DECLARATION OF MARK COOPER

I. INTRODUCTION AND STATEMENT OF QUALIFICATIONS

Under penalty of perjury, I, Mark Cooper, declare as follows:

My name is Mark Cooper. I am a Senior Fellow for Economic Analysis at the Institute for Energy and the Environment at Vermont Law School. A copy of my curriculum vitae is attached. I am an expert in the field of economic and policy analysis with a focus on energy, technology, and communications issues.

For over thirty years I have analyzed the economics of energy production and consumption on behalf of consumer organizations and public interests groups, focusing in the past four years on cost of the alternative resources available to meet electricity needs for the next several decades. My analyses are presented in a series of articles, reports, and testimonies before state regulatory


2 Renaissance in Reverse: Competition Pushes Aging U.S. Nuclear Reactors to the Brink of
agencies and state and federal legislatures. I have served as an expert witness in several regulatory proceedings involving electricity and nuclear reactors, starting with proceedings before the Mississippi Public Service Commission almost thirty years ago regarding the proposed Grand Gulf II nuclear reactor and including proceedings before the Florida and South Carolina Commissions regarding the proposed reactors in those states.

In the course of my economic analyses of electricity alternatives, I have developed a general framework that I refer to as a “multi-criteria portfolio analysis” for evaluating and choosing between the available alternatives in the increasingly complex and ambiguous conditions of the electricity market. My analysis has focused on comparative economic analysis of the nuclear-gas comparison.

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See citations to written testimony in Note 3 above. I also provided oral testimony on the witness stand. "On Behalf of Mississippi Legal Services Coalition in the Matter of the Citation to Show Cause Why the Mississippi Power and Light Company and Middle South Energy Should Not Adhere to the Representation Relied Upon by the Mississippi Public Service Commission in Determining the Need and Economic Justification for Additional Generating Capacity in the Form of A Rehearing on Certification of the Grand Gulf Nuclear Project," Before the Mississippi Public Service Commission, Docket No. U-4387, August 13, 1984.

driven by utility concentration on these two technologies, but also including efficiency\(^7\) and wind.\(^8\)

The analysis has covered regional, national, and international levels, as well as on the impact of specific institutional arrangements on ratepayers.\(^9\)

**PURPOSE AND FINDINGS**

The purpose of my declaration is to evaluate whether the costs of nuclear waste management, including onsite spent nuclear reactor fuel storage and permanent disposal, are high enough to significantly affect the outcome of an analysis that compares the costs and benefits of nuclear reactors with other electricity sources. I understand that this type of analysis is generally conducted by the NRC in the course of its environmental review for new reactor license applications and applications for renewal of existing reactor licenses. In the discussion below, I analyze two of the most important costs of nuclear waste management – the cost of “temporary” storage of spent fuel at reactors and the cost of building, filling, and operating a permanent repository for that fuel. The cost of decommissioning the reactors and closing the permanent repository are also costs of nuclear waste management, but I do not include them in this analysis.

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At present, the public is paying for the management of nuclear waste in three ways. Utilities pay a fee to the U.S. Department of Energy (DOE) for a Nuclear Waste Fund that is intended to pay for the repository. This fee is collected from ratepayers. The cost of temporary at-reactor storage is also being recovered by utilities from taxpayers in the form of penalties imposed on the federal government for the failure to execute its contractual commitment to take the spent fuel off reactor sites. This penalty is paid out of the U.S. Treasury and has not decreased the Nuclear Waste Fund. Finally, utilities collect funds from ratepayers for the decommissioning of reactors. Questions about the use of the funds and whether they are adequate are not the subject of my declaration, which focuses only on the question of the magnitude of the costs relative to the cost of power from nuclear reactors and the other potential resources that could be used to meet the need for electricity. Nevertheless, as discussed below, these advance payments have a bearing on the applicability of a discount rate to nuclear waste disposal cost estimates.

My analysis shows that the costs of managing spent nuclear fuel are likely to be quite large in absolute value, running to hundreds of billions of dollars (in constant 2012 dollars). They are in the range of $10 to $20 per MWH ($0.01 to $0.02 per kWh), which is certainly large enough in relative value to affect the outcome of analyses that compare the cost of nuclear power to the alternatives available in the United States. Therefore, the cost of nuclear waste management is a significant cost that should be included in the NRC’s economic comparisons of nuclear power with energy efficiency and other alternative energy sources.

