

# COUNTERFLOW

BY STEVE HUNTOON

## Cash for Clunkers Redux

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Remember the Cash for Clunkers program? Inefficient cars paid to go away.

The Energy Department's directive to FERC last week is Cash for Clunkers with a twist: inefficient generators paid to stay.



Huntoon

The original Cash for Clunkers was an economic stimulus for new stuff to replace the old stuff. The DOE's [Notice of Proposed Rule-making](#) subsidizes the old stuff to stop the new stuff: a sort of stimulus in reverse. (See related story, [Perry Orders FERC Rescue of Nukes, Coal, p.1.](#))

So we might say the DOE version is a Twist-ed Sister sort of twist on the original.

### Bailing Out the Retiring, Retired and Canceled Clunkers, and then Everyone Else

We know with certainty that the DOE proposal subsidizes the inefficient because those are the plants that will opt for the federal rate guarantee instead of market-based rates. How will this play out?

DOE says there are 34 GW in projected retirements over the next five years. Under the DOE proposal, none of that would retire and instead would go on the federal dole.

And then there's the 71 GW that already retired over the last six years but will likely return, like "Night of the Living Dead," for that federal rate guarantee.<sup>1</sup>

And how about all those canceled nuclear projects?

So we'll have around 100+ GW of uneconomic clunkers crashing the markets, and of course crashing market prices. This will force all the economic plants that depend on legitimate market prices to join the federal dole.

Natural gas plants will do this by simply adding 90 days' worth of oil tanks.<sup>2</sup>

What will all this cost consumers? DOE doesn't even try to answer that question, but here's one way of looking at it. First, we can assume that FERC won't want thou-

sands of individual rate cases for all the power plants in all the RTOs.<sup>3</sup>

So FERC would need some sort of standard compensation. Let's say it adopts a cost of new generation, maybe \$400/MW-day.<sup>4</sup> Generation in the RTOs is around 530 GW; add the roughly 70 GW of retired clunkers that will return from the dead, for about 600 GW on the federal dole. That's about \$88 billion annually.

So we are talking about tens of billions of dollars a year squandered first on what are, by definition, uneconomic resources, and then by paying economic resources that are rendered uneconomic by the clunkers and forced onto the same federal dole.

I can't help noting how Republicans blasted the original Cash for Clunkers,<sup>5</sup> which had a one-time cost of \$3 billion. The DOE version is tens of billions of dollars every year, forever.

### Resiliency

DOE says that its proposal is about "resiliency" (the new buzzword for reliability). But the retiring plants really are clunkers, as this PJM slide excerpt illustrates (I'll translate the jargon after the slide):<sup>6</sup>

Drop in Weighted Average EFORD Projected for 2021 is due to:

- Large amount of deactivations with high EFORD (7,150 MW with 14.56% Weighted Average EFORD).
- Large amount of additions with low EFORD (16,980 MW with 4.42% Weighted Average EFORD). Additions include only those queue projects that have executed an Interconnection Service Agreement.

| PJM

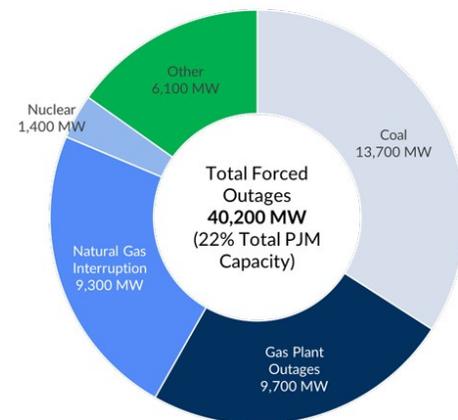
The deactivating (retiring) stuff has an outage rate — equivalent forced outage rate-demand (EFORD) — that is three times the new stuff (14.56% versus 4.42%). Yet DOE wants to subsidize these clunkers so they won't retire.

And that somehow is going to improve resiliency, again in a Twisted Sister sort of way.

