BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Application of San Diego Gas & Electric Company for Review of its Proactive De-Energization Measures and Approval of Proposed Tariff Revisions (U902E).	Application 08-12-021 (Filed December 22, 2008)

OPENING COMMENTS OF THE CONSUMER PROTECTION AND SAFETY DIVISION IN RESPONSE TO ADMINISTRATIVE LAW JUDGE KENNEY'S DIRECTION TO FILE ANSWERS TO CERTAIN QUESTIONS

RAYMOND G. FUGERE
Program and Project Supervisor
The Consumer Protection and Safety Division
California Public Utilities Commission
340 West 4th Street, Suite 500
Los Angeles, CA 90013
E-mail: rgf@cpuc.ca.gov
Phone: (213) 576-7015

NICHOLAS SHER
Attorney for
The Consumer Protection and Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
E-mail: nms@cpuc.ca.gov
Phone: (415) 703-4232

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I. INTRODUCTION

Pursuant to Administrative Law Judge ("ALJ") Kenney's June 3, 2011 and June 17, 2011 rulings directing Consumer Protection and Safety Division ("CPSD") to file opening comments in response to questions 5-11 of his June 3, 2011 ruling by July 25, 2011, the CPSD respectfully submits the below answers. As demonstrated by CPSD's responses, San Diego Gas & Electric Company's ("SDG&E") interpretation of General Order ("GO") 95 is incorrect. CPSD reserves the right to file reply comments to SDG&E's or other parties' opening comments and to take a position on evidentiary hearings in accordance with ALJ Kenney's revised schedule in his June 17, 2011 ruling.

II. RESPONSES

Question 5:

CPSD/DRA argue that Grade A utility poles must withstand wind speeds of at least 91 mph pursuant to Rules 43, 44, and 48 of GO 95. However, these same Rules together indicate that everything attached to a Grade A utility pole (e.g., cross arms,

conductors, fasteners, etc.) may be built to withstand lower wind speeds than the pole itself.

i. What are the minimum wind loads (i.e., wind speeds) that the power-line facilities attached to utility poles must withstand based on Rule 44.1, Table 4? Explain your answer.

ii. As a general principle, will the power-line facilities attached to SDG&E's poles (e.g., cross arms and fasteners) fail at lower wind speeds than utility poles? Explain your answer.

iii. In D.09-09-030, the Commission held that SDG&E has statutory authority to shut off power in order to protect public safety if Santa Ana winds exceed the design limits for SDG&E's system and threaten to topple power lines onto tinder dry brush. (D.09-09-030 at 61-62.) Assuming CPSD/DRA have correctly interpreted Rules 43, 44, and 48, what "design limits" should be used to decide when to shut off power – – the lower wind-load safety factors for facilities attached to utility poles, or the higher wind-load safety factors for utility poles? Explain your answer.

Answer:

5i:

Rule 44.1, Table 4 contains safety factors of various items that are used in pole line construction. Rule 44.3 allows those values to be reduced to 2/3 of the values listed in Table 4 of GO 95, before the item must be replaced. Table 1, titled *Line Items and Wind Speeds*, shows the minimum wind speeds of common equipment that they must withstand pursuant to GO 95, Rule 43, 44 and 48.

Element of Line	Safety Factor (Rule 44.3)	Wind Speed (mph)
Conductors, splices and conductor fastenings (other than tie wires)	1.33	65
Pins	1.33	65
Pole line hardware	1.33	65
Line Insulators (mechanical)	2.00	79
Guys, except in light loading rural districts	1.33	65
Guys in light loading rural districts	1.33	65

Messengers and span wires	1.33	65
Crossarms Wood	1.33	65
Crossarm Steel	1.0	56

Table 1
Line Items and Wind Speeds

At first glance it appears that most elements on the pole are allowed to fail at 65 mph. However, there are flaws in this statement. First of all, for conductors, splices, conductor fastenings, guys and messengers and span wires, these wind speeds only apply at 25°F, pursuant to GO 95, Rule 43.2. Wind is only one factor of maximum load a conductor is under, given the properties of metal, the maximum tension occurs at lower temperatures. So during "Red Flag" events it is unlikely that the temperature would be 25°F, and thus these items should not fail at the above listed wind speeds.

Furthermore, conductors, splices, and conductor fastenings, which as previously stated are under tension, crossarms and pins in certain circumstances may also be affected by tension, so not all crossarms and pins will fail at the wind speeds listed in Table 1.

Moreover, the above wind speeds are only valid if the wind is blowing in the perfect direction, and the safety factors of the equipment have been reduced to the values allowed by GO 95, Rule 44.3. For a more detailed explanation of this topic, see answer to question # 7.

Finally, as discussed in more detail in answer to 5 iii, below, even when the wind exceeds the above-mentioned speeds, it does not mean that the conductors would contact each other and start a fire. Conductors are not supposed to touch, and that is why there are clearance requirements in the GO 95, Rule 38.

