We
2 have 60 sites in the US and 100 plants running -- almost
3 100 plants running. Move somewhere else.

4 Well, they had a program, which seems to have
5 worked, which has assured that they are going to
6 maintain -- a vast bulk of the staff is staying to the
7 bitter end to 2024, 2025. God bless them. They have a
8 bonus program, an incentive program. The staff has
9 great morale. And we're watching it carefully. And
10 that's a great thing.

11 Now all of a sudden they say no, it's not 2025,
12 it's 2028 or 2030, or whatever it happens to be. They
13 have to make sure that staff remains competent and the
14 best ones stay. Not everybody, but most of them.
15 Because there's a lot of them leave and they are
16 replaced by neophytes, it doesn't work. Everybody knows
17 that. They know it. The NRC knows it. We know it.
18 Everybody knows it. Well, it's another thing we're
19 going to do. And we have to look.

20 Now, there are formal programs to look at this
21 stuff. One of the programs that they have is something
22 called an Aging Management Program in which they look at
23 equipment that ages. And they want to make sure that
24 they are on top of it. And we've been reviewing it
25 right along. And we're going to continue to review it.

1 Now there is one whole area that's a bright light
2 in this -- in this area. I'll just explain. Way back
3 about 2009 when they initiated the process to get a
4 20-year extension -- this is PG&E. You know, they were
5 looking for a 20-year extension from 2025 to 2035 -- to
6 2045, 20 years. They submitted documentation to the NRC
7 to support a 20-year extension. And it covered every
8 one of these programs. Every one of them. You know,
9 the pressure vessel and the fire safety and the -- and
10 all sorts of things. And the NRC was in the process of
11 reviewing that. And had almost completed their review
12 of all of those many, many systems to decide whether or
13 not they would give them a 20-year extension.

14 And then, as you know, in 2016, 2017 they pulled
15 the plug and the NRC stopped that. But all of that
16 documentation is there. The NRC saw it before. They
17 don't have to review it all again. But they do have to
18 review every item to make sure that there's nothing new
19 that would make their previous review invalid.

20 A lot of things probably won't be. Some things
21 there might be. Some new information. And they are
22 going to have to go back and do that again. But the
23 NRC's review process for the 20-year extension or 10
24 years, I don't know what it would be.

25 But having gone through that process already, they

1 -- the NRC staff is going to go back to that document.
2 And they are going to look at every single one of those
3 decisions that they were ready to indorse and say: Is
4 it still true six years later or -- well, they were
5 doing in 2011. It's already ten years later. Or if
6 not, what do we have to ask them to do or what do they
7 have to commit to do? Or what isn't going to work? And
8 there's a whole lot of -- it's a long list.

9 Well, all of that documentation is going to be
10 developed by PG&E or it will have to. And our committee
11 is going to review it too. We're going to do an
12 independent review. And if we see anything, we'll raise
13 our hand and blow the whistle or whatever. And if we
14 don't see anything well, okay, we'll see what we see.

15 So our remit is going to be -- we've been doing
16 these routine reviews for 30 years. But it's going to
17 be very intense and very, very compressed. We're going
18 to have to do a lot of review in a short time in a way
19 that is going to be much more difficult and burdensome
20 than it used to be. We're up to it. We'll do it.
21 We're going to do it. We're going to do an item by item
22 review. And we're going to see what we learn. And if
23 we learn something that's a problem, we'll say so. And
24 if it isn't, we'll say that. That's our pledge to you
25 because we're a State of California committee. And we

1 hope that -- that if it comes to it that we'll be up to
2 it. We think we're up to it. And we expect that we're
3 up to it. And we'll see.

4 Just to repeat, the committee itself has three of
5 us. But we have two consultants. And we're about to
6 hire a third one. And the five -- or it will be six of
7 us will do this as a team. And jump right in and see
8 how much -- how much documentation there is.

9 And by the way, there's one more thing that I need
10 to ask. Let's pretend that system number 22 is
11 absolutely fine, but the documentation is inadequate.
12 And we won't be able to tell whether it's fine or not.
13 You can't tell without documentation. So one of the
14 issues is -- and PG&E has got to develop documentation
15 that will support the judgments and the evaluation that
16 the NRC has to make and that we'll make too. So they
17 have got a big burden in front of them. And then we're
18 going to have to do all we can to review it.

19 That's the end of my report. And, of course, I'm
20 happy to answer any questions that you might -- you
21 might have.

22 MR. ANDERS: Thank you, Dr. Budnitz. Will, we'll
23 turn it back over to you.

24 MR. ALMAS: Well, I would throw it to the board
25 -- to our panel for any questions that you may have for

1 Dr. Budnitz.

2 MR. LATHROP: Yeah. I have a couple questions in
3 reference to the overall maintenance schedules.

4 My experience with setting maintenance schedules,
5 there's a couple of drivers that set those schedules.
6 It could either be the vendor of the item, the owner
7 themselves, or any kind of regulatory agency mandating a
8 certain time period.

9 So using the example that was given about a
10 ten-year life or maintenance schedule, I was just
11 curious if whether or not that was driven by the owner
12 or actually driven by some regulatory agent? Because
13 quite often, especially -- I guess if you are in this
14 type of business, it seems to me that potentially the
15 owner would be wanting to build in safeguards; meaning,
16 the item may be rated at 20 years but they choose to set
17 a maintenance schedule at ten. So I'm just curious with
18 that. Because I think when you look at everything that
19 needs to be reviewed, I would think that there would be
20 a priority set based on what really needs to be taken
21 care of first. I'm just curious about that; if anyone
22 knows who sets that maintenance schedule.

23 DR. BUDNITZ: Yes. That's an excellent question.
24 And I can tell you the answer which is -- it's sort of
25 obvious. It depends.

1 Some of the -- some of the maintenance schedules
2 are not set by the Nuclear Regulatory Commission, but
3 they are set by an international code or a standard.
4 For example, the American Society of Mechanical
5 Engineers, ASME, has inspection codes and standards for
6 large pressure vessels. And everybody in the world
7 follows them. The NRC endorses them. And PG&E follows
8 that.

9 But it's not set by the NRC. They endorse
10 something that was set by a national code or standard.
11 The same thing with fire protection. Some of the fire
12 protection things are set by the National Fire
13 Protection Association, NFPA, and codes and standards
14 that everybody uses them. And they use them also.

15 It is also so -- sometimes they have a six-year
16 schedule in the code. And they do it every four years,
17 as you said. Sometimes it's a six-year schedule and
18 they do it every four years. And sometimes they're --
19 if, in fact, not infrequently. The code has an
20 exemption in which you can get an exemption this is so,
21 this is so, and this is so. And then you can get an
22 extension and still say that you met the code. Of
23 course, that has to be carefully something. So it
24 depends. There's a lot of different -- every year is
25 different. There are dozens of different codes,

1 standards, regulations and so on. Each area carefully
2 tuned to its own needs.

3 That's a good question.

4 MR. LATHROP: Thank you for that clarification.

5 DR. BUDNITZ: I think you probably knew the
6 answer to that, but I'm glad --

7 MR. ANDERS: Well, we have a question from Kara.

8 MS. WOODRUFF: I just have a quick question.
9 Thanks, Dr. Budnitz. What happens if, during the course
10 of your analysis, that you come across a safety issue;
11 either discovered by documentation or a site visit?
12 What happens then? What do you do with that information
13 and how does the public learn about it?

14 DR. BUDNITZ: Depending on its urgency we would
15 -- we would go straight to the plant people right there
16 including, you know, the plant manager, if you have to,
17 right away, depending on what it is and find out more.

18 We have over the years called attention to a
19 safety issue in writing, actually, you know, in our --
20 in our reports we'll -- we'll -- we'll call attention to
21 a safety issue and make a recommendation. And then
22 we'll -- we'll also make sure that the Nuclear
23 Regulatory Commission knows about it too. And then
24 we'll follow up to make sure that it hasn't just fallen
25 through the cracks. So, yes, that happens from time to

1 time. And often -- I won't see little stuff, but not as
2 important as crucial. But, you know, you've got to fix
3 the little stuff so it doesn't get to be big stuff.
4 Anybody doesn't understand that doesn't, you know -- the
5 way equipment fails and the way the world works. Okay?
6 You bet. We write it up. That's the answer.

7 MR. ANDERS: Any further questions of Dr.
8 Budnitz?

9 Yes, Bruce.

10 MR. SEVERANCE: Yes. I had a couple of related
11 questions. It might be easier to state all the
12 questions because they kind of merge.

13 Is there a comprehensive deferred maintenance list
14 that is public facing that can be made available to the
15 panel?

16 And is there -- is there any scheduled maintenance
17 that was supposed to occur in the 2020 to 2025 range or
18 time frame that is being delayed by one to five years
19 until closure?

20 And are there any safety implications to any of
21 that deferred maintenance?

22 And then a fourth question that's separate is:
23 Has the Independent Safety Committee reviewed the
24 historic site assessment which was published in 2018 and
25 reviews a number of potential contamination points that

1 would likely occur in a nuclear power plant such as sump
2 pumps and areas where waste water might collect?

3 And I'm curious to know if you've seen that
4 document because there's probably a dozen places where
5 it cites that detailed records were not available as
6 they normally are for that type of site assessment.

7 DR. BUDNITZ: On that last one we -- we're aware
8 of and have reviewed that. I'll go to your first broad
9 question. I don't know of any comprehensive list
10 because every group and every area has its own. And we
11 have been reviewing them one by one. In our
12 fact-finding reports we cover them one by one, you know,
13 over the years. But I'm not sure that there's a
14 comprehensive list like that in the form that the
15 questioner was asking for in terms of, you know, I've
16 got this list of deferred maintenance.

17 For some of the issues it's more subtle than just
18 deferral. Sometimes they -- they were going to replace
19 but they don't replace but they don't defer maintenance.
20 They do the maintenance on the regular schedule. But
21 they were going to --

22 I'll just give you the example of my car. If I
23 replace the tires every 30,000 miles. But maybe I'm
24 going to sell the car next year and I just got to 30.
25 And so I'm not going to buy new tires. I'm just going

1 to watch it closely.

2 Well, there's some of that too in which you watch
3 it closely. You are not deferring maintenance. You're
4 doing it on the regular schedule. But you've exceeded
5 some guidance. In that case you want to be -- keep
6 expecting that all the time. And make sure that you
7 haven't got yourself in trouble by just exceeding a
8 little bit. So the word "mixed bag" is really -- I
9 don't want to insult anybody, because that's really
10 jargon.

11 But it's a very, very diverse and diffuse and --
12 and just different collections of all these different
13 programs. I said that we have 30 different categories
14 of systems and components. And we've got 50 different
15 programs. And every one of them has its own
16 differences.

17 You can read about them in our fact-finding
18 reports in our annual reports. Anyone that wants to
19 read about it just read our last annual report. And you
20 can it's all in there. Does that help?

21 MR. SEVERANCE: Yes. Yes, it does. I have to
22 ask one additional question. And that is, whether or
23 not -- I -- it sounds like you have lists of lists in
24 terms of the maintenance and the ongoing safety
25 protocols and --

1 DR. BUDNITZ: That's fair. That's fair.

2 MR. SEVERANCE: -- crosschecks. You have so many
3 complicated systems that have to be overseen.

4 You know, one could imagine a lengthy spreadsheet
5 that had all of those line items by category on it with
6 a ballpark guesstimate of what the cost would be for
7 each one of those items, even if it's a ballpark figure.
8 It seems to me that having a public document that allows
9 government agencies to understand what refurbishment of
10 the plant would cost in order to operate safely, even
11 for a five-year period of time -- the reason I -- I
12 guess at this point is that -- you know, I'm sure PG&E
13 is not used to doing that. These are generally internal
14 documents.

15 But at this point we're talking about trying to
16 operate for a five-year window. The projected shortfall
17 on the grid for CAISO is occurring between 2025 and 2029
18 or 2030. And if we're talking about keeping the plant
19 open to operate in that window of time but the number of
20 systems that have to be completely rebuilt amount in the
21 billions of dollars, why would we do that for a
22 five-year operating window? It seems to commit us to a
23 much longer amortization schedule to recover those
24 investments.

25 So I'm thinking about this from a strictly

1 business standpoint as well as a safety standpoint.
2 Understanding that if we're making safety first we're
3 probably going to have to invest a great deal of
4 capital. And I believe PG&E should be forthcoming about
5 how much capital we're talking about on the front. And
6 this was hinted at in Laird's comments. And I think
7 it's an extremely relevant point we're talking about a
8 large -- yeah, it's going to require 20 years to pay the
9 debt on it is my point.

10 DR. BUDNITZ: Well, I don't know. You put your
11 finger -- you put your finger on a question that's
12 outside of our remit. Um, we -- we're going around
13 reviewing every one of these things one by one. And
14 we're -- we're going to seek assurance that if a
15 particular pump needs to be refurbished or replaced that
16 they have committed to do it. And we don't ask the
17 question does it cost X dollars or Y dollars? We just
18 ask have you committed to do it? And is it in the
19 budget? And are you going to do it? And are you going
20 do it on time?

21 Our committee has not been concerned with whether
22 that's going to be costly or not. That's not our remit.
23 If you want to get the cost information, you'd have to
24 ask -- well, ask PG&E. We haven't -- we have carefully
25 tried to stay out of the cost side except to assure that

1 it gets done, if you know what I mean. Okay?

2 MR. ALMAS: Okay. Thank you, Dr. Budnitz. I
3 think in the interest of time and letting the --

4 MR. ANDERS: Well, we do have one -- Linda has
5 her -- had hand up for some time.

6 MR. ALMAS: Okay. Can we make that the last so
7 that we have time -- okay.

8 DR. BUDNITZ: I can see who it is. How are you,
9 Linda?

10 MS. SEELEY: Good. Thank you.

11 DR. BUDNITZ: This is Linda Seeley who -- with
12 whom -- we've known each other for a long time. Go
13 ahead.

14 MS. SEELEY: I think that's something we need to
15 know because we're talking about this date uncertain,
16 like, five years. Are we -- you know, what are we
17 planning for? I think we need to get an answer from
18 PG&E about -- what kind of license will they apply for?
19 Are they going to apply for a 20-year license extension?
20 Are they going to apply for a five-year license
21 extension? That's something that we don't know. And
22 it's something that's critical to this conversation.
23 And I'd like to know the answer to that.

24 DR. BUDNITZ: Linda, you put your finger on a key
25 issue for -- let's imagine we have all these many, many

1 systems. Whether or not they've got to make it run to
2 2030 is different than if they've got to make it run to
3 2045. And they would make a different investment
4 decision, perhaps. Because if they are going to 2045
5 they might replace the whole thing rather than
6 refurbish.

7 We all understand that. They understand it too.
8 We can't evaluate what they are going to do or plan to
9 do until they tell us what they plan to do. And that
10 plan depends on that answer to the question you just
11 asked which we don't know and that they don't know. So
12 it's at the present time up in the air. But that's got
13 to be pinned down pretty soon before this evaluation can
14 have validity that we want it to have.

15 Yes, ma'am. You bet.

16 MS. SEELEY: Thank you.

17 MR. ANDERS: Maureen, you had a comment from
18 PG&E?

19 MS. ZAWALICK: Yes. Thanks, Linda, for the
20 question. As I mentioned earlier, we are a regulated
21 utility. And we will comply with the energy policies
22 and the direction of the State of California and the
23 Governor's office. We're not driving this. The
24 Governor's office and the State of California is, with
25 the compounding reliability risk that we face.

1 So we do not know. We need to wait to see what
2 the legislation says, if it's five years or ten years or
3 20 years. So we'll evaluate it after we see that.

4 MR. ANDERS: Thank you very much. Will, turn it
5 back to you to introduce our next speaker.

6 MR. ALMAS: Yes. I think I've introduced him
7 already. Dr. Gibson will now discuss the current state
8 of knowledge concerning seismic risk at the Diablo
9 Canyon site.

10 DR. GIBSON: How about that? I'm going to sort
11 of discuss that. I'm Bruce Gibson. I'm the Second
12 District Supervisor for the County of San Luis Obispo.
13 And as you've heard from a number of sources and is
14 probably your mantra, the safety of the operation of
15 Diablo Canyon is the primary issue that we all -- that
16 we all deal with.

17 And as we know, seismic safety at the plant
18 surround the areas surrounding the plant has been a very
19 big issue for a very long time.

20 What I'm here to discuss is not so much a specific
21 analysis of the seismic safety. I won't do that because
22 that subject is deeply technical. It would require 50
23 slides full of grafts, maybe a few equations. Now I
24 find that particularly exciting at 7:30 in the evening.
25 But, in fact, grinding through that information would

1 probably not be productive. And it's not -- I don't
2 mean to suggest that you are incapable of understanding
3 it. It's just that it is a big, big topic.

4 What I would like to do is talk a little bit about
5 the structure of the analysis of the seismic risk to the
6 plant which goes back a long time. In particular I want
7 to talk about some of the recent histories.

8 And since I was introduced as Dr. Bruce Gibson, I
9 think I should make a clear statement about my
10 qualifications. I have a bachelor's degree in physics.
11 I have a masters and a Ph.D. in geophysics. And I had
12 about a 15-year research career as an exploration
13 seismologist. That's the use of seismic techniques to
14 try to deduce the structure of the earth.

15 I'm going to be talking about an Independent Peer
16 Review Panel that I was part of representing San Luis
17 Obispo County. And what I should emphasize is that my
18 research experience was not in seismic risk analysis,
19 but it was in the techniques -- some of the techniques
20 that are used to evaluate seismic risk analysis and,
21 specifically, the business of reflexion seismology and
22 other form of exploration seismology to deduce the
23 structure of the earth.

24 I should also say that I am speaking for myself.
25 I'm not speaking for the County or the Board of

1 Supervisors. And I'm not speaking on behalf of the
2 Independent Peer Review Panel that I'll talk about in a
3 little bit.

4 I will speak -- I think -- what I'd like to speak
5 to is the necessity for independent peer review as we
6 consider any issues surrounding Diablo Canyon. Issues
7 that are pertinent now in it's continued operation to
8 2025, and certainly pertinent as we consider the
9 possibility of extending that -- that operating period.

10 We hear a lot about the possibility of seismic
11 retrofits that would be done to the plant. Those have
12 not, to my knowledge, been very much specified nor has
13 the specific motivation for doing them be specified.
14 But I think those are absolutely fundamentally important
15 issues to be concerned with as we consider whether the
16 plant's operation should be extended.

17 So, as I said, I'm not going to be making any
18 specific pronouncements of whether Diablo Canyon Power
19 Plant is safe or not. Nor much specific analysis of the
20 actual determinations of seismic safety. Those
21 judgments as to whether it's safe to operate Diablo
22 Canyon rests with others, specifically the Nuclear
23 Regulatory Commission.

24 But I'd like to go back and talk a bit about the
25 21st century history of assessment of seismic risk. And

1 that goes back to 2006 when then Assemblyman, later
2 state Senator, Sam
3 Blakesley authored and got passed AB 1632, which -- the
4 intent of which was to evaluate all the base load plants
5 in the electric system of California to seismic risk.
6 And it specified the use of some of the most -- well,
7 the most advanced evaluation techniques available at the
8 time. They wanted to do certain kinds of seismic
9 surveys to study the risk again of all. But there was,
10 of course, a considerable emphasis on Diablo Canyon
11 because of the potential impact of an accident due to
12 earthquake.

13 In 2007 the California Public Utilities
14 Commission, the CPUC, directed PG&E to address the
15 issues that were raised in AB 1632 and incorporate them
16 into a feasibility study about the possibility of
17 relicensing, which in 2007 was just being -- starting to
18 be considered. That would be the normal relicensing of
19 another 20 years after 2025.

20 In November of -- well, out of that then came
21 various other rate cases in front -- before the CPUC as
22 a means of figuring out how this gets paid for. It was
23 going to be paid for by the rate payers.

24 So then we jump to November of 2009, PG&E actually
25 does apply to the NRC for relicensing -- to extend the

1 license. And more PUC CPUC rate cases follows. They
2 started in January of 2010.

3 As part of that process, the PUC in August of 2010
4 -- well, before that -- during those rate cases of 2010
5 the PUC directed that it should convene an Independent
6 Peer Review Panel. That panel met for the first time in
7 August 31st of 2010 and was composed of relevant
8 technical experts from the California Energy Commission,
9 California Geological Survey, California Seismic Safety
10 Commission, and the PUC. Excuse me.

11 In November -- somewhere after August of 2010 the
12 California Emergency Management was -- agency was added
13 to the IPRP, Independent Peer Review Panel. And in
14 November of 2011 San Luis Obispo County was added as a
15 formal member of the IPRP. And I took the -- took the
16 seat. I represented the county in the IPRP meetings.

17 The biggest effort of the IPRP was to review a
18 very large project that PG&E undertook called the
19 Central -- California Central Coast Seismic Imaging
20 Project, which was an effort to characterize the seismic
21 thread -- the seismic hazard, as we would call it. The
22 geologic structure, the tectonic structure as we
23 sometimes call it of the fault system surrounding the
24 plant. And from that, then, to review the seismic risk
25 analysis. And we'll talk a little bit about seismic

1 risk in a bit.

2 Those reviews were conducted in September through
3 November of 2014. The IPRP wrote in the end a total of
4 13 or 14 specific reports. After, we would meet. PG&E
5 would present. Other technical experts might present.
6 And then the IPRP as a group would consider as its
7 review of the technical information presented the
8 conclusions drawn; again, our charge to review the
9 plans, the methodology and the findings of PG&E's effort
10 to characterize the seismic risk.

11 That effort continues. I'll go back and talk a
12 little bit about some of the specific things we
13 undertook. But just to finish up the -- sort of the
14 history of the IPRP itself. In September of 2016, AB
15 361 was signed, which was a bill that established the
16 IPRP in existence and active on making commentary on the
17 seismic situation for as long as Diablo Canyon Power
18 Plant operates.

19 PG&E runs a -- you may well have had a
20 presentation on it -- what they call the long-term
21 seismic program. This is an effort to further refine
22 the understanding of seismic risk at the power plant.
23 It's been in operation since the inception of the power
24 plant, I think, in the early 1980s. And continues to
25 this day addressing indeed a couple of the issues that

1 IPRP has raised that have not been fully resolved.

2 Along the lines there, there were two events that
3 occurred that were significant. First in November of
4 2008, early in the process, the Shoreline Fault was
5 discovered. That was, you may recall, the fault that
6 runs very close to the power plant directly along the
7 shoreline. And PG&E went ahead to analyze that fault as
8 to its seismic risk.

9 They completed that analysis and submitted that in
10 January of 2011. And their conclusion with which the
11 IPRP, after analysis of a number of datasets concurs
12 with, is that the Shoreline Fault does not pose any
13 extra seismic threat to the power plant. The main
14 seismic threat -- the main seismic hazard still rests
15 with the Hosgri Fault, some -- about three miles
16 offshore, which is capable of a much bigger earthquake.
17 And I'll go into just a couple of the basics of seismic
18 risk analysis here in just a second.

19 The other major event, as I'm sure you know, was
20 the Fukushima earthquake in March of 2011 in Japan. And
21 a year later in March of 2012 the NRC issued a request
22 for information from -- for all the power plants that
23 were subject to seismic risk to understand exactly --
24 to, basically, reconfirm their -- their analysis of the
25 seismic risk of each power plant.

1 And Diablo Canyon is not alone in being subjected
2 to seismic risk, actually. There's -- and I won't get
3 off on a wonderful tectonic anomaly which is in the
4 center of our country along the New Madrid Fault near
5 New Madrid, Missouri. There is a fault capable of an
6 earthquake comparable in size to the one that we could
7 expect in the Hosgri Fault. They are in the middle of
8 the country, thought to be stable in a variety of
9 different ways.

10 In fact, in historical times there have been
11 earthquakes of a size that have changed the course of
12 the Mississippi. But that is a story for another
13 evening, perhaps around the campfire or something like
14 that.

15 So I think it's fair to say what happens is that
16 the effort to pursue the seismic risk surrounding the
17 normal relicensing sort of merged with the effort to do
18 the evaluation post Fukushima. And this was, then, a
19 large effort to really totally go in again with modern
20 techniques, a fresh look at what the seismic risk of the
21 -- of the -- to the plant would be.

22 I should say that what the NRC asked for in March
23 of 2012 was a probabilistic seismic risk analysis. And
24 that's an important piece of information to know.
25 Because in the manner of assessing risk, the methodology

1 that's used by the NRC in judging whether to go ahead
2 and license a plant is to ask: Is there more than a
3 certain very low probability that an earthquake damaging
4 enough to cause a serious critical safety-related
5 failure was capable? And, typically, that risk is
6 expressed in a probability -- an annual probability.
7 What's the chance that this bad event might happen
8 within a year?

9 And depending -- again, it takes a while to sort
10 all of this out. But that probability might be -- the
11 threshold of that might be below one in a 10,000 chance
12 or one in a million, somewhere in that range. And,
13 again, would take a minute to sort out exactly.

14 So -- but let me -- again, we're dealing with
15 probabilities here. And that's, I think, in general a
16 difficult issue for people to wrap their heads around to
17 decide is something safe. What level of risk are you --
18 are you willing to take?

19 I would observe a side bar that that's -- that's a
20 particularly important question when you deal with the
21 safety of the nuclear power plant. Where we could say
22 that the risk of a serious accident -- an accident, for
23 instance, that might release radiation is very, very
24 low. But the consequence of that -- of that -- you
25 know, if that did happen, the impact is very, very high.

1 That's a difficult situation to process. If the -- if
2 the probability of something, like, a fender bender, you
3 know, is high and the consequence is, you know, not so
4 high -- or the impact is not so high, you can sort of
5 deal with that.

6 But when you deal with the issues of -- of
7 probabilistic risk analysis for very large impact events
8 that -- there is -- there is -- there are a set of
9 criticisms that have been lodged that that's a difficult
10 thing to make public policy off of.

11 Let me just briefly run through the -- just the
12 very basics of seismic risk analysis and then talk a
13 little bit about a couple of items that in one of the
14 last IPRP reports we left open as important issues that
15 need to be studied. And then talk a little bit about --
16 a little bit about the future.

17 So the question of probabilistic seismic risk
18 analysis is what -- you know, what is the chance that an
19 earthquake will shake the plant hard enough to cause a
20 concerning sort of failure? And the question can be
21 broken down into a number of parts. One is, what
22 determines how hard the plant's going to shake? Well,
23 that's quite clearly the size -- the maximum -- the size
24 of the biggest expected earthquake or the size of the
25 earthquake that might do it; the distance away that that

1 earthquake is generated, how far away, for instance, is
2 the epicenter? And then the conditions around the
3 plant, the specific geologic conditions. What kind of
4 rocks? What kind of material does the plant rest on?

5 So when those seismic waves arrive at a site, the
6 question is: How does that site respond? Does it
7 create large ground motions or not? And it depends,
8 again, on the materials there.

9 The chances of an earthquake of a concerning size
10 occurring are related to the size of the earth -- well,
11 let me -- let me back up. The size of the earthquake
12 depends on a number of physical parameters; the length
13 of the fault; the depth of the fault; basically, the
14 size of the fault; the -- how fast the two sides of the
15 fault move past one another and in what directions do
16 they slip along, like, we tend to think the San Andrea's
17 does or do they go in more vertical motions like other
18 -- other faults do; and then the material that the fault
19 is -- is located in.

20 So that determines the basic parameters of the
21 size. And that's why the seismic imaging techniques
22 were really important to try to understand how long is,
23 for instance, the Hosgri Fault? What other faults does
24 it connect to? Very particularly how long was the
25 Shoreline Fault? How deep was the Shoreline Fault? And

1 what other faults did it connect to?

2 And the conclusion was reached that the Shoreline Fault
3 didn't pose extra seismic risk because it wasn't that
4 long. It didn't connect that far. And it wasn't that
5 deep. So it just didn't have the spacial size to really
6 create an earthquake even though it was very close to
7 the plant it could pose a bigger threat than the one in
8 the Hosgri.

9 Again, the chances are related to size. That's an
10 empirical relationship that we find, that very large
11 earthquakes are very much less likely to occur. So the
12 probability of the concerning earthquake is related to
13 the size of the concerning earthquake. And that's where
14 we get into, then, the probabilistic risk analysis of
15 how often?

16 And then what actually happens at the site? How
17 does the site respond? Again, there are empirical
18 relationships that have been studied. Earthquake
19 seismology says, you know, we've studied earthquakes of
20 this size from this distance and we've seen these kind
21 of motions to the ground. Those are averages. But
22 there's other ways of analyzing that which is explicitly
23 to do a detailed analysis of what those materials are;
24 what direction the waves come in and model exactly how
25 strong the ground motion is going to be.

1 The -- the first approach this averaging approach
2 is called an ergotic approach. And, you know, again --
3 and I would let folks from NRC, you know, correct or
4 refine what I have to say. The analysis of risk that
5 the NRC goes through is based on an ergotic approach to
6 what happens at the -- at the site. And I promise
7 that's as technical as I'm going to get with this.

8 Again, the IPRP -- and I have IPRP report Number
9 11. Again, I think there are 13 of them. When PG&E was
10 asked to study the -- study the, you know, revised
11 probabilistic seismic risk analysis post Fukushima that
12 report was actually filed with the NRC in April of 2018.
13 So that was post the agreement to close. But that's an
14 issue that still quite relevant. That's relevant today
15 to the operation of the plant.

16 And in wrapping up our analysis of the -- of the
17 California Central Coast seismic imaging project the
18 IPRP spoke to a couple of things that it thinks would be
19 worthy of future study. We have a diagram -- again, I
20 promised no slides. But we know that there are various
21 components to the seismic risk, the length of a fault;
22 the slip rate of a fault; conditions at the plant; and a
23 number of other things.

