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APPLICATION OF EL PASO	§	BEFORE THE STATE OFFICE
ELECTRIC COMPANY TO CHANGE	§	OF
RATES	§	ADMINISTRATIVE HEARINGS

REBUTTAL TESTIMONY

OF

TODD A. HORTON

FOR

EL PASO ELECTRIC COMPANY

NOVEMBER 19, 2021

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1 **I. Introduction**

2 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

3 A. My name is Todd A. Horton. My business address is Palo Verde Generating Station,
4 5801 S. Wintersburg Road, Tonopah, Arizona 85354-7529.
5

6 Q. HOW ARE YOU EMPLOYED?

7 A. I am employed by Arizona Public Service Company (APS) as Senior Vice President of
8 Site Operations at Palo Verde Generating Station (Palo Verde or PVGS).
9

10 Q. DID YOU SUBMIT DIRECT TESTIMONY IN THIS PROCEEDING?

11 A. Yes, I did.
12

13 **II. Purpose of Rebuttal Testimony**

14 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

15 A. My rebuttal testimony addresses the allegations made in the testimony of Freeport-
16 McMoRan witness Billie LaConte as they relate to Palo Verde (pages 30 and 31). In her
17 testimony, Ms. LaConte purports to demonstrate EPE's non-fuel O&M expense per MWh
18 is higher in every year since 2011 than the average non-fuel O&M expense for other
19 pressurized water reactors. Ms. LaConte also alleges it is reasonable to expect
20 Palo Verde to have lower than average non-fuel O&M expense as compared to other
21 pressurized water reactors. Both of Ms. LaConte's allegations are flawed. Ms. LaConte
22 has relied on an inferior set of data for her calculations. Further, Palo Verde is the only
23 nuclear power plant in the world that has its own Water Resources Facility. Once those
24 costs are accounted for, Palo Verde has operating costs per MWh that are in line with the
25 industry average.
26

27 **III. Palo Verde O&M Expenses**

28 Q. IN YOUR DIRECT TESTIMONY DID YOU ADDRESS PALO VERDE O&M
29 EXPENSES?

30 A. Yes. In my direct testimony I describe how O&M expenses are managed at Palo Verde
31 and the initiatives undertaken at Palo Verde to assist in that management. I also discuss

1 the fact that Palo Verde is the only nuclear power plant in the world that has its own
2 Water Resources Facility. All other nuclear power plants are located near a body of
3 water that is used for cooling purposes. Operation of the Palo Verde Water Resources
4 Facility represents approximately \$51.9 million (2020) in annual O&M costs that are not
5 incurred by other nuclear power plants. None of this testimony is challenged or
6 addressed by Ms. LaConte in her testimony.

7
8 Q. IN YOUR DIRECT TESTIMONY, DID YOU ALSO ADDRESS HOW PALO VERDE
9 O&M EXPENSES COMPARE TO THE INDUSTRY?

10 A. Yes. I presented information demonstrating that, once the unique Water Resources
11 Facility costs are factored out, Palo Verde O&M expenses per MWh have been in line
12 with and actually below the industry average since 2011.

13
14 Q. WHAT DATA DID YOU USE TO DEMONSTRATE THAT FACT?

15 A. I relied on data gathered and provided by EUCG. EUCG provides a forum for the
16 electric utility industry to share information to help individual companies improve their
17 operating, maintenance, and construction performance. EUCG helps utilities share
18 information and benchmark against those in their class. EUCG offers this service related
19 to fossil, hydro, solar, and nuclear generation plants. Regarding nuclear generation
20 plants, EUCG operates a database for comparing nuclear plant costs, staffing, and
21 performance data. EUCG has been recognized as a solid data resource by consulting
22 groups.

23
24 Q. IS EUCG DATA WELL SUITED TO THE NUCLEAR O&M EXPENSE
25 COMPARISON YOU PROVIDED IN YOUR DIRECT TESTIMONY?