II. ESTIMATING THE COST OF SPENT FUEL MANAGEMENT

For the purposes of this analysis, I start with the most recent U.S. government estimates of costs of electricity generation and costs of spent fuel disposal: “Levelized Cost of New Generation Resources in the Annual Energy Outlook,” prepared by the U.S. Energy Information

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Administration (EIA) in 2013\textsuperscript{11} and the “Nuclear Waste Fund Fee Adequacy Assessment Report” prepared by the U.S. Department of Energy (DOE) in 2013.\textsuperscript{12} Each of these studies has some limitations.

I believe that the EIA has been wildly optimistic about the cost of nuclear power over the past decade, but I suspect that the NRC would be inclined to rely heavily on its estimates, and therefore I use it as my base case. I also show that the same conclusion would be reached if I were to rely on recent estimates from utility industry sources and Wall Street analysts.

The DOE’s recent analysis of the cost of a permanent nuclear waste repository is the most recent in a series of government analyses of those costs.\textsuperscript{13} Because it was prepared as part of DOE’s legal obligation to assess whether current fees are adequate to fund a permanent repository, it takes a very narrow view of the costs considered. It does not consider at-reactor storage costs, and it assumes that the repository opens very quickly.\textsuperscript{14} Neither of these assumptions appears consistent with the current reality of nuclear waste management or sound economic analysis of waste management costs. As I show below, this view ignores at least half of the cost associated with nuclear waste management. Nevertheless, the DOE’s analysis provides a useful starting point for estimating the cost of one component of nuclear waste management.

**Repository Costs**

The narrow costs of constructing and filling a permanent waste repository considered by the DOE can be a starting point for the analysis of the total cost of nuclear waste management. Exhibit MNC-1 shows a number of estimates, prepared by government agencies over the past thirty years, prepared by government agencies over the past thirty years,

\textsuperscript{13} DOE, 2013.
\textsuperscript{14} Id. p. 9, DOE 2013 assumes one pilot consolidated storage facility and one full-scale consolidated storage facility. It also assumes a time period of 34 years between the siting and opening of a repository.
of the cost of this subset of waste management activities. I have endeavored to ensure that the comparisons involve only the specific set of costs associated with the repository. While at-reactor storage costs are included in some of the later estimates, I exclude these costs in order to maintain consistency with the DOE’s analysis. I exclude historic costs that are sunk and not considered in each forward looking estimate. I convert all costs to real 2012 dollars using the Producer Price Index for intermediate goods (rather than the PPI for finished goods or the Consumer Price Index, which would include many types of distribution costs not included in an activity like the construction and operation of a repository). The cost per metric ton of uranium (used interchangeably with the term “heavy metal”) is calculated based on the number of tons assumed in each of the individual studies. The most recent DOE estimate used just over 141,000 metric tons of heavy metal (MTHM) as the total amount of spent fuel that has been produced and will be produced given present reactor licenses and reactors under construction. Studies by the Government Accountability Office (GAO) and the Blue Ribbon Commission, in comparison, used just over 153,000 MTHM, but they counted civilian and defense material not associated with civilian nuclear reactors.

The early estimates and the most recent estimate are for generic waste repositories. The others were for Yucca Mountain, which is generally assumed to be a bit more costly than a generic site. The DOE analysis of repository costs takes this into account.


16 This is the convention adopted by Hamal, 2011.

17 DOE 2013, p. 12: “To derive a cost estimate for a generic repository, rather than one located at
Exhibit MNC-1 shows the mid-point, or “best estimate” from each of the studies. Two things are clear from this history of cost estimation:

First, the estimated cost of spent fuel disposal in a repository has been escalating dramatically, which is typical of cost estimates involving nuclear power. The trend is slightly stronger for the cost estimates since the 1990s.

Second, the repository costs are very large in absolute value, reaching a hundred billion dollars. They are certainly large enough to be included in any economic analysis comparing the costs and benefits of nuclear reactor operation. As discussed below, the costs are also large enough to affect the economics of nuclear power compared to alternatives.