24 There are certain of these components of the risk
25 that have greater uncertainty than others. And that --

1 our effort has been to narrow the uncertainty. That's
2 the effort of the long term seismic program that PG&E
3 runs. It is the desire of the -- of the IPRP to address
4 the analysis of each study that attempts to, again,
5 narrow these.

6 What we saw as important points are: One, is the
7 complexity of the site response. And we've suggested
8 and PG&E has been pursuing over the years -- I haven't
9 checked in recently with that -- a more detailed
10 analysis of the physical structure around the site.

11 The other is the earthquake potential in the Irish
12 hills. You may remember as part of this funny looking
13 trucks trucking around the Irish hills vibrating the
14 ground. That was a means of putting seismic energy
15 into -- like, medical ultrasound to create an image.

16 The geology of the Irish Hills is notoriously
17 complex. And trying to get an image of that is
18 incredibly difficult. And those images did not produce
19 definitive answers as to exactly where the faults were
20 and how they ran in the Irish hills. Again, history
21 suggests there have not been historic -- I don't recall
22 significant historic earthquakes in the Irish hills.
23 But because of their proximity to the plant the IPRP
24 thought that this was a field for future study.

25 Let me just conclude by saying my experience with

1 the IPRP confirms for me that in any analysis of safety
2 and in particular the seismic safety, which is a subset
3 of the much wider mission that Dr. Budnitz described for
4 the Independent Safety Committee, that ability to have
5 independent experts review technical data and confirm or
6 critique conclusions is fundamentally important.

7 And, again, as we move forward considering whether
8 extension of the operating license is appropriate, I
9 think it is absolutely fundamentally important to have
10 independent review at every stage.

11 With that, I would be happy to answer your
12 questions.

13 MR. ANDERS: Linda -- Bill, Linda has her hand up
14 right now. Linda?

15 MS. SEELEY: Thank you very much, Supervisor
16 Gibson, for your presentation. I wanted to ask -- I was
17 looking online for the IPRP reports. And the last one I
18 could find was from 2018. And I'm wondering if you have
19 met since then.

20 DR. GIBSON: I believe the IPRP has met within the
21 last year or so. There was one COVID meeting. I wasn't
22 able to attend that one. And I'm not sure exactly of
23 the -- well, I did get the slide deck of it. But I have
24 not seen a report coming out of it. I have been talking
25 to the PUC. And the IPRP is working to set up a meeting

1 for late September this year to continue its
2 considerations.

3 MS. SEELEY: Thank you.

4 MR. ANDERS: Thank you. I'll turn it over to
5 you, Bill, for any conclusions.

6 MR. LATHROP: Chuck, could I -- Chuck, could I
7 ask a question?

8 MR. ANDERS: Oh, I'm sorry. I missed that,
9 Scott. You are going to have to throw something at me.

10 MR. LATHROP: Sorry about that.

11 Just kind of curious. At the beginning of your
12 presentation you talked about seismic techniques as far
13 as evaluating. And so I got to thinking is that if you
14 are saying techniques -- as far as the current
15 evaluation that has happened at Diablo Canyon, I would
16 assume that it's been done by the latest greatest
17 technique; is that correct?

18 DR. GIBSON: It has been done by the latest
19 greatest technique that could receive a permit from the
20 Coastal Commission. So the initial vision PG&E had
21 would be to do what's call a marine seismic reflection
22 survey.

23 MR. LATHROP: Okay. And not -- and not others --
24 other areas?

25 DR. GIBSON: Well, a major -- a large -- a high

1 energy seismic survey. The consideration there is that
2 compressed air sources generate a tremendous amount of
3 marine noise. And the Coastal Commission didn't permit
4 it. The alternate was to use lower power, higher
5 frequencies that only imaged the near surface. But
6 through some geologic deductions many of the same
7 conclusions can be approached with detailed analysis of
8 the very near surface.

9 MR. LATHROP: Okay. So based on the information
10 gathered and the design that's in place right now for
11 the power plant, I'm assuming that it's based on the
12 worst case scenario as far as the faults are concerned.
13 I think you mentioned a couple of faults. And I think
14 the one that everyone is aware of is what the plant is
15 designed for, right?

16 DR. GIBSON: Right. The Hosgri Fault.

17 MR. LATHROP: So that would not need to be
18 changed unless we found a new fault or we have a new
19 technique that discovers maybe a different probability
20 or it needs to be designed.

21 DR. GIBSON: Or what the IPRP -- again, there is
22 a range of uncertainty in the amount of hazard for
23 conditions around the plant. The IPRP would like that
24 nailed down.

25 MR. LATHROP: You want -- you want the criteria

1 refined even further.

2 DR. GIBSON: Yeah. So we want to know what the
3 site response is what it's called.

4 MR. LATHROP: Understand.

5 DR. GIBSON: And -- and -- you know, which is --
6 has been analyzed and evaluated by NRC, decided to be
7 okay.

8 MR. LATHROP: Understood.

9 DR. GIBSON: There is a range of uncertainty. I
10 won't speak to whether the upper range on the bad size
11 is going to cause a problem. But that's the -- that's
12 the -- one of the issues we'd like to investigate.

13 MR. LATHROP: Yeah. It seems to me that we're
14 talking about somebody's degree of criteria for making
15 that design. I mean, your -- your position may be
16 different than mine as far as what that should be
17 designed towards. And so that's what I'm trying to
18 point out. It seems to me that based on your analysis
19 or studies you can come to a conclusion that it needs
20 improvement, or you could come to the conclusion that
21 it's fine the way it is. It's just curious to me as far
22 as who would actually determine that.

23 DR. GIBSON: Well, that's -- that's the NRC.
24 And, again -- and I think the NRC would speak to this.
25 Their concern is the reactor part of the plant.

1 MR. LATHROP: Yes. Yes.

2 DR. GIBSON: The seismic retrofits could be more
3 broadly considered to other aspects. And you looked at
4 Dr. Budnitz's list. Incredibly complex. And so there
5 might be seismic retrofits there that are important to
6 plant safety that could be evaluated on a different
7 basis.

8 MR. LATHROP: Understood. Thank you.

9 MR. ANDERS: Kara. And I think Maureen wants to
10 speak.

11 Also, we need to point out that we are past our
12 time on this agenda item.

13 MS. WOODRUFF: Okay. Quick question then.

14 Supervisor Gibson, do you know what year Hosgri
15 Fault was discovered about?

16 DR. GIBSON: I think it was 1974, if I remember
17 correctly. It was in the -- it was in the seventies.

18 MS. WOODRUFF: And then you mentioned the
19 Shoreline Fault was discovered in --

20 DR. GIBSON: 2008.

21 MS. WOODRUFF: -- 2011. 2008?

22 DR. GIBSON: Yeah.

23 MS. WOODRUFF: Are there any other faults out
24 there that people are aware of?

25 DR. GIBSON: Yes. I mean, there are a number --

1 it's a complicated tectonic area. But in terms of
2 faults that are big enough to affect seismic risk, the
3 Hosgri is the main one. The Shoreline was considered
4 and then decided it's not the controlling source of
5 potential seismic risk.

6 MS. WOODRUFF: Okay. Because I hear sometimes
7 people talk about four faults off the coast of the
8 plant. Is that sort of a simplistic characterization?

9 DR. GIBSON: Well, other faults exist. Again,
10 it's a question of how big are they and what do they
11 connect to? And the Hosgri extends a bit north. And
12 I'm reading from notes because I had to refresh my
13 memory, frankly. It's been some years since I was deep
14 into the details here.

15 But there is a fairly significant fault running up
16 the coast of the California. The question is: How does
17 the Hosgri connect with that and is there any way of
18 isolating, you know, geologically the Hosgri from that?
19 But yes, other faults exist.

20 There's a fault in Avila Bay, the name of which
21 escapes me right now. But there -- this is a
22 tectonically active area. There are faults all over the
23 place. It's, again, the question of scale.

24 MS. WOODRUFF: Thank you.

25 MR. ANDERS: Thank you, Kara. Maureen?

1 MS. ZAWALICK: Actually, Felipe is going to
2 introduce the next. Go ahead.

3 UNIDENTIFIED SPEAKER: Yeah. So as was mentioned
4 we do have a couple of members from the Nuclear
5 Regulatory Commission on the line here. So what I'd
6 like to do is introduce Cliff Munson for -- as
7 introduced earlier as a senior technical advisor on the
8 engineering and external hazards.

9 And as Supervisor Gibson brought up, if there is
10 any clarification from the Nuclear Regulatory Commission
11 on that process if you could briefly mention how new
12 seismic information is handled. And if there were to be
13 concerns, how those could be raised to the Nuclear
14 Regulatory Commission. So if I could turn it over to
15 Mr. Munson.

16 DR. MUNSON: Okay. Yeah. Supervisor Gibson gave
17 a great overview of the seismic hazard reevaluation that
18 PG&E did following the Fukushima disaster in 2011. And
19 I just wanted to point out that we have, um, produced a
20 new reg, KM. It's an extensive document that, um,
21 provides an overview of each of the hazard --
22 reevaluated hazards at each of the nuclear power plants.
23 And Section 3.3 describes our reevaluation of the Diablo
24 Canyon plant in terms of the seismic hazard.

25 Um, going forward, um, again, there was a --

1 earlier in the meeting there was a website link that
2 people can go to to, you know, um, post their concerns
3 or any issues that they have.

4 The NRC staff has it's own internal processes for
5 constantly evaluating new seismic information that
6 becomes available. And we're currently doing that for
7 several plants in the central eastern U.S. And so as,
8 you know, we evaluate studies from the U.S Geological
9 Survey and other researchers to determine if -- if more
10 information about these faults off of the Diablo Canyon
11 plant -- um, if the slip rates for those faults or the
12 fault geometry or fault links are reevaluated or
13 reassessed and we need to go in and check those numbers
14 and re -- redetermine what the hazard is.

15 So we do have processes. We are keeping on top of
16 that and, um, constantly assessing their seismic risk
17 that, um, occurs from the hazards. So, hopefully, that
18 answers the question.

19 And, again, if you are interested in looking at
20 that new reg KM, it's new reg KM 017. And it's a
21 600-plus page document that describes the hazard as all
22 the U.S. nuclear power plants.

23 MR. ALMAS: Any other comments you would like to
24 make, Dr. Munson?

25 DR. MUNSON: Just one thing I'd like to point out

1 a factor that was -- that we evaluated that was
2 previously not evaluated in the deterministic analyses
3 that Supervisor Gibson referred to. For example, for
4 the Shoreline Fault in 2011, we look at fault's slip
5 rate now in the probabilistic seismic hazard analyses.
6 One of the main factors we look at is the slip rate on
7 these faults. So what is a slip rate on the Hosgri
8 Fault? What is the slip rate on the Shoreline Fault?
9 The Los Osos Fault? The San Luis Bay Fault? These are
10 faults that surround the site. And so a critical
11 parameter is the fault slip rate.

12 And all that great seismic data that Supervisor
13 Gibson referred to was used to determine that fault slip
14 rate. And then, again, that plays a big factor in
15 determining which fault -- faults control the hazard at
16 the site. And as Supervisor Gibson pointed out, it is
17 the Hosgri Fault which has a slip rate of about two
18 millimeters per year which dominates the hazard at
19 Diablo Canyon.

20 So, um, I just wanted to point that out. And, um,
21 that we did an independent analyses to verify those slip
22 rates at the NRC. And we also performed an independent
23 analyses to verify the final ground motion models and
24 ground motion response spectra that was developed by
25 PG&E.

1 MR. ALMAS: Could I ask when that analysis was
2 done? Is this relatively recently or in the past?

3 DR. MUNSON: So PG&E submitted it's reevaluated
4 seismic hazard in 2015 to the NRC. And we completed our
5 analyses of that -- our review of that analyses in 2017.
6 So it is fairly recent.

7 Once that analyses was complete, PG&E went ahead
8 and performed a seismic probabilistic risk assessment,
9 seismic PRA of the plant, that evaluated the ground --
10 the updated seismic hazard that they performed following
11 the Fukushima disaster.

12 So they took into account the updated ground
13 motion and its impact on the plant. And that was
14 completed in 2018. And I believe the review by the NRC
15 staff was completed in 2019. So all of that information
16 is fairly -- I would say fairly recent.

17 MR. ALMAS: Thank you. Chuck, should we conclude
18 or -- do we have some additional questions?

19 MR. ANDERS: Yes. Please do so. There are no
20 hands up right here so --

21 MR. ALMAS: Okay. I'm just --

22 MR. ANDERS: I'm sorry, Bruce. Didn't have your
23 light on.

24 MR. SEVERANCE: Yeah. My question was
25 Dr. Gibson had suggested that the risk assessment

1 includes conditions at the plant. And I just wanted to
2 go back to the embrittlement assessment that was done.
3 There was something called a coupon analysis where they
4 take a piece of metal that's left inside the reactor
5 vessel. This was assessed in 2002. The reactor vessel
6 in unit one was found to be among the most embrittled in
7 the nation. It's a radiation embrittlement. It's a
8 known effect. And, apparently, it's due to
9 metallurgical specifications that were probably slightly
10 off to begin with.

11 Subsequent to that the NRC decided that the
12 embrittlement was not an issue, although embrittlement
13 -- you know, so they kind of changed the standard.
14 Embrittlement is not a condition that goes away. There
15 is an article about the Palisades Nuclear Power Plant
16 that kind of describes embrittlement as something that
17 would distinctly inhibit rapid shutdown of a reactor in
18 an emergency.

19 So in my mind combine that condition or conditions
20 like that with the possibility of a large seismic event.

21 And, you know, a large seismic event followed by
22 the inability to shut down a reactor as quickly as you
23 might otherwise is something that should be evaluated
24 and of concern. And I hope that the Independent Safety
25 Committee considers the seismology in conjunction with

1 conditions like that in the plant. And I would hope
2 that, you know, PG&E is -- is discussing openly -- they
3 refer to some data and documents that the NRC has
4 provided that indicate why embrittlement is not an
5 issue. I would hope that the Independent Safety
6 Committee is investigating that very carefully to see
7 whether or not they agree. And I would suggest that,
8 you know, additional independent experts might be
9 brought in to -- you know, consultants might be brought
10 in to weigh in on that kind of analysis.

11 So I appreciate the concern about seismology,
12 including conditions at the plant and some open
13 discussion about that. Thank you.

14 And if you could comment on whether or not you
15 think that that is the type of condition that you would
16 consider to increase risks at the plant. And maybe this
17 is something
18 Dr. Gibson would like to respond to. But I would
19 appreciate, you know, comment from those that want to
20 field that question.

21 DR. BUDNITZ: Maybe -- this is Bob Budnitz from
22 the DCISC. You can rest assured that we're going to
23 revisit that in this next round. Let me describe.

24 PG&E's submittal a bunch of years ago seeking the
25 20-year extension documented why at the time they

1 thought that that was -- that was not a safety issue.
2 And the NRC was in the course of reviewing it when that
3 whole process was interrupted.

4 Now, if they go back into the NRC asking for an
5 extension, you know, soon -- a five-year extension or
6 20-year -- none of us know what it will be. They are
7 going to have to submit the latest information that they
8 believe -- they have measurements and analysis and the
9 like. And when they submit it, the NRC is going to
10 review it. And when they submit that latest information
11 and the analysis to support extension we will review it
12 too.

13 You just asked whether the Independent Safety
14 Committee will review it? Yes, we will. It's on our
15 list. And there's no way it's going to escape our
16 attention because it's an important issue.

17 But there is something important that I want to
18 say technically that you should know. The pressure
19 vessels are ductal, which means that they -- I want you
20 to imagine a stick of black licorice that you could buy
21 -- that my grandkids buy in the store. You can bend it
22 and twist it. That's called ductal.

23 Then I want you to imagine a piece of spaghetti.
24 You can't bend it and twist it. It's brittle. You
25 understand the distinction, right? Metal, when it's

1 very hot -- and those pressure vessels are very hot when
2 they are running -- is -- is highly ductal. And it is
3 not very susceptible to breaking. It's when it's cooled
4 down that it is more susceptible.

5 Well, when the plant is running, it's hot. So the
6 most important threat is when it's cooled down. For
7 example, during an extended shutdown or an outage. Or
8 if, inadvertently, it's running and it's hot and
9 inadvertently very cold water is injected into the plant
10 that then suddenly cools a vessel that had been hot. We
11 call that pressurized thermal shock. Pressurized
12 thermal shock is a phenomenon that would threaten the
13 vessel. Pressurized thermal shock at the Diablo vessels
14 has been looked at extensively.

15 And the NRC -- the plant submitted a submittal
16 about it. The NRC reviewed it. Our committee reviewed
17 it too. But that was a half dozen years ago, maybe even
18 seven or eight years ago. I'd have to look it up.

19 And whether there's any new information -- or if
20 there isn't, whether there's a more advanced methodology
21 or in any event whether there is extra data, all of that
22 will be the sort of grist for the mill for the analysis
23 that we'll do; that I know the NRC will do again, on
24 that specific question. Okay?

25 But rest assured that when the bristle is hot it's

1 real -- there's not a threat of it being brittle when
2 it's hot. The threat is when it's being cooled down.

3 MR. ANDERS: Thank you. Bill?

4 MR. ALMAS: Yes. To summarize, I guess -- I
5 think that I want to thank all of the participants, all
6 of the experts that have presented today. I think that
7 was an excellent presentation. I know I've learned some
8 things. And I would also take away from this that we --
9 should the plant life be extended, there's a lot of work
10 to be done from a lot of different people and in a
11 relatively short period of time. That's stating the
12 obvious, but I'll end with that.

13 DR. BUDNITZ: Bill and Chuck, I just want to add
14 one more thing. Again, this is the Bob Budnitz from the
15 DCISC. When the engagement panel was new a few years
16 ago we met with you people and we pledged to support you
17 whenever you asked. So far whenever you've asked we've
18 supported you. I want to just make that pledge again.
19 If you need technical support or you have technical
20 questions to ask or you want somebody like me to come
21 and do what I've just done, you can count on us to
22 respond. That's part of our charter. And we'll try to
23 be as responsive as we can be. Thank you.

24 MR. ALMAS: Thank you.

25 MR. ANDERS: Dena, you have --

1 MS. BELLMAN: Just real quick. I know we had a
2 little bit of an abrupt transition there. I want to
3 make sure we thank Dr. Gibson for being here. He -- you
4 did a great presentation. And we really appreciate that
5 you, you know, dumbed it down a little for us. No. It
6 was wonderful. I learned a lot, so I thank you very
7 much.

8 MR. ANDERS: Thank you, Dena. That brings us to
9 our break. And in thanking people too we have to
10 recognize the folks from NRC and some of the other folks
11 online are back east. And it is approaching 11, 12:00
12 right now. So thank you very much for being out --
13 making the extra effort and being with us.

14 Our agenda calls for a break right now. So I'm
15 going to ask the panel if you want to take a break.
16 Afterwards we have a panel discussion period. We've
17 eaten into a little bit of that discussion time. And
18 what's your preference? Pardon?

19 MS. WOODRUFF: Five minutes.

20 MR. ANDERS: Five-minute break. Okay. So it is
21 -- let's be back at 8:25. We'll give you seven minutes.

22 (Brief recess.)

23 MR. ANDERS: Okay everyone. I think we're ready.

24 The final topics of our meeting are panel
25 questions and comments where the panel will have an

1 opportunity to discuss -- ask questions and discuss
2 amongst themselves the information they have heard so
3 far. And then public comment, which we want to begin at
4 8:40.

5 This is a community engagement panel. And this
6 issue has drawn attention throughout the State of
7 California and the country, if not internationally. And
8 there may be many that want to make a comment. We want
9 -- and the panel has decided that they would like to
10 have the community to have the first shot, so to speak,
11 at providing comments. Because, again, this is a
12 community engagement panel around Diablo Canyon.

13 And so the procedure that we're going to follow is
14 anyone in the -- here in person that wants to speak,
15 please fill out a blue card and hand it to Donna or
16 bring it back up here. And the folks that are here in
17 person will be provided the first opportunity to speak.

18 Those online that reside in Ventura, Santa
19 Barbara,
20 San Luis Obispo, or Monterey Counties -- in other words,
21 Ventura up to Santa Cruz County will have the
22 opportunity to speak online next.

23 And those within the State of California will have
24 the opportunity to speak after that.

25 Those people outside of the State of California --

1 we're not going to take any public comments from those
2 outside of California tonight. However, we encourage
3 you strongly to submit your comments in writing on the
4 panel website at DiabloCanyonPanel.org. As was
5 previously stated just click on the big blue box in the
6 upper right-hand corner. That "submit comment" box
7 never goes away regardless of where you are on the site.
8 It dogs you. And please click on that and submit
9 comments. And all of the panel members will receive
10 those comments. And they will also be part of the
11 public record.

12 So with that, what we're going to do is we're
13 going to lower everybody's hand. And I'm asking only
14 those people who live in the Central Coast, that is
15 Ventura to Santa Cruz, raise your hand.

16 Those people in the State of California, not
17 including those previous counties, raise your hand.
18 Great. Thank you very much. And we'll take the
19 presentations in order.

20 So we will determine how much time everybody has
21 based on the number of hands that are raised and the
22 number of comment cards that we received.

23 So let's go ahead and begin with the public
24 comment period -- or not public comment period, I'm
25 sorry, the panel discussion. Any panel members have any

1 comments, observations that they would like to make?
2 Any questions of some of the experts or the participants
3 that have contributed to this meeting?

4 Kara.

5 MS. WOODRUFF: I just have a quick comment. A
6 lot of things are happening in the very short term.
7 Tomorrow, again, to remind you, the Senate Energy
8 Committee will be meeting. I believe anywhere from
9 11:30 to 12:30 in the afternoon they will begin. We
10 expect there's a decent chance that legislative language
11 will be released on Friday and go into print. And there
12 will be a vote on that legislative language, if it is
13 produced, probably by the very last day of session which
14 is August 31st, next Wednesday. A lot of things are
15 happening quickly. And so if you want to keep track of
16 it -- we're going to try to keep the engagement panel
17 website very up to date. So if you want to know what's
18 happening, periodically check back. And we'll do our
19 best to keep things posted so that you can follow the
20 issues.

21 As I mentioned, things are moving quickly. So
22 please check our website DiabloCanyonPanel.org. Thank
23 you. And thanks to all the speakers too. I thought it
24 was a great presentation today.

25 MR. ANDERS: Thank you. Tim and then -- oh, and

1 then Mariam.

2 DR. AURAN: I may be blind sighting Maureen or
3 Tom on a question like this. But I think I have heard a
4 number of people ask -- there have been extensive
5 preparations for the decommissioning of the plant at
6 this point. And if there is a plan to eventually extend
7 the life ten years or so -- of the work that's been done
8 up until this point, is much of it applicable to a
9 delayed decommissioning or is this effectively kind of
10 lost -- lost work that has been done up until this
11 point?

12 Mr. JONES: Thank you, Dr. Auran. Tom Jones with
13 PG&E. Almost all of the work that the panel has done
14 and that the utility has done is still applicable. So
15 when you think about decommissioning the nuclear
16 facility we still have the same volumes of things to
17 deal with, the exception of fuel. Right? So two
18 containments still to dismantle, a break water to still
19 repurpose. So the bulk of the work is the same.

20 Concepts like land conservation won't change.
21 Right? We know what the expectation is which matches
22 the company's. And when you go down the list the issues
23 get very narrow. And it's, essentially, an evergreen
24 list of items at this point for the analysis that we've
25 done.

1 Things will have to updated along the way, certain
2 processes. For instance, like NIFA. If you don't have
3 your information within the last five years, it's
4 considered stale and you start over. So we might have
5 to do additional characterizations. For instance, if we
6 did biological assessments that found California
7 red-legged frogs, we may have to assess where they are
8 in five or ten years or whatever duration is there. But
9 the scope is really well defined and the bulk of the
10 work is done.

11 DR. AURAN: Great. Thank you very much.

12 MR. ANDERS: Miriam.

13 MS. SHAH: Yeah. I just had a procedural
14 question. I get a lot of questions from the public.
15 And I really appreciated all the background -- extensive
16 background tonight about all of the steps that take
17 place for safety and assessing seismology. But what
18 about when I just get questions from people at the gym
19 or out in the community when they are asking me: How
20 are you going to make sure it's safe? What would be
21 your, you know, 1000 foot answer for that?

22 Like, if it's extended five years; if it's
23 extended ten years, how would you like us to just
24 explain that to someone without going into well, first,
25 we're going to go to this and that -- I want to know how

1 to communicate this to the public.

2 MS. ZAWALICK: I think I'll start here. It's
3 Maureen Zawalick from PG&E.

4 So first and foremost one way I would answer that
5 is that Diablo Canyon is a top performing plant in the
6 United States as the Nuclear Regulatory Commission has
7 concluded and also other industry evaluators and so
8 forth.

9 The other thing I would emphasize is Diablo Canyon
10 is the only station in the United States that has an
11 Independent Safety Committee like Dr. Budnitz is on.
12 And that's another -- so those layers of independent
13 oversight ensuring that we're staying safe will be in
14 place if we have extended operations. Those are just a
15 few things I would add.

16 Tom, do you want to add anything more? No? We're
17 good.

18 Does that help?

19 MS. SHAH: Yes. Thank you.

20 MS. ZAWALICK: Tom?

21 DR. JONES: The Nuclear Regulatory Commission has
22 something called resident inspectors. And they are in
23 contact with local decision makers. But they are on
24 site at the station. And they have access to anything.
25 They attend meetings. They surveil work being done in

1 the field by employees. And the NRC has the ability to
2 immediately shut down the plant if they see something
3 unsafe that causes them concern or is outside the bounds
4 of our license. So they are a very intrusive by design
5 regulator.

6 I think of them as akin to the one that the public
7 is most familiar with, which is the FAA, which can
8 ground a plane or reroute the planes flight. Right?

9 So the NRC has at least two resident inspectors on
10 site during all operations. And when there's infrequent
11 evolutions they invite other experts from their shop;
12 might come from Maryland, might come from region four,
13 which is in Texas. But we'll have addition experts --
14 subject matter experts across Nuclear Regulatory
15 Commission come and investigate the site in addition to
16 the Independent Safety Commission.

17 MS. SHAH: Thank you.

18 DR. BUDNITZ: This is Bob Budnitz. Maybe I can
19 answer -- I can't answer for our Independent
20 Safety Committee, the whole committee, but I'll give you
21 my perspective.

22 Many members of the public come to our public
23 meetings. And they want the plant shut down that
24 afternoon, because they don't judge that it's safe
25 enough. I'm not going to argue with them about what

1 they think is safe enough, because people have different
2 views about what's safe enough. And that's a really
3 difficult problem.

4 But I want to respond by saying that right now we
5 have judged that the plant is one of the top performing
6 -- our committee has, and we put it in writing -- is one
7 of the top performers in the industry, as Maureen
8 Zawalick said. And she can say it proudly. We just say
9 it as evaluators.

10 And our, sort of, criterion is that we're looking
11 to make sure, in our evaluations, that if they go
12 forward that there will be no degradation in the safety
13 at all. That every safety parameter that matters will
14 be maintained at the high level that it needs to be.

15 And there's even another criterion which I want to
16 pass along. Many years ago the Nuclear Regulatory
17 Commission adopted a policy in which they expected, they
18 said, that all the plants that they regulate would
19 gradually be safer as time went on.

20 And if you look at the safety performance of the
21 almost 100 plants that are out there now, that's
22 generally been the case. They are generally safer than
23 they were ten years ago and safer than they were 20
24 years ago, because all sorts of things are better.

25 It is our -- Diablo Canyon Independent Safety

1 Committee expectation -- I can't speak for us -- this is
2 informal but this is our idea. That when we're
3 evaluating the -- the expectation, if they go forward
4 for five more years or 15 or whatever, that we will
5 expect that there will be no degradation in any of the
6 safety parameters or indicators of importance.

7 And I think you can expect that if we see
8 something, we're going to write it up and call people's
9 attention to it. And if we see that there isn't, we'll
10 write that up. I think that's a reasonable way to
11 answer your question about whether it's safe enough.

12 MS. SHAH: Thank you. I really appreciate it.
13 And I appreciate those ways of just being able to
14 explain it to people in a short concise way. Because I
15 get questions in the grocery store, at the gym, and I
16 can't, like, pull out a report. So this is really
17 helpful. Thank you.

18 MR. ANDERS: Any other comments or questions from
19 the panel?

20 Okay. Let's move on to our public comment period.
21 And I want to turn this over to Miriam Shah to moderate
22 this discussion. Just, um, looking at the number of
23 hands raised and the number of people here, we've got
24 three people that want to comment in person; and
25 approximately eight people online and within the Central

1 Coast; and six statewide.

2 So, um, doing the math, allowing a little time for
3 comment and discussion. The folks in person would be
4 three minutes. The folks on the Central Coast, Ventura
5 through Santa Cruz, two minutes. And those people
6 commenting and calling in statewide outside of the
7 Central Coast, one minute.

8 Mariam?

9 MS. SHAH: All right. Thank you. I appreciate
10 it. Why don't -- and I just want to do a quick
11 reminder, we are the Decommissioning Engagement Panel.
12 We are not here to make decisions tonight. We're here
13 to hear your concerns. And we will try to answer
14 procedural or operational questions as we can. I will
15 note down your questions as you are talking. And at the
16 end we will try to answer ones that are answerable at
17 this time. So let's proceed. Thank you.

18 MR. ANDERS: So our first in-person speaker --
19 first person is Sam Blakesley followed by Dan See Su --
20 I'm sorry if I mispronounced -- and Eric Velum.

21 MR. BLAKESLEY: Thank you for the assist there,
22 Tom.

23 Thank you panel. I appreciate the opportunity to
24 speak to you. You represent us locally. And I've had
25 that privilege at a prior time in my life representing

1 my community up in the state legislature. So I want to
2 speak to you as an entity that represents us locally.
3 And I appreciate you giving opportunity for those who
4 live here to speak.