5ii:

Other line elements could fail at lower wind speeds. However, utilities need to build for local conditions and also as stated above, temperature is an extremely important factor in tension so this question can not be answered with a definitive yes or no without considering all variables. Moreover, due to clearance requirements, the "failure" does not mean it would ignite a fire.

5iii:

For numerous reasons, CPSD submits that the "design limits" for the higher wind-load safety factors for utility wood poles should be used to decide when SDG&E should be able to shut off power instead of lower safety factors. Most importantly, use of these higher safety factor standards would be consistent with the purpose of the rules as stated in GO 95, Rule 11(to ensure reliable service and "secure safety to persons engaged in the construction, maintenance, operation or use of overhead electrical lines and to the public in general"), and the utilities' statutory obligation to provide safe and reliable service and facilities as provided in California Public Utilities Code § 451. The statutory exception provided for in D.09-09-030 is for true emergencies (such as significant earthquakes, fires quickly approaching the actual poles, etc.), not known, local conditions such as Santa Ana Winds in Extreme or Very High Fire Threat Areas.

In addition, throughout GO 95, other rules also promote this goal of safety, especially considering all of the other variables involved. For example, Rule 12.2 Maintenance of Lines states: "All lines and portions of lines shall be maintained in such condition as to provide safety factors *not less than* those specified in Rule 44.3." (Emphasis added.) *See also* Rule 31.1, Design, Construction and Maintenance (electrical supply and communication systems shall be designed to enable the furnishing of safe, proper, and adequate service. For all particulars not specified in these rules, design should be done in accordance with accepted good practice for the given local conditions); Rule 31.2 Inspection of Lines (lines shall be inspected frequently and thoroughly to ensure that they are in good condition); Rule 42.1 Two or More Conditions (where two or more conditions affecting the grade of construction exist, the grade of construction used shall be the highest required under any of the conditions); Rule 43 Temperature and Loading (the following conditions of temperature and loading shall be used to determine the strength required of poles, towers, structures, and all parts thereof. More stringent conditions may be used, if desired, in the design of the lines); Rule 44 Safety Factors (the

safety factors specified in these rules are the minimum allowable ratios alternate strength of materials to the maximum working stresses).

Significantly, to determine system design requirements, a fundamental reason that the Commission uses the higher safety factors involving wood poles, rather than the lower safety factors, such as the ones applicable to conductor facilities attached to the poles, is that there are other safeguards that can be used to prevent fires even if, for example, the conductors were to fail. Furthermore, conductors are not supposed to touch, and that is why there are also clearance requirements in the GO 95, Rule 38. For example, GO 95, Rule 38 – table 2, Case 15F requires a 17½ inch clearance between conductors supported on crossarms at voltage levels typical for SDG&E's crossarms in the area in question. Rule 38 allows this clearance to be reduced no more than 10% due to temperature and loading per Rule 43.[1]

Indeed, in its October 4, 2011 notice of ex parte communication, when SDG&E met with Commissioner Simon and referred to its statutory authority to shut off power, SDG&E's attachment to its ex parte notice revealed that SDG&E itself thought its design limits should be based upon GO 95, Rule 43. In the page addressing "Overhead Electric Design Limit," SDG&E alleges that in its first bullet that it and other utilities "have constructed power lines in conformance with Rule 43 of GO 95 which correlates to a 56 mph wind speed." SDG&E's next two bullets address why it did not agree with CPSD's views about applying the safety factors to increase the design limit for the wood poles. On SDG&E's next page entitled "Conclusion," in its first bullet addressing system design, it provides an inner bullet, which states, "SDG&E's system has been designed to withstand 56 mph wind for wood pole circuits and 85 mph for steel pole circuits."[2]

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[1] Rule 43 specifies that the loading that a utility is supposed to consider when designing their system is a force of 8 lbs, subject to the increases in the safety factor analysis, discussed above. However, even if the allowable 10% factor has occurred, this still means that there should be more than 15 inches of clearance. If SDG&E has complied with the GO 95 requirements, there would have to be wind speeds greatly in excess of the 79 mph to cause the clearance to close and have the conductors even contact each other.

[2] *See* November 2, 2010 Joint Response of CPSD and DRA to Motion to Strike, Attachment A, pp. 5-6.

In view of the above, SDG&E has agreed that its system design should be based upon its wood poles or steel poles. SDG&E simply refuses to apply any safety factor analysis for wood poles as part of its system design, which is contrary to the mandatory requirements in GO 95 and is unsafe.

GO 95, Rule 48 Ultimate Strength of Materials states:

> "Structural members and their connection shall be designed and constructed so that the structures and parts thereof will not fail or be seriously distorted at any load less than their maximum working loads (developed under the current construction arrangements with loadings as specified in Rule 43) multiplied by safety factor specified in rule 44.
>
> Values used for the ultimate strength of material shall comply with the safety factor specified in rule 44."

