

STATE OF MARYLAND

BEFORE THE PUBLIC SERVICE COMMISSION

**In the Matter of the Cost-Effectiveness)
of Washington Gas Light Company's)
Demand-Side Management Programs)**

Case No. 8720

DIRECT TESTIMONY OF

JOHN PLUNKETT

ON BEHALF OF

THE MARYLAND OFFICE OF PEOPLE'S COUNSEL

Optimal Energy, Inc.

May 29, 1996

- Exhibit____(JJP-1) Professional Qualifications of John Plunkett
- Exhibit____(JJP-2) Types of Market Barriers Impeding Economically Optimal Energy-Efficiency Investment.
- Exhibit____(JJP-3) Achievable DSM Program Participation Rates
- Exhibit____(JJP-4) Selected References Establishing Economic Efficiency as the Primary Purpose of Integrated Resource Planning and Demand-Side Management
- Exhibit____(JJP-5) Environmental Externality Estimates
- Exhibit____(JJP-6) WGL IRP Status Report Analysis of Revenue Requirements and Average Rates

1 **I. INTRODUCTION AND SUMMARY**

2 **Q: State your name, position, and business address.**

3 A: I am John J. Plunkett, President of Optimal Energy, Inc. (“OEI”). My office
4 is at 66 Main Street, Middlebury, Vermont 05753.

5 **Q: On whose behalf are you testifying in this proceeding?**

6 A: My testimony is sponsored by the Maryland Office of People’s Counsel
7 (“OPC”).

8 **Q: Summarize your qualifications.**

9 A: I have seventeen years of experience as a consultant on utility resource
10 issues. I specialize in demand-side resources and non-utility generation. I
11 have worked both in contested regulatory proceedings and in settlement
12 negotiations such as collaborative design processes involving utilities and
13 intervenors. Current and past clients include consumer advocates,
14 environmental groups, regulatory authorities and their staffs, and utilities.
15 Exh. __JJP-1 provides details on my professional experience and academic
16 background.

17 **Q: Have you testified previously before this Commission?**

18 A: Yes. I testified in two cases regarding applications by PEPCO and BG&E for
19 Certificates of Public Convenience and Necessity (CPCN) for new
20 generating stations, in Case No. 8063 (Phase II) and Case No. 8241 (Phase
21 II), respectively.

22

23

1 **Q: What is the purpose of your testimony in this case?**

2 A: My testimony responds to issues raised by Staff witness Haymes. It affirms
3 the public purpose served by gas DSM programs offered by Washington Gas
4 Light Company (WGL), considered by the Collaborative, and approved by
5 this Commission.

6 **Q: Summarize your testimony.**

7 A: The overriding purpose of utility DSM programs is to reduce total energy-
8 service costs. This is consistent with the broad public policy goal of
9 economic efficiency. Effective DSM programs are designed to overcome
10 well-established market barriers that prevent customers from investing in
11 measures that save gas for less than the cost of supplying it. Correcting such
12 market failure in the name of greater economic efficiency is generally
13 recognized in the public finance literature and in regulatory policy as a
14 legitimate reason for market intervention.

15 Like many economic efficiency gains, gas DSM investments can result
16 in a distribution of benefits within the general population different from that
17 obtained without them. The redistribution has two causes: (1) the revenue
18 requirement of the DSM program expenditure, and (2) the revenue shift
19 caused by the sales reduction from DSM. Because WGL's marginal revenue
20 exceeds avoided marginal costs (including commodity costs), any sales
21 reduction — for any reason — will raise average *per-unit* costs.

22 Such distributional equity issues are part and parcel of utility regulation,
23 and arise routinely in the consideration of supply investments and
24 ratemaking associated with their cost recovery. The usual and correct
25 approach is to compare costs of resource alternatives, and select the one that
26 produces the lowest total cost, i.e. least-cost planning. Distributional effects

1 of resource selection are identified, quantified, and examined, and then dealt
2 with in the ratemaking process. In general, steps are taken to reduce unfair
3 benefit distribution; only if sufficient remedies are not found is the cost-
4 minimizing option rejected in favor of an economically inferior alternative.