While using the “best estimates” is useful to demonstrate a strong and consistent pattern of rising estimated costs, it hides a great deal of uncertainty about the cost. Exhibit MNC-2 shows the range of costs in the two most recent estimates. There is a great deal of uncertainty about cost in the most recent DOE study, which is typical of estimates involving nuclear power.18 I will discuss my method for addressing this uncertainty below.

AT-REACTOR STORAGE

The recent GAO analysis19 and the Blue Ribbon Commission study20 have recognized the increasing importance that onsite storage of nuclear waste plays in the overall cost of nuclear waste management. Onsite spent fuel storage is becoming the central cost driver of nuclear waste management because very long periods of onsite storage – up to 300 years – are being considered.21

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18 The standard deviation of the estimate of the repository costs is large compared to the “best estimate.” The coefficient of variation (the standard deviation divided by the mean) is 0.75.
19 GAO, 2009.
20 Hamal, 2011.
21 Dennis Vinson, Ron Kesterson, and Adrian Mendez-Torres, “Inventory and Description of Commercial Reactor Fuels within the United States,” Prepared for U.S. Department of Energy Campaign Program Savannah River National Laboratory, March 31, 2011. Which is also noted in
These costs are reflected in Exhibit MNC-3, which includes the GAO scenario in which waste remains on site for a long period of time (100 to 500 years). The GAO estimates in Exhibit MNC-3 suggest that the longer waste remains in storage on site, the higher the cost is likely to be. The Blue Ribbon Commission “best estimate” for 100 year at-reactor storage restated in 2012 dollars is just over $100 billion.\footnote{Hamal, 2011, estimates just under $72 billion for the large repository (including transportation) compared to the GAO estimate of $53 billion. I use the difference (71.46/53= 1.348) to scale up to undiscounted dollars. Bringing the figure to 2012 dollars involves inflating by a factor of 1.096. The adjustment factor is 1.477. Hamal’s “best estimate” cost for the repository would $78.3 billion in 2012 dollars compared to the DOE midpoint cost of $88.9 billion.}

Given that much longer periods of time for at-reactor storage are being contemplated, even this figure is too low for three reasons:

First, when a nuclear reactor shuts down permanently, the waste at the reactor site becomes “stranded.” That is, the site must be operated solely for the purpose of attending to the waste. This means that the costs of many activities that were once attributed to operating the reactor must now be allocated to managing the waste. The Blue Ribbon Commission study suggests that the cost of managing stranded waste is five times as high as the cost of managing waste at an operating site.\footnote{This cost difference is derived from Hamal, 2011, p. 27. GAO, 2009 shows no difference between the average at-reactor storage costs for 100 years, which would include a substantial period in which spent fuel is not stranded, and the cost of 500-years of at-reactor storage. This suggests that stranding has not been taken into account, which was the central thrust of Hamal, 2011.}

Second, over hundreds of years, storage casks will deteriorate and have to be replaced. I have assumed that cask replacement will be necessary every 100 years at a cost of $1.6 million per cask, assuming no escalation in real costs.\footnote{My assumption of cask replacement every 100 years is consistent with the NRC’s Draft Waste Confidence Environmental Impacts Statement, p. xxviii, 2013. Davied, 2011, identifies cask capacity at 10 to 15 MTU.} Given this cost and the amount of material that will

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have to be stored, the GAO estimates of storage are low. Repackaging costs could be on the order
to $75 billion.\footnote{GAO, 2009 uses the figure of $1.6 million per cask. With 153,000 metric tons of waste and 10
tons per cask, the cost of repackaging all spent fuel is $24.480 billion. Three repackaging
operations would be just under $75 billion.}

Third, as with all nuclear costs, repackaging cost appear to be increasing dramatically.\footnote{Michiel P.H. Brongers, \textit{Appendix CC, Nuclear Waste Storage}, CC Technologies Solutions, Inc., N.D.,
p. cc-2, gives a figure of $1.2 million; GAO, 2009, p. 56, puts the cost at $1.6 million per cask,
which is shown as a modification of the earlier assumption of $1.2 million. GAO, 2009, reflects
similar trends.}