GO 95, Rule 43 provides the minimum temperature and loading conditions which "shall" be use for determining the strength required of poles, structures, and all parts thereof. Rule 43.2 governs light loading which is in all parts in California where elevation above sea level is 3000 feet or less. Under "A. Wind," Rule 43.2 A, provides: "a horizontal wind pressure of 8 pounds per square foot [psf] of projected area on cylindrical surfaces, and 13 pounds per square foot on flat surface *shall* be assumed." (Emphasis added). Under GO 95 Rule 44.1, Table 4, new construction of joint wood poles (i.e. poles with electric wires and communication facilities on them) "shall" have a safety factor of at least 4, which means that the poles must withstand 8 x 4 or 32 psf of wind velocity, which equals 113.1 mph. Under Rule 44.3, joint wood poles "shall" be replaced before the safety factor has been reduced to 2/3 of the new construction (i.e., a safety factor of 2.67), which means that the poles must withstand 8 x 2.67 psf of wind velocity, which equals 92.4 mph.

Indeed, every reference to safety factors in the GO 95 uses the word "shall" with regard to the minimum safety factors. In addition to the above-referenced Rules 43 - 48, in GO 95, this mandatory minimum for safety factors is also reflected in Rule 12.2: "All

lines and portions of lines *shall* be maintained in such condition as to provide safety factors *not less than* those specified in Rule 44.3." (Emphasis added).

In view of the above, there is no dispute that the higher safety factors associated with wood poles should be considered in the design of SDG&E's system. The dispute is actually whether or not the term "shall" impose a mandatory obligation on the utilities. Not only is "shall" commonly understood to mean "mandatory," under section 14 of the California Public Utilities Code, the word "shall" is explicitly defined to mean mandatory.

To the extent that there was any doubt as to how the safety factor analysis should apply to joint use wood poles, it was clearly removed in 1998. Indeed, the Commission addressed the safety factors for joint use poles in D.98-10-058,[3] where the Commission addressed rules governing the CIPs' nondiscriminatory access to poles, ducts, conduits, and rights-of-way applicable to competitive local carriers (Rights-of-Way proceeding, R.95-04-043/I.95-04-044). In discussing the extent to which an incumbent electric utility may deny or limit access to its facilities based on safety and reliability considerations, the Commission addressed the problem of overloaded and overstressed poles and adopted interim minimum safety factors for pole loadings. The Commission adopted in 1998 an interim safety factor for utility wood pole loading requirements equal to 2.67, based upon the proposal by PG&E and the Commission's Utility Safety Branch (USB) in a concurrent proceeding investigating PG&E's response to severe storms in December 1995 and the adequacy of the windloading requirements in GO 95 for wood power poles (Application (A.) 94-12-005/Investigation (I.) 95-02-015). In D.98-10-058, the Commission cited a report submitted by USB in A.94-12-005/I.95-02-015 explaining the basis for the 2.67 windloading factor:

> USB believes that due to pole deterioration, G.O. 95 allows the minimum safety factor to be reduced. Section 44.2 modifies the minimum safety factor by reducing it (for

[3] Order Instituting Rulemaking on the Commission's Own Motion Into Competition for Local Exchange Service (1998) 82 CPUC 2d 510, 560 [D.98-10-058] (1998 Cal.PUC LEXIS 879).

> Grade A and B construction) to not less than 2/3. As stated in this section, a reduction is allowed for 'deterioration or changes in construction arrangement or other condition subsequent to installation.' As an example, a safety factor of 4 can be reduced to 2.67 as allowed by Section 44.2.[4]

The Commission adopted the interim safety factor for utility wood pole loading requirements equal to 2.67, subject to revision pending the outcome in A.94-12-005/I.95-02-015.[5]

The Commission subsequently issued its decision, D.99-06-080, in the proceeding, A.94-12-005/I.95-02-015.[6] That proceeding investigated PG&E's response to a severe wind and rain storm in December, 1995, where wind gusts peaked at 85 mph in parts of PG&E's service territory.[7] Although many of the poles failed due to tree limbs that had fallen onto the lines or poles, PG&E admitted that 123 poles failed due to wind because the poles had deteriorated.[8]

In that proceeding, the Office of Ratepayer Advocates (ORA, predecessors to the Division of Ratepayer Advocates) took the following position on the interpretation of the safety factors rule, which the Commission ultimately adopted:

> ORA states the spirit and intent of Rule 44.2 of GO 95 is that the entire transverse wind loading of the pole, assessing its structural strength in light of the amount of underbuilds, necessitates a replacement or rehabilitation when the overall condition of the pole is lower than the safety factor of 2.67.[9]

The Commission's USB took a similar position on the "2/3 Rule":

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[4] D.98-10-058, *mimeo*, p. 74 (citing USB Report, at 32), 82 CPUC2d 510, at 560 (1998 Cal.PUC LEXIS 879, at * 118-119).

[5] *Id*.

[6] Re Pacific Gas & Electric Company (1999) [D.99-06-080] 1 CPUC3d 291 (1999 Cal.PUC LEXIS 430).

[7] D.99-06-080, *mimeo*, p. 23, 1 CPUC3d 291, at 304.

[8] D.99-06-080, *mimeo*, at 28, 1 CPUC3d 291, at 304.

[9] *Id*. It should be noted that this "2/3 Rule" was renumbered Rule 44.3 of the Commission's GO 95 in the Phase 1 Decision.

