MERCATUS CENTER

REGULATORY STUDIES PROGRAM

Addendum to Public Interest Comment on the Department of Energy's Proposed Clothes Washer Efficiency Standards

Docket No. EE-RM-94-403

The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of the impact of regulation on society. As part of its mission, RSP conducts careful and independent analyses employing contemporary economic scholarship to assess rulemaking proposals from the perspective of the public interest. On November 27, 2000, RSP submitted comments on the Department of Energy's proposed clothes washer efficiency standards.

One observation offered by that comment was that the Department's regulatory development process was not amenable to consumer input. According to DOE, the proposed regulations were "based on a 'Joint Stakeholders Comment recommendation submitted to the Department by clothes washer manufacturers and energy conservation advocates.'"[1] DOE recognized that consumers, unlike these organized stakeholders, would have difficulty participating in the rulemaking process.[2]

One premise of the Regulatory Studies Program is that regulatory decisions are too often made on the basis of an incomplete record – one that reflects the views of the agency and of those who have a parochial interest in the outcome, but that contains little input from the public at large. Our comments generally are intended to provide a broader public interest perspective. On occasion we will supplement those comments with polling data intended to elicit the views of a random sample of citizens.

[1] DOE, *Federal Register*, p. 59551. DOE added: "The Joint Stakeholders consist of the following: Alliance Laundry Systems LLC; Amana Appliances; Asko Incorporated; Frigidaire Home Products; General Electric Appliances (GEA); Maytag Corporation; Miele, Inc.; Fisher & Paykel Ltd; Whirpool Corporation; Alliance to Save Energy; American Council for an Energy Efficient Economy (ACEEE); Appliance Standards Awareness Project; California Energy Commission (CEC); City of Austin, Texas; Natural Resources Defense Council (NRDC); Northwest Power Planning Council; and Pacific Gas and Electric (PG&E).

[2] In an August 31, 2000 letter to DOE Secretary Bill Richardson, the Advisory Committee on Appliance Energy Efficiency Standards wrote that DOE's rulemakings on appliance standards are too ponderous to be useful to the lay consumer even when written to meet the requirement that rulemakings be in "plain language." The Committee recommended that DOE make rulemakings more "consumer friendly." DOE responded to the Committee:

> "The Department is experimenting with a Consumer Overview section in the Notice of Proposed Rulemaking…Unfortunately, legal counsel has instructed that this overview may not appear at the beginning or end of the document, but must be relegated to the summary section, well-buried in the middle of the notice."

We do not believe that all public matters are best decided by polls or referenda. In our representative federal democracy, the power of majorities to coerce minorities must be filtered through the established institutions, with their checks and balances. Furthermore, regulatory agencies must bring scientific, economic, and other technical expertise to bear on the complicated decisions that are entrusted to them. It is not always possible to describe these decisions accurately to a poll respondent.

At the same time, we believe it is a useful exercise to put regulatory decisions into language that the average citizen can understand, and to listen to their views. To this end, Mercatus commissioned a survey of consumers to provide DOE a better understanding of their preferences with respect to washing machine attributes and the standard established in the proposed rule.

Tables 1-5 below present the results of the Mercatus Center telephone survey conducted by Rasmussen Research on Tuesday, November 28, 2000. The survey posed five questions related to washing habits and preferences. The sample size is 1,997, and the margin of sampling error is 3 percent with a 95 percent level of confidence.[3]

Question 1: S*uppose you were going to purchase a new washing machine. What would be the most important factor in deciding which machine you would purchase? Would it be a low purchase price, low operating costs, reliability, capacity, ease of use, or some other feature?*

Table 1: Most important purchase factor

Low price	12.6
Low operating costs	8.8
Reliability	65.2
Capacity	5.4
Ease of use	2.3
Some other feature	2.6
Not sure	3.1

Note that reliability seems to be the single most important factor (by over five times) in consumer clothes washer purchase decisions. Low initial purchase price is the second most-frequently cited factor, and low operating costs is third.

[3] These results are also highlighted, with visitor comments, on Rasmussen Research's web site at www.rasmussenresearch.com/html/poll-1547.html.

Question 2: *The U.S. government has proposed a regulation that would effectively eliminate top-loading washing machines and require consumers to purchase side-loading machines. Do you favor or oppose this regulation?*

Table 2: View on regulation that eliminates top-loading model.

