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December 4, 2015

PG&E Letter DCL-15-142

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2

Response to NRC Letter dated November 5, 2015, "Request for Additional Information Related to the Environmental Review of the Diablo Canyon Power Plant, Units 1 and 2, License Renewal Application (CAC Nos. MF4019 and MF4020)"

- References:
1. PG&E Letter DCL-09-079, "License Renewal Application," dated November 23, 2009
 2. NRC letter, "Requests for Additional Information Related to the Environmental Review of the Diablo Canyon Power Plant, Units 1 and 2, License Renewal Application (TAC Nos. ME4019 and MF4020)," dated November 5, 2015

Dear Commissioners and Staff:

By Reference 1, Pacific Gas and Electric Company (PG&E) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for the renewal of Facility Operating Licenses DPR-80 and DPR-82, for Diablo Canyon Power Plant (DCPP) Units 1 and 2, respectively. The application included the License Renewal Application (LRA) and LRA Appendix E, "Applicant's Environmental Report – Operating License Renewal Stage."

By Reference 2, the NRC staff requested additional information needed to continue their review of the DCPP LRA.

Enclosure 2 Compact Disk Contains Proprietary Documents –
Withhold Under 10 CFR 2.390 and 5 U.S.C.552(b)
When separated from Enclosure 2, this document is decontrolled.

A139
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Document Control Desk
December 4, 2015
Page 2

PG&E Letter DCL-15-142

Enclosure 1 provides PG&E's response to Reference 2. Enclosure 2 provides a compact disk (CD-2), which contains proprietary documents in support of applicable request for additional information (RAI) responses that are to be withheld under 10 CFR 2.390 and the Freedom of Information Act [FOIA, 5 U.S.C. 552(b)(3)(5)]. PG&E requests that the Enclosure 2 CD-2 be removed pursuant to the above regulations. Enclosure 3 provides CD-1, which contains non-proprietary documents in support of applicable RAI responses.

PG&E makes new regulatory commitments (as defined by NEI 99-04) in this letter. New regulatory commitments are provided in Enclosure 4.

If you have any questions regarding this response, please contact
Mr. Terence L. Grebel, License Renewal Project Manager, at (805) 458-0534.

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

Executed on December 4, 2015.

Sincerely,



Edward D. Halpin
Senior Vice President – Power Generation and Chief Nuclear Officer

gwh/50818559

Enclosures

cc: Diablo Distribution
cc/enc: Marc L. Dapas, NRC Region IV Administrator
Thomas R. Hipschman, NRC Senior Resident Inspector
Siva P. Lingam, NRC Project Manager
Richard A. Plasse, NRC Project Manager, License Renewal
Michael J. Wentzel, NRC Project Manager, License Renewal (Environmental)

Enclosure 2 Compact Disk Contains Proprietary Documents –
Withhold Under 10 CFR 2.390 and 5 U.S.C.552(b)
When separated from Enclosure 2, this document is decontrolled.

Pacific Gas and Electric Company's Response to Nuclear Regulatory Commission's "Request for Additional Information Related to the Environmental Review of the Diablo Canyon Power Plant, Units 1 and 2, License Renewal Application," dated November 5, 2015

Documents to be provided are referenced in each applicable request for additional information (RAI) response. Proprietary documents are provided on compact disk 2 (CD-2) in Enclosure 2. CD-2 is labeled "Proprietary Documents Supporting November 5, 2015, NRC RAIs: Withhold from Public Disclosure In Accordance With 10 CFR 2.390 and FOIA, 5 U.S.C. 552(b)(3)." Non-proprietary documents are provided on CD-1, which is labeled, "Non-Proprietary Documents Supporting November 5, 2015 NRC RAIs."

Alternatives

RAI ALT-1

Identify the available acreage and locations on the Diablo Canyon Power Plant, Units 1 and 2 (DCPP) site that would be suitable for siting replacement power generation.

PG&E Response to RAI ALT-1

Given the topographical limitations and permitting restrictions in the coastal zone, there is limited available undeveloped acreage at the Diablo Canyon Power Plant (DCPP) site. The Environmental Report (ER) indicates that existing plant structures occupy much of the available buildable land and notes that any replacement would require decommissioning and removal of existing structures, which means that the existing DCPP footprint would not be available for replacement of the DCPP baseload without a significant time lag.

Nevertheless, for purposes of the analysis in the ER, Pacific Gas and Electric Company (PG&E) assumed that the natural gas combine-cycle (NGCC) replacement power component could be constructed within the existing industrial area at the DCPP site. Selecting the existing plant site for replacement power generation allows for the maximum use of existing transmission and cooling system infrastructure and minimizes the overall environmental impact relative to a greenfield site. However, as noted above, in the case of DCPP there likely is insufficient industrial land available to site the alternatives evaluated in the ER while, at the same time, allowing the continued operation of the reactor until the current operating licenses expire. The analysis in the ER, including for the combination alternative, therefore was based on a hypothetical assessment that minimized the potential environmental impacts of alternative energy sources for the purpose of conducting a conservative analysis. The ER should not be read to suggest that it is in fact feasible to construct the NGCC component of the energy alternatives within the

industrial area of the DCPD site prior to the expiration of the current operating licenses.

RAI ALT-2

Clarify whether 2012 state generating capacities or utilization presented in Section 7.2 of the Environmental Report (ER) (Amendment 2) were factored into the composition of the energy sources considered in the Combination Alternative.

PG&E Response to RAI ALT-2

The 2012 State generating capacities and utilization data was not specifically used to develop the combination alternative, as the combination alternative selected by PG&E assumes ongoing technological and generation developments that are not necessarily reflected in 2012 data. The State generating capacities and utilization were considered as sources of data for assessing the reasonableness of the various components of the combination alternative and for confirming the overall conservatism of the combination alternative in assessing environmental impacts. For example, the NGCC component of the combination alternative is less than 50 percent of the total (1105 megawatt (MW) out of 2285 MW), which is a lower percentage than the actual natural gas generation in the State (currently approximately 60 percent natural gas). The combination alternative also does not include a contribution from coal, consistent with the very low use of coal in California. With respect to renewables, the relative contribution to the combination alternative assumes further renewable penetration beyond the relative contributions in the 2012 generating data.

RAI ALT-3

Clarify whether any components of the combination alternative would be sited outside of the Pacific Gas and Electric (PG&E) service area.

PG&E Response to RAI ALT-3

Each of the components of the combination alternative would be sited within PG&E's service territory.

RAI ALT-4

Clarify the basis for the solar photovoltaic acreage estimates discussed on pages 7.2-9, 7.2-11, and 7.2-21.

PG&E Response to RAI ALT-4

The discussion of solar photovoltaic (PV) on page 7.2-11 states that PV systems require about four acres of ground area per MW of generation. This statement does not specify whether this is direct land use impacts or total land use impacts, nor does it account for the relative capacity factors for solar PV. According to S. Ong, et al, "Land-Use Requirements for Solar Power Plants in the United States," National Renewable Energy Laboratory (NREL) Technical Report NREL/TP-6A20-56290, dated June 2013 (available at <http://www.nrel.gov/docs/fy13osti/56290.pdf>), direct land use requirements for small PV (greater than 1 MW, less than 20 MW) are 5.9 acres/MW. Therefore, the value used in the ER on page 7.2-11 is conservative.

PG&E also identified a calculation error related to the land use requirements for the solar PV contribution to the combination alternative in ER Section 7.2.2.2. On page 7.2-9, PG&E references a Nuclear Energy Institute (NEI) document, "Water Use, Electric Power, and Nuclear Energy: A Holistic Approach to Environmental Stewardship," dated June 2009, for the acreage requirements for solar PV generation. The NEI document explains that, assuming that a PV system was located in a maximum solar exposure area and accounting for relative capacity factors, generation of 1,000 MW would require 54,000 acres. The solar PV contribution to the combination alternative is 1160 MW. A multiplier of 1.16 (1160 MW/1000 MW) was incorrectly applied to the 123,390 acres required for 2,285 MW generation, rather than 54,000 acres necessary for 1000 MW. After correcting the calculation, the solar PV land use required for 1160 MW baseload generation would be 62,640 acres. The following sentence in the ER (at page 7.2-20 to 7.2-21) is revised as follows:

Assuming that a solar PV system was located in a maximum solar exposure area, generation of 1,000 MW would require 54,000 acres. This corresponds to a site size of 143,13262,640 acres for 1,160 MW of generation.

This change has no effect on the conclusions in the ER.

RAI ALT-5

Provide the data sources that were consulted to support the discussion and associated conclusions regarding the feasibility of Compressed Air Energy Storage technology.

PG&E Response to RAI ALT-5

The data sources supporting the discussion and associated conclusions regarding feasibility of compressed air energy storage technology on page 7.2-19 of the ER are provided on Enclosure 3 CD-1 folder ALT-05 as shown in the table below. The data sources are:

- (1) ISEP (Iowa Stored Energy Park). 2011. Iowa Stored Energy Park Project Terminated. Press Release July 28, 2011.
- (2) PEI (Princeton Environmental Institute). 2008. Compressed Air Energy Storage: Theory, Resources, and Applications for Wind Power Energy Systems Analysis Group. Princeton Environmental Institute, Princeton University. April 2008.
- (3) PG&E. 2015. Compressed Air Energy Storage Program Overview. 2015.

CD-1 Folder ALT-05 Non-Proprietary Documents	
File Name	File Size (KB)
ISEP Project Terminated.pdf	102 KB
SuccarWilliams PEI CAES 2008April8 - reduced size.pdf	2,390 KB
Compressed Air Energy Storage Program Overview.pdf	229 KB

RAI ALT-6

Section 4.2.5 of the ER (Amendment 1) references studies that have been conducted which address retrofitting DCPD to closed-cycle cooling. Please indicate whether the applicant has conducted any additional DCPD closed-cycle cooling alternative analyses or associated screening studies since publication of the 2014 report prepared by Bechtel Power Corporation (reference 27 as listed in ER (Amendment 1), Section 4.22).

PG&E Response to RAI ALT-6

PG&E has not conducted any additional closed-cycle cooling alternative analyses or associated screening studies since publication of the 2014 report prepared by Bechtel Power Corporation (reference 27 as listed in ER Amendment 1, Section 4.22).

Aquatic Ecology

RAI AQ-1

Section 2.2.1 of the ER, "Marine Ecology," describes the various aquatic monitoring efforts that have occurred near DCPD since 1976, including the Thermal Effects Monitoring Program; the Marine Ecological Monitoring Program; and the Receiving Water Monitoring Program (RWMP). For the species listed below, provide the mean for each species at each sampling station for each survey conducted between 1976 through 2014. Provide the data in Excel file, as well as a description of the station designation and the station areas.

- a) *Algae*
 - i) Bull kelp (*Nereocystis luetkeana*)
 - ii) Feather-boa kelp (*Egregia menziesii*)
 - iii) Hollow-branched seaweed (*Gastroclonium subarticulatum*, formerly *G. coulteri*)
 - iv) Iridescent seaweed (*Mazzella flaccida*, formerly *Iridaea flaccida*)
 - v) Oar-blade kelp (*Laminaria dentigera*)
 - vi) Tree kelp (*Pterygophora californica*)
 - vii) Un-named red seaweed (*Chondracanthus canaliculatus*, formerly *Gigartina canaliculata*)
- b) *Invertebrates*
 - i) Aggregating sea anemone (*Anthopleura elegantissima*)
 - ii) Black abalone (*Haliotis cracherodii*)
 - iii) Brown turban snail (*Chlorostoma brunnea*, formerly *Tegula brunnea*)
 - iv) Kelp crab (*Pugettia producta*)
 - v) Ochre starfish (*Pisaster ochraceus*)
 - vi) Purple sea urchin (*Strongylocentrotus purpuratus*)
 - vii) Red Abalone (*Haliotis rufescens*)
 - viii) Red sea urchin (*Strongylocentrotus franciscanus*)
 - ix) Rock crab (*Cancer antennarius*)
 - x) Sun stars (*Pycnopodia helianthoides*)
 - xi) White abalone (*Haliotis sorenseni*)
- c) *Fish*
 - i) Blue rockfish (*Sebastes mystinus*)
 - ii) Cabezon (*Scorpaenichthys marmoratus*)
 - iii) Coho salmon (*Oncorhynchus kisutch*)
 - iv) Green sturgeon (*Acipenser medirostris*)
 - v) Gopher rockfish (*Sebastes carnatus*)
 - vi) Rock prickleback (*Xiphister mucosus*)
 - vii) Steelhead trout (*Oncorhynchus mykiss*)
 - viii) Starry flounder (*Platichthys stellatus*)
 - ix) Pacific sardine (*Sardinops sagax*)
 - x) Common thresher (*Alopias vulpinus*)

PG&E Response to RAI AQ-1

Summarized data for 1976 to 2014 from all of the studies currently conducted for the DCP National Pollution Discharge Elimination System (NPDES) Receiving Water Monitoring Program (RWMP) are provided in the files on the Enclosure 3 CD-1 folder AQ-01 as described below. Note that the ongoing Thermal Effects Monitoring Program (TEMP) and Marine Ecological Monitoring Program; are currently formally referenced as the RWMP.

The data is provided in Microsoft Excel files that are organized into folders based on the different studies. The methods, station locations, and methodology for

calculating survey means for each study are provided in the most recent RWMP annual report "ESLO2015-005_DCPP 2014 Annual Report 042115 Final.pdf" (5.675 kilobytes [KB]), which is included on the Enclosure 3 CD-1 in folder AQ-01. All of the data in the files represent the means for all of the surveys conducted at each station from 1976 through 2014. The survey means are calculated differently for each method based on sampling units and methods. In addition, the survey means are for the same taxonomic groups included in PG&E annual summary reports. The taxonomic groups combine data from several taxa that may be recorded in the field as a distinct taxon, but are combined with data from other taxa because of the difficulty in identifying all of the species, including juveniles, from that group. For example, there are several species of the alga genus *Prionitis* that may occur at the DCPP stations, but many of the species are difficult to identify, especially during the winter when they may lose some of the mass due to storms and exposure to daytime low tides. Therefore, for instance, the abundance of all of the species of *Prionitis* was combined and presented as *Prionitis* spp.

For the species list provided, the summarized excel file data tables address the request with exception of *White abalone* (*Haliotis sorenseni*), *Coho salmon* (*Oncorhynchus kisutch*), *Green sturgeon* (*Acipenser medirostris*), *Steelhead trout* (*Oncorhynchus mykiss*), and *Common thresher* (*Alopias vulpinus*) as these species have not been observed during the monitoring studies, and therefore no data is available.

The folders and the associated studies are:

- (1) Intertidal Band Transect (IBT) – this folder includes data from all of the stations currently sampled as part of the IBT (also referred to as Horizontal Band Transect study. There are transects at two tidal levels (0.3 m [1 ft] and 0.6 meters (m) [3 feet (ft)] for all of the stations except for the two stations at Diablo Point DC14 and DC22, which only have a transect at the 0.6 m (3 ft) tidal level. The data are separated in files for algae and substrates, and files for invertebrates. The files include a sampling code for each taxon. The naming convention for the files is XX##-TL, where:

XX = Area designation (DC = Diablo Cove, FC = Field's Cove, NC = North Control, SC = South Control),

= station designation,

T = type of data (A = algae and substrates, I = invertebrates), and

L = tidal level (1 = 0.3 m [1 ft] and 3 = 0.6 m [3 ft]).

- (2) Vertical Band Transect (VBT) – this folder includes data from all of the stations currently sampled as part of the VBT study. There are three vertical

transects at each station extending from the high intertidal into the low intertidal. All of the data in the files are the total count of the intertidal fishes at all three transects collected during each survey. The naming convention for the files is VBT_FB-X, where X = station designation.

- (3) Subtidal Arc Quadrant (SAQ) – this folder includes data from all of the stations currently sampled as part of the SAQ study. There are stations located at several depths. The data are separated in files for upright species of brown algae that are enumerated using counts, and files for invertebrates that are enumerated as percent coverage. The files include a sampling code for each taxon. The naming convention for the files is SAQ_XXX#-DT, where:

XXX = Area designation (SDC = South Diablo Cove, NDC = North Diablo Cove, FC = Field's Cove, SC = South Control),

= station designation in an area,

D = station depth in meters, and

T=type of data (A = algae and substrates, I = invertebrates).

- (4) Subtidal Fixed Quadrant (SFQ) – this folder includes data from all of the stations currently sampled as part of the SFQ study. There are stations located at several depths. Only data on invertebrates are collected with this technique. This method samples all invertebrates including the smaller individuals not adequately sampled using the SAQ method. The files contents include a sampling code for each taxon that designates whether abundance was estimated using counts or surface area coverage. The naming convention for the files is SFQ_XXX#-D, where:

XXX = Area designation (SDC = South Diablo Cove, NDC = North Diablo Cove, FC = Field's Cove, SC = South Control),

= station designation in an area, and

D = station depth in meters.

- (5) Subtidal Line Contact (SLC) – this folder includes data from all of the stations currently sampled as part of the SLC study. There are stations located at several depths. The data are separated into files for understory algae and substrates, and files for invertebrates that occur as space occupying. The same sampling codes are used for all taxa as the abundance for each taxa was estimated using the number of contacts per quadrant. The points contacted are converted to a percentage that is used to estimate percentage coverage. The naming convention for the files is SLC_XXX#-DT, where:

XXX = Area designation (SDC = South Diablo Cove, NDC = North Diablo Cove, FC = Field's Cove, SC = South Control),

= station designation in an area,

D = station depth in meters, and

T=type of data (A = algae and substrates, I = invertebrates).

- (6) Subtidal Fish Observations (SFO) – this folder includes data from all of the stations currently sampled as part of the SFO study. Each station consists of a 50 m transect that is sampled along the bottom and in the midwater. The data for the midwater and benthic transects are provided in separate files. Since the transects for the stations in an area are very close, the data for the individual stations are averaged into a mean for each sampling area. The naming convention for the files is SFO_XXX-T, where:

XXX = Area designation (SDC = South Diablo Cove, NDC = North Diablo Cove, FC = Field's Cove, CON = South Control),and

T = transect depth (b = benthic data, m = midwater data).

RAI AQ-2

Section 2.2.1.2 of the ER, "Species/Habitat Inventories, Marine Mammal Resources," states that no known or recorded incidents of marine mammal injuries or fatalities have occurred due to power plant operations through 2014. The NRC staff is aware of 3 reports of marine mammal strandings at DCPD in 2015 (February 22, March 16, and May 6). In each case, PG&E reported to the NRC that the death was likely attributable to natural causes and verbal notification of the incident was reported to National Oceanic and Atmospheric Administration (NOAA) Fisheries. Describe any comments or letters received from NOAA Fisheries in response to the marine mammal strandings report, especially in regards to the cause of death.

PG&E Response AQ-2

PG&E provides both a verbal notification to National Oceanic and Atmospheric Administration (NOAA) Fisheries (formerly National Marine Fisheries Service [NMFS]) and a follow-up written report following any incident in which a marine mammal is found impinged at the power plant intake structure. This includes interactions in which a floating dead animal has been drawn into the intake along with the cooling water flow. The agency stranding report form (NOAA Form 89-864) is used for the written follow-up report, even if the event is clearly attributable to an interaction with a prior deceased animal.

Determination of death prior to impingement is primarily based on the state of decomposition, and/or evidence of a non-plant related injury such as bites inflicted from a shark attack. Since the intake debris bar rack bays are observed each shift by plant operations personnel, the presence of an animal carcass is promptly reported to facility environmental or biological staff, which facilitates evaluation of decomposition and/or injury markings in a timely fashion.

All of the stranding reports filed in 2015 involved these types of events; incidents attributable to animal death prior to impingement on the intake. NOAA Fisheries staff made no follow-up inquiries regarding the reported incidents, nor sent letters or provided written comments to the facility subsequent to receipt of the written reports. Agency staff have on prior occasions during verbal communication stated appreciation to plant staff for conservative reporting of incidents, and have communicated additionally that incidents involving impingement of prior deceased animals at DCPD often occur in conjunction with other reports of marine mammal deaths along the regional coastline, such as during natural domoic acid related poisoning events.

RAI AQ-3

*Section 2.2.2.1 of the ER, "Species and Relative Abundance," was revised to describe recent rainbow trout and steelhead (*Oncorhynchus mykiss*) studies in Diablo Creek and Coon Creek. In addition, a discussion of other aquatic resources in these creeks was deleted in Section 2.2.2.2. Provide a description of the aquatic resources in Diablo Creek and Coon Creek, other than *O. mykiss*.*

PG&E Response to RAI AQ-3

ER Section 2.2.2.1 was revised to describe recent survey studies on rainbow trout/steelhead in Diablo Creek and Coon Creek as discussed below. As indicated in ER Section 2.2.2.1, fish sampling efforts on both streams documented the presence of self-sustaining populations of rainbow trout/steelhead (*Oncorhynchus mykiss* [*O. mykiss*]), but no other fish species have been observed. ER Table 2.2-3 provides information on aquatic special species with the potential to occur on the Diablo Canyon Lands. ER Table 2.2-3 includes information on special status species with a range or habitat that may include Diablo Creek and Coon Creek.

As part of this revision to the ER Section 2.2.2.1, the following description of the aquatic resources in Diablo Creek was inadvertently deleted in the ER Amendment 1. This description remains complete and accurate.

"Thirty three invertebrate taxa and one fish (*O. mykiss*) were identified in the 1986 aquatic survey of Diablo Creek. *O. mykiss* is the only fish species known to occur in Diablo Creek, and they are present in all four stream sections. They occur in upstream areas where surface water flow is present

throughout the year. They also occur in pools that remain watered when adjacent stream reaches are reduced to subsurface flows.”

Diablo Creek aquatic resources surveys include electrofishing studies performed by PG&E biologists in 1986 (Running 1986) and again in 1990 (Moock 1990), and a snorkeling survey performed by the NMFS in 2002 (Fish 2002). PG&E also prepared an assessment of the environmental effects of water withdrawals from Diablo Creek that broadly described stream and watershed characteristics (PG&E 1993). These efforts identified one fish species believed to be *O. mykiss*. No amphibian or aquatic reptiles were identified. A total of 33 invertebrate taxa were described from Diablo Creek during macroinvertebrate surveys (PG&E 1986). In 2011, Diablo Creek was surveyed for steelhead and red-legged frogs near the mouth of the creek in support of a Streambed Alteration Agreement, Notification number 1600-2011-0054-R4 (Terra Verde Environmental Consulting 2012).

Coon Creek was surveyed by PG&E biologists in 1990 (Moock 1990), by the NMFS in 2002 (Fish 2002), and the City of San Luis Obispo (SLO) in 2003 and annually from 2004 through 2006 (SLO 2003; 2007). The City of SLO's work was performed to satisfy the requirements of a U.S. Army Corps of Engineers permit (No. 200300650-BAH), a NMFS Biological Opinion (No. 151422SWR03PR8909: APS), and a California Department of Fish and Game Notification (Number: R3-1600-2003-0284-3) for a stream habitat enhancement project. In addition, Coon Creek was annually surveyed by consulting biologists hired by PG&E from 2006 through 2012 in support of the Point Buchon Public Access Trail Program. These studies identified one fish species believed to be *O. mykiss*. PG&E monitoring studies along Coon Creek documented two amphibians, the western toad and the pacific tree frog, as well as one observation of the largely aquatic reptile, two-striped garter snake.

RAI AQ-4

Section 4.1 of the ER, "Entrainment of Fish and Shellfish in Early Life Stages," states that PG&E has had extensive communications and consultations with the Central Coast Regional Water Quality Control Board (CCRWQCB), the California State Water Resource Control Board (SWRCB), and the California Department of Fish and Wildlife (CDFW). Provide copies of all letters and communications to and from these agencies regarding impingement, entrainment, and heat shock since 2010. Indicate if PG&E anticipates or is aware of the need to conduct any additional studies related to impingement, entrainment, or heat shock, or any studies that may be conducted by State agencies or other organizations on these topics.

PG&E Response to RAI AQ-4

Copies of all letters and communications to and from these agencies regarding impingement, entrainment, and heat shock since 2010 are provided in PG&E's response to RAI SWR-5.

PG&E is not aware of the need to conduct additional studies *related to impingement, entrainment, or heat shock, or any studies that may be conducted by State agencies or other organizations on these topics.*

For heat shock specifically (thermal discharge impacts), PG&E continues to implement the RWMP in accordance with NPDES permit requirements. Reports on data collected during implementation of the RWMP are submitted annually to the Central Coast Regional Water Quality Control Board (CCRWQCB). Reference PG&E Response to RAI AQ-6 regarding status of the thermal impacts assessment update incorporating data collected during the RWMP.

RAI AQ-5

Section 4.1 of the ER, "Entrainment of Fish and Shellfish in Early Life Stages," states that "during the current period of operation, available data from both DCPD specific ecological studies, as well as independent studies of regional marine fisheries, provide evidence that local populations of fish susceptible to entrainment in larval stages have remained relatively stable...The conclusion from the extensive data from past and ongoing monitoring has shown that overall population decreases have not occurred, and the local marine ecosystem remains healthy." Describe the basis for this statement, including the references for studies that would support this statement.

PG&E Response to RAI AQ-5

This statement is based on results from the TEMP subtidal fish studies, which show a variety of responses for the species sampled during the studies. While some of the responses show patterns that might be indicative of effects of entrainment, data for other species with some of the highest levels of entrainment show patterns of increasing abundance. The data from the TEMP were intended to examine the effects of the thermal discharge, and it would be inappropriate to draw conclusions on the effects of entrainment on local fish populations based solely on the results from the single control location used in the TEMP studies. The potential effects of entrainment are better examined using studies over a broader spatial area. For example, independent studies of the local party-boat fishery (commercial passenger fishing vessel [CPFV]) indicate that entrainment mortality on rockfishes has not significantly affected recreational fishing at the two central coast ports, Morro Bay and Port San Luis, which are north and south of DCPD, respectively. A recent study of recreational fishery data showed that the stocks in central California have not experienced the same declines seen elsewhere in the State (Stephens et al. 2006). The data from this study on the local CPFV fishery show very little change in fishing success over the period from 1980 to 2005. The species examined for this analysis included the same group of rockfishes that had some of the highest levels of entrainment during studies at the DCPD. Dotson and Charter (2003) also showed an increase in CPFV success in central California relative to southern California

ports. The conclusions from these studies are further supported by the analyses in the recent stock assessment for gopher rockfish (Key et al. 2005), which found that the fishing success from CPFV data for the time period 1987 to 1998 for four areas, including Morro Bay, was constant or increasing through time.

Also, as reported in Section 2.2.1.3 of the ER, recent commercial fisheries data was accessed for Morro Bay and Port San Luis, the fishing ports north and south of DCP, respectively. The data from 2009 to 2013 show increasing value for the local catch for each of those years except in 2012. These cited independent studies and available catch data from regional marine fisheries, in conjunction with varied patterns of abundance observed in the TEMP studies control data, are the basis of the statement provided in Section 4.1 of the ER.

RAI AQ-6

Section 4.4 of the ER, "Heat Shock," states that DCP is updating a cooling system thermal discharge impacts assessment using data gathered from 2008 through 2013 from the ongoing RWMP. Provide an anticipated schedule for when this comprehensive analysis, being prepared for the CCRWQCB, will be available.

PG&E Response to RAI AQ-6

The pending report referenced remains in-progress. Monitoring program data through 2014 is now being incorporated into the assessment. Additionally, the CCRWQCB technical review group was requested to provide an evaluation of a revised statistical protocol for analysis of the monitoring data prior to completion of the report. Currently, a draft of the analysis report incorporating the revised statistical assessment will not be reviewed by the CCRWQCB technical review group prior to the fourth quarter of 2015. Due to the integration of the additional survey year data, and updated statistical protocol, the report will not be finalized prior to the 2nd quarter of 2016. PG&E will provide a copy of the finalized thermal impacts assessment report to the Nuclear Regulatory Commission (NRC) upon submittal to the CCRWQCB.

RAI AQ-7

Submit a copy of the following documents for docketing:

- a) Fish, Heidi. 2002. PG&E trip and Holister Ranch access. Electronic correspondence (email), H. Fish, National Marine Fisheries Service to S. Krenn, Pacific Gas and Electric Company. Documenting results of request aquatic surveys on Diablo Lands.*
- b) Running SK. 1986. Diablo Creek aquatic survey. Pacific Gas and Electric Company, Dept. of Engineer Research. Rept. No. 420-86.423. 14pp.*
- c) The updated cooling system thermal discharge impacts assessment being prepared for the CCRWQCB, when available.*

PG&E Response to RAI AQ-7

The requested references (Fish, 2002 and Running, 1986) are provided in the following files on the Enclosure 3 CD-1 folder AQ-07 as shown in the table below. A copy of the finalized thermal impacts assessment report will be provided to the NRC upon submittal the CCRWQCB.

CD-1 Folder AQ-07 Non-Proprietary Documents	
File Name	File Size (KB)
Fish 2002 NMRS PGE Trip.pdf	1,608
Running 1986 Diablo Creek Aquatic Survey.pdf	455

Cumulative Impacts

RAI CI-1

Provide name, description, location, and status of any additional past, present, or reasonably foreseeable projects or actions that have been identified since the applicants' ER (Amendment 1) was prepared.

PG&E Response to RAI CI-1

PG&E evaluated past, present, or reasonably foreseeable projects or actions using the following criteria from Regulatory Guide 4.2, Supplement 1:

- (1) ongoing and will continue into the future;
- (2) funded for future implementation;
- (3) included in firm, near-term plans; or
- (4) generally have a high probability of being implemented.

DCPP-Related Projects

Based on the above criteria, PG&E has identified three reasonably foreseeable projects associated with DCPP:

- (1) Diablo Canyon North Ranch Access Road Improvement Project
- (2) Desalination Project
- (3) Pecho Coast Trailhead Relocation and Trail Realignment

These projects are associated with current operations and will be completed regardless of a license renewal decision.

Diablo Canyon North Ranch Access Road Improvement Project

Cal Fire/County of SLO Fire Department (Cal Fire) has requested that PG&E make improvements to the North Ranch access road.

The project includes improvements along the existing alignment. The roadway will be widened to two lanes except where two lanes are not feasible due to resource constraints. Turnouts and staging areas will be incorporated into the improved roadway. The majority of the roadway will be an all-weather gravel base. Portions of the roadway that are currently paved will be repaved. Sections of the roadway will be paved.

Desalination Project

In May 2015, PG&E entered into a 5-year agreement with SLO County to use the DCPD desalination facility's excess capacity to provide the county's Office of Emergency Services with non-potable water to reduce the impact of using local water supplies to fight wildfires. The Office of Emergency Services will determine how to transport the water to needed areas.

In August 2015, the SLO County Board of Supervisors unanimously approved two recommendations to conduct feasibility studies evaluating the potential use of excess non-potable water from the DCPD desalination plant as a new water source for surrounding communities.

The first recommendation directed staff to engage potential stakeholders in the Santa Maria and Los Osos groundwater basins regarding drought relief opportunities presented by the DCPD desalination facility.

The second recommendation directed county staff to move forward on a parallel track to develop, in concert with PG&E, an emergency project to make desalinated water available to South County communities in the event of continued drought conditions.

The volume and rate to be supplied for public use is projected to be between 290 and 1250 acre-feet per year of non-potable water, and method of delivery is a new pipeline (currently being designed) from the DCPD desalination facility to a county agency water main just outside the DCPD front gate. It is envisaged that the county will provide the treatment facility to make the water potable.

Pecho Coast Trailhead Relocation and Trail Realignment

Pursuant to California Coastal Commission (CCC) request as part of the Steam Generator Replacement Project, PG&E is investigating a relocation of the Pecho Coast trailhead away from the intersection of the DCPD access road and Avila Beach Drive to ensure higher degree of safety for trail users. Relocating the trailhead will also require that a portion of the Pecho Coast Trail be realigned and connected to the existing trail.

Non-DCPD Related Projects

PG&E has identified one reasonably foreseeable non-DCPD related project in the vicinity that is funded, includes firm or near-term plans, or has a high probability of being implemented.

Port San Luis Harbor Terrace Recreational Area

Development of the Port San Luis Harbor Terrace Recreational Area was approved by the Port San Luis Harbor District in January 2015. The project is located west of the unincorporated community of Avila Beach, on the north side of Avila Beach Drive, immediately east of the DCPD access road, in SLO County, California. The proposed project would consist of a campground, including a range of overnight accommodations, visitor serving commercial uses, harbor uses, restrooms, and parking. Additional features include trails and paths between parking areas and campsites; an accessible ramp between the commercial use and pool area and the proposed crosswalk across Avila Beach Drive; a check-in station near the primary entrance; and trash and recycling enclosure within a screening wall.

RAI CI-2

Section 4.0.2 of the amended ER states that PG&E has no plans for refurbishment or other license renewal-related construction activities. In support of the NRC staff's cumulative impacts analysis, provide a summary of any other planned operational or maintenance activities (or projects) anticipated to be undertaken during the license renewal term, including any anticipated dredging or fill activities. (As possible, identify expected timeframe, location(s) affected, acres disturbed, activity/project duration, and permits/approvals which may be required.)

PG&E Response to RAI CI-2

As described in ER Section 3.2, during the license renewal period, PG&E will continue to perform routine surveillance, monitoring, inspection, testing, trending, and recordkeeping actions, which will be managed in accordance with appropriate DCPD programs and procedures. These items are typical of those that occur during major refueling outages and the environmental impacts are enveloped by the Final

Environmental Statement. Other than those activities listed in PG&E's response to RAI CI-1, PG&E currently has no plans for specific projects or changes to operational or maintenance activities during the license renewal term.

Meteorology and Air Quality

RAI AIR-1

Provide copies of DCPP's air permit(s) issued by the San Luis Obispo County Air Pollution Control District and air permit renewal notices. Describe the compliance history associated with DCPP's air permit and air permit renewal process and status. Has DCPP received any Notice of Violations (NOVs) from the San Luis Obispo County Air Pollution Control District regarding conditions established in the air permit(s)?

PG&E Response to RAI AIR-1

The following are DCPP's SLO County Air Pollution Control District (SLOAPCD) Permits-to-Operate (PTO):

SLOAPCD PTO	Facility	Description Permitted Equipment	Units
49-1	DCPP	Auxiliary steam boiler cleaver Brooks Model DL-76	1
338-1	DCPP	Paint spray booth operations and associated equipment	1
415-3	DCPP	Industrial site portable abrasive blasting equipment	4
533-2	DCPP	Stationary abrasive blasting booth operations & associated equipment	1
546-2	DCPP	Non-retail gasoline dispensing facility	1
919-3	DCPP	Unit-1 & Unit-2 emergency diesel generators (EDGs) and security EDG	7
1065-6	DCPP	Industrial site portable diesel emissions units > 50 bhp	4
1845-3	DCPP	Diverse and flexible coping strategy (FLEX) diesel powered engine driven emergency auxiliary saltwater and emergency auxiliary feedwater pumps	9
1944-1	DCPP	FLEX diesel powered engine driven air compressors	3
1980-2	DCPP	FLEX diesel powered portable generators	4
886-2	EOF	DCPP Emergency Operations Facility (EOF) EDG	1
1820-1	JIC	DCPP Joint Information Center (JIC) EDG	1
1946-1	KRC	Kendall Road Campus (KRC) alternate Technical Support Center (TSC)/Operational Support Center (OSC) EDG	1

Notes:

1. There is no renewal document for PTO 1980-2 because it is a new permit for FLEX-generator units initially issued in 2015.
2. The permit renewal documented as PTO 1845-2 occurred before the PTO was subsequently modified in 2015. The permit is now 1845-3.

Copies of DCP's PTOs and renewal notices for calendar years 2015 through 2016 and a copy of the 2015 SLOAPCD Certificate of Permit Compliance for DCP are provided on the Enclosure 3 CD-1 folder AIR-01 as shown in the table below.