This analysis also excludes potentially significant costs associated with the repackaging and
transportation of high burnup spent nuclear fuel over the next 30-50 years. For instance, in 2012 an
expert with the National Academy of Engineering reported that “the technical basis for the spent
fuel currently being discharged (high utilization, burnup fuels) is not well established… the NRC has
not yet granted a license for the transport of the higher burnup fuels that are now commonly
discharged from reactors. In addition, spent fuel that may have degraded after extended storage may

Even the Nuclear Regulatory Commission (NRC) admits
“there is limited data to show that the cladding of spent fuel with burnups greater than 45,000
MWd/MTU will remain undamaged during the licensing period” for dry spent fuel storage

**COMBINING AT-REACTOR STORAGE AND PERMANENT REPOSITORY COSTS**

Exhibit MNC-4 adds at-reactor storage costs to the most recent DOE estimates for the cost
of the repository. The stranded waste costs are based on the difference in cost estimated in the Blue
Ribbon Commission report between very rapid transfer of stranded waste to central storage and no
transfer until 70 years later.\textsuperscript{29} That difference is slightly more than $24$ billion over the first 70 years. Extrapolating to 300 years, the difference in the stranded waste cost would be $105$ billion.

Repackaging of waste is necessary as long as it is not deposited in a permanent repository.\textsuperscript{30} Therefore, repackaging costs must be added. Assuming three rounds of repackaging in 300 years, repackaging adds another $75$ billion to the cost of managing spent fuel.

Combining these cost estimates for storage and disposal of spent fuel yields a cost range of approximately $210$ to $350$ billion.

\textbf{OTHER POTENTIAL COSTS}

The estimated cost range of $210$ to $350$ billion for spent fuel management leaves out significant costs. First, it does not include an escalation in the real cost of at-reactor storage and the escalation in the real cost of construction and operation of a permanent repository. Both of these have exhibited significant historical trends of increasing real cost. Second, the estimate in Exhibit MNC-4 does not include the cost or risk of accidents that may be significant with onsite storage of waste, especially during the very long period of onsite storage that is being contemplated. Large quantities of dangerous materials stored at sites close to population centers create a risk of accidents that can impose severe economic disruption and social dislocation. While much of the discussion of nuclear accidents focuses on public health issues, the economic and social impacts are substantial. The estimated economic costs of one accident run into the hundreds of billions, equaling or exceeding the entire cost of waste management and disposal.\textsuperscript{31} The fourth largest utility in the world

\textsuperscript{29} Hamal, 2011 p. 41 shows stranded waste costs of $477$ million for a central storage facility taking 6000 MTU per year starting 2020 and $22.716$ billion for a central storage facility taking 3000 MTU per year starting in 2090. The difference of $22.239$ billion in 2009 dollars equals $24.4$ billion in 2012 dollars.

\textsuperscript{30} Hamal, 2011, p. 52.

\textsuperscript{31} Cooper, Nuclear Safety, discusses the general magnitude of these costs. Gordon R. Thompson, “Risk-Related Impacts from Continued Operation of the Indian Point Nuclear Power Plants”, November, 28, 2007 examines the potential economic cost of a severe onsite storage accident, showing it is similar in magnitude to the general accident risk.
was not thrown instantaneously into virtual bankruptcy by public health impacts, but it was
destroyed by the economic cost of cleanup and compensation. While these are low probability
events, keeping large quantities of nuclear waste onsite for long periods of time raises the probability
of such an event.

In addition, the above analysis does not include any escalation in the cost of
decommissioning reactors. Decommissioning costs theoretically are included in calculations of
levelized cost. But these costs have been rising dramatically in recent years.\textsuperscript{32} For the reactors that
were retired in the past year, the total is approaching $1 billion per site, significantly above the
amount originally estimated.\textsuperscript{33}

However, it is also important to recognize that the storage of spent fuel is included in the
decommissioning cost estimates, and I have already included those costs in this discussion. In the
case of Kewaunee, the spent fuel storage costs are one-third of the total decommissioning cost. At
half a billion dollars per nuclear reactor, the total cost for decommissioning the entire fleet could be
$50 billion, which is quite significant, given the other costs that I have analyzed.

It appears that utilities are going to ask for rate increases to cover decommissioning costs,
which means they have not been collecting enough. Given the rising costs of decommissioning, it
remains to be seen if current cost estimates are adequate. For license renewals, there would be an
additional question about whether extending the life of a reactor increases the decommissioning
costs. In summary, I do not include decommissioning costs in this analysis, but these costs could
well be another reason my estimate is low.

