

**BEFORE THE
VIRGINIA STATE CORPORATION COMMISSION**

**Application of Virginia Electric)
And Power Company's for Approval and)
Certification of the Proposed Brunswick)
County Power Station Electric Generation)
And Related Transmission Facilities under)
§§56-580 D, 56-265.2 and 56-46.1 of the)
Code of Virginia and for Approval of)
a Rate Adjustment Clause,)
Designated Rider BW, under § 56-585.1 A 6 of)
the Code of Virginia)**

Case No. PUE-2012-00128

DIRECT TESTIMONY OF

MICHAEL M. SCHNITZER

**ON BEHALF OF
THE ELECTRIC POWER SUPPLY ASSOCIATION
AND THE
PJM POWER PROVIDERS GROUP**

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1 **I. BACKGROUND AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME.**

3 A. Michael M. Schnitzer.

4 **Q. WHAT IS YOUR BUSINESS ADDRESS?**

5 A. My business address is 30 Monument Square, Concord MA 01742.

6 **Q. MR. SCHNITZER, BY WHOM ARE YOU EMPLOYED AND IN WHAT**
7 **POSITION?**

8 A. I am a Director of The NorthBridge Group, Inc. (“NorthBridge”). NorthBridge is a
9 consulting firm that provides economic and strategic advice to the electric and natural gas
10 industries.

11 **Q. MR. SCHNITZER, PLEASE SUMMARIZE YOUR RELEVANT EXPERIENCE IN**
12 **THE ELECTRIC ENERGY INDUSTRY.**

13 A. In 1992, I co-founded NorthBridge. Before that, I was a Managing Director of Putnam,
14 Hayes & Bartlett, which I joined in 1979. I have focused throughout this time on advising
15 energy companies about strategic issues, particularly those relating to finance and market
16 structure issues. In so doing, I have experience working with private sector clients in the
17 electric utility, natural gas, private power, and steel industries, as well as with public and
18 nonprofit agencies.

19 I have testified before the Federal Energy Regulatory Commission (“FERC”) and a
20 number of state commissions and departments on issues relating to competitive

1 restructuring and wholesale market design, including Locational Marginal Pricing
2 (“LMP”) and Financial Transmission Rights, Regional Transmission Organizations
3 (“RTO”), standard market design, resource adequacy, and transmission expansion pricing.
4 On several occasions I have been invited by FERC staff to participate as a panelist in
5 technical conferences on these subjects. I have also testified before several state
6 commissions and departments on the subject of provision of default service to retail
7 customers, including evaluation of competitive procurement proposals.

8 **Q. MR. SCHNITZER, PLEASE SUMMARIZE YOUR EDUCATIONAL**
9 **BACKGROUND.**

10 A. I hold a Master of Science degree in Management from the Sloan School of Management,
11 of the Massachusetts Institute of Technology, which I received in 1979. My concentration
12 was in finance. I also received a Bachelor of Arts degree in chemistry, with honors, from
13 Harvard College in 1975. My resume is attached as Exhibit MMS-1 to this testimony.

14 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

15 A. I am testifying on behalf of the Electric Power Supply Association (“EPSA”) and the PJM
16 Power Providers Group (collectively, “P3”).

17 **Q. PLEASE PROVIDE SOME BACKGROUND ON EPSA AND P3?**

18 A. EPSA is the national trade association representing competitive power suppliers, including
19 generators and marketers. Competitive suppliers account for 40 percent of the installed
20 generating capacity in the United States, providing reliable and competitively priced
21 electricity. EPSA seeks to bring the benefits of competition to all power customers.

1 P3 is a nonprofit organization dedicated to advancing federal, state and regional
2 policies that promote properly designed and well-functioning electricity markets in the
3 PJM region. Combined, P3's member companies own over 87,000 megawatts of
4 generation assets and over 51,000 miles of transmission lines in the PJM Interconnection,
5 L.L.C. ("PJM") region, serve nearly 12.2 million customers and employ over 55,000
6 people in the 13-state and District of Columbia PJM region. P3 members operate a
7 number of facilities both within the Commonwealth of Virginia and in the surrounding
8 PJM regional marketplace.

9 **II. PURPOSE AND CONCLUSIONS**

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11 A. On November 2, 2012, Dominion Virginia Electric and Power Company ("Dominion" or
12 the "Company") filed its Certificate of Public Convenience and Necessity ("CPCN")
13 application for approval of the proposed Brunswick County Power Station electric
14 generation and related transmission facilities (the "Brunswick Project" or "Project") and
15 for approval of a rate adjustment clause, designated Rider BW, with the Virginia State
16 Corporation Commission ("SCC" or "Commission"). The Company states that, "The
17 Brunswick County Power Station is the clear economic and operational choice for the
18 Company's customers as the next required resource in order to meet long-term capacity
19 and energy needs"¹ and that, "[t]he Project was selected as the most reasonable and cost-

¹ Dominion CPCN Application, at 3.

1 effective means of addressing customers' growing needs" taking into account alternative
2 resources, including market purchases.²

3 The purpose of my testimony is to evaluate whether Dominion has demonstrated
4 that the proposed Project is reasonable and in the public interest, and in particular, whether
5 the Company has achieved its stated objective of appropriately identifying the resources
6 necessary to meet future energy and capacity needs in an efficient and reliable manner at
7 the lowest reasonable cost.

8 **Q. COULD YOU PLEASE SUMMARIZE YOUR CONCLUSIONS?**

9 A. Yes, I have three primary conclusions:

- 10 1) There is no physical need for new capacity in the Dominion Zone ("DOM Zone")³
11 in 2016 and Dominion's load can be reliably served with existing market
12 resources:
- 13 ➤ PJM currently has 5 to 7 GW of excess capacity above PJM's target reserve
14 margin.⁴
 - 15 ➤ Based on the Company's proposed resource plan including planned
16 retirements, the DOM Zone reserve margin would be about 31% until 2027, or
17 about two times higher than PJM's target installed reserve margin of 15-16%.
 - 18 ➤ Even if Dominion does not build any new capacity, additional capacity is not
19 needed in the DOM Zone until after 2022, suggesting that under any

² Dominion CPCN Application, at 6. The Dominion 2012 Integrated Resource Plan ("Dominion 2012 IRP" or "Plan") states that the Company has identified its preferred mix of resources, including the proposed Brunswick Project, "in an efficient and reliable manner at the lowest reasonable cost" while considering uncertainties related to current and future regulations. Dominion 2012 IRP, at 2, filed August 31, 2012, in accordance with §56-599 of the Code of Virginia and the SCC guidelines issued on December 31, 2008, as well as §62-2 of the North Carolina General Statutes and Rule R8-60 of the North Carolina Utilities Commission's Rules and Regulations. Similarly, the Company filed its 2011 Integrated Resource Plan ("2011 IRP") on September 1, 2011.

³ The DOM Zone consists of Dominion's load and other nearby Load-Serving Entities ("LSEs"). The DOM LSE load is derived by subtracting the other LSEs from the DOM Zone load.

⁴ This represents capacity that has cleared in recent PJM auctions. There is significant additional capacity that has not cleared that also would be available.

1 circumstances the proposed Brunswick Project and costs could be deferred at
2 least 6 years.

3 2) Dominion's assessment of the economic benefits of the proposed Project is flawed
4 and cannot be relied upon:

5 ➤ The Company's principal economic analysis compares the costs of the Project
6 to a projection of market prices, rather than a comparison to actual market
7 offers.

8 ➤ That forecast of market prices relied on by the Company is inconsistent with
9 observable market data, and inconsistent with the Company's construction cost
10 assumptions for new combined cycle gas turbine ("CCGT") capacity.

11 ■ The Company relies on a natural gas price forecast that exceeds current
12 forward prices on average by more than █% and an energy price
13 forecast that is also above current market forward prices with prices
14 that are █ per MWH higher than market in 2016.

15 ■ While Dominion did not conduct an adequate solicitation of
16 competitive offers, the results from the Company's limited solicitation
17 suggest that the Company's capacity price forecast is far too high.

18 ■ In fact, the Company's capacity price forecast is double or triple the
19 capacity price implied by one market offer presented to the Company
20 and this market offer is well below – \$440 to \$600 million in present
21 value terms – the energy and capacity market price forecast underlying
22 the Company's CPCN analysis.

23 ■ In addition, the Company's long-term market price forecast is driven by
24 a forecast of the Cost of New Entry ("CONE") that appears to be based
25 on a construction cost estimate for a new combined cycle plant which is
26 about █% higher than Dominion's construction cost estimate for the
27 Brunswick Project.

28 ■ The energy and capacity price forecast used by the Company to
29 produce the Company's estimate of customer savings due to the Project
30 when compared to a Brunswick-like merchant combined cycle facility
31 suggests that the unit would earn returns in excess of its cost of capital
32 by approximately \$600 to \$900 million in present value terms. As a
33 general rule, market price forecasts which assume that generic new
34 entry can earn returns in excess of its cost of capital, particularly during
35 surplus supply conditions, are suspect.

36 ➤ This observable market data raises significant concerns about the forecast the
37 Company is using and its relationship to actual or true market prices that can
38 be obtained in the market. Further, the inconsistencies between the forecast and
39 market data suggest that the Company's estimate of customer savings from the
40 proposed Project cannot be relied upon.

1 3) Dominion fails to systematically evaluate competitive market alternatives available
2 to Dominion's customers and the related customer benefits that competitive
3 markets provide:

- 4 ➤ Dominion failed to conduct a broad resource solicitation process to identify
5 possible market alternatives to the proposed Brunswick Project.
- 6 ➤ The Company's informal process to solicit existing contract extensions from
7 three NUGs was severely flawed.
- 8 ➤ The Company's evaluation of the few offers it solicited was severely flawed:
 - 9 ▪ Dominion did not actually compare the market offers to the Brunswick
10 Project.
 - 11 ▪ Instead, the Company assumed that the Brunswick Project would be
12 built in 2016 in all cases and changed the timing and amount of future
13 new builds for each market offer.
 - 14 ▪ Dominion's results are driven by the fact that the recommended plan
15 has more capacity than the plans with market offers in most years and
16 this excess capacity is valued at the inflated ICF capacity forecast.
- 17 ➤ Dominion fails to consider short-term market purchase opportunities which
18 could defer the Brunswick Project, while continuing to preserve the option to
19 build the Project later, when it might be more economic to do so.

20 Dominion's filed application for a CPCN has serious flaws and does not appropriately
21 incorporate the available advantages of regional competitive markets for the benefit of
22 Virginia customers. Rather than relying on a long-term forecast of market prices to make
23 an important resource decision involving substantial sums of money, resource decisions
24 should be made based upon the costs and risks of a broad set of alternatives including
25 market purchases. Dominion plans to self-build 1,358 MW of new generation and
26 associated transmission facilities without fully considering market alternatives and
27 without conducting a transparent, competitive market test to determine whether such a
28 plan would in fact provide its customers the lowest reasonable cost resource solution.
29 Meanwhile, Dominion *estimates* that the total capital costs of this new generation resource

1 will be about \$1.3 billion.⁵ Given the magnitude of dollars involved, if the Commission
2 does not require an open and transparent competitive market test in the CPCN process,
3 Dominion’s customers could be forced to pay significant above-market generation costs
4 for long periods of time.

5 **Q. WHAT DO YOU RECOMMEND?**

6 A. To maximize benefits to Dominion’s customers, I recommend that the SCC:

- 7 (1) Reject Dominion’s proposed Brunswick Project CPCN;
8 (2) Require that Dominion fully evaluate the cost and risk profile related to relying
9 almost exclusively on Company-owned generation versus a mix of long-term,
10 intermediate and short-term generation resources (including options to defer the
11 Project with short-term market purchases as needed in the interim period); and
12 (3) Require Dominion to resubmit the CPCN including the results of an open,
13 transparent, and objective competitive market test which includes an assessment of
14 deferring the Project and relying on short-term market purchases as needed in the
15 interim period.

16 Competitive suppliers have a long history of successfully providing reliable,
17 efficiently-priced electricity from both existing facilities and new construction in contracts
18 of varying lengths to serve all types of customer power needs. A competitive test and
19 associated cost and risk analysis for the selection of resources – whether a utility
20 constructed plant, a power purchase agreement, or a competitive supplier’s new build –
21 will ensure that the proposed Project benefits customers by meeting any resource needs in
22 an efficient and reliable manner at the lowest reasonable cost.

⁵ This estimate excludes financing and required natural gas infrastructure costs. Dominion CPCN Application, at 9. It also excludes potential cost over-runs.

1 Without considering available alternatives, Dominion is gambling with billions of
2 dollars of ratepayer money, betting its plan will provide electricity at prices better than
3 what could be obtained in the competitive market of which Dominion is a part. Absent a
4 competitive market test to ensure customer needs are met at the lowest reasonable price,
5 the Brunswick Project cannot be considered reasonable and in the public interest and
6 should therefore be rejected.