Favor	10.3
Oppose	62.1
Not Sure	27.6

When faced with the simple question of whether they would favor or oppose a regulation that effectively eliminated the top-loading washer models, consumers expressed opposition by a ratio of six to one. Sixty-two percent responded that they would oppose the regulation, 10 percent indicated that they would favor such a regulation, and almost 30 percent were not sure.

Question 3: *The Department of Energy says that the new regulation would make washing machines more expensive to purchase. However, the government agency also predicts that most consumers would save money over time because of lower operating costs and greater energy efficiency. Knowing this do you favor or oppose a new regulation to eliminate top-loading washing machines?*

Table 3: View on regulation if it saves energy costs

Favor	22.4
Oppose	58.3
Not Sure	19.3

Question 3 informs respondents that the regulation would serve to eliminate top-loading washers in favor of machines with lower operating costs and greater energy efficiency. Opposition to the regulation fell slightly from 62 percent to 58 percent. More respondents responded favorably, from 10 percent to 22 percent, and fewer respondents were unsure (19 percent). This further detail appears to have led some of the respondents who were unsure in response to the simpler question to favor the regulation. It is worth noting that, despite the increase in favorable responses, survey respondents were still overwhelmingly opposed to a regulation, by a ratio of 2.6 to 1.

Question 4. *Suppose that you had to pay an extra $240 to purchase a side-loading washing machine. Then, over 14 years, you could save a total of $500 in operating costs. Would that be a good deal?*

Table 4: $500 savings a good deal?

Yes	27.8
No	53.9
Not Sure	18.3

Question 4 provides more information on the expected tradeoffs between purchase price and operating costs. Rather than ask again whether respondents would favor the regulation, however, it asks whether they would find the tradeoff to be worthwhile. When faced with the tradeoff of paying $240 more to purchase a washing machine, but saving $500 in operating costs over the 14-year life of the machine, 54 percent indicated they would not find that tradeoff worthwhile. Twenty-eight percent would consider that tradeoff a good deal, while 18 percent were unsure. Thus, setting the question of whether DOE should mandate such a purchase decision, respondents still indicate a preference not to purchase the more expensive but more energy efficient machine by a ratio of almost 2 to 1.

Question 5. *In a typical week, how many loads of laundry do you wash?*

Table 5: Loads of laundry per week

You don't do the laundry	14.8
1 to 3 loads	29.1
4 to 5 loads	25.5
6 to 7 loads	14.3
8 loads or more	14.6
Not sure	1.7

DOE bases the proposed standard on an assumption that a household will operate its washer 392 times a year.[4] This derives an annual savings in operating costs of about

[4] DOE bases this estimate on a survey of washing habits by Proctor & Gamble and RECS data. DOE, *Federal Register*, p. 59561. However, DOE itself suggests that this estimate may not be firmly grounded. In the TSD DOE states: "The DOE test procedure assumes 392 cycles per year. In actuality, the number of loads of laundry per household per year depends on the number of persons in the household, and probably on other factors." DOE, TSD, p. 10-6. DOE does not attempt to discern either what these "other factors" may be or the magnitude of their influence on the number of washes per year per household.

$30.[5] Using DOE's methodology, Mercatus found that a household must operate its washer about 300 times a year—or 5.8 times week—to recover the higher purchase price commanded by the washer that meets the standard. Any household operating its washer less frequently would clearly lose under the proposed standard, according to DOE's methodology, price and cost estimates.

Less than 15 percent of survey respondents operate their clothes washer as frequently as DOE assumes on average. Moreover, over 69 percent of respondents wash 5 or fewer loads a week. Thus more than two-thirds of households surveyed would not be able to recoup the higher purchase price of the mandated washing machines.

Tables 6 through 10 present results demographically by respondents reported age, race, gender, income, household size, and whether there are children at home.

We highlight a few results from these tables.

Age. From Table 6, it is clear that the frequency of clothes washer use is correlated with respondent age, with younger and older respondents doing less laundry than those between 30 and 50. (This is probably due to the fact that this age group is more likely to live in larger households with children.) Interestingly, the age group that does the most laundry (24.3 percent of the respondents aged 30-39 wash 8 or more loads per week) places less emphasis on operating costs than does the whole sample (5.9 percent compared to 8.8 percent), but relatively greater emphasis on capacity (10.4 percent vs. 5.4 percent).

Older respondents were less likely to favor regulations that eliminated top-loading washer models, even if the side-loading models are more energy efficient. In general, the older the respondent, the less likely they were to favor, and the more likely to oppose, the proposal as described in questions 2 and 3. Older respondents were also less likely to think the $500 savings posited in question 4 was a "good deal."