5 Mr. Haymes concludes that the income redistribution resulting from
6 DSM programs is “extreme” because DSM programs do not meet a public
7 purpose that he finds acceptable. He provides no quantitative evidence to
8 support this conclusion. Mr. Haymes specifically rejects the minimization of
9 total costs or improvement in economic efficiency as a valid public purpose
10 for DSM. To Mr. Haymes, gas DSM can only be in the public interest if it
11 benefits non-participants by lowering the per-unit cost of gas. Consequently,
12 Mr. Haymes would sacrifice long-term cost savings from DSM — no matter
13 how large or broad — in order to prevent any increase in per-unit costs — no
14 matter how small.

15 Analysis submitted to the collaborative by WGL indicates that DSM
16 programs being implemented or considered could reduce revenue
17 requirement anywhere from \$38 million to \$161 million over 5 to 15 years,
18 depending on the scenario examined. These savings would raise per-unit
19 costs by 1.6 percent to 2.2 percent on average over five years of program
20 implementation.

21 Mr. Haymes’ position implicitly equates the general body of ratepayers
22 or society with non-participants. This perspective is the same as that of the
23 no-losers test, which the Commission prohibits utilities from using to
24 eliminate potential DSM options. Mr. Haymes circumvents this prohibition
25 by claiming to adhere to the total resource cost test with one critical change:
26 he insists that gas commodity costs be excluded from the calculation. This

1 new cost-effectiveness test ends up being even more restrictive than the no-
2 losers test.

3 **II. PUBLIC PURPOSE OF GAS DSM**

4 **Q: Is there a compelling public purpose for programs encouraging energy-**
5 **efficiency investment by customers?**

6 A: Yes. Gas utility DSM advances the public interest by lowering the total
7 resource cost of providing reliable energy services to customers. DSM
8 resources should be deemed cost-effective if benefits exceed costs, counting
9 all costs and benefits to the sponsoring utility, customers, and society at
10 large.

11 **Q: How do cost-effective energy-efficiency improvements affect WGL's**
12 **customers?**

13 A: Whenever Maryland residents and businesses undertake cost-effective
14 energy efficiency improvements, on their own or otherwise, they benefit the
15 Maryland economy by reducing customer bills.

16 **Q: How do efficiency improvements benefit Maryland's economy?**

17 A: The economy benefits from cost-effective energy-efficiency improvements
18 because fewer scarce resources are devoted to obtain a given level of energy
19 service. Both individual consumers and the economy benefit. By spending
20 less on a given level of energy service, individual consumers have more
21 money at their disposal to spend or save. For business, lower energy service
22 costs mean an increase in profitability, an improvement in competitiveness,
23 or both.

1 **Q: Why are gas DSM programs such as those offered by WGL necessary to**
2 **promote the public purpose of lower costs of energy service?**

3 A: Such market intervention is justified to correct market failure. Market
4 barriers impede customer investment in economically optimal DSM
5 investment by energy consumers. DSM programs overcome market barriers
6 that prevent customers from spending as much to save energy as they pay to
7 use it.

8 **Q: What market barriers contribute to market failure with respect to**
9 **energy-efficiency investments?**

10 A: Limited access to capital, institutional impediments, risk perception,
11 inconvenience, and information problems are some of the factors that
12 compound the costs and dilute the benefits of energy efficiency
13 improvements for consumers. Exhibit___JJP-2 lists commonly-recognized
14 market barriers to economical energy-efficiency investment. The cumulative
15 impact of these barriers is even stronger because they interact. Utilities can
16 accelerate investment in cost-effective demand-side measures with
17 comprehensive programs that reduce or eliminate these barriers.

18 **Q: Is such market intervention to correct market failure considered a**
19 **legitimate public purpose in the economics literature?**

20 A: Yes. For example, Steiner distinguishes tree types of public goods justifying
21 market intervention:

- 22 (1) those arising from intrinsic, perhaps technical, characteristics of specific
23 goods that result in externalities that are not effectively marketed;
24 (2) those arising from imperfections in market mechanisms, rather than in
25 the nature of the goods or services themselves; and

1 (3) those arising from concern with the quality or nature of the
2 environment, rather than aspects of the particular goods or markets.¹

3 Information, time lags, and transaction costs are three sources of market
4 imperfections that Steiner mentioned as valid reasons for market
5 intervention.² He observes that “the higher cost of attempting to gear a
6 pricing system to an individual’s willingness to pay is a repeated source of
7 turning away from the market.”³ Although Steiner suggested from long
8 before the advent of DSM all three market imperfections are directly
9 analogous to the DSM market barriers listed in Exh. __JJP-2.