\textsuperscript{32} David A. Krause, “Historical NDT Fund Balances, Annual Contributions and Decommissioning
\textsuperscript{33} Decommissioning Cost Analysis for the Vermont Yankee Nuclear Power Station, February 2012; Kewaunee
Power Station Post-Shutdown Decommissioning Activities Report, TLG Services, Inc., 2013; Decommissioning
San Onofre Fact Sheet, 2013; Robert McCullough, et al., Economic Analysis of the Columbia Generating
Station, December 2013, pp. 92-101, 110-130. “Decommissioning Cost Escalation is a Global
Phenomenon: Nuclear Decommissioning Authority, Managing Risk Reduction at Sellafield, Report by
the Comptroller and Auditor General, November 7, 2012.
III. TRANSLATING NUCLEAR WASTE MANAGEMENT COSTS INTO THE COST OF ELECTRICITY

In order to bring these waste management costs into the economic evaluation of nuclear power compared to other resources, I translate the aggregate estimates of costs into per kWh costs. This involves several challenges. The bottom row in Exhibit MNC-4 shows an effort to do so. There are two important issues that affect this calculation: output of nuclear reactors and a determination of the appropriate discount rate.

OUTPUT OF NUCLEAR REACTORS

The amount of power that the costs will be spread across is uncertain. The DOE’s assumption is too high for several reasons. The DOE estimate shows a stream of output from nuclear reactors that start with a base in 2012 that is already 5% higher than the actual output.34 The output is lower than expected because nuclear reactors were offline and have been retired early. That trend is likely to continue.

The DOE assumption of a very high load factor is inconsistent with historical experience. It took a long time to build up to a high load factor; therefore, any new reactors that come online should not be assumed to immediately jump to a high load factor. Moreover, capacity factors for existing reactors have begun to decline as reactors age. In a recent paper, I showed that including early retirements in the calculation of load factors yields a load factor that is one-sixth lower than the very high assumptions being used in much comparative economic analyses.35 The output of the nuclear fleet in 2013 will have declined from the peak in 2010 to the level achieved in 2004.

DOE and many other analysts of waste management assume that reactor life will be 60 years.36 While the license period might run that long, virtually all reactors that have been retired

34 DOE, 2013.
35 Mark Cooper, Renaissance in Reverse: Competition Pushes Aging U.S. Nuclear Reactors to the Brink of Economic Abandonment, July 2013 (hereafter, Aging Reactors).
36 DOE, 2013.
were retired before their licenses expired. The closure of Kewaunee and Vermont Yankee extend that pattern for reactors that were online when the retirement decision was made, while San Onofre and Crystal River extend the pattern of troubled reactors retiring early.

DOE assumes an increase in capacity of almost 10 percent due to large scale uprates at existing facilities, but virtually all large scale uprates pending have been cancelled due to a severe deterioration in the comparative economics of nuclear power.

DOE assumes early online status for new reactors under construction and an “unplanned addition” of a new reactor which would add 2 percent to nuclear capacity. Given the historical experience of new reactor cancellations and construction delays, the “unplanned addition” should certainly be dropped.

Combining these observations, one can argue that the base case for NRC analysis should include actual 2013 output, which is 5% lower than the DOE analysis, an 80 percent load factor, without uprates and “unplanned additions.” Under these assumptions, the output of the fleet would be at least 25% lower than assumed by DOE in its analysis of disposal system costs.

Lower output might lower the variable cost of at-reactor storage. Whether it lowers the cost of a permanent repository depends on whether one assumes that only one repository will be constructed. If adding nuclear capacity causes the construction of a second repository, fixed costs will increase substantially. The GAO analysis, adjusted for the discount rate and inflation, suggests that the cost of operating two repositories would be 32% higher than one, adding $25 billion to the total cost. This would offset a substantial part of the variable cost savings. Put in another way, if denying licenses or license renewals allows a second repository to be avoided, the reduction in cost

37 DOE, 2013.
38 Cooper, Aging Reactors.
39 DOE, 2013.
40 This result is consistent with all remaining reactors plus five new ones – Vogtle, Summer, Watts Bar – running for a full 60 years at 90 percent capacity factor.
41 GAO, 2009.
would be substantial including both fixed costs for the reactor and variable cost for spent waste storage.