> Under GO 95's Section 44.2, due to age and deterioration of poles, the minimum safety factor may be reduced to not less than two-thirds of the original safety factor of four, or to 2.67. Poles with a safety factor of 2.67 will start to break when wind speed equals or exceeds 92 miles per hour. Wind speeds of 92 miles per hour were exceeded only at four PG&E stations out of the 98 measuring peak winds during the December storm. Therefore, USB posits that if the poles' safety factor had been maintained between 2.67 and four, the 123 poles that failed should have withstood the December storm. Thus, USB does not believe that PG&E maintained a safety factor of at least 2.67.[10]

The Commission addressed the proper interpretation of GO 95 and made it clear that it agreed with ORA and USB's interpretation of Rule 44.2 and the "2/3 Rule":

> With respect to the proper interpretation of GO 95, we are inclined to adopt the agreement between PG&E, USB, and ORA, stated as ORA Recommendation 12. . . . As a result the loading on wood poles would meet or exceed the safety factor of 4 prior to deterioration of the wood poles….[11]

Question 6:

SDG&E's motion to strike suggests at pages 6-7 that the design limit for conductor fasteners, including safety factors, is 65 mph. Assuming this is true, is it reasonable to shut off power when the wind speed reaches 56 mph at a location where wind speed is measured based on the supposition that wind speeds may exceed 65 mph at locations where wind speed is not measured? Explain your answer.

Answer:

Due to the topography of the land and objects on the ground, the wind speed may be higher or lower at a different location (based upon a measured wind speed at a location). Consequently, one must take into account local conditions when determining

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[10] D.99-06-080, *mimeo*, at 29, 1 CPUC3d 291, at 304.

[11] D.99-06-080, *mimeo*, at 31, 1 CPUC3d 291, at 305.

what forces the facilities will have to be able to withstand. Local conditions may require that facilities be able to withstand wind speeds (sustained or otherwise) greater than, for example, 75 mph. Thus, shutting the power off at 56 mph or 65 mph would be unreasonable due to the dangerous consequences of turning peoples' power off.

In rejecting SDG&E's power shut off plan, the Commission stated:

> We agree that the Public Utilities Code ranks public safety as a top priority. We further agree that a safe electric system is one which is operated to prevent fires. However, operating a safe system also includes the reliable provision of electricity. Without power, numerous unsafe conditions can occur. Traffic signals do not work, life support systems do not work, water pumps do not work, and communication systems do not work. As the California Legislature recognized in § 330(g), "[r]eliable electric service is of utmost importance to the safety, health, and welfare of the state's citizenry and economy." In short, there is a strong presumption that power should remain on for public safety reasons. …
>
> SDG&E's Power Shut-Off Plan would impose significant costs, burdens, and risks on the customers and communities in the areas where power is shut off. In light of these hardships, SDG&E's Power Shut-Off Plan should be adopted only if SDG&E demonstrates that its Plan will improve public safety. While the Power Shut-Off Plan will eliminate power lines as a source of ignition during hazardous fire conditions, it will create many new sources of ignition and exacerbate the risk to public safety from fires that occur in areas where power is shut off. SDG&E provided no evidence or analysis that shows its Plan will improve public safety overall. Based on our review of the record, we believe it is more likely than not that SDG&E's Power Shut-Off Plan would, on balance, negatively affect public health, safety, and welfare.[12]

The Commission further found that SDG&E's plan would present heightened safety risks from wildfires, including:

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[12] D.09-09-030, p. 57.

- Shutting off power could disrupt landline and wireless telephone service. … Without phone service, customers may not be able to report fires, which could delay the initial attack by firefighters and thereby increase the chance of wildfires growing to catastrophic size.
- Customers without power may not be able to use their telephones, televisions, radios, and computers. Thus, those who work or live in an area where power is shut off will lose their primary means to learn of approaching fires, evacuation notices, and other critical information. …
- People with disabilities rely disproportionately on communications devices that need to be plugged into a power outlet to operate, such as TTYs and computers, making them vulnerable to being cut off from communications with the outside world during a power shut-off event. … The inability to receive evacuation notices or to call for assistance could have deadly consequences.
- Electric garage door openers will not work when power is shut off. If wildfire forces an evacuation, customers who are elderly or have disabilities may not be able to open their garage doors manually, potentially trapping them in their homes. Trapped customers may not be able to call for help if telephone service is disrupted.
- Loss of power to traffic signals and street lights may cause traffic accidents and impede evacuations, particularly at night.
- The Water Districts have 39 electric-powered pump stations in SDG&E's Power Shut-Off Areas that are critical to maintaining the supply of water, but which have no backup power. If power is shut off to any of these 39 pump stations while a wildfire is burning, the supply of stored water in the area served by the pump station could be exhausted within hours, leaving no water to fight fires. In order to satisfy the immense demand for water during a major wildfire, the Water Districts must pump around the clock.[13]

[13] D.09-09-030, pp. 51-52.