10 **Q: What DSM program design strategies can be employed to overcome**
11 **market barriers and thereby increase energy-efficiency investment?**

12 A: Utilities have a variety of tools available for generating energy savings from
13 DSM programs. These include marketing, financial incentives or assistance,
14 technical assistance, and measure delivery.

15 **Q: Is there any one particular program strategy that has proven effective**
16 **by itself in overcoming market barriers to energy-efficiency investment?**

17 A: No. Multiple strategies are usually best at overcoming market barriers,
18 because a variety of barriers usually impede efficiency investment in most
19 markets. Thus, utilities should look for the best combination of strategies for
20 overcoming market barriers. In general, experience shows that the stronger
21 the strategies applied in DSM program design, the higher the participation,

¹Steiner, Peter, *Public Expenditure Budgeting*, Brookings Institution, Washington, D.C., 1969, p. 9.

²Ibid., pp. 12-14.

³Ibid., p. 14.

1 and the more efficiency savings realized by each participant. Exh. __JJP-3
2 summarizes the highest participation rates achieved from utility DSM
3 programs.

4 **Q: Does Witness Haymes acknowledge the objective of minimizing total
5 costs in his discussion of the public purpose of DSM?**

6 A: No. Witness Haymes only recognizes benefits as reductions in the *unit* cost
7 (i.e., total cost divided by gas sales).⁴ This is despite his apparent
8 acknowledgment that gas efficiency measures can provide long-term
9 reductions in costs. (Response to OPC Data Request 1, Question 35) Mr.
10 Haymes also allows that “lower bills would generally be the desired public
11 policy for the same quality of service but other factors must be considered.”
12 (Response to OPC Data Request 1, Question 54)

13 **Q: What public purposes does Mr. Haymes claim are potentially valid for
14 gas DSM?**

15 A: He names three: (1) major scarcity of the resource being conserved; (2)
16 external environmental effects; and (3) maldistribution of income. (Haymes
17 direct at 12)

18 **Q: Is Mr. Haymes correct in his characterization of the public purposes
19 that DSM should serve in order to merit ratepayer support?**

20 A: Only partially. The three public purposes he posits are mentioned as
21 secondary concerns or even lower priority in justifications for DSM with

⁴For example, in response to OPC Data Request No. 1, Question 83, Mr. Haymes was asked, “If a WGL DSM program results in purchases of \$1 million less of natural gas, what is the reduction in gas costs for society at large?” He responded that the “per unit cost may be near zero.” Presumably, his answer refers to the unit-cost *reduction*.

1 which I am familiar. The primary justification most often advanced for
2 ratepayer-supported DSM is reduction in either total resource costs of
3 providing energy service, or in total revenue requirements of utility service. I
4 have attached excerpts from various sources that substantiate this observation
5 in Exh. __JJP-4.

6 **Q: Why does Mr. Haymes dismiss environmental considerations as a valid**
7 **public policy objective for gas DSM?**

8 A: Mr. Haymes offers two reasons. First, he says environmental impacts of gas
9 use are “very low” (Haymes direct, p. 13). Second, he says they are “not
10 really relevant here.” (Ibid.)

11 **Q: On what basis does he reach the conclusion that environmental effects**
12 **are “very low?”**

13 A: The basis for Mr. Haymes’ belief is his “general knowledge of the
14 environmental impacts of end-use natural gas usage.” (Response to OPC
15 Date Request No. 1, Question 68) It is not based on any analysis by Mr.
16 Haymes or anyone else at Staff. (OPC Data Request No. 1, Question 69)

17 **Q: Are the environmental impacts of gas use “very low,” as Mr. Haymes**
18 **testifies?**

19 A: Not according to sources with which I am familiar. Exh. __JJP-5 provides
20 estimates of the external environmental costs of gas use. As this exhibit
21 shows, these estimated effects represent a substantial fraction of the cost of
22 gas.