26 A. Yes. The EUCG nuclear database is recognized as the best, most comprehensive source
27 of nuclear cost and performance data in the world. EUCG's Nuclear Committee is the
28 world's leading industry resource for timely, accurate, and complete business operations
29 cost data, subject to high standards of integrity. Data is provided directly by the
30 operating company members and then reviewed and verified by industry peers before
31 final release. The EUCG databases have been designed to provide consistent and timely

1 data among the members and accommodates the different types of plant operators such as
2 single sites, multi-unit sites, and fleet operators. The EUCG cost reporting also identifies
3 areas of cost, including relevant loads such as administrative and general (A&G),
4 benefits, *etc.* These features allow for accurate benchmarking by collecting costs and
5 staffing in functional categories.
6

7 Q. DID MS. LACONTE USE THE EUCG DATA REGARDING NUCLEAR PLANT
8 O&M EXPENSES?

9 A. No.
10

11 Q. WHAT DATA DID MS. LACONTE USE TO SUPPORT HER STATEMENTS
12 REGARDING NUCLEAR PLANT O&M EXPENSES?

13 A. Ms. LaConte relies on data from S&P Capital IQ Pro.
14

15 Q. IS S&P CAPITAL IQ PRO DATA WELL SUITED TO A NUCLEAR O&M EXPENSE
16 COMPARISON?

17 A. No. S&P Capital information is sourced from publicly available data that does not
18 undergo the same level of scrutiny as described above for EUCG data, creating an apples
19 and oranges comparison. The S&P Capital information lacks the focus on consistency of
20 reporting between nuclear facilities that is the hallmark of EUCG data. EUCG data is
21 based on plant input with numerous audit points for each data entry in addition to other
22 reviews by audit/data integrity teams before the final report is submitted. In addition,
23 EUCG members undergo training each year to maintain the integrity of the data provided.
24

25 Q. MS. LACONTE ALLEGES IT IS REASONABLE TO EXPECT PALO VERDE TO
26 HAVE LOWER THAN AVERAGE O&M EXPENSES COMPARED TO OTHER
27 PRESSURIZED WATER REACTORS. IS THIS ALLEGATION FAIR?

28 A. No. The three generating units that comprise Palo Verde are independent, stand-alone
29 pressurized water reactor units. The units are Combustion Engineering (CE) System
30 80 plants, which were designed to maximize reliability and performance. While there are
31 certainly economies of scale and reliability benefits related to the design of Palo Verde,

1 and I discuss these in my direct testimony, Ms. LaConte ignores the fact that the design
2 and configuration of Palo Verde also presents some cost challenges.

3
4 Q. WILL YOU PLEASE EXPLAIN.

5 A. The CE System 80 plant, by design, has approximately 20% more pumps, motors, valves,
6 *etc.*, than other comparably sized pressurized water reactors. The CE System 80 plant
7 was designed for greater reliability, and this reliability has contributed to the record
8 setting production from Palo Verde that I discuss in my direct testimony. However, more
9 people are required to maintain and operate the additional equipment.

10 Further, the three Palo Verde units and Water Resources Facility occupy a large
11 footprint relative to other nuclear plants, with the units being approximately 1/4 mile
12 apart. Palo Verde's large footprint, approximately 4,000 acres, also gives it a unique
13 challenge relative to the country's three other three-unit nuclear power plants (which
14 cover 840, 700, and 510 acres). The sheer size of Palo Verde requires larger physical
15 security systems and a greater number of security guards in order to meet operational and
16 regulatory requirements.

17 Because each Palo Verde unit is an independent, stand-alone generating unit,
18 there is minimal sharing of systems between the three units. As an example, each unit
19 has its own separate control room (versus a shared control room as is found in many two-
20 unit plants) requiring three sets of operators. Each unit also has a chemistry lab, which
21 must be staffed by chemists at each location.

22
23 Q. IS THERE ANOTHER COST THAT REMAINS UNACCOUNTED FOR IN
24 MS. LACONTE'S ANALYSIS?

25 A. Yes. As I discuss above, Palo Verde is the only nuclear plant in the country with its own
26 Water Resources Facility. This fact alone accounts for an additional \$1.60 per MWh in
27 O&M expense.

28 Palo Verde works diligently to control O&M expenses, keeping in mind its
29 mission to generate power safely and reliably. Ms. LaConte does not dispute this fact.
30 While there are economies of scale and reliability benefits associated with the design of
31 Palo Verde, that design also presents cost challenges. Considering all these facts, it is not

1 fair to allege, as Ms. LaConte does, that Palo Verde should be expected to have O&M
2 costs lower than the industry average.

3

4 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

5 A. Yes.