Race. Table 7 reveals that respondents who called themselves white or other tend to do more laundry (31.4 percent and 28.6 percent wash six or more loads per week) than those who called themselves black (13.0 percent wash six or more loads per week). Black and

[5] DOE, "Consumer Overview," p. 2. However, DOE uses different saving estimates at various points. In the graph entitled "Price vs. Savings" on p. 9-28 of the TSD, an annual savings of nearly $50 appears associated with a washer price that exceeds $650 [the grid lines on the graph do not permit precise numerical readings.] Yet, on p. J-3 of the TSD, DOE mentions a $650 high efficiency machine offering 40 percent improvement in safety and annual savings of $50. Since the proposed standard for January 1, 2007 would increase efficiency by 35 percent, or less than 40 percent, the annual savings would also appear to be less; i.e., less than $50. DOE's payback period analysis offers another way to infer the annual savings. That analysis uses a discount rate of zero percent; i.e., DOE simply divides the price increase through by the annual savings to solve for the number of years needed to "payback" the higher purchase price. According to page 7-4 of the TSD, the 35 percent more efficient washer will cost an additional $239. The mean payback period is 6.8 years (TSD, p. 7-36), which would indicate an annual savings of $35.15 ($35.15 x 6.8 = $239). The payback period for the 50th percentile of households is 5.0; i.e., the 50th percentile of households has a payback period of 5.0 or less. Using the 5.0 figure indicates annual savings of $47.80 ($47.80 x 5.0 = $239).

other respondents were more likely to favor the proposed regulations, as described in questions 2 and 3. Black respondents were more likely to rank low purchase price (23.5 percent) and low operating costs (12.6 percent) as the most important purchase factors than white or other respondents.

Income. Table 8 presents results by income category. Respondents earning under $20,000 per year listed low purchase price and low operating cost as the most important purchase factor more than higher income counterparts. While 12.6 percent of all respondents listed purchase price as the most important factor, 23.0 percent of respondents making less than $20,000 considered purchase price most important.

DOE's analysis in support of the rule concludes that low-income households would derive greater benefit because they operate their washers more intensively (410 times a year versus 392 times for the general population) and, so receive a greater reduction in operating savings.[6] As noted in our comment submitted on November 22, 2000, DOE also predicts that the standards will lead to a sharp drop in the percentage of low-income families who buy new machines (it predicts that only one low income household in eight would buy a new machine under the proposed standard) and thus take advantage of those operating savings. Table 8 does not support DOE's assumption that lower income families wash more laundry. Of the respondents who earn less than $20,000 per year, 82.3 percent report that they wash less than 6 loads per week (compared to 69.4 percent of all respondents), and only 15.2 percent report washing 6 or more loads per week (compared to 28.9 percent of all respondents). Since the Mercatus analysis indicates that households washing under 6 loads per week are not likely to recoup the increased purchase price, these data suggests that even those low-income households that do choose to buy a new machine will lose money.

Tables 9 and 10 generally support the intuition that the larger households and households with children under 18 wash more loads of laundry per week. Interestingly, the largest households (more than 8) listed purchase price as the most important purchase factor more than twice as often as respondents generally (37.7 percent compared to 14.3 percent), and identified low operating costs and reliability less than half as frequently as respondents generally.

* * *

We recognize that the results of this survey may not accurately reflect consumer behavior when actually faced with decisions to purchase a new clothes washer, and we do not believe that survey results alone should dictate policy decisions. However, DOE actions that affect the types of appliances consumers can purchase, and the attributes and prices of those appliances should be based on a full understanding of consequences and preferences. Clothes washer efficiency standards will certainly limit consumer choice in purchasing new machines. It is imperative that DOE openly weigh the expected social benefits of this proposal against the constraints and costs imposed on American

[6] DOE, *Federal Register*, p. 59573.

consumers. DOE must also understand the distributional impacts of its proposal, and not focus purely on what it perceives to be the average consumer. As discussed more fully in the Mercatus public interest comment, consumers bear both the costs and the benefits of individual decisions to purchase certain machines, and any DOE mandate as to clothes washer attributes will harm consumers who do not match DOE's profile, without benefiting those that do.