5 We heard a lot about probabilistic risk
6 assessment, which all sounds great. Dr. Bruce Gibson
7 talked about the difference between a fender bender and
8 what you pay to fix a fender bender versus a more
9 calamitous outcome that may be quite rare but the
10 outcome of which would be absolutely devastating. And
11 the challenge of trying to weigh those two.

12 We've seen many instances where advanced
13 technologies have been believed to be safe. We remember
14 the space shuttle was described as safe and could have
15 1000 launches without a failure. We found out very
16 quickly that such is not the case in a complex system.
17 We've been told that transmission lines are safe. And
18 the people in Paradise found out very personally just
19 how safe they were or were not. And same was true with
20 the people in San Bruno.

21 So I come to you not talking about probabilistic
22 risk assessment. Although I have a doctorate in
23 geological sciences, a masters and a bachelors in
24 geophysics from Berkeley. I served on the California
25 Seismic Safety Commission and authored some of the

1 legislation you've heard about.

2 I come to you as a constituent, talking about the
3 real world impacts of uncertainty. Why do I talk about
4 uncertainty? Because what we're talking about here is
5 how sure are we that we are safe or not safe?

6 There are a lot of elements that go into that, but
7 there is a very important area of seismology which is
8 still under intensive investigation around which we
9 don't have much certainty, but which we would need to
10 know with great precision to say that the plant is safe.
11 And that is the behavior of strong motion seismology and
12 proximity through very large earthquakes that are
13 literally hundreds of meters from a complex facility.

14 Now, you heard Dr. Gibson talk about the time
15 distance relationships, the distance magnitude
16 relationships, and the probabilistic methodologies that
17 are used to come up with the approximate levels of
18 shaking. All of that's well and good, unless you are
19 extremely close to an active fault.

20 Now we don't have a lot of data about earthquakes
21 like that because -- in fact, you are very lucky to have
22 that type of instrumentation right next to a fault when
23 it fails.

24 There is a fairly well-known example in Parkfield,
25 California, about 20 years ago where a magnitude 6

1 earthquake occurred. That's where I did much of my
2 doctoral studies. So I am very familiar with the San
3 Andreas Fault. And what was fascinating with the dozens
4 of swung motion instruments surrounding Parkfield is
5 that when they looked at the shaking, instead of coming
6 up with a single simple number that accurately defined
7 how a magnitude 6 earthquake would produce shaking, they
8 found shaking as low as a tenth of a G at 15 seconds and
9 as high as over 2.5 G.

10 The magnitude and range of the uncertainty and the
11 actual measurements so far eclipse any estimate that
12 would have otherwise have been made, you have to
13 conclude estimates of shaking in the near field are
14 poorly constrained. And it's doubly so in the site
15 response.

16 MR. ANDERS: To be fair, all --

17 MR. BLAKESLEY: Thank you very much.

18 MR. ANDERS: -- I need to ask you --

19 MR. BLAKESLEY: Appreciate it.

20 MR. ANDERS: Our next speaker is Eric Don
21 followed by Dan Su -- Su or Sea. And I apologize again.

22 MS. WOODRUFF: I think that's Eric Veum.

23 MR. VEUM: Good evening, distinguished panel. My
24 name is Eric Veum. I am a resident here of San Luis
25 Obispo and I'm co-author of the brief that was submitted

1 to this panel Pathways to Clean and Reliable Grid for
2 California Without Diablo Canyon.

3 I wanted to come before you this evening to make
4 just several brief points because time is short.

5 First is that, um, the intention of this brief is
6 to bring together a -- to offer a perspective that
7 starts to unpack the complexity of the issue around
8 the continuation of Diablo Canyon and to look at, from a
9 system's perspective, the pieces that contribute to
10 overall reliability and success in reducing greenhouse
11 gas emissions.

12 And if you look at the sources, the -- the brief
13 is highly sourced -- all of the sources come from either
14 PG&E's own testimony or from agencies like the CPUC,
15 CAISO and others. And so the intent was not to do any
16 original work, but to analyze and integrate the picture
17 of, um, the state's policy and resource availability
18 that paints a different picture that's being told around
19 the necessity for the extension of operation of Diablo
20 Canyon.

21 And so in brief, several points I'd like to make.
22 One is for those that understand how a nuclear plant
23 operates it is not intended to be used as a reliability
24 of resource. It is not flexible. It's a large
25 inflexible generator that's not intended to meet the

1 needs under extreme cases for a few hours. It's meant
2 to run all the time and produce a lot of electricity.

3 The second, in relation to the fact that it
4 produces a lot of electricity, PG&E, in their own
5 testimony during decommissioning, has demonstrated that
6 PG&E does not need the plant in order to meet its goals.
7 And that the PUC has updated the renewable portfolio
8 standard to 73 percent by 2032. And what that means is
9 continuing the operation of Diablo Canyon, providing
10 eight percent of California's energy, will decrease our
11 ability to move forward in integrating flexible
12 resources like renewable energy, battery storage and
13 others, to achieve our RPS goals by 2032.

14 So I know my time is short. But my
15 recommendations and my co-authors' recommendations I
16 encourage all to take a close look at. And for the
17 legislature to seriously consider them as they move
18 forward with considering legislation in the near term.
19 Thank you so much.

20 MS. SHAH: Thank you.

21 MR. ANDERS: Thank you. Our next speaker is Dan
22 See. And please state your name, your residence and any
23 affiliation.

24 MR. SEE: Sure. Dan See. I'm a licensed
25 professional engineer in the State of California. I

1 live here in San Luis Obispo. I have a masters from Cal
2 Poly. I teach there part-time. I spent seven years
3 working at Diablo Canyon as a consultant. I'm now
4 working elsewhere for the past four years.

5 Diablo -- I didn't set out to work in energy. But
6 working at the plant for seven years I grew to
7 understand the importance of energy in our daily lives
8 and what Diablo represents, stable base-load power.

9 Being a civil engineer my responsibility was
10 seismic safety. Everything we did -- you know, we --
11 we, basically -- you know, it's an electrical facility.
12 That's its purpose. It has a lot of mechanical
13 equipment. But then civil engineers make sure stuff
14 doesn't fall down, basically. Simplest terms I can
15 think of, but that's what it is.

16 And so to Dr. Blakesley's point, certainty.
17 Nothing in life is certain. Nothing. Not a single
18 thing. If we want to get into engineering, the practice
19 of engineering, engineering doesn't give you certainty
20 in any field.

21 Space shuttle? Yes, you are correct.

22 Seismic? Do we really want to get into
23 questioning everything?

24 How safe is the Golden Gate Bridge?

25 How safe is every sky rise in San Francisco? It

1 has a major fault running through the barrier. If
2 there's an earthquake bigger than what those are
3 designed for, there's a very immediate and certain
4 outcome.

5 If there's a radiation release at Diablo -- if
6 there is an earthquake big enough to cause a radiation
7 release at Diablo, this whole county is flat. It's
8 flat. Buildings are fallen down, bridges collapse, gas
9 lines ruptured. This town is devastated if there's an
10 earthquake large enough. And thousands of people dead
11 in the county. If there's -- if there's an earthquake
12 big enough to do radiation release -- to cause a
13 radiation release at Diablo -- there's no certainties in
14 anything.

15 So demanding a certainty from Diablo is -- is not
16 engineering. It's not the practice of engineering.

17 Um, stable base-load power? Not going away.
18 California wants to have all cars 2035 and after be
19 electric vehicles. Our electric demand is going to go
20 through the roof; through the roof.

21 We want to kick gas appliances out of homes and
22 electrify homes; water heaters, you know, furnaces,
23 stoves, et cetera. You know, gas-powered clothes
24 dryer -- our electric demand is going to go through the
25 roof. We need all the energy we can get.

1 Kicking off our safest, largest source of low
2 carbon energy, lower than anything else that we have, is
3 falling. It is absolute falling. Thank you.

4 MS. SHAH: Thank you.

5 MR. ANDERS: Thank you. Mariam?

6 MS. SHAH: And so now we will switch to our
7 speakers by Zoom; is that correct, Chuck?

8 MR. ANDERS: That's right. And so the speakers
9 online in the region will have two minutes. And I'd
10 like you first to -- to introduce yourself; your name.
11 If you have a complex name please spell it for our court
12 reporter, and your residence and, um, any affiliation.
13 And be as straight out and straight up. And if your
14 residence isn't within this area, we're going to ask you
15 to take your hand down and move to the end of the list.

16 So our first commenter is Donna Gilmore. Donna?
17 Please unmute your computer or phone.

18 MS. GILMORE: Okay. Can you hear me?

19 MR. ANDERS: Yes, we can.

20 MS. GILMORE: Okay. Great. Thank you. Um,
21 thanks. Donna Gilmore. I live in Monterey, California.

22 On my profession it says a system analyst on large
23 mission critical systems. I've spent a lot of time
24 researching for the Diablo -- for the San Onofre plant.
25 And was involved from the shutdown point to the waste

1 storage. So I've done considerable research, including
2 the transmission issues.

3 So on the Diablo Canyon, I researched the NRC
4 database for downtime for Diablo Canyon for the last few
5 years. They average 40 percent -- at least 40 percent
6 of the time at least one reactor was down for the year.
7 40 percent. And that's been consistent from 2008 all
8 the way through the year 2021. '22 hasn't finished yet.
9 40 percent downtime for one reactor.

10 And the slide that was shown in the other meeting
11 they are expecting both reactors will be running at the
12 same time. And so it doesn't -- it doesn't look like
13 that -- instead of being -- helping the grid, it looks
14 more like Diablo Canyon will actually increase our risk
15 for blackouts. And some of it is planned maintenance
16 and some of it is unplanned. Every year there has been
17 something. As the plant gets older there is going to be
18 more things.

19 So, you know, as a systems analyst, you have to
20 look at the whole picture. The consequence of failure
21 at Diablo is unacceptable. And I have some information
22 I can send you.

23 MS. SHAH: Thank you for those comments.

24 MR. ANDERS: Thank you.

25 MS. SHAH: Who do we have next?

1 MR. ANDERS: Our next speaker is Eric Greening.
2 Eric, please unmute your microphone.

3 We're going to have a tech problem here, I guess.
4 And we're going to call on our tech specialist, Bob, to
5 help us out.

6 In the meantime, let's move on to Susan Harvey.
7 And, Eric, we'll come back to you.

8 (Zoom unintelligible talking.)

9 MR. GREENING: Is this Susan's turn or my turn?

10 MR. ANDERS: Okay. Eric, please go ahead.
11 Please state your name and residence and any
12 affiliation.

13 MR. GREENING: I'm Eric Greening from Atascadero.
14 And I very much appreciate all of these presentations.
15 It sounds as if there is a lot more than \$1.4 billion of
16 work to do involved with any license extension.

17 My question is about the senate hearing tomorrow.
18 Normally, hearings are held about introduced legislation
19 in committees and so on. But, of course, this is a very
20 accelerated process. Legislation won't be introduced.
21 But there's language circulating -- actually, two pieces
22 of language circulating. There's what the Governor
23 wants and then there's what's coming from the Assembly.
24 So are both of those sort of draft languages germane to
25 tomorrow's senate hearing? Are they both getting heard

1 and attention?

2 And then the question is: In what sequence will
3 they be introduced and in what sequence will they be
4 voted on? And I think the sequence could be very
5 important. If one -- if the passage of one,
6 essentially, preempts the other, then what happens?

7 My case -- and, obviously, you are not the
8 legislature. And they are probably not listening to you
9 right now. But I believe the assembly language should
10 take precedence. This is the legislature's job. Not to
11 take dictation from the Governor but to originate
12 legislation. They make the laws. They make the policy.
13 They make the budgets. They decide where the money will
14 go.

15 The Governor's job is to execute, not to dictate
16 to the legislature. So I would very, very strongly hope
17 that the assembly bill gets fully heard, fully voted on
18 before any dictation from the Governor has a chance to
19 go through the same process. Thank you.

20 MS. SHAH: Thank you, Eric. Good to hear from
21 you. Next person.

22 MR. ANDERS: Our next speaker is Susan Harvey.
23 Followed by Patrick McGinthy and then Heather Hoff.
24 Susan, go ahead.

25 MS. HARVEY: Hi. I'm Susan Harvey speaking for

1 the (Zoom inaudible) opposes (Zoom inaudible) Diablo
2 Canyon Power Plant. The -- California has added more
3 than 4000 new megawatts of reliable power capacity to
4 the state's grid. That's the equivalent of two Diablo
5 Canyons. And we need a better plan than keeping Diablo
6 open. A better plan would -- would -- the other
7 legislation has been presented recently, an alternative
8 to Diablo is a good example of at least an attempt for a
9 better plan.

10 But regarding the legislation that will be
11 addressing keeping a -- continuing Diablo Canyon's
12 operation, PG&E stated at a decommissioning hearing that
13 the cost per hour to generate electricity at Diablo is
14 6.57 cent a kilowatt hour. I think it's incumbent
15 upon PG&E to make sure that the legislators and the
16 public know what the anticipated cost for kilowatt hour
17 annually will be over the ten years. And how much of
18 that is a rate payer obligation. And how much will the
19 taxpayers be obligated to pay? How much are the
20 stockholders going to pay? And how much, unfortunately,
21 are future generations going to pay?

22 There's so many, as Dr. Budnitz made clear, moving
23 parts to this. It's almost impossible to make a decent
24 risk assessment. And that's another reason, just from
25 that standpoint, that it should be closed -- that it

1 should be closed on time.

2 The other problem with the legislation -- the
3 legislation has been looking at tomorrow and (Zoom
4 inaudible) completely glossed over. All the problems
5 are completely glossed over. Listen. Thank you so much
6 for your time. I live in the Creston area. Thank you
7 so much.

8 MS. SHAH: Thank you. Next?

9 MR. ANDERS: Next speaker is Patrick McGinney,
10 followed by Heather Hoff and Paris Ortiz Wines.

11 MR. MCGINTHY: Thank you, panel, for the
12 opportunity to speak. My name is Patrick McGinthy. And
13 I'm a 50-year resident of Los Osos and a stakeholder of
14 the area.

15 I vehemently oppose the continued operation of the
16 Diablo Canyon Nuclear Power Plant which may be a top
17 performing plant. I have no background to question
18 that. But we all know the faults underneath the plant
19 can also be top performing. It needs to be shut down as
20 promised 40 years ago.

21 If you remember at that time we were told nuclear
22 power was safe until Three Mile Island happened. And
23 then there was Chernobyl, which wiped out a whole city.
24 And then Fukushima Daiichi which is still polluting the
25 Pacific Ocean and has made the surrounding area

1 uninhabitable.

2 No one in the USGS has said California is 50 years
3 overdue for a major earthquake. Are we willing to take
4 the risk for another 50 or five or 20 years that it
5 won't happen again or won't happen. We were told not to
6 worry about the storage of nuclear waste because in a
7 few years there would be a safe depository opened. It
8 never happened.

9 We were told nuclear power would be so cheap you
10 couldn't even meter it. Not true. Or that plutonium
11 was so safe you could put it on your breakfast cereal.
12 Yet no one at the NRC or elsewhere would try it. They
13 were all misrepresentations or to say it another way all
14 big lies. Don't make the closure of Diablo another big
15 lie.

16 Nuclear power only produces less than ten percent
17 of our power. Like water, energy consumption must be
18 used for necessities now and not for convenience or
19 entertainment. As a society we can conserve 10 percent
20 of our energy use. And we must be encouraged to do so.

21 The \$1.4 billion forgivable loan the Governor
22 wants to throw at Diablo Canyon could be put to better
23 use for incentives, solar generation on roof tops, or
24 whatever else would be forward thinking for a safe
25 reliable energy. The safe and promised decision to

1 close Diablo Canyon in 2024 should be (Zoom inaudible).

2 Thank you.

3 MS. SHAH: Thank you. And the next speaker,
4 please.

5 MR. ANDERS: Our next speaker is Heather Hoff
6 followed by Paris Ortiz Wines and Louis Umpter.

7 MS. HOFF: Hi my name is Heather Hoff. I work at
8 Diablo Canyon 18 years now. I live here in San Luis
9 Obispo. I run a non profit called Mothers for Nuclear.

10 I appreciate everyone being here and being curious
11 and asking questions. That's how I changed my mind
12 about nuclear. It wasn't easy. It took about six years
13 of relentless investigation.

14 What I don't appreciate is constant throwing up
15 of barriers and issues without listening to the answers.
16 Many of these issues raised tonight have already been
17 solved or are not an issue in the first place. I'm not
18 going to rehash all the concerns that have been raised
19 other than to say I've had all of these same concerns
20 myself, explored all the aspects and sometimes,
21 surprisingly, found that things weren't what they seem.

22 Everything points to the need for more clean
23 energy and the value that Diablo Canyon provides, not
24 just for California, but for humanity and our planet. I
25 suggest we refocus our discussion on what we care about

1 and then what we need in order to get there. I care
2 about reliable electricity. People die in blackouts.
3 Cal ISO says we need more electricity.

4 I care about clean energy. Diablo provides 15
5 percent of California's emission-free electricity. I
6 care about climate change. All history shows that when
7 existing nuclear plants close emissions go up. I care
8 about transitioning away from natural gas, which is
9 currently 15 percent of California's electricity. And I
10 care about energy security. Right now 30 percent of our
11 electricity is imported.

12 All of Europe is in a worse situation right now
13 because Germany shut down their nuclear plants and is
14 now suddenly trying to stop using Russian gas.

15 I care about safety. There is no such thing as
16 safe, only different levels of risk. Continued
17 operation of Diablo, even assuming the worst case in
18 extremely unlikely scenarios, is still way less risky to
19 human health and the environment than all our other
20 options.

21 The choice is clear. We will always need more
22 clean energy not less. Some of this pivot will be hard
23 but I think we can do hard things. I have confidence in
24 our team at Diablo Canyon and all of you to keep driving
25 for things that we care about. We can have it all. We

1 can build a Cal Poly innovation park. We can do land
2 back for YTT. We can invest in more clean energy. And
3 we can keep running Diablo Canyon.

4 MS. SHAH: Thank you. Next up.

5 MR. ANDERS: Next up is Paris Ortiz Wines
6 followed by Louis Umpter and Jill Samek.

7 MS. WINES: Hi. My name is Paris Ortiz Wines.
8 I'm a Goleta local, second generation Mexican American,
9 and a millennial. And my family members are being
10 impacted by California's energy austerity policies.

11 In 2021 Californians saw their electricity prices
12 increase by nearly 12 percent. Residents pay about 66
13 more for electricity than the rest of the country. And
14 as of March this year 3.6 million residents struggled to
15 pay their electricity bills totalling over \$1 billion.

16 Our energy austerity policies are placing the
17 burden on our most vulnerable population. Already we
18 pay higher electricity prices during 4 to 9 during our
19 peak demand because we do not have enough energy. The
20 idea to use less energy is elitist.

21 If we are to close Diablo Canyon, our most
22 reliable source of power we have, this will only worsen.
23 In fact, CAISO stated in 2025 the cape (phonetic) will
24 have a capacity shortfall of about 1800 megawatts. They
25 have also projected annual electricity rate increases of

1 between 4 and 9 percent between now and 2025.

2 The data is clear. When nuclear plants close they
3 are replaced with fossil fuels. When the San Onofre
4 Nuclear Plant was shut down emissions in California
5 increased by 37 million metric ton of CO2 equivalent.
6 If Diablo Canyon is lost, 15.5 million metric tons of
7 greenhouse gas emissions will be emitted between now and
8 2030.

9 To close Diablo Canyon would be an environmental
10 and social injustice. Why aren't we concerned about all
11 the natural gas plants that will still exist if Diablo
12 Canyon is closed? Of the debates, hypotheticals and
13 uncertainties these are operating now including the air
14 and increasing emissions.

15 Why wouldn't we just continue to invest in our
16 existing clean energy infrastructure? Diablo can and
17 should be operating for 20 years and more.
18 Decarbonization means zero carbon energy not 100 percent
19 renewable energy.

20 Thank you for my time.

21 MS. SHAH: Thank you. Can we have the next
22 speaker?

23 MR. ANDERS: Our next speaker is Louis Umpter,
24 followed by Jill Samek and Harvey Wasserman. And please
25 state your name and your residence and any affiliation.

1 Thank you.

2 MR. UMPETER: Good evening. Thank you, Chuck. I
3 believe you can all hear me. I'm Louis Umpter. I live
4 in San Francisco. And I emigrated into the U.S. from
5 France which is 70 percent nuclear for its energy
6 production.

7 I wanted to talk about a little bit risk versus
8 exposition. And this one is for you, Mariam, and the
9 people at the gym. So it's very important -- a lot of
10 people are scared about nuclear. And I think it's very
11 important to explain the difference between the risk and
12 exposition.

13 Nuclear is very risky. If you like, you know, our
14 near (unintelligible) like, you're going to get radiated
15 and die pretty quickly. But the thing is we are not
16 very exposed to that. All right? I trust people like
17 Bob and the NRC to keep us safe from those dangers.

18 However, I am much more exposed to, like, car
19 traffic when I am biking. All right? And that's in the
20 end more risky for me. All right? So explain the
21 difference in risk and exposition is super important.
22 You're never exposed to radioactive materials. That
23 doesn't happen. But the safety that we just saw it
24 allowing we can learn from historical data.

25 I want to talk about the work of the GRC, which is

1 the European Union body for science research which is
2 Europe commission. And the report from last year
3 section 3.5 report of severe accidents. Nuclear is on
4 par with hydro. So if you guys want to close nuclear
5 plants because they are risky, you should also consider
6 closing all hydro and dams that we have, because they
7 are the same risk in the end. Right?

8 Also about safety and risk, I want to talk about
9 the story of, like, Japan and Ukraine. Japan and
10 Ukraine are the two countries with the biggest nuclear
11 accidents, yet they are ones most committed to nuclear
12 today. Japan just announced today that they were going
13 to restart, like, almost 20 reactors next summer. And
14 they are going to build new ones.

15 Ukraine is heavily invested in nuclear. They are,
16 like, one of the biggest plants in Europe today. And
17 it's safe even with the war. I'm still not scared by
18 that. There's better fights to pick for climate change.
19 The fight against nuclear is just, like, nonsense.
20 Fight against, like -- fight for your transparency.
21 Fight for better transparency with the police and so on.
22 There's better fights. Thank you for your time.

23 MS. SHAH: Thank you. Do we have the next
24 person?

25 MR. ANDERS: Our next speaker is Jill Samik

1 followed by Harvey Wasserman and James Hettle.

2 Jill, please unmute your microphone.

3 MS. SAMEK: Okay. Can you hear me now?

4 MR. ANDERS: Yes, we can. Thank you.

5 MS. SAMEK: I'm Jill Samek. I'm a member of the
6 Board of the San Luis Obispo Mothers for Peace and a
7 downwind resident of Arroyo Grande.

8 I am adamantly opposed to extended operation of
9 Diablo Canyon beyond 2025 for any length of time. It
10 should have closed by natural consequences in 2019 when
11 it became economically unviable.

12 I'm opposed to any further negotiations,
13 subsidies, continued and increased safety risks and
14 environmental waivers. There is a deal to close Diablo
15 by 2025, for good reasons. And we must not violate it.

16 It was well thought out. And it has benefitted
17 all parties; PG&E, cities, schools and workers. Any
18 attempt to renege on it shows lack of integrity and
19 foresight. We must not continue to burden rate payers
20 and taxpayers with the tremendous cost of resurrecting
21 this old dirty and dangerous plant. We must not go back
22 to 1960s technology. We must not continue to generate
23 even more toxic waste to be stored above multiple active
24 earthquake faults. We must not expose the region to
25 further risks.

1 Remember Three Mile Island. Remember Chernobyl.
2 And remember Fukushima. People did die as a consequence
3 of those accidents. We must close Diablo as planned.
4 We must spend our time and money on implementing 21st
5 century energy clean resources, efficiency and
6 conservation. Thank you.

7 MS. SHAH: Thank you. The next person.

8 MR. ANDERS: Next speaker is Harvey Wasserman,
9 James Hettle and Ryan Pickering. Please state your
10 name, residence and any affiliation.

11 MR. WASSERMAN: Hi. My name is Harvey Wasserman.
12 I'm a resident of Los Angeles. And I have children and
13 grandchildren here.

14 That -- the Diablo Canyon reactors are not insured
15 for the good reason. I want to see somebody who is
16 advocating continued operation of Diablo Canyon step
17 forward and tell me how you will compensate me and my
18 family for the loss of our health and our livelihoods
19 when and -- if and when -- and I think it's more when
20 than if -- the San Andreas or one of the many other
21 earthquake faults takes those reactors to the ground.

22 Diablo Canyon One is embrittled. We asked Gavin
23 Newsom years ago to inspect it. In 2019 we presented
24 him with a petition signed by 2500 people. And he has
25 refused to inspect that reactor. And here we are

1 after -- there were two years of very important, very
2 credible negotiations that went on to come to the
3 conclusion that those reactors should shut. And now
4 he's pushing forward in less than two months to force a
5 decision.

6 The 1.4 billion should go to renewables. And
7 there is no one advocating for the continued operation
8 of these reactors that can come forward and tell me how
9 they are going to be insured. After all of these years
10 the nuclear power industry has been unable to get
11 private insurance. And now you can't tell me, as a
12 Los Angeles resident, what will happen to my children
13 and grandchildren when those reactors blow up. So thank
14 you very much.

15 MR. ANDERS: Mr. Wasserman, we are offering one
16 minute to folks who live outside of the Central Coast
17 area. Our timer is broken, but I think your time is up.
18 Thank you.

19 MS. SHAH: Chuck, is everyone here on out a
20 one-minute speaker? We'll reset the clock for the next
21 person.

22 MR. ANDERS: Our next person is James Hettle,
23 followed by Ryan Pickering and Julia Duval. The rest of
24 our speakers will have one minute to speak.

25 MR. HETTLE: James Hettle. The natural resources

1 defense counsel and other signatories to the agreement
2 2016, which is a legal binding contract, wrote to the
3 California Energy Commission. And they said this: Any
4 attempt by the State of California to force a material
5 deviation from the letters of the agreement would
6 violate the constitution, thus attempting to extend
7 Diablo Canyon's operation beyond this agreement is
8 contrary to the express terms of the joint proposal
9 would not e only be exceedingly bad state policy, it
10 would be unlawful and unconstitutional. That's the
11 bottom line. Thank you.

12 MS. SHAH: Thank you for those comments. Next
13 person.

14 MR. ANDERS: Our next speaker is Ryan Pickering
15 followed by Julia Duval and Guido Nunez Lucia.

16 MR. PICKERING: Hello. My name is Ryan Pickering
17 from Berkeley, California. The purpose of my comment is
18 to highlight a viable plan to extend operations at the
19 plant while achieving broad community support and
20 restorative justice.

21 Diablo Canyon is located on the Pecho Coast, the
22 ancestral homelands of yak tityu tityu yak tilhini tribe
23 known locally as YTT. On July 27th, Mona Tucker, the
24 tribal chair of YTT sent a letter to the Governor's
25 office. The letter expresses unanimous support from YTT

1 tribal council to demand the return the Diablo lands.
2 This land was stolen from YTT without consent, agreement
3 or compensation. The tribal resolution lays out a
4 pathway towards restoring the land to the tribe for
5 conservation.

6 The tribe has spoken publicly that they are
7 willing to lease these lands to PG&E for continued
8 operation of the plant. The tribe was not consulted in
9 the 2018 joint proposal to close the plant, making it
10 invalid.

11 In June 2021 the tribe registered to acquire
12 Diablo lands through the CPUC's new tribal land transfer
13 police.

14 MR. ANDERS: Your time is up, sir.

15 MR. PICKERING: I call on this panel to support
16 extended operations of and partnership with YTT tribe.
17 This ensures prosperity for California while --

18 MR. ANDERS: Sir --

19 MR. PICKERING: -- justice to our community --

20 MR. ANDERS: -- in fairness to all other
21 speakers, your time is up.

22 MS. SHAH: Thank you. Let's have the next
23 person.

24 MR. ANDERS: Next person is Julia Duval.
25 Followed by Guido Nunez Lucia and Lindy Dowd.

1 Julia, go ahead, please. Julia, go ahead. Unmute
2 your microphone. We're not hearing Julia. So let's go
3 to the next speaker.

4 Guido Nunez Lucia, followed by Linda Dowd and J.
5 Hondu Kim.

6 MR. LUCIA: Good evening, honorable members of
7 the panel. Can you hear me?

8 MR. ANDERS: Yes, we can. Thank you. Go ahead.

9 MR. LUCIA: Good evening. My name is Guido Nunez
10 Lucia. I'm a resident of San Francisco. I'm a data
11 scientist. I'm an immigrant. And I've been working on
12 environmental issues for the last 32 years.

13 I support continuing the impeccable safety record
14 of the Diablo Canyon. It's a question why we are
15 discussing -- even discussing closing the Diablo Canyon.
16 Because if some people here say we have enough power to
17 keep the lights on, why aren't we focusing on natural
18 gas plants? Right now are poisoning the air, are
19 causing asthma and respiratory illness all over the
20 state. Let's not focus on hypotheticals. Leaving that
21 aside --

22 MR. ANDERS: Thank you, sir.

23 MS. SHAH: Thank you. Next person.

24 MR. ANDERS: Next speaker is Linda Dowd followed
25 by

1 J. Hondu Kim and Mary Beth Bragon.

2 MS. DOWD: Hi. I'm Lindy Dowd. And I am local
3 so I hope I can have two minutes. I live in Los Osos.
4 Seven miles as the crow flies from Diablo Canyon. I'm
5 also the San Lucia Chapter of the Sierra Club co-lead
6 for the Governor's visionary initiative to conserve 30
7 percent of California's bio diverse lands by 2030,
8 called 30 by 30.

9 The 12,000 acre Diablo Canyon lands are a major
10 conservation priority for the Central Coast's
11 participation in 30-30, as is the establishments of the
12 Chumash Heritage National Marine Sanctuary.