CD-1 Folder AIR-01 Non-Proprietary Documents	
File Name	File Size (KB)
APCD Permits-To-Operate (PTO) Renewals 2015-2016.pdf	3,820
APCD PTO 49 DCP Auxiliary Steam Boiler Unit.pdf	690
APCD PTO 338-1 DCP Paint Spray Booth Operations.pdf	1,037
APCD PTO 415-3 DCP Portable Abrasive Blasting Units.pdf	766
APCD PTO 533-2 DCP Stationary Abrasive Blasting Unit.pdf	616
APCD PTO 546-2 DCP Gasoline Dispensing Facility.pdf	1,504
APCD PTO 886-2 EOF Emergency Diesel Generator.pdf	1,245
APCD PTO 919-3 DCP Emergency Diesel Generators.pdf	1,325
APCD PTO 1065-6 DCP Portable Diesel Combustion Units.pdf	811
APCD PTO 1820-1 JIC Emergency Diesel Generator (EDG).pdf	2,063
APCD PTO 1845-3 FLEX Emergency Diesel Water Pumps.pdf	1,600
APCD PTO 1944-1 FLEX Emergency Diesel Air Compressors.pdf	2,570
APCD PTO 1946-1 KRC Emergency Diesel Generator (EDG).pdf	1,778
APCD PTO 1980-2 FLEX Portable Emergency Diesel Generators.pdf	1,474
MET-1 APCD Certificate of Permit Compliance DCP (2015).pdf	621

DCP site air permits issued by the SLOAPCD are renewed on an annual basis. Permits remain in effect and posted at plant equipment until new permit copies or updated "blue sheets" showing the date of the permit extension have been received at the site. Air permits are renewed following receipt of payment for the permit invoice at the air district office and successful completion of a site visit by an air district inspector. Site visits by air district inspectors may be performed at different times of the year depending upon the expiration date for the permit.

DCP has an excellent compliance history associated with air emissions permits issued from the jurisdictional agency, the SLOAPCD. DCP has received recognition several times from the agency for exceptional compliance with air permit requirements; most recently following permit compliance inspections completed during 2015. Reference SLOAPCD Certificate of Permit Compliance, dated May 12, 2015.

PG&E has not received any Notices of Violation (NOVs) from the SLOAPCD regarding conditions established in air permit(s) during the 15-year period from 2000 through 2015. This is inclusive of air permitting compliance for the plant industrial site as well as the remote site emergency plan support facilities.

RAI AIR-2

Provide copies of Annual Emission Reports submitted to the San Luis Obispo County Air Pollution Control District for the most recent 5 years.

PG&E Response to RAI AIR-2

DCPP Facility Emissions and Throughput Data Reports (Annual Air Emissions Reports [AAER]) submitted to the SLOAPCD for calendar years 2010 through 2014 are provided on Enclosure 3 CD-1 folder AIR-02 as shown in the table below.

CD-1 Folder AIR-02 Non-Proprietary Documents	
File Name	File Size (KB)
2010 APCD Facility Emissions Report.pdf	146
2011 APCD Facility Emissions Report.pdf	6,053
2012 APCD Facility Emissions Report.pdf	3,970
2013 APCD Facility Emissions Report.pdf	3,752
2014 APCD Facility Emissions Report.pdf	5,269

RAI AIR-3

Summarize stationary and mobile sources of non-radiological air emissions at DCPP. Identify the equipment and quantity.

PG&E Response to RAI AIR-3

The DCPP Environmental Operations Department formally maintains an inventory and tracks unit operations and/or product throughput for the following power plant air emissions sources in accordance with SLOAPCD requirements. The equipment is permitted as required by SLOAPCD specific rules (Reference PG&E's response to RAI AIR-1):

- (1) Six 3,630-brake horsepower (bhp) 2.6-MW power plant EDGs
- (2) One 449-bhp 300-kilowatt (kW) site security EDG
- (3) Four transportable site diesel-fueled internal combustion driven units greater than 50 bhp
 - (a) One 125-bhp air compressor
 - (b) One 85-bhp air compressor
 - (c) One 213-bhp 120-kW generator
 - (d) One 57-bhp 36-kW generator

- (4) Three remote Emergency Plan facility EDGs
 - (a) One 389-bhp 200-kW Tier-3 Stationary (KRC)
 - (b) One 162-bhp 100-kW Stationary (EOF]
 - (c) One 85-bhp 56-kW Tier 3 Transportable (JIC)
- (5) Nine FLEX portable diesel engine driven emergency-use water pumps
 - (a) Two 173-bhp Tier 4i
 - (b) Two 200-bhp Tier 3
 - (c) One 300-bhp Tier 4i
 - (d) One 307-bhp Tier 4i
 - (e) Three 155-bhp Tier 4i
- (6) Three FLEX 74-bhp Tier 4i portable diesel engine driven emergency-use air compressors
- (7) Four FLEX portable diesel engine driven emergency-use generators
 - (a) Two 274-bhp Tier 4
 - (b) Two 433-bhp Tier 4
- (8) One 3,000-gallon gasoline dispensing facility with Phase-I and Phase-II vapor recovery
- (9) One diesel-fueled 81.8 million British Thermal Units/hour (mmBRU/hr) heat input auxiliary steam boiler unit
- (10) One paint spray booth unit
- (11) One stationary abrasive blasting booth and associated equipment
- (12) Four portable abrasive blast units

The DCPD Environmental Operations Department keeps a record of, but does not formally track, the inventory and onsite use of temporary rental equipment such as portable electrical generators, portable lighting units, air compressors, transportable boilers, concrete batch plants, etc. brought on site for project support or emergency

use. As such, temporary rental equipment fuel consumption or associated emissions are not recorded. This type of equipment, as required, is registered under the California Statewide Portable Equipment Registration Program (PERP) and operational hours or fuel-combustion and associated emissions tracked and reported by the rental vendor as applicable within the State and County.

Equipment specific fuel throughput or air emissions data is not maintained for PG&E-owned non-permitted sources including diesel-powered (less than 50 bhp), gasoline-powered, and propane-powered transportable equipment such as air compressors, electrical generators, portable lighting units, forklifts, mobile cranes, cars, trucks, and small motorized vehicles. This equipment is maintained and annual hours of operation tracked by PG&E Fleet Services. PG&E-owned and registered in-use off-road equipment located at DCPD such as road graders, bulldozers, front end loaders, street sweepers, etc. are also serviced and hours of operation tracked by PG&E Fleet Services, which summarizes the Utility equipment inventory and recorded annual operations for those units assigned to DCPD. Refer to Enclosure 3 CD-1 folder AIR-03 as shown in the table below.

CD-1 Folder AIR-03 Non-Proprietary Document	
File Name	File Size (KB)
Utility Fleet Services Vehicles Equipment (DCPD).pdf	62

The specific number, estimated fuel-consumption, or resultant air emissions, for personnel vehicles driven in and out of the site by employees, visitors, and contractors is not maintained by any site organization. Additionally, inventory and data on truck and heavy equipment transports to and from the plant site is also not maintained.

Heavy construction equipment brought in and operated by vendors during plant projects is registered under the state in-use off-road equipment program, and operation, fuel-consumption, or emissions estimates tracked and reported by the owner as applicable.

RAI AIR-4

Provide the associated annual air emissions (air pollutant and quantity) for the most recent 5 years of operation for air permitted emission sources at DCPD. Include criteria pollutants (ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, lead), volatile organic compounds, and hazardous air pollutants.

PG&E Response to RAI AIR-4

Available data on industrial site air emissions is incorporated in AAER submitted to the SLOAPCD as requested by that agency. The reported data primarily includes hours of operation and fuel consumption for permitted diesel fueled internal

combustion units, gasoline dispensing facility throughput volume, and volatile organic compounds (VOC) emissions from both coating activities performed in the permitted paint spray booth and other surface coating activities conducted onsite. Refer to PG&E's response to RAI AIR-2.

The facility does not monitor, track, or otherwise calculate ozone, particulate, nitrogen oxide, sulfur dioxide, lead, or United States (US) Environmental Protection Agency (EPA) listed hazardous air pollutants constituent emissions from permitted units and processes.

RAI AIR-5

Provide a site-wide emission (quantity) inventory data (annual) for greenhouse gases (GHG) for the most recent 5 years. Emissions should include stationary combustion sources, mobile sources (commuters, visitors, delivery vehicle, etc.) and other sources (refrigerant leakage, emissions from switchyard). In the response:

- a) identify and discuss the GHG emission sources;*
- b) provide information used to support the GHG emission values (e.g. operating hours per year, fuel consumption and rates, and energy rating as applicable for each source); and*
- c) discuss if PG&E has a GHG Emissions Reduction Program implemented specifically at DCP. If so, identify actions that are implemented to reduce GHG emissions resulting from DCP operation (lower-emission fleet vehicle, reduction in energy use in facilities).*

PG&E Response to RAI AIR-5

The DCP Environmental Operations Department only formally tracks emissions from the following power plant internal combustion equipment and volatile organic sources in accordance with SLOAPCD requirements. Refer to PG&E's response to RAI AIR-3.

- (1) permitted diesel-powered equipment including a stationary boiler, backup generators, air compressors, and water pumps. Hours of operation and fuel consumption are tracked
- (2) VOC emissions from coating activities in the permitted paint spray booth and for other surface coating activities conducted on site
- (3) fuel additions to a permitted 3,000-gallon non-retail site gasoline dispensing facility tank.

This data is reported to the SLOAPCD in AAER as requested by that agency. Refer to PG&E's response to RAI AIR-2.

The utility tracks carbon dioxide emissions from power plant fossil fuel combustion equipment as reported in the site AAER. The following data was generated for 2009 to 2013.

DCPP permitted unit diesel-fuel combustion CO2 emissions based on AAER data:					
Emission Sources	2009	2010	2011	2012	2013
Emissions (Metric Tons CO₂ equivalent)	754.49	1,478.56	1,133.04	494.60	688.71
Fuel Use (gallons-diesel)	74,104.1	110,774.4	72,663.4	48,280.4	67,251.0

Sulfur hexafluoride (SF6) emissions from circuit breakers at DCPD and from the site 230-kilovolt (kV) and 500-kV switchyards are also tracked by corporate environmental services.

Power plant circuit breakers are sealed units, and have not emitted any SF6 in the past 5 years. Additionally, this installed operating electrical equipment and associated stand-by spares are not expected to emit any SF6 in the future.

Records available indicate that 60.4 pounds of SF6 were used to replenish leaks in electrical equipment at the DCPD 230-kV and 500-kV switchyards from January 1, 2012, to August 28, 2015. The SF6 lost to leakage is equivalent to 654.68 metric tons of CO₂-equivalent greenhouse gas (GHG) emissions. These emissions attributable to SF6 losses are included in electronic GHG Reporting Tool (e-GGRT) and Cal e-GGRT annual reports submitted to US EPA and the California Air Resources Board respectively.

Other sources of GHG emissions are not currently being tracked; specifically those for mobile sources that include but are not limited to industrial site diesel and gasoline powered trucks, cranes, and forklifts, staff and contractor commuter vehicle emissions, site visitor vehicle emissions, delivery vehicles, and heavy equipment/truck transportation to and from the site.

RAI AIR-6

Identify any expected upgrade/replacement activities for equipment/operation that could increase or decrease air emissions over the license renewal period.

PG&E Response to AIR-6

As a general policy, when existing equipment is replaced and/or new emissions equipment is added to the site inventory, plant environmental operations and corporate fleet services specify acquisition of low emissions equipment; specifically,

equipment with the most updated emissions controls. All equipment purchased by the site or utility must meet current state and federal emissions standards at the time of procurement.

Acquisition of diesel-powered equipment for FLEX is expected to increase DCPD emissions slightly because several pieces of equipment have large engines, and many pieces of equipment for FLEX were purchased for permanent onsite storage. Units dedicated for onsite emergency use require operation periodically for maintenance and testing. Diesel-powered pumps, air compressors, and electrical generators recently purchased for the FLEX program were specified to be EPA Tier 4 and Interim Tier 4 equipment. This will help to minimize emissions in the long term from these units. Some of the larger generators and pumps for the FLEX program will be staged offsite and out-of-state (Phoenix Strategic Alliance for FLEX Emergency Response facility), therefore emission from testing and maintenance operation of that remotely staged equipment will not occur at DCPD.

For existing equipment, and new equipment added to the site inventory, plant environmental operations is involved with the development of procedures for maintenance and operation. Minimizing maintenance and testing hours to keep operating emissions as low as achievable from non-productive activities is encouraged.

Recently PG&E removed from DCPD service a significant portion of a fleet of diesel-powered portable security lighting units (approximately 40 units taken out-of-service). Although the engines on these portable units are small (approximately 15 hp) they were being run for long hours to meet plant security requirements during low natural light conditions, effectively dusk to dawn at a minimum. Some of these units were replaced with solar lighting equipment, and some were replaced with station lighting powered from the plant auxiliary electrical system. Removal of these diesel combustion units, and anticipated further reduction in use of remaining portable lighting ongoing, represents an appreciable decrease in prior emissions of diesel particulate matter from the plant security lighting initiative.

Use of rental equipment as required rather than purchasing equipment for permanent use on-site is encouraged when appropriate. This helps to reduce emissions because rental equipment does not require periodic onsite maintenance and testing to maintain operable condition. When rental equipment is ordered for use at DCPD, it must meet the current PERP requirements. Using rental equipment rather than purchasing, helps to keep emissions at a minimum by insuring PERP compliant units are being operated for projects, and run-time is work scope specific and not unit maintenance related.

Coatings used at DCPD must meet the strict VOC emission standards of SLOAPCD Rule 433. Use of surface coatings with low or zero VOC content is encouraged. Additionally, industry products are constantly being improved, and the lowest VOC

emission coatings available are used onsite whenever possible. Using lower volatile organics emitting products may help to reduce emissions from ongoing surface preparations and corrosion control initiatives in upcoming years.

RAI AIR-7

Provide seasonal and annual summary wind statistics in the form of wind direction and speed frequency distribution tables and wind roses from data recorded at DCP's meteorological facility. Discuss predominant wind direction and speed by season and annual average. The meteorological data should include the most recent 5 years for which the data are available.

PG&E Response to RAI AIR-7

DCPP Wind Direction Frequency of Occurrence

The annual and seasonal wind direction frequency of occurrence for the DCP primary tower 10-m level for the period 2010 to 2014 are presented in Attachment 2, Tables AIR-7-1 through AIR-7-5. Annual and seasonal wind roses for DCP for the 2010 to 2014 periods are presented in Attachment 1 Figures AIR-7-1 through AIR-7-25. The wind rose presents the joint frequency of wind speed and wind direction recorded at the 10-m level at the plant. The wind direction is presented in 16 principal directions (north, north-northeast, northeast, north northwest) with each direction category encompassing a 22.5-degree sector centered on that direction. Six wind speed categories are used with the lower bounds at 0.1, 3.5, 6.9, 11.5, 18.4, and 24.2 miles per hour (mph). The length of each color band represents the frequency of a specific wind speed range. For example, northwesterly winds greater than 24.2 mph occurred 4.1 percent of the time for the period 2010 to 2014. Furthermore, below each wind rose diagram, is the same data displayed in table form for a more detailed breakdown of the seasonal wind direction and speed frequency distribution.

For the period 2010 to 2014, the predominant wind direction was from the northwest (32 percent), with northwesterly winds prevailing each season (24, 49, 41, and 20 percent for winter, spring, summer, and fall respectively). In winter, Pacific storm systems bring a higher frequency of southeast winds, although there was a significant reduction of storm systems and associated southeast winds and increase in northwest winds in the 2012 to 2014 timeframe, which is shown in the 2012 to 2014 winter wind roses.

DCPP Wind Speed Frequency Distribution:

The annual and seasonal DCP primary tower 10-m wind speed frequency distributions are presented in Attachment 1 Figures AIR-7-26 through AIR-7-30. For the period 2010 to 2014, the predominant wind speed was less than 10 mph with the

highest wind speeds (northwesterly) on average during the spring season, which is common in coastal California as an area of high pressure builds in the eastern Pacific.

RAI AIR-8

In support of the NRC staff's greenhouse gas, climate change, and cumulative impacts analysis, provide the following long-term meteorological information from the data recorded at DCP's meteorological facility and address if an ambient temperature and precipitation trend (i.e. increase/decrease, warming, etc.) has been observed at DCP. The meteorological data should include all years for which the data are available:

- a) mean monthly and annual temperatures; and*
- b) mean monthly precipitation and annual precipitation.*

PG&E Response to RAI AIR-8

Temperature

The DCP primary tower 10-m average annual temperatures and average monthly temperatures for the period 1986 to 2014 are presented in Attachment 1 Figures AIR-8-1 and AIR-8-2 and Attachment 2 Tables AIR-8-1 and AIR 8-2. The mean 10-m temperature ranges from 54.3°F in March and April to 59.5°F in October, only changing approximately 5°F throughout the year. For the period 1986 to 2014, the average annual temperature for each year ranged from 54°F in 1991 and 1999 to 59°F in 2014. For the 29-year period, the average temperature was 56.2°F. The highest temperature recorded for the period was 98.7°F in 2008, with the coldest temperature at 33°F in 1990.

Precipitation

The average annual precipitation and average monthly precipitation recorded at DCP for the period 1988 to 2014 are presented in Attachment 2 Tables AIR-8-3 and AIR-8-4. The mean monthly precipitation ranges from .03 inches in September to 4.30 inches in February as shown in Attachment 2 Table AIR-8-4. For the period 1988 to 2014, the annual precipitation for each year ranged from 5.76 inches in 2013 to 44.06 inches in 1997. For the 27-year period, the average precipitation was 19.1 inches.

Noise

RAI NOI-1

Provide information about any noise complaints for the most recent 5 years resulting from DCPD operation.

PG&E Response to RAI NOI-1

No noise complaints have been received by DCPD within the most recent 5 years.

RAI NOI-2

Describe the DCPD off-site noise environment and primary noise sources in the vicinity of DCPD.

PG&E Response to RAI NOI-2

There are no significant offsite noise sources in the immediate vicinity of the geographically isolated DCPD industrial site. Within the non-industrial zoned owner controlled lands surrounding the power plant facility, incoming and outgoing vehicle traffic (primarily associated with the southern plant access roadway), and some periodic vehicle and equipment use related to agricultural and ranching activity, are the only appreciable man-made noise sources.

RAI NOI-3

Identify and describe primary noise sources resulting from plant operation. Include in the response the distance from DCPD to the nearest off-site permanent resident and distance of the turbine building to the site boundary.

PG&E Response to RAI NOI-3

Industrial noise sources are found at the DCPD site, with significant sources primarily relegated to the Unit 1 and Unit 2 turbine building interior and immediate surrounding areas. Noise levels distant from the operating power plant (power block) are generally minimal. Within the turbine building and associated condensate polisher buttresses, noise ranges from 85 decibels (dB), to as high as 115 dB immediately around the condensate booster pumps. The EDGs produce a quick 10-second burst of approximately 140 dB at start-up and then will run at 110 dB measured within the compartmentalized EDG equipment rooms. Noise levels of 105 to 110 dB occur by the reactor coolant pumps during at power operations. However, these pumps are relatively isolated within the containment structures.

During plant shutdown and start-up activities, steam releases have been measured at 105 to 110 dB around the outside plant areas while those releases are in progress (dump valves open). In general, steam releases are the most significant source of noise that will be encountered outside of the turbine building due to plant operations.

The nearest inhabited residence to DCPD is located more than 3 miles away from the DCPD site, with the line-of-sight separated by rugged intervening terrain.

The approximate distance from the turbine building to the nearest site boundary is 800 yards.

RAI NOI-4

Discuss ambient noise surveys that PG&E has conducted in and/or around the site. Include noise levels as part of the response.

PG&E Response to RAI NOI-4

PG&E has conducted ambient noise surveys inside the power plant for industrial exposure purposes. An initial general noise survey was conducted in the 1980s during the period of initial plant start-up.

The DCPD site is located in a remote, rural, coastal area where ambient noise ranges from 55 and 65 A-weighted dB (dBA). (Reference: Section 3.4.1.4 of MRS (Marine Research Specialists), 2004. Diablo Canyon Independent Spent Fuel Storage Installation (ISFSI): Environmental Impact Report. Prepared for San Luis Obispo County (Calif.). Department of Planning and Building.

Existing operations at DCPD create a relatively steady level of noise. Some existing activities at DCPD may exceed 80 dBA near the noise source. Noise levels at the DCPD site are normally between 50 and 65 dBA depending on the proximity of the noise source and the natural noise generated by the surf. Away from routine DCPD operations and along the access road to Port San Luis, noise levels are lower, likely ranging from 40 to 50 dBA. Reference: Section D.9.1 of AEG (Aspen Environmental Group), 2005. Final Environmental Impact Report - Diablo Canyon Power Plant Steam Generator Replacement Project. Prepared for California Public Utilities Commission, San Francisco, California. Accessed at <http://www.cpuc.ca.gov/Environment/info/aspen/diablocanyon/toc-feir.htm>.

RAI NOI-5

Submit a copy of the relevant sections from the following document for docketing:

- a) *Marine Research Specialist, 2004, Diablo Canyon Independent Spent Fuel Storage Installation: Environmental Impact Report. Prepared for San Luis Obispo County Department of Planning and Building.*

PG&E Response to RAI NOI-5

Sections of the Diablo Canyon ISFSI Environmental Impact Report relevant to noise are provided in the following file on Enclosure 3 CD-1 folder NOI-05 as shown in the table below.

CD-1 Folder NOI-05 Non-Proprietary Document	
File Name	File Size (KB)
MSR 2004 ISFSI EIR - Noise	517

Socioeconomics

RAI SOC-1

Provide updated permanent workforce data, preferably residential distribution of permanent workforce by county, in table format.

PG&E Response to RAI SOC-1

The current permanent DCPD workforce by county is provided in the following table.

County	Total Employees
Alameda	3
Chester	1
Contra Costa	4
Kern	1
Los Angeles	1
Lyon	2
Maricopa	2
Monterey	2
Orange	1
Otoe	1
Riverside	2
San Diego	4
San Luis Obispo	1182
San Mateo	1
Santa Barbara	123
Santa Clara	2
Solano	1
Total	1333

RAI SOC-2

In addition to property tax payment information presented in Section 2.7 of the ER, describe any other major annual support payments (e.g., emergency preparedness fees and payments or fees because of the independent spent fuel storage installation), one-time payments, and other forms of non-tax compensation (if any) provided to local organizations, communities, and jurisdictions (e.g., county, municipality, townships, villages, incorporated places, and school districts) on behalf of DCPP.

PG&E Response to RAI SOC-2

In accordance with California Assembly Bill (AB) 292 (October 2007), PG&E makes non-tax one-time payments in the amount of \$1,732,000 each year. AB 292 states: "The maximum annual amount available for disbursement for local costs, subject to subdivisions (e) and (f), shall, for the fiscal year beginning July 1, 2009, be one million seven hundred thirty-two thousand dollars (\$1,732,000) for the Diablo Canyon site and one million six hundred thousand dollars (\$1,600,000) for the San Onofre site."

This legislation also has a formula of California price index or prevailing wage paid to the County as an escalator clause. The entire legislation can be found at: http://info.sen.ca.gov/pub/07-08/bill/asm/ab_0251-0300/ab_292_bill_20071011_chaptered.html. In addition to the sum outlined in AB 292, below is a listing of entities that PG&E has Letters of Agreement with and the monetary support provided to each of them.

Entities	Monetary Support
French Hospital Medical Center*	\$20,000
Marian Medical Center*	\$20,000
Sierra Vista Regional Medical Center	\$15,000
Cambria Health Care District*	\$5,000
San Luis Ambulance Service*	\$5,000
American Red Cross	\$15,000
Estero Radio Club	\$10,000
El Dorado Broadcasting – Emergency Preparedness Expo	\$10,000
TOTAL	\$75,000

* French Hospital and Marian Hospital do not get this funding in the same year. They rotate participation in drills and exercises and are provided the funding in the year that they participate. This is also true for San Luis Ambulance Service and Cambria Health Care District.

RAI SOC-3

Provide information about any anticipated changes in State and local tax laws, rates, and assessed property value or any other recent or anticipated tax payment adjustments that could result in notable future increases or decreases in property taxes or other payments.

PG&E Response to RAI SOC-3

PG&E is not aware of any anticipated changes in State and local tax laws, rates, and assessed property value or any other recent or anticipated tax payment adjustments that could result in notable future increases or decreases in property taxes or other payments. The California Board of Equalization assesses and allocates taxes for utility assets on an annual basis. These amounts can also be affected by local actions such as school bonds. Finally this annual taxable amount is also affected by capital investment in the facility. Table 2.7-1 of the ER sets forth DCPD property tax payments for 2004 to 2014.

Non-Rad Waste Management

RAI WM-NR-1

Discuss the chemical composition and generation volume of the waste streams discussed in Section 3.1.5 of the ER.

PG&E Response to RAI WM-NR-1

For power plant secondary (steam-cycle) systems wastewater disposal, volumes of wastewater discharged itemized by NPDES permit pathway are provided on a periodic basis in California Energy Commission (CEC)-Form 1304 data submittals. Refer to PG&E's response to RAI SWR-1.

The most significant NPDES discharges from non-radiological systems by volume include steam generator blowdown (SGBD) [NPDES Pathway 001-L], makeup water treatment facility (MWTF) brine blowdown [Pathway 001-G], and the seawater reverse osmosis unit (SWRO) brine/backwash effluent discharge [Pathway 001-P]. SGBD is contaminated with very low concentrations (parts per billion) of metal based compounds which include iron, sodium, and sulfate, as well as other trace metal compounds originating from plant piping, heat exchanger, polisher system, and other equipment components interacting with the circulating freshwater inventory. Additionally, residual hydrazine from steam-cycle oxygen scavenging treatment as well as ethanolamine may be present in detectable levels in the SGBD.

The MWTF system blowdown includes constituents removed during ultra-purification of freshwater drawn from the site water storage impoundments. This includes

calcium compounds, magnesium compounds, silica, and other dissolved constituents common in raw freshwater sources.

SWRO unit wastewater discharge includes brine concentrated to approximately twice the salinity of ambient seawater, as well as solids such as algal debris and fine sands or silt back-flushed from multi-media filter beds following the initial filtration of raw seawater supply.

Plant freshwater closed-cycle secondary heat exchanger systems are treated to reduce corrosion and biological fouling. The additives include potassium molybdate, potassium nitrite, and potassium tolyltriazole used as metal component corrosion inhibitors. Potassium hydroxide and tetra-borate are also used in the systems for pH control and conditioning. Glutaraldehyde and isothiazolin are added to control biological fouling within these freshwater systems. The chemical additives are consumed and/or degraded over time; therefore the treated coolant is periodically discharged to the once-through cooling (OTC) system and subsequent plant outfall in accordance with the NPDES permit; as authorized by the CCRWQCB. System discharge volumes, and key chemical additive residual concentrations, are provided in NPDES quarterly and annually monitoring reports. Facility discharge monitoring reports for 2010 to 2015 are accessible and searchable at the following California State Water Resources Control Board (SWRCB) internet site address: <http://www.waterboards.ca.gov/ciwqs/publicreports.shtml#facilities>. Additionally, the volumes discharged from the service cooling water system [Pathway 001-E] and unit component cooling water systems are outlined in CEC-Form 1304 data submittals (Reference PG&E's response to RAI SWR-1).

Chemical treatment of the OTC circulating seawater system results in discharge of residual oxidants and dechlorination chemicals. This occurs during treatment of the main conduits when chemical injection exceeds the oxidant demand of the aggregate seawater flow. The main conduits of each unit are treated with a combination of sodium hypochlorite (bleach) and sodium bromide 6 times per day for 20 minutes, initiated every 4 hours. The chemicals are injected into the cooling water pump inlet flow at the seawater intake structure. Sodium bisulfite is simultaneously injected as necessary into the steam condenser discharge of the conduit being treated to maintain oxidant (chlorine) residual discharge concentrations at the plant outfall below NPDES permit limits. The residual oxidant levels are measured at the plant outfall via continuous chlorine monitoring. The total quantities of sodium hypochlorite injected into the circulating water system, and results of plant residual oxidant monitoring at Discharge Outfall 001, are provided in NPDES quarterly monitoring reports, which are accessible and searchable at the SWRCB internet site address mentioned above.

Plant secondary system steam condensate is treated using polisher ion-exchange resin beds during routine operations to capture and remove impurities before feeding the condensate back to the unit steam generators. During the last several operating

cycles ion-exchange resins used in polisher vessels have periodically been partially exchanged to mitigate resin fouling and degraded ion-exchange performance; this primarily involved anion resin. However, these partial resin exchanges should be reduced or eliminated following full-bed resin replacement with improved supplier product. Process water used during resin bed regeneration is also routinely recycled. This water recovery effort generates spent pre-filter water treatment resins (Ecodex) on a routine basis. The following table provides the volumes of solid waste materials generated from routine operations of the secondary polisher systems for the period 2012 to 2014.

Secondary Polisher System Waste Materials	2012	2013	2014
Spent system pre-filter Ecodex resin (lbs.)	39,930	34,950	22,788
Spent polisher resins from bed exchange (lbs.)	24,628	32,700	26,720
Total polisher solid waste (lbs.)	64,558	67,650	49,508
Total polisher solid waste (tons)	32.3	33.8	24.8

Main seawater conduit biofouling debris is removed during scheduled mid-cycle and refueling outage manual cleanings (scrapings) of the concrete conduit surfaces, exposed concrete surfaces in the intake seawater forebays, and main steam condenser inlet waterboxes. On average, approximately 40 to 80 cubic yards of wet material is removed from each conduit during the cleanings. The debris consists primarily of acorn barnacle biomass including the calcareous plate shells of the marine organisms. The material is stockpiled, allowed to drain-off and dry, then, the resultant residual debris is landfill disposed. The volume by weight of the debris is incorporated within the general industrial site waste volumes provided below.

General non-hazardous industrial wastes are produced throughout the plant site from various sources including but not limited to periodic structural demolition, building remodeling, routine facility maintenance, administrative office activities, and shipping and receiving of materials and equipment. Metal, wood, paper, plastic, and other recoverable wastes are recycled off-site as practicable. Waste not recycled is landfill disposed, primarily at the Cold Canyon Municipal Solid Waste Landfill located near SLO, California. The volumes of general industrial waste generated and shipped for the period 2012 to 2014 are summarized in the table below.

General Industrial Site Waste Generation	2012	2013	2014
Landfill (burial) wastes (tons)	1,245.06	1,658.91	1,622.47
Recycled wastes (tons)	1,549.74	2,455.46	2,691.16
Total landfill and recycled (tons)	2,794.80	4,114.37	4,313.63
% recycled	55.5%	59.7%	62.4%

Power plant hazardous waste and mixed waste volumes generated and manifested from the facility are reported annually to the California EPA in accordance with facility hazardous waste permit requirements. The Annual Facility Report (AFR) for DCPD is submitted each year using US EPA Waste Generation and Management

(GM) forms. The report for DCPD is developed using uniform waste stream identification from year-to-year, and is also consistently ordered by non-Resource Conservation and Recovery Act (RCRA), RCRA, and mixed-waste streams listed sequentially by primary State and/or Federal waste code. Key hazardous characteristics and general waste stream descriptions are incorporated in the reporting forms. The AFR GM-Forms are provided for the period 2012 to 2014 in Enclosure 3 CD-1 folder WM-NR-01, as shown in the table below. General hazardous waste stream quantities and key information on waste generation is additionally provided in facility waste minimization program reporting and planning documents (Reference PG&E's response to RAI WM-8).

CD-1 Folder WM-NR-01 Non-Proprietary Documents	
File Name	File Size (KB)
WM-1 DCPD (2012) HazWaste Annual Facility Report GM-Forms.pdf	1,082
WM-1 DCPD (2013) HazWaste Annual Facility Report GM-Forms.pdf	578
WM-1 DCPD (2014) HazWaste Annual Facility Report GM-Forms.pdf	6.467

RAI WM-NR-2

Provide a list of waste disposal companies and disposal sites for the waste streams discussed in Section 3.1.5 of the ER to include mixed waste streams.

PG&E Response to RAI WM-NR-2

Currently, PG&E anticipates utilizing the same sites and associated companies that are currently contracted by DCPD for manifested hazardous and non-hazardous waste treatment and disposal. This includes radioactively contaminated hazardous (mixed) wastes.

Only a select few companies and facilities have been used by DCPD for manifested waste disposal over a significant period of time due to several factors which include: (1) use only of disposal sites and associated vendors approved by the PG&E Utility, (2) use of companies with a track record of performing waste management work scope in accordance with contract and regulatory requirements, and (3) preference for maintaining as low as practicable the number of distinct disposal sites, regardless of location, which landfill wastes generated by and manifested from DCPD. Manifested waste disposal vendors and sites currently used by DCPD, and that are anticipated to be used ongoing indefinitely (dependent on continued availability) include:

Manifested Hazardous and Non-Hazardous Industrial Wastes

Chemical Waste Management:

- (1) Kettleman Hills Facility, California; EPA ID CAT000646117 -
 - (a) Resource for treatment and/or burial disposal of manifested solid or liquid RCRA (Federal) and non-RCRA (California-only) hazardous wastes.
 - (b) Transfer facility resource for manifested RCRA and non-RCRA hazardous wastes destined for thermal destruction (incineration or fuel-blending) at affiliated chemical waste management facilities.
 - (c) Resource for burial disposal, or transfer to affiliated facilities for recycling and resource recovery, of manifested universal wastes.
 - (d) Resource for burial disposal of manifested non-hazardous industrial solid wastes.
- (2) McKittrick Facility, California; EPA ID CAD980636831
 - (a) Resource for treatment and disposal of manifested non-hazardous industrial wastewater (industrial wastewater not discharged via facility NPDES permit authorization).
 - (b) Resource for burial disposal of manifested non-hazardous industrial solid wastes.

Forward Incorporated:

- (1) Forward Landfill Manteca, California; EPA ID CAL000190080 -
 - (a) Resource for burial disposal of manifested Non-RCRA friable asbestos waste.

Safety Kleen Incorporated:

- (1) Safety Kleen of California (Formerly Evergreen) Santa Maria; EPA ID CAD982446858
 - (a) Resource for transfer to thermal treatment disposal (fuel-blending) or recycling of manifested non-RCRA waste petroleum based lubrication and fuel oil.

**Manifested Low-Level Radiological Contaminated Hazardous (Mixed)
Industrial Wastes**

PermaFix Environmental Services Incorporated

(1) **Diversified Scientific Services Inc.(DSSI) Kingston, Tennessee; EPA ID
TND982109142 -**

- (a) Resource for thermal treatment (combustion destruction) of manifested liquid or liquefiable components of solid non-RCRA or RCRA mixed-wastes. All mixed-wastes generated by the DCPD amenable to thermal treatment are shipped directly or indirectly to this facility for treatment and disposal. Solid treatment residuals or combustion residues generated at DSSI may be further treated by PermaFix with final burial disposal at the Energy Solutions (former Envirocare) low-level disposal site Clive, Utah.

(2) **East Tennessee Materials & Energy Corp. Oak Ridge, TN; EPA ID
TNR000005397 -**

- (a) Resource for treatment of manifested solid RCRA mixed-wastes not amenable to thermal destruction. Wastes shipped to this facility generally include lead or other metals contaminated debris. Materials shipped to this facility for treatment are subsequently shipped by PermaFix to final burial disposal at the Energy Solutions low-level disposal site in Clive, Utah. Waste treatment may involve solidification or encapsulation prior to final burial. Waste amenable to thermal destruction may be initially shipped to this facility and then transferred by PermaFix for combustion treatment at the DSSI facility.

Energy Solutions

(1) **Bear Creek Facility (former Duratek), Oak Ridge, Tennessee; EPA ID
TND982157570 -**

- (a) Resource for receipt, processing, and trans-shipment of solid non-RCRA California State regulated metals contaminated wastes. Wastes shipped to this facility generally include dirt, dust, and fine-debris accumulated from sweeping and cleaning conducted within the power plant radiological controls area. Materials shipped to this facility are generally transferred to final burial disposal at the Energy Solutions low-level disposal site in Clive, Utah.

RAI WM-NR-3

Discuss the hazardous materials training program that workers complete at DCP.