### 90 Days of Fuel Supply on Site

A few words about the fuel supply require-

ment. DOE relies heavily on PJM's experience in the polar vortex of 2014 and claims that natural gas supply was the major problem. It was not. As this PJM chart plainly shows, natural gas interruptions affected 9,300 MW, accounting for less than 25% of total forced outages of 40,200 MW:<sup>7</sup>



| PJM

The FERC testimony of Mike Kormos, PJM's executive vice president at the time, directly contradicts DOE's main claim: "Natural gas interruptions removed less than 5% of the total capacity required to meet demand on Jan. 7, [2014], while equipment issues associated with both coal and natural gas units made up the far greater proportion of forced outages."<sup>8</sup> (Emphasis added.)

Beyond equipment issues, another basic flaw in a metric like fuel supply on site is that coal piles freeze, as some did in the polar vortex. Years of coal supply on site would be worthless if frozen. And of course, nuclear plants can't run during refueling and other outages. Years of nuclear fuel on site would be worthless during those outages.

Here's a fun fact you won't find in the DOE NOPR: Baseload (combined cycle) natural gas plants average lower forced outage rates (4.29%) than baseload coal plants (7.71%), and have about the same as nuclear plants (3.51%).<sup>9</sup> It's these overall forced outage rates that matter — not a single metric like fuel supply on site.

As for 90 days specifically, DOE provides zero rationale for that. In the polar vortex, the generation emergencies in PJM aggregated 20 hours.<sup>10</sup> What is magic about 90 days (other than being tailored to the average coal plant stockpile)?

*Continued on page 4*

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*Continued from page 3*

FERC and RTOs like PJM have learned from the polar vortex to reward performance and penalize nonperformance, instead of using a meaningless metric like days of fuel supply on site.

PJM hasn't had a single system generation emergency in more than three years — that's more than 26,280 hours of reliable operation. And PJM locks down adequate, reliable generation resources years in advance.

Bottom line: DOE proposes to take a system that is incredibly reliable and squander tens of billions of dollars on uneconomic resources to make it less reliable.

### J&R Gone Missing

Absent from the DOE NOPR is an explanation of how its proposal would satisfy the lodestar requirement of the Federal Power

Act that all rates be just and reasonable.<sup>11</sup>

Subsidizing uneconomic clunkers in organized markets is the antithesis of just and reasonable rates. It would be a repudiation of everything that FERC has sought to accomplish over the last 25 years.

Maybe Rick Perry was right all along: DOE should be abolished.

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<sup>1</sup> If you're one of those owners, you might want to hold the wrecking ball. Or come to think of it, maybe you wouldn't: more rate base if you wreck and rebuild.

<sup>2</sup> The *Wall Street Journal* cites unidentified experts for the notion that only nuclear and coal plants will qualify under the DOE proposal. That is wrong. Installing oil storage at natural gas plants is routinely done. Of course, if rate base becomes the game, LNG tanks would be used instead.

<sup>3</sup> PJM alone has about a thousand generating units that do or could qualify for the federal rate guarantee. <http://pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2020-2021-rpm-resource-model.ashx?la=en>.

<sup>4</sup> There's a straight-faced argument for that: If new generation investment costs that much, existing generation should be compensated at the same level. Otherwise we would be incenting existing generation to retire that would cost less to keep around than paying for replacement new generation.

<sup>5</sup> <https://www.seattletimes.com/nation-world/cash-for-clunkers-in-trouble-politics-or-prudence/>. "Senate Republican leaders railed against the program Monday, calling it a model of government inefficiency and out-of-control spending."

<sup>6</sup> <http://pjm.com/-/media/committees-groups/committees/mrc/20170928/20170928-item-07-2017-irm-study-presentation.ashx> (slide 7).

<sup>7</sup> <http://pjm.com/-/media/library/reports-notice/weather-related/20140509-analysis-of-operational-events-and-market-impacts-during-the-jan-2014-cold-weather-events.ashx> (page 26).

<sup>8</sup> <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13502862>, (page 11, n. 4).

<sup>9</sup> <http://www.nerc.com/pa/RAPA/gads/Pages/Reports.aspx> (click on Brochure 4 for 2012-2016 and compare EFORD (column AC) for the fuel types).

<sup>10</sup> <http://pjm.com/-/media/committees-groups/committees/elc/postings/performance-assessment-hours-2011-2014.xls.ashx?la=en>.

<sup>11</sup> DOE gives lip service to the statutory requirement by using the term "just and reasonable" twice in its proposed regulation. It's like saying "bring me a blue rock that is red."

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