Exhibit No. DN-3THC
Dockets UE-090704/UG-090705
Witness: David Nightingale
REDACTED VERSION

BEFORE THE WASHINGTON STATE
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PUGET SOUND ENERGY, INC., Respondent.	DOCKET UE-090704 DOCKET UG-090705

CROSS-ANSWERING TESTIMONY

OF

DAVID NIGHTINGALE

STAFF

OF

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Answering the Testimony of Public Counsel on Mint Farm Prudence

December 17, 2009
Revised December 23, 2009

HIGHLY CONFIDENTIAL PER PROTECTIVE ORDER
REDACTED VERSION

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David Nightingale. My business address is the Richard Hemstad Building, 1300 South Evergreen Park Drive SW, Olympia, Washington, 98504-7250.

Q. Have you previously offered testimony in this proceeding?

A. Yes, I filed response testimony on behalf of Commission Staff on the prudence of various resource acquisitions by Puget Sound Energy, Inc. ("PSE" or "the Company"), including the Mint Farm Energy Center ("Mint Farm"). I concluded that Mint Farm was a prudent acquisition by PSE under applicable Commission standards.

My prior testimony also concluded that Mint Farm is "baseload electric generation" that qualifies for automatic deferred accounting under RCW 80.80.060.

Q. What is the purpose of your cross-answering testimony?

A. I demonstrate that Public Counsel witness Mr. Scott Norwood does not sufficiently take into account all quantitative measures used by PSE to assess the acquisition Mint Farm. That error leads Mr. Norwood to conclude incorrectly that PSE's acquisition of Mint Farm was not prudent.

Mr. Norwood also argues that Mint Farm is not baseload electric generation. My prior response testimony is sufficient to rebut his conclusion on that issue.

Q. Please generally describe the factors that PSE used to evaluate resource acquisitions, including Mint Farm.

A. PSE used both qualitative and quantitative methodologies to evaluate all proposals. The primary quantitative factors were the following three calculations: (1) Portfolio Benefit; (2) Benefit Ratio; and (3) 20-Year Levelized Cost.

Q. Please describe the Portfolio Benefit factor.

A. PSE's Portfolio Benefit factor can be summarized as follows:[1]

Portfolio Benefit ($M) = PV cost of the existing portfolio plus generic resources to meet 20 yr. loads _ PV cost of existing portfolio including a proposed resource with other generic resources to meet 20 yr. loads

The Portfolio Benefit calculation provides a dollar value comparison between the generic resource in PSE's integrated resource plan ("IRP") and a new resource proposal substituting for part of the generic resource. A positive Portfolio Benefit factor indicates a more valuable resource than the IRP generic resource. The units for this measure are typically millions of dollars.

Q. Please describe the Benefit Ratio factor.

A. PSE's Benefit Ratio factor can be summarized as follows:

$$\text{Benefit Ratio} = \frac{\text{Portfolio Benefit of a specific resource}}{\text{PV to purchase and operate a specific resource for 20 years}}$$

[1] For all quantitative factors, PV = Present Value (discounted for the time value of money) of a cost or benefit. All generic and proposed resource PV costs and benefits include "all in" costs including capital expenses, operations and maintenance, fuel, transportation, transmission, and end effects such as residual plant value.

The Benefit Ratio normalizes the Portfolio Benefit for different sizes of the same resource type. A very large plant may require a lot of capital to realize a relatively modest amount of Portfolio Benefit dollars. When the Portfolio Benefit of each proposed resource is divided by its "all in" costs, different proposed resources can be more directly compared; this is the value of the Benefit Ratio calculation. Generally, a higher positive Benefit Ratio represents a more favorable acquisition opportunity.

Q. Please describe the 20-Year Levelized Cost factor.

A. PSE's 20-Year Levelized Cost factor can be summarized as follows:

$$\text{20-Year Levelized Cost (\$/MWh)} = \frac{\text{PV to purchase and operate a specific resource for 20 years}}{\text{MWh generated over 20 Years}}$$

The 20-Year Levelized Cost represents the average cost over a twenty year timeline to generate energy and has the units \$/MWh. This is analogous to calculating dollars per mile for a truck considering all capital and operating costs. This calculation does not rely on the existing mix of PSE's current portfolio, but rather it is an estimate of what the expected costs to generate energy will be for a specific resource, contract, purchase agreement, or the like. This calculation can be valuable when comparing different types of energy or capacity generating resources, as well as different sizes of resources, because all calculations are dollar normalized to the generation of one MWh of energy.

Q. Is it important to use all three of these quantitative factors when evaluating each resource proposal?

A. Yes. In order to properly compare various resource proposals available to the Company, it is important to match up each proposal with same evaluation criteria. This provides a fair and transparent process for PSE decision-makers and the Commission when conducting a prudence review in a general rate case.