7 **III. THERE IS NO PHYSICAL NEED FOR NEW CAPACITY IN THE DOMINION**
8 **ZONE IN 2016 AND DOMINION'S LOAD CAN BE RELIABLY SERVED WITH**
9 **EXISTING MARKET RESOURCES**

10 **Q. PROVIDE A BRIEF OVERVIEW OF THE ADDITIONAL RESOURCES THE**
11 **COMPANY IS PROPOSING TO SECURE GOING FORWARD.**

12 A. Dominion has proposed to meet its needs with 821 MW of demand-side resources and
13 7,018 MW of supply-side resources. The supply-side resources are almost entirely new
14 self-build generation. Dominion has proposed the construction of:

- 15 • 2,712 MW from the Brunswick and Warren County combined-cycle
16 facilities,
- 17 • 1,454 MW North Anna 3 nuclear unit,
- 18 • 2,175 MW of new generic gas combined-cycle and combustion turbine
19 facilities, with
- 20 • another 677 MW of other supply-related resources coming from coal
21 conversion, plant repowering, renewables, etc.⁶

⁶ Dominion 2012 IRP, at 108.

1 The estimated total capital costs of just the new traditional generation resources is
2 expected to cost over [REDACTED] dollars over the 2013-2027 planning period.⁷ In this
3 CPCN proceeding, Dominion is seeking Commission approval to recover the full amount
4 of the estimated \$1.3 billion in capital costs of the Brunswick Project, and any cost
5 overruns, from Dominion's customers through a rider adjustment clause (Rider BW).

6 **Q. DOES DOMINION ASSERT THAT IT WILL NEED CAPACITY RESOURCES IN**
7 **THE NEAR FUTURE GIVEN CURRENT EXPECTATIONS OF LOAD**
8 **GROWTH?**

9 A. Yes, Dominion indicates it has a capacity shortfall starting around 2015, which grows to
10 5,862 MW by 2027.⁸

11 **Q. IS THE "NEED" DETERMINED BY THE COMPANY A PHYSICAL**
12 **RELIABILITY NEED THAT REQUIRES NEW RESOURCES IN THE**
13 **DOMINION ZONE?**

14 A. No. The Company's IRP Preferred Plan, which includes the proposed Project, assumes
15 that Dominion's needs require building new generation within PJM's DOM Zone.
16 However, this "need" does not represent a physical reliability need. It simply indicates
17 that, absent some action by Dominion, the Company will purchase a portion of its PJM
18 capacity obligation through PJM's Reliability Pricing Model ("RPM") capacity auction. In
19 discovery, the Company acknowledges that, "While no one unit will jeopardize the

⁷ Dominion 2012 IRP, Appendix 6D, labeled as "Confidential."

⁸ Figure 1.3.1, Dominion 2012 IRP, at 4.

1 reliability of a well-planned system, choosing not to build the Project would result in
2 higher cost of service for customers...”⁹ Thus, the Company admits that the unit is not
3 truly needed for physical reliability reasons, rather, it is the Company’s view that the
4 Project is prudent for economic reasons. As a member of PJM, Dominion has the option
5 of meeting a portion of its capacity and energy needs through annual RPM capacity
6 auctions and energy purchases from the PJM market.

7 **Q. HOW CAN DOMINION MAKE PURCHASES FROM THE PJM CAPACITY**
8 **MARKET?**

9 A. The Dominion service territory has been part of the PJM RTO since 2005. PJM
10 coordinates the reliable movement of electricity over all or part of 13 states plus the
11 District of Columbia.¹⁰ PJM operates a competitive wholesale electricity market, ensuring
12 electric reliability for over 58 million people. PJM has over 750 members, manages over
13 62,591 miles of transmission lines, and dispatches approximately 185,600 MW of
14 generation. It is the largest organized market for wholesale electricity in the United States.

15 Through its Reliability Pricing Model, PJM provides a simple, easy, and efficient
16 way for Dominion to obtain capacity to fulfill its capacity needs at transparent market
17 prices. To ensure resource adequacy and enhance the long-term reliability of service
18 within the RTO, PJM’s RPM auctions solicit commitments from capacity resources and
19 acquires all the necessary capacity needed for participating LSEs. Eligible resources can

⁹ Dominion Discovery Response to P3, I-1.

¹⁰ The states in which PJM operates includes: Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

1 be generation, demand response, energy efficiency and qualified transmission
2 enhancements. Each year, PJM conducts an auction to procure sufficient capacity for all
3 participating utilities for three years into the future.¹¹

4 In addition to meeting its capacity needs at competitive market prices, membership
5 in PJM provides Dominion with a wide variety of options available to fulfill its energy
6 requirements at competitive market prices. In fact, Dominion itself acknowledges these
7 benefits stating that, “The Company’s PJM membership has given it access to a wide pool
8 of generating resources for energy and capacity.”¹²

9 **Q. ARE SUFFICIENT RESOURCES AVAILABLE IN PJM TO SATISFY**
10 **DOMINION’S FORECASTED CAPACITY NEEDS?**

11 A. PJM is currently long capacity throughout the RTO. PJM has already procured more than
12 enough capacity for all of the LSEs in PJM, including Dominion, through May of 2016,
13 and has a “capacity cushion,” or installed reserve margin¹³ that exceeds its target of 15-
14 16%. In May 2013, PJM will conduct its RPM auction to procure resources for June 2016
15 through May 2017.¹⁴ In this auction, PJM will procure adequate resources to maintain

¹¹ In May of 2013, PJM will procure capacity for the period June 2016 through May 2017. If Dominion’s resources are exactly equal to its resource needs, then its net capacity purchases from PJM will be zero. On the other hand, if Dominion’s resources are slightly less than its needs, then it will automatically purchase its capacity needs through PJM’s RPM reliability program.

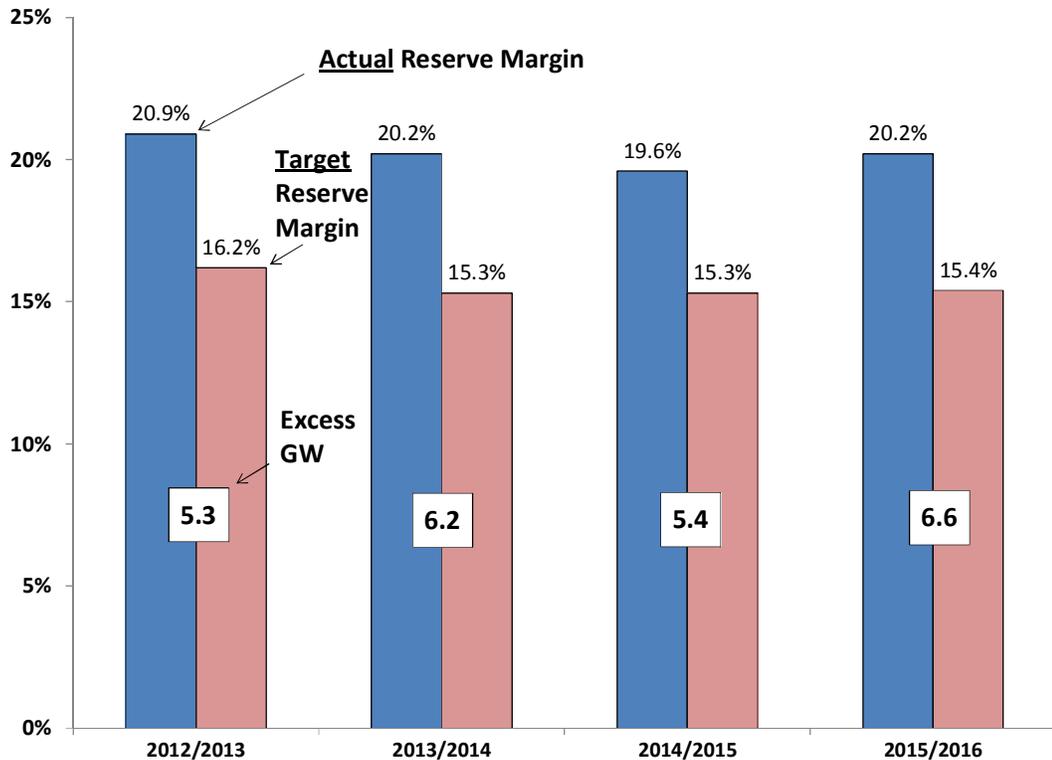
¹² Dominion 2012 IRP, at 92.

¹³ The reserve margin is a measure of resources available above peak load. It is defined as: (Total Resource – Peak Load) / Peak Load.

¹⁴ According to market analysts, the PJM Interconnection capacity auction parameters released for the 2016/2017 RPM auction show a likely increase in new gas capacity clearing, increased demand response and a weak demand outlook, all of which could lead to lower capacity prices for delivery year 2016/2017, “PJM Capacity Prices Likely To Be Lower This Year,” Platts Megawatt Daily, February, 5, 2013.

1 reliability and Dominion can access these resources as a member of PJM. Therefore, it is
 2 important to recognize that the regional market of PJM which Dominion is a member has
 3 ample existing capacity to meet any purported need in Virginia through 2016 and has met
 4 the capacity needs of its members in every year since its inception.

5 **Figure 1. PJM Has Sufficient Capacity**¹⁵



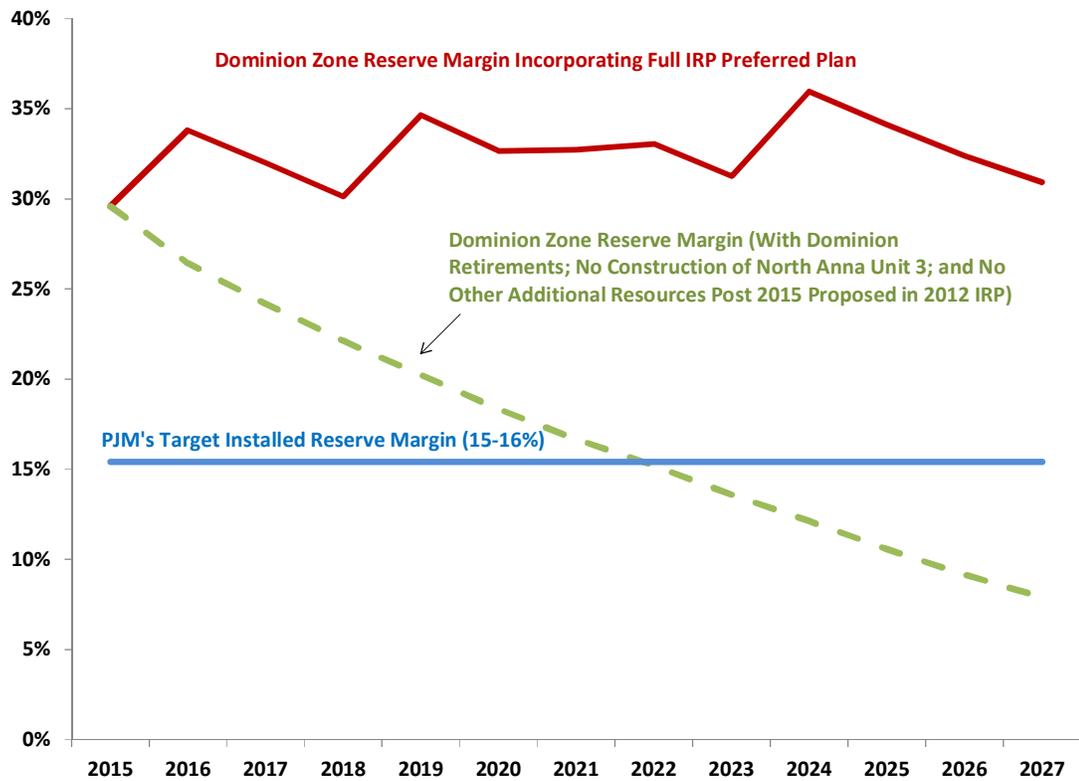
6
 7 **Q. IS THERE ANY EVIDENCE INDICATING DOMINION NEEDS TO BUILD**
 8 **GENERATION CAPACITY TO SERVE ITS CUSTOMERS?**

9 A. No. Based on the 2013 PJM Load Report forecast, the current generating and demand
 10 side resources available in the DOM Zone, and the 2012 IRP Preferred Plan, the DOM
 11 Zone will significantly exceed its reliability requirement both now and in the foreseeable

¹⁵ PJM 2015/2016 RPM Base Residual Auction Results, at 5. Updated 2015/2016 RPM Base Residual Auction Planning Period Parameters, at 3.

1 future. Based on the Company's proposed resource plan including planned retirements,
2 the DOM Zone reserve margin would be about 31% until 2027, or about two times higher
3 than PJM's target installed reserve margin of 15-16%. This analysis shows that while
4 Dominion has forecasted a contractual short capacity position, its proposed build plan will
5 create significant excess capacity in its zone.

6 **Figure 2. The PJM DOM Zone Reserve Margin is Well Above PJM's Target**
7 **Reserve Margin¹⁶**



8
9 This analysis implies that Dominion could access considerable non-Dominion resources
10 within its zone to assist in filling its estimated short capacity position. Furthermore, even
11 if Dominion's proposed new build capacity is not built, it appears that additional capacity

¹⁶ Based on the 2013 Draft PJM Load Report, the 2015/16 PJM RPM Base Residual Auction Resource Model, and the Dominion 2012 IRP Preferred Plan.

1 is not needed in the DOM Zone until after 2022, suggesting that under any circumstances
2 the proposed Brunswick Project and costs could be deferred until later.