PG&E Response to RAI WM-NR-3

DCPP hazardous materials training is specified in DCP Interdepartmental Administrative Procedure (IDAP) TQ1.ID13, "Hazardous Materials Training." Broad-scope and site-specific hazardous materials and hazardous waste handling is covered in General Employee Training in training courses GPAA100, "Protected Area Access Training" and GPAA150, "Site Specific Protected Area Access Training." All plant employees are required to take this training in order to gain access to the DCP protected area. This training is presented and knowledge testing is implemented using computer-based training.

Other specific training relevant to the site hazardous materials program includes the following:

- (1) Spill Prevention, Control, and Countermeasures Plan Training – DCP Lesson CHZM204
- (2) Underground Storage Tank (UST) Training – DCP Lesson MSUST

RAI WM-NR-4

Discuss the processes used for managing hazardous waste, spill contingencies, waste minimization procedures, and treatment, storage, & disposal of hazardous and mixed wastes.

PG&E Response to RAI WM-NR-4

The key plant procedures that address managing hazardous waste, spill contingencies, waste minimization procedures, and treatment, storage, and disposal of hazardous and mixed wastes are summarized below:

- (1) DCP Casualty Procedure CP M-9A, "Hazardous Materials Incident - Initial Emergency Response/Mitigation Procedure," describes the actions which are to be taken to minimize hazards to human health and the environment resulting from a release of hazardous waste or mixed waste.
- (2) DCP Environmental Engineering Procedure ENV.HW1, "Waste Analysis Plan: Sampling, Analysis and Characterization," describes the minimum requirements for sampling, analysis and characterization of hazardous waste and mixed waste.

- (3) DCPD Environmental Engineering Procedure ENV.HW2, "Hazardous Waste Storage, Treatment and Manifesting," describes the requirements for storage, treatment and manifesting of hazardous waste and the storage and treatment of mixed waste.
- (4) IDAP EV2.ID3, "Hazardous Waste Workplace Accumulation Areas," describes the requirements for accumulation of hazardous waste and mixed waste.
- (5) DCPD Departmental Administrative Procedure EV2.DC4, "Hazardous Materials Management Program," provides administrative controls for the management of hazardous materials to comply with federal, state, and local laws to protect worker health and safety, and to minimize hazardous waste.

RAI WM-NR-5

Discuss current DCPD waste minimization programs and their effectiveness to include a discussion of waste volume trends.

PG&E Response to RAI WM-NR-5

Site waste minimization efforts related to hazardous waste source reduction are primarily focused on the following strategies: (1) reduction or elimination of the purchase and storage of excessive quantities of hazardous products and hazardous plant consumables that have short-term shelf-life, and/or are used only infrequently or in small volumes and (2) targeted field level waste reduction awareness training for those site personnel that may generate hazardous wastes on a routine basis as part of normal work activities. As an example, periodic tailboard training and coaching is conducted with maintenance personnel who routinely use hazardous surface coating materials, and whose work practices can significantly influence the generation of off-specification hazardous materials and hazardous contaminated debris.

DCPD, as a large quantity generator of hazardous waste, is subject to the Californian State Hazardous Waste Source Reduction and Management Review Act of 1989; commonly referenced as Senate Bill (SB) 14. In accordance with SB 14, waste minimization activities and source reduction progress reports are documented by the facility on a quadrennial basis. The plans and reports developed for SB 14 identify key hazardous waste streams generated within the DCPD industrial site, describe facility efforts to reduce those waste streams on an ongoing basis, and document progress on waste volume reduction.

The hazardous waste source reduction performance reports for quadrennial assessment years 2010 and 2014 are provided on Enclosure 3 CD-1 folder

WN-NR-05 as shown on the table below, as well as the associated most recent hazardous waste source reduction plan (2014).

A graphical representation of the aggregate volumes of hazardous waste generated by DCPD and site support operations during each quadrennial reporting year for the period 1994 through 2014 is provided on Enclosure 3 CD-1 folder WM-NR-05 as shown on the table below. The data represented displays progress achieved toward reducing overall site and SB 14 targeted hazardous waste generation overtime. Notably, the data incorporated for the most recent quadrennial assessment year (2014) represents hazardous waste generation during a two refueling outage period in which DCPD maintenance activities and associated waste generation was significantly elevated over a more typical one refueling outage period.

CD-1 Folder WM-NR-05 Non-Proprietary Documents	
File Name	File Size (KB)
DCPD (2010) SB14 HazWaste Reduction Performance Report.pdf	231
DCPD (2014) SB14 HazWaste Reduction Performance Report.pdf	289
DCPD (2014) SB14 HazWaste Source Reduction Plan.pdf	226
DCPD Aggregate HazWaste SB14 Volume Trends (1994-2014).pdf	45

For some key relatively large volume industrial site waste streams, such as spent/off-specification petroleum based lubrication oils, generation from routine plant operation and maintenance activities have begun to trend overtime to what are effectively baseline levels following earlier source reduction efforts.

RAI WM-NR-6

Clarify whether DCPD is a large or small quantity hazardous waste generator under the Resource Conservation and Recovery Act (42 USC § 6901 et seq.) (RCRA) and/or Title 12, California Code of Regulations.

PG&E Response to RAI WM-NR-6

The DCPD industrial site is classified as a large quantity generator of hazardous waste based on generation volumes which periodically meet or exceed the regulatory criteria for that classification: specifically, "Generates, in any calendar month, 1,000 kilogram (kg) per month (mo.) (2,200 pounds (lbs) per mo.) or more of hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo. (2.2 lbs/mo.) of acute hazardous waste."

RAI WM-NR-7

Discuss State or Federal RCRA audits for the last 5 years.

PG&E Response to RAI WM-NR-7

There have been no applicable State or Federal RCRA audits of the permitted hazardous waste facility within the last 5 years.

RAI WM-NR-8

Submit a copy of the following document for docketing:

a) DCPD Aggregate HazWaste SB14 Volume Trends (1994-2014)

PG&E Response to RAI WM-NR-8

The requested document is provided on Enclosure 3 CD-1 folder WM-NR-08 as shown in the table below.

CD-1 Folder WM-NR-08 Non-Proprietary Document	
File Name	File Size (KB)
DCPD Aggregate HazWaste SB14 Volume Trends (1994-2014).pdf	45

Human Health, Non-Radioactive (HH-NR)

RAI HH-NR-1

Discuss plant procedures that workers use to address safety standards, minimization of risks through the use of hazard communication, engineering controls, design controls, administrative controls, personal protection equipment, and safe work practices.

PG&E Response to RAI HH-NR-1

DCPD IDAP OM6.ID1, "Injury and Illness Prevention Program," addresses safety standards and minimization of risk through the use of engineering, design, and administrative controls and the use of personal protective equipment and safe work practices.

DCPD IDAP OM6.ID4, "Personal Protective Equipment," specifically discusses personal protective equipment.

In conjunction with DCPD IDAP OM6.ID17, "Hazard Communication Program," EV2.DC4 requires the review and approval of hazardous materials that will be used and/or stored on the plant site. EV2.DC4 facilitates the assessment and

categorization of material hazards, identifies storage requirements, provides for labeling of material containers in the field in support of hazard communications, and maintains an ongoing site inventory.

RAI HH-NR-2

Discuss the processes used by the plant to control electrical shock hazards.

PG&E Response to RAI HH-NR-2

PG&E utilizes DCPD IDAP OM6.ID12, "Electrical Safety Program," to minimize risk of electrical safety exposures both related to electrical shock and arc flash. This procedure is based upon the most current revision of National Fire Protection Association (NFPA) 70E and California Occupational Safety and Health Administration regulations. The procedure controls all aspects of electrical safety and applies across DCPD to both PG&E employees as well as supplemental workers (i.e., contractors and vendors).

Historic and Cultural Resources

Sensitive cultural resources information, such as archaeological site location information, should be withheld from public disclosure, and guidance described in Section 304 of the National Historic Preservation Act should be followed.

RAI HC-1

Provide an updated map detailing the level of ground disturbance on PG&E property at DCPD, including documentation on how the level of disturbance was determined.

PG&E Response to RAI HC-1

A map is provided on Enclosure 3 CD-1 folder HC-01 as shown in the table below.

CD-1 Folder HC-01 Non-Proprietary Document	
File Name	File Size (KB)
DCPD Disturbed Areas.pdf	175

The map depicts ground disturbance at the DCPD site directly related to the power plant operations. The map and accompanying acreage figures reflect the developed industrial plant site and appurtenant facilities, including:

- (1) main access road (also known as Diablo Canyon Road),
- (2) north access road (also known as Pecho Valley Road),
- (3) paved secondary roads within the industrial area,
- (4) developed industrial site,
- (5) meteorological stations,

- (6) areas of intensive vegetation management, and
- (7) materials staging and stockpile areas (including portions of CA-SLO-2 that were used during construction).

A geographic information systems analysis was used to estimate a total area of disturbance of approximately 360 acres.

However, the majority of the Diablo Canyon Lands have been disturbed in some form as a result of historic and contemporary land uses. Ground disturbance that has occurred outside of the operation of DCP, which would be extremely difficult to accurately estimate and is not included on the accompanying map or acreage figure cited above, has occurred as a result of historic cultivation, ranching, and fuels/vegetation management conducted over the long history of human occupation of the Pecho Coast.

RAI HC-2

What percentage of land on PG&E property at DCP has been formally surveyed?

PG&E Response to RAI HC-2

One hundred percent of the DCP site (also known as Parcel P, which covers approximately 750 acres, as described in Section 2.1 of the ER) has been subject to cultural resources surveys in the past. Approximately 31 percent (approximately 3,047 acres) of the total Diablo Canyon Lands have been previously surveyed for cultural resources. Refer to the maps provided in PG&E's response to RAI HC-4, which depict the extent of past surveys.

RAI HC-3

What percentage of land on PG&E property at DCP is undisturbed?

PG&E Response to RAI HC-3

A geographic information systems analysis was used to estimate a total area of disturbance of approximately 360 acres within the DCP site. Using the reported acreage of the DCP site cited in the ER of 750 acres, 52 percent of the land is undisturbed. Refer to PG&E's response to RAI HC-1 for a description of how the area of disturbance was calculated and a map that depicts areas deemed undisturbed.

RAI HC-4

Provide updated map(s) showing surveyed areas and archaeological sites on PG&E property at DCP and in-scope transmission lines.

PG&E Response to RAI HC-4

Updated maps depicting previously surveyed areas and the location of archaeological sites on the Diablo Canyon Lands are provided on Enclosure 3 CD-1 and Enclosure 2 CD-2 folder HC-04 as shown in the tables below. A cultural resources study, which includes a supplemental survey, is currently underway in support of the North Access Road Improvement Project. This supplemental survey is not depicted on the maps provided, as the report is in preparation. However, the vast majority of the land to be surveyed for the North Access Road Improvement Project was previously surveyed, with the exception of a small area at the mouth of Crow Bar Canyon.

CD-1 Folder HC-04 Non-Proprietary Documents	
File Name	File Size (KB)
Diablo_Surveys_Aerial.pdf	2,574
Diablo_Surveys_Topo.pdf	3,942

CD-2 Folder HC-04 Proprietary Documents	
File Name	File Size (KB)
Diablo_Sites_Aerial.pdf	3,075
Diablo_Sites_Topo.pdf	4,446

RAI HC-5

Provide a copy of the summary and results pages from the following studies, "Final Report Results of a Cultural Resource Evaluation for the North Property Access Road Diablo Canyon Power Plant" and the "Cultural Resources Survey of Portions of Diablo Canyon Nuclear Power Plant South Property San Luis Obispo County, California"

PG&E Response to RAI HC-5

The following requested summary and results pages are provided on the Enclosure 2 CD-2 folder HC-05 as shown in the table below.

CD-2 Folder HC-05 Proprietary Documents	
File Name	File Size (KB)
WickstromTremaine_South Property 1993_Summary.pdf	882
Wilcoxon_North Property Access Road_1988_Summary.pdf	1,358

RAI HC-6

Provide a copy of the summary and results pages of the most recent Cal Poly Field School Technical Report for the excavation at CA-SLO-5.

PG&E Response to RAI HC-6

The following requested summary and results pages are provided on the Enclosure 2 CD-2 folder HC-06 as shown in the table below.

CD-2 Folder HC-06 Proprietary Document	
File Name	File Size (KB)
JonesKnightCoddling_2015_SLO-5_Summary.pdf	457

RAI HC-7

Provide a summary of meeting minutes pertaining to cultural resources issues for the last 4 years of the DCPP Land Stewardship Team meetings, as discussed in Section 2.11.3 of the ER.

PG&E Response to RAI HC-7

A summary of DCPP Land Stewardship Team in-person meeting minutes related to cultural resources are provided below in chronological order, beginning in 2012.

April 4, 2012

Discussion included proposed maintenance work on the primary DCPP access road and results of a desktop screening of potential impacts to cultural resources. Cultural resources monitoring was recommended if, or when, maintenance activities extend beyond the existing road surface or engineered substrate. Cultural resources input was provided on a variety of topics including wildland fuels management, grazing, managed public access and an impending Wildlife Habitat Council (WHC) site visit.

August 1, 2012

Discussion topics related to cultural resources included planning for the 2013 Cal Poly archaeological field class near Crow Bar Peak, recording the historic Yoshida home site on the North Ranch and helping to sponsor the Northern Chumash Tribal Council's tomol paddling event. Cultural resources input was provided on a variety of topics including budgeting, WHC certification, vegetation management, wildland fuels management, grazing, managed access, proposed re-alignment of the Pecho Coast trailhead, resource monitoring on the Point Buchon Trail, and committee housekeeping.

December 5, 2012

Discussion topics related to cultural resources included Native American consultation for the On-shore Seismic Imaging Project, planning the 2013 Cal Poly

archaeological field school and integrated planning with vegetation management. Cultural resources input was provided on a variety of topics including budgeting, report-out on the 2012 WHC conference participation, the team's WHC recognition as a finalist for Rookie of the Year Award and Community Partner of the Year Award (with Cal Poly), report-out on Cal Fire's Coon Creek prescribed fire north of the power plant, future wildland fire work, grazing, managed access, status of the proposed re-alignment of the Pecho Coast trailhead, resource monitoring on the Point Buchon Trail, and committee housekeeping.

January 24, 2013

Discussion topics related to cultural resources included a proposed field meeting with Cal Poly to discuss logistics and consultation for the upcoming archaeological field school, natural erosion at the location of 2011 archaeological field school and a proposed ethnography to document Japanese-American occupation of the North Ranch prior to World War II. Cultural resources input was provided on a variety of topics including budgeting, contracting, future wildland fire work, managed access programs, minor re-routing of the Point Buchon trail near Disney Point to address erosion concerns, and committee housekeeping.

June 5, 2013

Discussion topics related to cultural resources included a report-out on the 2013 Cal Poly archaeological field school, training the Point Buchon gatekeepers on cultural resource identification/discovery/response protocols and progress on the Japanese-American ethnography. Cultural resources input was provided on a variety of topics including budgeting, natural resource monitoring, wildlands fuels management, grazing, infrastructure maintenance, public access management, Point Buchon trail monitoring, and committee housekeeping.

September 12, 2013

Discussion topics related to cultural resources included budgeting and collaboration with a Cal Fire archaeologist in support of the proposed San Luis Hill prescribed fire. Cultural resource input was provided on a variety of topics including grazing, infrastructure maintenance, public access management, and an overview of regulatory compliance programs.

March 27, 2014

Discussion topics related to cultural resources included a report-out on a meeting with the Northern Chumash Tribal Council and Cal Fire regarding the proposed San Luis Hill prescribed fire. Archiving of land stewardship documents was also discussed. Cultural resource input was provided on a variety of topics including grazing, infrastructure maintenance, and public access management.

July 29, 2014

Discussion topics related to cultural resources included a report-out on the status of the National Register Nomination revision for the Pecho Archaeological district, historical documentation and institutional knowledge capture. Cultural resources input was provided on a variety of topics including land management, security protocols, wildland fuels management, grazing, infrastructure maintenance, public access management, participation at the WHC conference in the fall, and committee housekeeping.

December 18, 2014

Discussion topics related to cultural resources included a report-out on the status of the National Register Nomination revision for the Pecho Archaeological district, historical documentation and plans for 2015 Cal Poly archaeological field class on the DCPD Property. Cultural resources input was provided on a variety of topics including Pecho Coast trailhead realignment, finalizing the Point Buchon Trail Public Access Program, and wildland fuels management.

February 17, 2015

Discussion topics related to cultural resources included proposing a location for the 2015 Cal Poly archaeological field class. Cultural resources input was provided on a variety of topics including the electric transmission line road program, a proposed North access road improvement project, fuels management, grazing, infrastructure management, public access management, Point Buchon Trail issues, the team's participation at the 2015 WHC conference, opportunities for Company-wide WHC certification, benchmarking with other companies, interpretive signs, Pecho Coast trail matters, program administration, and committee housekeeping.

June 10, 2015

Discussion topics related to cultural resources included a report-out on the success of the 2015 Cal Poly archaeological field class, findings from the class and a proposal to discontinue agriculture at the Pecho Ranch location while implementing a site restoration/management plan in consultation with Northern Chumash representatives. Cultural resources input was provided on a variety of topics including eradicating non-native plant species, grazing, Land Stewardship Program Charter, WHC recertification, accomplishments of our Cal Poly intern capturing historical knowledge of long-time staff, and managed trail updates.

September 24, 2015

Discussion topics related to cultural resources included a progress report on the National Register nomination revision for the Pecho District, facilitating additional Cal

Poly site visits to the archaeological site examined during the 2015 field class and establishing a restoration/management plan for the excavated site in consultation with Northern Chumash Representatives. Cultural resources input was provided on a variety of topics including budgeting, the Land Stewardship Program Charter, 2016 project priorities, new WHC opportunities, the upcoming NRC environmental audit, vegetation management, wildland fire management, grazing, infrastructure maintenance, trail management/monitoring, and process improvements for project intake/screening

RAI HC-8

Provide a summary description of any administrative controls and environmental procedures in place for land-disturbing activities on PG&E property at DCPD (e.g., trenching, clearing, and digging). Describe how inadvertent cultural resource discoveries are treated.

PG&E Response to RAI HC-8

Projects proposed at the power plant site (as depicted in Figure 2.1-3 in the ER) are subject to licensing basis impact evaluation (LBIE) screening prior to proceeding with implementation. This process covers a number of subject matter areas, and implementation of the procedure requires specific qualifications. Through the initial screening process, items that may adversely impact existing operating permit compliance, resources or potentially require new permit(s) or site-plan variance/changes, etc., are flagged and tracked for resolution. Procedure implementation is normally conducted using the Corrective Action Program platform; documentation for a proposed project or activity is tracked using Notifications with LBIE screening and/or evaluations incorporated. Subject matter experts, such as the cultural resource specialist, are engaged as necessary depending on the outcome of the LBIE. In addition, projects proposed on PG&E-owned lands are generally screened by the land stewardship team to evaluate the need for permits, analyze potential impacts to resources, and implement best management/protection measures. Once a request for review is submitted by a proponent and a project description is developed, the land stewardship team will analyze the proposed activities and potential resource impacts. The team will identify whether formal environmental review pursuant to the California Environmental Quality Act (CEQA) is required and if federal, state, or local permits are necessary. Projects that are routed through the land stewardship team will not be implemented until a formal environmental release to construction is issued by the land planner. The key impacts considered in a standard environmental review include:

- (1) special-species - potential for take of plants or animals and disturbance of their habitat

- (2) wetlands and watercourse - disturbance of bed, bank or channel and riparian corridors
- (3) cultural and historic resources - impacts to historic properties from ground disturbance
- (4) hazardous materials - storage of temporary and permanent hazardous materials onsite
- (5) air quality - removal or modification of materials that could cause air quality degradation
- (6) water quality - storm water pollution from ground disturbance
- (7) visual/aesthetics - consider local sensitive receptors near the site

With respect to cultural resources, DCPD IDAP EV1.ID2, "CA-SLO-2 Site Management," is the guiding administrative control in place at DCPD. The procedure operationalizes the NRC-approved Archaeological Resources Management Plan (ARMP).

More broadly, cultural resource reviews are conducted when PG&E proposes land-disturbing activities in areas known to contain, or be in proximity to, historic or prehistoric archaeological sites, or when such activities would require permits, approvals, or licenses from governing bodies. Past archaeological studies performed on the DCPD property form the basis for assessing potential impacts to archaeological resources. These studies are referenced to determine the extent of past pedestrian surveys, the spatial extent of known resources, the need for additional study or implementation of avoidance and protection measures.

Inadvertent discoveries of cultural resources are treated in compliance with PG&E's Utility Procedure: ENV-8005P-01, "Cultural Resource Constraints Report (CRCR) Procedure," (superseding Environmental Services Procedure P-002), which includes stopping all work in the vicinity of the discovery and immediately notifying a PG&E cultural resources specialist. Once notified, the designated cultural resources specialist makes an assessment of the discovery to determine what, if any, treatment measures are appropriate. Examples of possible treatment measures following an inadvertent discovery may include one or more of the following: (1) archaeological monitoring of continued ground disturbance, (2) Native American monitoring, (3) modification or relocation of ground disturbing activities, (4) archaeological data recovery, or (5) other appropriate options.

The discovery of human remains (verified or suspected) is treated in compliance with Section 7050.5 of the California Health and Safety Code and Public Resource

Code 5097.98. In the event human remains are encountered (or are suspected), the established protocol is to:

- (1) Stop all work within 100 feet of the discovery.
- (2) Immediately contact a PG&E cultural resource specialist, who will notify the County Coroner.
 - (a) If the County Coroner determines the remains are Native American and are not associated with a contemporary crime scene, he notifies the California Native American Heritage Commission and requests that a most-likely descendant is appointed.
- (3) Secure location, but do not touch or remove remains and associated artifacts.
- (4) Do not remove associated spoils or pick through them.
- (5) Record the location and keep notes of all calls and events.
- (6) Treat the find as confidential and do not publically disclose the location.
- (7) The cultural resource specialist works with the appointed most-likely descendant to arrange for the appropriate respectful disposition of the remains.

The inadvertent discovery procedures are provided in the standard cultural resources constraints review document memorializing the analysis and recommendations for implementation and are emphasized in project-specific cultural resource tailboards and summarized in the cultural resources awareness and response brochure distributed to construction crews working in sensitive areas.

RAI HC-9

Provide summary information on land management activities on less-developed areas of PG&E property at DCP, especially near known archaeologic and historically sensitive sites and unsurveyed areas.

PG&E Response to RAI HC-9

Refer to PG&E's response to RAI HC-7, which addresses management of historic and cultural resources throughout the Diablo Canyon Lands.

RAI HC-10

Provide a copy of the program developed to monitor North Ranch sites as discussed in Section 2.11.4 of the ER. Also include any information regarding the monitoring of South Ranch sites. Provide copies of the summary and results pages of any technical reports generated from this monitoring (Pages 2.11-6 and 7 of the ER).

PG&E Response to RAI HC-10

A copy of the program developed to monitor North Ranch sites, *The North Ranch Managed Access: 2007 Access Monitoring Plan, Pt. Buchon Loop Trail* document, prepared by PG&E, is provided on the Enclosure 2 CD-2 folder HC-10 as noted in the table below.

Currently, cultural resource sites on the South Ranch of the Diablo Canyon Lands are not subject to a program of *routine* monitoring. However, sites are revisited opportunistically as necessary in connection with proposed projects and Land Stewardship activities. The summary and results pages for technical documentation generated from such site visits for the following activities are provided on the Enclosure 2 CD-2 folder HC-10 as shown in the table below.

- (1) Meteorological Tower Replacement – summary attached (Lichtenstein 2011)
- (2) Point San Luis Siren Installation – summary attached (Greenberg 2012)
- (3) San Luis Hill Prescribed Fire – summary attached (Taggart and Velasquez 2014)
- (4) Seismic Imaging Study – summary attached (Hewes et al. 2011; Haydu 2012)
- (5) National Register Nomination Revision (not included; documentation in preparation)

CD-2 Folder HC-10 Proprietary Documents	
File Name	File Size (KB)
2007 Access and Monitoring Plan.pdf	5,694
Diablo Seismic Imaging -CRI 09-18-12.pdf	450
Haydu_2012_Onshore Seismic Studies Summary.pdf	521
MetTower_Monitoring_1.11.2011.pdf	73
PtSanLuisSiren_CulturalConstrainsForm.pdf	123
SanLuisHill_ASR_sv12062013_FINAL.pdf	442

RAI HC-11

Provide the current status of the updated National Register nomination package for the Pecho District. (Section 2.11.4 of the ER page 2.11-7). Continue to notify the NRC regarding any updates or changes in the status of the National Register nomination package during the license renewal environmental review and whether additional cultural resources are to be added to the proposed archaeological district.

PG&E Response to RAI HC-11

The nomination was submitted to the State Historic Preservation Officer (SHPO) in 2007. Two rounds of comments on the draft nomination package were received by PG&E in 2013. PG&E currently expects to submit the revised nomination to the California SHPO by late 2015 or early 2016. PG&E will submit a copy of the National Register nomination package to the NRC after it is submitted to the SHPO.

RAI HC-12

Provide documentation of construction projects that have occurred on PG&E property at DCPD since the last NRC license renewal site visit and tour in 2010. How were potential impacts to historic and cultural resources considered? Documentation demonstrating compliance with existing administrative controls and environmental procedures would be useful. What materials are used by PG&E staff to determine whether the California State Historic Preservation Office (SHPO) should be notified or consulted?

PG&E Response HC-12

Documentation related to cultural resource reviews and compliance conducted in support of DCPD projects since 2010 is provided on the Enclosure 2 CD-2 folder HC-12 as shown in the following table:

CD-2 Folder HC-12 Proprietary Documents	
File Name	File Size (KB)
230kV_switchyard_CRCR_3.31.14.pdf	6,357
Archaeological Sampling at CA-SLO-61 final.pdf	8,559
CRCR_DCPDFuelsReduct_11.29.12.pdf	2,602
Diablo 230 500 kV Switchyards Security Updates Final CRCR.pdf	431
Diablo Coastal Seismic-CRI 09-18-12.pdf	6,611
Diablo_security_cultural_memo_1.21.11.pdf	4,582
DTR - Diablo Unit 2 - Fencing Project (1).pdf	292
MetTower_Monitoring_1.11.2011.pdf	73
NorthRanchVMP-Amended_CAA_10.22.10.pdf	725
NSF_2012_0919_001 Central Coastal California Seismic Imaging Project.pdf	43
NSF_to_SHPO_9.19.12.pdf	1,486
PGE 230 kV Tower Vegetation Monitoring.pdf	32
PtSanLuisSiren_CulturalConstrainsForm.pdf	123
SanLuisHill_ASR_sv12062013_FINAL.pdf	1,074
Security Gate Monitoring Augering at CA-SLO-2.pdf	1,260
SLO-2 Monitoring_Sept 2010_AppliedEW.pdf	76

The following table summarizes projects for which documentation is provided.

Projects	Year	Summary
Prescribed Fire	2010 2014	North Ranch (2010) and San Luis Hill prescribed fire projects
CA-SLO-2 Vegetation Management and Insulator Washing	2010 2015	Vegetation removal on existing roadway within CA-SLO-2 and laying down additional gravel to facilitate maintenance on 230-kV tower
Security Barrier Near SLO-2	2011	Modification of crash gates, wireless monitoring devices and ancillary improvements within road cut that bisects CA-SLO-2
Replacement of Meteorological (MET) Tower	2011	Excavation for MET tower footings and guy anchors south of plant
Fiber Optic Cable Installation	2011	Installation of fiber-optic communication cable; response to inadvertent discovery of materials related to SLO-61. (ER Reference 2.155)
Monitoring Wells	2011	Two discrete wells in proximity to CA-SLO-61
Vegetation Management - Parcel P	2012	Use of mastication and hand tools
Port San Luis Siren	2012	Installation of a wood pole to support a siren
Seismic Imaging	2012	Studies in support of seismic evaluation of DCPD and surrounding areas
North American Electric Reliability Corporation Fencing	2015	Installation of 440 linear feet of a 6'6" tall nonconductive fence
DCPD 230-kV Switchyard Project	Pending	Proposed equipment upgrades and expansion of the footprint/boundary of the existing switchyard
DCPD Switchyard Security Project	Pending	The project includes replacing existing chain link fence with 5,200 linear feet of 3/8-inch chain link fence with a 9 foot high perimeter. Construction has not yet started.

Refer to PG&E's response to RAI HC-8 for a summary of how PG&E assesses potential impacts to cultural resources related to activities conducted on PG&E-owned lands.

Consultation with the SHPO is conducted in the event that an undertaking is triggered by a federal permit, license or approval, pursuant to the definitions provided at 36 CFR 800.16(y). As a private corporation, PG&E has on occasion acted as a non-federal representative on behalf of the lead agency to initiate or participate in consultation as allowed under 36 CFR 800.2(c)(4).

Such was the case in February 2008 when PG&E initiated consultation with SHPO to solicit comments and concerns related to DCPD license renewal. The consultation effort is summarized in Section 4.19 of the ER. Correspondence related to that consultation is presented in Appendix E, Attachment D of the ER.

A second recent instance of SHPO consultation took place in 2012 in connection with the Central Coastal California Seismic Imaging Project (CCCSIP). During a regularly-scheduled quarterly meeting between PG&E and SHPO Review Unit staff,

PG&E notified SHPO of its intention to move forward with the seismic studies and that the National Science Foundation (NSF) would serve as the lead federal agency for Section 106 compliance. On September 12, 2012, the NSF submitted a finding of no adverse effect to the SHPO related to the project. The SHPO concurred with the NSF's findings in a letter dated October 29, 2012.

RAI HC-13

Provide summary information on cultural resource management and protection training required for PG&E staff at DCP.

PG&E Response to RAI HC-13

EV1.ID2, PG&E's procedure for the protection of CA-SLO-2, and the ARMP, do not require training of staff on cultural resource awareness. In practice, PG&E does have a cultural resources program in place for training staff for a wide variety of projects (both on and off of Diablo Canyon Lands) and provides material for tailboard meetings.

Ground disturbing activities undertaken on Diablo Canyon Lands are typically reviewed by the land stewardship team. The team, which includes a PG&E cultural resources specialist, is charged with directing land management practices on the Diablo Canyon Lands. In this capacity, the designated cultural resources specialist provides recommendations for avoiding impacts to cultural resources on the property. At times, "tailboard" training sessions are required prior to the start of project activities.

The tailboards, which are provided on an as-needed basis, raise employee and contractor awareness of the cultural resources on the property, emphasize the need to avoid such resources, discuss protection measures established for the project, outline inadvertent discovery procedures, and clearly communicate PG&E's stewardship ethic. Thus, while a formal cultural resources training program for employees and contractors is not currently in place at DCP, resource protection is achieved through active participation in projects by a PG&E cultural resource specialist or delegate.

PG&E's cultural resource specialist assigned to DCP periodically provides general-interest presentations on the history and prehistory of the lands occupied by the power plant. Examples include:

- (1) May 4, 2011: cultural resources awareness training provided for Pecho Coast Trail docents, which includes current and former PG&E employees and members of the community. Presentation focused on history/prehistory of the Pecho Coast, artifacts and features located in proximity to the trail, appropriate interpretive content for hikers and how to respond to the

discovery of artifacts or human remains. Presentation augmented with an educational artifact assemblage.

- (2) August 18, 2011: cultural resources awareness training provided for Point Buchon gatekeepers, similar to presentation described above.
- (3) May 2, 2012: cultural resources awareness training provided for Pecho Coast Trail docents, similar to presentation described above.
- (4) December 6, 2012: cultural resources awareness training provided for Point Buchon gatekeepers, similar to presentation described above.
- (5) April 30, 2014: cultural resources awareness training provided for Pecho Coast Trail docents, similar to presentation described above.
- (6) May 7, 2015: cultural resources awareness training provided for Pecho Coast Trail docents, similar to presentation described above.

In addition, PG&E's cultural resource specialist periodically provides general-interest presentations on the history and prehistory of the Diablo Canyon Lands. Examples include:

- (1) May 26, 2010: presentation was provided to approximately 40 DCPD personnel that focused on the history of the property, historic and archaeological research undertaken, site stewardship efforts, and resource awareness. The well-attended presentation emphasized the non-renewable nature of the cultural resources on the property and highlighted PG&E's efforts to protect the site.
- (2) August 20, 2013: An hour-long presentation titled, "*The History of Our Lands*." Covering 10,000 years of human occupation of the Pecho Coast, the presentation was delivered to approximately 30 DCPD employees as part of the Community Connect Series.

RAI HC-14

Provide copies of all letters and communications between PG&E staff and the California SHPO regarding the eligibility of cultural resources at DCPD for listing in the National Register of Historic Places (NRHP) since 2010, including DCPD and in-scope transmission lines.

PG&E Response to RAI HC-14

Copies of correspondence to and from the Office of Historic Preservation's Registration Unit pertaining to the National Register eligibility of resources located at

DCCP since 2010 are provided on Enclosure 3 CD-1 folder HC-14 and Enclosure 2 CD-2 folder HC-14 as shown in the tables below. All correspondence is specifically concerning PG&E's proposed revision of the *Rancho Canada de los Osos y Pecho y Islay* Archaeological District.

CD-1 Folder HC-14 Non-Proprietary Documents	
File Name	File Size (KB)
EmailCorrespondence_Correia(OHP)_PGE.pdf	113
EmailCorrespondence_Crain(OHP)_PGE.pdf	407
SHPO_to_PGE_PechoDistrict_4.25.13.pdf	305

CD-2 Folder HC-14 Proprietary Documents	
File Name	File Size (KB)
Attachment to 12.13.13 Email - CA_San Luis Obispo County_ Rancho Canada_MM_Annotated.pdf	2,360
Attachment to 12.13.13 Email - CA_San Luis Obispo County_ Rancho Canada_MM_Memo.pdf	19

RAI HC-15

Provide updated information on procedures for consulting/interacting with Federal and California State recognized American Indian Tribes that have ancestral or historical ties to the DCCP area and surrounding lands.

PG&E Response to RAI HC-15

PG&E's cultural resource specialist communicates and coordinates with Native American representatives when DCCP activities have the potential to adversely affect prehistoric archaeological sites, when archaeological excavation is undertaken within prehistoric archaeological sites boundaries, when a project requiring discretionary approval subject to the CEQA or Section 106 of the National Historic Preservation Act is undertaken, or when otherwise directed to do so by an agency pursuant to their oversight authority.

RAI HC-16

Provide copies of consultation letters and other correspondence between PG&E staff and the California SHPO and Federal and State recognized American Indian Tribes that have ancestral or historical ties to the DCCP area and surrounding lands.

PG&E Response to RAI HC-16

Since 2009, PG&E's direct correspondence with the California SHPO has been limited to informal consultation regarding Section 106 compliance related to license renewal (provided) and revision of the *Rancho Canada de los Osos y Pecho y Islay* Archaeological District located on the Diablo Canyon Lands. Refer to PG&E's response to RAI HC-14 for correspondence related to the Archaeological District. In

addition, consultation letters between the National Science Foundation and the California SHPO associated with the CCCSIP are also provided on Enclosure 3 CD-1 folder HC-16 as shown in the table below.

Formal correspondence with consulting Native American tribes related to DCPD license renewal, a DCPD security project, the CCSIP and a proposed DCPD substation upgrade project are provided on Enclosure 3 CD-1 folder HC-16 as shown in the table below. PG&E has also informally corresponded with local tribes on a variety of topics, primarily through email. While PG&E maintains a record of such correspondence, it was undertaken with an expectation of privacy on the part of the Native American tribal representatives and is not related to DCPD license renewal. If requested, PG&E will provide access to the informal correspondence through the license renewal portal, but recommends that such correspondence is not docketed or otherwise made publically available.