13 Extending the operation of this aging nuclear
14 power plant would be a major setback in this 30 by 30
15 effort. And it is very disappointing that the Governor
16 is promoting this. There are bound to be bumps in the
17 road to reduce in California carbon footprint and
18 transitioning to a more nature-based sustainable energy
19 future. But I believe these bumps should be heading in
20 the right direction, not going backwards.

21 With an incentive-base push for energy
22 conservation by all of us and investing that \$1.4
23 billion in renewable energy and storage, we can do it.

24 Investing in this aging plant is throwing good
25 money after bad and increasing the risks we've lived

1 with for 40 years of environmental impacts, earthquakes,
2 malfunctions, stored nuclear waste, terrorist attacks,
3 and on and on. I strongly support keeping the shutdown
4 of Diablo Canyon on schedule and not extending it a
5 minute longer. Thank you.

6 MS. SHAH: Thank you. Next person.

7 MR. ANDERS: Next speaker is J. Hondu Kim
8 followed by Mary Beth Bragon and Tim Smythe.

9 Please state your name, city and affiliation.

10 MR. KIM: My name is J. Hondu Kim. I'm a
11 resident of Santa Clara County. I'm a member of All
12 Mothers for Nuclear, although not a mother. And I have
13 generally been a supporter of this.

14 In general, I hope within the public comment it's
15 important we talk about accidents or risks or
16 uncertainty. But the certainty is that we continue to
17 put out an enormous amount of air pollution which has
18 known effects. If there was any -- despite enormous
19 effects -- for example, as Harry Wasserman spoke about
20 LA, the people -- the people of LA especially -- or go,
21 um -- have air pollution effects that constantly affect
22 the health. It is a known disaster. 200,000 Americans
23 die every year early of air pollution. And yet we do
24 not assess these risks. We are putting a much higher
25 scrutiny on this nuclear use, fossil fuel use.

1 MS. SHAH: Thank you, J. Thank you for those
2 comments. Next up.

3 MR. ANDERS: Next up is Mary Beth Bragon followed
4 by Tim Smythe and Ace Hoffman. Mary Beth.

5 MS. BRAGON: Okay. Can you hear me?

6 I'm (Zoom inaudible) ecological options network in
7 Marin County.

8 MR. ANDERS: Sounds, like, you have a phone or two
9 computers on the same system.

10 MS. BRAGON: Can you turn off your computer?

11 I'm heartbroken and outraged by this rush dumb
12 democratic stampede to continue operating Diablo Canyon
13 with all its monumental risks. Many alternatives exist
14 if the true motivation is to continue to adequately
15 supply necessary electricity.

16 The safety of Californians and the continued
17 viability of our gorgeous environment should not be
18 gambled with. Major nuclear disasters have occurred on
19 average of one every 14 years or so. We are about due
20 for another one. Don't let it be Diablo Canyon.

21 Estimates by Ed Lymon of the Union of Concerned
22 Scientists for Diablo Canyon is that it's one in 800.
23 This is a desperate full court press to continue the
24 nuclear industry. Thank you.

25 MS. SHAH: Thank you for those comments. Next

1 up.

2 MR. ANDERS: Next speaker is Tim Smythe followed
3 by Ace Hoffman and Jean Marogan.

4 MR. SMYTHE: Hello. Tim Smith actually, Fremont,
5 California. I just want to speak in support of keeping
6 Diablo Canyon open. I also think it should be mentioned
7 that with all this discussion about it being a very old
8 plant, Diablo Canyon is actually one of the newest
9 plants in the country. I believe unit two opened in
10 1987. And if you actually look at the statistics, the
11 data book, there is only a handful of plants that opened
12 after 1987, primarily in the 1988 to 1990 time period.

13 So Diablo Canyon, in fact, is one of the newest
14 and most modern plants in the country. And I think if
15 people are concerned about age of plants, they should be
16 looking at plants outside of California, some of which
17 are almost 15 and 16 years older than Diablo Canyon is.

18 So I thank you for your time. And I hope -- look
19 forward to hearing the rest of the comments.

20 MS. SHAH: Thank you for your comments. Next up?

21 MR. ANDERS: Thank you. Our next speaker is Ace
22 Hoffman followed by Jean Marogan and Raymond Fesser.

23 MR. HOFFMAN: My name is Ace Hoffman. I'm
24 calling from Carlsbad, California. First, I'd like to
25 challenge PG&E to ensure the plant, if they are going to

1 run it extra time.

2 Secondly, I've left some comments on your website.
3 I've been wanting to go over some of the people I've
4 talked to in the 50 years I have studied this thing.

5 John Hoffman was a researcher on the Manhattan
6 project. Ernie Sternglass worked for NASA. Carl C.
7 Morgan founded the health physics field. Marion Falk
8 worked at Lawrence Livermore National Lab. Helen
9 Caldecott, Archer Marker John, Arnie Gunderson, Judith
10 Johnson, Rosa Leibert -- I've worked with all of these
11 people. So I hope when you read what I've written
12 you'll pay some good attention to it.

13 Thank you very much. And thank you for holding
14 this hearing.

15 MS. SHAH: Thank you for those comments. Next
16 up.

17 MR. ANDERS: Next up Jean Marogan, followed by
18 Raymond Fesser and Alicia Hayes.

19 MS. MAROGAN: Hi. This is Jean Marogan. I'm
20 calling in from Port Costa, California. I have a
21 follow-up question for Dr. Budnitz, because there was a
22 question posed to him that I didn't hear a response.
23 And it's about the 2018 historical site assessment
24 report for Diablo. I'm curious if the Independent
25 Safety Commission has reviewed the document. And if you

1 are aware of missing documents and monitoring
2 information that are noted in the report.

3 And also I'm curious -- I'd like to get your
4 comment on what the safety implications are of delaying
5 indefinitely clean up of known radiological
6 contamination at Diablo Canyon. Thank you.

7 MS. SHAH: Thank you for those comments. Next
8 up?

9 DR. BUDNITZ: Should I respond or do you want to
10 wait --

11 MR. ANDERS: We're going to hold any responses
12 until the end of all of the public comment?

13 DR. BUDNITZ: That's fine.

14 MR. ANDERS: Next up, Jean Marogan, followed by
15 Raymond Fesser and Alicia Hayes.

16 MS. MAROGAN: I think I just spoke.

17 MR. ANDERS: I apologize. That was Jean Marogan.
18 Raymond Fesser followed by Alicia Hayes and Nina -- I'm
19 sorry, Babzets.

20 Raymond Fesser, please unmute. Raymond Fesser,
21 please unmute your mic.

22 MR. FESSER: Am I unmuted?

23 MR. ANDERS: Yes, you are. Go ahead, sir.

24 MR. FESSER: Yeah. My name is Ray Feeser. I'm a
25 13-year resident of Avila Beach. And I feel I represent

1 most of the citizens of Avila Beach. We were shocked a
2 few years ago when Diablo announced that they were
3 shutting -- or PG&E announced they were shutting down
4 Diablo Canyon. We -- for residents of Avila Beach we
5 considered keeping the plant open a win, win, win.

6 First of all, right now we have a single road in
7 and out. If Diablo Canyon shuts down the plant and
8 opens up to development our traffic on our one road in
9 and out will likely increase. We're already at a bumper
10 to bumper traffic every weekend, so traffic is one
11 thing.

12 A bigger thing is the tax revenue for Avila Beach
13 and SLO County that funds a lot of our schools and will
14 be a huge loss if they shut down.

15 And the third reason applies not only to Avila
16 Beach, SLO County but the whole -- but California and
17 the whole country, which is the fact that Diablo Canyon
18 is up to nine percent of the state's electrical power --
19 clean electrical energy. And I'd like to point out that
20 California is currently 50 percent carbon emitting
21 natural gas and 50 percent clean energy.

22 And also a third of the clean energy is nuclear at
23 eight and a half, plus hydro at seven and a half. If
24 you shut down our nuclear and our hydro is at risk due
25 to the climate change already, and the Colorado River

1 drying up. But the -- and it's already been pointed out
2 that when Diablo Canyon -- when San Onofre shut down it
3 added 37 million metric tons of carbon dioxide
4 equivalent pollution to the State of California which
5 accelerated global warming.

6 I'm a local resident. I would like to have three
7 minutes -- two minutes.

8 MS. SHAH: We gave you the full --

9 MR. ANDERS: You've had two minutes for people
10 online within the area.

11 MS. SHAH: Yeah. Thank you.

12 MR. ANDERS: Our next speaker is Alicia Hayes
13 followed by Nina Babiar and Eva Burn.

14 MS. HAYES: Good evening. I'm a Ph.D. candidate
15 studying nuclear fusion in San Diego. So I want to
16 address Senator Laird's concerns about waste storage
17 discussed at the very beginning of this meeting.

18 I spent 22 years living in Illinois about 15
19 minutes away from the now decommissioned Zion nuclear
20 site. It only took about two years to construct from
21 scratch and prepare the pad that now stores all of the
22 Zion nuclear waste.

23 Meanwhile, spent fuel at Diablo Canyon must spend
24 five years in the spent fuel pool to cool down. So
25 unforeseen waste from extending the plant's life past

1 2025 would only need to be added as early as 2030. This
2 would give Diablo Canyon about eight years to complete
3 an estimated two-year project to extend its storage
4 capacity.

5 So if we're serious about environmental and safety
6 concerns during a climate crisis. If we're serious
7 about public health during drought and blackout, then we
8 will do everything we can to protect California's clean
9 energy assets, especially Diablo Canyon.

10 MS. SHAH: Thank you.

11 MR. ANDERS: Our next speaker is Nina Babiari
12 followed by Julia Duval and James Hopf.

13 MS. BABIAR: Can you hear me?

14 MR. ANDERS: Yes, we can, Nina. Go ahead,
15 please.

16 MS. BABIAR: Actually, it's Nina. Last name is
17 Babiari. I'm down here in San Diego. I'm founding
18 member of Public Watch Dogs. And, of course, we've been
19 dogging the issue at San Onofre for over a decade now.

20 If you don't think the radiation leak can occur,
21 that's what exactly shut the plant down at San Onofre
22 for a few of your listeners that don't seem to realize
23 that.

24 I'm originally from Pittsburgh. And I came in
25 1984. I moved to California. But in 1979 I was an

1 engineering news reporter from McGraw Hill during Three
2 Mile Island, so don't tell me that this can't happen.
3 I'll put some printed comments.

4 But I just want to bring up a couple of things
5 that weren't discussed. Nowhere this evening did I hear
6 the word tsunami in any of the seismic probability
7 discussions, which I think is pretty ludicrous. And
8 there is no conversation about evacuation or insurance
9 or emergency response.

10 MR. ANDERS: Nina, your time is up. Your time is
11 up. Thank you.

12 Next speaker is Julia Duval followed by James
13 Hopf. Julia.

14 MS. DUVAL: Hi. Can you hear me?

15 MR. ANDERS: Yes, we can. Thank you.

16 MS. DUVAL: Great. Sorry about before. Given the
17 extensive safety and seismic studies that I really
18 appreciate everyone's time on, I'm feeling confident
19 that Diablo is safe and reliable.

20 We've had more deaths due to natural gas
21 explosions and solar panel installations than we've had
22 from nuclear plants in the United States. Instead of
23 replacing nuclear we should be replacing fossil fuels.
24 By keeping Diablo Canyon online isn't getting in the way
25 of building any more renewables in storage. But taking

1 it offline will mean a disastrous hit to our economy,
2 cost of living, quality of life, blackouts and obviously
3 carbon emissions.

4 If Gavin Newsome could solve California's
5 projected electricity shortages with renewables, he
6 certainly would. It's much more popular. But there is
7 no viable path right now for California to replace
8 Diablo Canyon's electricity, which counts for 9 percent
9 of the state's generation and is carbon free. Thank
10 you.

11 MS. SHAH: Thank you for those comments.

12 MR. ANDERS: Next up is James Hopf, followed by
13 Eva Burns.

14 MR. HOPF: Hi. Can you hear me?

15 MR. ANDERS: Yes, we can.

16 MR. HOPF: Yes?

17 MR. ANDERS: Yes.

18 MR. HOPF: My name is James Hopf. I'm a required
19 nuclear engineer who lives in Tracy, California. You
20 know, it's hard to believe that California's planning on
21 shutting down its largest (Zoom inaudible) in 2025
22 electricity shortage (Zoom inaudible). And also it's
23 hard to believe that (Zoom inaudible) shutting down its
24 largest carbon free power generator during the climate
25 crisis.

1 There was mention of an alternative policy to
2 simply take money for Diablo and give it to renewables
3 and that will solve the problem. But as Cal ISO said in
4 a recent hearing no that's not the problem. Money is
5 not the problem. Even if procurement of renewables and
6 storage goes perfectly there will be 1800 megawatt
7 shortfall. The single act of keeping Diablo Canyon open
8 would cover that shortfall. We can't get enough
9 renewable energy no how much money we throw at it.

10 MR. ANDERS: Thank you, sir. Your time is up.
11 Our last speaker is Eva Burns.

12 MS. BURNS: Hi. I live in San Francisco. And I
13 work as an (Zoom inaudible) policy analyst. I'm turning
14 30 next week. And I'm thinking about having kids. But
15 I worry a lot about the world that they are going to
16 grow up in with unprecedented heat waves, droughts, wild
17 fires.

18 And just be clear, I support wind, I support
19 solar, anything to decarbonize. But we need to
20 decarbonize now. And we can't make it any harder for
21 ourselves than it already is.

22 I'm not going to talk about the technical details.
23 You already heard the facts from Dr. Budnitz and Dr.
24 Gibson. We heard about numerous safety and feasibility
25 analyses that have been done, not just by the NRC but

1 also by independent unbiased groups.

2 And after all that -- for those of who you are
3 still living in this fantasy world where you think that
4 closing a plant is anything but a huge step backwards, I
5 envy your blissful ignorance. Yes, it's going to take
6 hard work and it's going to take money, but we have to
7 keep Diablo Canyon running for the earth and for our
8 children. Thank you.

9 MS. SHAH: Thank you for those comments. I
10 believe that was our last commenter.

11 MR. ANDERS: That's correct.

12 MS. SHAH: Okay. I was taking down questions as
13 we went. I think -- I know Dr. Budnitz is on the line,
14 which I really appreciate you sticking with us. I know
15 he's ready to jump in on the one question addressed to
16 him.

17 The only other question I've memorialized was Eric
18 Greening's question about the hearing tomorrow which it
19 sounds like we were back and forth as to even what time
20 it was. So I don't know. Do we know the answer?

21 MS. WOODRUFF: I probably don't know all the
22 answers but I wanted to clarify. From everything I'm
23 hearing there will be no voting at this hearing. And
24 it's an oversight meeting only. And I do believe it
25 will start anywhere between 11:30 to 12:30 tomorrow.

1 MS. SHAH: All right. Thank you. If we want to
2 hear from Dr. Budnitz briefly --

3 DR. BUDNITZ: This can be short. One of the
4 (Zoom inaudible). I'm getting feedback. I hope it's
5 not difficult.

6 There were two questions. One had to do with
7 contamination of the site. And Tom Jones spoke to that
8 earlier. The contamination of the site is not -- from
9 activities there is not a huge problem. It's not a
10 major piece of the cost of the decontamination. And
11 doing it five or ten years later, it doesn't seem to be
12 adding a huge extra increment to the cost.

13 I'm not an expert on that. Maybe Tom Jones or
14 somebody else from the plant could chime in. But it
15 doesn't seem like that's a big problem to put it off.

16 The second question had to do with 2018 report. I
17 thought I had replied to that before. Yes, we reviewed
18 it. And -- if that's what you were asking. And we're
19 looking forward to an update that we would review
20 sometime soon, if the plant is going to be continuing
21 it. And then we would review that. I hope that answers
22 the question.

23 MS. SHAH: Thank you. Yeah. I appreciate you
24 sticking with us. Those were all the questions that I
25 memorialized. I don't know if staff wanted to respond

1 to anything they heard or -- okay.

2 All right. Well, then, I really appreciate all
3 the callers. And we're an engagement panel, so thank
4 you for engaging.

5 So yeah. Let's go on to just the next item which
6 is introduction of future meeting dates and topics.

7 MR. ANDERS: Thank you, Mariam. Very quickly,
8 couple of dates coming up. The engagement panel has set
9 aside September 21st this year, about a month from now,
10 to -- as a potential date to continue a discussion and
11 dialogue regarding the issue of extension of Diablo
12 Canyon's operation.

13 So that meeting and the details of that meeting
14 will dependent on what happens tomorrow and going
15 forward.

16 One other meeting I want to emphasize again and --
17 the Diablo Canyon Independent Safety Committee with Dr.
18 Budnitz and his comrades will be meeting on
19 September 28th and September 29th in Avila Beach. That
20 meeting will also be broadcast online. So, again, an
21 opportunity to participate in that process and address
22 some of the safety concerns that you heard here tonight.

23 DR. BUDNITZ: Chuck, our meeting is going to be
24 the 28th, including an evening session. And on the 29th
25 it's going to end at noon.

1 MR. ANDERS: So the 28th is beginning in the
2 morning and ending through the evening. And the
3 following day, the 29th, it's the morning session ending
4 at noon.

5 With that, any panelist have any final comments
6 before we adjourn? I want to thank you the panel -- oh,
7 Bruce, sorry.

8 MR. SEVERANCE: Yeah. I took notes on every
9 public comment. And it just seemed like a number of
10 public comments were addressing discrepancies in
11 operating costs related issues. And many people saying
12 that nuclear is affordable and clean. And I wanted to
13 respond to that.

14 And that is, when you look at any system you have
15 to look at full life cycle costs, both in terms of
16 environmental impact and venalities as well as economic
17 costs. And something a lot of people forget is that
18 uranium mining is having significant social justice
19 impact in the southwest right now. It has made a lot of
20 people sick. And you should read the articles about
21 that if you are going to make the claim that nuclear
22 power is clean. So it is not as clean as other sources
23 of energy. And look at the full life cycle.

24 And the second thing is that from PG&E's own CPUC
25 filing, my understanding is -- and this came from the

1 Fairwinds report that was posted to the CPUC docket in
2 2016 that, basically, Diablo Canyon absorbs 40 percent
3 of PG&E's operating costs and it produces 22 percent of
4 its capacity. So comparison of those two numbers alone
5 tells you that it's consuming a significant amount of
6 it's off green cost. It's not as cost effective as
7 other sources of energy.

8 And I do believe there are better ways to
9 decarbonize than looking at continued operation of this
10 plant, especially given the fact that we're looking at a
11 shortfall for a narrow window of time between 2025 and
12 2030, after which this might be excessive power on the
13 grid. But we will have already invested a billion
14 dollars and would need to amortize that cost over a
15 20-year period.

16 And so I see no scenario for a five-year
17 commitment. In my mind if PG&E would please disclose
18 actual numbers it's going to end up being a 20-year
19 amortization schedule. That's the problem. There is a
20 mismatch here in the duty cycle that is really being
21 discussed. So I think that the economics are critical.
22 That people need to really evaluate those things.

23 And I think that responds to a whole lot of the
24 public comments that came in. I took acidulous notes.
25 I welcome people to contact me through the portal. And

1 I'd be happy to continue that conversation. Thank you.

2 MR. ANDERS: Thank you, Bruce.

3 We're not going to continue a dialogue here, in
4 fairness to all the other participants so on.

5 So with that comment, I see no other hands raised,
6 I want to thank everyone for participating in the
7 meeting, all of the people who support this meeting that
8 are here, and behind the scenes. And wish everyone well
9 and thank you for participating in this very important
10 meeting on a critical topic. The meeting is adjourned.

11

12 (Whereupon the proceedings were
13 adjourned for the day at 9:41 PM.)

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1 STATE OF CALIFORNIA)
2) ss
3 COUNTY OF FRESNO)

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5 I, KRISTI GARCIA, a Certified Shorthand
6 Reporter of the State of California having offices
7 located at Fresno, California, do hereby certify;

8 THAT said hearing was reported in shorthand
9 by me at the time and place above stated and thereafter
10 transcribed under my direction and control.

11 I FURTHER CERTIFY that I am not interested
12 in the outcome of said action, nor connected with, nor
13 related to any of the parties in said action nor to
14 their respective counsel.

15

16 DATED: 6th of September, 2022

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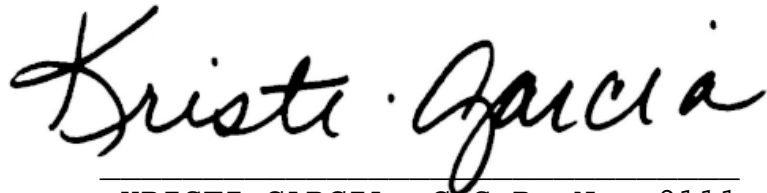
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KRISTI GARCIA, C.S.R. No. 9111

\$	13-year 134:25	200,000 130:22	56:17 59:17 65:8 66:19 119:23 120:1 123:9,15 137:1 139:21 145:11	30,000 57:23
\$1 119:15	14 11:14 68:4 131:19	2002 29:19 87:5		30-30 3:14 129:11
\$1.4 16:20 30:12 112:15 116:21 129:22	15 7:25 101:4 105:8 118:4,9 132:17 136:18	2006 66:1		30-by-30 28:20
\$4 16:11	15-year 64:12	2007 66:13,17	2026 46:16	31st 18:18 22:6, 21 67:7 95:14
\$6 14:14 18:13 20:13	15.5 120:6	2008 69:4 81:20, 21 111:7	2028 49:12	32 128:12
\$75 21:13 22:14	16 14:4 132:17	2009 14:3 50:3 66:24	2029 31:12 59:17	361 68:15
\$85 28:7	1632 66:3,15	2010 67:2,3,4,7, 11	2030 31:20 46:10 47:8,14 48:8,9 49:12 59:18 62:2 120:8 129:7 137:1 145:12	37 120:5 136:3
0	18 117:8	2011 51:5 67:14 69:10,20 81:21 83:18 85:4	2032 107:8,13	4
017 84:20	180 21:13 22:15	2012 69:21 70:23	2035 50:5 109:18	4 27:1 119:18 120:1
1	1800 119:24 140:6	2013 45:16	2045 50:6 62:3,4	40 48:25 111:5,7,9 115:20 130:1 145:2
1.4 125:6	19 3:19	2014 68:3	21st 5:19 65:25 124:4 143:9	40-year 13:23 19:16 20:1
10 28:22 50:23 116:19	1960s 123:22	2015 86:4	22 52:10 111:8 136:18 145:3	4000 114:3
10,000 71:11	1974 81:16	2016 14:5 17:21 19:22 20:16 50:14 68:14 126:2 145:2	22nd 5:17	49 8:19
100 30:22 43:24 49:2,3 100:21 120:18	1979 137:25	2017 50:14 86:5	23rd 5:17	5
1000 97:21 103:15	1980s 13:23 68:24	2018 19:25 20:2 56:24 75:12 77:18 86:14 127:9 133:23 142:16	25 5:4	5 8:18 25:12 27:7 31:16
1090 28:6	1984 137:25	2019 86:15 123:10 124:23	2500 124:24	50 41:24 42:4 43:23,24 46:23 58:14 63:22 116:2,4 133:4 135:20,21
11 75:9 92:11	1985 19:14	2020 31:22,23 32:21 56:17	25th 5:7	50-year 115:13
11:30 25:3,6 95:9 141:25	1986 19:14	2021 111:8 119:11 127:11	27th 126:23	6
12 3:25 29:4 45:24 119:12	1987 132:10,12	2022 20:12 21:22	28th 38:22 143:19,24 144:1	6 10:24 27:14 32:4 104:25 105:7
12,000 11:14 17:21 129:9	1988 132:12	2023 45:17,22	29th 38:22 143:19,24 144:3	6.57 114:14
12:00 92:11	1990 132:12	2024 14:1 19:16 24:4 45:18 46:4 49:7 117:1	3 8:5 12:23 26:19 30:11	60 49:2
12:30 4:5 25:3 95:9 141:25	1st 38:9	2025 14:2,19 15:12 19:17 26:11 27:4,16 28:18 31:12,19 40:15 45:8,19 46:5,7,9 47:7,14,20 48:7, 21 49:7,11 50:5	3.3 83:23	600-plus 84:21
12th 12:24 17:25 21:6 25:15 26:1 29:12	2 26:13		3.5 122:3	66 119:12
13 68:4 75:9	2.5 105:9		3.6 119:14	6:55 34:14
	20 6:15 14:4 50:6 53:16 60:8 63:3 66:19 100:23 104:25 116:4 120:17 122:13		30 3:14,15 41:20 42:5,13 43:6 46:22 51:16 57:24 58:13 118:10 129:6,8,14 140:14	6th 22:1,5 23:4
	20-year 7:7 31:2, 4,14 50:4,5,7,13, 23 61:19 88:25 89:6 145:15,18			

7	52:11 65:14 77:9 103:10	142:9	advisor 37:3 83:7	aid 3:4
7 27:22 32:15	absorbs 145:2	actual 4:7 10:15 30:6 65:20 105:11 145:18	advocates 8:5	air 62:12 79:2 120:13 128:18 130:17,21,23
70 121:5	academia 17:3	adamantly 123:8	advocating 124:16 125:7	akin 99:6
700 5:23 15:4	accelerate 16:23	add 3:23 9:7 12:5, 11 91:13 98:15,16	affect 30:17 82:2 130:21	alert 4:2
73 107:8	accelerated 112:20 136:5	added 33:22 67:12,14 114:2 136:3 137:1	affecting 36:19	Alicia 133:18 134:15,18 136:12
75 43:23,24	accept 27:6	adding 37:8 142:12	affiliation 107:23 110:12 112:12 120:25 124:10 130:9	allocate 20:13
7:00 5:25	access 28:15 30:8 98:24	addition 99:13, 15	affordable 144:12	allowed 28:7 29:19
7:30 63:24	accident 43:5 66:11 71:22	additional 4:21 5:10 7:5,17 9:4 10:17 14:4 25:16 26:5 28:12 29:14 30:25 33:21 58:22 86:18 88:8 97:5	afternoon 95:9 99:24	allowing 102:2 121:24
8	accidents 4:4 122:3,11 124:3 130:15	address 16:6 32:14 66:14 76:3 136:16 143:21	age 132:15	allures 29:6
8 11:12 28:5	accommodate 27:3	addressed 15:21 141:15	agencies 30:21 59:9 106:14	Almas 7:13 35:5, 8,10 52:24 61:2,6 63:6 84:23 86:1, 17,21 91:4,24
80 15:2	accommodation 9:4	addressing 68:25 114:11 144:10	agency 25:16 36:24 53:7 67:12	alternate 79:4
800 131:22	accompany 6:25	adequacy 31:21 32:2	agenda 2:7 4:13, 14 12:22 19:7 25:11,12 35:1 81:12 92:14	alternative 31:11 114:7 140:1
8:25 92:21	account 86:12	adequately 27:19 131:14	agent 53:12	alternatives 32:16 131:13
8:40 93:4	accurately 105:6	adjourn 144:6	ages 49:23	amendment 23:24
8:45 22:23 25:2,6	Ace 131:4 132:3, 21,23	adjourned 146:10,13	aggregation 10:14	American 8:10 54:4 119:8
9	achieve 107:13	adjourns 18:19 25:4	aggregators 30:16	Americans 130:22
9 24:22 28:14 119:18 120:1 139:8	achieving 126:19	adjusted 45:8	aging 49:22 129:13,24	amortization 59:23 145:19
911 2:21,25 3:4	acidulous 145:24	administration 14:13 20:13	agree 9:1 35:16 38:16 47:5 88:7	amortize 145:14
9:00 5:25	acquire 127:11	Administration's 18:13	agreed 34:11	amount 16:21 59:20 79:2,22 130:17 145:5
9:05 25:6	acre 129:9	adopted 100:17	agreement 14:6 27:25 28:7 75:13 126:1,5,7 127:2	analyses 17:8 27:11 40:20 85:2, 5,21,23 86:5,7 140:25
9:41 146:13	acres 11:14 17:22	advanced 66:7 90:20 103:12	ahead 19:6 35:23 37:25 61:13 69:7 71:1 83:2 86:7 94:23 112:10 113:24 128:1,8 134:23 137:14	analysis 55:10 63:21 64:5,18,20 65:19 67:25 69:9, 11,18,24 70:23 72:7,12,18 74:14, 23 75:4,11,16
9th 5:12,21 6:12	act 16:15 140:7			
A	action 3:25			
AB 66:3,15 68:14	actions 4:8 21:16 22:24 23:23			
abandoned 9:15	activates 12:10			
abide 24:17	active 2:24 20:6 23:14 40:24 68:16 82:22 104:19 123:23			
ability 29:9 77:4 99:1 107:11	activities 5:20 12:20 24:6,14			
abrupt 92:2				
absolute 110:3				
absolutely 24:5				