3 **Q. HOW DO YOU RESPOND TO DOMINION’S ASSERTION THAT SELF-BUILD**
4 **GENERATION IS NECESSARY TO MAINTAIN STABILITY IN THE DOM**
5 **ZONE?**

6 A. Dominion asserts that “it is critical that adequate reserves are maintained not just in PJM
7 as a whole, but specifically in the DOM Zone to ensure that the Company's load can be
8 served reliably.”¹⁷ However, as I discussed previously, Dominion’s resource plan results
9 in a reserve margin in the DOM Zone that is roughly twice the PJM target. Dominion has
10 not presented any evidence showing that significant excess capacity in the DOM Zone,
11 well above “adequate reserves” as defined by PJM, is beneficial to customers.

12 Furthermore, as for the stated concern regarding reliability and higher zonal
13 capacity prices, PJM’s RPM reliability program is constructed specifically to ensure that
14 reliability on a zonal basis is maintained, based on the transmission system topology.
15 Based on the results of the RPM auctions to date, there has not been, nor are there
16 forecasted to be, reliability issues in the DOM Zone for capacity purposes. The DOM
17 Zone has never cleared as a separate sub-region due to any delivery constraints and
18 therefore has never experienced higher prices than the rest of the PJM RTO. As such,
19 there is no objective market evidence that Dominion’s customers are at risk for higher
20 capacity prices or reliability concerns. In addition, Dominion presents no evidence that

¹⁷ Dominion 2012 IRP, at 92.

1 without the Dominion self-build, there will be reliability issues going forward, nor any
2 reasonable expectation of future transmission constraints that would cause the DOM Zone
3 to clear at a higher capacity price than the RTO as a whole.

4 **Q. HOW DOES PJM CHARACTERIZE THE DOM ZONE IN ITS 2016/2017 RPM**
5 **BASE RESIDUAL AUCTION PLANNING PARAMETERS?**

6 A. The DOM Zone is one of the few zones specifically considered by PJM to have adequate
7 internal resources to meet the reliability criterion even if import capability is excluded.¹⁸
8 Most zones evaluated by PJM rely on import potential to satisfy a portion of their
9 reliability needs. If import potential is included in the DOM Zone reserve margin
10 calculation, then new supply would not be needed in that zone until sometime after 2022.

11 **Q. ARE THERE LIKELY TO BE ALTERNATIVE MARKET-BASED OPTIONS TO**
12 **DOMINION'S PLAN TO BUILD GENERATION WITHIN ITS ZONE?**

13 A. Yes. I have already illustrated that the DOM Zone will be significantly long capacity
14 going forward under the Company's resource plan, which indicates that market-based
15 resources will be available. Illustrations of such market alternatives include the expiring

¹⁸PJM's Regional Transmission Expansion Plan ("RTEP") process considers a number of reliability criteria, including the CETO/CETL load deliverability test. Basically, this test deals with load pockets – areas where load exceeds generation – and transmission import capability is required to keep the lights on. To test load deliverability, PJM calculates a Capacity Emergency Transfer Objective ("CETO"), which represents the amount of import capacity that must exist for a particular load zone to meet a 1 event-in-25 year loss of load expectation. PJM then calculates the Capacity Emergency Transfer Limit ("CETL"), which represents the amount of existing import capacity for that load zone. If CETO is greater than CETL, then the zone fails the load deliverability test and a solution must be identified for inclusion in the RTEP – *i.e.*, more transmission into the load pocket is needed. PJM's DOM zone is one of the few Locational Delivery Areas that has a negative CETO in its 2016/2017 RPM Base Residual Auction Planning Parameters. This implies that the DOM Zone has more than enough internal resources as it currently stands, so much so that the transmission limit into the zone does not need to be considered in the upcoming 2016/2017 RPM auction. The CETO is driven largely by the level of generation reserves within the test area. PJM 2016-2017 RPM Base Residual Auction Planning Parameters.

1 NUG Power Purchase Agreements (“PPAs”), competitive units such as the Fluvanna 885
2 MW combined-cycle gas unit,¹⁹ and the 10-year contract Exelon signed with Old
3 Dominion Electric Cooperative (“ODEC”) starting in June 2010 for 200 MW of baseload
4 energy and capacity.²⁰

5 It is also worth noting that recently Virginia-based Appalachian Power Company
6 (“APCO”) filed applications with commissions in Virginia and West Virginia seeking
7 approval to transfer certain existing generating assets from Ohio Power to APCO stating
8 that, “The decision to acquire the Amos and Mitchell units was determined to be the least
9 cost alternative for meeting Appalachian Power’s needs over the long term” since it can
10 acquire the existing units for less than building a new natural gas combined cycle plant.²¹

11 **Q. ARE THERE CONSTRAINTS RESTRICTING THE LOCATION FROM WHICH**
12 **DOMINION CAN SOURCE CAPACITY TO MEET ITS NEEDS?**

13 A. No, based on the results from the PJM RPM capacity auctions, the DOM Zone is not
14 constrained from the rest of PJM, suggesting that resources outside the DOM Zone can be
15 used to serve load within the Company’s service area. Since 2007, the DOM Zone has
16 never been classified in an RPM base residual auction as a separate zone due to delivery

¹⁹ The 885 MW Fluvanna natural gas combined cycle facility, built in 2004, is located in the DOM Zone but is not under contract with Dominion. Tenaska owns this unit and has a long-term energy conversion agreement with Shell Energy North America (US), L.P. (“Shell”) for the entire electrical production of the generating station. Under this long-term agreement, the Tenaska facility converts fuel owned and supplied by Shell into electricity, which Shell markets throughout Virginia and the regional wholesale power market. It is my understanding that Dominion did not contact Shell to express any interest in purchasing power from the Fluvanna facility and that the majority of the Fluvanna station MW would be available for Dominion purchase.

²⁰ ODEC Press Release “ODEC and Exelon Generation Sign Long-Term Energy Supply Contract,” October 28, 2009.

²¹ APCO Press Release, December 18, 2012.

1 constraints. When the amount of electricity that can flow into a particular area is limited
2 (*i.e.*, a zone is “constrained”), this can lead to separate and higher capacity prices within
3 that area. The fact that the DOM Zone has not been constrained for capacity purposes in
4 the PJM market means that Dominion has been able to purchase capacity available from
5 within the RTO but outside of Virginia through the market system at the lowest-available
6 market-wide prices.²² Dominion has provided no convincing evidence within its 2012 IRP
7 that transmission constraints with respect to capacity will exist in the future into its service
8 area from the rest of the PJM market.²³

9 **IV. DOMINION’S ASSESSMENT OF THE ECONOMIC BENEFITS OF THE**
10 **PROPOSED PROJECT IS FLAWED AND CANNOT BE RELIED UPON**

11 **Q. WHAT IS THE BASIS FOR DOMINION’S SELECTION OF THE PROJECT?**

12 A. Dominion describes four separate resource plans the Company believes could reasonably
13 meet its estimated future resource obligations. It then evaluates these four plans under a
14 base case set of market assumptions related to market prices, environmental regulations,
15 cost of new generation, etc.²⁴ In addition, the alternative plans are considered under
16 various constructed scenarios and sensitivities around these base case assumptions. Based
17 on these analyses, Dominion selects what it describes as the least-cost alternative for

²² In addition, significant recent investment in transmission infrastructure has increased the ability to move capacity from region to region in PJM. For example, the recently energized TrAIL transmission line has relieved constraints into Eastern PJM, increasing import capability by over 1,000 MW into the load centers along the I-95 corridor. PJM presentation “TrAIL Operational Impacts,” October 2011.

²³ Even if Dominion attempted to assert that such constraints would exist in the future, this too could be evaluated more efficiently with a competitive market test.

²⁴ The Company states that it used the Strategist model to develop a long-term IRP Preferred Plan based on the *Company’s current assumptions* regarding load growth, commodity price projections, DSM programs, and other regulatory and market developments. Dominion Discovery Response to P3, I-7(b).

1 customers.²⁵ A significant component of this evaluation process is a long-term market
2 price forecast, which is the basis for fuel prices and the cost of market supply alternatives.
3 This forecast was provided by the consulting firm ICF International ("ICF"). Dominion
4 states that it “utilizes a single source for the commodity price forecast to ensure
5 consistency in methodologies and assumptions.”²⁶ Dominion’s IRP and CPCN for the
6 proposed Project are based on ICF’s view of future market prices. Unless systematically
7 tested as I describe later in my testimony, significant capital investment decisions will be
8 based on this view.

9 **Q. DOES THE LONG-TERM MARKET PRICE FORECAST INFLUENCE THE**
10 **EVALUATION OF RESOURCE ALTERNATIVES?**

11 A. Yes, significantly. The market price forecast is used as a proxy for market purchases, so it
12 drives the relative attractiveness of market purchases versus self-build alternatives. If this
13 market price forecast is “too low,” Dominion will favor market purchases. If this forecast
14 is “too high,” Dominion will favor self-build options, since market energy purchases will
15 look relatively more expensive. Rather than relying on a market price forecast, Dominion
16 should instead rely on actual market prices. Market prices are very different than forecasts

²⁵ Dominion 2012 IRP, at 5.

²⁶ Dominion 2012 IRP, at 51 (emphasis added). The Company’s analysis uses energy and commodity price forecasts provided by ICF in all periods except the first 36 months of the study period. The forecast used forward market prices for natural gas, coal, and power prices for the first 18 months and then blended forward prices with ICF estimates for the next 18 months. Beyond the first 36 months, the Company used the ICF commodity price forecast exclusively. The forecast used for capacity prices and CO2 prices are provided by ICF for all years as are the forecasted NOx and SO2 allowance prices. The capacity prices are provided on a calendar year basis and reflect the results of the PJM RPM auction through the 2015/2016 delivery year, thereafter transitioning to the ICF capacity forecast beginning with the 2016/2017 delivery year. The CO2 price forecast begins in 2023 to reflect the potential for regulations or legislation covering CO2 emissions from the power sector.

1 in that they represent the prices at which actual buyers and sellers will contract today for
2 delivery on a future date.

3 Dominion's CPCN is based predominantly on a forecast of future market prices,
4 not actual market prices or market offers. So the best that can be said about how purchase
5 opportunities are reflected in this CPCN proceeding is that they are compared against
6 someone's assessment of what future market prices might be. However, that is quite
7 different from comparing them to actual market price evidence about future prices.

8 **Q. PLEASE EXPLAIN.**

9 A. Let me use this analogy. Dominion's plan is akin to when you move into a new city or
10 town and you want to buy a house, and a builder comes to you and says, "the cheapest
11 thing for you to do is to have me build you the new house for you to live in and here's the
12 price." And when you ask the builder, "Well, how do I know that's cheaper than a
13 comparable house I might buy in the neighborhood," the builder says, "I have a model that
14 takes into account population, income, lumber prices and concrete prices, and my forecast
15 is that my price is 20 percent cheaper than what it would cost you to buy a house." The
16 problem, however, is that the builder did not actually ever give you any information about
17 what people were willing to sell comparable houses for in that neighborhood. Maybe the
18 builder is offering a good price and maybe he is not. Without testing the actual market, it
19 is difficult to know.

20

1 **Q. HOW WOULD DOMINION OBTAIN THESE MARKET PRICES?**

2 A. Forward markets exist for both electricity and natural gas and these prices are typically
3 available on exchanges, such as NYMEX, for several years in the case of electricity and
4 roughly ten years in the case of natural gas. To obtain market prices for longer periods of
5 time, Dominion could conduct an open and transparent market test that I will describe in
6 more detail later.

7 **Q. HAVE YOU COMPARED FORWARD MARKET PRICES TO ICF'S PRICE**
8 **FORECAST?**

9 A. Yes. I have been able to compare ICF's natural gas price forecast to forward market gas
10 prices and I have also been able to evaluate the reasonableness of ICF's energy and
11 capacity price forecasts. All of the evidence I have reviewed suggests that the market price
12 forecast utilized by Dominion is too high.

13 First, ICF's natural gas price forecast at Henry Hub significantly exceeds both
14 current NYMEX forward prices and the EIA's 2013 forecast. For the 2016 to 2025 period,
15 the gas price forecast relied on by the Company exceeds current forward prices on average
16 by more than [REDACTED]. Over the longer term, the Company's natural gas price forecast is
17 more than [REDACTED] above the most recent EIA forecast.