CD-1 Folder HC-16 Non-Proprietary Documents	
File Name	File Size (KB)
NSF_to_SHPO_9.19.12.pdf	1,486
PGE_to_SHPO_2.27.2008.pdf	346
SHPO_to_NSF_Central Coastal California Seismic Imaging Project.pdf	43
SHPO_to_PGE_3-18-2009.pdf	49
License Renewal NA_correspondence.pdf	360
Armenta_12.7.10.pdf	91
Arrendo.pdf	15
Burch.pdf	15
Collins.pdf	15
Collins_12.9.10.pdf	145
Collins_12.10.10.pdf	106
Goldman.pdf	15
Goldman_11.30.10.pdf	235
Miller.pdf	15
NAHC_Diablo_SLO_Co.pdf	56
Odom.pdf	15
PullulawKhus.pdf	15
Salinan Chumash Nation.pdf	15
SantaYnez.pdf	15
SantaYnez_tribalAdmin.pdf	15
SantaYnez_TribalEldersCouncil.pdf	15
Tucker.pdf	15
Tumamait.pdf	15
Tumamait_12.7.10.pdf	90
Vigil.pdf	15
Vigil_12.7.10.pdf	92
Alger_230kV_consult_2.20.14.doc	49
Armenta_230kV_consult_2.20.14.doc	49
Arredondo_230kV_consult_2.20.14.doc	49
Baker_CoastalBandChumash_230kV_consult_3.10.14.doc	49
Banuelos_230kV_consult_2.20.14.doc	49
Bomar Grindstaff_230kV_consult_2.20.14.doc	49

CD-1 Folder HC-16 Non-Proprietary Documents	
File Name	File Size (KB)
Burch_230kV_consult_2.20.14.doc	49
Castro_230kV_consult_2.20.14.doc	49
CoastalBandChumash_230kV_consult_2.20.14.doc	49
Cohen_230kV_consult_2.20.14.doc	49
Collins_230kV_consult_2.20.14.doc	49
Duckworth_230kV_consult_2.20.14.doc	49
Garcia_CoastalBandChumash_230kV_consult_3.10.14.doc	49
Goldman_230kV_consult_2.20.14.doc	49
GuzmanFolkes_230kV_consult_2.20.14.doc	49
NAHC_Response_2.19.14.pdf	164
NAHC_Sacred Lands File Request.docx	20
Odom.L_230kV_consult_2.20.14.doc	49
Odom.P_230kV_consult_2.20.14.doc	49
OlivasTucker_230kV_consult_2.20.14.doc	49
Pappo_230kV_consult_2.20.14.doc	49
PeuYoko_Perez_230kV_consult_3.10.14.doc	49
Response_Perez_Response.pdf	175
Response_Tucker_Response.pdf	182
Romero_230kV_consult_2.20.14.doc	49
SalazarFolkes_230kV_consult_2.20.14.doc	49
SantaYnezElders_230kV_consult_2.20.14.doc	49
Segobia_230kV_consult_3.10.14.doc	49
Tumamait-Stennslie_230kV_consult_2.20.14.doc	49
Vigil_230kV_consult_2.20.14.doc	49
Vigil_FOLLOWUP_fax_230kV_consult_3.14.14.doc	49
Xielolixii_230kV_consult_2.20.14.doc	49
XolonSalinan_230kV_consult_2.20.14.doc	49
Alva-Padilla Letter_exampleLetter.pdf	30
Castro Letter.pdf	30
Cohen Letter.pdf	30
Collins_8.2.11.pdf	185
Duckworth Letter.pdf	30
Freeman Letter.pdf	30
Garcia Letter.pdf	30
Goldman Letter.pdf	29
Grindstaff Letter.pdf	30
Guzman-Folkes Letter.pdf	17
Haro Letter.pdf	30
NAHC_8.15.12.pdf	160
Odom Letter.pdf	29
Tucker_7.14.11.pdf	108
Tucker_7.21.11.pdf	173
Tucker_7.26.11.pdf	195
Tucker_10.22.12.pdf	222
Xielolixii Letter.pdf	30

RAI HC-17

Provide the status and updated draft document of the SHPO requested Programmatic Agreement and DCPD Cultural Resources Management Plan intended to replace the current Archaeological Resources Management Plan as discussed in Section 9.1.3 of the ER.

PG&E Response to RAI HC-17

The draft Historic Properties Management Plan (HPMP) and associated Programmatic Agreement (Attachment A to the HPMP), was provided in Appendix E, Attachment D, "State Historic Preservation Officer Correspondence" of PG&E Letter DCL-09-079, "License Renewal Application," dated November 23, 2009. Since the license renewal application was put on hold at the request of PG&E in 2011, no revisions to the documents have been made since their original drafting. Outstanding issues that will need to be addressed to move the drafts forward include initiating Native American consultation (government-to-government) and clearly defining the area of potential effects in consultation with Section 106 stakeholders.

RAI HC-18

Provide a status on PG&E's response to the new Assembly Bill 52, formally establishing a new requirement under the California Environmental Quality Act (CEQA) to require Tribal Cultural Resources to be considered as potentially significant cultural resources under the CEQA environmental review process.

PG&E Response to RAI HC-18

Recent changes to CEQA will affect DCPD projects that require discretionary permits from a state or local agency. AB 52, signed into law in September 2014, created a new class of resources (Tribal Cultural Resources) for consideration within CEQA and introduced additional Native American consultation requirements for the CEQA Lead Agency. PG&E has assembled a cross-functional working group within the Safety, Health and Environment organization to develop best practices for implementation of this new framework within a utility context. Specifically, PG&E is taking the following steps to facilitate a smooth adaptation to the changing regulatory landscape:

- (1) informing our line of business partners so they know what to expect in terms of the scope of resource inventories, costs and timelines;
- (2) closely tracking the California Governor's Office of Planning and Research while they go through the rule making process to develop changes to the CEQA Handbook (expected by July of 2016);
- (3) engaging with California Native American communities;

- (4) developing tribal engagement principles to guide Native American consultation;
- (5) routinely discussing developments and best practices among PG&E's cultural resource specialists and environmental management staff to ensure a consistent approach to implementation;
- (6) benchmarking with California utilities on best management practices; and
- (7) working with the broader archaeological and cultural resources management communities.

While implementation of AB 52 will primarily be the responsibility of the CEQA lead agency, PG&E will help facilitate compliance.

RAI HC-19

Provide a status of the Traditional Cultural Properties Surveys that have occurred on PG&E property at DCP.

PG&E Response to RAI HC-19

To date, no ethnographic studies that address the presence of traditional cultural properties have been completed for the Diablo Canyon Lands.

Surface Water Resources

RAI SWR-1

Summarize reported water withdrawals via the intake structure over the last 5 years (2010-2014 and 2015 year-to-date) and associated return discharges (via National Pollution Discharge Elimination System (NPDES) Outfall 001) and provide copies of the annual environmental reports filed with the California Energy Commission (CEC) reflecting the requested information. When available, also provide the 2015 annual environmental report for the docket.

PG&E Response to RAI SWR-1

PG&E provides information regarding withdrawal and discharge of water resources by the industrial facility to the CEC on an annual basis. This information is submitted each year for prior calendar year operations as a component of the Fuel and Energy Report (QFER) submittal, CEC Form-1304 Schedule 3 (Power Plant Environmental Annual Report) Parts A, B, and C. The water withdrawal and discharge data for both seawater and freshwater resources incorporated in this annual report for calendar years 2010 through 2014 is provided on Enclosure 3 CD-1 folder SWR-01 as shown in the table below. PG&E will provide a copy of the 2015 annual report to the NRC upon submittal to the CEC.

CD-1 Folder SWR-01 Non-Proprietary Documents	
File Name	File Size (KB)
SWR-1 PGE-DCPP 2010 CEC Form-1304 Schedule 3 (Parts A B C).pdf	2,233
SWR-1 PGE-DCPP 2011 CEC Form-1304 Schedule 3 (Parts A B C).pdf	159
SWR-1 PGE-DCPP 2012 CEC Form-1304 Schedule 3 (Parts A B C).pdf	1,994
SWR-1 PGE-DCPP 2013 CEC Form-1304 Schedule 3 (Parts A B C).pdf	2,405
SWR-1 PGE-DCPP 2014 CEC Form-1304 Schedule 3 (Parts A B C).pdf	2,747

RAI SWR-2

Provide a copy of the most recent application or Notice of Intent submitted to the State for coverage under the State General Industrial Storm Water Discharge permit.

PG&E Response to RAI SWR-2

The most recent Notice of Intent (NOI) submitted by the facility for coverage under the State General Industrial Storm Water Discharge permit is available on the SWRCB Storm Water Multiple Application and Report Tracking System (SMARTS). An electronic copy of the SMARTS generated NOI is provided on the Enclosure 3 CD-1 folder SWR-02 as shown in the table below. The NOI was submitted via the SMARTS application on June 30, 2015, for coverage under SWRCB Order 2014-0057-DWQ NPDES General Permit for Storm Water Discharges. Public access and search of the information and documents submitted by participating facilities to the SMARTS electronic database is available without requirement for registered user login via the following internet address:
<https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>.

The search tool is available through the following SMARTS main-page path:
Public Access to NOI, SWPPPs & Annual Reports data

CD-1 Folder SWR-02 Non-Proprietary Document	
File Name	File Size (KB)
SW-2 DCPPI NOI General Permit Order 2014-0057 DWQ (June 2015).pdf	77

RAI SWR-3

As related to the submittal under SWR-2, provide a copy of DCPPI's current Stormwater Pollution Prevention Plan for docketing.

PG&E Response to RAI SWR-3

The current facility Storm Water Pollution Prevention Plan (SWPPP) was submitted in conjunction with the most recent NOI for coverage under the State General Industrial Storm Water Discharge Permit in June 2015. The document and relevant attachments are available on the SWRCB SMARTS. Reference PG&E's response to RAI SWR-2 for internet access to the State SMARTS application database. An

electronic copy of the SWPPP document is provided on the Enclosure 3 CD-1 folder SWR-03 as shown in the table below.

CD-1 Folder SWR-03 Non-Proprietary Document	
File Name	File Size (KB)
SW-3 SMARTS File DCPD SWPPP June 2015.pdf	152

RAI SWR-4

Please provide a map of NPDES permitted outfall locations (inclusive of process wastewater and stormwater outfalls).

PG&E Response to RAI SWR-4

A map of NPDES-permitted outfall locations (inclusive of process wastewater and stormwater outfalls) is available on the SWRCB SMARTS. Refer to PG&E's response to RAI SWR-2 for internet access to the SMARTS application database. An electronic copy of the document is provided on the Enclosure 3 CD-1 folder SWR-04 as shown in the table below. The map is primarily intended to support implementation of DCPD's SWPPP, and identifies all industrial site stormwater outfall points. The map, however, also displays the location of industrial wastewater outfalls, specifically, NPDES Discharge 001 (Unit-1 and Unit-2 Main Outfall), Discharge 003 (intake screen wash system outfall), and Discharge 004 (biological laboratory [Seawater RO-Return] Outfall). NPDES Discharge 001 receives power plant OTC effluents, and all power block ancillary (side-stream) process wastewater discharges. A schematic of the routing of power plant permitted industrial wastewater pathways is provided from NPDES Permit CA0003751 Order 90-09 (references).

CD-1 Folder SWR-04 Non-Proprietary Documents	
File Name	File Size (KB)
SW-4 NPDES Permit Order 90-09 Attachment-C (Waste Stream Schematic).pdf	1,366
SW-4 SMARTS File DCPD Site Storm Water Drainage System.pdf	298

RAI SWR-5

Sections 4.2 through 4.2.6 of the amended ER state that efforts to renew DCPD's NPDES permit are ongoing and closely related to implementation of the State of California's Once-Through Cooling Water Policy (OTC). Describe the current status of the NPDES permit renewal for DCPD, including status and recent actions and associated milestones for resolving outstanding NPDES permit renewal and associated OTC Policy issues. In addition, provide copies of all letters and communications to and from the State of California (e.g., CCRWQCB and SWRCB specific to the NPDES permit process since 2010. Indicate if PG&E anticipates or is aware of the need to conduct any additional studies with respect to the OTC Policy.

PG&E Response to RAI SWR-5

NPDES Permit Status Update

Currently, the facility NPDES Industrial Wastewater Discharge Permit CA0003751 Order 90-09 remains in administrative extension. Recent actions (since 2010) related to resolving outstanding NPDES renewal and associated OTC Policy issues have primarily involved participation in SWRCB coordinated efforts to evaluate OTC Policy compliance options for nuclear fueled power plants (NFPP).

The California State Water Quality Control Policy on the use of coastal and estuarine waters for power plant cooling (OTC-Policy or Policy) was adopted by the SWRCB in May 2010. Upon adoption, OTC facility NPDES permit oversight was transferred from California's nine Regional Water Quality Control Boards (RWQCBs) to the SWRCB. Specifically, the SWRCB assumed "responsibility for all NPDES permit actions for *existing power plants** subject to this Policy, including without limitation actions to issue, modify, reissue, revoke, and terminate NPDES permits after October 1, 2010" (Policy Dated Effective October 10, 2010 Attachment-1 Section 1.N). This provision remained in effect through June 18, 2013, at which time an amendment to the Policy returned primary responsibility for permit actions to the RWQCBs, with the State Water Board Division of Water Quality (DWQ) staff continuing to provide technical support to the RWQCBs in all issues related to implementation of the OTC Policy. Communications regarding OTC-Policy implementation have therefore remained directly between PG&E and the SWRCB.

As of October 15, 2015, SWRCB Staff are expected to provide an options update to the SWRCB in December 2015, with one or more workshops in 2016 and a final decision not expected until January 2017. Upon determination of alternative compliance, the CCRWQCB would then begin the permit renewal process, including the SWRCB compliance determination for OTC within the permit's findings and conditions as appropriate.

Communications on NPDES Permit Renewal and OTC Policy Implementation

Key communications between PG&E and the SWRCB during this period have included a request to provide an update of the facility NPDES permit application, recorded participation in SWRCB coordinated meetings, as well as written comments provided to the SWRCB related to OTC-Policy special studies that evaluated NFPP compliance alternatives.

Records of communications during the period 2010 to present between PG&E and the SWRCB are available within the California EPA SWRCB website, Water Issues Section (Access to the Ocean Standards – CWA §316(b) Regulation Cooling Water Intake Structures Once-Through Cooling). The initial OTC-Policy and subsequent amendments can also be accessed and reviewed on the website.

The applicable SWRCB website section is accessible via the following link:
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/

Documents directly related to DCCP are incorporated within the following sub-sections (direct links provided):

- (1) "Power Plants That Are Effected"
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/power_plants/diablo_canyon/

This sub-section includes a SWRCB request to the facility to comply with interim policy requirements including submittal of an updated NPDES permit application (Application/Report of Waste Discharge). The updated facility permit application dated April 11, 2011, and supporting documents are also provided within the sub-section.

- (2) "RCNFPP – Review Committee for Nuclear Power Plants"
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/rcnfpp/index.shtml

The OTC-Policy included a provision for special studies to be conducted to investigate compliance alternatives for NFPP, which, at the time of initial adoption, included DCCP and the San Onofre Nuclear Generating Station (SONGS). The special studies were conducted by an independent consultant (Bechtel Power) under coordination of a SWRCB Executive Director appointed review committee (RC). The RC included representatives from the SWRCB, several other State Agencies, environmental interest groups, and the California utilities owning NFPP (PG&E and Southern California Edison [SCE]).

This sub-section includes RC meeting minutes, which incorporate text summarizing the verbal communications of SWRCB Staff, PG&E representatives, and other RC members participating. PG&E comments are also provided on the progress and work products of the special studies. However in accordance with RC administrative protocol, PG&E written comments are generally anonymously consolidated together with comments of the overall RC. Presentations conducted by PG&E at agency-coordinated meetings are also incorporated.

Links to communications identified as originating from PG&E within the sub-section are provided below. An electronic copy of the documents is also provided on the Enclosure 3 CD-1 folder SWR-05 as shown in the table below.

- (1) Diablo Canyon NPP Presentation, March 28, 2011
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/power_plants/diablo_canyon/docs/rc_dc_pres032811.pdf
- (2) SCE-PGE Proposed Draft Scope for OTC Studies, September 23, 2011
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/rcnfpp/docs/study092311.pdf
- (3) Pacific Gas and Electric Comments on the Final Report, September 12, 2014
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/rcnfpp/docs/pgebechcom_091214.pdf

Links to RC consolidated comments within the sub-section incorporating PG&E comments:

- (1) Nuclear Review Committee Comments to the Draft Reports / Bechtel Response to Comments, November 26, 2012
http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/rcnfpp/docs/rcc_resp.pdf

CD-1 Folder SWR-05 Non-Proprietary Documents	
File Name	File Size (KB)
Diablo Canyon NPP Presentation, March 28, 2011.pdf	243
SCE-PGE Proposed Draft Scope for OTC Studies, September 23, 2011.pdf	97
PGE Comments on the Final Report, September 12, 2014.pdf	30
NRC Comments to the Draft Reports, Bechtel Response to Comments, Nov. 26, 2012.pdf	266

RAI SWR-6

Section 9.1.5 of the amended ER addresses the need for an applicant for a Federal license or permit that could result in a discharge to navigable waters of the U.S. to provide the licensing agency with a state water quality certification in accordance with Section 401 of the Federal Clean Water Act. Section 401(a)(1) of the Act specifies that the applicant for the Federal license or permit is responsible for providing the Federal licensing or permitting agency the certification or a waiver from the state in which the discharge originates. As stated in NRC's Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437, Revision 1), some but not all states integrate their 401 certification process with NPDES permit issuance. As related to SWR-5 above, please clarify whether the State of California will require a separate Section 401 certification for license renewal of DCP, independent of NPDES permit renewal, and indicate PG&E's plans and associated timeframe for providing the NRC with required CWA Section 401 documentation from the State.

PG&E Response to RAI SWR-6

The current NPDES permit for DCPD contains findings requiring compliance with applicable water quality standards, as well as specific prohibitions, effluent limitations and receiving water limits to meet those standards. These findings and limits evidence compliance with Section 401 of the Clean Water Act by establishing compliance standards for the plant's discharges. Thus, compliance with Clean Water Act and state-specific water quality requirements for the on-going operation of DCPD is governed directly through the NPDES permit. PG&E expects that the NPDES permit issued for DCPD operations during the renewal period will contain similar findings.

As discussed in ER Section 4.2, CCRWQCB issued a NPDES permit (CA0003751) to PG&E in 1990. The permit was due to expire in 1995 and has since been in administrative extension. PG&E provides a summary of the NPDES permit status for DCPD in PG&E's response to RAI SWR-5.

RAI SWR-7

Provide copies of any NOV's, nonconformance notifications, or related infractions received from regulatory agencies associated with NPDES permitted discharges, sanitary sewage systems, groundwater or soil contamination, including spills, leaks, and other inadvertent releases of fuel solvents, chemicals, or radionuclides received to date (covering past 5 years inclusive of 2015). Include correspondence of self-reported violations to responsible agencies.

PG&E Response to RAI SWR-7

DCPD incurred only one self-reported violation of environmental regulations or associated permit criteria within the last 5 years inclusive of 2015. No environmental regulatory agency initiated NOV's or Notices of Non-Compliance (NOCs) have been received by the facility during that same period.

The single self-reported violation involved an NPDES permitted discharge effluent event in 2010 (previously provided to NRC under ADAMS Accession No. ML110740022). On April 29, 2010, the power plant chemical drain tank was discharged with oil and grease at 30 mg/L resulting in an exceedance of the NPDES permit LRW Pathway 001D oil and grease daily maximum limit of 20 mg/L by 50 percent. This event was determined to be a mandatory minimum penalty discharge violation for a Category 1 Pollutant (Effluent Violation for Group 1 Pollutant) in accordance with California Water Code Section 13385.

RAI SWR-8

Provide copies of NPDES annual reports on discharge monitoring for DCPD covering the last 5 years (2010-2014). Include associated transmittal correspondence with the Water Quality Control Board(s). When available, provide the 2015 report for docketing.

PG&E Response SWR-8

Copies of DCPD NPDES annual reports on discharge monitoring for 2010 through 2014, including associated transmittal correspondence with the CCRWQCB are provided on the Enclosure 3 CD-1 folder SWR-08 as shown in the table below. PG&E will provide a copy of the DCPD NPDES annual report on discharge monitoring to the NRC upon submittal to the CCRWQCB.

CD-1 Folder SWR-08 Non-Proprietary Documents	
File Name	File Size (KB)
2010 NPDES Annual Discharge Monitoring.pdf	7,470
2011 NPDES Annual Discharge Monitoring.pdf	136
2012 NPDES Annual Discharge Monitoring.pdf	4,766
2013 NPDES Annual Discharge Monitoring.pdf	15,361
2014 NPDES Annual Discharge Monitoring.pdf	6.089

RAI SWR-9

As described in Section 2.3 of the ER and cited elsewhere, please clarify the use of the Raw Water Reservoirs and relation to other plant systems, including the Ultra Pure Water Facility observed during the environmental site audit. Clarify how the reservoirs are filled/maintained. Include information on size, capacity, and nature of construction.

PG&E Response to RAI SWR-9

The two onsite raw water storage reservoirs (RWSRs) are located adjacent the ISFSI at approximately the 311-ft topographical elevation (approximately 226 ft above the 85-ft level of the DCPD turbine building). Each reservoir, designated east and west, has a capacity of 2,500,000 gallons for an aggregate site raw freshwater storage capacity of 5,000,000 gallons. The RWSRs are supplied with product water from the seawater reverse osmosis system, and additionally with groundwater withdrawn from the site deep well. On average, raw freshwater supplied to the RWSRs is approximately 87.5 percent reverse osmosis product and 12.5 percent well water (Reference PG&E's response to RAI GWR-1).

The RWSRs are treated with chlorine bleach (sodium hypochlorite) to reduce growth and accumulation of algae or other organic contaminants including bacteria and fungus. Target concentration for the routine chemical treatment is 2 to 5 parts per

million (ppm) sodium hypochlorite. Each reservoir is additionally drained and manually cleaned approximately twice per year. The cleanings occur on a frequency of 6 to 8 months dependent on plant reserve water requirement, and the availability of the primary raw freshwater supply source; i.e. reverse osmosis unit production train availability. During cleanings, one reservoir is drained and cleaned then placed back into service. The other reservoir is then subsequently drained and cleaned. Prior to cleaning, reservoir storage volume is lowered through normal consumption in conjunction with termination of inflow. The remaining heel left after exhausting normal draw-down capabilities is either transferred via a temporary submersible pump to the other reservoir, and/or drained to wastewater discharge.

The cleaning process involves wash-down and removal of contaminating dirt and debris that becomes deposited on both the slanted sides and flat bottom of the interior liner, followed by liner inspection and repair as necessary. As the reservoirs are not covered or otherwise enclosed, the water impoundment surfaces are directly exposed to wind-blown dust and dirt that become chronic contaminants necessitating the periodic cleanings.

Evaporation losses occur from the reservoirs due to continual exposure to open air, sunlight, and wind, with seasonal influences impacting the rate of evaporation during any given period. Conversely, rainfall immediate to the reservoirs is captured as another freshwater resource.

Reservoir construction involved excavation of the native shale-based rock and soil at the location followed by final shaping and lining of the immediate excavation by installation of a concrete-based gunite-type application. An impervious polyurethane inner liner is then installed to provide a watertight sealing over the underlying structural base. The liner is intended to significantly reduce or eliminate volume losses due to leaks-to-ground. An additional felt-like material layer was originally placed between the gunite material and polyurethane inner liner to reduce potential for damage due to abrasion of the watertight liner from movement, which can occur during reservoir draining and filling, as well as disturbance during cleaning activities. The inner liners periodically require minor repair for tears or imperfections discovered during cleanings and inspection, and have required full replacement previously due to in-service wear and tear in conjunction with long-term degradation caused by exposure to the elements.

The water depth within the reservoirs when completely filled is approximately 10.5-ft deep with the upper surface at the 309-ft elevation and bottom at 298.5-ft elevation. The reservoirs are irregular shaped with a maximum width of approximately 185 ft and maximum length of approximately 270 ft.

Raw freshwater from the RWSRs is used for three functions: (1) supply for power plant primary and secondary systems makeup, (2) supply for the site domestic water system, and (3) firewater supply for DCPD and overall plant site. The west reservoir

serves primarily as the freshwater resource for the firewater system. The east reservoir is normally the preferential source for the drinking water system and power plant makeup pre-treatment. However, either reservoir can be drawn from to supply freshwater to any of the three primary consumptive uses.

Raw freshwater originating from either the SWRO unit or onsite deep well can also be directed to either the west or east reservoir as required. Routinely, water supplied to each reservoir from the SWRO unit is conditioned by adding groundwater extracted from the deep well (Reference PG&E's response to RAI GWR-1.).

The volumes of raw freshwater supplied to the reservoirs from both reverse osmosis production and groundwater withdrawal, as well as volumes of water drawn from the reservoirs and routed to each of the primary consumption functions, are documented by month in CEC-Form 1304 data submittals (Reference PG&E's response to RAI SWR-1). Freshwater routed to power plant makeup supply is treated and ultra-purified in the MWTF located just northwest of the reservoirs at the same elevation. Plant makeup water processing and production represents the bulk of reservoir raw freshwater consumption on a monthly and annual basis.

The MWTF implements several processes in series to generate ultra-pure water for power plant primary and secondary make-up. These processes include reverse osmosis, resin bed filtration, and de-gasification. Product water generated is effectively stripped of contaminating dissolved salts and minerals, as well as a large percentage of dissolved oxygen. The system is the primary consumer of site freshwater resources stored within the raw water reservoirs.

A significant portion of freshwater input into the system becomes brine reject. The brine is generated during the reverse osmosis portion of the purification process. The mineral laden brine is discharged as a wastewater effluent to the power plant seawater once-through cooling circulating system. The process stream discharge occurs within the power plant turbine building sump, as authorized by the facility NPDES permit [Wastewater Discharge Path 001G].

The amount of power plant makeup water produced on a monthly and annual basis, in addition to brine reject effluent volumes generated and discharged, are provided in CEC Form-1304 Schedule 3 Part-A supporting data sheets (Reference PG&E's Response to RAI SWR-1). The following summary table provides volumes of product water, brine reject, and the percent of site freshwater resources consumed by the process on an annual basis for the period 2012 through 2015:

DCPP Make-Up Water Treatment Facility (MWTF) Ultra-Pure Water Production							
Year	MWTF Raw Freshwater Input		Ultra-Pure Make-Up Water & Brine Wastewater				
	Annual Volumes		Annual Volumes			Averaged Daily Volumes	
	Total	% Consumption	Ultra-Pure	Brine Reject		Ultra-Pure	Brine
	H2O Input	of Site Supply	Product	Discharge 001G		Product	Reject
	Gallons	%	Gallons	Gallons	%	Gallons	Gallons
2012	125,127,980	83.6%	87,477,300	37,650,680	30.1%	239,664	103,153
2013	132,135,162	86.5%	90,194,300	41,940,862	31.7%	247,108	114,906
2014	134,479,316	90.6%	93,019,200	41,460,116	30.8%	254,847	113,589

RAI SWR-10

The NRC staff understands that PG&E has initiated plans to provide San Luis Obispo city and county with water produced by DCP's desalinization facility (discussed in Section 2.9.1 of the ER). Provide a status summary of this effort including that status of any delivery agreement(s), project timeframes, and the water volume and rate to be supplied for public use, etc.

PG&E Response to RAI SWR-10

DCPP's desalination facility is licensed to produce as much as 1.5 million gallons a day of non-potable water. DCP uses an average of 356,500 gallons per day to provide the majority of freshwater for plant primary and secondary systems makeup, fire protection system source water, and plant domestic potable water system supply.

On May 5, 2015, PG&E entered into a 5-year agreement with SLO County to use the DCP desalination facility's excess capacity to provide the county's Office of Emergency Services with non-potable water to reduce the impact of using local water supplies to fight wildfires. The Office of Emergency Services will determine how to transport the water to needed areas.

On August 25, 2015, the SLO County Board of Supervisors unanimously approved two recommendations to conduct feasibility studies evaluating the potential use of excess non-potable water from the DCP desalination facility as a new water source for surrounding communities.

The first recommendation directed staff to engage potential stakeholders in the Santa Maria and Los Osos groundwater basins regarding drought relief opportunities presented by the DCP desalination facility.

The second recommendation directed county staff to move forward on a parallel track to develop, in concert with PG&E, an emergency project to make desalinated

water available to South County communities in the event of continued drought conditions.

The volume and rate to be supplied for public use is projected to be between 500 and 1000 acre-feet per year of non-potable water, and method of delivery is a new pipeline (currently being designed) from the DCPD SWRO facility to a county agency water main just outside the DCPD front gate. It is envisaged that the county will provide the treatment facility to make the water potable.

RAI SWR-11

In Section 3.1.2.1 of the ER, the discussion of the seawater intake system provides a range of flow rates relative to the circulating water pumps. Please provide the rated capacities of each of the pumps for Units 1 and 2. As also discussed in the cited section, please verify the rated capacity of each of DCPD's auxiliary saltwater system pumps.

PG&E Response to RAI SWR-11

The design flow for each of the circulating water pumps is 433,500 gpm.

As stated in ER Section 3.1.2.1 (page 3.1-3), each auxiliary saltwater (ASW) pump is rated at 11,500 gpm.

RAI SWR-12

DCPD's NPDES permit (included as attachment B to the ER) lists a Sanitary Wastewater Treatment System. Provide an updated summary discussion of this package treatment plant and include capacity and current treatment demand, the pathways for treated effluent disposal, and the method of sludge disposal.

PG&E Response to RAI SWR-12

The facility sanitary wastewater treatment system receives and processes all domestic sewage generated on the power plant industrial site. Maximum design flow-through of the system is 40,000 to 60,000 gallons per day (0.04-0.06 million gallons per day). Actual daily flow-through volumes are well below the design flow, averaging 17,861-gallons per day for the period 2012 through 2014 (reference data tables provided below). The system provides intermittent cycle extended aeration system treatment. The unit consists of a compartmentalized concrete vault incorporating pumps to move materials between compartments, electric motor driven blower aeration equipment and associated compressed air dispersion piping, and control/timer systems to operate periodic aeration, settling, decanting, and pumping cycles.

A schematic of the system is provided on the Enclosure 3 CD-1 folder SWR-12 as shown in the following table.

CD-1 Folder SWR-12 Non-Proprietary Document	
File Name	File Size (KB)
SWR-12 DCPP Wastewater Treatment Unit Schematic.pdf	37

The schematic depicts the three primary chambers of the sewage processing unit which include a raw sewage influent compartment (pre-react tank), the main treatment tank (MT), and the sludge holding tank. Influent moves from the initial receiving compartment into the MT where aeration treatment, solids settling, and liquid decant occurs. Aeration promotes aerobic biological digestion.

In general, treatment incorporates forced aeration followed by solids settling, and decant of the upper liquid layer after solids settling. Decanted effluent is discharged to the power plant ASW system OTC flow. The unit wastewater discharge is authorized and monitored in accordance with the power plant NPDES permit.

The decant is routed via gravity flow to an intermediate concrete cistern and lift station. The effluent is then pumped to the Unit 2 ASW discharge piping vacuum breaker. In the event the primary route is unavailable (lift station emergent equipment issue or planned maintenance) the effluent will overflow the concrete cistern and gravity feed to the SWRO brine/backwash discharge line which routes to the Unit 1 ASW forebay at the plant intake structure. This alternate routing results in a similar dilution process and same final discharge along with the seawater flow. As at least one ASW train for each unit is in continuous operation, the configuration insures that sewage treatment effluent is always combined with and diluted by circulating seawater prior to outfall to receiving waters regardless of whether or not plant main cooling water pumps are operating. The rated flow of each ASW pump is 11,500 gpm. Discharge from the unit ASW systems combine, along with circulating seawater from operating plant main cooling water pumps, within the power plant discharge structure prior to final outfall to receiving waters. During routine plant conditions therefore, the sewage effluent is significantly diluted before final outfall.

Settled sludge from the sewage treatment process is pumped from the MT to the sludge holding tank. Within the sludge holding tank, periodic aeration continues to promote further aerobic biological digestion of accumulated solid waste materials, as well as to reduce the potential for development of anaerobic conditions. Between aeration cycles, the accumulated sludge is settled and dewatered, with the dewatering effluent returned to the MT.

Resultant accumulated sludge is periodically removed via tanker truck, and transported offsite for bio-solids compost recycling and disposal. Currently, the offsite receiving facility for this material is Liberty Composting, Inc., Lost Hills California. Annual volumes for sludge shipped offsite from the treatment unit are

provided in the following table for the period 2012 through 2014. Daily average volumes in gallons and pounds are also provided.

Sewage Unit Sludge Removal (Offsite Recycling/Disposal)				
Year	Annual Total Volume		Averaged Daily Volume	
	Gallons	Pounds	Gallons	Pounds
2012	212,984	1,776,287	584	4,867
2013	218,880	1,825,480	600	5,001
2014	214,525	1,789,320	588	4,902

System decant effluent discharge volumes via NPDES permit Pathway 001N are provided in CEC Form-1304 Schedule 3 Part-A supporting data tabulated by monthly and annual total volumes (Reference PG&E's response to RAI SWR-1). The annual total volumes as well as averaged daily volumes for the period 2012 through 2014 are provided in the following table.

Sewage Unit Decant Effluent (Discharged via NPDES Pathway 001N)		
Year	Annual Total Volume (gallons)	Averaged Daily Volume (gallons)
2012	6,237,000	17,088
2013	6,730,000	18,438
2014	5,944,000	16,285

Total system through-put volume (decant effluent and sludge) for the period 2012 through 2014 is shown in the following table.

Sewage Unit Total Process Volumes (Effluent & Sludge)		
Year	Annual Total Volume (gallons)	Averaged Daily Volume (gallons)
2012	6,449,984	17,671
2013	6,948,880	19,038
2014	6,158,525	16,873

RAI SWR-13

In support of the NRC staff's surface water, climate change, and cumulative impacts analyses, provide a summary of available average monthly intake water and return discharge temperature (via NPDES Outfall 001) for the period of record at DCPD and address if an ambient temperature trend has been observed. As part of the response address whether there is any apparent trend in the frequency or annual hours of operation in accordance with Technical Specifications Limiting Conditions for Operation 3.7.9, Condition A.

PG&E Response to RAI SWR-13

Average monthly DCPD intake water and return water temperatures were compiled from publically-available DCPD NPDES Annual Reports for the years 1994 through 2014. The compiled data is provided in the following file on the Enclosure 3 CD-1 folder SWR-13 as shown in the table below.

CD-1 Folder SWR-13 Non-Proprietary Document	
File Name	File Size (KB)
1994-2014 DCPD Intake Discharge Temps.xls	22

To determine if an ambient temperature trend has been observed, PG&E compared the number of months each year that had an average temperature greater than or equal to 60°F. PG&E also compared the highest intake water average monthly temperature for each year. As shown in the table below, there is no observable trend in either the highest intake water average monthly temperature or the number of months that experience average temperatures greater than or equal to 60°F.

Year	Highest Intake Average Monthly Temperature (°F)	No. of Months Average Intake Temperature ≥ 60°F
1994	57.2	0
1995	58.5	0
1996	57.2	0
1997	63.0	3
1998	60.0	1
1999	54.9	0
2000	56.3	0
2001	57.6	0
2002	57.6	0
2003	56.9	0
2004	58.0	0
2005	57.3	0
2006	57.3	0
2007	54.7	0
2008	56.7	0
2009	56.1	0
2010	56.7	0
2011	55.9	0
2012	57.3	0
2013	56.3	0
2014	61.4	2

For the years 1994 through 2014, PG&E compiled the data for entry into Technical Specifications Limiting Conditions for Operation (LCO) 3.7.9, Condition A. PG&E has determined there is no observable intake temperature trend based on comparing the frequency of entry and number of hours per year that DCPD is in LCO 3.7.9, Condition A.

Groundwater Resources

RAI GWR-1

Provide the records supporting the statements in the ER concerning the volume of groundwater consumed.

PG&E Response to RAI GWR-1

Data for facility freshwater resources is provided within CEC Form 1304 Schedule 3 Part-A submittals (provided in PG&E's response to RAI SWR-1) specifically; "Freshwater Resources (SWRO Product and Well Output)."