76:4,10 77:1 79:7 80:18 86:1 87:3 88:10 89:8,11 90:22 96:24	annual 12:10 40:7 58:18,19 71:6 119:25	approaching 92:11	assessment 30:2,9 31:1 56:24 57:6 65:25 86:8, 25 87:2 103:6,22 114:24 133:23	Attorney 39:6
analyst 110:22 111:19 140:13	annually 114:17	approved 14:9 19:24 21:12 33:7	assessments 97:6	audience 34:19
analyze 69:7 106:16	anomaly 70:3	approximate 104:17	asset 33:3	August 5:11,21 6:5,12 7:25 12:24 17:25 18:18 19:22 21:6 22:6,21 25:15 26:1 29:12 31:22,23 67:3,7, 11 95:14
analyzed 80:6	answers 27:11 76:19 84:18 117:15 141:22 142:21	approximately 101:25	assets 137:9	Auran 96:2,12 97:11
analyzing 74:22	anticipated 5:25 22:3 31:13 114:16	April 20:12 75:12	assist 102:21	austerity 119:10, 16
ancestral 126:22	antinuclear 13:15	Archer 133:9	Association 54:13	authored 66:3 103:25
Anders 2:1,2 12:14 19:7 25:11 33:11,14 34:7,17 35:1,9 37:25 52:22 55:7 56:7 61:4 62:17 63:4 77:13 78:4,8 81:9 82:25 86:19,22 91:3,25 92:8,20, 23 95:25 97:12 101:18 102:18 105:16,18,20 107:21 110:5,8,19 111:24 112:1,10 113:22 115:9 117:5 119:5 120:23 122:25 123:4 124:8 125:15,22 126:14 127:14,18,20,24 128:8,22,24 130:7 131:3,8 132:2,21 133:17 134:11,14, 17,23 136:9,12 137:11,14 138:10, 15 139:12,15,17 140:10 141:11 143:7 144:1 146:2	anxiety 28:24	area 25:7,8 50:1,2 55:1 57:10 82:1, 22 104:7 110:14 115:6,14,25 125:17 136:10	assurances 17:13 28:9	authority 18:17
Andrea's 73:16	apologize 34:2 105:21 134:17	areas 57:2 63:18 78:24	assurance 60:14	automated 3:7
Andreas 105:3 124:20	apparently 87:8	argue 99:25	assure 43:2 47:6 48:18 60:25	availability 106:17
Angeles 124:12 125:12	appliances 109:21	argued 15:11	assured 14:11 26:18 42:4 49:5 88:22 90:25	average 111:5 131:19
announced 14:13,17 21:14 45:2,6 48:19,20 122:12 135:2,3	applicable 96:8, 14	arguments 35:12	asthma 128:19	averages 74:21
announcement 25:13	application 6:23 14:3 20:3 21:20, 25 22:7 23:1,3 24:12	Arnie 133:9	Atascadero 112:13	averaging 75:1
	applies 135:15	arranged 46:6	attacks 130:2	Avila 38:21 39:17 82:20 134:25 135:1,4,12,15 143:19
	apply 14:18 18:15 20:21 31:3 61:18, 19,20 66:25	arrive 73:5	attempt 35:25 114:8 123:18 126:4	avoid 23:17
	applying 23:5 33:8 35:24	Arroyo 123:7	attempting 126:6	avoiding 33:2
	appointed 39:3, 4,6	article 87:15	attempts 76:4	awarded 17:20
	appointee 39:7	articles 144:20	attend 77:22 98:25	aware 57:7 79:14 81:24 134:1
	appointments 39:8,9	ASME 54:5	attendance 2:23 3:2	<hr/> B <hr/>
	appreciated 97:15	aspects 7:19 81:3 117:20	attended 5:24	Babiar 136:13 137:11,13,16,17
	approach 40:23 75:1,2,5	assembly 16:17 18:2 21:13 22:14 112:23 113:9,17	attending 2:12	Babzets 134:19
	approached 79:7	Assessment's 17:4	attention 37:10, 21 55:18,20 89:16 93:6 101:9 113:1 133:12	bachelor's 64:10
		Assemblyman 66:1		bachelors 103:23
		assess 97:7 130:24		back 4:13 12:2 20:12 24:23 34:14 43:11 44:24 45:5
		assessed 7:3 87:5		
		assessing 70:25 84:16 97:17		

50:2,22 51:1 52:23 63:5 64:6 65:24 66:1 68:11 73:11 87:2 89:4 92:11,21 93:16 95:18 112:7 119:2 123:21 141:19 background 12:23 97:15,16 115:17 backwards 129:20 141:4 backyard 13:11 bad 71:7 80:10 126:9 129:25 bag 58:8 ballpark 59:6,7 bar 71:19 Barbara 93:19 barrier 109:1 barriers 117:15 base 28:9 66:4 base-load 108:8 109:17 based 4:25 10:4 53:20 75:5 79:9, 11 80:18 94:21 basic 73:20 basically 69:24 73:13 108:11,14 145:2 basics 69:17 72:12 basis 81:7 batteries 32:20 battery 107:12 Bay 82:20 85:9 Beach 38:21 39:17 134:25 135:1,4,12,16 143:19 began 13:22 18:12	begin 87:10 93:3 94:23 95:9 beginning 78:11 136:17 144:1 begins 37:20 begs 10:22 behalf 65:1 behavior 104:11 believed 103:13 BELLMAN 92:1 benchmarking 44:17 bend 89:21,24 bender 72:2 103:7,8 benefitted 123:16 Berkeley 103:24 126:17 bet 56:6 62:15 Beth 129:1 130:8 131:3,4 Biden 14:13 18:13 20:13 big 43:23 47:3 52:17 56:3 63:19 64:3 82:2,10 85:14 94:5 109:6, 12 116:14 142:15 bigger 69:16 74:7 109:2 135:12 biggest 67:17 72:24 122:10,16 biking 121:19 bill 21:13 22:15 68:15 77:13 78:5 91:3,13 113:17 billion 14:14 16:11,20 18:13 20:13 30:12 112:15 116:21 119:15 125:6 129:23 145:13	billions 59:21 bills 119:15 binding 126:2 bio 129:7 biodiversity 28:20 biological 97:6 biologically 34:11 bit 12:1 58:8 64:4 65:3,24 67:25 68:1,12 72:13,15, 16 82:11 92:2,17 121:7 bitter 49:7 black 89:20 blackout 137:7 blackouts 31:23 32:21 111:15 118:2 139:2 Blakesley 66:3 102:19,21 105:17, 19 Blakesley's 108:16 bless 49:7 blind 96:2 blissful 141:5 blow 51:13 125:13 blue 18:8 93:15 94:5 board 52:24 64:25 123:6 Bob 88:21 91:14 99:18 112:4 121:17 body 4:16 122:1 bonus 49:8 book 132:11 borne 10:12 bottom 5:15 26:8	126:11 bound 129:16 bounds 99:3 box 94:5,6 Bragon 129:1 130:8 131:3,5,10 branch 37:5 break 34:10 92:9, 14,15,20 96:18 breakfast 116:11 breaking 90:3 breaks 34:13 Bridge 108:24 bridges 109:8 briefly 36:2 72:11 83:11 142:2 bright 50:1 bring 93:16 106:6 138:4 brings 92:8 bristle 90:25 brittle 89:24 91:1 broad 4:15 57:8 126:19 broadcast 143:20 broadly 81:3 broken 72:21 125:17 brought 83:9 88:9 Bruce 7:21 11:25 16:2 19:5 24:23 25:18,21,24 33:11 34:8 36:12 56:9 63:11 64:8 86:22 103:6 144:7 146:2 Bruno 103:20 budget 60:19 budgets 113:13 Budnitz 7:15	36:5,6 37:22,23, 25 38:1 52:22 53:1,23 55:5,9,14 56:8 57:7 59:1 60:10 61:2,8,11, 24 77:3 88:21 91:13,14 98:11 99:18 114:22 133:21 134:9,13 140:23 141:13 142:2,3 143:18,23 Budnitz's 81:4 build 53:15 119:1 122:14 building 138:25 Buildings 109:8 bulk 47:18 49:6 96:19 97:9 bumper 135:9,10 bumps 129:16,19 bunch 88:24 burden 30:18 52:17 119:17 123:19 burdened 16:7 burdensome 51:19 Burn 136:13 Burns 139:13 140:11,12 bus 42:1 business 53:14 60:1 64:21 buy 57:25 89:20, 21 bypass 16:13 bypasses 7:3 <hr/> C <hr/> CAISO 29:15 31:23 59:17 106:15 119:23 Cal 14:25 108:1 118:3 119:1 140:3
--	---	--	---	---

Cal/osh 3:21	campfire 70:13	capitalization 31:10	center 70:4	characterization 82:8
calamitous 103:9	candidate 136:14	car 57:22,24 121:18	central 17:9 36:16 67:19 75:17 84:7 94:14 101:25 102:4,7 125:16 129:10	characterization s 97:5
calculate 10:16	Canyon 2:3 5:17 6:22 7:11,15 9:14 10:25 11:15 13:4, 8,16 14:12 15:25 16:1,12 17:10,22 18:12,23 19:25 22:9,12 24:5,21 26:14 27:2,14 28:14,16 29:7,23 33:4,7 35:3,14 36:6,8,11,15,20, 22 38:6,13 43:23 46:25 47:25 63:9, 15 65:6,18,22 66:10 68:17 70:1 78:15 83:24 84:10 85:19 93:12 98:5, 9 100:25 106:2,8, 20 107:9 108:3 111:3,4,14 114:2 115:16 116:22 117:1,8,23 118:24 119:3,21 120:6,9, 12 123:9 124:14, 16,22 126:21 128:14,15 129:4,9 130:4 131:12,20, 22 132:6,8,13,17 134:6 135:4,7,17 136:2,23 137:2,9 138:24 140:7 141:7 143:17 145:2	Carbajal 34:22	carbon 16:22 110:2 120:18 129:17 135:20 136:3 139:3,9,24	characterize 67:20 68:10
Caldecott 133:9		carbon-free 8:6	century 65:25 124:5	charge 31:1 68:8
California 5:21 6:11,14 12:21 13:21 14:9,23,24 16:15,17 20:10,25 21:2,5,12,14,19 23:9 24:10,18 26:1 33:6 35:15 39:5 51:25 62:22, 24 66:5,13 67:8,9, 12,19 75:17 82:16 93:7,23,25 94:2, 16 97:6 103:24 104:25 106:2 107:25 109:18 110:21 114:2 116:2 117:24 120:4 126:3,4,17 127:17 129:17 132:5,16,24 133:20 135:16,20 136:4 137:25 139:7,19		card 93:15	CEQA 7:3	charter 91:22
California's 15:2 16:19 107:10 118:5,9 119:10 129:7 137:8 139:4,20		cards 94:22	cereal 116:11	cheap 116:9
Californians 24:22 119:11 131:16		care 3:10,13 11:19 53:21 117:25 118:1,4,6, 7,10,15,25	certainties 109:13	check 84:13 95:18,22
call 2:21,25 3:4,5 41:17 55:20 67:21,23 68:20 78:21 90:11 101:8 112:4 127:15	Canyon's 14:7 15:22 17:1 20:19 26:10 28:9,17,23 114:11 126:7 139:8 143:12	career 36:7,14 64:12	certainty 28:22 104:9 108:16,19 109:15 130:16	checked 30:4 76:9
called 15:19 39:24 43:22 49:22 55:18 67:18 75:2 80:3 87:3 89:22 98:22 117:9 129:8	Canyons 114:5	carefully 49:9 54:23 55:1 60:24 88:6	cessation 20:4	Chernobyl 115:23 124:1
callers 143:3	capable 69:16 70:5 71:5	Carl 133:6	cetera 10:4 109:23	chief 37:5
calling 102:6 132:24 133:20	capacity 27:4 31:24 114:3 119:24 137:4 145:4	Carlsbad 132:24	chain 15:16 21:4	children 124:12 125:12 141:8
calls 33:5 92:14	cape 119:23	Carol 4:15	chains 10:6	chime 142:14
	capital 60:4,5	carry 13:17	chair 39:4 126:24	chimed 17:10
		cars 109:18	chairman 38:7,8, 9,10	choice 10:13,14 30:16 118:21
		case 3:3 12:11 15:10 58:5 79:12 100:22 103:16 113:7 118:17	challenge 103:11 132:25	choose 53:16
		cases 66:21 67:1, 4 107:1	challenged 8:14	Chris 19:12
		cash 14:15	challenges 16:20	Chuck 2:2,11 12:2,3 13:2 19:6,9 33:12 35:11 37:22,23 78:6 86:17 91:13 110:7 121:2 125:19 143:23
		casks 9:2 37:17	chance 71:7,11 72:18 95:10 113:18	Chumash 11:19 129:12
		categories 58:13	chances 73:9 74:9	circulating 112:21,22
		category 59:5	change 11:9 15:15 21:21,23,25 23:9,13 96:20 118:6 122:18 135:25	circumstances 13:16
		causing 128:19	changed 9:21 14:6 20:10 21:23 70:11 79:18 87:13 117:11	cites 30:2 57:5
		CCAS 30:16,19, 24	changing 42:8	cities 17:10 123:17
		CDC 10:8	Chapter 129:5	citizens 135:1
		CEC 29:15		city 115:23 130:9
		cent 114:14		

civil 20:14 23:2,5 108:9,13	clothes 109:23	110:16 141:10	143:17	complexity 76:7 106:7
claim 144:21	Club 129:5	commenters 6:13	committees 112:19	compliant 2:20
Clara 130:11	co-author 105:25	commenting 102:6	common 6:17	complicated 59:3 82:1
clarification 12:6 33:13 34:9 55:4 83:10	co-authors' 107:15	comments 18:4, 7 20:18 26:1,5,6 29:11 60:6 84:23 92:25 93:11 94:1, 3,9,10 95:1 101:18 111:23 126:12 131:2,25 132:19,20 133:2, 15 134:7 138:3 139:11 141:9 144:5,10 145:24	communicate 98:1	comply 62:21
clarify 141:22	co-lead 129:5	commercially 32:24	Communication s 18:21 22:22	component 10:2
clean 8:6 16:18, 25 24:20 106:1 117:22 118:4,22 119:2 120:16 124:5 134:5 135:19,21,22 137:8 144:12,22	CO2 120:5	commission 5:19,21 6:11,14 7:23 11:16 13:24 14:23 20:4 21:5 22:25 23:25 26:2 29:12 35:15,16 36:23,24 39:5 47:22 54:2 55:23 65:23 66:14 67:8, 10 78:20 79:3 83:5,10,14 98:6, 21 99:15,16 100:17 103:25 122:2 126:3 133:25	community 4:22 5:1 10:14 13:21 17:19 27:8 28:5,8, 14,19 30:16 93:5, 10,12 97:19 103:1 126:19 127:19	components 44:25 46:2 48:12 58:14 75:21,24
clear 64:9 114:22 118:21 120:2 140:18	coast 11:14 17:9 36:16 67:19 75:17 82:7,16 94:14 102:1,4,7 125:16 126:21	commit 51:7 59:22	company's 96:22	composed 67:7
click 94:5,8	Coast's 129:10	commitment 26:24 145:17	comparable 70:6	compound 20:25
clicking 18:8	Coastal 16:15 78:20 79:3	committed 60:16,18 122:11	comparison 145:4	compounding 62:25
Cliff 83:6	code 54:3,10,16, 19,22	committee 5:18 7:16,22 12:20 18:20 22:23 24:25 25:1 26:15 29:23 36:6,9 38:7,13,17, 18,25 39:13,15 47:1 48:1 51:10, 25 52:4 56:23 60:21 77:4 87:25 88:6 89:14 90:16 95:8 98:11 99:20 100:6 101:1	compensate 124:17	comprehensive 56:13 57:9,14
Clifford 37:3	codes 54:5,13,25		compensation 127:3	compressed 51:17 79:2
climate 15:15 26:22 118:6 122:18 135:25 137:6 139:24	cold 90:9		competent 48:19 49:13	compromise 42:21
clock 125:20	collaboration 33:23		competition 30:20	computer 110:17 131:10
close 5:25 14:1,2, 12 28:13 69:6 74:6 75:13 104:19 107:16 117:1 118:7 119:21 120:2,9 122:4 123:14 124:3 127:9	collapse 109:8		compiling 34:8	computers 131:9
closed 114:25 115:1 120:12 123:10	collapsed 26:11		complete 26:6 27:23 30:5 86:7 137:2	comrades 143:18
closely 58:1,3	collateral 5:13		completed 28:3, 7 30:9 50:11 69:9 86:4,14,15	con 35:13
closing 122:6 128:15 141:4	colleagues 38:15		completely 59:20 115:4,5	Concepts 96:20
closure 13:9 14:5,9 17:20 28:17 29:2 56:19 116:14	collect 57:2		completeness 27:8	concern 10:20 15:20 44:15 80:25 87:24 88:11 99:3
	collections 58:12		completion 11:5, 6	concerned 8:2, 15 48:21,22 60:21 65:15 79:12 120:10 131:21 132:15
	Colorado 135:25		complex 41:7 42:11 43:23 76:17 81:4 103:16 104:13 110:11	concerns 11:24 16:3 25:14 27:7 29:14 33:16,18,22 37:11,13 83:13 84:2 102:13 117:18,19 136:16 137:6 143:22
	combine 87:19			concise 26:4 101:14
	comment 4:17 5:24 7:5 15:5 18:8,9 62:17 88:14,19 93:3,8 94:6,22,24 95:5 101:20,24 102:3 126:17 130:14 134:4,12 144:9 146:5			
	commentary 68:16			
	commenter			

conclude 76:25 86:17 105:13	28:15 96:20 124:6 127:5 129:10,22	142:7,8	cool 136:24	couple 21:22 35:6 38:1 39:25 40:1 53:2,5 56:10 68:25 69:17 72:13 75:18 79:13 83:4 138:4 143:8
concluded 98:7	conserve 116:19 129:6	continuation 6:16 32:12 106:8	cooled 90:3,6 91:2	
conclusion 69:10 74:2 80:19, 20 125:3	conserved 17:23	continue 14:21 20:7 21:17 22:12 23:18,21,23 24:3, 5,19 27:17 49:25 78:1 120:15 123:19,22 130:16 131:12,14,23 143:10 146:1,3	cooling 11:7,8 15:24 27:14,15	
conclusions 68:8 77:6 78:5 79:7	considerable 13:11 66:10 111:1		cools 90:10	coupled 21:2
concurrent 23:10 24:9	consideration 17:6 79:1		corner 94:6	coupon 87:3
concur 69:11	considerations 78:2	continued 9:7 11:2 13:8 14:19 20:19 22:8 29:20 30:15 31:11 33:4 35:3 37:20 65:7 115:15 118:16 123:13 124:16 125:7 127:7 131:16 145:9	correct 34:4 75:3 78:17 108:21 110:7 141:11	court 110:11 131:23
condition 87:14, 19 88:15	considered 66:18 81:3 82:3 97:4 135:5	continues 68:11, 24	correctly 81:17	cover 2:16 57:12 140:8
Conditioned 11:5	considers 87:25	continuing 4:20 6:3,8,21 7:12 9:16,17 10:18 11:8,22,24 23:10 107:9 114:11 128:13 142:20	cosponsors 14:23	coverage 40:25
conditions 8:3 36:19 73:2,3 75:22 79:23 87:1, 19 88:1,12	consistent 111:7		cost 10:9,11,15, 22 11:2 24:3 26:22 30:13,25 32:12 59:6,10 60:17,23,25 114:13,16 123:20 139:2 142:10,12 145:6,14	covered 19:13,19 50:7
conducted 68:2	constant 32:5 117:14		Costa 133:20	covering 16:3
conducting 24:13	constantly 84:5, 16 130:21		costly 60:22	COVID 3:19 15:16 77:21
confidence 118:23	constituent 104:2		costs 26:20 30:15 144:11,15,17 145:3	CPC 19:23
confident 138:18	constitute 11:15	continuous 9:23 32:7	council 127:1	CPR 3:4
confirm 77:5	constitution 126:6	contract 22:17 126:2	counsel 126:1	CPUC 66:14,21 67:1 106:14 144:24 145:1
confirmed 31:3	constrained 105:14	contractually 31:24	count 91:21	CPUC's 127:12
confirms 77:1	construct 136:20	contrary 126:8	counties 93:20 94:17	crack 44:2
conflict 31:4	consultant 108:3	contribute 106:9	countries 122:10	cracks 55:25
Congressman 34:22	consultants 39:14 52:5 88:9	contributed 95:3	country 70:4,8 93:7 119:13 132:9,14 135:17	craftspersons 10:7
conjunction 87:25	consulted 127:8	control 42:17 85:15	counts 139:8	create 3:11 17:17 73:7 74:6 76:15
connect 73:24 74:1,4 82:11,17	consuming 145:5	controlling 82:4	county 3:1,21 7:20 10:15 12:7,9 18:2 23:22 29:1,4 36:16,17 63:12 64:17,25 67:14,16 93:21 109:7,11 130:11 131:7 135:13,16	credible 125:2
consent 127:2	consumption 116:17	convene 67:5		credit 20:14 23:2, 6
consequence 71:24 72:3 111:20 124:2	contact 12:17 98:23 145:25	convenience 116:18		Creston 115:6
consequences 33:9 123:10	containments 96:18	conversation 61:22 138:8 146:1		crisis 137:6 139:25
conservation	contamination 29:25 30:3,4 56:25 134:6	convince 47:22		criterion 100:10, 15
				critical 61:22 71:4 85:10 110:23

145:21 146:10	date 24:19 28:22 29:2 61:15 95:17 143:10	46:13,20 62:4 98:23 116:25 125:5	degrees 7:21	designed 79:15, 20 80:17 109:3
criticisms 72:9	dates 4:20 143:6, 8	decisions 16:9 40:19 47:6 51:3 102:12	delay 6:8 10:8 11:12	desire 76:3
critique 77:6	day 9:24 19:1 43:24,25 48:10 68:25 95:13 144:3 146:13	deck 77:23	delayed 28:18 56:18 96:9	desk 2:17
crosschecks 59:2	days 16:17 17:2 39:17	decommission 4:20 14:12 20:9 28:1	delaying 134:4	desperate 131:23
crow 129:4	DC 42:1	decommissione d 136:19	delays 16:24	detail 6:1 16:3
crucial 40:14 42:23 45:1 48:22 56:2	DCISC 88:22 91:15	decommissionin g 4:18 5:4 6:8 7:1 8:24 9:9 10:5,20, 25 11:13 13:5 20:7 21:21 23:11, 14,17,22,25 24:2, 8 96:5,9,15 102:11 107:5 114:12	deliver 26:17	detailed 6:24 8:3 57:5 74:23 76:9 79:7
crucially 43:4	DCPP 32:12	decontaminatio n 142:10	delivery 13:12	details 82:14 140:22 143:13
Cruz 93:21 94:15 102:5	dead 109:10	decrease 107:10	demand 32:4,6,7, 8,21 109:19,24 119:19 127:1	determinations 65:20
cultural 11:18	deadline 18:14 20:14 21:25 23:4	deduce 64:14,22	demanding 109:15	determine 80:22 84:9 85:13 94:20
curious 53:11,17, 21 57:3 78:11 80:21 117:10 133:24 134:3	deal 60:3 63:16 71:20 72:5,6 96:17 123:14	deductions 79:6	demands 21:2	determines 72:22 73:20
current 3:21 8:23,25 13:18 36:18 63:7 78:14	dealing 36:7 71:14	deep 73:25 74:5 82:13	democratic 131:12	determining 10:15 85:15
cycle 21:11 22:5 24:4 144:15,23 145:20	dealt 37:18	deeply 63:22	Democrats 39:9	deterministic 85:2
cycles 9:17	deaths 138:20	defer 57:19	demonstrated 9:19 107:5	devastated 109:9
<hr/> D <hr/>	debate 13:10 18:11	defense 126:1	Dena 91:25 92:8	devastating 103:10
Daiichi 115:24	debates 120:12	deferral 57:18	Dene 8:14	develop 52:14
daily 108:7	debt 60:9	deferred 15:23 26:7 30:14 48:3,4 56:13,21 57:16	Department 21:15 23:3	developed 51:10 85:24
damaging 71:3	decade 137:19	deferring 58:3	dependent 143:14	development 11:20 23:22 29:5 135:8
damns 122:6	decarbonization 32:25 120:18	defibrillator 3:7	depends 43:4 53:25 54:24 62:10 73:7,12	deviation 126:5
Dan 102:19 105:21 107:21,24	decarbonize 140:19,20 145:9	defined 35:19 97:9 105:6	depository 116:7	Diablo 2:2,22 4:1, 22 5:17 6:22 7:11, 15 9:14 10:25 11:8,15 13:4,8,15, 22 14:7,12 15:21, 23,25 16:11 17:1, 6,10,22 18:12,23 19:25 20:19 22:9, 12 24:5,21 26:10, 14 27:2,14 28:9, 14,16,17,23 29:7, 23 32:4 33:4,7 35:3,13,17 36:5,8,
dangerous 123:21	decent 95:10 114:23	definitive 76:19	depth 73:13	
dangers 121:17	decide 45:21 50:12 71:17 113:13	degradation 100:12 101:5	Deputies 3:1	
data 30:6 77:5 85:12 88:3 90:21 104:20 120:2 121:24 128:10 132:11	decided 80:6 82:4 87:11 93:9	degree 64:10 80:14	describe 38:25 41:8,19 88:23	
database 111:4	decision 6:3 12:17 13:20 15:21 17:20 19:3 28:1		describes 83:23 84:21 87:16	
datasets 69:11			deserves 30:9	
			design 79:10 80:15 99:4	

11,15,20,21 37:1 38:6,13 43:23 44:18 46:25 47:25 63:8,15 65:6,18, 21 66:10 68:17 70:1 78:15 83:23 84:10 85:19 90:13 93:12 98:5,9 100:25 106:2,8,19 107:9 108:3,5,8 109:5,7,13,15 110:24 111:3,4, 14,21 114:1,4,5,8, 11,13 115:16 116:14,22 117:1, 8,23 118:4,17,24 119:3,21 120:6,9, 11,16 123:9,14 124:3,14,16,22 126:7,21 127:1,12 128:14,15 129:4,9 130:4 131:12,20, 22 132:6,8,13,17 133:24 134:6 135:2,4,7,17 136:2,23 137:2,9 138:19,24 139:8 140:2,7 141:7 143:11,17 145:2 Diablo's 8:3 14:21 15:7,10,11 17:5 18:24 27:6 Diablocanyonpa nel.org. 2:8 94:4 95:22 Diablocanyonpu blic.info 4:11 diagram 75:19 dialogue 143:11 146:3 dictate 113:15 dictation 113:11, 18 die 118:2 121:15 124:2 130:23 Diego 136:15 137:17 differ 4:9 difference 41:25	103:7 121:11,21 differences 58:16 differently 7:3 difficult 10:16 48:14 51:19 71:16 72:1,9 76:18 100:3 142:5 diffuse 58:11 diligence 26:15 Dimensioning 2:3 dioxide 136:3 direct 8:20 31:4 directed 21:18 66:14 67:5 direction 22:3 62:22 74:24 129:20 directions 4:8 73:15 directly 69:6 Director 8:1 dirty 123:21 disappointing 129:15 disaster 83:18 86:11 130:22 disasters 131:18 disastrous 139:1 discharge 8:7 disclaimer 38:5 disclose 145:17 discovered 55:11 69:5 81:15, 19 discovers 79:19 discrepancies 144:10 discuss 5:20 12:23 63:7,11,20 93:1	discussed 11:16 21:5 25:21 136:17 138:5 145:21 discussing 88:2 128:15 discussion 4:25 30:7 31:16,18 33:19 35:2,20 37:11,18 88:13 92:16,17 94:25 101:22 102:3 117:25 132:7 143:10 discussions 138:7 dismantle 96:18 disposition 11:14 disproportional 30:18 disputes 15:17 disruptions 15:16 distance 15:1 72:25 74:20 104:15 distinction 89:25 distinctly 87:17 distinguished 105:23 district 15:19 63:12 diverse 16:18 41:8 58:11 129:7 diversity 41:9 docket 145:1 doctoral 105:2 doctorate 103:22 document 4:24 51:1 57:4 59:8 83:20 84:21 133:25 documentation 50:6,16 51:9 52:8, 11,13,14 55:11	documented 88:25 documents 39:22 59:14 88:3 134:1 DOE 21:10,23 22:7,10 dogging 137:19 dogs 94:8 137:18 dollars 45:22 59:21 60:17 145:14 domestically 8:19 dominates 85:18 Don 105:20 Donna 93:15 110:16,21 doors 42:3 doubly 105:14 Dowd 127:25 128:4,24 129:2 downplays 8:8 downtime 111:4, 9 downwind 123:7 dozen 15:20 43:13 44:1 45:2 57:4 90:17 dozens 54:25 105:3 draft 14:21 112:24 draw 37:10 drawn 68:8 93:6 driven 32:7,9 53:11,12 drivers 53:5 driving 62:23 118:24 drop 2:16 drought 15:14	21:3 137:7 droughts 140:16 dry 37:17 dryer 109:24 drying 136:1 ductal 89:19,22 90:2 due 15:16 66:11 87:8 131:19 135:24 138:20 dumb 131:11 dumbed 92:5 duration 10:23 97:8 duty 145:20 Duval 125:23 126:15 127:24 137:12 138:12,14, 16 DWR 21:15 <hr/> E <hr/> earlier 25:23 36:14 62:20 83:7 84:1 142:8 early 18:15 68:24 69:4 130:23 137:1 earth 7:21 64:14, 23 73:10 141:7 earthquake 2:15 66:12 69:16,20 70:6 71:3 72:19, 24,25 73:1,9,11 74:6,12,13,18 76:11 105:1,7 109:2,6,10,11 116:3 123:24 124:21 earthquakes 70:11 74:11,19 76:22 104:12,20 130:1 ease 28:8 easier 56:11
---	--	---	---	---