**The Discount Rate**

There is a great deal of uncertainty and debate about the discount rate that should be used. In this case, as discussed below, it is my opinion that application of a discount rate is inappropriate. Therefore, the costs presented in Exhibit MNC-4 are not discounted.

For purpose of long term analysis, analysts generally believe discount rates should be quite low. The fact that costs of waste management are incurred a long time (i.e., hundreds or thousands of years) after the useful life of the facility creates an intergenerational issue, since future generations will be incurring large costs without deriving any benefit. As GAO states:

Although the concept of discounting is an accepted and standard methodology in economics, the concept of discounting values over a very distant future—known as “intergenerational discounting”—is still subject to considerable debate. Furthermore, no consensus exists among economists regarding the exact value of the discount rate that should be used to discount values that are spread over many hundreds or thousands of years.

Therefore the appropriate discount rate is a significant issue that should be addressed in the NRC analysis of the cost of waste management.

In my opinion, there are two additional, important reasons why application of a zero discount rate is appropriate in these circumstances. First, the real increase in the cost of at-reactor storage and the permanent repository has been increasing substantially faster than the real, discount rate. Given the long time frames being considered, the real price increase can have a very large impact. An annual real rate of increase above the discount rate of one-half of one percent would more than double the cost of waste management.

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42 Hamal, 2011.
43 GAO, 2009, p. 28.
The second reason stems from the unique way that the financing of the repository is being handled. To the extent that the discount rate represents the time value of money (i.e., the value of the opportunity to use the money), the public is bearing the burden on the revenue side. The DOE analysis of fund adequacy takes credit for the earning of interest on the funds collected. Because those funds are being banked to make the fund whole, then the funds are not available to be used for other purposes. Much the same is true of the Treasury funds being paid to utilities because of the failure of the federal government to take the spent fuel. Because taxpayers are already being denied the opportunity to use their funds for other purposes, to discount the cost would be a double burden. Taxpayers and ratepayers would be bearing the full cost of the waste management, having been denied the opportunity to use the repository funds of penalties for storage costs for other purposes.

Given these considerations, I believe it is reasonable to estimate the combined costs of at-reactor storage and a permanent repository in the range of $10 - $20/MWH ($0.01 to $0.02/kWh). I have rounded this estimate to one significant figure, to account for the uncertainties inherent in such estimations at the present time.

In absolute value, given the EIA estimate of $0.11/per kWh for the cost of nuclear power from new reactors, this is between 10% and 20% of the estimated cost.\textsuperscript{44} That is a substantial portion of new reactor costs and therefore strongly merits consideration by the NRC in its economic analysis of the relative costs and benefits of new nuclear reactors as compared to energy efficiency and other energy sources.

For the above reasons, I believe that the bottom line in Exhibit MNC-5 provides cautiously low estimates of the cost of nuclear waste management. Therefore, in the remainder of this analysis

\textsuperscript{44} See EIA, 2013.
I use the cost range of $10/MWh to $20/MWh to assess the importance of including nuclear waste management costs in the NRC’s economic analysis.

As discussed in more detail in Section IV, the cost of nuclear waste management is a much larger fraction of the cost of operating existing reactors than for new reactors. And it is large enough to affect the comparative cost of nuclear power from existing and new plants, relative to the available energy alternatives. Therefore, in the case of both new reactor licensing and license renewal for existing reactors, the costs of nuclear waste management could be high enough to affect decisions about which energy resources to develop.

IV. IMPACT OF NUCLEAR WASTE MANAGEMENT COST ON THE COMPARATIVE ECONOMICS IN RESOURCE SELECTION

In the previous section I showed that a very cautious estimate of waste management costs would be in the range of $0.01 to $0.02 per kWh. In this section I examine whether costs of that magnitude could affect the economic analysis of nuclear power compared to other resources. For the analysis of licenses for new reactors I examine the addition of waste management costs to the levelized cost of energy that are frequently used to evaluate new resources. For the analysis of the renewal of licenses for existing reactors I analyze the addition of waste management costs to the operating costs and margins of existing reactors.