The data from 2010 through 2014 for groundwater withdrawal volumes is presented as a percentage of total site freshwater resources in the table below. On average, well water withdrawals account for approximately 12.5 percent of total site freshwater resources annually, with reverse osmosis production providing the balance. As stated in ER Section 2.2.2, "the well is intended only for use as a supplemental freshwater resource." Actual groundwater withdrawal, as percentage of total freshwater resources available for facility consumption, demonstrates this level of use.

Well water is used primarily as backup for the SWRO system freshwater production in the event that system is unavailable, as well as for chemical conditioning (introduction of low-levels of dissolved inorganic compounds) of the overall site freshwater supply. Raw reverse osmosis system product water has been observed to be slightly corrosive to metal (particularly carbon steel or iron) water conveyance and treatment system components without this conditioning.

DCPP Freshwater Resources (CEC-Form 1304 Data) In Gallons			
Year	Total Freshwater (gallons)	Well Water (gallons)	Well % of Total
2014	148,403,497	17,929,990	12.1%
2013	152,724,297	21,400,000	14.0%
2012	149,704,776	21,100,000	14.1%
2011	145,546,125	13,410,000	9.2%
2010	138,093,059	17,650,000	12.8%
Average	146,894,351	18,297,998	12.5%

RAI GWR-2

Submit a copy of the following document for docketing:

b) "Diablo Canyon Power Plant, Water Resources Evaluation Phase II Report: Well Rehabilitation, Monitoring Well Installation, and Aquifer Testing", by ENTRIX, August 22, 2008.

PG&E Response to RAI GWR-2

The requested document is provided on the Enclosure 3 CD-1 folder GWR-02 as shown in the table below.

CD-1 Folder GWR-02 Non-Proprietary Document	
File Name	File Size (KB)
ENTRIX 2008 DCPD Water Resources Eval Phase II Report.pdf	6,758

Terrestrial Resources

RAI TER-1

Approximately how many acres of land does the "Diablo Canyon Lands" (the DPCC site, North Ranch, and South Ranch, collectively) encompass? Within the DPCC site, how many acres are non-disturbed, natural areas?

PG&E Response to RAI TER-1

As discussed in ER Section 2.1, PG&E controls approximately 12,000 acres of land known as the Diablo Canyon Lands. The Diablo Canyon Lands encompass the plant site, North Ranch, and South Ranch. A geographic information systems analysis was used to estimate a total area of disturbance of approximately 360 acres within the DCPD site. Using the reported acreage of the DCPD site cited in the ER of 750 acres, 390 acres of the land is undisturbed. Refer to PG&E's response to RAI HC-1 for a description of how the area of disturbance was calculated and a map that depicts areas deemed undisturbed.

RAI TER-2

Section 2.4.3 of the ER describes important state natural communities that are "considered unique or sensitive within California." Clarify whether these natural communities are considered unique or sensitive by the State, another organization, the scientific community, etc.

PG&E Response to RAI TER-2

The sensitive community types found on the Diablo Canyon Lands are recognized by the State of California, Department of Fish and Wildlife (CDFW 2015). PG&E's Land Stewardship program identified and mapped six State-designated rare vegetation communities during the initial biological surveys performed in the early 1990s throughout the Diablo Canyon Lands. Maps of these communities are found in the sensitive species inventory report document (PG&E 1995). Classification and mapping was based on the work by Robert Holland (1986). Dr. Holland identified 125 communities statewide that he considered rare enough to merit inclusion in the California Natural Diversity Database (CNDDB) inventory. These types were subsequently incorporated into the CNDDB, however the Holland (1986) classification system is no longer officially supported by the California Department of Fish and Wildlife (CDFW) website Natural Communities - Background Information (2015). The current list of natural communities of California includes a rarity ranking code. The CDFW considers communities with a State ranking of S3 or higher to be rare. Each of the six community types referred to above is currently ranked S3 or higher.

RAI TER-3

Do the Diablo Canyon Lands contain habitats designated as "environmentally sensitive habitat areas" as defined by the California Coastal Act of 1976, as amended? If so, describe the location, species composition, and any other important characteristics of these areas.

PG&E Response to RAI TER-3

Section 30107.5 of the California Coastal Act defines "Environmentally sensitive area" as any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The six community types identified by PG&E in its inventory of sensitive plants and wildlife of the DCPD Lands (PG&E 1995) may qualify as environmentally sensitive under the California Coastal Act. The inventory document describes each of these community types in detail including location maps, species composition, local endangerment factors and management recommendations.

RAI TER-4

*In the ER, Amendment 1, Table 2.4-1 states that "multiple surveys from 2005 through 2011 failed to identify a nesting colony" of tricolored blackbirds (*Agelaius tricolor*). To what surveys is the ER referring?*

PG&E Response to RAI TER-4

ER, Amendment 1, Table 2.4-1 refers to the annual monitoring of special status species performed in support of the Point Buchon Trail Public Access Program from 2006 through 2012 (PG&E 2006; 2013).

RAI TER-5

*In the ER, Amendment 1, Table 2.4-1 states that the burrowing owl (*Athene cunicularia*) is believed to be “nearly extirpated as a breeding species in coastal San Luis Obispo County.” What is the source of this information?*

PG&E Response to RAI TER-5

The source of this information is the report prepared for the CDFW titled, *California Bird Species of Special Concern*, published in 2008 (Reference 1 below). That report quotes from another source, Comrack and Mayer (2003), concerning the lack of breeding in coastal SLO County as follows, “The Burrowing Owl has declined in Monterey County, with small populations remaining near Salinas and King City. It has been nearly extirpated as a breeding species from coastal SLO, Santa Barbara, Ventura, Los Angeles, and Orange counties.”

Reference:

- (1) Gervais, J. G., et al. 2008. Burrowing Owl (*Athene cunicularia*). In: Shuford, W. D., and Gardali, T., (editors). *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California*. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

RAI TER-6

*In the ER, Amendment 1, the “Record of Occurrence” column in Table 2.4-1 states that there is a record of occurrence for the silvery legless lizard (*Anniella pulchra pulchra*), but the “Occurrence Potential” column states that multiple survey results for the species have been negative. Clarify this seemingly contradictory information.*

PG&E Response to RAI TER-6

The positive occurrence record is a reported sighting near the mouth of Coon Creek by the caretaker of the Fields property (also known as North Ranch), Mr. Tom Tolman (deceased); date unknown (prior to 1990), as reported in PG&E (1995). Recent surveys have not been able to identify this species in this location, which is the only suitable habitat on the Diablo Canyon Lands.

RAI TER-7

In the ER, Amendment 1, the "Record of Occurrence" column in Table 2.4-1 states that there is a record of occurrence for the southern rubber boa (Charina umbratica), but the "Occurrence Potential" column states that survey results for the species have been negative. Clarify this seemingly contradictory information.

PG&E Response to RAI TER-7

The positive occurrence record is a reported sighting along a tower line access road east of the DCPD site, by the caretaker of the Fields property (also known as North Ranch), Mr. Tom Tolman (deceased); date unknown (prior to 1990). Surveys conducted in suitable habitat areas of the property in 1991 and 1992 (PG&E 1995) were not able to identify this species. Rubber boas were reported in 2006 and 2010 from Montana de Oro State Park, located to the north of the Diablo Canyon Lands (Nafis 2015) and represent a disjunct occurrence outside the range of either the northern or the southern species of rubber boa in California. A 2010 reported sighting was accompanied by a photograph of the species. *C. umbratica* occurs in the "northern part of the South Coast Range" which may include Montana de Oro State Park. However, to date, a positive determination of the taxonomy of the coastal SLO population has not been made.

RAI TER-8

Describe how PG&E assesses and mitigates any environmental effects of new ground-disturbing activities or other new site activities that could affect terrestrial habitats or species.

PG&E Response to RAI TER-8

PG&E does not maintain a specific site procedure for assessing the potential impacts or mitigating the adverse effects of new ground disturbing activities. In lieu of a topic-specific plant procedure, consideration of ground disturbing activities is integrated into multiple proceduralized processes and actions in response to issues identified as implement as applicable. This includes procedures for design change development, LBIE, work planning, and supplemental interface (contractor work coordination). Sections from plant administrative procedures that integrate the consideration of environmental risk for activities such as excavation or related ground disturbances are provided.

Potential for adverse impacts from ground disturbing activities are generally identified during the environmental portion of an LBIE screen conducted for a proposed facility design change and associated implementation project. Adverse environmental impacts could include disturbance of a known or suspected archeologically sensitive location, potential for soils or other contaminant transport in

stormwater run-off during project physical work or materials stockpiling, or possible increase in the rates of erosion in a location resulting from grading or the removal of existing ground cover. Actions to further evaluate and mitigate concerns identified are subsequently integrated into the project implementation plan.

RAI TER-9

Briefly describe how non-industrial, previously disturbed, or landscaped areas of the site are maintained.

PG&E Response to RAI TER-9

PG&E does not have a landscape maintenance procedure for the plant site. Vegetation management procedures employed around the transmission line corridors within the plant site generally follow procedures presented in the PG&E document titled, "Transmission Vegetation Management Program," Version 2, 2008.

Special Status Species and Habitats

RAI SSH-1

In an Information for Planning and Conservation (IPaC) Report dated May 12, 2015 (ADAMS Accession No. ML15132A423), the U.S. Fish and Wildlife identified a number of Federally listed species that are not addressed in the ER. Provide any available information on potential habitat, occurrence, or sightings of the following species:

- a) *Blunt-nosed leopard lizard (Gambelia sila)*
- b) *California clapper rail (Rallus longirostris obsoletus)*
- c) *California jewelflower (Caulanthus californicus)*
- d) *Giant kangaroo rat (Dipodomys ingens)*
- e) *Kerm primrose sphinx moth (Euproserpinus euterpe)*
- f) *Marbled murrelet (Brachyramphus marmoratus)*
- g) *Pismo clarkia (Clarkia speciosa spp. immaculate)*
- h) *Salt marsh bird's-beak (Chloropyron maritimum ssp. maritimum)*
- i) *Spreading navarretia (Navarretia fossalis)*
- j) *Vernal pool fairy shrimp (Branchinecta lynchi)*

PG&E Response to RAI SSH-1

None of the species identified in the cited IPaC report are known to occur on the Diablo Canyon Lands (PG&E 1995; 2006; and SLO 2003).

Some of the species identified in the cited IPaC report are known to be associated with or are potentially associated with the transmission line corridors (GANDA 2008). Others (e.g., clapper rail and marbled murrelet) have no habitat within the

transmission line corridors. In accordance with the revised GEIS (NUREG-1437, Revision 1, Reference 8), since the transmission lines discussed in the Federal Environmental Statement would remain energized regardless of a license renewal decision, the transmission lines that connect the DCP switch yard to the regional transmission system are no longer in the scope of the license renewal environmental review.

RAI SSH-2

*In the ER, Amendment 1, Table 2.4-1 states that multiple survey results have been negative for the California least tern (*Sternula antillarum browni*). However, the NRC staff was unable to find information indicating that past ecological studies actively surveyed for this species. Explain what surveys have been done for this species.*

PG&E Response to RAI SSH-2

Specific surveys for California least tern have not been performed on the Diablo Canyon Lands due to a general lack of suitable habitat. The only habitat considered even potentially suitable for this species within the project area is a small beach located near the mouth of Coon Creek. Typically, California least tern nest in colonies made up of 25 adult pairs on relatively open beaches kept free of vegetation and that have limited human disturbance (USFWS 2006). Coon Creek Beach is the only beach open to recreational use on the Diablo Canyon Lands, and is utilized by hikers on the Point Buchon Trail during the nesting season. This area was surveyed annually from 2005 through 2011 as part of the Point Buchon Trail Public Access Program (PG&E 2006; 2013) and was included in the biological assessment prepared by the City of SLO for the Coon Creek Culvert Replacement and Fish Passage Enhancement Project in 2003 (SLO 2003). Although surveys specifically targeting California least tern have not been performed, surveys for other coastal riparian species including western snowy plover, willow flycatcher, least Bell's vireo, and silvery legless lizard (each a designated element of the long-term monitoring effort) would have revealed this species. To date, no California least tern are known from the Diablo Canyon Lands.

RAI SSH-3

*In the ER, Amendment 1, Table 2.4-1 states that long-term monitoring has failed to identify western snowy plover (*Charadrius alexandrinus nivosus*) at Coon Creek beach. To what long-term monitoring is the ER referring?*

PG&E Response to RAI SSH-3

ER, Amendment 1, Table 2.4-1 is referring to the annual monitoring of special status species performed in support of the Point Buchon Trail Public Access Program from 2006 through 2012 (PG&E 2006; 2013).

RAI SSH-4

*In the ER, Amendment 1, Table 2.4-1 states that long-term monitoring has failed to detect least Bell's vireo (*Vireo bellii pusillus*). To what long-term monitoring is the Environmental Report referring?*

PG&E Response to RAI SSH-4

ER, Amendment 1, Table 2.4-1 is referring to the annual monitoring of special status species performed in support of the Point Buchon Trail Public Access Program from 2006 through 2012 (PG&E 2006; 2013).

RAI SSH-5

*In the ER, Amendment 1, Table 2.4-1 states that there is no record of the marsh sandwort (*Arenaria paludicola*) on the Diablo Canyon Lands. However, the NRC staff was unable to find information indicating that past ecological studies actively surveyed for this species. Explain what surveys have been done for this species.*

PG&E Response to RAI SSH-5

The marsh sandwort is known from several locations in SLO County south of the Diablo Canyon Lands. It is associated with perennial freshwater wetlands and marshes. Marginal habitat is found on the Diablo Canyon Lands only at Tom's Pond and the small seasonal lagoon that forms annually near the mouth of Coon Creek. These areas were floristically surveyed for rare plants in 1991 and 1992 (PG&E 1995), 2003 (SLO 2003) and again in 2005 (PG&E 2006). From 2006 through 2012, PG&E included these areas in annual monitoring surveys used to detect effects of public access trail use on sensitive species and other natural and cultural resources (PG&E 2013). *Arenaria paludicola*, though not identified as a target species during these surveys due to lack of suitable habitat, would likely have been detected if present.

RAI SSH-6

*Section 2.5 of the ER, "Threatened and Endangered Species: Aquatic Listed Species," states that blue whale (*Balaenoptera musculus*), sperm whale (*Physeter macrocephalus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), and sei whale (*Balaenoptera borealis*) may be found near DCPD for limited amounts of time. Provide citations for any relevant monitoring studies that provide a basis for this statement. In addition, killer whales (*Orcinus orca*) and North Pacific right whales (*Eubalaena japonica*) could occur near DCPD. Provide any available information on the occurrence or sightings of whales near DCPD.*

PG&E Response to RAI SSH-6

The statement on potential occurrence of whale species near DCPD was based on information on the geographical distributions (Allen et al., 2011) of these animals and incidental observations made during field work related to the TEMP and other studies at DCPD. There are currently no organized sampling efforts related to whales at DCPD. A study on the gray whale (*Eschrichtius robustus*) migration was conducted from 1981 through 1986, but no data on other species of whales were provided in the study reports (Behrens, 1983; Behrens, et al. 1984; Behrens, et al. 1985; Behrens and Shaffer, 1986; and Behrens, 1987).

References:

- (1) Behrens, D.W. 1983. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1981 - 1982 migration. Chapter XIII in Behrens, D.W (ed.), Environmental investigations at Diablo Canyon, 1982. PG&E, Dept. Engr. Res. June, 1983.
- (2) Allen, S. G., J. Mortenson, and S. Webb. 2011. Field Guide to Marine Mammals of the Pacific Coast (California Natural History Guides). University of California Press, Berkeley, California.
- (3) Behrens, D.W., D.J. Sommerville, and D.C. Sommerville. 1984. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1982 - 1983 migration. Chapter VI in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1983. PG&E, Dept. Engr. Res. August, 1984.
- (4) Behrens, D.W., P.A. Dunn, and D.C. Sommerville. 1985. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1983 - 1984 migration. Chapter IX in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1984. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December, 1985.
- (5) Behrens, D.W. and K.E. Shaffer. 1986. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1984 - 1985 migration. Chapter VIII in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1985. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December 1986.
- (6) Behrens, D.W. 1987. Observations of the gray whale migration in the vicinity of Diablo Canyon: 1985 - 1986 migration. Chapter VI in Behrens, D.W. and White, C.O. (eds.), Environmental investigations at Diablo Canyon, 1986. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December 1987.

RAI SSH-7

Section 2.5 of the ER, "Threatened and Endangered Species: Aquatic Listed Species," states that white abalone (Haliotis sorenseni) may be found near DCPD for limited amounts of time. Provide citations for any relevant monitoring studies that provide a basis for this statement. In addition, provide any available information on the occurrence or sightings of this species near DCPD.

PG&E Response to RAI SSH-7

The statement was based on the potential for white abalone larvae to occur within seawater in the vicinity of DCPD. As reported in Hobday and Tegner (2000), the northern geographic distribution of white abalone is Point Conception, and therefore there is low probability that any adult animals would ever occur in the area around DCPD. Although no white abalone were ever observed during the subtidal studies associated with the TEMP, this species of abalone is found at deeper depths (20 to 60 m [66 to 198 ft]) than the depths where most of the field work related to the DCPD TEMP is conducted.

RAI SSH-8

Section 2.5 of the ER, "Threatened and Endangered Species, Tidewater Goby," states that no records of adult tidewater goby (Eucyclogobius newberryi) were found for drainages on the DCPD site. Describe the types of records PG&E searched in order to provide a basis for this statement. In addition, clarify whether any juveniles were observed on site.

PG&E Response to RAI SSH-8

No records were searched in support of this statement because there are no coastal creeks on the DCPD Lands that provide habitat to support tidewater gobies. A fish larva identified as a tidewater goby was collected during sampling in the nearshore areas north of DCPD during the 1996 through 1999 cooling water intake system assessment. It is likely that the larva was a shadow goby (*Quiatula y-cauda*), which are more common, and have larvae that at early life stages are indistinguishable from tidewater goby larvae.

RAI SSH-9

Section 2.5 of the ER, "Threatened and Endangered Species," describes the monitoring results for sea turtles, marine mammals, and black abalone. Provide a summary of the monitoring methods that are specific to sea turtles, marine mammals, and black abalone.

PG&E Response to RAI SSH-9

No specific monitoring is conducted for sea turtles.

As reported in Section 2.5 of the ER, a long-term study on southern sea otters (*Enhydra lutris*) has been conducted since 1974 that includes observations conducted monthly at locations that extend along almost the full extent of the Diablo Canyon lands. Data on pinniped haul-out sites in the vicinity of the DCPD have also been collected (Krenn and Benech, 1987). Currently, data on harbor seals are collected north of the DCPD on the PG&E property south off Coon Creek (North Ranch) to assess the potential for impacts due to public access along the coastal bluff trail that was opened to the public in July 2007. These data are reported in annual reports on the North Ranch Public Access Program.

As reported in Section 2.5 of the ER, data on black abalone are collected as part of the TEMP studies. The monitoring methods for those studies are provided in the annual reports previously submitted for the ongoing RWMP.

RAI SSH-10

Section 4.10 of the ER, "Threatened and Endangered Species," states that PG&E has not identified any impacts to the southern sea otter (enhydra lutris) or the Guadalupe fur seal (Arctocephalus townsendi) from DCPD operations based on extensive monitoring efforts. Provide a basis for this statement, including a summary of monitoring methods and activities and the references of any reports or studies that describe these monitoring efforts.

PG&E Response to RAI SSH-10

The statement relative to Guadalupe fur seal (*Arctocephalus townsendi*) is based on the fact that there is only anecdotal information that this species has ever been observed in the vicinity of the DCPD.

The statement relative to the southern sea otter (*Enhydra lutris*) is based on years of monitoring data showing that this species actively forages in the plant's intake and discharge coves, and utilizes the intake cove as a rafting area during periods when ocean swell conditions make other areas of the coastline less safe. The methods are provided in the reports on the studies referenced below.

References

- (1) Benech, S.V. 1978. Observations of the sea otter, *Enhydra lutris*, population between Coon and Rattlesnake Creeks, January-December 1978. Ecomar, Inc. No. VII-3-78.

- (2) Benech, S.V. and E.W. Colson. 1978. Size and distribution of the California sea otter population in the vicinity of Diablo Canyon Nuclear Power Plant, October 1973 - December 1975. Chapter VIII in Warrick, J.W., E.A. Banuet-Hutton, and L.R. Friedman (eds.), Environmental investigations at Diablo Canyon, 1975-1977, Volume II. PG&E, Dept. Engr. Res. October 1978.
- (3) Benech, S.V. 1979. Size, distribution, and behavior of the California sea otter population in the vicinity of Diablo Canyon Nuclear Power Plant, 1977. Chapter XII in Warrick, J.W. and E.A. Banuet-Hutton (eds.), Environmental investigations at Diablo Canyon, 1975-1977, Volume I. PG&E, Dept. Engr. Res. July 1979.
- (4) Benech, S.V. 1981. Observations of the sea otter *Enhydra lutris* population between Coon and Rattlesnake Creeks. Chapter VII in Behrens, D.W. and E.A. Banuet-Hutton (eds.), Environmental investigations at Diablo Canyon, 1978. PG&E, Dept. Engr. Res. June 1981.
- (5) Benech, S.V. 1982. Observations of the sea otter *Enhydra lutris* population between Coon and Rattlesnake Creeks, January - December 1980. Chapter VI in Behrens, D.W. (ed.), Environmental investigations at Diablo Canyon, 1980. PG&E, Dept. Engr. Res. March, 1982.
- (6) Benech, S.V. 1982. Observations of the sea otter *Enhydra lutris* population between Coon and Rattlesnake Creeks, January - December 1981. Chapter VII in Behrens, D.W. (ed.), Environmental investigations at Diablo Canyon, 1981. PG&E, Dept. Engr. Res. April, 1982.
- (7) Benech, S.V. 1983. Observations of the sea otter *Enhydra lutris* population between Coon and Rattlesnake Creeks, January - December 1982. Chapter XI in Behrens, D.W. (ed.), Environmental investigations at Diablo Canyon, 1982. PG&E, Dept. Engr. Res. June, 1983.
- (8) Benech, S.V. 1984. Observations of the sea otter *Enhydra lutris* population between Coon and Rattlesnake Creeks, January - December 1983. Chapter V in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1983. PG&E, Dept. Engr. Res. August, 1984.
- (9) Benech, S.V. 1985. Observations of the sea otter *Enhydra lutris* population between Point Buchon and Rattlesnake Creek, San Luis Obispo, California, January - December 1984. Chapter VIII in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1984. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December, 1985.

- (10) Benech, S.V. 1986. Observations of the sea otter *Enhydra lutris* population between Point Buchon and Rattlesnake Creek, San Luis Obispo, California, January - December 1985. Chapter VII in Behrens, D.W. and C.O. White (eds.), Environmental investigations at Diablo Canyon, 1985. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December 1986.
- (11) Benech, S.V. 1987. Observations of the sea otter *Enhydra lutris* population between Point Buchon and Rattlesnake Creek, San Luis Obispo, California, January - December 1986. Chapter VII in Behrens, D.W. and White, C.O. (eds.), Environmental investigations at Diablo Canyon, 1986. Volume I - Marine ecological studies. PG&E, Dept. Engr. Res. December 1987.
- (12) Benech, S.V. 1995. Observations of the sea otter, *Enhydra lutris*, population between Point Buchon and Rattlesnake Creek, San Luis Obispo, California, January through December 1994. Benech Biological and Associates, Ventura, CA. (ER Reference 2.59)

RAI SSH-11

Section 4.10 of the ER, "Threatened and Endangered Species," states that PG&E is not aware of sea turtles aggregating near the DCPD discharge area, based on stranding and siting data. Provide a summary of the stranding and siting data that PG&E reviewed to support this statement.

PG&E Response to RAI SSH-11

This statement was made based on the limited number of sea turtles observed in the discharge cove during field operations conducted across several decades for the TEMP studies. There are no known observations of sea turtles ever aggregating in the vicinity of the discharge, and all of the observations of sea turtles in the discharge cove are of single individuals.

As discussed in ER Section 4.10, there have only been a limited number of sea turtle strandings (all of same species and involving only lone individuals) within the power plant intake structure during the operating history of DCPD; corroborating the occurrence of only low abundance of sea turtles in the vicinity of the DCPD overtime.

RAI SSH-12

*Section 4.10 of the ER, "Threatened and Endangered Species," describes the likely presence of steelhead trout (*Oncorhynchus mykiss*), tidewater goby, green sturgeon (*Acipenser medirostris*), and coho salmon (*Oncorhynchus kisutch*) in the vicinity of the intake cover and potential impacts from impingement and entrainment. Provide a description of any known occurrences of these species near the discharge in Diablo*

Cove and potential direct and indirect effects to these species as a result of the thermal effluent.

PG&E Response to RAI SSH-12

This statement was made based on the reported distribution of these species. There are no records of any of these species occurring in Diablo Cove or the control locations north and south of the facility during any of the sampling done for the TEMP studies.

RAI SSH-13

Submit a copy of the following documents for docketing:

a) SLO. 2003. *Coon Creek Culvert Replacement and Fish Passage Enhancement Project, Biological Assessment*. City of San Luis Obispo, California. 20 pp.

b) Behrens, D.W. 1983. *Observations of the gray whale migration in the vicinity of Diablo Canyon: 1981 - 1982 migration*. Chapter XIII in Behrens, D.W (ed.), *Environmental investigations at Diablo Canyon, 1982*. PG&E, Dept. Engr. Res. June, 1983.

c) Behrens, D.W., D.J. Sommerville, and D.C. Sommerville. 1984. *Observations of the gray whale migration in the vicinity of Diablo Canyon: 1982 - 1983 migration*. Chapter VI in Behrens, D.W. and C.O. White (eds.), *Environmental investigations at Diablo Canyon, 1983*. PG&E, Dept. Engr. Res. August, 1984.

d) Behrens, D.W., P.A. Dunn, and D.C. Sommerville. 1985. *Observations of the gray whale migration in the vicinity of Diablo Canyon: 1983 - 1984 migration*. Chapter IX in Behrens, D.W. and C.O. White (eds.), *Environmental investigations at Diablo Canyon, 1984*. Volume I - *Marine ecological studies*. PG&E, Dept. Engr. Res. December, 1985.

e) Behrens, D.W. and K.E. Shaffer. 1986. *Observations of the gray whale migration in the vicinity of Diablo Canyon: 1984 - 1985 migration*. Chapter VIII in Behrens, D.W. and C.O. White (eds.), *Environmental investigations at Diablo Canyon, 1985*. Volume I - *Marine ecological studies*. PG&E, Dept. Engr. Res. December 1986.

f) Behrens, D.W. 1987. *Observations of the gray whale migration in the vicinity of Diablo Canyon: 1985 - 1986 migration*. Chapter VI in Behrens, D.W. and White, C.O. (eds.), *Environmental investigations at Diablo Canyon, 1986*.

PG&E Response to RAI SSH-13

The requested documents are provided on the Enclosure 3 CD-1 folder SSH-13 as shown in the table below.

CD-1 Folder SSH-13 Non-Proprietary Documents	
File Name	File Size (KB)
Chap IX_Observations of the gray whale migration in the vicinity of DCPD_1983-1984 migration. Behrens, DW.pdf	4,781
Chap VI_Observations of the gray whale migration in the vicinity of DCPD_1982-1983 migration. Behrens, DW.pdf	12,415
Chap XIII_Observations of the gray whale migration in the vicinity of DCPD_1981-1982 migration. Behrens, DW.pdf	18,164
Chapter VI_Observations of the gray whale migration in the vicinity of DCPD_1985-1986 migration. Behrens, DW.pdf	13,033
Chapter VIII_Observations of the gray whale migration in the vicinity of DCPD_1984-1985 migration. Behrens, DW.pdf	8,343
SLO 2003 Coon Creek Bio Assessment.pdf	6,554