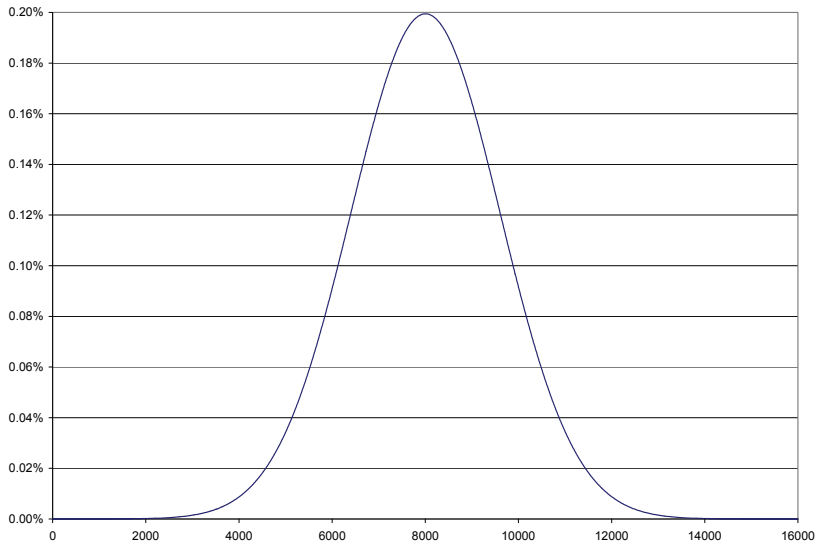
For the reasons stated above in response to 5 iii, CPSD does not agree with the assumption in this question.

Question #7:

SDG&E's motion to strike states at page 6 that Rule 48.1, Table 5, of GO 95 specifies average strengths for wood poles, which means 50% of wood poles are stronger than the values listed in Table 5, and 50% are weaker. Assuming this is true, what are the distribution curves for the strengths of wood listed in Rule 48.1, Table 5? Based on these distribution curves, what percentage of SDG&E's installed wood poles will fail at wind speeds of 56 mph, 60 mph, 65 mph, 70 mph, and 75 mph, and so on to 100 mph? Explain your answer, and identify any assumptions and sources of information used in your answer.

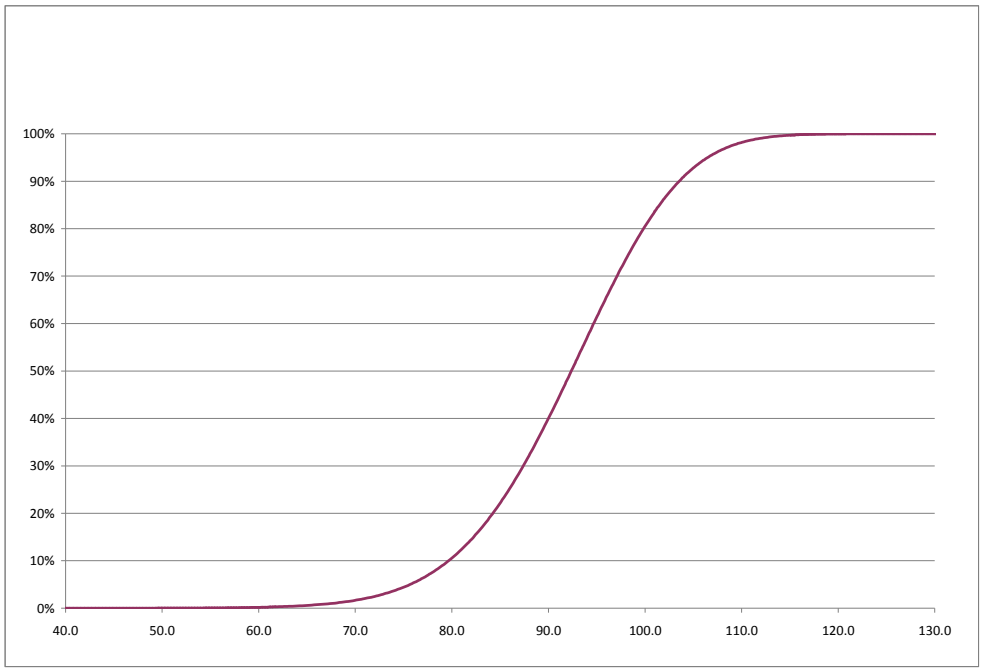
Answer:

The distribution curve of woods listed in General Order 95, Rule 48.1, Table 5, that meet the specifications of footnote "C" can be seen in graph 1 titled *Distribution Curve of Wood Strengths*.



Graph 1
Distribution Curve of Wood Strengths

Graph 2 titled Full Deteriorated/Loaded Poles, Perpendicular Wind shows the percentage of poles that will fail at a given wind speed if all poles are either loaded and/or deteriorated to the lowest values allowed by General Order 95, Rule 44.3, and that the wind is always creating a force perpendicular to the overhead conductors.