23

1 **Q: But if the environmental effects of natural gas are not included in the**
2 **avoided costs of gas used by the collaborative, does that make them**
3 **irrelevant, as Mr. Haymes claims?**

4 A: No. Given his stance that avoided costs should reflect public policy concerns,
5 it is inconsistent for Mr. Haymes to dismiss environmental considerations as
6 a public policy matter merely because they are not included in the calculation
7 of avoided costs now. He seeks Commission resolution of avoided-cost
8 calculations to address public policy concerns over distributional effects. In
9 support of his position, he reasons that environmental considerations could
10 offer a valid public purpose for gas conservation programs.⁵ If he were truly
11 sincere in his argument, consistency demands that he request that the
12 Commission include environmental effects in the calculation of avoided
13 costs.

14 **III. DISTRIBUTIONAL EFFECTS OF DSM**

15 **Q: What are the potential sources of distributional effects of gas DSM?**

16 1. A: DSM programs have two sources of distributional effects. The
17 first, as with supply resources, is the revenue requirement associated
18 with program expenditures. The second, unlike supply, is from sales
19 reductions. As therm sales decline due to DSM, costs are spread over a
20 smaller base. If avoided costs exceed average costs, sales reductions

⁵The Company's modeling of conservation consumption reductions indicate that conserved gas would be resold to interruptible customers. Gas sales to interruptible customers displace oil, which is more polluting per million BTU than gas. Environmental effects of energy are addressed by Commission regulations according to Public Service Commission Law. See Maryland Annt. Code, Article 78, Section 54A.

1 will be proportionately smaller than reductions in revenue requirement.
2 Average costs per therm sold would necessarily fall, meaning that non-
3 participants would benefit from participant sales reductions.⁶ But if
4 average costs exceed avoided costs, then sales reductions by themselves
5 will raise the revenue requirement per therm sold. This is currently the
6 case for WGL.

7 **Q: Is Mr. Haymes clear on which of these distributional consequences he is**
8 **concerned about?**

9 A: No. Mr. Haymes appears to object most to the distributional effects resulting
10 from WGL contributions toward efficiency measures. He does not appear to
11 object to the distributional effects from consumption decreases caused by
12 conservation actions taken by customers on their own. Mr. Haymes has not
13 made it clear whether the Commission should stop the effects of DSM
14 incentive payments themselves, the effects of other program expenditures,
15 the revenue shifts from the sales reductions they cause, or all three.

16 He states that “there would be essentially no income redistribution” if
17 customers fully paid for efficiency measures (Staff response to OPC Date
18 Request No. 1, Question 23(d)). In response to OPC Data Request No. 1,
19 Question 32, Mr. Haymes states his concern for the portion of costs included
20 in the DSM surcharge. The problem with this formulation is that the effects
21 of DSM programs go beyond the surcharge. The surcharge includes program
22 costs (including incentives) and lost revenue. Ultimately, all lost revenue is
23 included in rates, to the extent that rates are set by allocating fixed costs to

⁶The distributional effects are not necessarily fair in this case. Relative equity depends on how the cost reductions are distributed, which depends on participation between customer groups.

1 billing determinants reduced by conservation. Other effects of DSM
2 programs — reductions in gas revenue requirements — appear in the
3 purchased gas adjustment and base rates.

4 If Mr. Haymes is willing to accept revenue shifts caused by sales
5 reductions from efficiency measures customers pay for themselves, then
6 logically it follows that he should tolerate revenue shifts from sales
7 reductions caused by other means, such as information. If this is so, then the
8 distributional effects of the expenditures themselves should be the only
9 source of Mr. Haymes' concern (i.e., not the revenue losses they cause by
10 encouraging conservation). If this is not so, then the position of Mr. Haymes
11 is illogical and inconsistent.

12 **Q: Are the distributional effects of gas DSM unusual?**

13 A: No. In general, any improvement in economic efficiency may affect the
14 distribution of income or wealth. Equity concerns can arise from an
15 economic efficiency improvement in any number of ways. Some customers
16 may benefit from the efficiency investment disproportionately compared to
17 others. Some may benefit while others do not receive any benefit
18 whatsoever; or some customers pay less while others pay more as a result of
19 the efficiency improvement.