Figure AIR-7-1

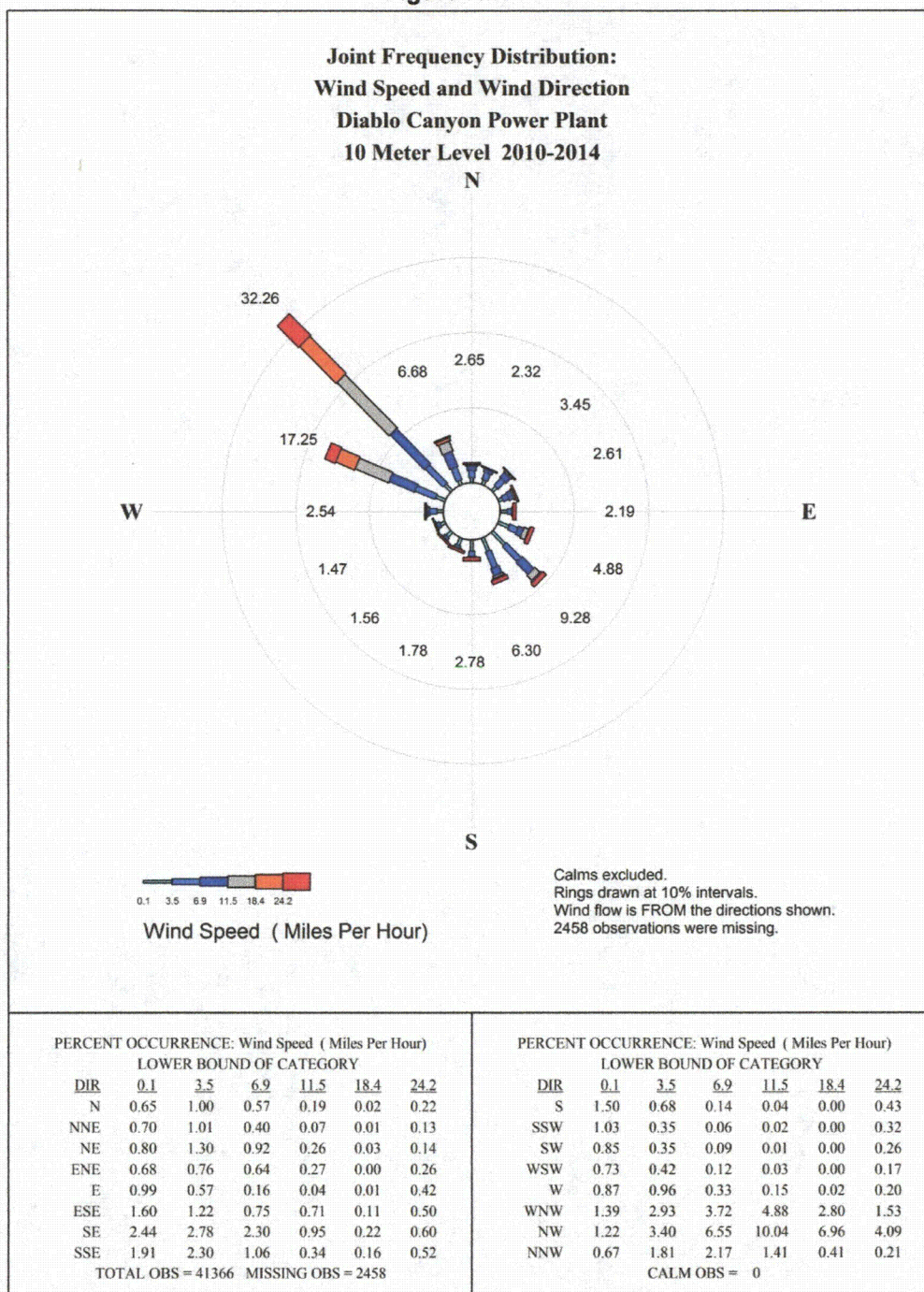


Figure AIR-7-2

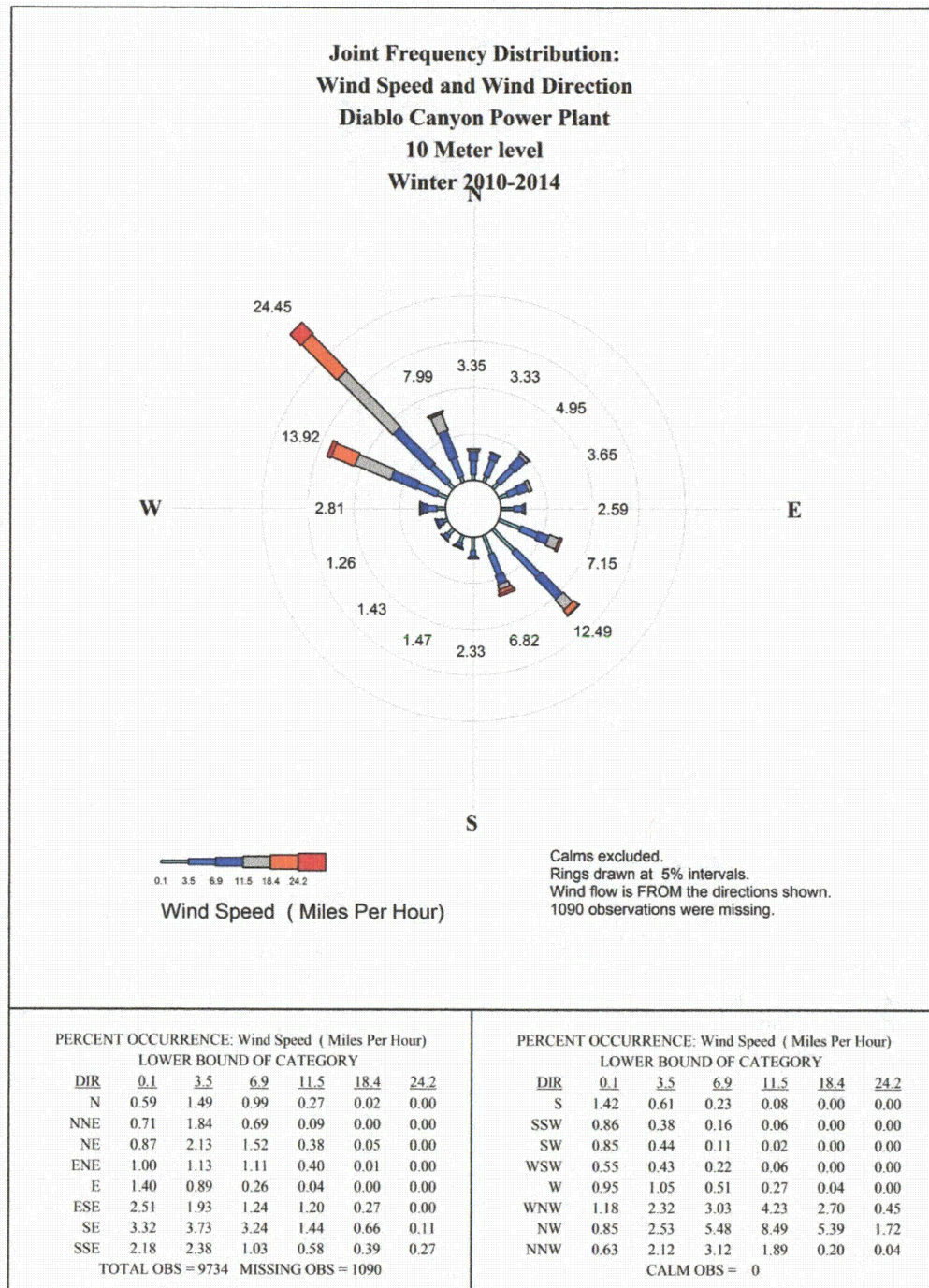


Figure AIR-7-3

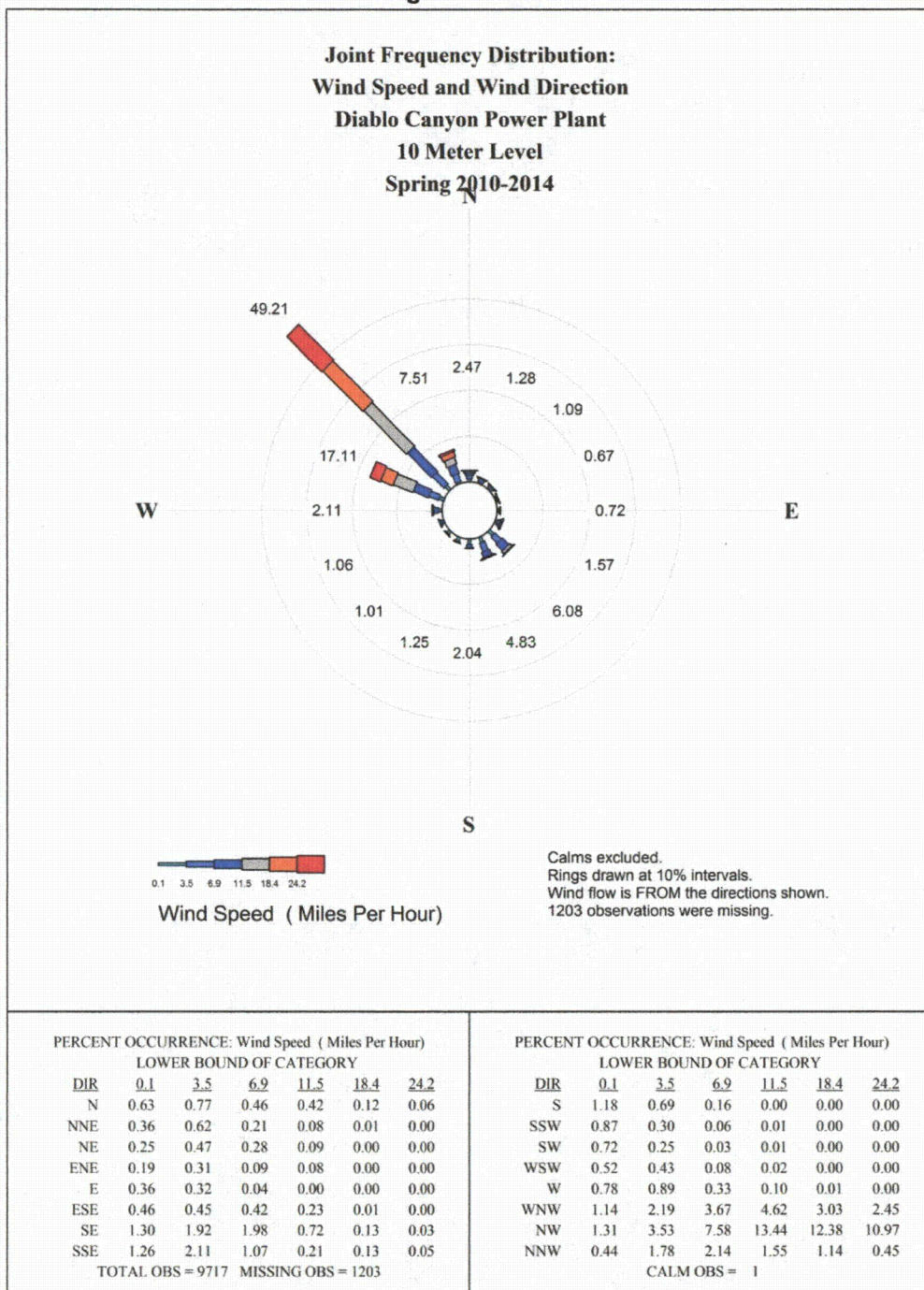


Figure AIR-7-4

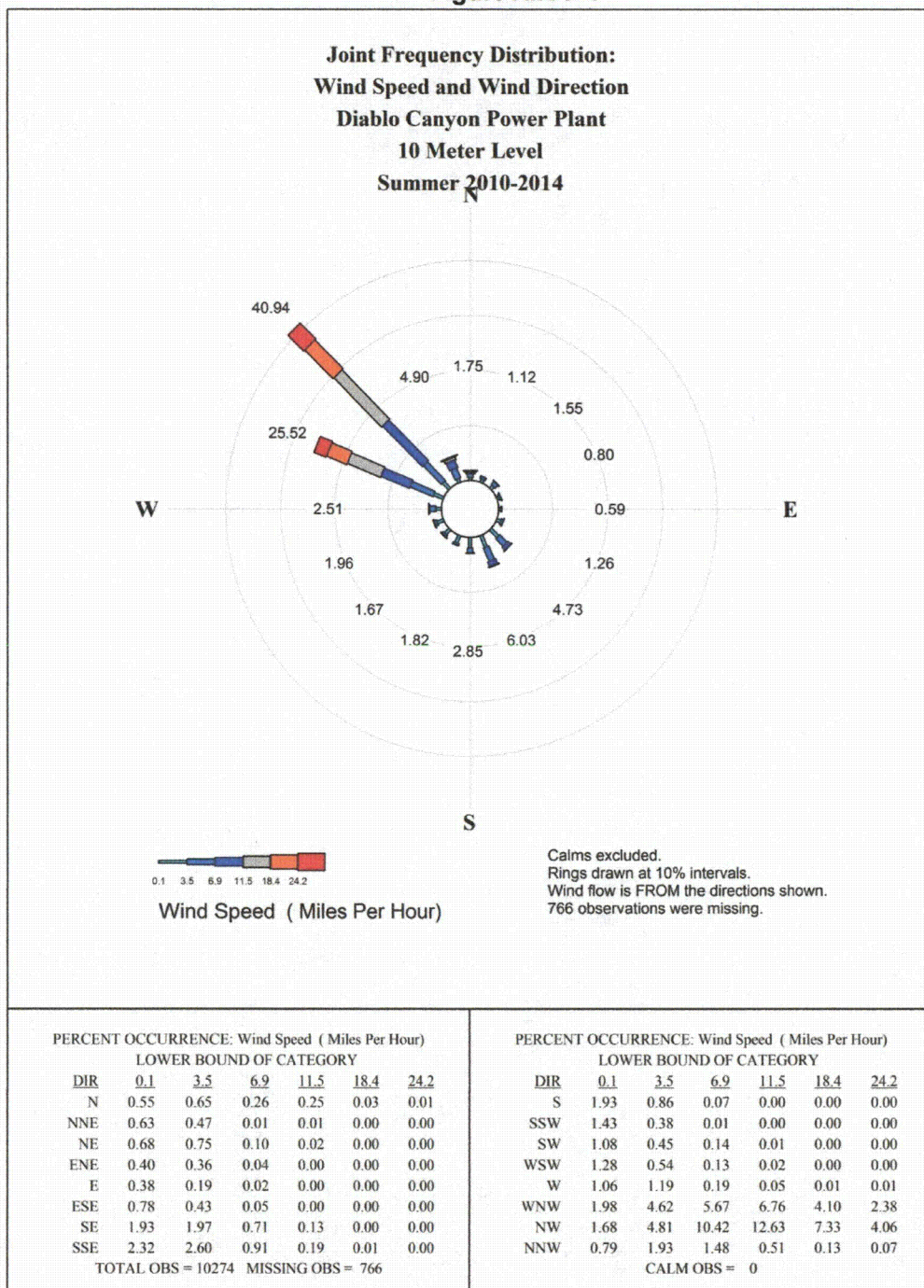
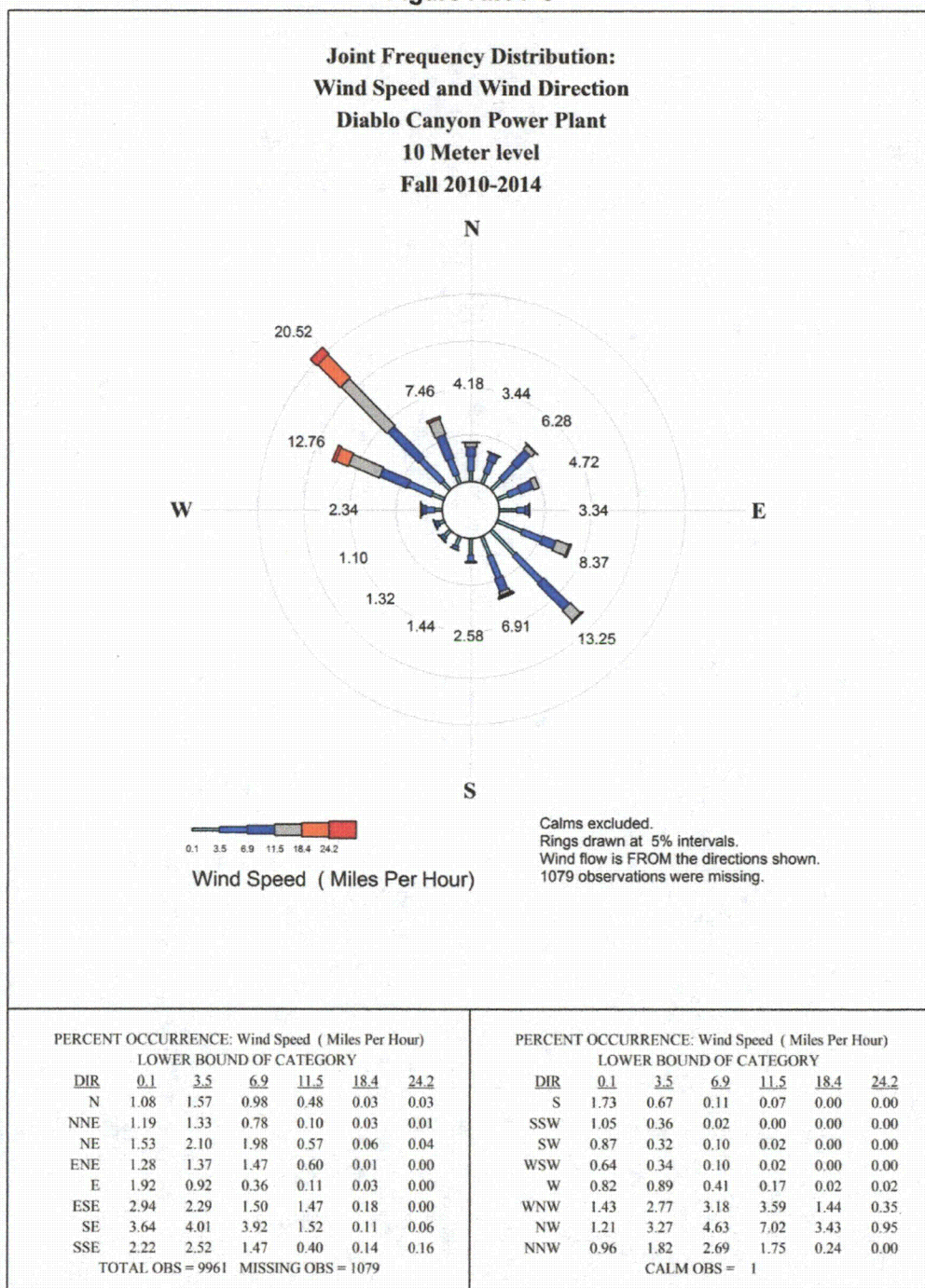
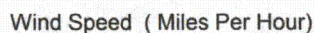


Figure AIR-7-5



**Joint Frequency Distribution:
Wind Speed and Wind Direction
Diablo Canyon Power Plant
10 Meter Level
Winter 2010**



Calms excluded.
Rings drawn at 5% intervals.
Wind flow is FROM the directions shown.
245 observations were missing.