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Figure 3. ICF's Henry Hub Natural Gas Price Forecast is Well Above Current NYMEX Forward Prices and EIA's Forecast (\$/MMBTU)

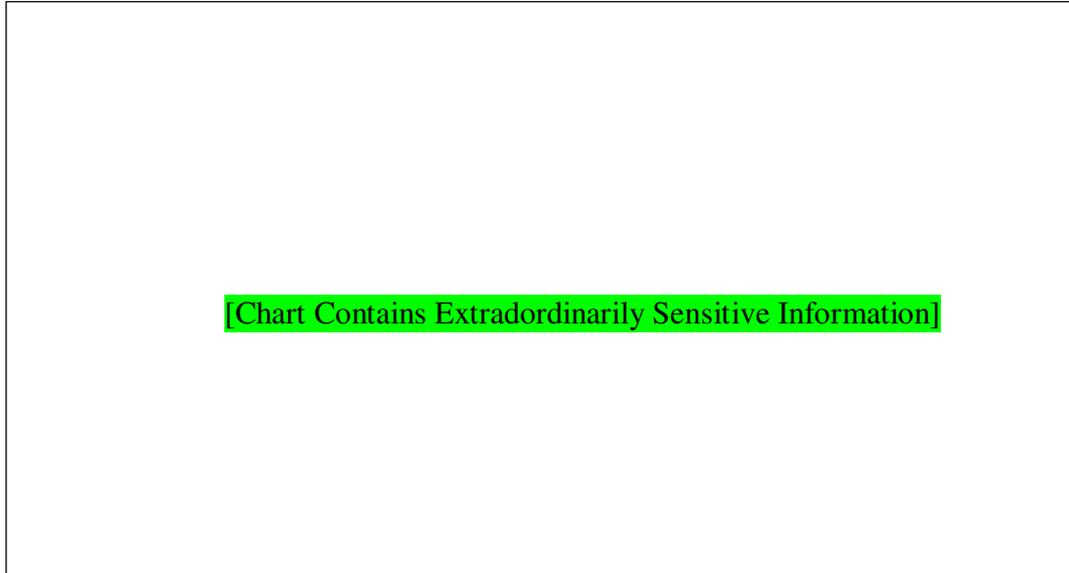


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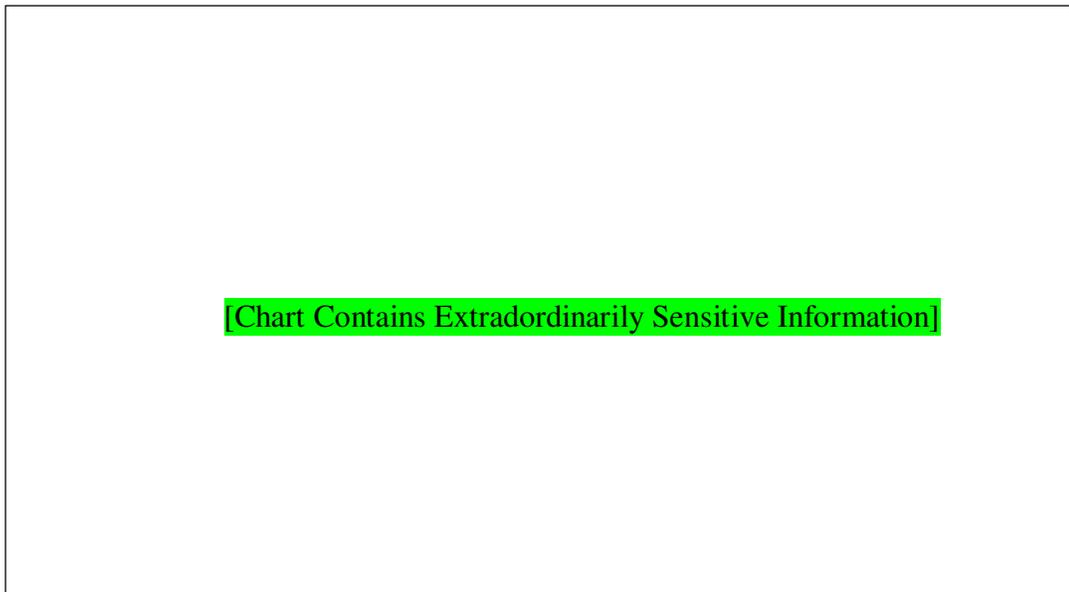
5 ICF's high gas price forecast relative to forward market prices also results in an
6 ICF energy price forecast that is well above currently available market prices. Figures 4
7 and 5 compare the ICF price forecast for PJMW Hub to NYMEX energy price forwards.²⁷
8 The ICF forecast is well above current forwards for both On-Peak and Off-Peak prices for
9 2014-2017. In 2017 alone, the forecast is [REDACTED] per MWH higher than market.

²⁷ NYMEX energy forwards are as of 1/21/2013.

1 **Figure 4. ICF's On-Peak Energy Price Forecast Is Significantly Higher than Actual**
2 **Forward Market Prices in 2017**



3
4 **Figure 5. ICF's Off-Peak Energy Price Forecast Is Significantly Higher than Actual**
5 **Forward Market Prices in 2017**

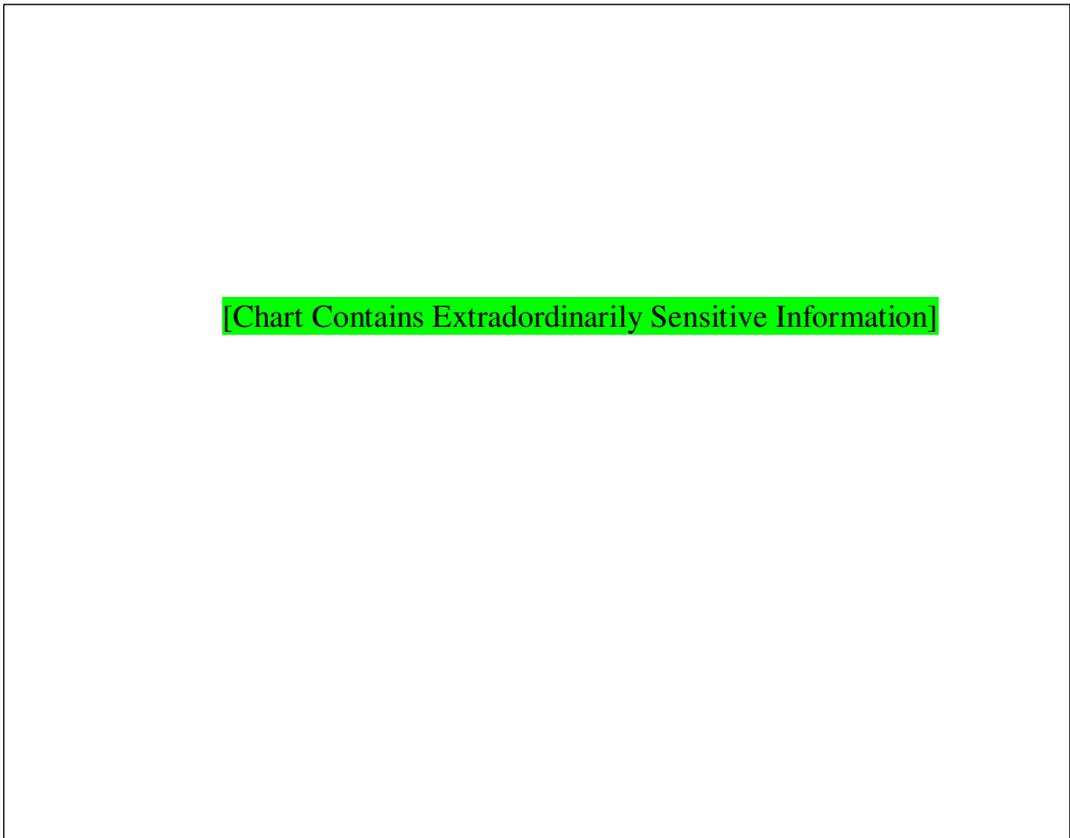


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1 Furthermore, Figure 6 shows the trajectory of the forecasted ICF energy prices for
2 PJMW Hub throughout the forecast time frame. On an annual basis, ICF energy prices
3 grow at █████ for peak and █████ for off-peak across the whole forecast period, which is
4 significantly higher than inflation.

5 **Figure 6. ICF’s Energy Price Forecast Assumes Price Escalation Well Above**
6 **Inflation Across the Forecast Period**

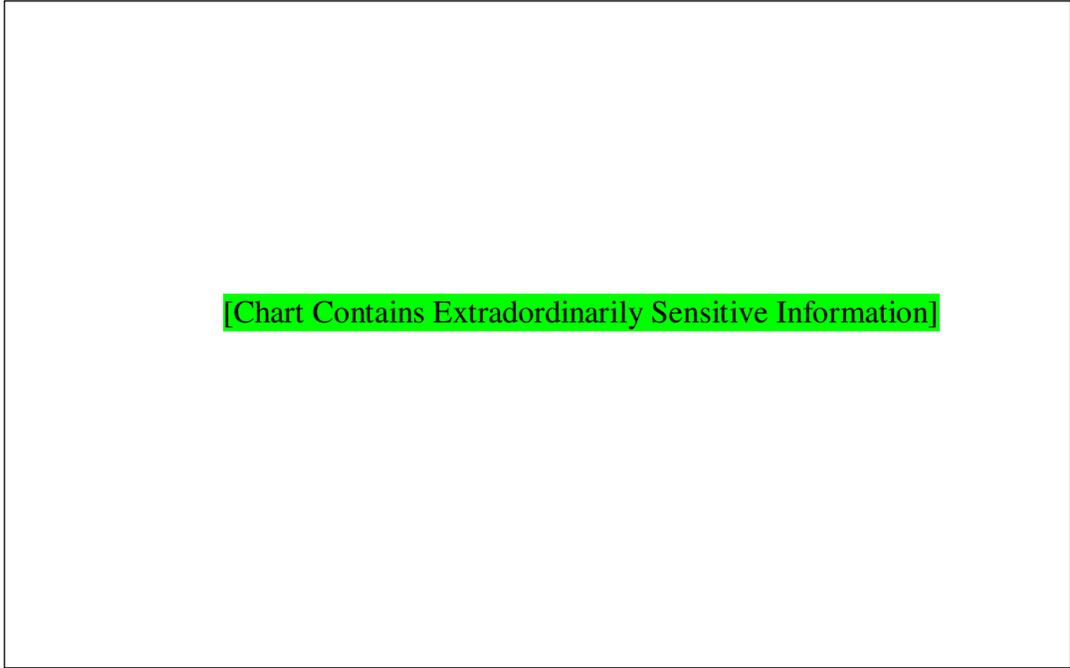


7
8
9 ICF’s capacity price forecast also assumes significant price increases, especially in
10 the next 10 years.

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Figure 7. ICF's Capacity Price Forecast Assumes Significant Increases (\$/kW-yr)



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This capacity price forecast is inconsistent with the market evidence obtained from Dominion's limited solicitation of market offers. The Company did not ask for any pure capacity offers, but they did receive a CCGT offer which can be used to estimate the market view of future capacity prices.

[Redacted text block]

28

[Redacted text block]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]²⁹

[REDACTED]

[REDACTED]

[REDACTED]

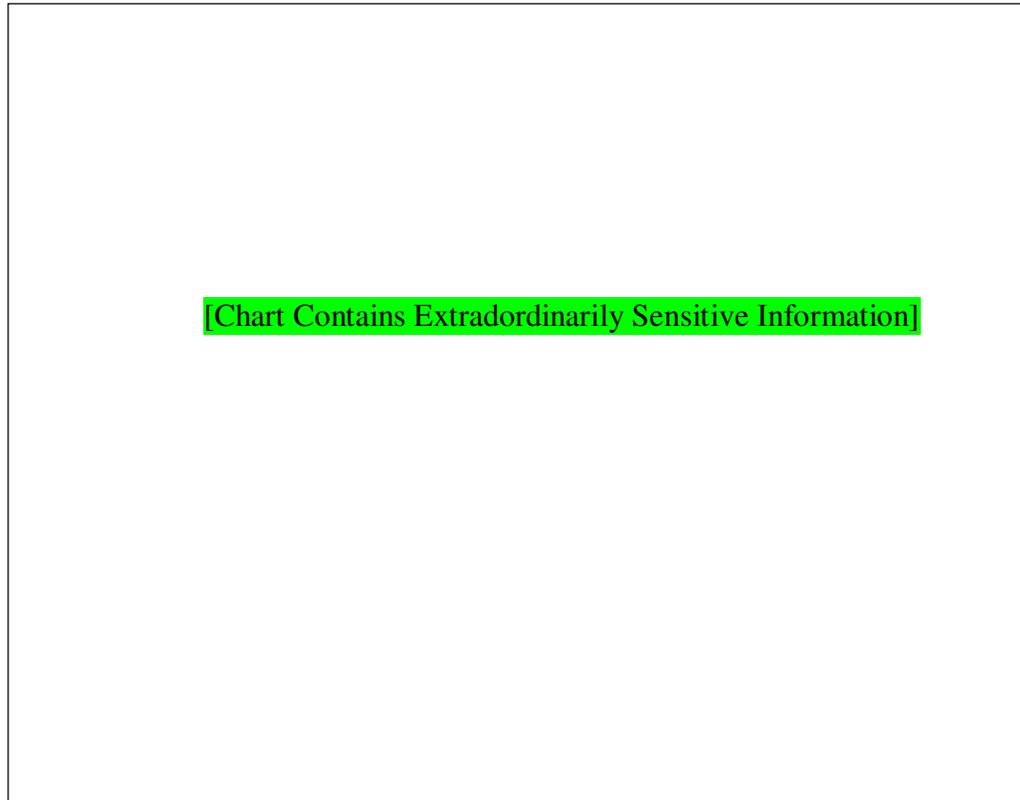
[REDACTED]³⁰

Contrast these values with the Company's levelized capacity price forecast for this same period of \$ [REDACTED] per kw-year – the Company's forecast is double or triple the price suggested by actual market evidence.

²⁹ I did not include any offset for market ancillary services revenue which would result in a higher credit to the capacity price.