20 As Witness Haymes acknowledges, the Commission permits many
21 utility actions that have distributional consequences (IR OPC 1-5, 10, 12, and
22 13)⁷ Such actions include:

⁷ His response to Question 5 added that he “has not isolated any occurrences equivalent to the concept in some gas DSM programs.” No explanation was given for his lack of equivalence between supply and ratemaking decisions on the one hand, and some DSM programs on the other.

- 1 1. Authorizing rates that do not equalize rates of return between classes;
- 2 2. Authorizing rates that set customer charges at levels different than the
- 3 embedded customer-related cost of service;
- 4 3. Authorizing rates that set customer charges at levels different than the
- 5 marginal customer-related cost of service;
- 6 4. Applying the same rates to customers with different customer related
- 7 equipment costs (e.g., longer and shorter services);
- 8 5. Applying the same rates to customers with different load shapes;
- 9 6. Applying the same rates to customers in different locations, using
- 10 different length, sizes, and vintages of mains;
- 11 7. Authorizing rates that do not fully reflect seasonal cost differences;
- 12 8. Approving construction of baseload electric plants that increase
- 13 demand-related allocations and charges and decrease energy-related
- 14 costs;
- 15 9. Authorizing recovery of coal gasification clean-up costs from customers
- 16 who never received gas from those facilities;
- 17 10. Setting rates so that the carrying charges of investments are higher in
- 18 the early years than in the later years of equipment life, in nominal and
- 19 real terms;
- 20 11. Offering discounts for low-income customers;
- 21 12. Offering discounts for elderly customers;
- 22 13. Permitting replacement of potentially inaccurate older meters at the
- 23 expense of all customers, including those who meters are not replaced;
- 24 14. Permitting repair of leaking distribution lines at the expense of all
- 25 customers, including those who do not use the leaking lines;

- 1 15. Recovery of post-retirement benefits from customers who were not on
2 the system at the time the obligation was incurred;
- 3 16. Applying a single rate to all customers within a rate class even when the
4 costs of new customers differ from cost to serve existing customers.

5 **IV. TRADEOFFS BETWEEN ECONOMIC EFFICIENCY AND**
6 **DISTRIBUTION EQUITY**

7 **Q: Is a tradeoff between economic efficiency and distributional equity a**
8 **rare problem in public policy?**

9 A: No. It is a fundamental issue in economics.⁸

10 **Q: How should distributional equity concerns surrounding economic**
11 **efficiency be addressed?**

12 A: In general, such concerns should be identified and dealt with after
13 determining the cost-minimizing resource choice. For DSM, this is supported
14 by the Commission's decision concerning the proper place for considering
15 revenue shifts captured by the no-losers test:

16 As a matter of policy, a utility's long-range planning process should rely
17 upon the all-ratepayers test, rather than the no-losers test, as the initial
18 screening test for cost effectiveness.⁹ The no-losers test can be
19 considered by the utility among other factors in the later stages of the
20 planning process to determine priorities among DSOs (demand-side
21 options) and SSOs (supply-side options).¹⁰

⁸See, for example, Okun, A. 1975, *Equality vs. Efficiency: The Big Tradeoff*. Washington, DC: Brookings Institution.

⁹ The all-ratepayers test is used interchangeably with the total resource cost (TRC) test in my testimony.

¹⁰Order No. 68660, p. 27.