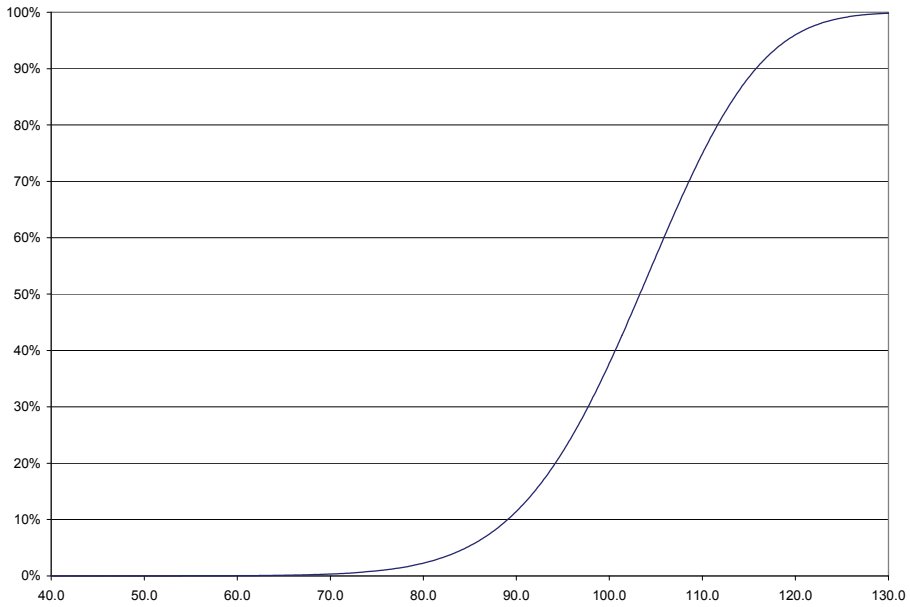
Graph 2
Full Deteriorated/Loaded Poles, Perpendicular Wind

Table 1 titled *Graph 2 Summary, Full Deteriorated/Loaded Poles, Perpendicular Wind*, is a summary for Graph 2 the given wind speeds requested:

Wind Speed (MPH)	Percentage of Failures
56	0.0782%
60	0.1922%
65	0.5785%
70	1.6534%
75	4.4565%
100	80.4933%

Table 1
Graph 2 Summary, Full Deteriorated/Loaded Poles, Perpendicular Wind

Graph 2 and Table 1, have a fundamental flaw: wind is always blowing perpendicular to the lines and all poles are either full deteriorated and/or full loaded. This is a flaw because both are not true and accurate to the population of poles in existence today. First, let us examine the poles themselves. Since poles are placed into service with at least a safety factor of 4,[14] and are allowed to be reduced to a safety factor of 2.67, if it is assumed that the average wood has a safety factor of 3.333 or the average of the range, then percentage of failures can be graphed for this assumption. Graph 3 titled *Average Deteriorated/Loaded Poles, Perpendicular Wind* shows the percentage of poles that will fail at a given wind speed if the population poles has an average load and that the wind is always creating a force perpendicular to the overhead conductors.



Graph 3
Average Deteriorated/Loaded Poles, Perpendicular Wind

Table 2 titled *Graph 3 Summary, Average Deteriorated/Loaded Poles, Perpendicular Wind*, is a summary for Graph 3 the given wind speeds requested:

[14] Joint Use poles are required to have a safety factor of at least 4 at the time of installation.

Wind Speed (MPH)	Percentage of Failures
56	0.0208%
60	0.0462%
65	0.1264%
70	0.3415%
75	0.9137%
100	37.7330%

Table 2
Graph 3 Summary, Average Deteriorated/Loaded Poles, Perpendicular Wind

As mentioned earlier, a flaw exists in Graph 3 and Table 2, and exists in Graph 2 and Table 1. The flaw is that the wind will blow perpendicular to the lines. Figure 1, titled, *Tangent Pole Line*, shows a standard tangent pole line.