TOTAL OBS = 1915 MISSING OBS = 245

CALM OBS = 0

Figure AIR-7-7

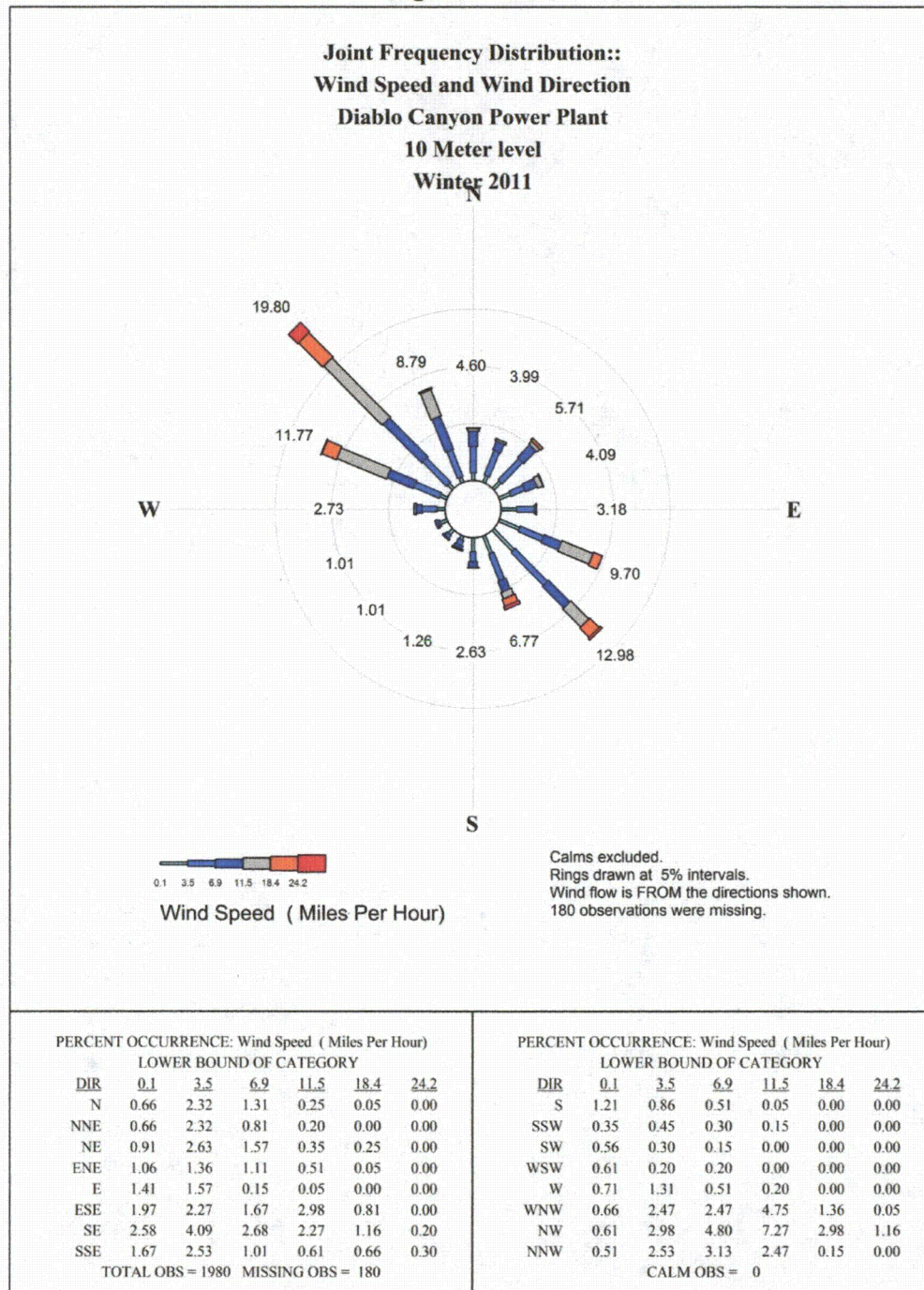


Figure AIR-7-8

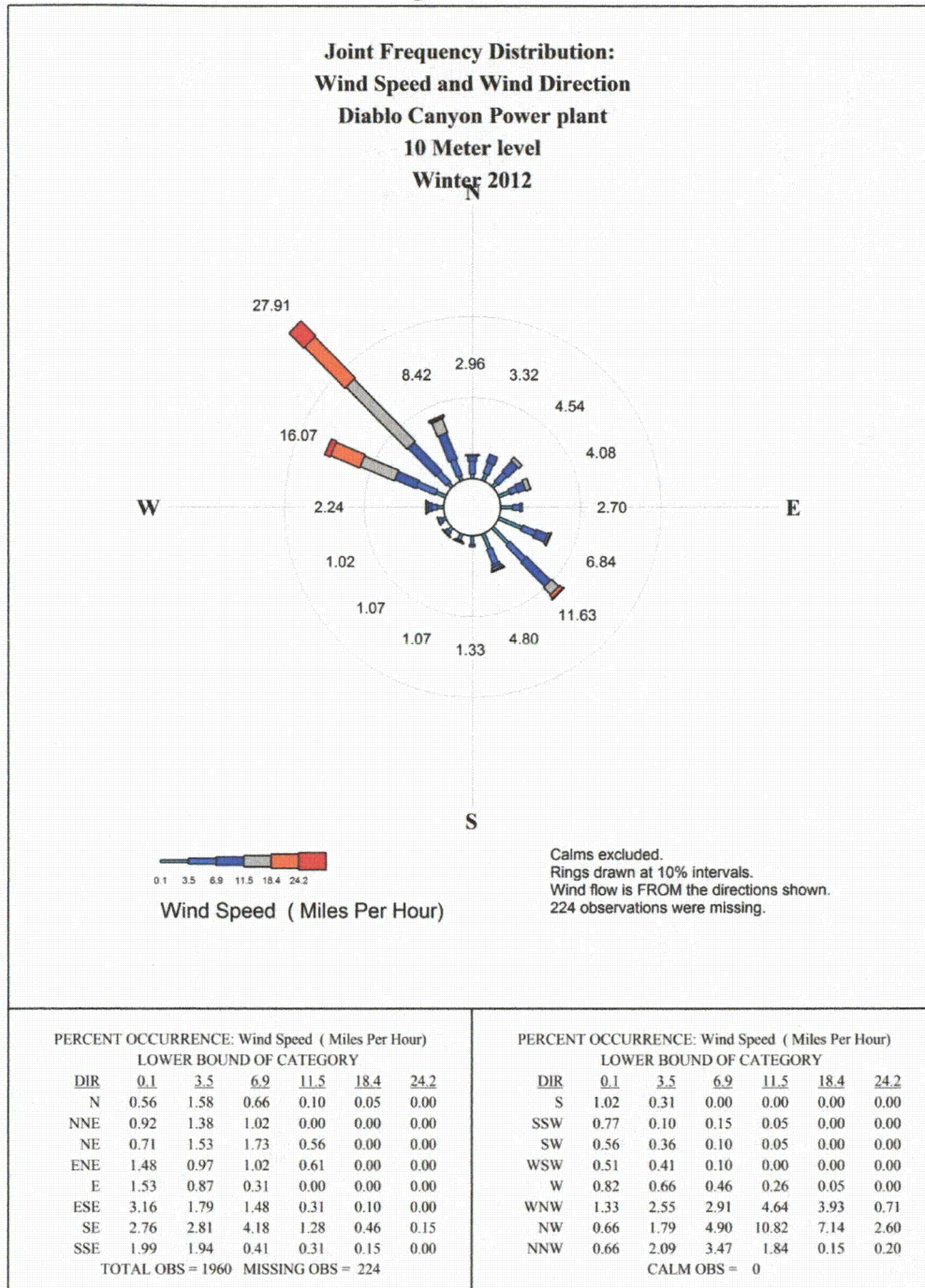


Figure AIR-7-9

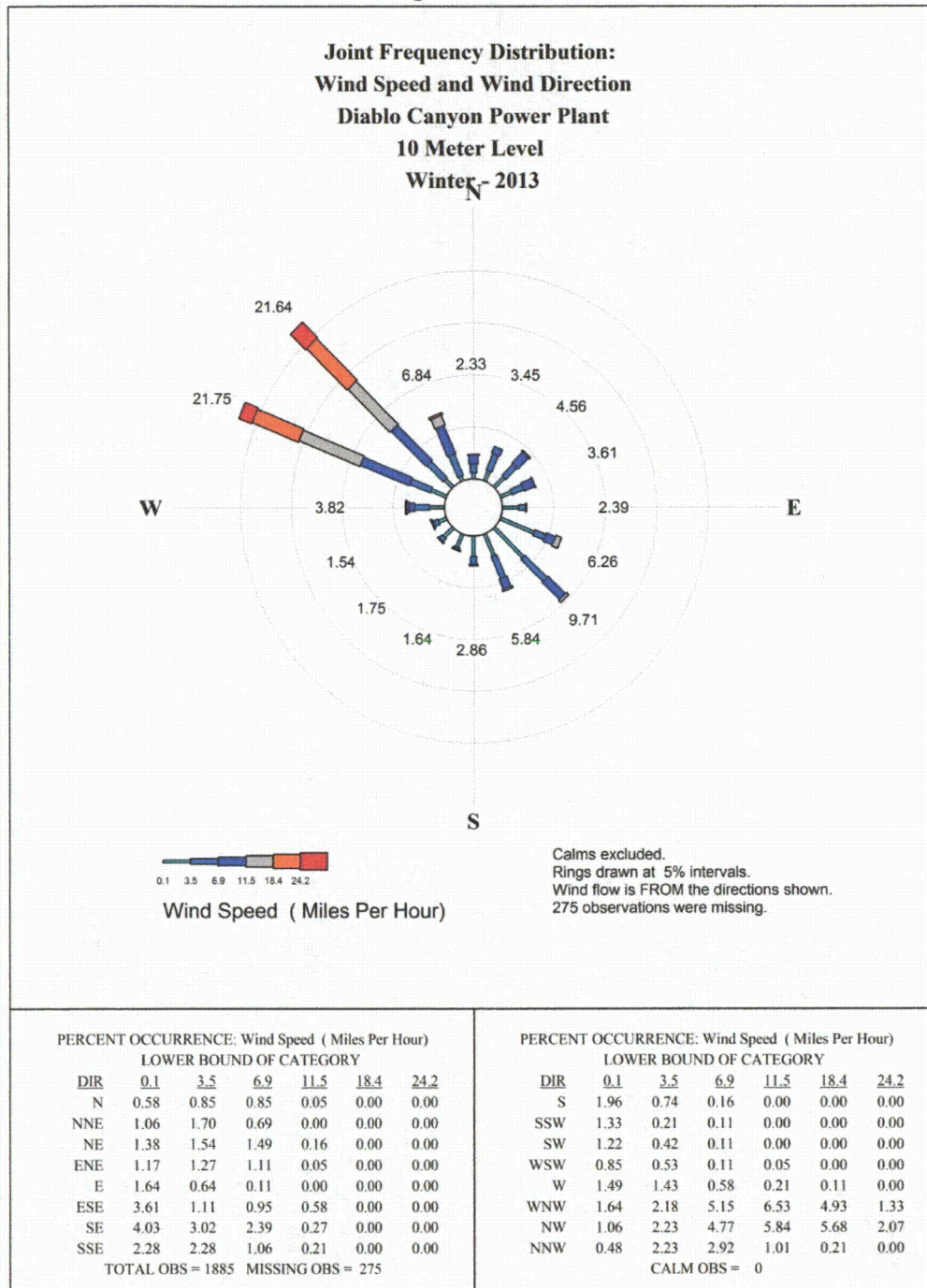


Figure AIR-7-11

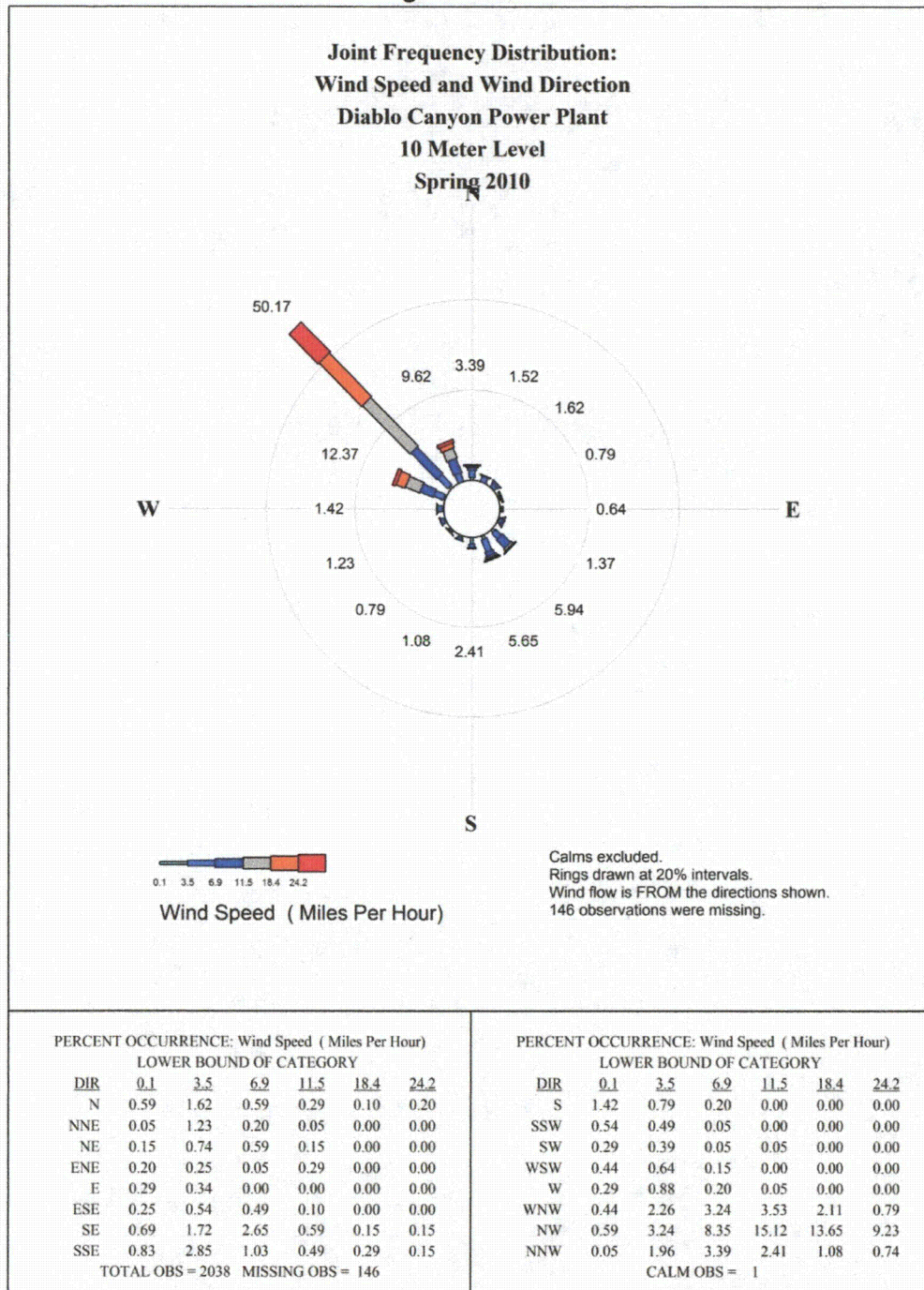


Figure AIR-7-12

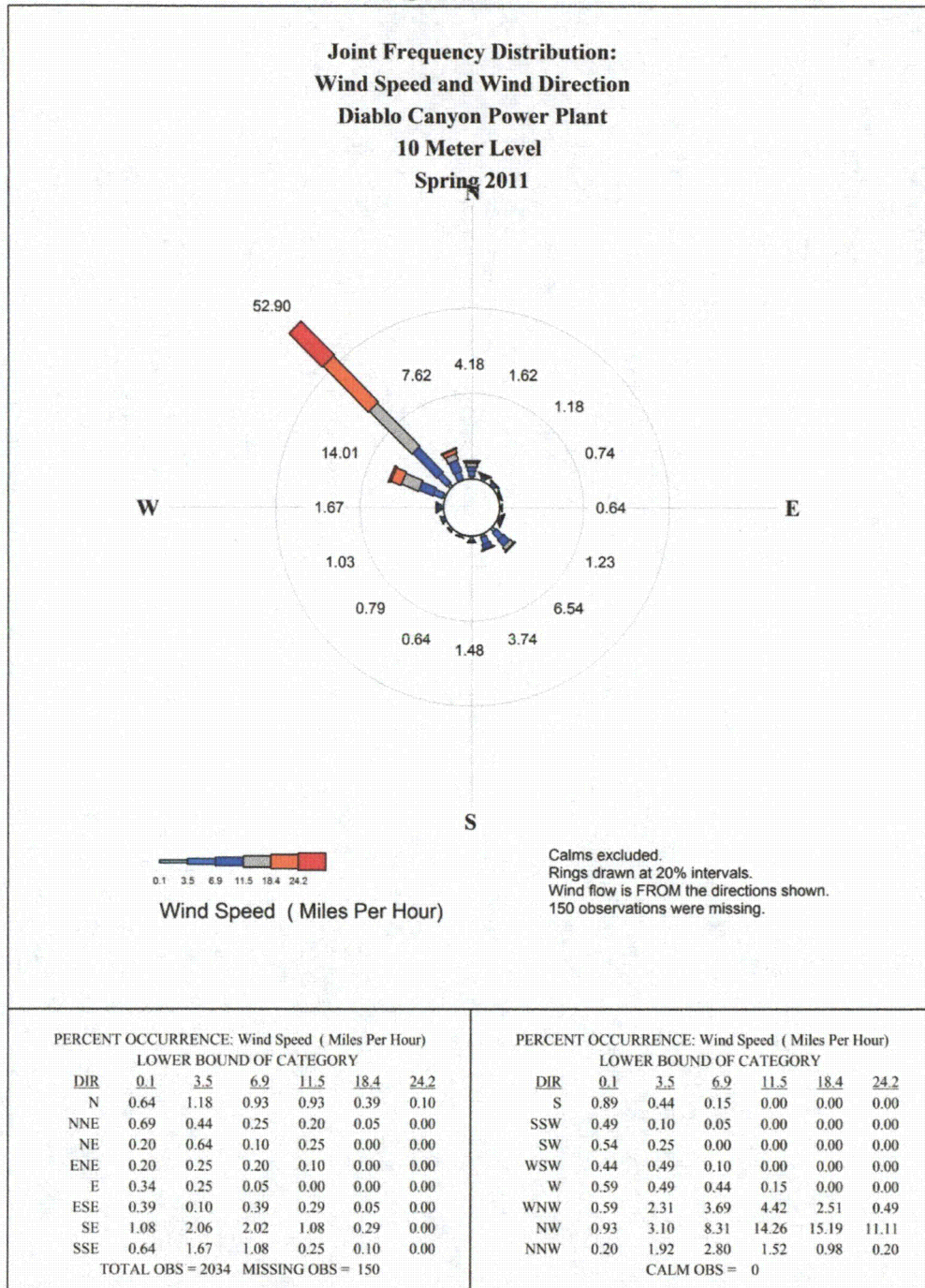


Figure AIR-7-13

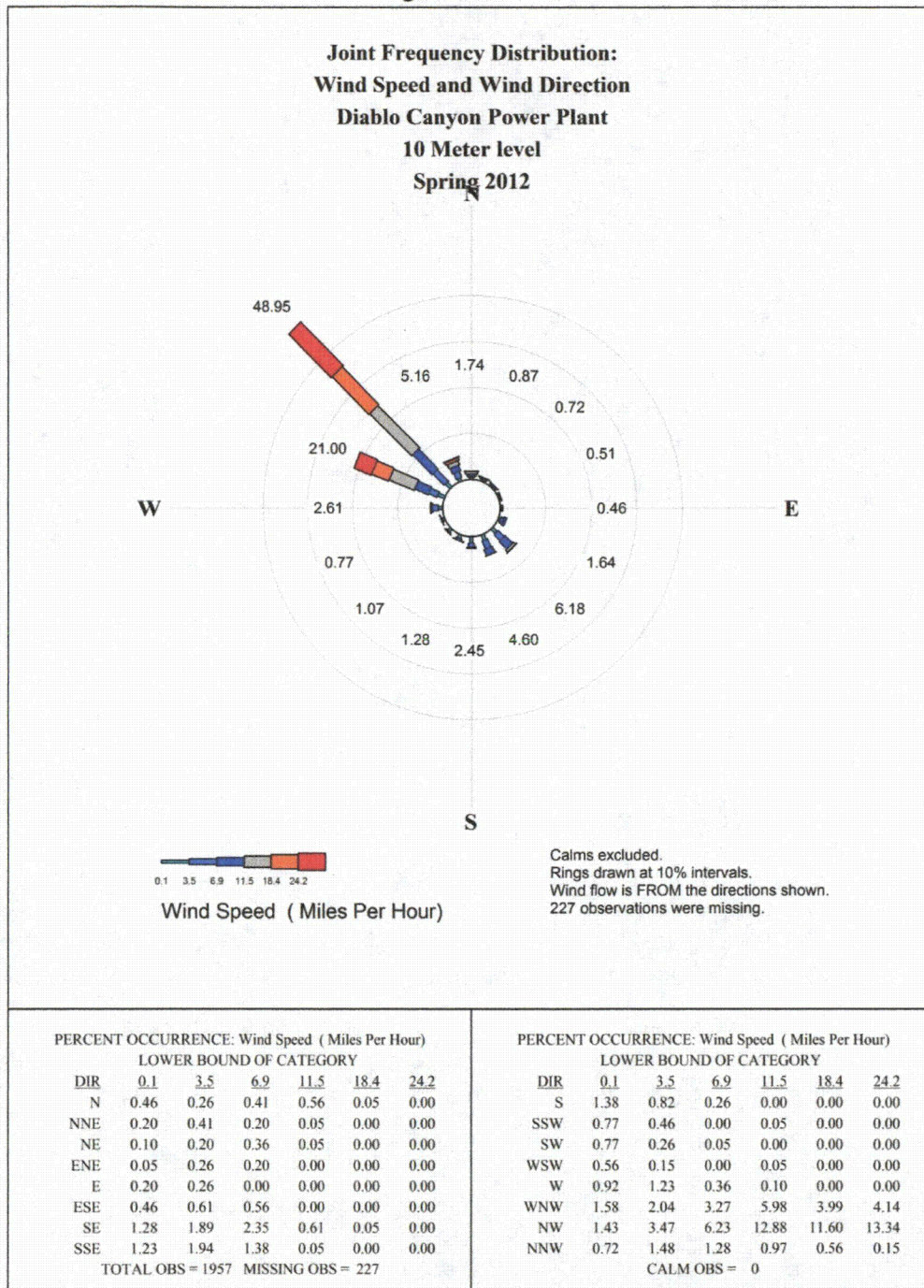


Figure AIR-7-14

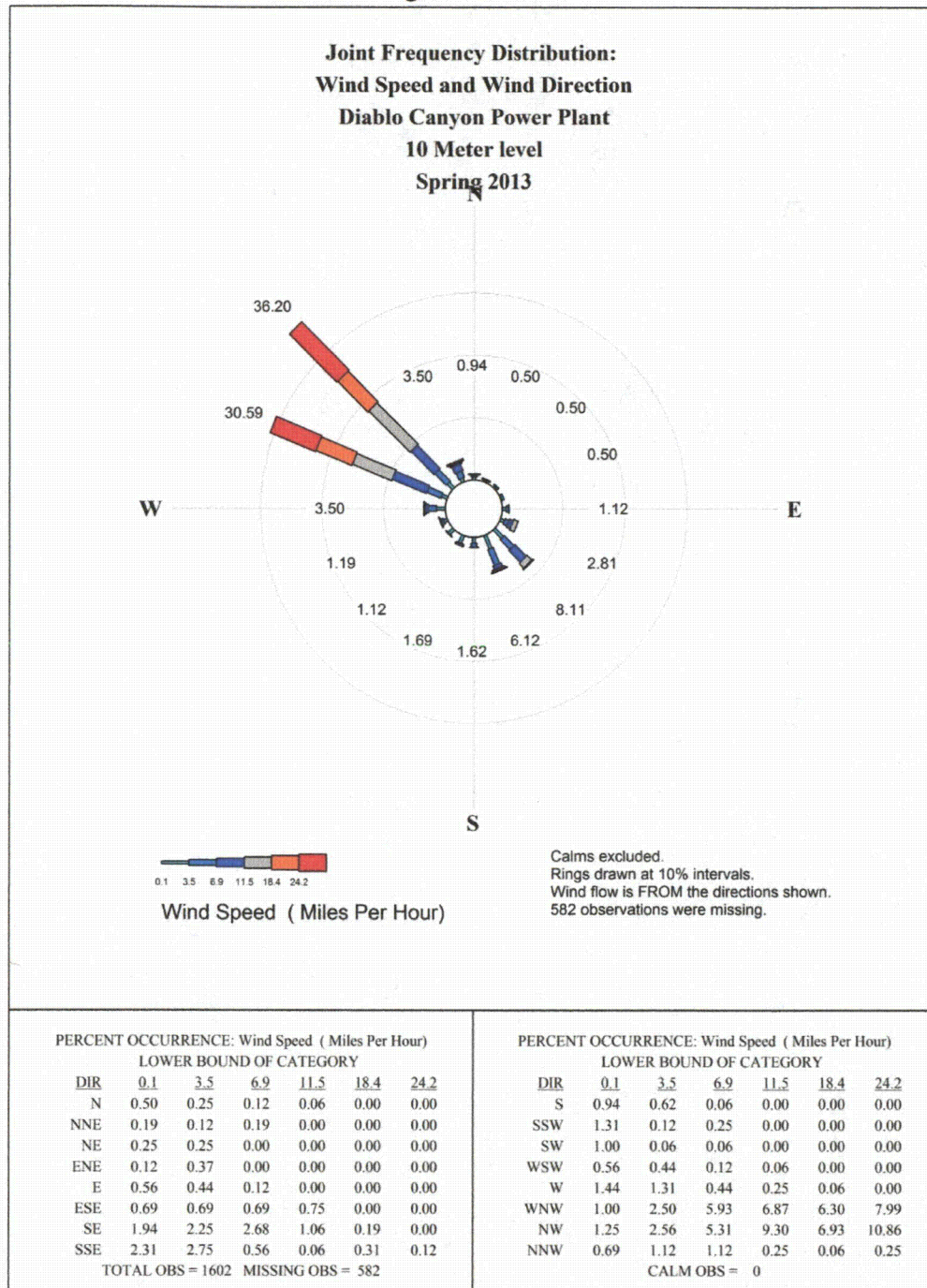


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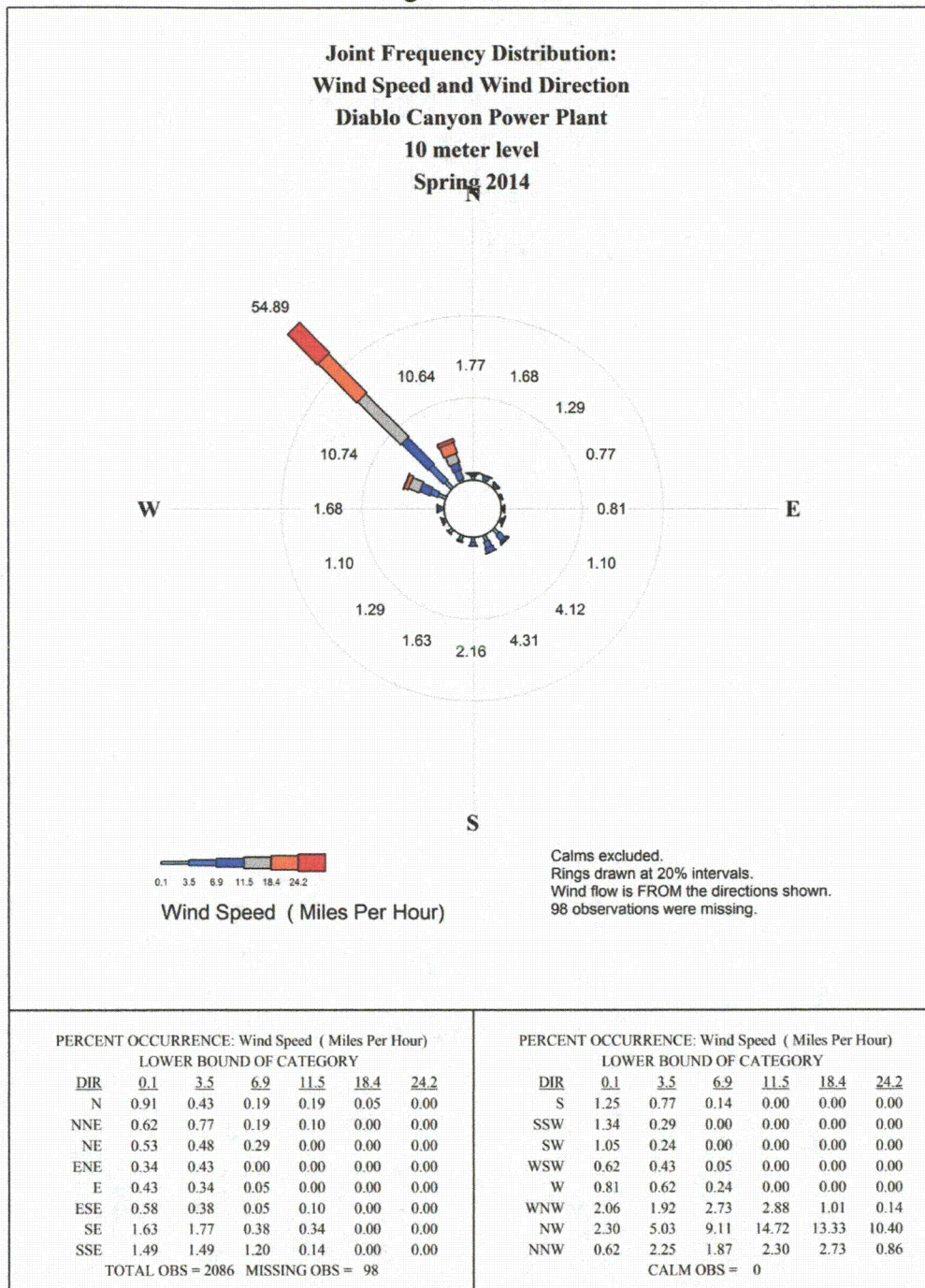


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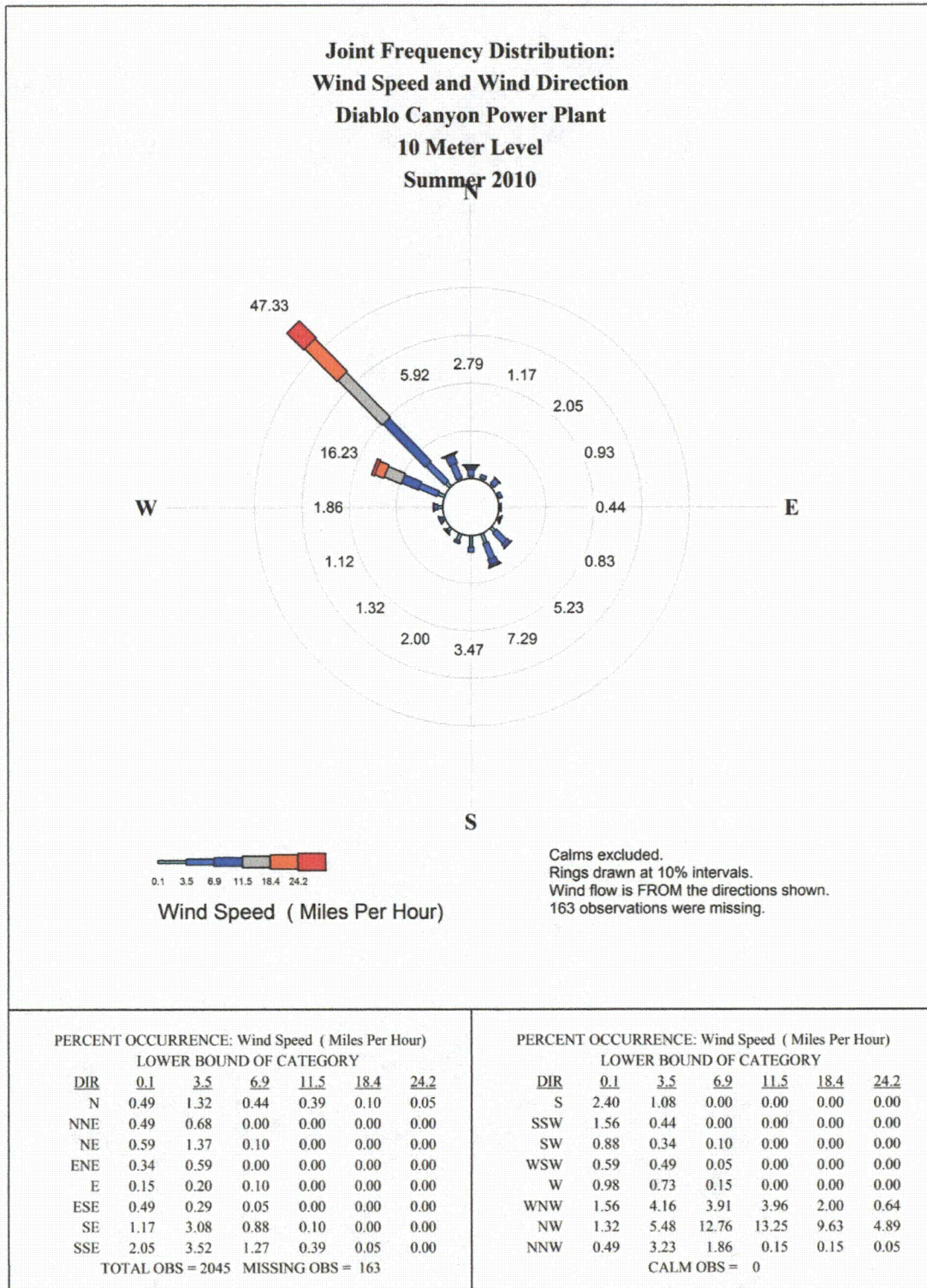


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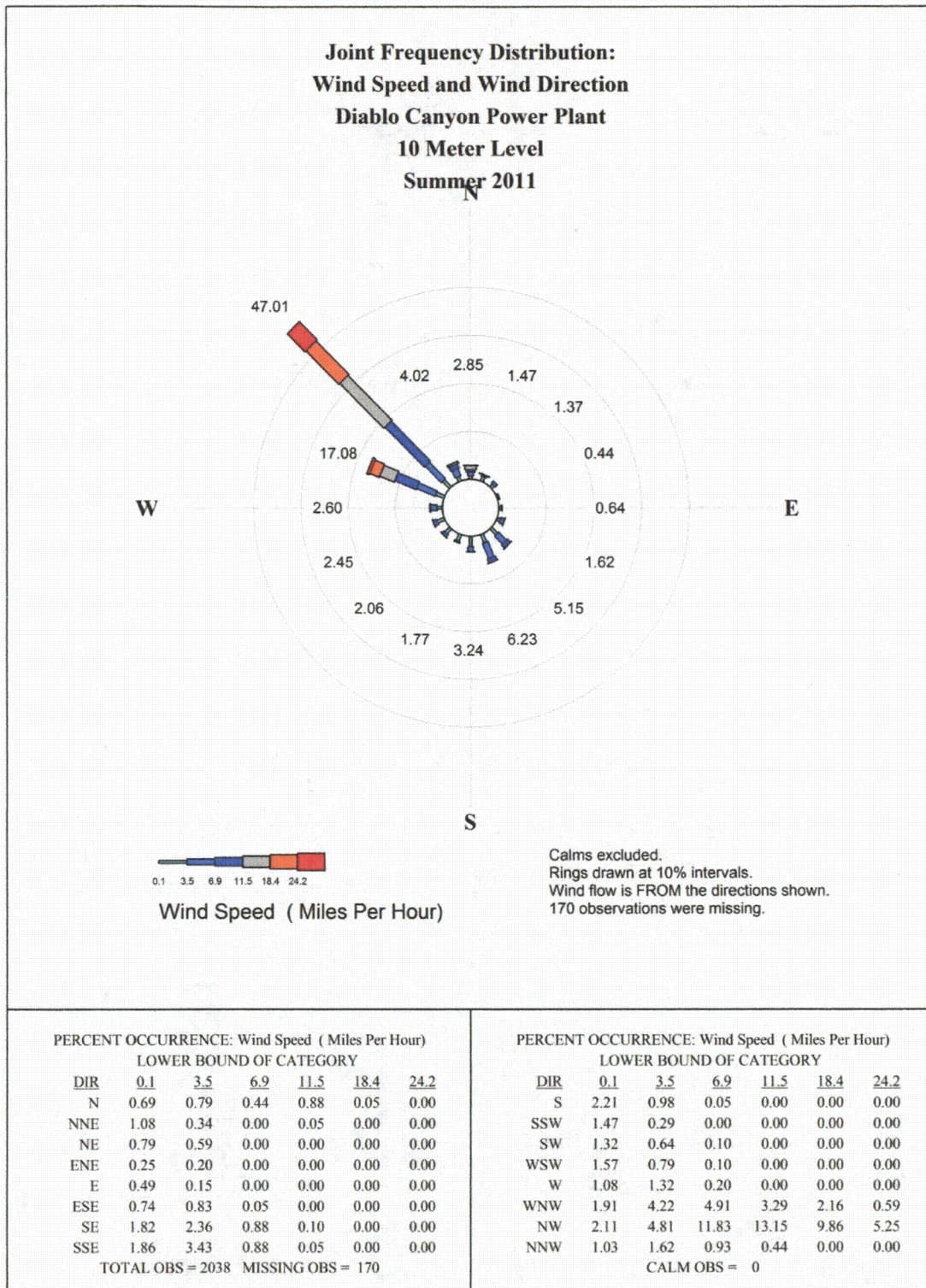


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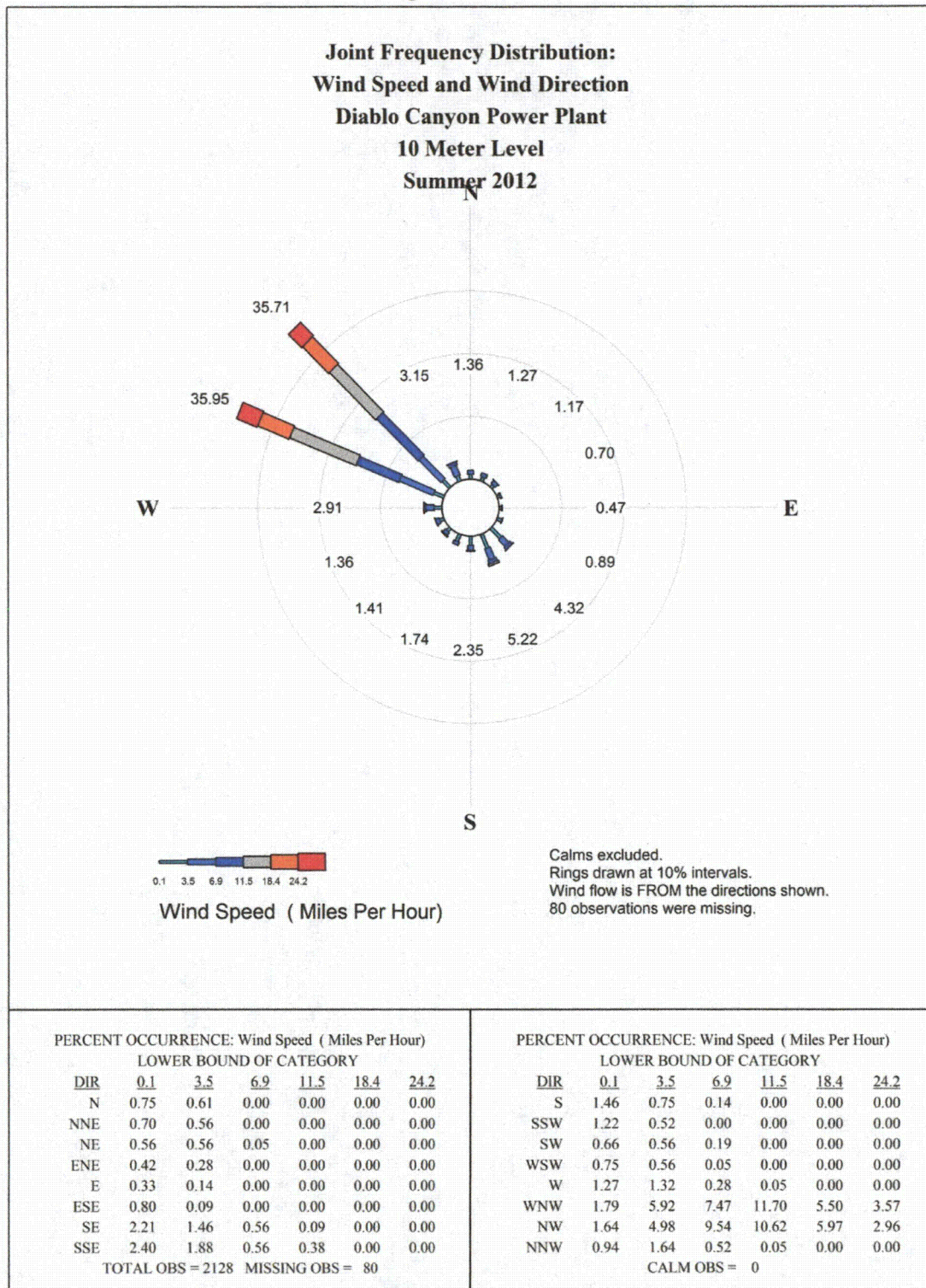


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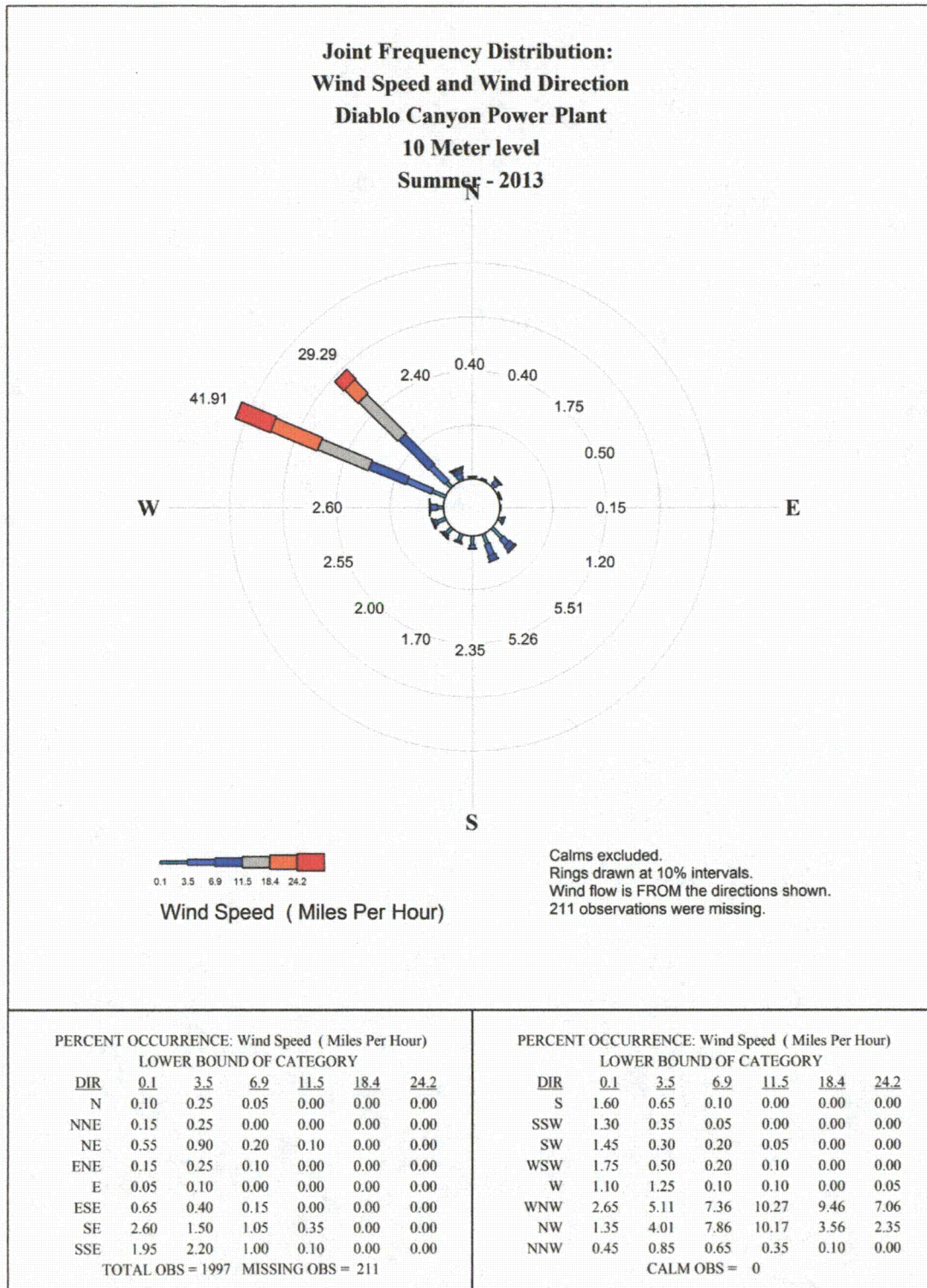


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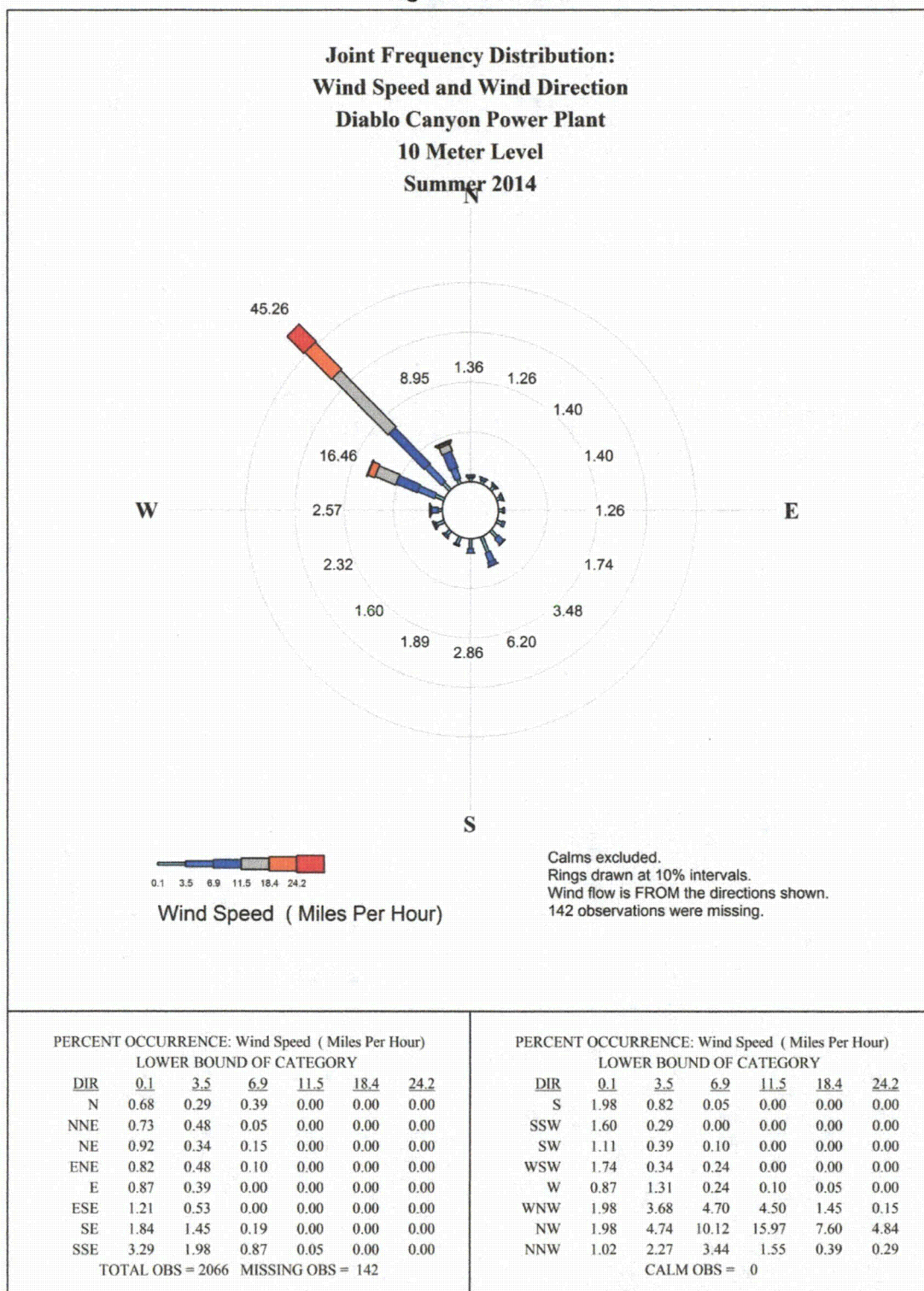


Figure AIR-7-21

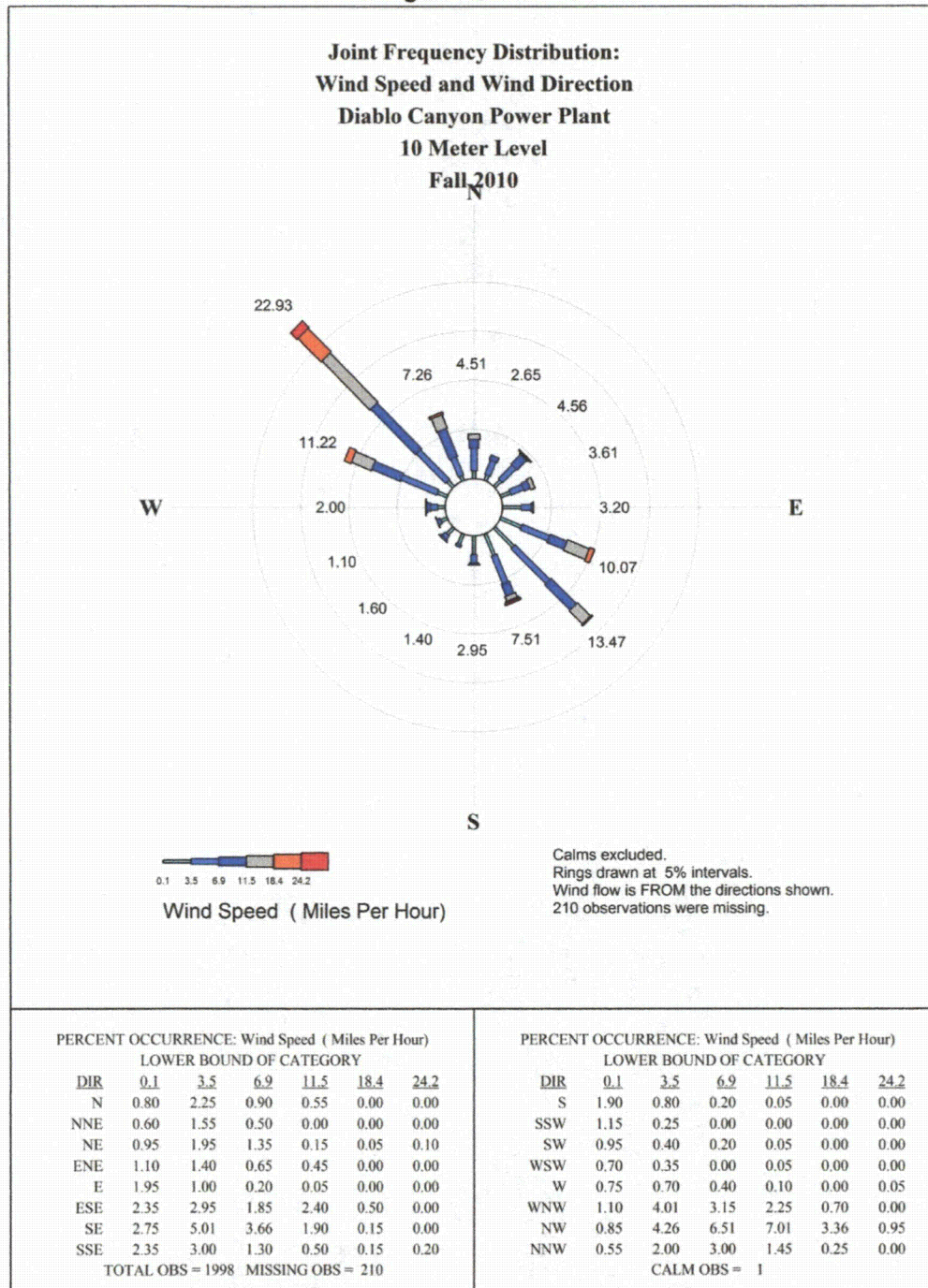


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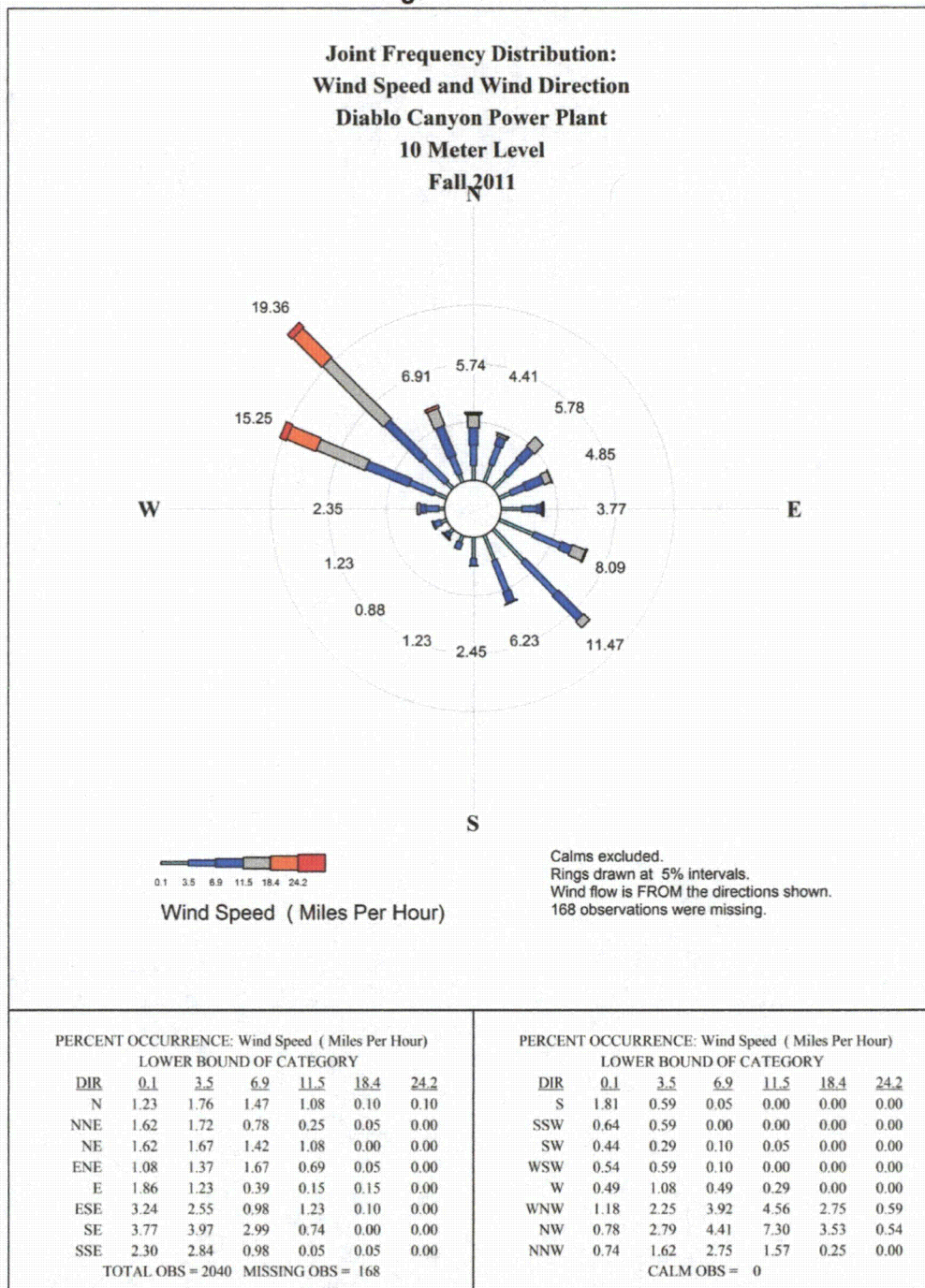