LEVELIZED COST ANALYSIS FOR NEW REACTOR LICENSES

The traditional approach to comparative resource selection for new reactors relies on the calculation of the levelized cost of electricity. For the purposes of this analysis, I start with the levelized cost of alternatives as estimated by EIA. I then add the cost of nuclear waste management

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45 Levelized cost is often cited as a convenient summary measure of the overall competitiveness of different generating technologies. It represents the per-kilowatt-hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle. Key inputs to calculating levelized costs include overnight capital costs, fuel costs, fixed and variable operations and maintenance (O&M) costs, financing costs, and an assumed utilization rate for each plant type. [http://www.eia.gov/forecasts/aeo/electricity_generation.cfm](http://www.eia.gov/forecasts/aeo/electricity_generation.cfm)
to those costs and observe, qualitatively, whether it would alter the evaluation of the cost of nuclear power compared to the other options available. Exhibit MNC-5 shows the results using the range of estimates in the EIA analysis.

Nuclear waste management costs of $20/MWH would change the location of nuclear in the relation to other resources significantly.

Nuclear moves:

- Out of the range of
  - Conventional coal costs
  - Gas Combined Cycle with CCS
  - Advanced gas turbines
- Into the range of
  - Advanced coal
  - Advanced coal with CCS
- Much closer to and
  - Slightly below gas turbines
  - Slightly above Biomass

Waste disposal costs of $10/MWH move nuclear costs in the same directions, but more modestly.

Exhibit MNC-6 shows levelized cost estimates for a similar set of resources from the Pennsylvania, Jersey, Maryland Power Pool (PJM), a major Regional Transmission Organization (RTO) in an area of the country that is not especially well endowed with renewable resources (e.g. compared to the Midwest with a great deal of wind or the Southwest with a great deal of solar, or the Northwest with a great deal of hydro). Exhibit MNC-7 shows estimates from Lazard, which is a financial analysis firm. I include these two estimates because they not only represent different institutional points of view but also because both include efficiency as a resource. Both estimates demonstrate that efficiency is the least-cost resource by far. In fact, a significant amount of efficiency could be delivered at a cost that is close to the cost of nuclear waste management alone.

Lazard also projects declining costs for solar, which I include in Exhibit MNC-7, which would make it cost competitive with even natural gas within a decade. As shown in Exhibit MNC-8,
the cost trends for solar and offshore wind are expected to make them much more competitive over the next decade and would significantly affect all of the comparisons affecting nuclear power.

Adding $10 to $20 per MWh to the cost of nuclear power generation would make a material difference in its attractiveness. Nuclear becomes even less attractive when one considers that other energy sources have little risk due to the short time from start of construction to finish. Looking at the cost of nuclear compared to the more costly alternatives in these analyses, the $10 to $20/MWH certainly can make a difference. Nuclear, which is almost the most expensive resource, could become the most costly.

PORTFOLIO ANALYSIS

In the realm of electricity resource selection, I and many others have argued for an approach to analysis that deals more systematically with risk, uncertainty, vagueness, and ambiguity in the decision-making environment. I have developed a multi-criteria portfolio approach based on financial risk hedging and real option analysis, as well as a number of other efforts to deal with the challenge of ambiguity in the decision-making environment. For the purpose of incorporating the cost of nuclear waste management into the analysis, I will briefly describe the basic portfolio approach.

The top graph in Exhibit MNC-9 presents the basic approach to financial portfolio analysis, as a publication from the National Regulatory Research Institute (NRRI) attempted to introduce it to regulators.46 As shown in the upper graph, investors want to be on the efficient frontier, where risk and reward are balanced. They can improve their expected returns if they can increase their reward without increasing their risk or if they can lower their risk without reducing their reward. In the financial literature, risk is measured by the standard deviation of the value of the reward.

In applying this framework to the evaluation of generation options, analysts frequently measure reward as kilowatts per dollar (a measure of economic efficiency). Reward is the inverse of cost (i.e., the lower the cost the greater the reward). Indeed, they use efficiency and cost interchangeably. The lower graph in Exhibit MNC-9 shows the cost/risk relationship. Options that would move the portfolio toward the origin should be adopted since they embody lower cost and/or risk. Movement along the risk-cost frontier is neutral. Movement away from the origin raises either the cost or the risk.