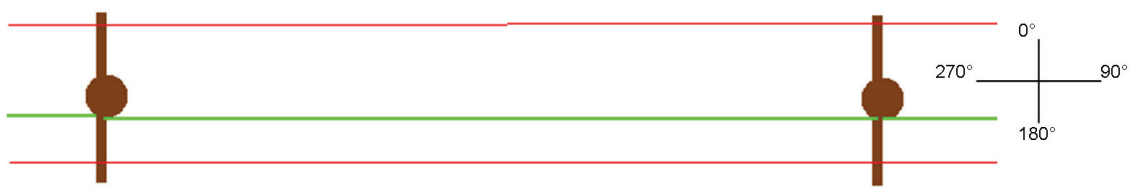
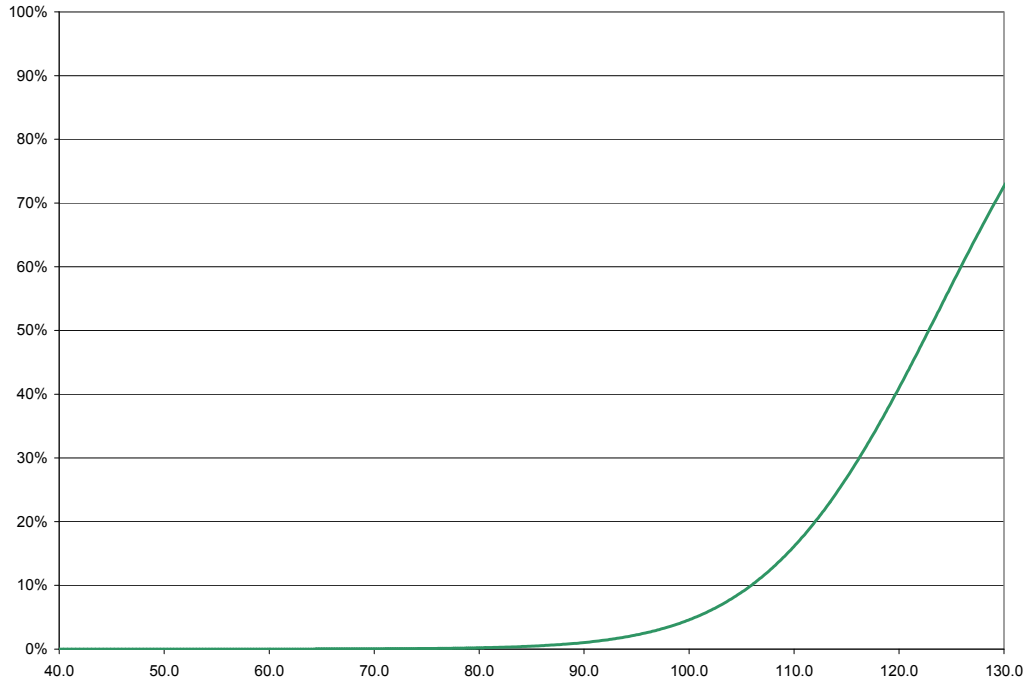


Figure 1
Tangent Pole Line

From the Figure 1, it can be seen that the wind can create a force anywhere from perpendicular to parallel to the lines overhead lines. Because the wind can create a force if we assume that the wind will be at an angle of 45° to the lines, this causes the pressure on the lines to be only 70.7% of the force on the lines compared to a wind blowing perpendicular to the lines.

Graph 4 titled *Average Deteriorated/Loaded Poles, 45° Wind* shows the percentage of poles that will fail at a given wind speed if the population poles has an average load and that the wind on average blows at a 45° angle to the overhead lines.



Graph 4
Average Deteriorated/Loaded Poles, 45°

Table 3 titled *Graph 4 Summary, Average Deteriorated/Loaded Poles, 45°*, is a summary for Graph 4 the given wind speeds requested:

Wind Speed (MPH)	Percentage of Failures
56	0.0037%
60	0.0070%
65	0.0159%
70	0.0366%
75	0.0864%
100	4.5952%

Table 3
Graph 4 Summary, Average Deteriorated/Loaded Poles, 45°

The exact percentage of poles that will fail at any given wind speeds can not be calculated, because a complete study wind and pole strength/load would need to be conducted. However, Table 3 gives realistic percentages of failure rates at the given

wind speeds. Also, it should be noted that this answer did not look at poles that had a safety factor less than the value specified by General Order 95, Rule 44.3, because those poles are not compliant and should be replaced/reinforced by the utility.

Question 8:

SDG&E's motion to strike states at page 6 that power-line facilities should not be operated to within a hair's breadth of their failure point before safety precautions are taken. Explain when it is reasonable to shut off power to ensure that overhead power-line facilities are not operated at wind loads that exceed design limits, taking into account the variables in Items (ii) though (v) below:

i. "Design limit" is defined as the maximum working loads in Rule 43 multiplied by the minimum end-of-service-life safety factors allowed by Rules 44 and 44.1.

ii. Wind speed is variable from moment to moment. It might not be possible for SDG&E to shut off power at the precise moment when wind speed exceeds the design limit of overhead power-line facilities.

iii. Wind speed is variable from place to place. It might not be possible for SDG&E to know the wind speed everywhere on its system. If wind speed approaches the design limit at a point where wind speed is measured, it is possible that wind speeds are exceeding the design limit at other locations on SDG&E's system where wind speed is not measured.

iv. The strength of the wood products is inherently variable. Thus, a particular wood utility pole, cross arm, or other wood structure might fail before the design limit is reached.

v. Rule 44.1 allows safety factors to decrease over time, but never below the prescribed end-of-service-life safety factors. At any point in time, most facilities are not at the end of their service lives. Thus, the structural strength for most facilities should be greater than (a) the minimum safety factors allowed by Rule 44.1, and (b) the design limit defined in Item (i) above.

Answer:

As the Commission found in D.09-09-030, as discussed above, there are many, potentially worse consequences from shutting power off than keeping it on as long as

possible. However, that does not mean SDG&E's system might fail on short notice. Nothing requires the utilities to wait until the last moment to replace, treat or retrofit its poles. SDG&E has been hardening its system ever since the fires in 2007, and PG&E agreed to meet the safety factor requirements in 1999. Therefore, the likelihood of a problem occurring is much less likely so long as the Commission supports CPSD's views as to the mandatory nature of the safety factors.