east 92:11	electrify 109:22	endorses 54:7	entered 14:6	estimates 105:13 131:21
eastern 84:7	elects 32:17	ends 18:17 22:5 29:11	entertainment 116:19	ethical 8:21
easy 35:19 117:12	elements 104:6	energy 5:21 6:11, 14 8:6 13:12 14:23 15:13 16:18,20,25 17:15,17 18:20 20:9 21:1,5 22:22 23:3,9 24:25 25:1 26:2 29:12 33:6 35:15 39:5 62:21 67:8 76:14 79:1 95:7 107:10,12 108:5,7 109:25 110:2 116:17,20, 25 117:23 118:4, 10,22 119:2,10, 16,19,20 120:16, 18,19 121:5 124:5 126:3 129:18,21, 23 135:19,21,22 137:9 140:9 144:23 145:7	entity 103:2	Europe 118:12 122:2,16
eaten 92:17	embrittled 29:18 87:6 124:22	engagement 2:3 13:5,6 23:19 27:24 36:1 91:15 93:5,12 95:16 102:11 143:3,8	environment 27:21 118:19 131:17	European 122:1
eclipse 105:11	embrittlement 29:17,21 87:2,7, 12,14,16 88:4	engaging 143:4	environmental 6:24,25 7:6 8:13 11:7 14:7 27:20 28:2 120:9 123:14 128:12 130:1 137:5 144:16	Eva 136:13 139:13 140:11
ecological 28:21 131:6	emergency 3:3, 24 4:1,7 12:9,11 29:22 67:12 87:18 138:9	engineer 36:7 39:11 107:25 108:9 139:19	envy 141:5	evacuation 2:19 138:8
economic 31:8 33:4 144:16	emigrated 121:4	engineering 83:8 108:18,19 109:16 138:1	epicenter 73:2	evacuations 4:9
economically 123:11	emission-free 118:5	engineers 54:5 108:13	equations 63:23	evaluate 62:8 63:3 64:20 66:4 84:8 145:22
economics 10:9 32:15 145:21	emissions 106:11 118:7 120:4,7,14 139:3	enhanced 47:12	equipment 42:17,23 45:7 47:11 49:23 56:5 108:13	evaluated 11:10 29:22 80:6 81:6 85:1,2 86:9 87:23
economy 139:1	emitted 120:7	engines 54:5 108:13	equity 30:11	evaluating 78:13 84:5 101:3
Ed 131:21	emitting 135:20	engineer 36:7 39:11 107:25 108:9 139:19	equivalent 114:4 120:5 136:4	evaluation 41:2 46:3 52:15 62:13 66:7 70:18 78:15
Edward 8:1	emotional 15:6	engaging 143:4	ergonomics 3:14,16	evaluations 100:11
effect 87:8	emphasis 66:10	engineer 36:7 39:11 107:25 108:9 139:19	ergotic 75:2,5	evaluators 98:7 100:9
effective 32:13 145:6	emphasize 19:21 24:15 64:17 98:9 143:16	engineers 54:5 108:13	Eric 102:20 105:20,22,24 112:1,2,7,10,13 113:20 141:17	evening 2:1 19:9 34:21 63:24 70:13 105:23 106:3 121:2 128:6,9 136:14 138:5 143:24 144:2
effectively 96:9	empirical 74:10, 17	engineers 54:5 108:13	escape 2:18 89:15	event 2:15,18,24 69:19 71:7 87:20, 21 90:21
effects 130:18, 19,21	employed 15:25	enhanced 47:12	escapes 2:18 82:21	events 5:3 15:15 19:19 32:8 69:2 72:7
efficiency 124:5	employees 99:1	enormous 10:21 130:17,18	essentially 96:23 113:6	eventual 9:8
effort 67:17,20 68:9,11,21 70:16, 17,19 76:1,2 92:13 129:15	encourage 17:7 18:4 94:2 107:16	enrolled 10:13	established 68:15	eventually 19:24 96:6
efforts 10:14 22:17 23:1,11,12 26:22 30:19	encouraged 116:20	ensure 3:8,15 15:13 29:7 132:25	establishments 129:11	evergreen 96:23
elected 35:14	end 6:4 8:23 14:7 21:10,11 45:9 48:21 49:7 52:19 68:3 91:12 102:16 110:15 121:20 122:7 134:12 143:25 145:18	ensures 127:17	estimate 105:11	everybody's 94:13
electric 5:22 16:23 32:19 66:5 109:19,24	ending 144:2,3	ensuring 98:13	estimated 137:3	
electrical 42:1 108:11 135:18,19	endorse 54:9	entail 6:17		
electricity 15:1 107:2,4 114:13 118:2,3,5,9,11 119:11,13,15,18, 25 131:15 139:5, 8,22				

everyone's 48:13 138:18	experienced 26:13	136:25	facing 56:14	faster 16:23
evolutions 99:11	expert 25:7 39:11 142:13	extends 82:11	fact 5:11 31:19 46:11 54:19 63:25 70:10 104:21 107:3 119:23 132:13 135:17 145:10	fault 67:23 69:4,5, 7,12,15 70:4,5,7 73:13,14,15,18, 23,25 74:2 75:21, 22 79:16,18 81:15,19 82:15,20 84:12 85:4,8,9,11, 13,15,17 104:19, 22 105:3 109:1
evolve 37:19	experts 7:16 29:24 36:2 67:8 68:5 77:5 88:8 91:6 95:2 99:11, 13,14	extension 5:23 7:2 15:8,10 17:10, 14 20:22 27:18 28:2 29:8 30:7,14 31:2,4,7 33:7,9 36:10 37:15 45:1, 25 50:4,5,7,13,23 54:22 61:19,21 77:8 88:25 89:5, 11 106:19 112:16 143:11	fact-finding 39:24 40:9 57:12 58:17	fault's 85:4
examples 42:15	expires 19:16	extensive 83:20 96:4 97:15 138:17	factor 9:22 85:1, 14	faults 73:18,23 74:1 76:19 79:12, 13 81:23 82:2,7,9, 19,22 84:10,11 85:7,10,15 115:18 123:24 124:21
exceeded 58:4	explain 50:2 97:24 101:14 121:11,20	extensively 8:10 90:14	factors 85:6	favor 15:7
exceeding 58:7	explicitly 74:22	external 3:7 83:8	facts 140:23	feasibility 66:16 140:24
exceedingly 126:9	exploration 64:12,22	extinguisher 2:20	fails 56:5 104:23	federal 10:10 14:15 23:7 36:24
excellent 53:23 91:7	explore 27:10	extra 69:13 74:3 90:21 92:13 133:1 142:12	failure 10:1 71:5 72:20 103:15 111:20	feedback 142:4
exception 96:17	explored 31:21 32:16 117:20	extracted 42:14	fair 59:1 70:15 105:16	feeding 32:20
exceptional 32:8	exploring 9:10	extraction 8:7,12	fairly 82:15 86:6, 16 104:24	feel 22:21 33:6 134:25
excerpts 26:8	explosions 138:21	extreme 15:14 21:3 107:1	fairness 127:20 146:4	feeling 138:18
excessive 145:12	export 31:25	extremely 26:3 60:7 104:19 118:18	Fairwinds 145:1	Feeser 134:24
exciting 63:24	expose 123:24	eye 41:15	Falk 133:7	Felipe 83:1
Excuse 12:3 67:10	exposed 121:16, 18,22	F	fall 108:14	fellow 16:2
execute 113:15	exposition 121:8,12,21		fallen 55:24 109:8	felt 26:3
exemption 54:20	express 126:8		falling 110:3	fender 72:2 103:7,8
exist 82:9,19 120:11 131:13	expressed 71:6		falls 44:2	Fesser 132:22 133:18 134:15,18, 20,22,24
existence 68:16	expresses 126:25		false 25:23	field 76:24 88:20 99:1 105:13 108:20 133:7
existing 14:8 26:19 27:1,9,11 29:6 118:7 120:16	extend 17:4 18:22 31:5 66:25 96:6 126:6,18 137:3	FAA 99:7	familiar 99:7 105:2	fight 122:19,20, 21
Exit 2:20	extended 4:23 6:10 25:14 26:24 27:13,18,21,24 29:3 32:17 35:17 65:16 90:7 91:9 97:22,23 98:14 123:8 127:16	face 33:9 62:25	families 30:18	figure 59:7
exits 2:19	expect 52:2 70:7 95:10 101:5,7	faced 26:9	family 119:9 124:18	figuring 66:22
expanded 10:7	expectation 96:21 101:1,3	facilitate 32:24	fantasy 141:3	
expect 52:2 70:7 95:10 101:5,7	expected 28:16 72:24 100:17	facilitator 2:2	farm 10:24 11:1,5	
expecting 58:6 111:11	expecting 58:6 111:11	facilities 10:25 11:3	fascinating 105:3	
experience 36:13 38:14 53:4 64:18 76:25	extending 17:1 65:9 129:13 130:4	facility 8:25 9:8 27:2 96:16 104:13 108:11	fast 42:25 47:19 73:14	

filed 14:3 75:12	focusing 128:17	frame 20:2 31:20 56:18	funding 23:7 28:5,8	27:4 73:1
filing 144:25	folks 75:3 92:10 93:16 102:3,4 125:16	frames 6:17	funds 14:18 28:10 135:13	generation 9:25 16:23,25 32:7 116:23 119:8 139:9
fill 8:24 93:15	follow 3:21 55:24 93:13 95:19	framework 16:13	funny 76:12	generations 16:7 114:21
final 6:8 29:2 85:23 92:24 144:5	follow-up 133:21	France 121:5	furnaces 109:22	generator 106:25 139:24
finalize 6:3	foot 97:21	Francisco 108:25 121:4 128:10 140:12	fusion 136:15	generators 42:22
financial 30:19	footprint 129:17	frankly 82:13	future 13:12 15:22 16:5,6,7 17:12 18:12,24 28:13,23 35:13 72:16 75:19 76:24 114:21 129:19 143:6	geologic 67:22 73:3 79:6
find 23:15 38:24 40:7,10,16 55:17 63:24 74:10 77:18	force 26:17 125:4 126:4	free 139:9,24	G	geological 67:9 84:8 103:23
finding 5:11	forced 40:16	Fremont 132:4		geologically 82:18
findings 68:9	foremost 98:4	frequencies 79:5	gambled 131:18	geology 76:16
finds 43:17	foresight 123:19	frequently 3:19 42:9	gap 15:12	geometry 84:12
fine 10:4 28:3 45:15 52:11,12 80:21 134:13	forget 144:17	fresh 70:20	gaps 27:12	geophysicist 36:13
finger 60:11 61:24	forgivable 10:10 30:12 116:21	Friday 19:1 95:11	gas 32:23,25 106:11 109:8,21 118:8,14 120:7,11 128:18 135:21 138:20	geophysics 64:11 103:24
finish 68:13	form 8:12 57:14 64:22	friendly 34:11	gas-powered 109:23	germane 112:24
finished 111:8	formal 38:18,19 49:20 67:15	friends 19:3	gasket 10:3	Germany 118:13
fire 2:18,20,22 4:3 15:15 42:2,4 50:9 54:11,12	formidable 15:7	frogs 97:7	Gate 108:24	Gibson 7:21 36:12,18 37:5 63:7,10,11 64:8 77:16,20 78:18,25 79:16,21 80:2,5,9, 23 81:2,14,16,20, 22,25 82:9 83:9, 16 85:3,13,16 86:25 88:18 92:3 103:6 104:14 140:24
fires 21:3 140:17	forthcoming 60:4	fuel 5:8 8:5,8,9,23 9:3,8,12 15:23 16:6 22:15 23:20 27:1,3 32:22 37:14 96:17 130:25 136:23,24	gathered 79:10	Gilmore 110:16, 18,20,21
Five-minute 92:20	forum 4:17	fuels 9:2 120:3 138:23	gathers 6:16	give 5:3 6:1 19:18 26:5 45:10 50:13 57:22 92:21 99:20 108:19 137:2 140:2
five-to-ten-year 31:7	forward 18:17 22:8 26:24 36:1 40:15 77:7 83:25 100:12 101:3 107:11,18 116:24 124:17 125:4,8 132:19 142:19 143:15	Fukushima 69:20 70:18 75:11 83:18 86:11 115:24 124:2	gave 20:14 83:16 136:8	giving 48:15 103:3
five-year 31:14 59:11,16,22 61:20 89:5 145:16	fossil 120:3 130:25 138:23	full 4:4 6:24 7:7 13:9 26:15 27:9 63:23 131:23 136:8 144:15,23	Gavin 124:22 139:4	
fix 43:19,21 56:2 103:8	fought 28:15	fully 30:5 32:16 69:1 113:17	general 30:13 33:16 39:6 71:15 130:14	
fixed 43:19	found 29:18 79:18 87:6 97:6 103:15,18 105:8 117:21	fund 30:13	General's 39:7	
flat 109:7,8	founded 133:7	fundamentally 65:14 77:6,9	generally 59:13 100:22 130:13	
flexible 32:22 106:24 107:11	founding 137:17		generate 79:2 114:13 123:22	
flies 129:4	fourth 44:7 56:22		generated 15:23	
flight 99:8				
flow 14:25				
focus 128:20				

glad 55:6	grateful 2:22,25 13:6	59:6	Harvey 112:6 113:22,25 120:24 123:1 124:8,11	heat 15:14 21:3 32:9 140:16
global 136:5	GRC 121:25	guest 34:18,21	haste 7:8	heaters 109:22
glossed 115:4,5	great 13:10,20 49:9,10 60:3 83:17 85:12 92:4 94:18 95:24 97:11 103:6 104:10 110:20 138:16	guidance 58:5	hate 47:3	Heather 113:23 115:10 117:5,7
goals 107:6,13	greater 75:25	Guido 126:15 127:25 128:4,9	hawk 45:25 47:24 48:2	heavily 122:15
God 49:7	greatest 78:16, 19	Gunderson 133:9	Hayes 133:18 134:15,18 136:12, 14	heck 48:23
Golden 108:24	greatly 10:5	guys 122:4	hazard 67:21 69:14 79:22 83:17,21,24 84:14,21 85:5,15, 18 86:4,10	held 112:18
Goleta 119:8	green 145:6	gym 97:18 101:15 121:9	hazardous 4:3	Helen 133:8
good 2:1 3:18 19:9 28:19 33:10, 17 34:1 35:10 55:3 61:10 98:17 104:18 105:23 113:20 114:8 121:2 123:15 124:15 128:6,9 129:24 133:12 136:14	greenhouse 106:10 120:7	H	hazards 12:8 83:8,22 84:17	helpful 101:17
gorgeous 131:17	Greening 112:1, 9,13	half 15:5 45:2 90:17 135:23	head 33:8	helping 111:13
government 10:19 30:21 59:9	Greening's 141:18	hand 4:15 51:13 61:5 77:13 93:15 94:13,15,17 110:15	heading 129:19	heritage 11:18 129:12
Governor 14:11, 16,20 16:21 17:16 18:1,3 39:4 112:22 113:11,18 116:21 129:15	grew 108:6	handful 132:11	heads 71:16	Hettle 123:1 124:9 125:22,25
Governor's 4:19 12:24 15:4,9 16:10,16 17:4,25 20:18,25 21:9,19 22:4 26:2 28:19 29:13,15 31:5 62:23,24 113:15 126:24 129:6	grid 15:3,13 29:10 30:23 31:13,16 32:19,20 33:1,2 43:2 59:17 106:1 111:13 114:4 145:13	handled 83:12	health 3:22 118:19 124:18 130:22 133:7 137:7	Hey 12:3
gradual 32:24	grinding 63:25	handling 37:13	hear 19:7 35:8 41:6 65:10 82:6 102:13 110:18 113:20 121:3 123:3 128:7 131:5 133:22 137:13 138:5,14 139:14 142:2	hide 2:24
gradually 100:19	grist 90:22	hands 3:19 86:20 94:21 101:23 146:5	heard 25:5,6,13 35:12 63:13 93:2 96:3 103:5 104:1, 14 112:25 113:17 140:23,24 143:1, 22	high 15:1 48:13 71:25 72:3,4 78:25 100:14 105:9
grafts 63:23	grocery 101:15	happen 40:16 47:20 71:7,25 116:5 121:23 125:12 138:2	hearing 18:24 19:24 112:17,25 114:12 128:2 132:19 133:14 140:4 141:18,23	higher 32:1 33:10 79:4 119:18 130:24
grandchildren 124:13 125:13	ground 73:7 74:21,25 76:14 85:23,24 86:9,12 99:8 124:21	happened 28:2 40:17 78:15 115:22 116:8	hearings 112:18	highest 9:20
Grande 123:7	group 35:16 39:19 57:10 68:6	happening 9:13 35:22 95:6,15,18	heartbroken 131:11	highlight 126:18
grandfathered 7:9	groups 5:13 8:15 14:7 141:1	happy 52:20 77:11 146:1		highly 90:2 106:13
grandkids 89:21	grow 140:16	harbor 11:3		hill 8:25 138:1
Granholm 20:20	guard 3:17	hard 28:15 72:19, 22 118:22,23 139:20,23 141:6		hills 76:12,13,16, 20,22
grants 10:10	guess 35:23 53:13 59:12 91:4 112:3	harder 140:20		hinder 29:9
	guesstimate	harmonize 33:1		hinted 60:6
		Harry 130:19		hire 52:6
				historic 30:9 56:24 76:21,22
				historical 30:1 70:10 121:24 133:23
				histories 64:7
				history 7:11 8:3 13:20 65:25 68:14

76:20 118:6 hit 139:1 Hoff 113:23 115:10 117:5,7 Hoffman 131:4 132:3,22,23 133:5 hold 2:16 39:16 134:11 holding 18:21 133:13 homelands 126:22 homes 109:21,22 Hondu 128:5 129:1 130:7,10 honorable 128:6 hope 16:6 41:13 42:12 52:1 87:24 88:1,5 113:16 129:3 130:14 132:18 133:11 142:4,21 Hopf 137:12 138:13 139:12,14, 16,18 horizon 4:23 Horn 4:5 Hosgri 69:15 70:7 73:23 74:8 79:16 81:14 82:3, 11,17,18 85:7,17 hosted 5:22 14:22 hot 90:1,5,8,10,25 91:2 hour 114:13,14, 16 hours 15:6 32:21 107:1 house 2:20 33:16 household 3:8 huge 135:14 141:4 142:9,12	human 118:19 humanity 117:24 hundreds 104:13 HVAC 32:8 hydro 122:4,6 135:23,24 hydrogen 32:22, 23 hypotheticals 120:12 128:20 <hr/> I <hr/> idea 101:2 119:20 ideas 3:12 ignorance 141:5 Illinois 136:18 illness 128:19 image 76:15,17 imaged 79:5 images 76:18 imagine 44:11 59:4 61:25 89:20, 23 imaging 67:19 73:21 75:17 immediately 24:11 99:2 immigrant 128:11 impact 4:20 6:24, 25 7:6 9:6 10:18 11:10 13:11 15:17 27:20 66:11 71:25 72:4,7 86:13 144:16,19 impacted 119:10 impacts 4:21 6:7, 18 104:3 130:1 impeccable 128:13 implement 46:19	implementing 124:4 implements 28:19 implications 56:20 134:4 importance 101:6 108:7 important 4:24 12:8 23:18 36:3, 10 37:2 45:12 48:14 56:2 65:14 70:24 71:20 72:14 73:22 76:6 77:6,9 81:5 89:16,17 90:6 104:7 113:5 121:9,11,21 125:1 130:15 146:9 imported 118:11 impossible 114:23 improvement 80:20 in-person 102:18 inability 9:23 87:22 inadequate 52:11 inadvertently 90:8,9 inaudible 114:1 115:4 117:1 131:6 139:21,22,23 140:13 142:4 incapable 64:2 incentive 49:8 incentive-base 129:21 incentives 16:22 116:23 inception 68:23 incidentally 14:25 include 17:13	included 16:12 21:13 37:10 includes 7:5,16 87:1 including 4:9 7:10 11:18 15:22 16:14 17:3 26:16 55:16 88:12 94:17 111:1 120:13 143:24 income 11:21 26:21 30:18 incomplete 29:25 incorporate 66:15 increase 88:16 111:14 119:12 135:9 increased 120:5 123:13 increases 119:25 increasing 120:14 129:25 incredibly 76:18 81:4 increment 142:12 incumbent 114:14 indefinitely 9:5 134:5 independent 5:18 7:15 12:20 14:24 29:23,24 36:6,9 38:6 41:1 47:1 48:1 51:12 56:23 64:15 65:2, 5 67:5,13 77:4,5, 10 85:21,22 87:24 88:5,8 89:13 98:11,12 99:16,19 100:25 133:24 141:1 143:17 indication 32:11 indicators 101:6	Indifference 31:1 indigenous 8:15 11:18 indirect 8:21 indorse 51:3 inductee 19:6 industry 98:7 100:7 125:10 131:24 inflation 15:17 21:4 inflexible 9:22 106:25 informal 101:2 information 2:6 4:11,17 12:18 50:21 55:12 60:23 63:25 68:7 69:22 70:24 79:9 83:12 84:5,10 86:15 89:7,10 90:19 93:2 97:3 111:21 134:2 infrastructure 120:16 infrequent 99:10 infrequently 54:19 infusion 14:15 inherent 32:5 inhibit 11:6 29:21 87:17 initial 78:20 initially 20:15 initiate 43:5 initiated 50:3 initiation 9:6 initiative 18:14 28:20 129:6 initiatives 4:19 inject 42:19
--	--	--	--	--

injected 90:9	interest 61:3	59:24	84:3 95:20 96:22 111:2 117:15,16 128:12 144:11	65:21
injection 42:18 45:11	interested 84:19	investor-owned 30:20		Judith 133:9
injury 3:16	interferes 28:24	invite 99:11	item 12:22 19:7 25:12 26:13,19 27:1,7,14,22 28:5, 14 29:4,25 30:11 31:16 32:4 35:1 50:18 51:21 53:6, 16 81:12 143:5	Julia 125:23 126:15 127:24 128:1,2 137:12 138:12,13
injustice 120:10	interim 21:16	invited 36:1		July 5:19 38:9 126:23
innovation 119:1	intermediate 9:10 39:18 40:8	involve 10:9	items 32:15 41:18 45:6 59:5,7 72:13 96:24	jump 52:7 66:24 141:15
input 5:14	intermittent 32:4,14	involved 16:14 18:6 34:24 35:21 36:14 110:25 112:16		June 5:17 21:8, 11,22 127:11
inside 4:25 87:4	internal 59:13 84:4	involvement 27:25 35:20	J	jurisdiction 5:13 36:25
insights 7:19	international 54:3	involves 10:6 27:25 37:17	James 123:1 124:9 125:22,25 137:12 138:12 139:12,18	justice 8:13 11:7, 12 126:20 127:19 144:18
inspect 124:23, 25	internationally 93:7	IPRP 67:13,15,16, 17 68:3,6,14,16 69:1,11 72:14 75:8,18 76:3,23 77:1,17,20,25 79:21,23	January 19:25 67:2 69:10	K
inspection 54:5	interrupted 89:3	Irish 76:11,13,16, 20,22	Japan 69:20 122:9,12	Kansas 48:24
inspectors 98:22 99:9	interview 39:21	Island 115:22 124:1 138:2	jargon 58:10	Kara 6:1 12:25 13:1 19:13,19,22 20:11 21:6 22:20 25:8 34:18 55:7 81:9 82:25 95:4
installations 138:21	introduce 2:9 12:25 35:6 63:5 83:2,6 110:10	ISO 14:25 118:3 140:3	Jean 132:3,22 133:17,19 134:14, 17	Kazakhstan 8:20
instance 71:23 73:1,23 97:2,5	introduced 18:25 63:6 64:8 83:7 112:18,20 113:3	isolating 82:18	Jill 119:6 120:24 122:25 123:2,5	keeping 59:18 84:15 114:5,11 130:3 132:5 135:5 138:24 140:7
instances 103:12	introduction 143:6	issue 5:8 7:4 26:14 34:25 35:14 37:10,19 45:1 55:10,19,21 61:25 63:15,19 71:16 75:14 87:12 88:5 89:1,16 93:6 106:7 117:17 137:19 143:11	job 47:3 113:10, 15	key 7:19 12:17 19:21 61:24
instrumentation 104:22	intrusive 99:4	issued 13:23 16:17 69:21	John 133:5,9	kick 109:21
instruments 105:4	invalid 50:19 127:10	issues 2:13 4:24 6:6 7:10,12 8:13, 21 10:6 11:18 15:20,24 25:14, 16,19,20 32:15 35:2 36:3,8,10 52:14 57:17 65:6, 15 66:15 68:25 72:6,14 80:12	Johnson 133:10	Kicking 110:1
insult 58:9	invest 17:16 60:3 119:2 120:15		join 38:23	kids 140:14
insurance 125:11 138:8	invested 122:15 145:13		joined 7:14,20 36:12	kilowatt 114:14, 16
insured 124:14 125:9	investigate 80:12 99:15		joint 19:22 25:15 29:12 126:8 127:9	Kim 128:5 129:1 130:7,10
integrate 106:16	investigating 88:6		Jones 96:12 98:21 142:7,13	kind 9:3 10:2 19:21 22:11 53:7 56:12 61:18 73:3, 4 74:20 78:11 87:13,16 88:10 96:9
integrating 107:11	investigation 104:8 117:13		judge 99:24	
integrity 123:18	investing 129:22,24		judged 100:5	
intended 106:23, 25	investment 31:8, 14 62:3		judging 71:1	
intense 51:17	investments		judgments 52:15	
intensive 104:8				
intent 66:4 106:15				
intention 14:14 106:5				
intentions 14:17				

kinds 66:8	latest 78:16,18 89:7,10	28:6 32:17 103:1 107:17 113:8,16	lights 128:17	30:21 98:23 119:8 129:2 136:6
KM 83:20 84:20	LATHROP 33:12, 15,24 34:6 53:2	legislature's 113:10	limited 8:6 17:14	locally 102:24 103:2 126:23
knew 55:5	55:4 78:6,10,23 79:9,17,25 80:4,8, 13 81:1,8	Leibert 133:10	Linda 61:4,9,11, 24 62:19 77:13,14 128:4,24	located 8:25 18:6 73:19 126:21
knowledge 36:19 45:8 63:8 65:12	launches 103:15	length 73:12 75:21 123:9	Lindy 127:25 129:2	location 3:5 4:12 13:17 29:6
L	launching 18:13	lengthy 59:4	lines 15:2 29:7 69:2 103:17 109:9	lodged 72:9
LA 130:20	Lawrence 133:8	letter 10:21 17:11 18:2 20:4,20 21:8, 9 126:24,25	link 84:1	long 15:1 33:1,8 34:12,22 51:8 61:12 63:19 64:6 68:17 73:22,24 74:4 76:2
Lab 133:8	laws 113:12	letters 126:5	links 5:15 84:12	long-term 9:14 68:20
label 18:7	layers 98:12	letting 61:3	list 34:8 37:12 41:18 42:15 44:8 46:22 48:13 51:8 56:13 57:9,14,16 81:4 89:15 96:22, 24 110:15	longer 38:9 59:23 130:5
labor 14:7 28:9	lays 127:3	level 31:8 71:17 100:14	listed 41:21	looked 5:7 81:3 90:14 105:5
lack 27:9 123:18	leader 3:5	levels 28:24 104:17 118:16	listen 6:19 115:5	Loren 37:5
Laird 15:19 17:18 29:15 31:17 33:5	leading 13:20	license 7:2,9 9:11 13:18,23 14:4 19:15,16 21:19,20 22:25 23:24 24:11 30:14 31:2,4 33:8 37:5 61:18,19,20 67:1 71:2 77:8 99:4 112:16	listeners 137:22	Loretta 31:22
Laird's 18:3 25:25 26:6 29:11 33:22 60:6 136:16	leak 137:20	licensed 20:3 107:24	listening 113:8 117:15	Los 85:9 115:13 124:12 125:12 129:3
Lamb 38:9	leaking 43:17	licenses 14:8 20:1	lists 58:23	lose 42:18
land 96:20 119:1 127:2,4,12	learn 51:22,23 55:13 121:24	licorice 89:20	literally 104:13	loss 10:24 11:3 43:4 124:18 135:14
lands 11:15,19 16:1 17:23 24:6 28:14,16 127:1,7, 12 129:7,9	learned 91:7 92:6	lie 116:15	live 94:14 103:4 108:1 110:21 115:6 117:8 121:3 125:16 129:3 140:12	lost 7:8 11:21 96:10 120:6
language 16:10, 12 18:1,25 95:10, 12 112:21,22 113:9	lease 127:7	lies 116:14	lived 129:25	lot 13:7 17:5 22:21 24:6 33:19 35:22 38:15 44:10 46:10 47:10 49:15 50:20 51:8,18 54:24 65:10 91:9, 10 92:6 95:6,14 97:14 103:5 104:6,20 107:2,4 108:12 110:23 112:15 121:9 135:13 140:15 144:17,19 145:23
languages 112:24	leave 18:7 44:24 49:15	lieu 17:1	livelihoods 124:18	Louis 7:20 117:6 119:6 120:23 121:3
large 19:3 27:3 32:7 54:6 60:8 67:18 70:19 72:7 73:7 74:10 78:25 87:20,21 104:12 106:24 109:10 110:22	Leaving 128:20	life 8:23 10:2 26:24 27:13,24 29:8 31:5,7 32:17 35:17 37:14 45:1 53:10 91:9 96:7 102:25 108:17 136:25 139:2 144:15,23	Livermore 133:8	
larger 9:7 33:3	left 34:3 72:14 87:4 133:2	lift 29:3	lives 108:7 139:19	
largest 110:1 139:21,24	left-hand 41:22	light 35:25 50:1 86:23	living 136:18 139:2 141:3	
Lastly 37:8	legal 126:2		load 66:4	
late 78:1	legislation 14:21 17:12 21:12 22:4, 10 23:4 24:10 30:12 63:2 104:1 107:18 112:18,20 113:12 114:7,10 115:2,3		loan 16:11 30:12 116:21	
	legislative 4:16 16:10,16 17:25 18:16,17,24,25 21:11 22:5 95:10, 12		loans 10:10	
	legislators 114:15		local 3:21 4:8 10:19,21 29:10	
	legislature 12:21			