1 **Q: At what point does Staff propose to address equity concerns?**

2 A: Staff proposes to address this public policy concern at the earliest possible
3 stage, i.e., even before the comparison between benefits and costs is made,
4 by eliminating a major component of total gas benefits of DSM: the avoided
5 commodity costs of pipeline gas purchased by WGL.¹¹

6 **Q: Is Mr. Haymes advocating the biased and restrictive “no-losers” test for
7 DSM programs?**

8 A: Mr. Haymes is actually imposing a more restrictive test than the no-losers
9 perspective. He testifies that he accepts the TRC. In response to discovery,
10 however, he indicates that this acceptance is conditional on exclusion of
11 commodity costs avoided in the calculation. (Response to OPC Data Request
12 No. 1, Question 55) With this condition Mr. Haymes in effect imposes
13 another test. Elsewhere in response to discovery, Mr. Haymes states that
14 commodity costs can only re-enter the TRC if they result in lower “per unit
15 costs of the LDC’s supplies.” Requiring a DSM program to lower per-unit
16 costs is identical to insistence that it pass the no-losers test. Thus, Mr.
17 Haymes uses the issue of avoided commodity costs as his vehicle for
18 circumventing the Commissions proscription of the no-losers test as the
19 determinant of cost-effectiveness.

20

21

¹¹When asked why he seeks to address the policy issue of distributional equity associated with DSM through avoided costs, Mr. Haymes responded that “Avoided cost was the open question.” (Response to OPC Data Request 1, Question 60)

1 **Q: Is there support for Mr. Haymes' position on distributional effects of**
2 **DSM in prior Commission decisions?**

3 A: Not that I could find. Mr. Haymes himself is aware of no PSC orders that
4 reject a resource option that reduces total costs because of its distributional
5 consequences. (Staff response to Data Request No. 1, Question 31) On the
6 contrary, Mr. Haymes' position appears to be directly at odds with
7 established Commission policy on assessment and treatment of distributional
8 consequences of DSM. In fact, the Commission rejected as a matter of policy
9 in 1989 arguments very similar to those advanced Mr. Haymes today.

10 **Q: What quantitative evidence does Mr. Haymes offer to demonstrate that**
11 **distributional effects of WGL DSM are extreme?**

12 A: None whatsoever. Mr. Haymes performed no computations of any kind.
13 (Response to OPC Data Request No. 1, Questions 4 and 6)

14 **Q: What basis does he offer to substantiate the extremity of DSM**
15 **distributional effects?**

16 A: He "finds this concept to be reasonable" because a surcharge paid in part by
17 low-income customers for a program which benefits high-income customers
18 results in a "bizarre income redistribution that does not enhance normal
19 public policy goals." (Response to OPC Data Request No. 1, Question 4) He
20 states further that the "income redistribution" is "extreme" regardless of the
21 "particular situation. It could apply to a measure taken by one customer."

22 He says that the redistribution is extreme for programs in any one year.
23 He also claims that the extreme effect would apply "to WGL's current DSM
24 portfolio over the average customer's tenure." (Ibid.) Again, according to
25 Mr. Haymes, "no computations were made" to support these statements.

1 **Q: Would Mr. Haymes allow commodity costs to be included in benefit-cost**
2 **analysis of a DSM program designed to reverse the income**
3 **redistribution he finds “bizarre”?**

4 A: In response to discovery, Mr. Haymes wrote:

5 No, even though there may be worthwhile low-income programs, Mr.
6 Haymes does not see how the screening based on saving commodity
7 costs is the appropriate decision device. As with other utility programs
8 intended to benefit low-income customers, low-income DSM programs
9 which would not otherwise be cost-effective may be justified on some
10 other public policy basis. (Response to OPC Data Request 1, Question
11 72)

12 Deconstructing this answer demonstrates the circularity of Mr. Haymes’
13 logic:

- 14 1. Commodity costs cannot be included in the calculation of DSM benefits
15 because DSM programs redistribute income inequitably.
- 16 2. A program that would reverse the distributional inequities leading to the
17 exclusion of commodity costs from the calculation cannot be
18 considered because it is not cost-effective.
- 19 3. The program is not found to be cost-effective because avoided
20 commodity costs are excluded from the calculation of program benefits.

21 **Q: Can the Commission determine whether the distributional effects of**
22 **DSM are reasonable by reference to a single measure, participant,**
23 **program, or year, as Mr. Haymes suggests?**

24 A: Of course not. Distributional equity is a relative concept in the sense that it
25 can only be judged by comparisons between scenarios, between customers
26 within the entire population, and over time. The distribution of DSM benefits
27 depends on the portfolio of programs available, and the breadth and depth of

1 participation by different customers groups across programs.¹² A simple
2 example illustrates the point. If there are two customers and two DSM
3 programs each providing each customer with separate benefits, each is a non-
4 participant in the other's program. Under Mr. Haymes' reasoning, each
5 program would be unfair, even if both benefit equally from their respective
6 programs and pay equally for the costs of the other's.