Figure AIR-7-23

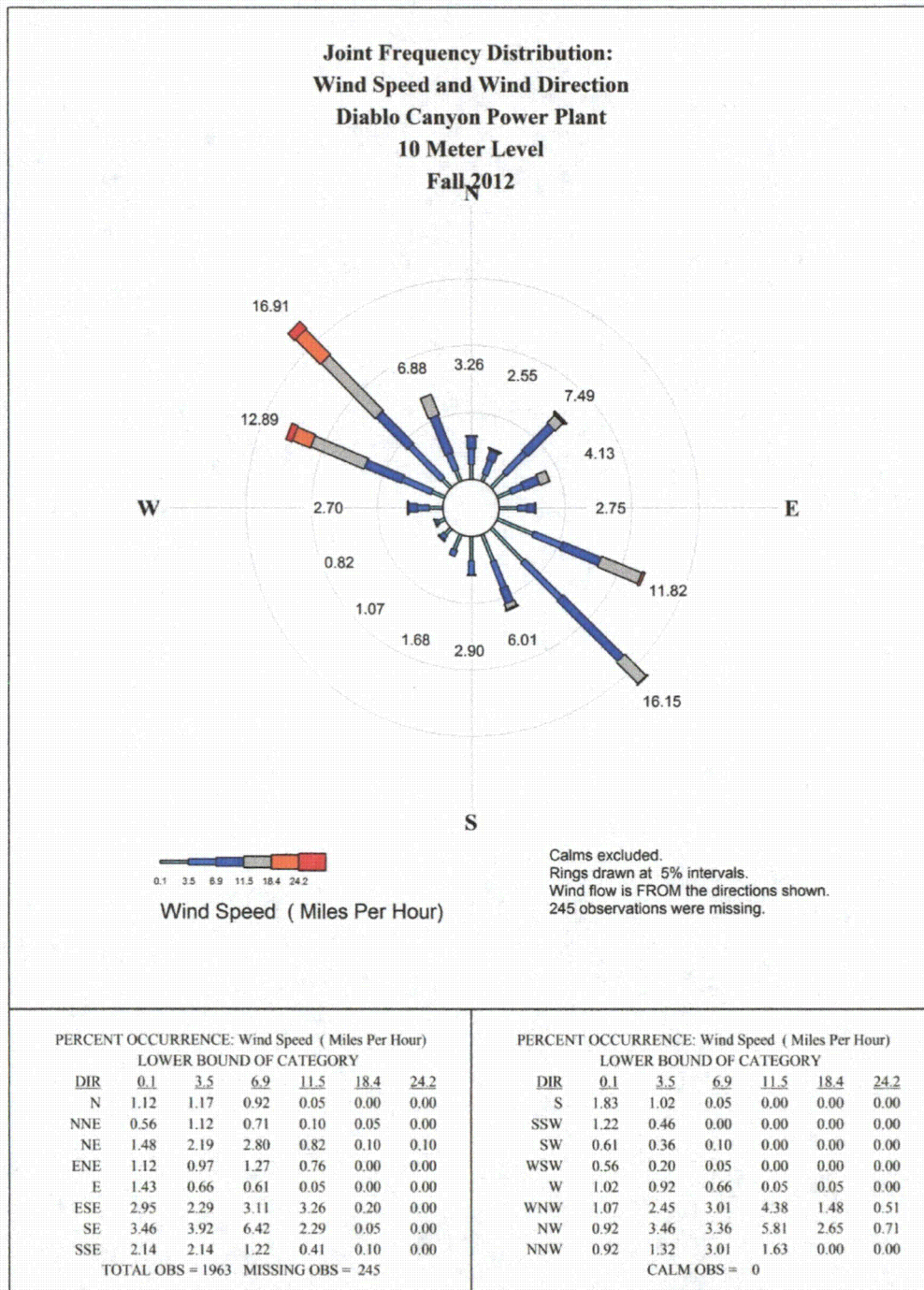


Figure AIR-7-24

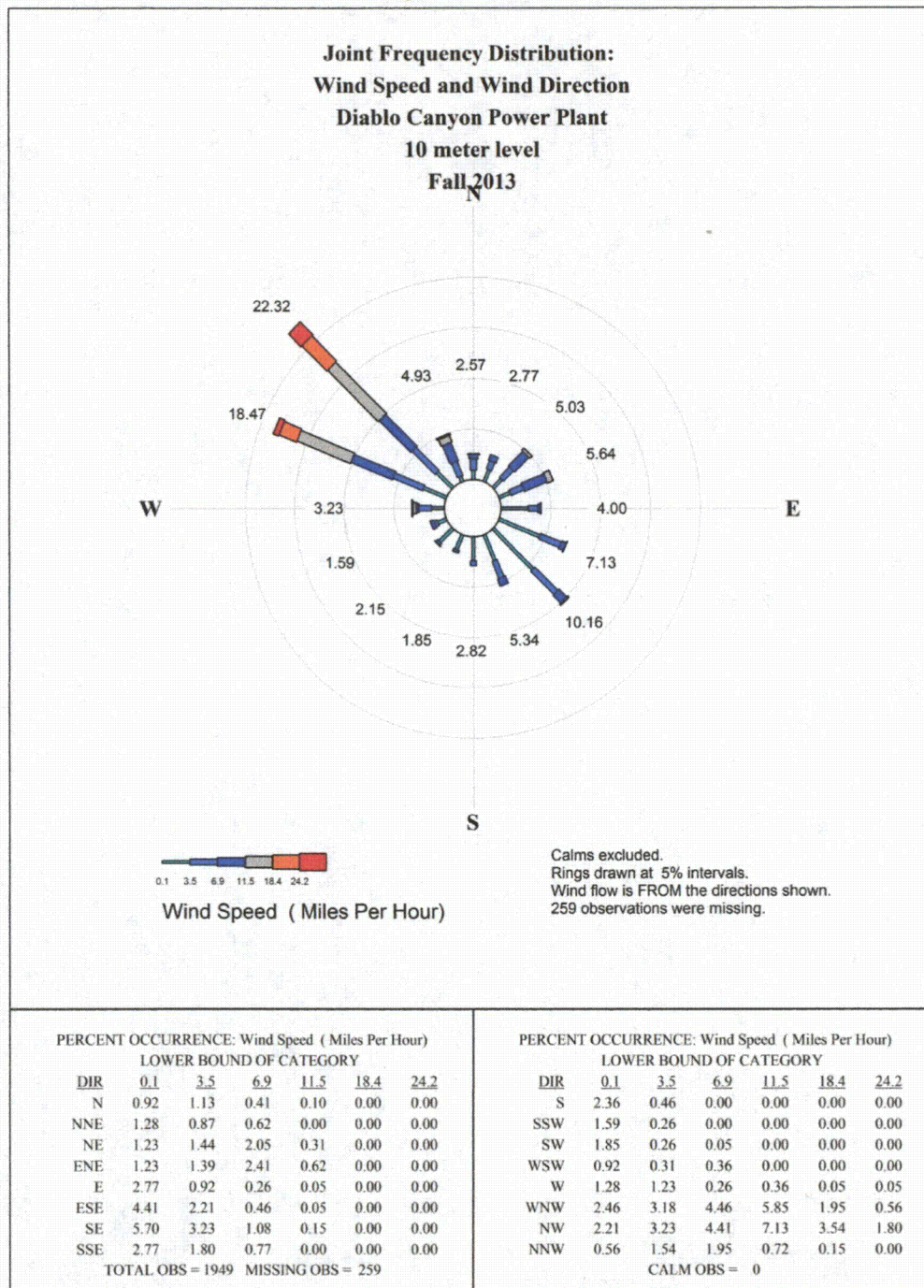


Figure AIR-7-25

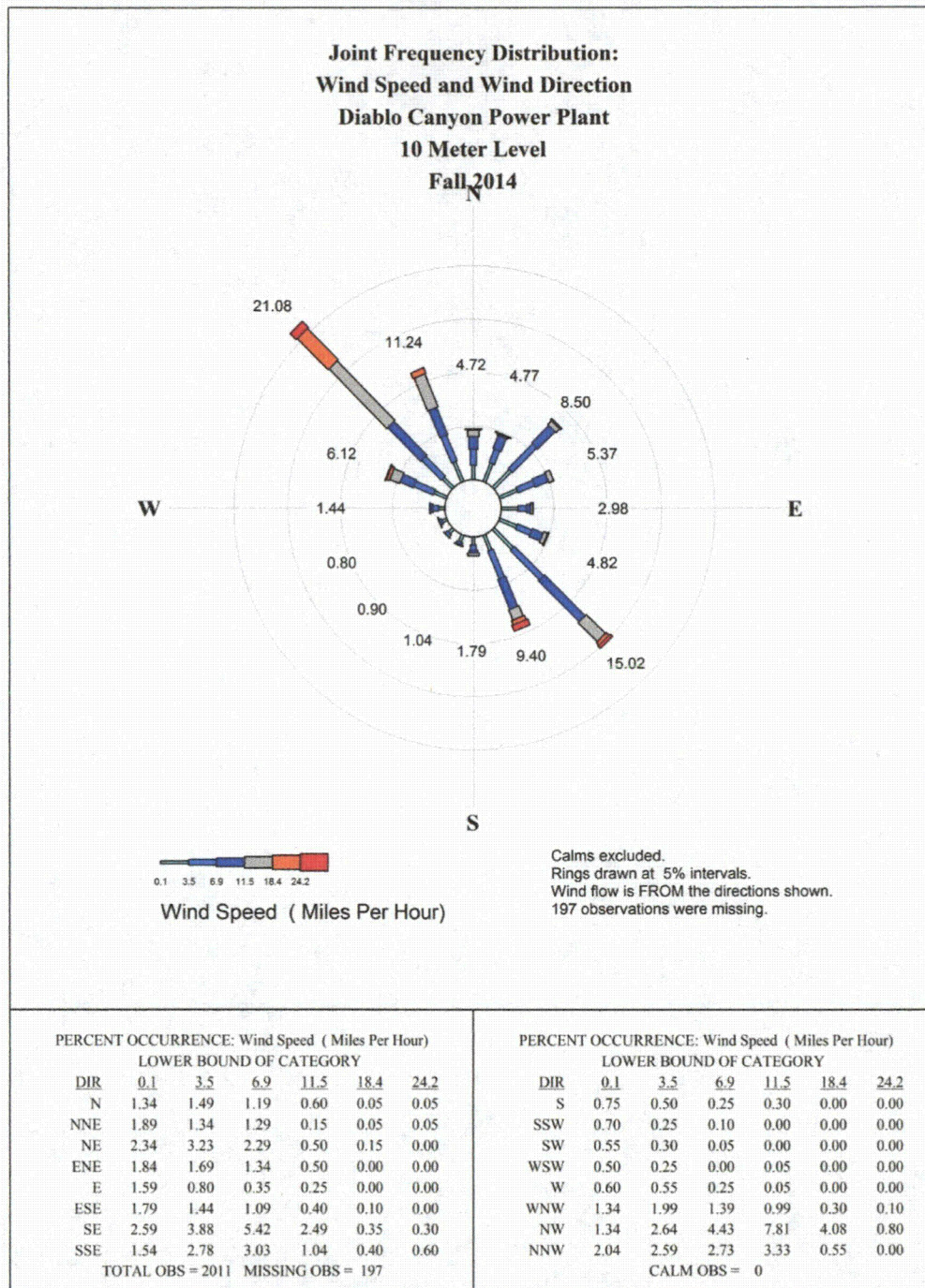


Figure AIR-7-26

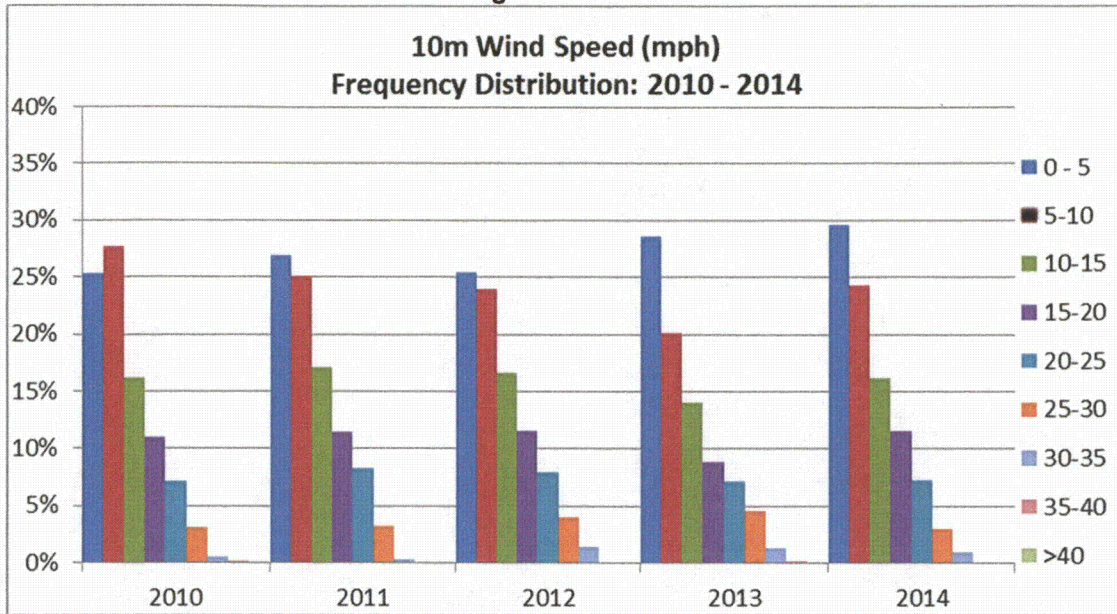


Figure AIR-7-27

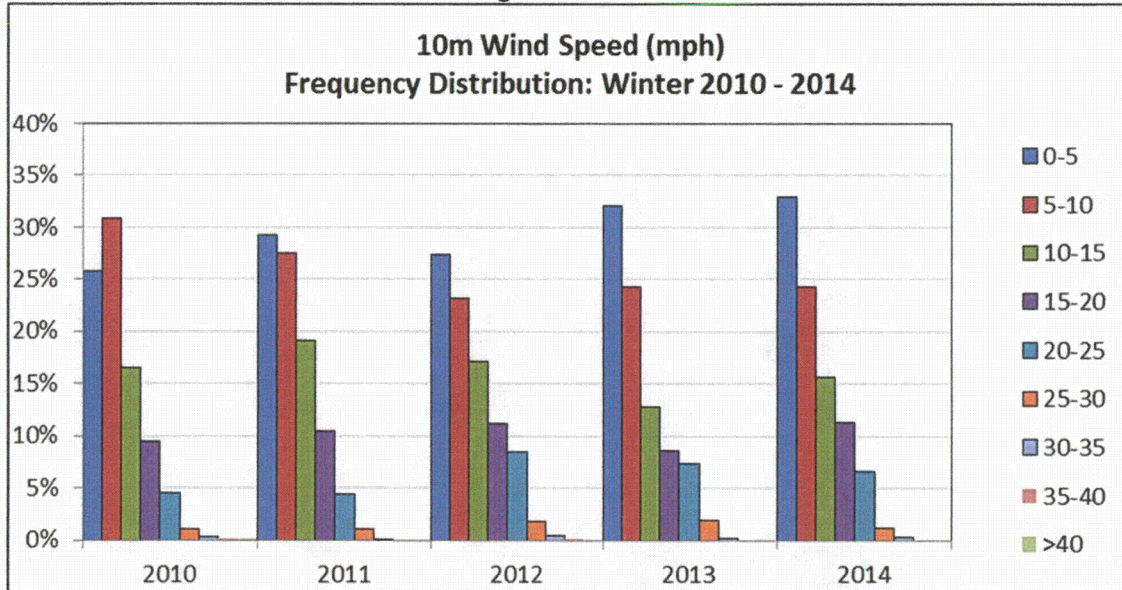


Figure AIR-7-28

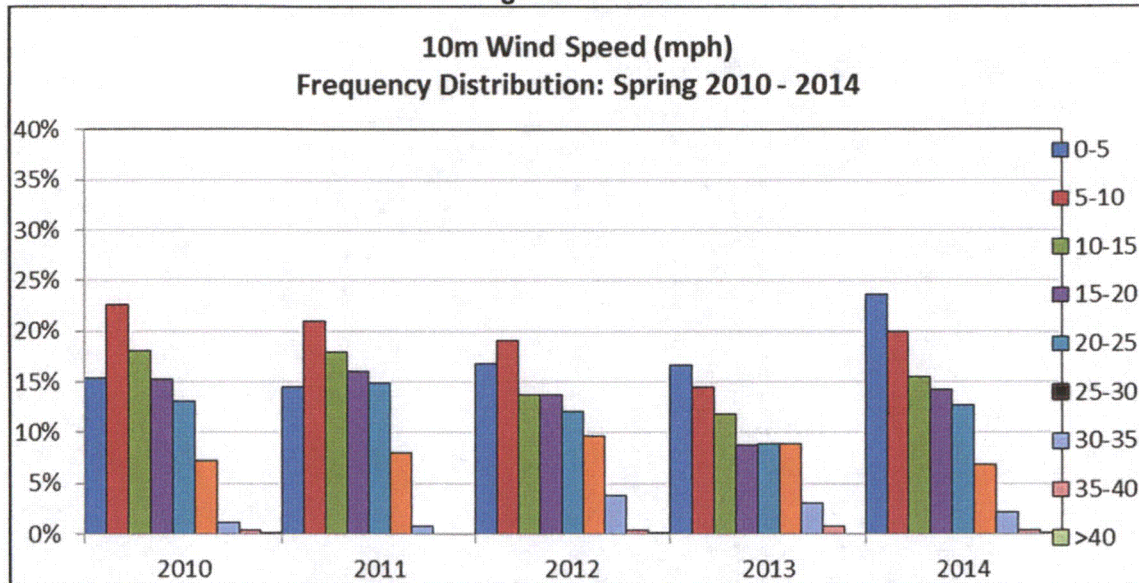


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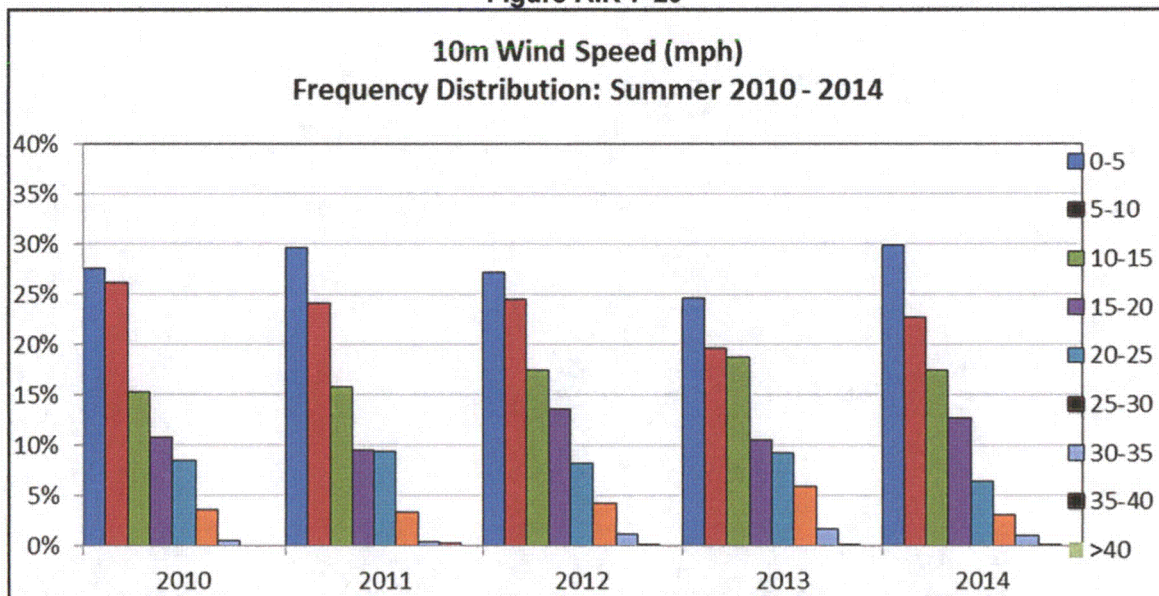


Figure AIR-7-30

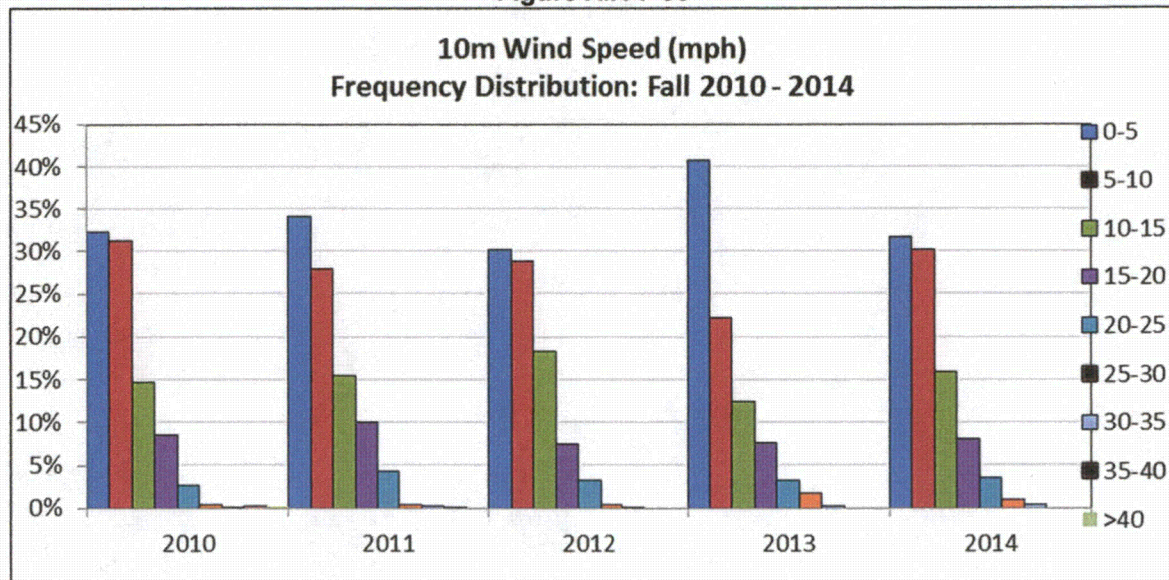


Figure AIR-8-1

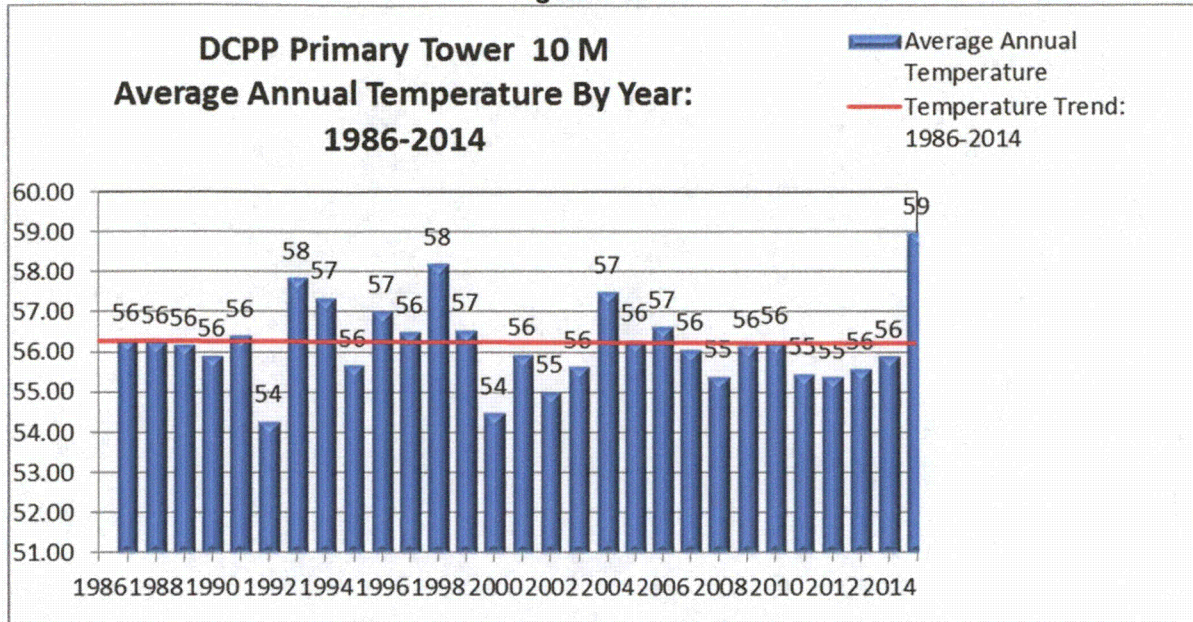


Figure AIR-8-2

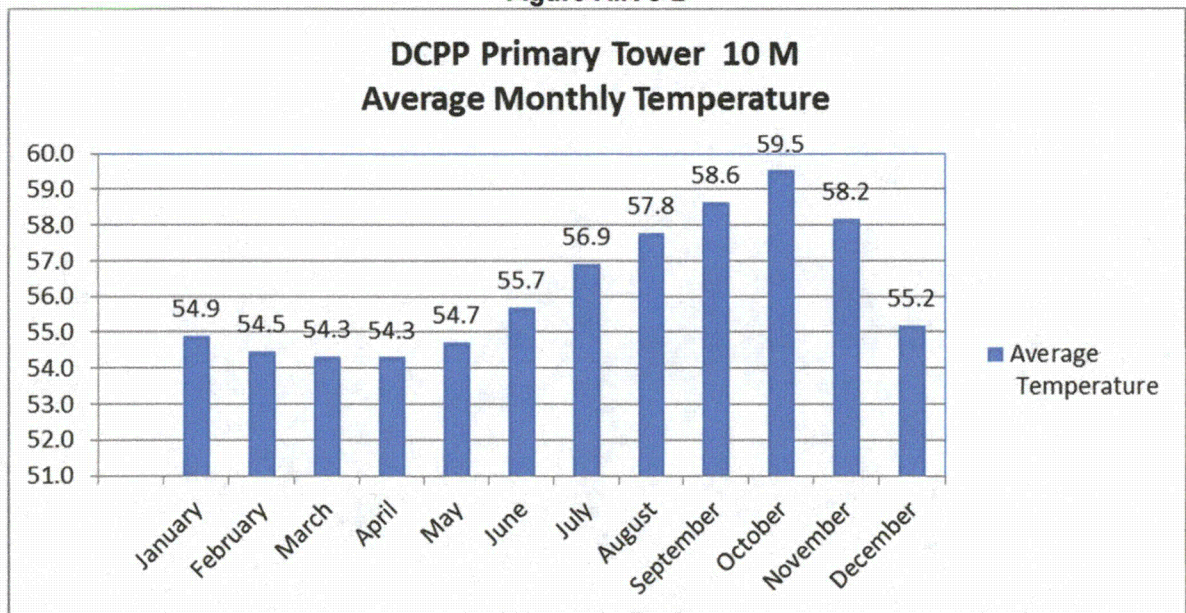


Table AIR-7-1 - Wind Direction Frequency Distribution Expressed in Percent Occurrence by Sector for Each Calendar Year 2010 to 2014

Direction	2010	2011	2012	2013	2014
N	3.7	4.3	2.3	1.6	3.3
NNE	2.3	2.9	2.0	1.8	2.7
NE	3.4	3.5	3.4	3.1	3.8
ENE	2.3	2.5	2.3	2.6	2.7
E	1.8	2.1	1.6	1.9	2.0
ESE	5.2	5.1	5.2	4.4	3.3
SE	9.5	9.0	9.5	8.4	9.1
SSE	7.3	5.7	5.2	5.6	7.1
S	2.8	2.5	2.3	2.5	2.9
SSW	1.5	1.2	1.5	1.7	2.0
SW	1.3	1.2	1.2	1.8	1.6
WSW	1.2	1.4	1.0	1.8	1.6
W	2.0	2.3	2.6	3.3	2.2
WNW	12.1	14.6	21.8	28.2	10.9
NW	36.0	34.9	32.4	27.0	35.8
NNW	7.7	6.8	5.8	4.4	9.2

Table AIR-7-2 - Wind Direction Frequency Distribution Expressed in Percent Occurrence by Sector for Winter 2010 to 2014

Direction	2010	2011	2012	2013	2014
N	4.3	4.6	3.0	2.3	2.5
NNE	3.9	4.0	3.3	3.5	2.1
NE	5.6	5.7	4.5	4.6	4.3
ENE	3.9	4.1	4.1	3.6	2.6
E	2.9	3.2	2.7	2.4	1.8
ESE	8.7	9.7	6.8	6.3	4.3
SE	13.8	13	11.6	9.7	14.2
SSE	8.7	6.8	4.8	5.8	8.0
S	2.4	2.6	1.3	2.9	2.5
SSW	1.6	1.3	1.1	1.6	1.8
SW	1.6	1.0	1.1	1.8	1.7
WSW	1.4	1.0	1.0	1.5	1.4
W	2.6	2.7	2.2	3.8	2.7
WNW	8.1	11.8	16.1	21.8	12.1
NW	22.5	19.8	27.9	21.6	30.2
NNW	8.0	8.8	8.4	6.8	7.9

Table AIR-7-3 - Wind Direction Frequency Distribution Expressed in Percent Occurrence by Sector for Spring 2010 to 2014

Direction	2010	2011	2012	2013	2014
N	3.4	4.2	1.7	0.9	1.8
NNE	1.5	1.6	0.9	0.5	1.7
NE	1.6	1.2	0.7	0.5	1.3
ENE	0.8	0.7	0.5	0.5	0.8
E	0.6	0.6	0.5	1.1	0.8
ESE	1.4	1.2	1.6	2.8	1.1
SE	5.9	6.5	6.2	8.1	4.1
SSE	5.7	3.7	4.6	6.1	4.3
S	2.4	1.5	2.5	1.6	2.2
SSW	1.1	0.6	1.3	1.7	1.6
SW	0.8	0.8	1.1	1.1	1.3
WSW	1.2	1.0	0.8	1.2	1.1
W	1.4	1.7	2.6	3.5	1.7
WNW	12.4	14.0	21.0	30.6	10.7
NW	50.2	52.9	49.0	36.2	54.9
NNW	9.6	7.6	5.2	3.5	10.6

Table AIR-7-4 - Wind Direction Frequency Distribution Expressed in Percent Occurrence by Sector for Summer 2010 to 2014

Direction	2010	2011	2012	2013	2014
N	2.8	2.9	1.4	0.4	1.4
NNE	1.2	1.5	1.3	0.4	1.3
NE	2.1	1.4	1.2	1.8	1.4
ENE	0.9	0.4	0.7	0.5	1.4
E	0.4	0.6	0.5	0.2	1.3
ESE	0.8	1.6	0.9	1.2	1.7
SE	5.2	5.2	4.3	5.5	3.5
SSE	7.3	6.2	5.2	5.3	6.2
S	3.5	3.2	2.4	2.4	2.9
SSW	2.0	1.8	1.7	1.7	1.9
SW	1.3	2.1	1.4	2.0	1.6
WSW	1.1	2.5	1.4	2.6	2.3
W	1.9	2.6	2.9	2.6	2.6
WNW	16.2	17.1	36.0	41.9	16.5
NW	47.3	47.0	35.7	29.3	45.3
NNW	5.9	4.0	3.2	2.4	9.0

Table AIR-7-5 - Wind Direction Frequency Distribution Expressed in Percent Occurrence by Sector for Fall 2010 to 2014

Direction	2010	2011	2012	2013	2014
N	4.5	5.7	3.3	2.6	4.7
NNE	2.7	4.4	2.6	2.8	4.8
NE	4.6	5.8	7.5	5.0	8.5
ENE	3.6	4.9	4.1	5.6	5.4
E	3.2	3.8	2.8	4.0	3.0
ESE	10.1	8.1	11.8	7.1	4.8
SE	13.5	11.5	16.1	10.2	15.0
SSE	7.5	6.2	6.0	5.3	9.4
S	3.0	2.5	2.9	2.8	1.8
SSW	1.4	1.2	1.7	1.9	1.0
SW	1.6	0.9	1.1	2.2	0.9
WSW	1.1	1.2	0.8	1.6	0.8
W	2.0	2.4	2.7	3.2	1.4
WNW	11.2	15.3	12.9	18.5	6.1
NW	22.9	19.4	16.9	22.3	21.1
NNW	7.3	6.9	6.9	4.9	11.2

Table AIR-8-1
Average Annual Temperature and Absolute Maximum and Minimum Temperature: 1986-2014

Year	Average Annual Temperature	Maximum Temperature	Minimum Temperature
1986	56.31	80.5	46.6
1987	56.23	96.7	41.1
1988	56.19	84.5	40.9
1989	55.90	88.4	37.2
1990	56.39	85.7	33
1991	54.27	79.2	40.5
1992	57.85	83.4	42.7
1993	57.34	81.8	42.6
1994	55.66	82.4	45.5
1995	57.00	80.3	44.6
1996	56.49	82.3	42.7
1997	58.21	86	39.8
1998	56.54	79.7	36.2
1999	54.47	77	40.3
2000	55.93	86	43
2001	55.00	82	40.4
2002	55.63	87.6	39.5
2003	57.50	84.9	46.1
2004	56.29	87.4	42
2005	56.63	87.3	46.9
2006	56.06	92.3	41.7
2007	55.39	92.3	38.1
2008	56.13	98.7	42.7
2009	56.23	85.3	41.6
2010	55.45	92.5	43.3
2011	55.37	81.1	40.1
2012	55.58	87.9	36.7
2013	55.89	88.8	41.2
2014	58.98	90.3	44.5

Table AIR-8-2

Month	Average Temperature	Maximum Temperature	Minimum Temperature
January	54.9	83.3	38.1
February	54.5	83.8	47.9
March	54.3	84.5	40.5
April	54.3	92.4	40.8
May	54.7	92.3	45.5
June	55.7	98.7	44.5
July	56.9	81.5	40.1
August	57.8	92.8	45.1
September	58.6	92.5	42.8
October	59.5	96.7	40.3
November	58.2	86.6	38.3
December	55.2	78.2	33

Table AIR-8-3 - Annual Seasonal Rainfall at DCP: 1988-2014

Rainfall Year	Annual Seasonal Rainfall in inches
1988	15.61
1989	7.89
1990	18.67
1991	22.41
1992	28.50
1993	13.76
1994	42.58
1995	21.47
1996	29.67
1997	44.06
1998	16.44
1999	22.80
2000	19.31
2001	12.14
2002	16.75
2003	14.22
2004	35.71
2005	23.48
2006	9.70
2007	13.33
2008	9.07
2009	18.56
2010	28.09
2011	11.46
2012	9.07
2013	5.76
2014	7.49

Table AIR-8-4 – Monthly Average Precipitation at DCP: 1988-2014

Month	Average Precipitation (inches)
January	4.02
February	4.30
March	3.11
April	1.29
May	0.35
June	0.10
July	0.09
August	0.03
September	0.21
October	0.62
November	1.56
December	3.51

Regulatory Commitments

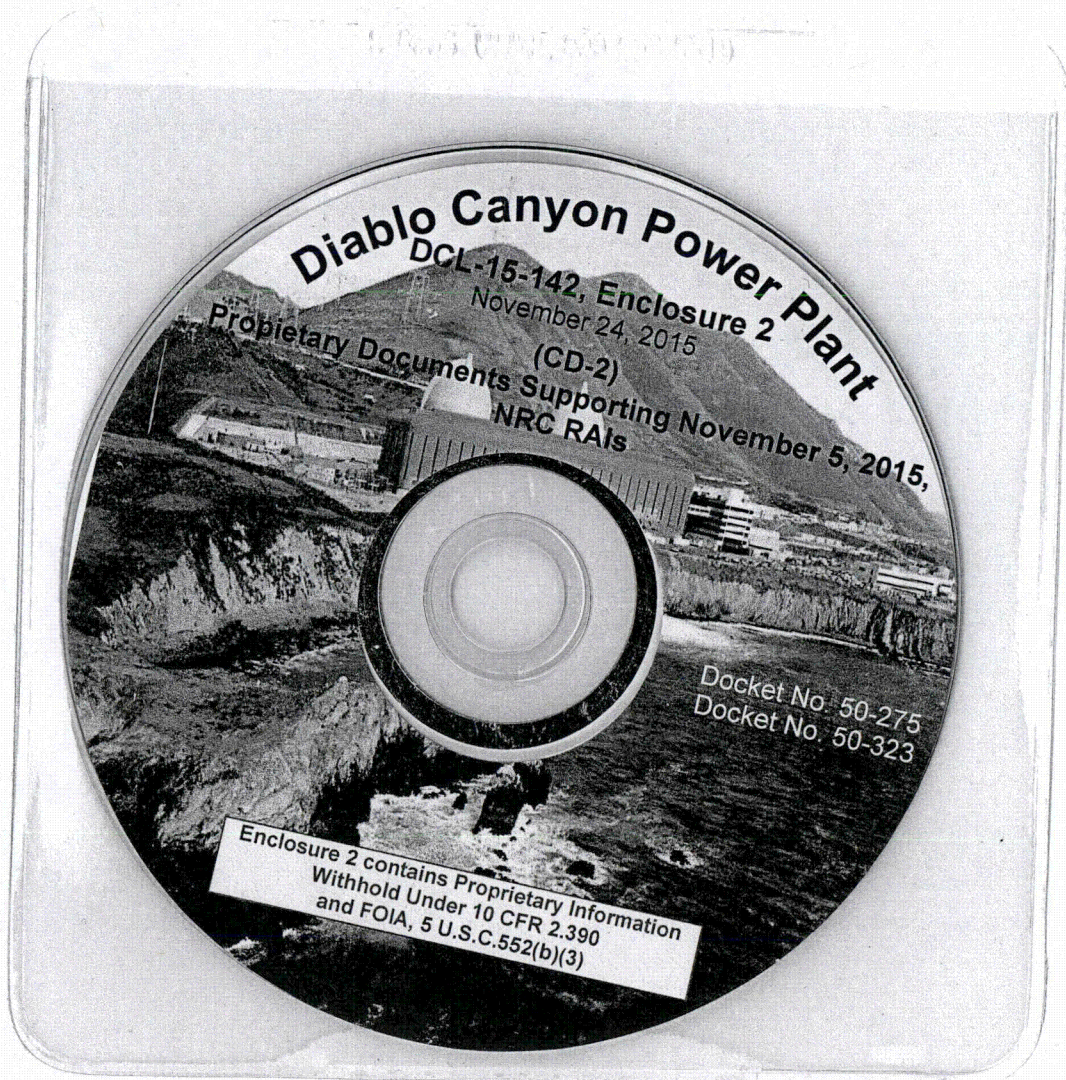
Pacific Gas and Electric Company (PG&E) makes the following regulatory commitments (as defined by NEI 99-04) in this submittal:

Commitment	Due Date
PG&E will provide a copy of the finalized thermal impacts assessment report to the Nuclear Regulatory Commission (NRC) upon submittal to the Central Coast Regional Water Quality Control Board (CCRWQCB).	April 1, 2016
PG&E will provide a copy of the 2015 annual environmental report to the NRC upon submittal to the California Energy Commission.	April 1, 2016
PG&E will provide a copy of the Diablo Canyon Power Plant National Pollution Discharge Elimination System annual report on discharge monitoring to the NRC upon submittal to the CCRWQCB.	April 1, 2016
PG&E will submit a copy of the National Register nomination package to the NRC after it is submitted to the State Historic Preservation Officer. PG&E currently expects to submit the revised nomination to the SHPO by late 2015 or early 2016.	April 1, 2016

Enclosure 2
PG&E Letter DCL-15-142

Compact Disk – 2

Proprietary Documents Supporting November 5, 2015, NRC RAIs



Compact Disk – 1

Non-Proprietary Documents Supporting November 5, 2015 NRC RAIs