low 30:18 31:6,10 71:3,24 105:8 110:1	56:13,16,21 57:16,19,20 58:3, 24 111:15	margin 48:11	Mcgraw 138:1	memory 82:13
lower 26:20 79:4 94:13 110:2	major 8:12 26:19 69:19 78:25 109:1 116:3 129:9,14 131:18 142:10	Mariam 96:1 102:8 110:5 121:8 143:7	meaning 53:15	mention 83:11 140:1
Lucas 2:10,11		Marin 131:7	means 66:22 76:14 89:19 107:8 120:18	mentioned 19:22 24:9 62:20 79:13 81:18 83:3 95:21 132:6
Lucia 126:15 127:25 128:4,6,9, 10 129:5	make 15:2 16:8 21:20 26:23 30:5 31:7 40:19,25 42:2,3 44:18 45:15,25 46:6 47:6,18 49:13,23 50:18,19 52:16 55:21,22,24 58:6 61:6 62:1,2,3 64:9 72:10 84:24 91:18 92:3 93:8 95:1 97:20 100:11 102:12 106:3,21 108:13 113:12,13 114:15,23 116:14 140:20 144:21	marine 27:21 78:21 79:3 129:12	meant 34:2 107:1	mere 14:10
lucky 104:21		Marion 133:7	meantime 112:6	merge 56:12
ludicrous 138:7		Marker 133:9	measure 15:12	merged 70:17
Luis 3:1 12:7 23:21 29:1,4 36:17 63:12 64:16 67:14 85:9 93:20 105:24 108:1 117:8 123:6		Marogan 132:3, 22 133:17,19 134:14,16,17	measurements 89:8 105:11	message 12:5,12
Lyman 8:1		marshall 17:18 33:5	mechanical 54:4 108:12	met 5:14,18 54:22 67:6 77:19,20 91:16
Lymon 131:21		Mary 129:1 130:8 131:3,4	medical 3:3 76:15	metal 87:4 89:25
Lynch's 31:22		Maryland 99:12	meet 68:4 106:25 107:6	metallurgical 87:9
M	makers 98:23	mask 3:20	meeting 2:5,7,9 5:4,7,11,20 6:2,14 16:7 18:22 25:1 31:20 34:11 38:21 77:21,25 84:1 92:24 95:3,8 111:10 136:17 141:24 143:6,13, 16,18,20,23 146:7,10	meter 116:10
machine 11:4	makes 44:1,3	massive 11:1,4	meetings 34:13 38:19,20 39:16 41:5 67:16 98:25 99:23	meters 104:13
made 10:19 15:9, 21 17:20 46:13 56:14 105:12 114:22 115:25 144:19	making 31:14 44:14,22 45:19 48:25 60:2 65:17 68:16 80:14 92:13 127:9	masters 64:11 103:23 108:1	megawatt 140:6	method 46:18
Madrid 70:4,5	malfunctions 130:2	match 9:24	megawatts 114:3 119:24	methodologies 104:16
magnitude 104:15,25 105:7, 10	management 23:20 49:22 67:12	matches 96:21	member 7:13,22, 24 11:25 16:2 36:5 38:6,10,22 39:3 67:15 123:5 130:11 137:18	methodology 68:9 70:25 90:20
main 69:13,14 82:3 85:6	manager 55:16	material 7:8 73:4, 18 126:4	members 2:10 13:1 17:2 19:10 25:18,25 35:5 36:22 83:4 94:9, 25 99:22 119:9 128:6	metric 120:5,6 136:3
maintain 44:13 49:6	manages 14:25	materials 4:4 17:24 18:4,6 37:1 73:8 74:23 121:22	memorialized 141:17 142:25	Mexican 119:8
maintained 100:14	mandate 32:17	math 102:2		mic 134:21
maintains 12:9	mandating 53:7	matter 99:14		Michael 2:9 12:4, 14
maintenance 9:16,18 10:1,4 15:24 26:7 30:14 44:7,8,9,10,14 47:12 48:3,4 53:3, 4,10,17,22 54:1	Manhattan 133:5	matters 100:13		microphone 112:2 123:2 128:2
	manner 26:20 27:19 70:25	Maureen 19:8 24:24 25:11,22 62:17 81:9 82:25 96:2 98:3 100:7		mid 13:22
	mantra 63:14	maximum 72:23		mid-april 14:13
	manufacturing 22:16	mayors 10:21 17:9		middle 26:21 70:7
	March 14:10 69:20,21 70:22 119:14	mayors' 18:2		midterm 16:20
		Mcginney 115:9		Mile 115:22 124:1 138:2
		Mcginthy 113:23 115:11,12		miles 11:14 57:23 69:15 129:4

mill 90:22	mode 40:17	move 3:15 18:17 22:8 48:24 49:1,3 73:15 77:7 101:20 107:11,17 110:15 112:6	neutral 27:10	92:10 99:1,9 111:3 116:12 121:17 140:25
millennial 119:9	model 74:24		newest 132:8,13	
millimeters 85:18	modeling 32:1		news 13:7 138:1	NRC's 50:23
million 21:13 22:14 28:7 45:22 71:12 119:14 120:5,6 136:3	models 85:23	moved 137:25	Newsom 124:23	nuclear 4:3 5:19 7:2,17,23 8:1,5 13:23,25 14:14 15:11,22 16:5 18:14 20:3,14 22:25 23:2,5,24 24:2 27:1,2 29:8 35:15 36:7,11,22, 23,25 37:4,6,14 39:10 47:22 49:1 54:2 55:22 57:1 65:22 71:21 83:4, 10,13,22 84:22 87:15 96:15 98:6, 21 99:14 100:16 106:22 115:16,21 116:6,9,16 117:9, 12 118:7,13 120:2,4 121:5,10, 13 122:3,4,10,11, 15,19 125:10 129:13 130:2,12, 25 131:18,24 135:22,24 136:15, 19,22 138:22,23 139:19 144:12,21
mind 87:19 117:11 145:17	moderate 7:13 35:6 101:21	moving 95:21 114:22	Newsome 139:4	
minds 6:13 8:14	modern 70:19 132:14	multiple 37:16 123:23	NFPA 54:13	
mine 80:16	modify 9:23	Munson 37:3 83:6,15,16 84:24, 25 86:3	NIFA 97:2	
mined 8:10	moment 34:21		Nina 134:18 136:13 137:11,14, 16 138:10	
mines 8:11	Mona 126:23	<hr/> N <hr/>	noise 79:3	
mining 144:18	monetary 16:22		nonsense 122:19	
minute 41:23 71:13 102:7 125:16,24 130:5	money 18:15 113:13 124:4 129:25 140:2,4,9 141:6	nailed 79:24	noon 4:5 143:25 144:4	
minutes 3:14 4:6 38:4 43:20 92:19, 21 102:4,5 110:9 129:3 136:7,9,19	monies 17:19	narrow 76:1,5 96:23 145:11	normal 66:18 70:17	
Miriam 97:12 101:21	monitoring 30:1, 6 134:1	NASA 133:6	north 82:11	
mismatch 32:5, 10 145:20	Monterey 93:20 110:21	nation 29:19 87:7	note 7:25 102:15	
mispronounced 102:20	month 46:8 143:9	national 5:1 54:10,12 129:12 133:8	noted 6:10 11:25 134:2	
misrepresentati ons 116:13	months 14:10 21:22 39:17,18 40:1 42:6 125:4	natural 32:23 118:8 120:11 123:10 125:25 128:17 135:21 138:20	notes 82:12 144:8 145:24	
missed 78:8	monumental 131:13	nature-based 129:18	notice 3:23 4:2	number 10:24 12:23 25:12,14 26:3 28:22 52:10 56:25 59:19 63:13 69:11 72:21 73:12 75:8,23 81:25 94:21,22 96:4 101:22,23 105:6 144:9
missing 134:1	morale 49:9	necessarily 37:9	notifications 43:24 44:1	
mission 4:18 77:3 110:23	Morgan 133:7	necessities 116:18	notoriously 76:16	
Mississippi 70:12	morning 25:3 144:2,3	necessity 65:5 106:19	November 66:20,24 67:11,14 68:3 69:3	numbers 84:13 145:4,18
Missouri 70:5	mother 130:12	needed 15:11 22:11,16,17,18 24:14 26:17 28:10 31:8,17 32:15 33:7	NRC 7:4 8:4 12:20 14:3 29:19 47:23 49:17 50:6, 10,15,16 51:1 52:16 54:7,9 66:25 69:21 70:22 71:1 75:3,5,12 80:6,23,24 84:4 85:22 86:4,14 87:11 88:3 89:2,4, 9 90:15,16,23	numerous 30:2 140:24
mitigates 27:19	Mothers 117:9 123:6 130:12	negotiations 123:12 125:2		Nunez 126:15 127:25 128:4,9
mitigation 17:19 28:12	motion 74:25 85:23,24 86:13 104:11 105:4	neophytes 49:16		nutshell 15:11
mix 10:12	motions 73:7,17 74:21	network 131:6		<hr/> O <hr/>
mixed 58:8	motivation 65:13 131:14			Obispo 3:1 7:20 12:7 23:21 29:1,4
	Mountain 9:15			

36:17 63:12 64:17 67:14 93:20 105:25 108:1 117:9 123:6 obligated 31:24 114:19 obligation 114:18 observations 95:1 observe 71:19 obtained 9:12 obvious 32:10 53:25 91:12 occur 32:9 56:17 57:1 74:11 137:20 occurred 19:19 69:3 105:1 131:18 occurring 59:17 73:10 occurs 84:17 ocean 11:11 115:25 offer 30:12 106:6 offered 16:25 17:3 offering 125:15 office 4:19 12:9 20:18,25 21:9,19 22:4 26:2 29:13 37:4,6 62:23,24 126:25 official 38:16 officials 10:19 35:15 offline 139:1 offshore 29:4,5 69:16 offsite 43:2,4 older 111:17 132:17 onboard 29:9 once-through	11:7,10 15:24 27:14,15 one-minute 125:20 ongoing 10:1 58:24 online 2:5,12 5:22 16:23 17:15 31:24 35:7 44:7,8, 14 77:17 92:11 93:18,22 101:25 110:9 136:10 138:24 143:20 Onofre 110:24 120:3 136:2 137:19,21 onsite 8:25 9:1,4 27:2 37:14 open 2:9 6:15 16:12 41:18 59:19 72:14 88:12 114:6 132:6 135:5 140:7 opened 29:5 116:7 132:9,11 opening 8:9 15:18 openly 88:2 opens 135:8 operate 21:17 22:12 31:9 38:17 59:10,16,19 65:21 operates 13:24 39:13 68:18 106:23 operating 24:1,7 30:25 59:22 65:9 77:8 120:13,17 131:12 144:11 145:3 operation 6:8,21 7:12 9:23 11:22 13:8 14:8,19,21 15:10 17:1,5 25:14 26:10 29:20 31:11 35:4,13,18 36:20 63:14 65:7, 16 68:23 75:15 106:19 107:9	114:12 115:15 118:17 123:8 124:16 125:7 126:7 127:8 129:13 143:12 145:9 operational 40:5 102:14 operations 4:20 5:23 6:3,10 7:17 8:24 9:7,17 10:18 11:2,6,9,25 13:22 18:22 19:14 20:19 22:9 24:21 30:7, 15 32:12,17 33:4 36:25 98:14 99:10 126:18 127:16 Operator 14:24 opinion 7:25 opportunities 11:13 opportunity 19:11 23:6 93:1, 17,22,24 102:23 103:3 115:12 143:21 oppose 115:15 opposed 15:8 123:8,12 opposes 114:1 oppositions 35:16 option 10:14 21:17 options 31:20 118:20 131:6 Orano 5:12 order 27:18 39:10 40:3,22 46:15 47:11 59:10 94:19 107:6 118:1 orders 3:22 organizations 5:6 origin 8:9	original 7:9 106:16 originally 137:24 originate 113:11 Ortiz 115:10 117:6 119:5,7 Osos 85:9 115:13 129:3 OTC 27:17 outage 90:7 outcome 103:9, 10 109:4 outlined 20:11 outraged 131:11 overdue 116:3 overriding 28:4 overseen 59:3 oversight 18:21 98:13 141:24 overview 25:19 83:17,21 owner 53:6,11,15 <hr/> P <hr/> Pacific 115:25 pad 136:21 paid 10:17 66:22, 23 paints 106:18 Palisades 87:15 panel 2:3,10 4:16, 18 5:1,4,7,9 7:13 11:16,25 12:19 13:1,5 16:2,6 18:5 19:10 23:19 25:24 35:5 37:9 52:25 56:15 64:16 65:2 67:6,13 91:15 92:15,16,24,25 93:5,9,12 94:4,9, 25 95:16 96:13 101:19 102:11,23 105:23 106:1	115:11 127:15 128:7 138:21 143:3,8 144:6 panel's 2:7 6:20 17:7 panelist 144:5 panelists 26:3 par 122:4 Paradise 103:18 parameter 85:11 100:13 parameters 73:12,20 101:6 parcel 11:20 Pardon 92:18 Paris 115:10 117:6 119:5,7 park 119:1 Parkfield 104:24 105:4 part 12:17 20:5 22:6,14 37:2 43:21 48:16 64:16 67:3 76:12 80:25 91:22 94:10 part-time 39:14 108:2 partial 47:13 participants 91:5 95:2 146:4 participate 143:21 participated 15:4 participating 2:5 13:3 146:6,9 participation 129:11 parties 9:1 27:10 35:21 123:17 partner 17:16 partners 7:18
--	---	--	--	---

partnership 127:16	92:9 93:25 94:14, 16 96:4 97:18 100:1 101:14,23, 24,25 102:5 103:18,20 109:10 118:2 121:9,10,16 124:2,24 128:16 130:20 132:15 133:3,11 136:9 144:11,17,20 145:22,25 146:7	23	physical 73:12 76:10	18:12,23 20:9 26:17,25 27:4,23 28:13 29:3,8 30:3 31:5,9 32:18,22 35:14,17,23 36:11,20 37:1,14 40:4,5,15 41:2,21, 24 42:24 43:3,16, 23 44:5,9,11,13, 22 45:3,18 46:21 48:24 49:1 55:15, 16 57:1 59:10,18 63:17,18 64:6 65:11,19 67:24 68:18,22,24 69:6, 13,25 70:21 71:2, 21 72:19 73:3,4 74:7 75:15,22 76:23 79:11,14,23 80:25 81:6 82:8 83:24 84:11 86:9, 13 87:1,15 88:1, 12,16 90:5,9,15 91:9 96:5 98:5 99:2,23 100:5 104:10 106:22 107:6 108:6 110:24 111:17 114:2 115:16,17, 18 120:4 123:21 126:19 127:8,9 129:14,24 132:8, 25 135:5,7 137:21 141:4 142:14,20 145:10
parts 9:13 46:15 72:21 114:23	people's 101:8	perpetuity 17:23	physics 64:10 133:7	plant's 27:13 35:3 65:16 72:22 136:25
pass 22:23 100:16	percent 8:18,19 15:2 24:22 30:22 107:8,10 111:5,7, 9 116:16,19 118:5,9,10 119:12 120:1,18 121:5 129:7 135:18,20, 21 139:8 145:2,3	person 2:4,12 13:3 43:17 93:14, 17 101:24 102:3, 19 113:21 122:24 124:7 125:21,22 126:13 127:23,24 128:23 130:6	pick 122:18	plants 14:14 18:14 20:15 21:13 32:25 44:17 49:2, 3 66:4 69:22 83:22 84:7,22 100:18,21 118:7, 13 120:2,11 122:5,16 128:18 132:9,11,14,15,16 138:22
passage 113:5	perfectly 140:6	personally 103:18	Pickering 124:9 125:23 126:14,16 127:15,19	plays 85:14
passed 10:13 22:4 24:10 28:6 66:3	perform 3:4	personnel 2:22	picture 106:16,18 111:20	pledge 51:24 91:18
past 5:25 8:3 40:15 73:15 81:11 86:2 108:4 136:25	performance 100:20	perspective 99:21 106:6,9	piece 8:1 42:23 70:24 87:4 89:23 142:10	pledged 91:16
path 24:18 139:7	performed 85:22 86:8,10	pertinent 65:7,8	pieces 106:9 112:21	
paths 23:10	performers 100:7	Peter 38:9	pinned 62:13	
pathway 127:4	performing 98:5 100:5 115:17,19	petition 124:24	Pittsburgh 137:24	
pathways 22:11 106:1	period 5:24 11:22 15:5 53:8 59:11 65:9 91:11 92:16 94:24 101:20 132:12 145:15	PG&E 4:10 5:1,8 8:4,21 12:8 14:3, 6,11,16,17 16:11, 22 18:15 19:8,11 20:2,23,24 21:8, 18 28:17 30:2,5, 13,24 31:2 33:8 35:15,23 40:18 46:23 47:19 50:4 51:10 52:14 54:7 59:12 60:4,24 61:18 62:18 66:14,24 67:18 68:4,19 69:7 75:9 76:2,8 78:20 83:18 85:25 86:3, 7 88:2 96:13 98:3 107:4,6 114:12,15 123:17 127:7 132:25 135:3 145:17	place 27:5 30:17 34:3 79:10 82:23 97:17 98:14 117:17	
Patrick 113:23 115:9,12	periodic 31:19 47:2	PG&E's 68:9 88:24 106:14 144:24 145:3	places 2:16 57:4	
pay 10:23 30:24 60:8 103:8 114:19,20,21 119:12,15,18 133:12	periodically 41:20 42:5 95:18	Ph.d. 64:11 136:14	placing 119:16	
payer 30:11 114:18	periods 9:20	phenomenon 90:12	plan 16:12 17:18 20:9 22:8,11 31:5 33:5 34:14 40:23 43:19 62:8,9,10 96:6 114:5,6,9 126:18	
payers 26:20,21 66:23 123:19	periotic 32:6	phone 110:17 131:8	planned 111:15 124:3	
payments 10:19	permanent 20:4	phonetic 119:23	planning 3:24,25 4:1 23:22 28:25 61:17 139:20	
pays 26:19,23	permit 16:24 78:19 79:3		plans 2:19 9:14 14:11 40:19 68:9	
PCIA 30:25	permitted 27:15		plant 6:10 7:11 8:10,23 9:1,18,19 11:3,20 13:22,25 14:19 17:13,20,22	
Peace 123:6	permitting 27:22,			
peak 32:4,6,7,8, 20 119:19				
peaker 32:22,25				
Pecho 126:21				
peer 64:15 65:2,5 67:6,13				
people 5:23 12:17 15:4 39:22 41:13 47:17 55:15 71:16 81:24 82:7 84:2 91:10,16				

plug 50:15	pose 33:3 69:12 74:3,7	preempts 113:6	prior 7:22 8:4 22:4 102:25	143:21
plutonium 116:10	posed 133:22	preference 92:18	priority 35:18 48:15 53:20 129:10	processes 19:24 28:3,4 84:4,15 97:2
PM 5:25 146:13	position 8:4 38:16 40:21 80:15	preparations 96:5	private 125:11	procurement 22:15 140:5
point 8:9 12:15 20:23 25:21 34:2 59:12,15 60:7,9 80:18 81:11 83:19 84:25 85:20 96:6, 8,11,24 108:16 110:25 135:19	positions 38:18	prepare 136:21	privilege 102:25	procuring 22:17
pointed 85:16 136:1	possibility 65:9, 10 66:16 87:20	prepared 17:24	pro 35:13 41:25	produce 10:16 76:18 105:7 107:2
points 4:15 6:19 19:21 30:3 56:25 76:6 106:4,21 117:22	possibly 32:1	present 62:12 68:5	probabilistic 70:23 72:7,17 74:14 75:11 85:5 86:8 103:5,21 104:16	produced 8:19 83:19 95:13
poisoning 128:18	post 70:18 75:11, 13 84:2	presentation 16:4 26:2 29:13, 16 68:20 77:16 78:12 91:7 92:4 95:24	probabilities 71:15	produces 107:4 116:16 145:3
police 122:21 127:13	post-shutdown 5:20	presentations 94:19 112:14	probability 31:6 71:3,6,10 72:2 74:12 79:19 138:6	production 9:23 121:6
policies 20:10 23:9 62:21 119:10,16	posted 95:19 145:1	presented 68:7 91:6 114:7 124:23	probable 10:2	productive 64:1
policy 72:10 100:17 106:17 113:12 126:9 140:1,13	potential 5:23 10:7 11:21,24 13:8 25:13 35:3 56:25 66:11 76:11 82:5 143:10	preserve 21:16	probe 39:23	profession 110:22
political 37:21 39:8	potentially 9:7 53:14	pressure 50:9 54:6 89:18 90:1	problem 31:15 32:3,6,11,14 41:7 46:1 51:23 80:11 100:3 112:3 115:2 140:3,4,5 142:9, 15 145:19	professional 107:25
polluting 115:24	power 10:16 13:22 15:1,2 18:12,23 29:8,10 31:1,19 32:5 35:3 36:20 43:2,4 57:1 65:18 68:17,22,23 69:6,13,22,25 71:21 79:4,11 83:22 84:22 87:15 108:8 109:17 114:2,3 115:16,22 116:9,16,17 119:22 125:10 128:16 129:14 135:18 139:24 144:22 145:12	pressures 9:20	problems 7:5 33:1 115:4	profit 117:9
pollution 130:17, 21,23 136:4	PRA 86:9	pressurized 90:11,13	procedural 97:13 102:14	profound 11:13 13:10
Poly 108:2 119:1	practice 3:13,14 108:18 109:16	pretend 52:10	procedure 93:13	program 20:14, 21,22 21:10 23:2, 6 42:1,2,3 43:15 44:2,3,4,6,14,16, 20 46:22 47:23 48:16 49:4,8,22 68:21 76:2
pool 136:24	practices 44:19	pretending 47:15	procedures 44:16	programs 40:3 41:24 42:4 43:13 45:7 46:23 47:16, 17 49:20,21 50:8 58:13,15
pools 9:3 37:17	precedence 113:10	prevented 32:21	proceed 34:17 36:9 102:17	progress 11:5
poorly 105:14	precision 104:10	previous 10:19 24:9 28:1 34:12 50:19 94:17	proceeding 24:3	project 24:12 67:18,20 75:17 133:6 137:3
popular 139:6	predicated 30:8	previously 85:2 94:5	proceedings 146:12	projected 31:12 59:16 119:25 139:5
population 119:17		prices 119:11,18	process 6:22 7:3, 8 12:18 20:5 21:25 25:17 27:24 28:18 35:22,25 37:16,20 50:3,10, 23,25 67:3 69:4 72:1 83:11 89:3 112:20 113:19	projects 16:24 37:6
Port 133:20		primarily 132:12		promise 75:6
portal 145:25		primary 30:20 63:15		
portfolio 107:7		prime 9:22		
		print 41:16 95:11		
		printed 138:3		

promised 75:20 115:20 116:25	public 4:17 5:20, 24 7:5 12:16 14:11 17:2 18:7 19:10 28:15 30:9 33:10,17 35:21 36:4 37:21 38:19, 21,22 39:16 41:3, 5 55:13 56:14 59:8 66:13 72:10 93:3 94:1,11,23, 24 97:14 98:1 99:6,22 101:20 114:16 130:14 134:12 137:7,18 144:9,10 145:24	<hr/> Q <hr/>	121:14	125:3,8,13
promoted 16:19		qualifications 64:10	radiation 71:23 87:7 109:5,6,12, 13 137:20	read 17:8 39:22 58:17,19 133:11 144:20
promoting 129:16		qualify 39:10	radio 4:8	reading 82:12
pronouncement s 65:18		quality 139:2	radioactive 27:6 30:4 121:22	readjust 47:17
pronuclear 13:14		question 13:13, 15 17:6 24:24 27:5 35:19 40:14 46:12 48:6,8 53:23 55:3,7,8 56:22 57:9 58:22 60:11,17 62:10,20 71:20 72:17,20 73:6 78:7 81:13 82:10,16,23 84:18 86:24 88:20 90:24 96:3 97:14 101:11 112:17 113:2 115:17 128:14 133:21,22 141:15, 17,18 142:16,22	radiological 134:5	ready 51:3 92:23 141:15
proper 3:15 48:15		questioner 57:15	raise 51:12 94:15, 17	real 42:20,23,24, 25 91:1 92:1 104:3
properly 30:8 44:5	publicly 127:6	questioning 108:23	raised 4:25 25:15,17,19 26:14 27:8 29:14 66:15 69:1 83:13 94:21 101:23 117:16,18 146:5	realize 137:22
proposal 16:16, 18,25 17:4,11 18:22 19:22 126:8 127:9	published 30:2 56:24	questions 5:11 6:17 10:22 27:7 36:3,21 39:22 52:20,25 53:2 56:7,11,12 77:12 86:18 91:20 92:25 93:1 95:2 97:14, 18 101:15,18 102:14,15 117:11 141:12 142:6,24	ran 76:20	reappointed 39:3
proposals 4:25 10:9	PUC 67:1,3,5,10 77:25 107:7	quick 24:24 55:8 81:13 92:1 95:5 102:10	range 56:17 71:12 79:22 80:9, 10 105:10	reason 29:1 42:9 59:11 114:24 124:15 135:15
proposed 6:9 9:13 11:1 18:1 30:11 32:11	Pueblo 8:14	quickly 37:19 87:22 95:15,21 103:16 121:15 143:7	rapid 29:21 87:17	reasonable 101:10
proposing 16:21	pull 101:16	quote 18:22	rare 103:9	reasons 10:8 123:15
prosperity 127:17	pulled 50:14	quoted 26:7	rate 26:19,20,21 30:11 66:21,23 67:1,4 75:22 85:5, 6,7,8,11,14,17 114:18 119:25 123:19	reassessed 84:13
protect 137:8	pump 60:15	R <hr/>	rated 53:16	rebuilt 59:20
protection 43:1 54:11,12,13	pumps 42:18,20 45:11 57:2	radiated 16:8	ratepayers 10:12	recall 69:5 76:21
protections 32:1	purity 8:16		rates 10:17 84:11 85:22	receive 78:19 94:9
protocols 58:25	purpose 108:12 126:17		Ray 134:24	received 4:2 94:22
proud 24:20 39:12	pursue 21:20 70:16		Raymond 132:22 133:18 134:15,18, 20	recent 4:18,24 10:13 19:6 64:7 86:6,16 140:4
proudly 100:8	pursuing 76:8		reached 74:2	recently 44:21 76:9 86:2 114:7
provide 4:17 13:19 24:21 25:19 32:19	purview 8:21		reactive 40:17	recess 6:4 34:16 92:22
provided 88:4 93:17	push 129:21		reactor 29:17,22 37:4,7 80:25 87:4, 5,17,22 111:6,9 124:25	recognize 34:18 92:10
providing 16:20 93:11 107:9	pushing 125:4		reactors 111:11 122:13 124:14,21	recognizing 34:12
proximity 76:23 104:12	put 4:13 41:9,17 43:19 60:10,11 61:24 100:6 116:11,22 130:17 138:3 142:15			recommendatio n 55:21
psychological 3:10	puts 26:19 43:18			
	putting 76:14 130:24			

recommendations 107:15	23 62:6	release 71:23 109:5,7,12,13	renewal 17:17 20:3 21:20 22:25 24:11 37:5	require 4:22 7:7 11:9 37:20 60:8 63:22
reconfirm 69:24	refurbished 60:15	released 14:20 95:11	repeat 52:4	required 3:20 6:23 11:22 27:13 139:18
record 6:2 9:19 34:4 94:11 128:13	refurbishment 59:9	releasing 27:20	repeating 22:21	requirement 32:2
records 30:1,5,8 57:5	refused 124:25	relentless 117:13	repetitive 3:16	requires 26:13, 15 35:20 37:16
recover 59:23	reg 83:20 84:20	relevant 26:4 60:7 67:7 75:14	replace 10:1 46:15 57:18,19,23 62:5 139:7	reroute 99:8
recreation 11:19	region 17:16 99:12 110:9 123:24	reliability 5:22 15:13 21:1 62:25 106:10,23	replaced 27:17 49:16 60:15 120:3	research 11:19 64:12,18 111:1 122:1
red-legged 97:7	regions 28:21	reliable 16:18 24:20 106:1 114:3 116:25 118:2 119:22 138:19	replacement 47:13	researched 111:3
redetermine 84:14	registered 127:11	relicensing 6:23 16:14 35:24 37:19 66:17,18,25 70:17	replacing 138:23	researcher 133:5
reduce 16:24 27:13 129:17	regular 57:20 58:4	relicensure 7:7	replied 142:17	researchers 84:9
reducing 106:10	regulate 100:18	remain 6:15 48:18,19	report 30:6 40:7 41:3 52:19 58:19 75:8,12 77:24 101:16 122:2,3 133:24 134:2 142:16 145:1	researching 110:24
reemphasize 22:20	regulated 62:20	remaining 8:13 9:2 13:25 19:15	reporter 110:12 138:1	reset 125:20
reevaluate 46:11,12	regulation 37:4, 7,20	remains 49:13	reports 40:6,8,9 44:16 55:20 57:12 58:18 68:4 72:14 77:17	reside 3:25 93:18
reevaluated 83:22 84:12 86:3	regulations 3:21 55:1	remember 76:12 81:16 103:13 115:21 124:1,2	represent 102:24 134:25	residence 107:22 110:12,14 112:11 120:25 124:10
reevaluation 83:17,23	regulator 24:13 99:5	remind 2:6 36:23 95:7	represented 67:16	resident 98:22 99:9 105:24 115:13 123:7 124:12 125:12 128:10 130:11 134:25 136:6
reexamination 31:22	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	remains 49:13	representing 33:19 64:16 102:25	residential 32:8
refer 88:3	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	remind 2:6 36:23 95:7	represents 15:19 103:2 108:8	residents 119:12,14 135:4
reference 33:15 53:3	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	reminder 102:11	reprocessing 9:12	resolution 127:3
referred 17:18 85:3,13	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	remit 40:4 51:15 60:12,22	Republicans 39:9	resolved 69:1
refine 68:21 75:4	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	remotely 38:23	repurpose 11:3 96:19	resource 31:21 32:2 106:17,24
refined 80:1	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	renew 14:4 26:10	request 69:21	resources 21:16 107:12 124:5 125:25
reflect 10:17	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	renewable 17:15 29:10 107:7,12 120:19 129:23 140:9	requests 23:24	respiratory 128:19
reflection 78:21	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16	renewables 9:24 10:8 17:18 30:22 33:2 125:6 138:25 139:5 140:2,5		
reflexion 64:21	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16			
refocus 117:25	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16			
refresh 82:12	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16			
refuel 44:10	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16			
refueling 9:18 42:17	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16			
refurbish 45:15,	regulatory 5:19 7:2,23 13:24 16:13 19:19 20:3 22:11,25 23:23,25 24:18 35:16 36:22,24 37:6 47:22 53:7,12 54:2 55:23 65:23 83:5,10,14 98:6, 21 99:14 100:16			