7 **Q: Have you analyzed the distributional effects of WGL gas programs?**

8 A: No.

9 **Q: Do you have any analysis that would provide some indication of the
10 tradeoff between rate effects and total cost reductions?**

11 A: Yes. Washington Gas provided information to the collaborative in 1994 in
12 support of its 1994 IRP. Although the assumptions are out of date, and some
13 methodological problems exist, the analysis still illustrates how the tradeoff
14 should be analyzed as well as its relative magnitude.

15 The analysis is summarized in Exh. __JJP-6. This exhibit compares rate
16 increases and revenue requirement reductions from different DSM scenarios.
17 It shows that for the amount of DSM in the Company's IRP (the "Budget"
18 case), rates would rise on average between 1994 and 2000 by 1.63%. In
19 exchange for this moderate rate increase, customers as a whole would enjoy

¹²Ironically, Mr. Haymes indicates his apparent agreement with this proposition in response to OPC Data Request No. 1, Question 8. When asked whether a portfolio of programs directly serving the majority of customers over the planned life of the programs would be an extreme example of income redistribution, he answered "there is no way to tell the impacts from the information given in the question." If he cannot judge the distributional effects from such a scenario, it is difficult to understand how he is able to draw such sweeping conclusions about the inequity of WGL's current portfolio without any analysis.

1 a \$38 million reduction in revenue requirements over the same period.
2 Extending benefits longer to reflect the life of the measures installed, the
3 programs would produce economic savings of \$115 million. These dollar
4 figures approximate the net gain in wealth to WGL customers in toto.

5 The analysis also illustrates the tradeoff available from further
6 investment in DSM beyond the Budget case. The “Economic case”
7 represents the Budget case plus additional DSM programs. The analysis in
8 Exh. __JJP-6 shows that the additional expenditures increase rates another
9 0.53%, in exchange for which customers as a whole benefit from a reduction
10 of another \$11.8 million in present worth revenue requirements through the
11 year 2000. Over a 15-year period, the extra half-percentage-point rise in per-
12 unit costs saves another \$46 million in customer bills.

13 **Q: Are you offering this analysis in support of specific DSM programs at**
14 **this time?**

15 A: No. As I already mentioned, the analysis is outdated, and OPC raised
16 significant issues in collaborative discussions concerning the analysis.
17 Updating the analysis would probably produce smaller revenue requirement
18 savings and larger rate impacts. On the other hand, correcting some of the
19 methodological problems and program assumptions would have the opposite
20 effect. Worth noting is that this kind of analysis is the proper point of
21 departure for assessing distributional equity from DSM programs. Moreover,
22 it is significant that Mr. Haymes has not attempted, asked for, or even
23 mentioned this kind of analysis in his testimony.

24

1 **Q: Doesn't the fact that DSM raises rates by 2.16% mean that DSM is**
2 **inequitable?**

3 A: No. There is simply not enough information to tell if the distribution of costs
4 and benefits is fair. To determine the distribution of benefits, one would have
5 to know the number of participants in each program and how much they
6 benefit from their participation. Remember that participants pay the same
7 higher rates that non-participants do. If over the planning period all
8 customers participate in some program, their bills are lower due to
9 consumption reductions. Higher rates do not automatically render such an
10 outcome unfair.

11 **Q: Is your reasoning here consistent with Commission policy?**

12 A: It is, based on my reading of the Commission's decision setting policy on
13 this matter. The Commission wrote:

14 we reject the Company's argument that DSOs that pass the all-
15 ratepayers test but fail the no-losers test should be rejected outright
16 based upon considerations of equity. As the Hearing Examiner noted,
17 there is no evidence in the record which quantifies the impact of any
18 resultant revenue loss upon the rate per kWh; it could be *de minimis*.
19 Also, if there are a number of DSO programs available to customers,
20 many if not all of Pepco's customers probably will choose to take
21 advantage of one or more of these programs, thus saving money on their
22 bills through decreased usage and accruing both direct and indirect
23 benefits from the program.¹³

24 **Q: Aren't DSM programs inevitably unfair, simply because as a practical**
25 **matter not all customers will participate?**

26 A: No. As the Commission found,

¹³Order No. 68660, p. 28.