³⁰ Both estimates are conservative since they do not include any offset for market ancillary services revenue. In addition, these estimates are consistent with the [REDACTED] capacity offer of [REDACTED] which, after accounting for energy and ancillary services margins, could be less than [REDACTED] per kw-year.

1 **Figure 8. ICF's Capacity Price Forecast Significantly Exceeds a NUG Market Offer**



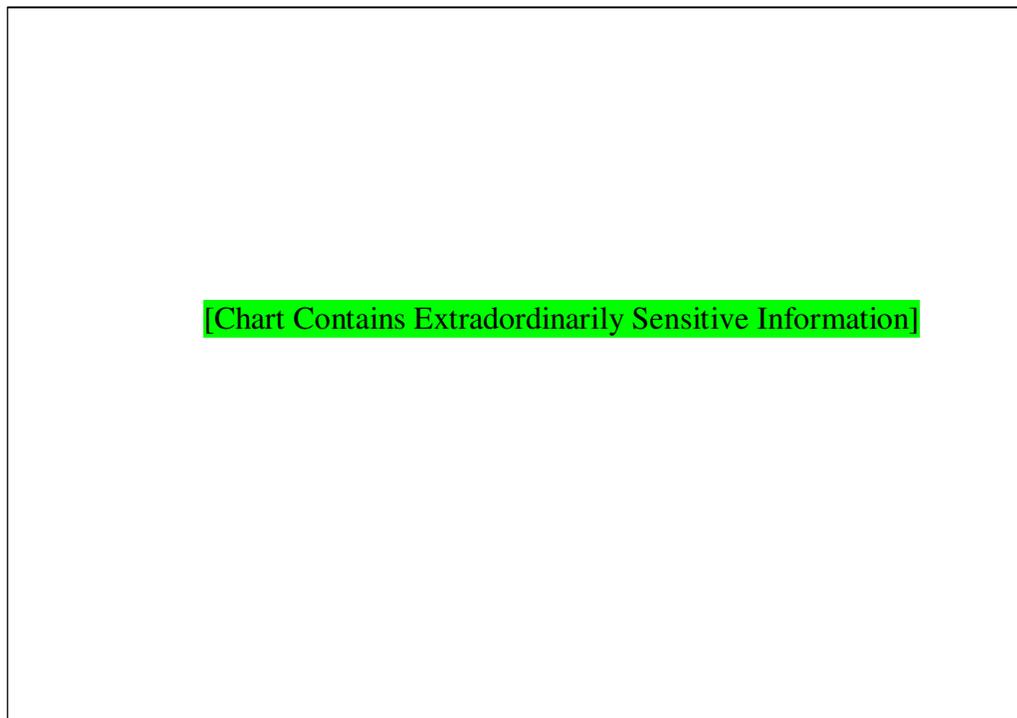
2

3 **Q. WHAT DOES THIS IMPLY ABOUT THE DIFFERENCE BETWEEN AN**
4 **ACTUAL MARKET PRICE OFFER RECEIVED BY THE COMPANY AND THE**
5 **FORECASTED MARKET PRICES RELIED ON BY THE COMPANY?**

6 A. While the Company did not adequately solicit market offers to replace or defer the
7 Brunswick Project, as I discuss later in my testimony, the results of the limited solicitation
8 that it did undertake suggest that the market price forecast it relied on is far too high. In
9 particular, one of the market offers (the [REDACTED] NUG extension) presented to the
10 company appears to be significantly lower (by approximately \$440 to \$600 million in
11 present value terms) than the market price forecast underlying the Company's entire
12 CPCN analysis.

1
2

Figure 9. A Market Offer is \$440 to \$600 Million “Below Market” Relative to ICF’s Market Price Forecast



3

4

The fact that actual offers are “below market” relative to the Company’s forecast raises significant concerns about the forecast the Company is using and its relationship to actual or true market prices that can be obtained in the market. Further, as I describe later in my testimony, it is not clear that the NUG offers provided to the Company even represent the best and final prices that could be obtained in the market since the Company’s solicitation was limited in scope, and once the Company received the NUG offers, it did not engage in any follow-up negotiations to obtain better pricing or terms with the suppliers.³¹

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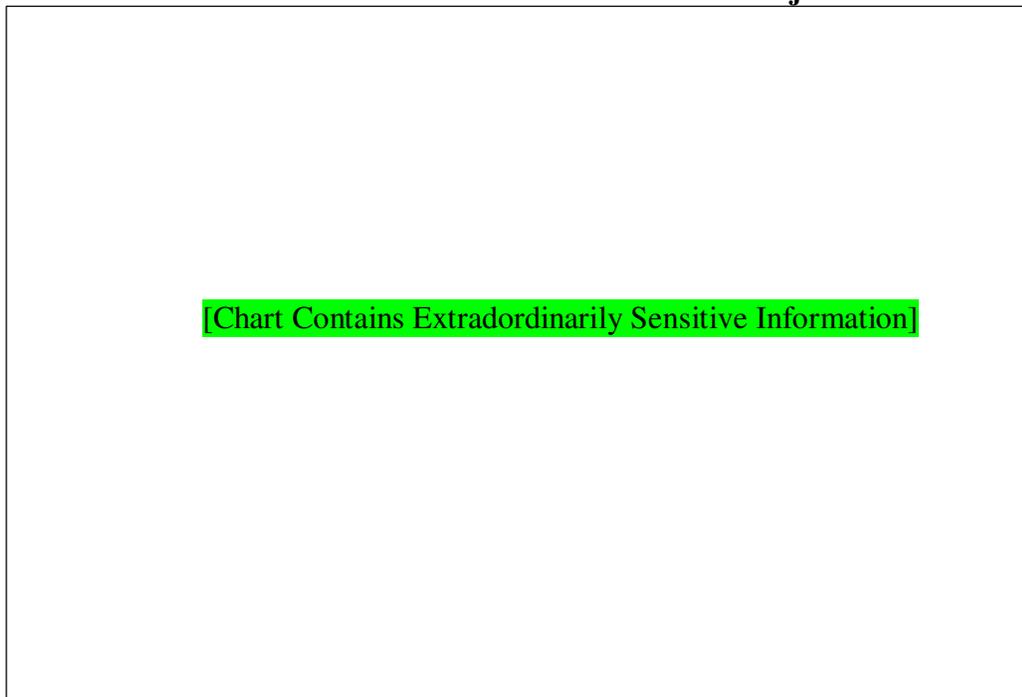
³¹

[Redacted Footnote Content]

1 **Q. MR. SCHNITZER, DO YOU HAVE ANY OTHER CONCERNS WITH THE**
2 **CAPACITY PRICE FORECAST THAT THE COMPANY RELIED ON?**

3 A. Yes, there also appears to be a significant inconsistency in the construction cost
4 assumptions used for Dominion's Brunswick Project and the construction cost
5 assumptions for a new combined cycle plant used by ICF in deriving its capacity market
6 price forecast, which could explain some of the disparity discussed above. Based on my
7 analysis, ICF's forecast of the construction cost of a new combined cycle plant is about
8 [REDACTED] higher than Dominion's construction cost estimate for the Brunswick Project.

9 **Figure 10. ICF's Construction Cost for a New Combined Cycle Plant Exceeds**
10 **Dominion's Estimate for the Brunswick Project**



11
12 It is not immediately obvious why Dominion should be assumed to be able to build a new
13 combined cycle plant for less than other market participants, but this certainly calls into
14 question both the capacity price forecast and the Company's market savings estimates
15 associated with the new Project.

1 The impact of the ICF construction cost assumptions on their price forecast can be
2 illustrated using recent PJM capacity cost of new entry assumptions. As part of its
3 administration of the Minimum Offer Price Rule (“MOPR”), PJM computes the capacity
4 price which, in combination with net energy and ancillary services revenues, would be
5 sufficient to attract new CCGT entry. For the DOM Zone, the calculated gross cost of new
6 entry for a combined cycle under MOPR is \$160/kw-year for the 2016/2017 power
7 year.³² Accounting for net energy and ancillary revenue offsets, PJM translates this into a
8 net CONE UCAP capacity price of \$72.3/kw-year. The combined cycle construction costs
9 underlying this PJM estimate of Net CONE are roughly comparable to those of the
10 Brunswick project on a \$/kw basis. However, I have demonstrated that the ICF estimate of
11 combined cycle construction costs that underlie its price forecast are approximately █%
12 higher than those of the Brunswick Project. Increasing the PJM estimate of CONE for a
13 █% increase in capital construction costs and applying the same MOPR net energy and
14 ancillary service offsets, the estimate of the net CONE capacity price for a combined cycle
15 unit in the DOM zone would increase to \$█/kw-year, or over █% above the
16 72.3/kw-year MOPR estimate. In other words, ICF’s higher construction cost assumption
17 could boost forecast capacity prices by over █% relative to those consistent with PJM
18 cost of new entry.

³² Preliminary MOPR Floor Offer Prices for 2016-2017, MOPR Screen Price for 2016/2016 RPM Base Residual Auction.

1 **Q. DID THE STAFF HAVE SIMILAR OBSERVATIONS REGARDING THE**
2 **COMPANY’S FORECAST OF NATURAL GAS AND POWER MARKET PRICES**
3 **IN THE 2011 IRP PROCEEDING?**

4 A. Yes, Staff expressed “concern that the Company’s forecast of natural gas prices and power
5 market prices tend to be higher than one might expect given current conditions" and
6 "higher than other external forecasts monitored by staff.”³³

7 **Q. MR. SCHNITZER, HAS THE COMPANY PROVIDED YOU WITH ANY OTHER**
8 **EVIDENCE WHICH SUGGESTS THAT THE MARKET PRICE FORECAST**
9 **MAY BE TOO HIGH?**

10 A. Yes. The Company alleges that over its 36-year life, the Project provides customer savings
11 of approximately \$1.3 billion net present value ("NPV") when compared to market
12 purchases.³⁴ The energy and capacity price forecast used by the Company to produce that
13 level of customer savings when compared to a Brunswick-like merchant combined cycle
14 facility suggests that the unit would earn returns in excess of its cost of capital by
15 approximately \$600 to \$900 million in present value terms.³⁵ Thus, the market price
16 forecast used to produce the Company’s estimate of customer savings is so high that it
17 would attract additional market entry. As a general rule, market price forecasts which
18 assume that generic new entry can earn returns in excess of its cost of capital are

³³ Case No . PUE-2011-00092, Transcript, at 153.

³⁴ Dominion CPCN Application, at 6.

³⁵ This analysis does not include any potential market revenues from ancillary services. The high end of the range is consistent with ICF’s assumed nominal weighted average cost of capital for a combined cycle new entry unit.

1 suspect.³⁶ If this were the case, new entrants could compete this margin away as merchant
2 generators build new combined cycle facilities until the market price was reduced. My
3 analysis suggests that the Company's market price forecast is too high and is inconsistent
4 with the cost of new entry economics. Therefore, I conclude that the Company's estimate
5 of customer savings cannot be relied on.

6 **Q. MR. SCHNITZER, DO YOU BELIEVE THE COMMISSION SHOULD RELY ON**
7 **YOUR ANALYSIS TO CONCLUDE THAT THE BRUNSWICK PROJECT IS**
8 **UNECONOMIC?**

9 A. No, as I suggest later in my testimony, my view or analysis of the forecast that the
10 Company relied on is less important. Rather, what is most important is ensuring that the
11 CPCN process appropriately and systematically considers *actual* competitive market
12 evidence. I present my concerns here mainly to suggest to the Commission the importance
13 of conducting an open and transparent market test. Absent such a test, Dominion's
14 ratepayers could be saddled with hundreds of millions of dollars of unnecessary or pre-
15 mature investment costs.

³⁶ Capacity market prices are driven by supply and demand of capacity in PJM and in particular the incremental cost of retaining the marginal unit, encouraging demand side (or energy efficiency resources) to provide capacity, or constructing new generation if and when it is required. When a market region has excess capacity, the price can be set by the revenue needed by a generator to choose to remain open rather than retire. That amount should be equal to its total cash operating costs less the revenue it earns from selling energy and ancillary services. Its total cash operating costs include fixed operating and maintenance expenses, property and other taxes, and necessary new capital expenditures. In the same manner as with existing generation, new generation must recover from the capacity market its total costs, less revenue expected to be received from ancillary and energy markets. In the case of new generation, its total costs include an annualized recovery of the cost of construction, including a return on and of that investment. In the long-term, a forecast of capacity prices will generally start with the presumption that supply and demand remain in balance – that is that just enough new supply will be made available each year to meet demand growth. The price of capacity in this long-term is then equal to the revenue needed by new generation.