In the rare situation when a utility is facing wind gusts that threaten to exceed 91 mph, one would expect that the wind speed would be watched carefully and their increasing speed would provide sufficient notice to a utility to take appropriate action.

Question 9:

SDG&E apparently intends to shut off power when wind gusts reach 56 mph on its wood poles. Wind gusts, by definition, are brief and transitory.

i. Assuming it is acceptable to shut off power at 56 mph, would it be more reasonable to use sustained winds, instead of wind gusts, as the wind-speed criterion for shutting off power, given that power-line facilities are built with safety factors that should, in theory, enable them to withstand brief and transitory wind gusts of 56 mph? Explain your answer.

ii. If SDG&E shuts off power, what criteria should be used to decide when to turn power on? How long should power stay off based on the occurrence of a single wind gust? Explain your answer.

iii. At what height will wind speed be measured – at 6 meters, 10 meters, or some other height? Should the "measured" wind speed be used to decide when to shut off power, or an estimate of wind speed (*see*, e.g., D.09-09-030 at 14 – 15)? Explain your answer.

Answer:

9i:

For reasons stated above, CPSD disagrees with this assumption. That said, gust speeds should be used as gust speed could result in a force large enough on the object to cause failure.

9ii:

If SDG&E does turn off power, then power should be restored once conditions are safe. This would include a visual inspection of the lines prior to turning on power and the wind conditions being below the shut off limit.

9iii:

The wind speed should be measured at 10 meters.

Question 10:

Rule 31.1 of GO 95 requires overhead power-line facilities to "be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service." The CPSD/DRA Response indicates at pages 11-12 that Rule 31.1 requires SDG&E to build overhead power-line facilities that can withstand winds greater than 56 mph if it is reasonably foreseeable that such winds will occur over the service life of facilities. Is this a correct interpretation of Rule 31.1? Explain your answer.

Answer:

No. This is not the correct interpretation. The point of CPSD's reference (at pages 11-12) to the "known local conditions" requirement in Rule 31.1 of GO 95 was that there is a further requirement, in addition to the mandatory safety factors that must be considered in Rules 44 and 48. This can be seen by the below scenario addressing just an example of a conductor.

> **Scenario:** A conductor is installed in a valley that due to the topography sees winds in excess of 70 mph once every three years. Furthermore, assume Utility Company X only built the conductor to withstand the minimum requirements of General Order 95, Rules 44.1 and 43 (i.e., 65 mph).

Thus, the above line could fail once every three years creating a dangerous situation. Without the above interpretation, Utility Company X would have created an "unsafe" condition by installing and operating a line in an area in which the utility knew

it would fail. GO 95 sets the floor for safety standards; when local conditions warrant it, the utilities will need to construct facilities that go beyond the minimum requirements set forth in GO 95, including its safety factors.

Question 11:

Does SDG&E have authority under the Public Utilities Code, D.09-09-030, or GO 95 to shut off power when wind gusts reach 56 mph, or is SDG&E required by D.09-09-030 to file an application to obtain such authority? Explain your answer.

Answer:

In D.09-09-030, the Commission rejected SDG&E's arguments about its authority to shut off the power when wind gusts exceeded 56 mph, and the Commission set forth specific requirements if SDG&E wanted to move forward with a new shut-off plan. SDG&E would have to provide the following in any new application:

> (i) a copy of the cost-benefit study that is described in the body of today's decision; (ii) detailed plans and timelines for mitigating any adverse impacts on customers and communities; and (iii) a proponent's environmental assessment, if appropriate.[15]

In addition, the Commission stated that if SDG&E chooses not to file a new application, it has to file notice of such a decision to all parties in the power shut-off proceeding.[16] To date, SDG&E has done neither. However, contrary to these clear directives, SDG&E is now telling stakeholders, Commissioners or their advisors that SDG&E has the authority to shut-off power when wind gusts exceed 56 mph. SDG&E does not have the authority to shut-off power when wind gusts exceed 56 mph. Indeed, SDG&E's threats to Disability Rights Advocates and others not only threaten the health and safety of the disabled community and all of the other customers in the affected areas,

[15] See, D.09-09-030, Ordering Paragraph 3.

[16] See id.

it would also make a complete mockery of the Commission's authority and the Commission's decisionmaking process.

III. CONCLUSION

For the foregoing reasons, CPSD recommends that the Commission direct SDG&E to comply with the provisions and requirements set forth in D.09-09-030, consistent with the responses provided herein.

Respectfully submitted,

/s/ Nicholas Sher

Nicholas Sher
Staff Counsel

Attorney for the
Consumer Protection and Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-4232
Email: nms@cpuc.ca.gov

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VERIFICATION

I, Raymond Fugere, represent the Consumer Protection and Safety Division ("CPSD") of the California Public Utilities Commission, and am authorized to make this verification on its behalf. The contents of this document are true based upon my personal knowledge, except as to matters that are stated on information and belief. As to those, I believe them to be true.

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

Executed on July 25, 2011 at Los Angeles, California.

/s/ RAYMOND FUGERE

Raymond Fugere

Program and Project Supervisor