1 we do not believe that, as a matter of policy, it is appropriate to reject a
2 DSO program that could reduce total electric energy costs because some
3 customers may be unable or unwilling to participate. Specifically, just
4 because some customers already have invested in conservation measures
5 does not mean (as Pepco argues) that financial incentives should not be
6 extended under a DSO program to encourage other customers to take the
7 same measures to help reduce the need for power plant construction and
8 energy usage.¹⁴

9 V. CONCLUSIONS AND RECOMMENDATIONS

10 **Q: What should the Commission conclude from your analysis of Mr.**
11 **Haymes' position?**

12 A: Mr. Haymes seeks to exclude from calculation of gas DSM benefits the gas
13 commodity costs avoided by DSM energy savings. This position ignores the
14 primary public purpose of gas utility DSM: improvement of economic
15 efficiency through reductions to total energy-service costs. It conflates
16 economic efficiency objectives with distributional equity concerns. Without
17 offering a shred of quantitative evidence, Mr. Haymes claims that the
18 distributional inequities of WGL gas DSM is “extreme.” It is his position
19 that is extreme, since it sacrifices any improvement in economic efficiency
20 — no matter how large — if it disrupts the current distribution of costs and
21 benefits — no matter how little.

22 Elevating distributional concerns so far above economic efficiency
23 objectives is clearly and directly at odds with established Commission
24 policy. Indeed, Mr. Haymes is careful to avoid embracing the no-losers test
25 previously rejected by the Commission. Attacking the equity issue through

¹⁴Order No. 68660, p. 29.

1 the avoided cost issue has the convenient advantage of circumventing that
2 policy. Actually, Mr. Haymes' position is so much more restrictive than the
3 no-losers test that it amounts to a "no-winners" test: by omitting avoided
4 commodity costs from program cost-effectiveness analysis, no programs will
5 ever pass.

6 Mr. Haymes' support for the proposition that gas commodity costs are
7 not DSM benefits is fraught with inconsistencies and circular logic. It is
8 unclear whether Mr. Haymes is concerned about DSM expenditures, DSM
9 financial incentives in particular, or lost revenue associated with DSM
10 energy savings, or some combination thereof — all of which raise rates by
11 themselves. The DSM surcharge is the stated source of his concern; however,
12 adverse rate impacts from DSM ultimately arise outside the surcharge, since
13 marginal revenue exceeds marginal cost for WGL.

14 He says he is concerned with the general body of ratepayers; however,
15 in his interrogatory responses he equates the general good with non-
16 participants of any particular program. Logically, he implies that program
17 participants are not members of the public whose interests he says he is
18 trying to protect. He allows no room for the likelihood that, with a
19 comprehensive DSM portfolio implemented over the planning horizon, the
20 majority of WGL customers will be participants in at least one program —
21 even though they are also highly likely to be non-participants in several
22 programs. His discovery responses make it plain that no set of programs
23 could be devised to satisfy his concerns short of eliminating financial
24 strategies altogether.

25 Stripped of its faulty underpinnings, Mr. Haymes' argument is reduced
26 to nothing more than a deep philosophical hostility to a particular DSM

1 program strategy — financial incentives. The problem with this view is that
2 utility experience shows that financial incentives are necessary ingredients
3 for achieving high program participation and comprehensive savings. Thus,
4 Mr. Haymes would preclude programs that maximize total cost savings
5 under the Commission-established threshold for determining DSM cost-
6 effectiveness.

7 **Q: What Commission action do you recommend?**

8 A: I recommend that the Commission reject the proposal by Messrs. Haymes
9 and Conopask to exclude commodity costs from the calculation of DSM
10 benefits in cost-effectiveness screening. I further recommend that the
11 Commission direct the WGL collaborative to consider the distributional
12 effects of DSM in the manner I have described in my testimony.

13 **Q: Does this complete your direct testimony?**

14 A: Yes.