respond 73:6 74:17 88:18 91:22 100:4 134:9 142:25 144:13 responds 145:23 response 16:16 18:1 76:7 80:3 85:24 105:15 133:22 138:9 responses 5:11 134:11 responsibility 108:9 responsive 91:23 rest 73:4 88:22 90:25 119:13 125:23 132:19 restart 122:13 restarting 23:1 restorative 126:20 restoring 127:4 rests 65:22 69:14 resultant 6:2 resurrecting 123:20 retention 26:16 retirement 21:15 28:22 retiring 20:16 retrofits 65:11 81:2,5 retrofitting 27:12 return 127:1 returned 17:21 28:11 returning 11:19 reuse 11:12 revenue 28:9 135:12 reversed 14:16	review 6:21 7:22 27:10 36:15 40:2, 4,20,23 41:20,24 42:4,6,7,14 43:7, 8,12,14,25 44:3, 19 48:1 49:25 50:11,17,18,19,23 51:11,12,18,22 52:18 64:16 65:2, 5 67:6,13,17,24 68:7,8 77:5,10 86:5,14 89:10,11, 14 142:19,21 reviewed 19:23 42:16 44:21 53:19 56:23 57:8 90:16 133:25 142:17 reviewing 40:12, 24 47:1,4,24 49:24 50:11 57:11 60:13 89:2 reviews 43:25 51:16 56:25 68:2 revised 10:6 24:10 75:10 revisit 88:23 richest 28:20 right-hand 18:9 94:6 rise 108:25 risk 9:20 21:1 23:15 27:13 33:4 62:25 63:8 64:5, 18,20 65:25 66:5, 9 67:24 68:1,10, 22 69:8,18,23,25 70:2,16,20,23,25 71:5,17,22 72:7, 12,17 74:3,14 75:4,11,21,24 82:2,5 84:16 86:8, 25 103:5,22 111:14 114:24 116:4 118:16 121:7,11,21 122:7,8 135:24 risks 88:16 123:13,25 129:25 130:15,24 131:13	risky 118:18 121:13,20 122:5 River 135:25 road 129:17 135:6,8 Robert 7:14 rocks 73:4 rod 42:17 role 40:12 roof 109:20,25 116:23 Rosa 133:10 rotated 38:8 rotating 38:8 39:2 round 88:23 routes 2:19 routine 44:12 51:16 routinely 30:4 RPS 107:13 rules 7:2 run 30:21 32:23 46:5,23 62:1,2 72:11 107:2 117:9 133:1 running 44:9,11, 13 48:25 49:2,3 82:15 90:2,5,8 109:1 111:11 119:3 141:7 runs 12:10 68:19 69:6 76:3 ruptured 109:9 rush 131:11 rushes 33:8 Russia 8:20 Russian 118:14 Ryan 124:9 125:23 126:14,16	<hr/> S <hr/> Sacramento 28:11 safe 2:19 3:11 16:18 23:16 24:20 35:17,19 36:19 44:5 65:19,21 71:17 97:20 98:13 99:24 100:1,2 101:11 103:13,14, 17,19 104:5,10 108:24,25 115:22 116:7,11,24,25 118:16 121:17 122:17 138:19 safeguards 53:15 safely 31:9 46:7 48:7,10 safer 100:19,22, 23 safest 2:15 110:1 safety 2:13,14 3:10 5:18 7:10,12, 15,19 8:1 9:19 11:23 12:5,20 15:23 17:13 26:13,14,17 29:23 32:15 35:2 36:6,8, 9,10 37:11,12 38:6,13 40:3,5,12, 15 41:2 42:4,18, 21,23 44:15 45:11 47:1 48:1 50:9 55:10,19,21 56:20,23 58:24 59:10 60:1,2 63:14,17,21 65:20 67:9 71:21 77:1,2, 4 81:6 87:24 88:5 89:1,13 97:17 98:11 99:16,20 100:12,13,20,25 101:6 103:25 108:10 118:15 121:23 122:8 123:13 128:13 131:16 133:25 134:4 137:5 138:17 140:24	143:17,22 safety-related 71:4 Salud 34:22 Sam 66:2 102:19 Samek 119:6 120:24 123:3,5 Samik 122:25 San 2:25 7:20 12:7 23:21 29:1,4 36:17 63:12 64:16 67:14 73:16 85:9 93:20 103:20 105:2,24 108:1,25 110:24 117:8 120:3 121:4 123:6 124:20 128:10 129:5 136:2,15 137:17,19,21 140:12 sanctions 21:4 Sanctuary 129:12 Santa 93:18,21 94:15 102:5 130:11 Saturday 4:5 Saturday's 12:13 save 14:14 18:14 SB 28:6 scale 82:23 scared 121:10 122:17 scenario 37:2 79:12 145:16 scenarios 33:3 118:18 scenes 146:8 schedule 10:5 45:20 48:5 53:10, 17,22 54:16,17 57:20 58:4 59:23 130:4 145:19 scheduled 6:4 8:24 13:9 14:1,5
--	--	---	---	---

15:6 34:13 56:16 schedules 53:3, 4,5 54:1 schools 123:17 135:13 science 122:1 sciences 7:21 103:23 scientist 128:11 scientists 8:2 131:22 scope 40:25 97:9 Scott 34:9 78:9 scratch 136:21 script 26:8 scrutiny 130:25 Sea 105:21 seat 67:16 seconds 3:15 105:8 Secretary 20:20 section 83:23 122:3 security 118:10 seek 60:14 seeking 88:24 seeks 30:12 Seeley 61:10,11, 14 62:16 77:15 78:3 seismic 7:10,22 8:3 15:24 27:7,9, 11 36:14,19 63:8, 17,21 64:5,13,18, 20 65:10,20,25 66:5,8 67:9,19,20, 21,24,25 68:10, 17,21,22 69:8,13, 14,17,23,25 70:2, 16,20,23 72:12,17 73:5,21 74:3 75:11,17,21 76:2, 14 77:2 78:12,21 79:1 81:2,5 82:2,5	83:12,17,24 84:5, 16 85:5,12 86:4,8, 9,10 87:20,21 103:25 108:10,22 138:6,17 seismologist 64:13 seismology 64:21,22 74:19 87:25 88:11 97:17 104:7,11 sell 57:24 senate 18:19,20 22:22 25:1,3 95:7 112:17,25 Senator 15:19 17:17 18:3 25:25 29:11 31:17 33:5 66:2 136:16 send 3:5 21:8 111:22 senior 37:3 83:7 sense 31:8 sensibly 44:15 sensitive 48:12 separate 56:22 September 18:15 22:1,5 23:4 38:22 68:2,14 78:1 143:9,19 sequence 113:2, 3,4 sequences 4:21 serve 33:9 39:1 served 103:24 services 12:10 session 7:13 18:17,19 95:13 143:24 144:3 sessions 25:4 set 24:18 37:24 53:5,16,20 54:2,3, 9,10,12 72:8 77:25 108:5 143:8	setback 129:14 sets 53:22 setting 53:4 settlement 14:6 28:6 seventies 81:17 Severance 11:25 16:2 19:5 25:18, 22,24 33:21 34:1 56:10 58:21 59:2 86:24 144:8 severe 122:3 Shah 97:13 98:19 99:17 101:12,21 102:9 107:20 110:4,6 111:23,25 113:20 115:8 117:3 119:4 120:21 122:23 124:7 125:19 126:12 127:22 128:23 130:6 131:1,25 132:20 133:15 134:7 136:8,11 137:10 139:11 141:9,12 142:1,23 shake 72:19,22 shaking 104:18 105:5,7,8,13 share 3:5 41:4 shed 35:25 Sheriff 3:1 shock 90:11,12, 13 shocked 135:1 shooter 2:24 shop 11:4 99:11 shoreline 69:4,7, 12 73:25 74:2 81:19 82:3 85:4,8 short 10:23 16:19 19:4 51:18 91:11 95:6 101:14 106:4 107:14 142:3	short-term 22:13 shortage 139:22 shortages 139:5 shortfall 31:13, 17,19 59:16 119:24 140:7,8 145:11 shortly 14:16 28:6 shot 93:10 shouldering 26:22 show 22:7,10 23:8 38:2,3 41:22 42:11,15 showed 43:9 showing 34:25 shown 111:10 shows 19:15 41:12 42:16 118:6 123:18 shut 8:11 24:1 44:10 45:3,18 46:17,19 87:22 99:2,23 115:19 118:13 120:4 125:3 135:14,24 136:2 137:21 shutdown 9:16, 18,21 29:21 87:17 90:7 110:25 130:3 shuts 135:7 shutting 19:25 135:3 139:21,23 shuttle 103:14 108:21 sick 144:20 side 41:12,22 60:25 71:19 sides 73:14 Sierra 129:5 sighting 96:2 signatories 126:1	signature 11:8 signed 68:15 124:24 significant 6:16 10:23 27:20 28:24 69:3 76:22 82:15 144:18 145:5 simple 105:6 Simplest 108:14 simplistic 82:8 simply 18:8 140:2 sincerely 13:6 single 43:16 45:6,7 51:2 105:6 108:17 135:6 140:7 sir 127:14,18 128:22 134:23 140:10 siren 12:6 sirens 12:7,9,10 site 5:8 9:8,14 11:12 30:1,9 55:11 56:24 57:6 63:9 73:5,6 74:16, 17 75:6 76:7,10 80:3 85:10,16 94:7 98:24 99:10, 15 105:14 133:23 136:20 142:7,8 sites 49:2 situation 23:15 26:9 45:21 68:17 72:1 118:12 six-year 54:15,17 size 70:6,11 72:23,24 73:9,10, 11,14,21 74:5,9, 13,20 80:10 skilled 26:17 sky 108:25 slide 2:14 5:5,16 12:15,16,22 19:12 22:2 24:10,16
---	---	--	--	---

38:10 41:9,11,12 42:10,12 77:23 111:10	sounds 58:23 103:6 112:15 131:8 141:19	specialist 112:4	stance 14:17	98:6,10 138:22
slides 6:12 38:2 41:10 63:23 75:20	source 32:5 82:4 110:1 119:22	specific 6:9 7:11 9:24 63:20 65:13, 18,19 68:4,12 73:3 90:24	standard 54:3,10 87:13 107:8	statewide 30:17 102:1,6
slightly 87:9	sourced 106:13	specifically 13:15 64:21 65:22	standards 54:5, 13 55:1	stating 91:11
slip 73:16 75:22 84:11 85:4,6,7,8, 11,13,17,21	sources 17:17 63:13 79:2 106:12,13 144:22 145:7	specifications 87:9	standing 24:12	station 39:19,20 98:10,24
SLO 10:15 18:2 135:13,16	sourcing 8:20	spectra 85:24	standpoint 60:1 114:25	stations 4:8
small 39:19 41:16	southwest 8:11 144:19	speed 30:22	stands 4:6 13:20	statistics 132:10
Smith 132:4	space 3:12 103:14 108:21	speeding 28:4	start 24:11 25:2, 23 34:14 38:5,12 97:4 98:2 141:25	status 8:8 40:4,5
Smythe 130:8 131:4 132:2,4	spacial 74:5	spell 110:11	started 67:2	stay 35:21 49:14 60:25
so-called 40:8	spaghetti 89:23	spend 39:20 45:22 124:4 136:23	starting 66:17	staying 49:6 98:13
social 8:12,13 11:12 120:10 144:18	spare 43:21 46:15	spent 8:8 9:2,8, 12 15:22 16:5 22:15 23:20 27:1, 2 28:11 36:7 37:13 108:2 110:23 136:18,23, 24	starts 106:7	steady 4:6
society 54:4 116:19	speak 4:19 6:6 36:2 38:12,20 65:4 80:10,24 81:10 93:10,14, 17,22,24 101:1 102:24 103:2,4 115:12 122:25 125:24 132:5	split 15:7	startup 9:16,21	steam 42:22
software 3:17	speaker 63:5 83:3 102:18 105:20 107:21 112:1 113:22 115:9 117:3,5 120:22,23 124:8 125:20 126:14 128:3,24 130:7 132:2,21 136:12 137:11 138:12 140:11	spoke 75:18 130:19 134:16 142:7	state 5:1 6:3 10:10 11:9 13:12, 21,25 14:9 16:11, 17 17:15 18:2 20:10,24 21:14,18 24:18 26:15 27:11 28:5,21 33:17 36:18 51:25 56:11 62:22,24 63:7 66:2 93:6,23,25 94:16 103:1 107:22,25 112:11 120:25 124:9 126:4,9 128:20 130:9 136:4	stemming 15:15
sole 36:25	speakers 35:7 95:23 110:7,8 125:24 127:21	spoken 127:6	state's 15:13 26:22 30:13 106:17 114:4 135:18 139:9	step 124:16 141:4
solution 32:11	speaking 38:14 64:24,25 65:1 113:25	spreadsheet 59:4	state-regulated 24:17	steps 22:3 37:16 97:16
solutions 32:18	speaks 8:5	stability 32:19	stated 10:8 20:15,16 94:5 114:12 119:23	Sternglass 133:6
solve 31:14 32:6, 25 139:4 140:3	special 34:21 43:1 46:4	stable 70:8 108:8 109:17	statement 6:24, 25 7:6 11:16 15:18 33:24 64:9	stick 89:20
solved 32:2 117:17		staff 10:7 26:13 36:22 46:23 48:18,22 49:6,8, 13 51:1 84:4 86:15 142:25	statements 5:10 8:4 18:3	sticking 141:14 142:24
solvencies 30:19		stage 77:10	states 9:11 31:25	stockholders 114:20
somebody's 80:14		stakeholder 27:25 115:13		stolen 127:2
sort 53:24 63:10 68:13 70:17 71:9, 13 72:4,20 82:8 90:22 100:10 112:24		stale 97:4		stop 15:12 23:10 118:14
sorts 40:2,9,11 47:13 48:5 50:10 100:24		stampede 131:12		stopped 50:15
sound 28:25				storage 5:8,9,12 8:8,25 9:1,4,6,11, 14 16:6 27:1 33:1 37:13,17 107:12 111:1 116:6 129:23 136:16 137:3 138:25 140:6
				store 23:16 89:21 101:15
				stored 27:3 123:23 130:2
				stores 136:21

story 70:12 122:9 stoves 109:23 straight 55:15 110:13 strain 3:16 stranded 33:3 strategies 32:13 47:14 strategy 32:6 streams 11:21 stress 13:13 stresses 26:20 stretch 3:15 strictly 59:25 strong 74:25 104:11 strongly 94:3 113:16 130:3 structure 38:25 64:5,14,23 67:22 76:10 struggled 119:14 stuck 31:13 47:3 studied 72:15 74:18,19 133:4 studies 7:6 24:13 27:9 80:19 84:8 105:2 138:17 study 11:1 31:22 32:15 33:6 66:9, 16 75:10,19 76:4, 24 studying 136:15 stuff 3:18 39:11 47:21 49:21 56:1, 3 108:13 sturdy 2:16 Su 102:19 105:21 subject 63:22 69:23 99:14 subjected 70:1	submit 18:9 21:19 89:7,9,10 94:3,6,8 submittal 88:24 90:15 submitted 19:23 20:4,18 50:6 69:9 86:3 90:15 105:25 submitting 6:22 23:2 subsequent 4:22 87:11 subset 77:2 subsidies 10:17 123:13 subtle 57:17 success 106:10 sudden 46:8 49:11 suddenly 48:7 90:10 118:14 sufficient 17:15 27:23 suggest 6:12 31:21,25 64:2 88:7 117:25 suggested 30:24 31:2,17 76:7 86:25 suggests 31:23 76:21 suited 32:13 summarize 25:25 36:18 91:4 summary 12:24 29:11 summer 122:13 sump 57:1 super 121:21 superior 9:2 supervisor 7:20 36:16 63:12 77:15 81:14 83:9,16 85:3,12,16	Supervisors 65:1 supplemented 7:17 supply 10:6 15:16 21:4 131:15 support 7:18 10:24 11:1 21:9 26:16 50:7 52:15 89:11 91:16,19 126:19,25 127:15 128:13 130:3 132:5 140:18 146:7 supported 91:18 supporter 130:13 suppose 43:16 45:12,13,16 46:8 supposed 41:15 45:18 56:17 Surely 16:7 surface 8:16 79:5,8 surprisingly 117:21 surround 17:22 63:18 85:10 surrounding 63:18 65:6 67:23 70:16 105:4 115:25 surveil 98:25 survey 67:9 78:22 79:1 84:9 surveys 66:9 Susan 112:6 113:22,24,25 Susan's 112:9 susceptible 90:3,4 sustainable 22:8 129:18 switch 110:6	swung 105:4 system 5:9 9:21 14:24 26:19 41:25 42:1,19 43:1,18 45:12,14,19 46:22 52:10 66:5 67:23 103:16 110:22 131:9 144:14 system's 106:9 systematically 41:20 systems 4:3 41:18,21 42:5,14 46:2,23 50:12 58:14 59:3,20 62:1 110:23 111:19 <hr/> T <hr/> tab 18:6 table 2:17 takes 38:18 43:20 71:9 124:21 taking 138:25 141:12 talk 36:8 48:3 64:4,7 65:2,24 67:25 68:11 72:12,15 82:7 104:3,14 121:7,25 122:8 130:15 140:22 talked 22:13,20 78:12 103:7 133:4 talking 12:12 21:6 59:15,18 60:5,7 61:15 64:15 77:24 80:14 102:15 103:21 104:2,4 112:8 tariffs 21:3 tax 22:15 135:12 taxpayer 30:11 taxpayers 10:12 114:19 123:20	teach 108:2 team 15:9 24:12 43:25 52:7 118:24 tech 112:3,4 technical 7:18,19 37:3 63:22 67:8 68:5,7 75:7 77:5 83:7 91:19 140:22 technically 89:18 technique 78:17, 19 79:19 techniques 64:13,19 66:7 70:20 73:21 78:12,14 technological 32:18 technologies 103:13 technology 15:25 27:15,16 123:22 tectonic 67:22 70:3 82:1 tectonically 82:22 telling 47:25 tells 145:5 ten 6:11 15:12 31:6 43:20 45:14, 23,24 51:5 53:17 63:2 96:7 97:8,23 100:23 114:17 116:16 142:11 ten-minute 34:10 ten-year 6:12 45:17 53:10 tend 34:12 73:16 tenth 105:8 term 8:6 13:18 17:14 33:1 76:2 95:6 107:18 termination 14:8
---	--	--	--	--

terms 39:2 57:15 58:24 82:1 83:24 108:14 126:8 144:15 terrorist 130:2 terrorists 15:17 test 3:24 12:6,10, 13 41:15 tested 4:4 testimony 106:14 107:5 testing 4:2 29:20 Texas 99:13 thanking 92:9 thermal 90:11,12, 13 thing 38:8 43:16 45:17 49:10,18 52:9 54:11 62:5 72:10 84:25 91:14 98:9 108:18 118:15 121:15 133:4 135:11,12 144:24 things 17:12 21:4 23:18,20 39:21 40:11,18,24 41:14 43:6,9,13 46:10, 20 48:5,12 50:10, 20 54:12 60:13 68:12 75:18,23 91:8 95:6,14,19, 21 96:16 97:1 98:15 100:24 111:18 117:21 118:23,25 138:4 145:22 thinking 59:25 78:13 116:24 140:14 thinks 75:18 thought 70:8 76:24 89:1 95:23 123:16 142:17 thoughtful 17:6 thousands 109:10	thread 67:21 threat 7:25 69:13, 14 74:7 90:6 91:1, 2 threaten 90:12 three-year 24:2 26:12 39:2 threshold 71:11 throw 52:24 78:9 116:22 140:9 throwing 117:14 129:24 tied 17:14 tilhini 126:22 Tim 95:25 130:8 131:4 132:2,4 time 4:23 6:6,9, 17,22 10:22 11:22 15:6 19:4 20:2,23 26:7 27:21,23 31:20 34:10,14 39:20 40:13 42:16 43:15 45:16 51:18 53:8 55:25 56:1, 18 58:6 59:11,19 60:20 61:3,5,7,12 62:12 63:19 64:6 66:8 67:6 81:12 88:25 91:11 92:17 94:20 100:19 102:2,17,25 104:14 106:4 107:2,14 110:23 111:6,12 115:1,6, 21 120:20 122:22 123:9 124:4 125:17 127:14,21 132:12,18 133:1 138:10,18 140:10 141:19 145:11 Time's 34:17 timeline 5:3 timer 125:17 times 70:10 tires 57:23,25 title 41:11	tityu 126:22 today 8:18 13:24 16:9 18:18 19:2 20:8 27:5 75:14 91:6 95:24 122:12,16 told 46:9 103:17 106:18 115:21 116:5,9 Tom 96:3,12 98:16,20 102:22 142:7,13 tomorrow 18:19 19:1 22:23 25:2 95:7 112:17 115:3 141:18,25 143:14 tomorrow's 112:25 ton 120:5 tonight 2:23 3:1 4:14 6:19 7:14 13:4 16:4 34:23 37:11 94:2 97:16 102:12 117:16 143:22 tonight's 2:5 37:18 tons 120:6 136:3 top 37:11,12 49:24 84:15 98:5 100:5,7 115:16,19 topic 14:22 35:6 64:3 146:10 topics 23:19 40:10 92:24 143:6 tops 116:23 total 10:11 68:3 totalling 119:15 totally 70:19 towers 11:8 town 109:9 toxic 123:23 track 14:12 95:15 Tracy 139:19	traffic 121:19 135:8,10 trail 8:12 training 24:3 26:16 36:13 44:16 tranche 21:24 transfer 127:12 transferred 28:17 30:15 transition 28:5,8 30:22 92:2 transitioning 118:8 129:18 transmission 16:24 29:6,10 103:17 111:2 transmit 29:9 transparency 122:20,21 tremendous 23:12 79:2 123:20 tribal 126:24 127:1,3,12 tribe 126:22 127:4,6,8,11,16 trouble 42:24 44:11,12 58:7 trucking 76:13 trucks 76:13 true 45:13 51:4 103:19 116:10 131:14 trust 121:16 tsunami 138:6 Tucker 126:23 tuned 55:2 turbines 32:22 turn 4:7 12:2 24:23 52:23 63:4 78:4 83:14 101:21 112:9 131:10 turning 140:13	TV 4:8 twist 89:22,24 two-unit 13:22 two-year 22:16 137:3 type 53:14 57:6 88:15 104:22 typically 71:5 <hr/> U <hr/> U.s 84:8 U.S. 84:7,22 121:4 Ukraine 122:9, 10,15 ultrasound 76:15 Umpter 117:6 119:6 120:23 121:2,3 unable 125:10 unacceptable 111:21 unanimous 126:25 unbiased 141:1 uncertain 61:15 uncertainties 28:23 120:13 uncertainty 75:25 76:1 79:22 80:9 104:3,4 105:10 130:16 unconstitutional 126:10 undermine 30:19 underneath 115:18 understand 7:23 25:9 40:3 44:3 48:17 56:4 59:9 62:7 69:23 73:22 80:4 89:25 106:22
---	---	---	---	--

108:7	update 3:16 19:8, 11 142:19	vessel 29:17 50:9 87:5 90:10,13	66:8 77:16 83:19 85:20 87:1 106:3 121:7 141:22 142:25 144:12	weeks 14:20 39:25 43:21
understanding 25:2 60:2 64:2 68:22 144:25	updated 86:10, 12 97:1 107:7	vessels 54:6 89:19 90:1,13	wanting 53:15 133:3	weigh 88:10 103:11
Understood 80:8 81:8	upper 18:9 80:10 94:6	Veum 105:22,23, 24	war 122:17	well-known 104:24
undertook 67:18 68:13	uranium 8:8,10, 18 144:18	viability 131:17	warm 27:20	whistle 51:13
underway 7:1	urge 17:11	viable 126:18 139:7	warming 136:5	wider 77:3
unexpected 15:14	urgency 55:14	vibrating 76:13	Wash 3:19	wild 15:14 21:3 140:16
unforeseen 136:25	urgent 42:8	view 18:7	Wasserman 120:24 123:1 124:8,11 125:15 130:19	win 135:5
UNIDENTIFIED 83:3	users 4:22	viewpoint 37:9	waste 16:8 27:3,6 57:2 110:25 116:6 123:23 130:2 136:16,22,25	wind 10:24 11:1,5 29:4,5 140:18
uninhabitable 116:1	USGS 116:2	views 17:3 100:2	watch 45:24 58:1, 2 137:18	window 6:12,16 26:12 59:16,19,22 145:11
unintelligible 112:8 121:14	utilities 18:20 30:21 66:13	violate 123:15 126:6	watching 49:9	Wines 115:10 117:6 119:5,7
union 8:2 122:1 131:21	utility 18:16 22:22 24:17 62:21 96:14	virtual 14:22	water 8:16 21:15 27:20 37:17 42:18,19 57:2 90:9 96:18 109:22 116:17	wiped 115:23
unit 13:25 14:1 19:13,14,16,17 29:18 45:4 87:6 132:9	<hr/> V <hr/>	virtually 13:4	waves 32:9 73:5 74:24 140:16	withdrew 20:2
United 98:6,10 138:22	vaccinated 3:20	vision 11:16 16:19 78:20	ways 70:9 74:22 101:13 145:8	wonderful 70:3 92:6
unknown 10:11	validity 62:14	visionary 129:6	Wear 3:19	wondering 77:18
unlawful 126:10	valve 10:2 43:17	visit 17:7 18:4 55:11	web 5:15 7:25	Woodruff 6:1 12:25 13:2 24:24 25:9 34:20 55:8 81:13,18,21,23 82:6,24 92:19 95:5 105:22 141:21
unmute 110:17 112:2 123:2 128:1 134:20,21	variety 70:8	visits 39:24	website 2:7 4:10 11:17 12:19 17:7 18:5,8,10 38:24 40:7 84:1 94:4 95:17,22 133:2	Woodward 4:15
unmuted 134:22	vast 49:6	voltage 15:1	websites 5:14	word 58:8 138:6
unpackage 106:7	vehemently 115:15	volume 4:4	Wednesday 95:14	words 93:20
unplanned 111:16	vehicles 109:19	volumes 96:16	week 3:24,25 6:4 10:21 18:18 19:2 20:8,11 22:6 140:14	work 21:15 26:17 33:22 34:8 39:1 41:19 42:3,20,24 43:10 44:23 45:8 46:6 47:19,23 49:16 51:7 91:9 96:7,10,13,19 97:10 98:25 106:16 108:5 112:16 117:7 121:25 140:13 141:6
unprecedented 140:16	velocities 9:20	vote 19:2 95:12	weekend 135:10	
unsafe 99:3	Velum 102:20	voted 113:4,17		
unsettled 8:14	venalities 144:16	voting 18:21 141:23		
unviable 123:11	vendor 5:8,12 9:10 53:6	vulnerable 119:17		
up-to-date 38:11	Ventura 93:18,21 94:15 102:4	<hr/> W <hr/>		
	verify 85:21,23	wait 63:1 134:10		
	versus 13:14 103:8 121:7	waived 29:20		
	vertical 73:17	waivers 123:14		
		walk 19:18		
		wanted 12:11 19:18,21 23:8		

worked 49:5 133:6,8,10	69:21 71:8 77:21 78:1 81:14 85:18 111:6,8,16 119:14 122:2 130:23 143:9	139:21,22,23 140:13 142:4	
workers 123:17			
working 22:24 24:12 39:15 44:4 77:25 108:3,4,6 128:11	years 6:11,15 13:9 14:4 15:12 19:15 20:6 23:13 26:11,18 28:13 31:6,12 32:9 42:7 43:8 45:2,3,4,5, 14,23,24 46:13 48:20,25 50:6,24 51:4,5,16 53:16 54:16,18 55:18 56:18 57:13 60:8 61:16 63:2,3 66:19 76:8 82:13 88:24 90:17,18 91:15 96:7 97:3,8, 22,23 100:16,23, 24 101:4 104:25 108:2,4,6 111:5 114:17 115:20 116:2,4,7 117:8, 12 120:17 124:23 125:1,9 128:12 130:1 131:19 132:17 133:4 135:2 136:18,20, 24 137:2 142:11		
works 44:4 56:5			
workshop 5:22 12:24 14:22 15:5, 9,18 17:25 21:6 25:16,20			
world 9:13 54:6 56:5 104:3 140:15 141:3			
worry 116:6 140:15			
worse 118:12			
worsen 119:22			
worst 79:12 118:17			
worthy 75:19			
wrap 71:16			
wrapping 75:16			
write 40:6,8 41:3 47:21 56:6 101:8, 10	yesterday 17:9 20:8		
writes 43:18	YTT 119:2 126:23,24,25 127:2,16		
writing 38:19 40:10 55:19 94:3 100:6	Yucca 9:15		
written 133:11			
wrong 43:16	Z		
wrote 68:3 126:2	Zawalick 12:3 19:8,9 25:5 62:19 83:1 98:2,3,20 100:8		
www. diablocanyonpa nel.org. 18:5	Zion 136:19,22		
Y	zone 3:24 4:9		
yak 126:22	zones 4:1 11:23		
year 14:10 35:23 39:2,16,24 43:7 44:20 54:24 57:24	zoom 5:24 110:7 112:8 114:1 115:3 117:1 131:6		