Table 6: Results by age of respondent

Survey Question		Total	18-29	30-39	40-49	50-64	65+
Most important purchase factor	Low price	12.6	18.9	12.1	14.7	5.3	8.2
	Low operating costs	8.8	11.1	5.9	9.7	8.1	8.7
	Reliability	65.2	55.7	66.2	64.6	75.3	69.0
	Capacity	5.4	3.7	10.4	5.1	4.8	2.0
	Ease of use	2.3	3.6	1.1	1.7	2.0	3.3
	Some other feature	2.6	2.8	3.2	1.5	2.6	2.8
	Not sure	3.1	4.1	1.2	2.6	1.9	6.0
Proposal to eliminate top-loading washer	Favor	10.3	11.9	10.5	12.6	6.1	9.2
	Oppose	62.1	48.8	56.0	68.3	74.5	70.6
	Not Sure	27.6	39.3	33.5	19.1	19.4	20.1
View of regulation if it saves energy costs	Favor	22.4	31.8	21.4	20.7	15.0	18.4
	Oppose	58.3	43.6	54.4	65.2	69.8	66.7
	Not Sure	19.3	24.6	24.1	14.1	15.2	14.9
$500 savings a good deal?	Yes	27.8	36.1	26.5	27.1	22.7	22.6
	No	53.9	46.5	55.9	57.0	58.5	54.2
	Not Sure	18.3	17.4	17.6	15.9	18.8	23.2
Loads per week	Don't do laundry	14.8	18.2	10.0	10.8	16.6	19.0
	1 to 3 loads	29.1	33.5	16.0	25.8	27.8	45.8
	4 to 5 loads	25.5	24.5	25.8	28.2	28.6	19.9
	6 to 7 loads	14.3	11.0	23.2	15.7	12.7	7.2
	8 loads or more	14.6	10.6	24.3	18.1	13.7	4.1
	Not sure	1.7	2.3	0.6	1.3	0.5	4.0

Table 7: Results by race and gender

		Total	White	Black	Other	Men	Women
Most important purchase factor	Low price	12.6	10.5	23.5	15.0	11.7	13.5
	Low operating costs	8.8	8.5	12.6	7.5	9.0	8.7
	Reliability	65.2	68.9	46.4	60.2	67.5	63.0
	Capacity	5.4	5.3	6.6	4.4	3.6	7.0
	Ease of use	2.3	1.9	5.2	2.2	3.0	1.7
	Some other feature	2.6	2.1	3.2	4.8	2.5	2.7
	Not sure	3.1	2.7	2.6	5.9	2.7	3.4
Proposal to eliminate top-loading washer	Favor	10.3	8.9	14.8	14.4	11.2	9.5
	Oppose	62.1	65.5	50.0	52.5	65.0	59.4
	Not Sure	27.6	25.5	35.2	33.0	23.8	31.1
View of regulation if it saves energy costs	Favor	22.4	20.6	23.8	31.5	22.2	22.6
	Oppose	58.3	61.4	52.3	45.8	60.8	56.1
	Not Sure	19.3	18.0	23.9	22.7	17.1	21.3
$500 savings a good deal?	Yes	27.8	27.1	27.9	32.0	28.7	27.1
	No	53.9	55.1	48.6	51.8	54.9	53.0
	Not Sure	18.3	17.8	23.5	16.2	16.4	20.0
Loads per week	Don't do laundry	14.8	13.9	17.1	18.0	24.7	5.7
	1 to 3 loads	29.1	26.2	43.7	32.4	32.8	25.6
	4 to 5 loads	25.5	26.7	24.6	19.6	20.1	30.5
	6 to 7 loads	14.3	16.1	4.7	12.4	10.0	18.3
	8 loads or more	14.6	15.3	8.3	16.2	10.1	18.8
	Not sure	1.7	1.8	1.5	1.3	2.3	1.1