1 **V. DOMINION FAILS TO SYSTEMATICALLY EVALUATE COMPETITIVE**
2 **MARKET ALTERNATIVES AVAILABLE TO DOMINION’S CUSTOMERS AND**
3 **THE RELATED CUSTOMER BENEFITS THAT COMPETITIVE MARKETS**
4 **PROVIDE**

5 **Q. DOES THE DOMINION CPCN APPROPRIATELY CONSIDER COMPETITIVE**
6 **MARKET EVIDENCE?**

7 A. No, it does not. The CPCN is not based on a comprehensive evaluation of competitive
8 market alternatives (*e.g.*, entering into short-term and long-term electric power purchase
9 contracts) available to Dominion customers. The Dominion CPCN instead relies heavily
10 on a flawed market price forecast, with very limited consideration of actual competitive
11 market offers. The market evidence solicited by the Company is extremely limited, and is
12 not sufficient to take full advantage of wholesale market opportunities. The Company did
13 not undertake a broad solicitation to a full range of market participants, but rather
14 approached only three entities whose existing contracts with the Company will expire in
15 the next several years. Indeed, the aggregate capacity of these three NUGs is less than the
16 capacity of the Brunswick Project. This is in direct contrast with broad market
17 solicitations in other jurisdictions where numerous suppliers were permitted to offer
18 supply in a competitive solicitation process. For instance, in the New Jersey Basic
19 Generation Service auctions it is not uncommon to have 15 to 25 suppliers bidding in a
20 market solicitation. Likewise, Pennsylvania, Ohio, and Maryland have experience
21 conducting structured solicitations with robust competition with many suppliers
22 registering and participating in an auction or RFP process.

23 **Q. WERE YOU ABLE TO EVALUATE THE COMPANY’S ANALYSIS OF**
24 **EXTENDING THREE OF ITS NUG CONTRACTS?**

1 A. Yes.

2 **Q. HOW DID THE COMPANY ASSESS THE COSTS OF EXTENDING THREE OF**
3 **ITS EXISTING NUG CONTACTS?**

4 A. The Company states that it made individual conference calls in early March 2012 with
5 three major NUGs whose PPAs were due to expire in three to five years.³⁷ The terms and
6 conditions of the offers were left at the full discretion of the bidders and were evaluated
7 using the same methodology used for the IRP and CPCN proceedings.³⁸ The Company
8 states that it did not proactively contact any supplier that did not currently have a contract
9 with the Company.³⁹

10 **Q. BASED ON YOUR REVIEW OF THE EXTRAORDINARILY SENSITIVE**
11 **INFORMATION PROVIDED BY DOMINION REGARDING ITS**
12 **SOLICITATION AND ANALYSIS OF NUG OFFERS, DO YOU HAVE ANY**
13 **PARTICULAR CONCERNS?**

14 A. Yes. I have several concerns. First, it is clear that the Company did not conduct a formal
15 solicitation process to evaluate the potential for extending all of its NUG contracts. The
16 Company admits that it limited its analysis to three major NUGs whose PPAs were due to
17 expire.⁴⁰ As a result, the Company ignored other NUG capacity that exists in the

³⁷ Dominion Discovery Response to SCC Staff, I-5(a).

³⁸ Direct Testimony of Glenn Kelly, Case No. PUE-2012-00128, at 19.

³⁹ Dominion Discovery Response to P3, I-12(d).

⁴⁰ Dominion Discovery Response to SCC Staff, I-5(a). The Doswell witness also comments that, “Virginia Power made clear that it was only seeking bids related to extensions of existing contracts. It did not express any interest in

1 Commonwealth.⁴¹ The terms and conditions of the offers were left at the full discretion of
2 the bidders.⁴² And once the Company received NUG offers, it did not engage in any
3 follow-up negotiations to obtain better pricing or terms with these suppliers.⁴³

4 [REDACTED]
5 [REDACTED]⁴⁴
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]⁴⁵ [REDACTED]
14 [REDACTED]

15 Third, the Company evaluation of these offers is undermined by certain flawed
16 assumptions. [REDACTED]

receiving proposals related to third party existing facilities that are not currently under PPAs with Virginia Power, or to third party new-construction alternatives. As a result, Virginia Power’s solicitation was not designed to identify the lowest-cost alternatives to meeting its customers’ needs.” Direct Testimony of Nathan E. Hanson on behalf of Doswell, at 8.

⁴¹ For example, as I discussed earlier, the majority of the 885 MW Fluvanna natural gas combined cycle facility located in the DOM Zone would be available for Dominion purchase.

⁴² Direct Testimony of Glenn Kelly, Case No. PUE-2012-00128, at 19.

⁴³ Dominion Discovery Response to OAG, V-84.

⁴⁴ NUG Evaluation Review, October 4, 2012, Extraordinarily Sensitive Attachment ER Set 1-Production 1-3, at 6-7.

⁴⁵ NUG Evaluation Review, October 4, 2012, Extraordinarily Sensitive Attachment ER Set 1-Production 1-3, at 6-8.

1 [REDACTED]⁴⁶ This
2 is particularly troubling given the concerns raised earlier in my testimony that suggest the
3 Company's capacity price forecast is too high. The results of Dominion's analysis appear
4 to be driven by the fact that its recommended plan has more capacity than the plans that
5 include the NUG market offers in most years and this excess capacity is valued at the
6 inflated ICF capacity forecast. Due to the reliance on the flawed market price forecast, the
7 results of the NUG contract offer analysis cannot be relied upon.

8 **Q. HAVE OTHER PARTIES RAISED SIMILAR CONCERNS ABOUT THE**
9 **COMPANY'S EVALUATION OF NUG CONTRACT EXTENSIONS?**

10 A. Yes. The Office of Attorney General's ("OAG" or "Consumer Counsel") witness states
11 that the Company could defer or displace the need to construct the Brunswick Project if it
12 had successfully negotiated cost-effective extensions of these NUG contracts, but expresses
13 concern that the Company failed to adequately pursue this opportunity.

14 I am also concerned that Dominion does not appear to have thoroughly
15 pursued opportunities the Company had to renew its existing purchased
16 power agreements with NUG suppliers that are scheduled to expire over
17 the next 10 years. Although the Company did informally solicit offers for
18 extension of three of its existing NUG contracts which were scheduled to
19 expire over the next five years, once it received those offers it did not attempt
20 to negotiate better pricing or terms with such suppliers.⁴⁷

21 Further, OAG's witness notes that extension of Dominion's existing NUG
22 contracts could potentially have other advantages over the proposed Brunswick Project:

⁴⁶ NUG Evaluation Review, October 4, 2012, Extraordinarily Sensitive Attachment ER Set 1-Production 1-3, at 4.

⁴⁷ Direct Testimony of Scott Norwood on behalf of the OAG, Division of Consumer Counsel, at 18-19.

1 The non-fuel pricing terms under the NUG contract extension offers were
2 for the most part fixed or tied to published indices. In contrast, a portion of
3 the construction costs and all of the operating costs of the Brunswick
4 Project are simply estimates and therefore uncertain. For this reason, the
5 NUG contract extensions would reduce price risk that would otherwise be
6 borne by Dominion’s customers if the actual capital or operating costs of
7 the proposed Brunswick Project are higher than estimated by the Company
8 in this case. In fact, even relatively modest cost increases in the Brunswick
9 Project could reduce or eliminate the forecasted economic advantage of the
10 proposed Project over the NUG contract extension alternatives.⁴⁸

11 Doswell’s witness also raises serious concerns about the evaluation process used
12 by the Company stating that the Company’s NUG evaluation process was not at all typical
13 of a utility RFP.

14 Typically, when a utility issues an RFP seeking competitive offers for
15 electric energy and/or capacity on a long-term basis, the RFP will contain a
16 number of specific instructions identifying the parameters for the type of
17 product and contractual arrangement the utility is seeking: (i) the type(s) of
18 resource(s) (*e.g.*, peaking or baseload units or renewable resources), (ii) the
19 amount of generation in MWs, (iii) whether it is seeking an on- or off-peak
20 product, and (iv) the length of contract term the utility is interested in
21 obtaining. Virginia Power did not identify any of these parameters in its
22 solicitation. In fact, Virginia Power’s request was not even in writing,
23 which was also unusual. Rather, Virginia Power informally called LS
24 Power in early March 2012 and indicated that it would be interested in
25 receiving a proposal by Doswell to extend its current PPA beyond the 2017
26 expiration date. RFPs are generally more structured so as to provide all
27 prospective bidders an opportunity to review the same information as to
28 what the utility is seeking, which permits bidders to tailor their proposals to
29 best meet the needs of the utility. This also provides the utility with the
30 ability to make “apples to apples” comparisons of the proposals that it
31 receives.⁴⁹

32 The Doswell witness, who is familiar with utility RFPs, further states that
33 Dominion should have asked Doswell and other NUGs to propose a long-term product

⁴⁸ Direct Testimony of Scott Norwood on behalf of the OAG, Division of Consumer Counsel, at 20.

⁴⁹ Direct Testimony of Nathan E. Hanson on behalf of Doswell, at 6-7.

1 comparable to what Dominion is proposing in this proceeding (*i.e.*, construction of the
2 Brunswick Project). Dominion also could have requested that NUGs submit proposals for
3 shorter-term contract extensions to permit it to evaluate the benefits of deferring the need
4 to construct the Brunswick Project until a later date. These options would have provided
5 Dominion with the information necessary to undertake a direct head-to-head comparison
6 of the costs of the Brunswick Project as opposed to third-party market alternatives, on
7 both a short-term and long-term basis. Instead, Dominion simply asked Doswell and the
8 other NUGs to submit offers to extend their existing contracts with no specifics as to what
9 it was looking for.⁵⁰

10 These and the other concerns that I raise suggest that the Company's evaluation of
11 possible NUG contract extensions is deficient and cannot be relied on to demonstrate the
12 merits of the Brunswick Project.

13 **Q. DOES DOMINION'S RESOURCE PLAN ADEQUATELY CONSIDER SHORT-**
14 **TERM MARKET PURCHASES AND THE POTENTIAL FOR DEFERRAL OF**
15 **THE BRUNSWICK PROJECT?**

16 A. No. The decision before the Commission is not simply whether or not to build the
17 Brunswick Project as proposed. The question is whether to move forward with building
18 the Brunswick Project now for an in-service date of 2016 or to defer the decision and
19 perhaps build it later. It is important to recognize that once Dominion commits to build
20 and own a long-term resource, it has committed its customers to paying over \$1 billion for

⁵⁰ Direct Testimony of Nathan E. Hanson on behalf of Doswell, at 7-8.

1 that long-term resource. In contrast, a near-term market purchase (*e.g.*, for five years) does
2 not rule out the Company’s option to build a combined cycle facility in the future once
3 more market information is obtained about future coal retirements, load growth, and so
4 forth.⁵¹ Deferring the Project could prove to be the most prudent and risk adverse decision
5 for the benefit of Dominion ratepayers given current market fundamentals and market
6 uncertainty.⁵² But this option has not, and cannot be evaluated absent a broad market
7 solicitation for such a short-term market purchase.

8 **Q. BUT COULD NOT THE COMPANY RATIONALLY TAKE THE POSITION**
9 **THAT EVEN THOUGH THERE IS EXCESS CAPACITY RIGHT NOW IN THE**
10 **PJM MARKET, IT MAKES SENSE TO BUILD GENERATION NOW GIVEN**
11 **THAT WE ARE IN A LOW INTEREST RATE, LOW INFLATION**
12 **ENVIRONMENT IN TERMS OF CONSTRUCTION COSTS, AND IN THREE,**
13 **FOUR, FIVE YEARS WE MAY WELL BE IN A HIGH CONSTRUCTION COST**
14 **ENVIRONMENT?**

15 **A.** I have several comments. First, it is important to know how much money customers could
16 save by deferring the decision to build. We do not have this important fact in evidence in
17 this case because Dominion has not conducted an appropriate market test with actual

⁵¹ Note that a five-year market purchase would not necessarily require that the Project be deferred for five years. Market conditions could continue to be monitored while allowing sufficient lead time for construction so that the Project could be operational when needed.

⁵² For example, Oklahoma Gas & Electric (“OG&E”) recently announced its plan to reduce peak demand by 300 MW and letting a 300 MW power sales agreement expire in order to delay the construction of fossil-fired generating capacity to 2020 while minimizing costs to the utility and its customers. An OG&E executive explained that the strategy gives the utility “the luxury of additional time” to see how generation technologies and federal environmental regulations evolve. With those extra few years, “we’ll be able to make better choices” when the time comes to add to OG&E’s fleet. *Platts Megawatt Daily*, March 8, 2013.

1 market quotes. Rather, we are forced to rely on the Company’s flawed forecast. Second,
2 the belief that it is better to build now than later is essentially a “market timing”
3 argument.⁵³ Similar logic could be used to argue that market purchases are cheaper now
4 than they will be in the future for some future delivery period, but this is mere speculation.
5 Competitive markets reflect future expectations to deliver electricity at a given point in
6 time. As market conditions and technology change over time, the costs of building new
7 generation or market purchases can increase or decrease. Timing the market – deciding
8 when to build or when to buy – is inherently risky and I do not recommend such an
9 approach to resource planning as a policy matter. Rather, I recommend that policy makers
10 consider the full range of supply alternatives at the particular time it makes a significant
11 resource decision, such as contemplated in this CPCN proceeding.