Q. Did Mr. Norwood adequately take into account all three quantitative factors in his evaluation of the Mint Farm acquisition?

A. No. Mr. Norwood focused primarily on the Portfolio Benefit and Benefit Ratio factors and largely ignores the 20-Year Levelized Cost factor. He concedes that "in the long-run ownership of Mint Farm should benefit customers"[2], but he focuses mainly on the financial burden of Mint Farm surplus capacity through 2011. However, that financial burden was incorporated into the 20-Year Levelized Cost calculations performed by PSE in comparing Mint Farm to other alternatives.

Q. Did Mr. Norwood's de-emphasis of the 20-Year Levelized Cost factor affect his conclusion regarding the prudence of the Mint Farm acquisition?

A. Yes. Due largely to his focus on only two of the three quantitative factors and the financial burdens of owning Mint Farm in the early years, he concluded that Mint Farm was not a prudent acquisition when compared to the [redacted] power purchase agreement ("PPA"), which is a resource of similar type and size. It is true that, while

[2] Exhibit No. SN-1HCT at 21:15-16.

both resources had positive Portfolio Benefits and Benefit Ratios, Mint Farm did not have as high a positive score as the [redacted] PPA.[3] However, when examining the 20-Year Levelized Cost, Mint Farm had a significantly lower cost per MWh. Mint Farm's value was [redacted] versus [redacted] for the [redacted] PPA.[4]

Q. How would you compare the quantitative criteria of Mint Farm versus the [redacted] PPA that Mr. Norwood suggests was a better choice?

A. Both of these acquisitions were likely to benefit the Company and customers compared to the generic portfolio or building a new CCCT. However, from an economic perspective, Mint Farm will be run more often and provide a cheaper variable source of energy due to its lower heat rate. Although Mint Farm provides surplus capacity until 2012, the Company's earlier purchase opportunity was unique and favorably priced. Moreover, the additional projected costs of purchasing Mint Farm before 2012 are outweighed by the increased benefits of its lower longer-term operating costs.

Q. Please explain why Mint Farm and the [redacted] generation plant that underlies the PPA will be run different amounts of time and the implication of that difference on potential energy market exposure.

A. Each plant would be dedicated to serving PSE loads and dispatched based on their individual economics. Fundamentally the [redacted] plant employs older technology using a General Electric frame model 7E with a significantly higher heat rate than Mint Farm,

[3] Exhibit No. WJE-11HC at 28.
[4] *Id.*

which uses a General Electric frame model 7F.[5] Therefore, Mint Farm will run many more hours in any year than [redacted]. This means that if the Company decided to acquire the [redacted] PPA instead of Mint Farm, the Company would be more subject to variable market conditions and pricing during each year, because [redacted] would run comparatively less.

Q. Please compare the qualitative factors of Mint Farm and the [redacted] PPA, which Mr. Norwood concludes was a more prudent choice.

A. Both Mint Farm and the [redacted] PPA have positive qualitative attributes. Both are located in western Washington, are fully operational, have existing transmission and gas supplies, have good reliability, and employ mature technologies. However, Mint Farm is a newer plant with an expected remaining life of well over 25 years and runs more economically due to its low heat rate. The [redacted] plant is older with approximately a 15 year remaining life and runs less economically due to its relatively higher heat rate. As such, [redacted] would have provided less overall energy for fewer years to meet PSE loads when compared to Mint Farm.

Q. Are there other factors that lead you to conclude that Mint Farm was an appropriate acquisition as compared to the [redacted] PPA?

A. Yes. Three additional factors are significant in supporting PSE's decision to purchase Mint Farm instead of the alternative resource. First, PSE continues to examine [redacted] for how it fits into future needs, including evaluating its potential to assist with wind

[5] Exhibit No. RG-3HC at 266.

integration. Second, [redacted] is currently under contract to PSE for its full output [redacted] and, therefore, the acquisition of its capacity and energy for a longer time would not meet any additional future capacity and energy needs of the Company in comparison to Mint Farm.[6] In purchasing Mint Farm, the Company did not foreclose potential future opportunities to extend the [redacted] PPA or to purchase the [redacted] plant. Lastly, the Mint Farm opportunity was unique and unlikely to have been available for long. It was unique in that it was available in the PSE service area and was offered at a large capital purchase discount compared to building a new plant with comparable technology. It was unlikely to be available for long because other utilities in the region need additional generating resources in the near future.

Q. Does this complete your cross-answering testimony?

A. Yes.

[6] Exhibit No. RG-5HC at 44-45.