Table 8: Results by income

		Under 20k	20k-40k	40k-60k	60k-74k	75k+	n/a
Most important purchase factor	Low price	23.0	14.1	11.0	2.1	7.9	7.5
	Low operating costs	13.4	10.0	5.7	7.7	6.9	7.6
	Reliability	49.4	64.6	72.4	77.6	67.4	66.0
	Capacity	4.3	5.1	5.7	4.4	7.4	7.0
	Ease of use	1.6	2.2	2.6	2.4	4.7	1.0
	Some other feature	3.7	1.6	1.1	2.1	4.1	5.6
	Not sure	4.7	2.4	1.6	3.6	1.5	5.3
Proposal to eliminate top-loading washer	Favor	9.0	8.0	8.9	12.9	21.1	6.1
	Oppose	59.5	65.8	66.6	61.0	53.4	59.0
	Not Sure	31.6	26.1	24.6	26.2	25.6	34.9
View of regulation if it saves energy costs	Favor	26.7	19.7	17.6	22.0	31.8	20.3
	Oppose	48.4	63.1	62.9	64.5	52.8	56.0
	Not Sure	24.9	17.2	19.5	13.5	15.4	23.7
$500 savings a good deal?	Yes	33.3	25.6	22.9	21.4	35.9	33.2
	No	45.7	56.4	58.6	62.1	54.5	42.4
	Not Sure	20.9	18.0	18.5	16.5	9.6	24.4
Loads per week	Don't do laundry	15.7	13.8	14.1	12.5	15.5	14.7
	1 to 3 loads	40.0	32.6	25.2	16.3	22.2	29.3
	4 to 5 loads	26.6	25.8	23.7	23.4	28.8	24.0
	6 to 7 loads	5.4	11.9	19.6	28.8	13.7	17.1
	8 loads or more	9.8	14.1	16.8	18.2	18.8	11.6
	Not sure	2.6	1.8	.7	.8	1.1	3.3

Table 9: Results by household size

		Live alone	2 people	3 to 4 people	5 to 6 people	7 to 8 people	More than 8
Most important purchase factor	Low price	14.3	8.0	13.7	16.2	13.8	37.7
	Low operating costs	9.1	8.0	8.9	10.8	14.6	4.1
	Reliability	67.4	69.0	65.9	57.6	45.7	30.0
	Capacity	2.5	4.9	5.0	10.0	13.7	8.9
	Ease of use	2.1	2.8	2.2	1.8	4.7	.0
	Some other feature	1.9	2.7	1.7	2.6	7.5	16.9
	Not sure	2.8	4.5	2.7	1.0	.0	2.3
Proposal to eliminate top-loading washer	Favor	11.7	7.9	9.9	14.7	13.1	22.4
	Oppose	60.9	65.8	59.8	59.5	72.7	50.5
	Not Sure	27.4	26.3	30.2	25.8	14.2	27.0
View of regulation if it saves energy costs	Favor	23.4	21.3	22.5	24.5	26.4	16.4
	Oppose	55.4	62.0	59.1	51.9	56.3	42.0
	Not Sure	21.2	16.7	18.5	23.5	17.4	41.5
$500 savings a good deal?	Yes	26.3	28.2	25.7	30.7	50.6	33.9
	No	53.1	51.9	58.0	53.0	34.7	44.1
	Not Sure	20.5	19.9	16.2	16.4	14.7	22.0
Loads per week	Don't do laundry	13.1	16.5	14.8	9.7	24.0	17.7
	1 to 3 loads	64.4	34.2	16.8	5.6	12.5	25.4
	4 to 5 loads	14.7	31.2	29.3	18.1	10.4	2.3
	6 to 7 loads	3.7	12.0	18.4	23.9	22.7	4.3
	8 loads or more	1.1	4.3	19.5	42.9	29.4	43.8
	Not sure	3.1	1.9	1.2	.0	1.0	6.5

Table 10: Results by whether respondent has children under 18

		Total	Yes	No
Most important purchase factor	Low price	12.6	15.9	10.6
	Low operating costs	8.8	8.5	9.0
	Reliability	65.2	61.5	67.4
	Capacity	5.4	7.4	4.1
	Ease of use	2.3	2.5	2.3
	Some other feature	2.6	2.9	2.4
	Not sure	3.1	1.4	4.2
Proposal to eliminate top-loading washer	Favor	10.3	11.8	9.4
	Oppose	62.1	59.3	63.8
	Not Sure	27.6	28.9	26.8
View of regulation if it saves energy costs	Favor	22.4	23.8	21.5
	Oppose	58.3	55.8	59.9
	Not Sure	19.3	20.4	18.6
$500 savings a good deal?	Yes	27.8	28.1	27.7
	No	53.9	57.2	51.9
	Not Sure	18.3	14.7	20.5
Loads per week	Don't do laundry	14.8	12.9	16.0
	1 to 3 loads	29.1	10.9	40.2
	4 to 5 loads	25.5	25.3	25.7
	6 to 7 loads	14.3	21.3	10.0
	8 loads or more	14.6	29.1	5.7
	Not sure	1.7	.6	2.4