12 **Q. WHAT IS YOUR REACTION TO DOMINION’S CLAIM THAT IT WILL**
13 **CONTINUE TO PURCHASE POWER ON THE SPOT MARKET WHEN IT**
14 **FINDS THAT ALTERNATIVE TO BE COST EFFECTIVE?**

15 A. Spot purchases are not a comparable substitute for the proposed Project. Dominion’s
16 proposal that it will, when economically feasible, make short term purchases from the spot
17 market, simply fails to take advantage of the market offered by PJM. Dominion, in an
18 effort to avoid an overreliance on potentially volatile market purchases, proposes to
19 instead make a \$1.3 billion bet on its near complete reliance on ratepayer funded new
20 generation. The only objective way the Commission may determine that self-build options

⁵³ In discovery, the Company acknowledges that it does not have an opinion whether the capital equipment and construction markets will be more or less favorable than now in five or ten years. Dominion Discovery Response to EPSA, III-1.

1 are reasonable and in the public interest is to compare the proposed Project with available
2 comparable market options. Absent a valid competitive market test to determine that the
3 Company's Brunswick Project will provide customers reliable electricity at the lowest
4 reasonable cost, the CPCN cannot be found to be reasonable and in the public interest and
5 should therefore be rejected.

6 **Q. WHAT DO YOU CONCLUDE ABOUT DOMINION'S PROPOSAL TO RELY**
7 **ALMOST ENTIRELY ON SELF-BUILD GENERATION AND ABANDON**
8 **MARKET PURCHASES?**

9 A. Dominion fails to adequately include and evaluate available market options in its analysis.
10 Further, the Company fails to analyze the costs and risks associated with moving from its
11 current portfolio mix, which includes market purchases, to its recommended portfolio
12 based almost exclusively on building and owning capacity. Dominion's analysis which
13 suggests that rate base generation investments are a "no lose" proposition for customers,
14 by definition, does not accurately reflect future risks and directly conflicts with historical
15 evidence in the electric industry.

16 **VI. THE COMMISSION SHOULD REJECT THE CPCN AS FILED AND SUBJECT**
17 **THE PROPOSED BRUNSWICK PROJECT TO AN OPEN AND TRANSPARENT**
18 **MARKET TEST**

19 **Q. HOW ARE UTILITY INVESTMENTS DEEMED NECESSARY IN VIRGINIA?**

20 A. To develop and build a new resource proposed in an IRP, a utility must obtain a CPCN
21 from the Commission in a separate proceeding.

1 **Q. DOES SCC APPROVAL OF DOMINION’S IRP REPRESENT APPROVAL TO**
2 **CONSTRUCT A PARTICULAR RESOURCE?**

3 A. No, the SCC stated in Dominion’s most recent IRP order that:

4 As we noted in Dominion’s prior IRP case, the IRP is a planning
5 document, not a document that will control future decisions on specific
6 resources. Thus, we described the IRP proceeding in the following manner:
7 As such, the Commission’s determination in this proceeding does not
8 preclude the Commission from approving or rejecting a particular supply-
9 side or demand-side resource in the future, nor does the Commission’s
10 determination in this case create any presumption in favor, or not in favor,
11 of a particular resource, including generation construction projects,
12 generation from non-utility generators, conservation or other options.⁵⁴

13 Thus, the Commission reinforced that approving an IRP does not constitute approval of
14 specific future resources. Rather, before proceeding with a particular resource, the
15 Company must first obtain explicit Commission approval in a CPCN proceeding and has
16 the burden to show that the resource meets all the applicable statutory requirements,
17 including, if applicable, a request for ratemaking treatment.

18 **Q. MR. SCHNITZER, IN THIS PROCEEDING DO YOU AGREE WITH THE**
19 **COMPANY’S CLAIM THAT THE BRUNSWICK COUNTY POWER STATION**
20 **IS THE CLEAR ECONOMIC AND OPERATIONAL CHOICE FOR THE**
21 **COMPANY’S CUSTOMERS AS THE NEXT REQUIRED RESOURCE IN ORDER**
22 **TO MEET LONG-TERM CAPACITY AND ENERGY NEEDS?**⁵⁵

⁵⁴ SCC Final Order on Dominion’s 2012 IRP, at 2-3.

⁵⁵ Dominion CPCN Application, at 3.

1 A. No, I do not. While the Company claims to have considered market alternatives as an
2 option for meeting future capacity and energy needs by comparing *forecasts* of PJM
3 wholesale market prices (including sensitivities) to the proposed Brunswick Project,⁵⁶ the
4 market price forecast Dominion relied on is flawed, as discussed above, and the results of
5 the Company's analysis cannot be relied on. Furthermore, as discussed earlier, I find the
6 Company's evaluation of market price offers from three NUGs to be inadequate as well as
7 seriously flawed. As a result, I recommend that the Commission reject the proposed
8 Brunswick CPCN.

9 **Q. IS THERE AN AVAILABLE ALTERNATIVE, MARKET-BASED**
10 **METHODOLOGY THE COMMISSION CAN APPLY TO TEST WHICH SUPPLY**
11 **OPTIONS ARE BEST FOR CUSTOMERS?**

12 A. Yes. A simpler and more efficient solution would be to establish a fully competitive,
13 nondiscriminatory process for market participants, which would allow for a more direct
14 observation of market prices, facilitating the selection of the least-cost resource option. If
15 designed properly, such an approach offers a much more open, transparent and objective
16 way to test Dominion's preferred resource solutions. This would provide the Commission
17 and its staff comprehensive record evidence on a complete set of options to enable them to
18 identify the most cost effective, reasonable solution for the Company's customers. Also, it
19 will encourage more market participants to invest in Virginia and will avoid any bias or
20 pre-judgment by Dominion towards self-build determinations in this and future CPCN
21 proceedings.

⁵⁶ Dominion CPCN Application, at 7.

1 **Q. WHY IS AN OPEN AND TRANSPARENT MARKET TEST IMPORTANT?**

2 A. Such a market test will help ensure that the least-cost resource options are employed at the
3 time of the investment decision by Dominion, so that Virginia residential and business
4 customers are not burdened unnecessarily with above-market generation costs for many
5 years. The market test should be structured to provide a systematic evaluation of market
6 alternatives considering potential market-based options to a) replace the proposed Project
7 (*e.g.*, with long-term market purchases of 10 to 20 years) or b) defer the proposed Project
8 (*e.g.*, with shorter-term market purchases of 3 to 6 years).

9 **Q. PLEASE EXPLAIN WHAT YOU MEAN BY AN OPEN AND TRANSPARENT**
10 **MARKET TEST.**

11 A. Dominion has proposed making a significant investment in generation, namely the gas-
12 fired combined cycle power station in Brunswick County with a target in-service date of
13 2016. Therefore, Dominion should be required to solicit competitive bids for an equivalent
14 number of MW and/or MWH for a specified period of time in order to determine whether
15 its proposed \$1.3 billion investment is least-cost. The competitive bid should be for a
16 similar product (in terms of energy output, capacity, etc.), strike price, and delivery point
17 as the investment being proposed by the Company. The costs of the proposed Company
18 investment should then be compared to that of market alternatives. Without a transparent,
19 objective, non-discriminatory market test to determine whether the "build" option is
20 cheaper than the "buy" option or vice versa, the Commission cannot make a fully-
21 informed determination.

22 **Q. CAN YOU PROVIDE AN EXAMPLE?**

1 A. Yes. For instance, in the example of the proposed self-build Brunswick Project, what you
2 are really getting is capacity and the right to convert natural gas into energy at a particular
3 heat rate. Dominion could conduct a competitive bid process open to both existing and
4 new resources for the following type of product:

- 5 • **Size and product type:** 200 MW to 500 MW blocks of capacity and energy.
- 6 • **Term:** Supply starting 2016 for a 10 to 20 year time period to evaluate
7 Project replacement options and supply starting 2016 for a 3 to 6 year time
8 period to evaluate Project deferral options.
- 9 • **Delivery point:** DOM Zone.
- 10 • **Energy dispatch:** Based on certain operating constraints to be determined.
- 11 • **Energy price:** When energy is dispatched, bidder would be paid a variable
12 charge consisting of a set fuel charge based on a specified heat rate schedule
13 and an indexed market gas price plus a variable O&M charge. This payment
14 would be assumed to be the same for any bidder and the structure would be
15 determined in advance.⁵⁷
- 16 • **Capacity bid price:** Bidders would then bid in a \$/kW-year capacity price,
17 which they would be paid in addition to the fuel payment specified above.
18 This capacity price could be flat over the contract period or escalate annually.

⁵⁷ For example, if the specified heat rate is 7 MMBtu/MWH, the index gas price is \$5 per MMBtu, and the variable O&M charge is \$3/MWH then the total variable charge for the unit for a single MWH would be \$38 (7 x \$5 + \$3). These parameters would be modified so as to be comparable to Dominion's Brunswick Project investment.

1 This capacity price would form the basis for comparing the various
2 competing bids. The least-cost option would be determined based on a
3 present value evaluation of the bid capacity price schedule.

4 The above list is illustrative, and other important product attributes (*e.g.*, credit provisions)
5 could be developed as necessary to ensure a fair comparison. The market test I am
6 suggesting would be a transparent, non-discriminatory, “head-to-head” comparison with
7 the same key product and price characteristics. I would note that this process is
8 dramatically different than the evaluation Dominion conducted with respect to extending
9 existing NUG contracts.

10 **Q. WOULD BIDS HAVE TO BE TIED TO A NEWLY CONSTRUCTED**
11 **GENERATION UNIT?**

12 A. No, bids in the competitive process would not necessarily be tied to a newly constructed
13 generation unit, as existing units or even financial contracts that mimic a physical unit
14 could provide the same product. Expanding the types of supply options considered in the
15 decision-making process will benefit customers, especially if a more competitive
16 transparent process is utilized.

17 **Q. IN DOMINION’S ANALYSIS OF MARKET ALTERNATIVES, DID THE**
18 **COMPANY ADEQUATELY CONSIDER OFFERS FROM OTHER PJM**
19 **SUPPLIERS?**

20 A. No, the Company’s analysis was limited to an evaluation of offers from three NUGs with
21 which it already had contracts. The Company did not solicit offers from other PJM

1 suppliers with whom it did not have a contract, such as the 885 MW Fluvanna Plant
2 located in the DOM Zone. In discovery, Dominion states that during the development
3 period for the Brunswick Project, the Company simply was not aware of any other
4 existing generation available to purchase as an alternative to Brunswick, with the
5 exception of the Doswell facility.⁵⁸ As mentioned earlier, based on the experience of other
6 market solicitations in PJM, it is likely that a number of suppliers would be willing to
7 offer electricity to Dominion's customers.

8 **Q. MR. SCHNITZER, THE COMMISSION DID NOT REQUIRE A MARKET TEST**
9 **IN THE COMPANY'S 2011 IRP PROCEEDING, WHY SHOULD IT DO SO NOW**
10 **IN THIS CPCN PROCEEDING?**

11 A. As noted earlier, the Commission has made a clear distinction between the IRP, which is a
12 planning document, and the CPCN proceeding, where the Company is asking for a
13 commitment to pursue a particular investment. In its Final Order on Dominion's 2012
14 IRP, the Commission expressed interest in considering the full panoply of resource
15 alternatives, stating that:

16 With regard to the IRP submitted by Dominion in this proceeding, we find
17 deficiencies in the breadth of some of the Company's modeling used for
18 the IRP. For example, as discussed by Staff and respondents, the planning
19 models forced the addition of North Anna 3 into each plan. Dominion
20 suggested, in part, that this restriction was designed to address fuel
21 diversity. Dominion is not precluded from submitting its preferred models
22 in the IRP, and the Commission is aware of arguments regarding diversity
23 of fuel mix. Such considerations, however, do not warrant limiting the IRP
24 as presented by Dominion...In sum, both coal and nuclear options should
25 be considered against the full panoply of conventional, renewable, and

⁵⁸ Dominion Discovery Response to OAG, IV-65.

1 other resource alternatives. We also believe that Dominion should
2 adequately consider third-party market alternatives as capacity resources.
3 We do not conclude, however, that Dominion should be required to
4 perform independent market tests as part of the IRP because, as noted by
5 Consumer Counsel, "the IRP is a planning document, and is not a
6 commitment to pursue any particular investment." Rather, we find that
7 market alternatives are appropriate for consideration in cases where
8 Dominion seeks a certificate of public convenience and necessity for
9 specific investments. Indeed, the Commission has previously explained that
10 third-party alternatives, including purchased power and new construction,
11 "would likely be relevant evidence in an application proceeding [for a self-
12 build option for new generation]."⁵⁹

13 The Commission clearly states that consideration of market alternatives is appropriate in
14 cases where Dominion seeks a CPCN for a specific investment. The key policy issue
15 before the Commission in this case is whether relying on the Company's market price
16 forecast and contract extension offers from three NUGs are sufficient to consider the full
17 panoply of resource alternatives available to Dominion's customers. In my view, the clear
18 answer to this question is "no." Dominion's "black-box" analysis is clearly insufficient to
19 warrant ratepayers committing \$1.3 billion to the proposed Project.

20 **Q. DOES THE VIRGINIA CONSUMER COUNSEL (OAG) ALSO SUPPORT THE**
21 **USE OF AN OPEN TRANSPARENT MARKET TEST IN THE CONTEXT OF A**
22 **CPCN PROCEEDING?**

23 A. Yes, in the 2011 IRP proceeding, the Consumer Counsel agreed that the Company had not
24 adequately considered third-party market alternatives as a capacity resource and also

⁵⁹ SCC Final Order on Dominion's 2012 IRP, at 3-5, (emphasis added).

1 supported the recommendation that the Company should test the competitive market in
2 conjunction with any future CPCN applications.⁶⁰

3 In this proceeding, the Consumer Counsel concludes:

4 Dominion has not adequately evaluated market-based alternatives to the
5 proposed Brunswick Project. By failing to broadly solicit offers for
6 capacity and energy and failing to evaluate short-term market purchases
7 options as potential alternatives to the proposed Project, the Company's
8 analysis does not conclusively establish that the proposed Brunswick
9 Project truly represents the lowest reasonable cost option for serving
10 forecasted capacity requirements on its system. In addition, Dominion's
11 forecast of Brunswick O&M costs appears to be unreasonably low when
12 compared to other independent forecasts, including the forecast of its own
13 planning consultant, ICF. If costs of the project ultimately prove to be
14 higher than estimated by the Company, the predicted cost advantage of the
15 Brunswick Project could be diminished or eliminated. For these reasons,
16 serious questions remain as to whether the proposed Brunswick Project
17 represents the lowest reasonable cost alternative for serving Dominion's
18 future power supply requirements.⁶¹

19 Due to these apparent problems with Dominion's resource evaluation process, the
20 Consumer Counsel questions the validity of the Project net present value customer savings
21 results presented in Figure 8 of Mr. Kelly's testimony, as well as the Company's
22 conclusion that the Brunswick Project represents the lowest reasonable cost option for
23 fulfilling Dominion's capacity requirements in 2016 and beyond.⁶²

24 **Q. WHY MIGHT IT BE POSSIBLE TO GET A LOWER PRICE USING A**
25 **COMPETITIVE SOLICITATION PROCESS?**

⁶⁰ Post-Hearing Brief of the Office of the Attorney General, Division of Consumer Counsel, Case No. PUE-2011-00092, at 5.

⁶¹ Direct Testimony of Scott Norwood on behalf of the OAG, Division of Consumer Counsel, at 23-24.

⁶² Direct Testimony of Scott Norwood on behalf of the OAG, Division of Consumer Counsel, at 15.

1 A. There are several reasons. First of all, bidders in a competitive solicitation process may
2 have different expectations about future market and fuel prices or different views about
3 future regulatory requirements. But perhaps the most significant reason, however, is that
4 the capacity market currently is expected to be in excess supply for some number of years
5 so that incumbent generators may be willing to sell Dominion capacity and energy at a
6 discount to full replacement cost because that is what markets do when there is excess
7 supply. In this case, the owner of an existing generator that believes the capacity market is
8 not really going to be in equilibrium for another five years may provide a 10, 15 or 20-
9 year price that reflects the weighted average price for the term based on a discounted
10 excess supply price for the first five years and its estimate of the cost of new entry for the
11 remaining term. In effect, the bidding process allows the Company and its customers to
12 avoid paying prematurely for the full cost of new generation until it is necessary to do so.
13 Put differently, a competitive solicitation for a 15-year product with a bidder that believes
14 capacity markets will not be in equilibrium until many years later is more likely to bid a
15 lower price than a bidder who believes the capacity market will be in equilibrium next
16 year.

17 **Q. IS THERE EVIDENCE IN THIS CASE THAT INCUMBENT GENERATORS**
18 **MAY BE WILLING TO SELL DOMINION CAPACITY AND ENERGY AT A**
19 **DISCOUNT TO FULL REPLACEMENT COST, OR ALTERNATIVELY, A**
20 **SHORT-TERM MARKET PURCHASE STRATEGY COULD BENEFIT**
21 **DOMINION AND ITS CUSTOMERS AT THE PRESENT TIME?**

1 A. Yes, as I described earlier in my testimony, the Company's forecast of market prices
2 appears to be well above observable market prices, including a NUG offer received by the
3 Company.

4 **Q. WHY DOES YOUR EXAMPLE MARKET TEST UTILIZE BOTH A 10 TO 20**
5 **YEAR PRODUCT TERM AND A 3 TO 6 YEAR TERM?**

6 A. The suggested long-term product is intended to provide similar long-term supply
7 characteristics as a new facility.⁶³ But the bid need not be for the entire life of a new
8 facility and Dominion is likely to receive more competitive bids from existing facilities if
9 the term is in the 10 to 20 year range.⁶⁴

10 I also recommend that Dominion systematically evaluate the relative attractiveness
11 of shorter-term market purchases (*e.g.*, 3 to 6 years).⁶⁵ It is important to recognize that if
12 Dominion enters into market contracts today, it still preserves the option to self-build
13 generation in the future. The Company's proposed Brunswick Project to become
14 operational in 2016 should compete in a systematic manner against both similar long-term
15 market purchase options and similar short-term market purchase options that allow
16 construction of the Project to be deferred until later. These market comparisons would
17 allow the Commission to make a more informed decision about whether the proposed

⁶³ Dominion suggests the first portion of the service life of the Project should be determined by the Commission to be 15 years for purposes of calculating the 11.4% enhanced return provisions of Va. Code §56-585.1, commenting that Subsection A 6 provides that the first portion of the service life for a combined-cycle combustion generation facility shall be in the range of 10 to 20 years. Dominion CPCN Application, at 20.

⁶⁴ In Dominion's current supply portfolio, about 16% of its supply commitments have a remaining term of less than 10 years. So, replacing these supply commitments with 10 to 20 year market contracts will not reduce the duration of Dominion's portfolio.

⁶⁵ The 6-year term corresponds to the potential need date of 2022 discussed earlier in my testimony

1 Project and the timing of the proposed Project are prudent and in the public interest.⁶⁶ In
2 sharp contrast, Dominion fails to consider short-term market purchase opportunities which
3 could defer the Brunswick Project.

4 **Q. YOUR EXAMPLE MARKET TEST SUGGESTS 200 MW TO 500 MW**
5 **INCREMENTS OF SUPPLY. ISN'T DOMINION'S PROPOSED COMBINED**
6 **CYCLE 1,358 MW?**

7 A. The overall design of the solicitation should encourage robust participation from the
8 competitive marketplace. A structure that limits participation (*e.g.*, by making the term too
9 long or the size too large) or biases results (*e.g.*, by forcing bidders to assume risks that
10 Dominion does not assume) will not be a fair test and hence will not ensure the lowest
11 costs to customers. So, while the 200 MW to 500 MW block size range is intended as an
12 example, this quantity is not so large as to significantly limit participation. With either
13 block size, Dominion could contract with multiple bidders to achieve a total quantity
14 similar to the proposed Brunswick Project.

15 **Q. CAN YOU GIVE AN EXAMPLE WHERE A REGULATED STATE IS USING A**
16 **MARKET TEST MECHANISM FOR RESOURCE PROCUREMENT AS**
17 **OUTLINED HERE?**

⁶⁶ Similarly, the Consumer Counsel criticizes Dominion's analysis for the lack of inclusion of short-term market purchase alternatives. The Consumer Counsel comments that the "Market" alternative presented in Figure 8 on page 17 of Dominion witness Mr. Kelly's direct testimony replaces Brunswick with a 1,375 MW market capacity purchase which extends over the entire 36-year study period. A more realistic scenario would have been the alternative of relying upon PJM market purchases until the market price of capacity approaches the much higher cost of capacity associated with the construction of a new generating unit such as the proposed Brunswick Project. Direct Testimony of Scott Norwood on behalf of the OAG, Division of Consumer Counsel, at 20-21.

1 A. Yes, the Louisiana Public Service Commission (“PSC”) has developed a process called
2 the Market Based Mechanism (“MBM”) which requires utilities seeking generating
3 capacity or purchase power contracts to issue an RFP as a means of determining the least-
4 cost supply alternative.⁶⁷ Prior to implementing an RFP, the utility is required to submit a
5 filing with the Louisiana PSC outlining details around timing, resource type and size,
6 justification for capacity, schedule for the RFP process, description of how proposals will
7 be evaluated, and a draft RFP document. Technical conferences are then conducted with
8 Commission staff to discuss the utility’s proposal. Once bids are received, an independent
9 monitor is engaged to assist in the evaluation process and all bids are shared with the
10 Commission staff. The chosen resource is selected based on the previously agreed upon
11 evaluation methodology. In the case that a self-build option is selected and the project
12 costs, schedule, or attributes change during the development process, the utility is required
13 to inform the independent monitor and PSC Staff.⁶⁸

14 More recently, RFPs also have been conducted in other vertically integrated utility
15 states (such as Kentucky⁶⁹ and Indiana⁷⁰) in order to evaluate market alternatives before

⁶⁷ General Order, Louisiana PSC Dock No. R-26172, Sub Docket C, 2008.

⁶⁸ An example of an RFP conducted in accordance with MBM was the Summer 2009 Entergy RFP seeking 1,000 MW of load-following combined-cycle, combustion-turbine or solid-fuel-fired capacity deliverable starting on July 1, 2011, and up to 550 MW of combined-cycle capacity in its Amite South region in southeastern Louisiana starting by June 1, 2015. Entergy received a very favorable response to the solicitation and ended up selecting a variety of supply options, including the purchase of three non-utility generation plants, the signing of a 500 MW long-term PPA, and the development of a self-built combined cycle. Electric Utility Week, “Entergy to buy about 2,300 MW of plants, build another, and sign PPA in response to RFP,” August 9, 2010.

⁶⁹ Louisville Gas & Electric and Kentucky Utilities conducted an RFP to identify potential options if they elect not to install additional pollution controls at their 739 MW E.W. Brown coal-fired power plant near Harrodsburg, Kentucky. Platts Megawatt Daily, November 6, 2012.

1 committing to spend large sums of ratepayer money on pollution control equipment or
2 replacing retiring coal plants.

3 **Q. DID DOMINION RELY ON A COMPETITIVE BIDDING PROCESS FOR**
4 **OTHER ELEMENTS OF ITS PROPOSAL?**

5 A. Yes, the Company used a competitive bidding process involving multiple pipelines to
6 request firm natural gas pipeline capacity to the Brunswick Project.⁷¹ Also, the Company
7 selected its Engineering, Procurement, and Construction (“EPC”) contractor for the
8 Project as a result of a competitive bidding process. Dominion finally notes that the EPC
9 contractor will competitively procure all of the other major plant equipment, except for
10 some facilities related to the transmission line interface, which the Company will
11 furnish.⁷² Unfortunately, Dominion fails to use a similar competitive procurement process
12 for the underlying energy and capacity requirements that the Project is designed to
13 provide.

14 **Q. DOES THE FACT THAT THE COMPANY SOLICITED COMPETITIVE BIDS**
15 **FOR THE EPC CONTRACT AND OTHER SERVICES SATISFY YOUR**
16 **CONCERN OVER THE LACK OF A COMPETITIVE MARKET TEST FOR THE**
17 **GENERATION RESOURCES BEING PROPOSED BY DOMINION?**

⁷⁰ On June 28, 2012, IPL issued a RFP seeking 600 MW of natural gas-fired, combined-cycle generation to replace a similar amount of existing coal-fired generation at its Eagle Valley and Harding Street stations that is likely to be retired over the next several years.

⁷¹ Dominion CPCN Application, at 10.

⁷² Dominion CPCN Application, at 12.

1 A. No, it does not. These solicitations are very different things. The concern I am raising is
2 the failure of Dominion to compare its self-build generation against market alternatives to
3 supply capacity and energy to Dominion's customers. The fact that a particular self-build
4 option and a portion of the construction would be competitively bid is a totally different
5 consideration and is no way relevant to the market price comparison.

6 **Q. WHAT DO YOU CONCLUDE ABOUT THE NEED FOR A MARKET TEST?**

7 A. Dominion should be required to prove that the Brunswick Project is the most prudent and
8 least-cost choice available to Dominion ratepayers before requiring them to commit
9 paying \$1.3 billion in costs. Thus far, the Company has failed to adequately demonstrate
10 that its proposed Project is the most prudent and least-cost choice available using a
11 formalized and systematic solicitation approach. Dominion should do so by providing
12 actual evidence of wholesale market opportunities as opposed to relying exclusively on
13 confidential forecasts or estimates of what those opportunities might be. To show that the
14 proposed Project is reasonable and in the public interest, Dominion should conduct an
15 open and transparent competitive market test that can be evaluated in an objective manner.

16 A transparent competitive market test is prudent and necessary to ensure that the
17 least-cost resource options are employed at the time of the investment decision. Absent a
18 competitive market test, Dominion's residential and business customers could be forced to
19 pay above-market generation costs for many years, and these above-market costs could
20 prove extremely costly for customers. Given Dominion's membership in PJM's robust,
21 multi-state competitive market, there is no need to speculate and gamble that substantial
22 increases in market prices will actually occur according to the Company's market price

1 forecast. Rather, Dominion can rely on PJM's willing suppliers to "test" whether it can
2 obtain a better deal for its customers. I do not see an easy way for the Commission to
3 reach a prudence determination without gathering actual market evidence in a systematic
4 manner as opposed to relying on a forecast of market prices.

5 The Company should be required to: 1) demonstrate that its move to more owned
6 generation provides the best cost and risk profile for customers; and 2) conduct a
7 competitive market test to demonstrate that the proposed Project is the lowest cost
8 alternative.

9 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

10 A. Yes, it does.