I use the array of resources to calculate a measure of the attractiveness of the reward. The distance of a resource from the origin measures the risk-cost characteristics of the resource (giving risk and cost equal weight). Resources that are farther from the origin (measured as the distance with each factor weighted equally) are less attractive. The distance from the origin can be expressed as the risk-adjusted cost or the expected cost.

Exhibit MNC-10 shows the result of applying my approach to the EIA cost estimates, assuming that waste costs increase both the point estimate and the standard deviation of the cost estimates. Exhibit MNC-10 provides quantitative estimates that support the observations in the previous section. Waste disposal costs of the magnitude I have estimated make nuclear a much “closer” call in comparison to other alternatives, and they even reverse the direction of the conclusion in several comparisons. The top graph in MNC-10 focuses on the comparisons between resource costs that would be most affected by inclusion of waste management costs in the NRC’s economic analysis. The bottom graph includes all of the resources. There are nine comparisons in which nuclear would be seen as a significantly less attractive asset to include in a resource portfolio. Including the trends for wind and solar cost and the cost of waste management, nuclear becomes almost the least attractive resource.

ANALYSIS FOR LICENSE RENEWAL OF EXISTING REACTORS

I approach the analysis of the impact of waste management costs on the economics of aging reactors by examining these costs in relation to operating costs and margins. The economics of old reactors is already fraying and many are already on the economic "razor's edge." Uprates are already being abandoned because they are too costly. Old reactors are being shuttered because they are no longer economic. Proper consideration of waste disposal costs could play a part in pushing them over the edge.

In my recent analysis of aging reactors I used a Credit Suisse analysis of operating costs and operating margins as the basic data to make the point that analysis of the economics of aging reactors that are still operating is challenging. Exhibit MNC-11 contains the estimated operating costs for almost all nuclear reactors online in 2012. Exhibit MNC-12 shows the “cash margins” that the reactors would yield, given the “round-the-clock prices” at different power hubs. It shows that in all but a few cases the cash margins – revenues per MWh in excess of the offered hub price – are less than $20 per MWh. It also shows that the cash margins are less than $10 per MWh in many cases. Exhibit MNC-12 also identifies reactors that have been retired recently or are scheduled to retire early, even though they were online and had significant periods before their licenses would expire. Major uprates that have recently been cancelled are also identified.

The exhibit makes the point that cash margins of about $9/MWH put reactors on the razor’s edge because the cash margins are very thin. Exhibit MNC-12 shows that 12 of the 18

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48 Cooper, Aging Reactors.
49 Credit Suisse, 2013, pp. 11-17,”Using current 2014 power price forwards and unit economics, we see modest cash margin expectations... Layering in typical parent overhead of $5-7 / MWH, unit economics look even worse... We worry that rising operating and capital costs along with operational problems at some aging plants will force owners to continuously re-evaluate the useful lives of plants independent of license extensions especially as the time to absorb ongoing capex grows shorter.”
license renewals pending or expected in the near future are on this razor’s edge. The waste management costs identified above are clearly material in these circumstances.

CONCLUSION

In conclusion, the calculations in this declaration indicate that spent fuel storage and disposal costs could be high enough to materially affect energy choices when the costs of new reactors or extension of the operating life of existing reactors are compared with energy efficiency and alternative energy sources. Therefore, in my opinion, the NRC should consider these costs in its licensing decisions for new reactors and renewal of existing reactor licenses.

I declare that the foregoing statements of fact are true and correct to the best of my knowledge and that the statements of opinion expressed above are based on my best professional judgment.

Mark Cooper

Date: December 16, 2013
REPOSITORY COST ESTIMATES ACROSS TIME

Sources:


RANGE OF REPOSITORY COST ESTIMATES WITHIN STUDIES

Sources:


Using the “best estimate” identified by Cliff W. Hamal, Julie M. Carey and Christopher L. Ring, Navigant, Spent Nuclear Fuel Management: How Centralized Interim Storage Can Expand Options and Reduce Costs, for the Blue Ribbon Commission on America's Nuclear Future, May 16, 2011 (p.27), which is 1.34 times the GAO mean. Estimates are adjusted from 2009 to 2012 dollars using the Producer Price Index for Intermediate materials and supplies (PPI change factor = 1.096). Storage costs are excluded.

Sources:


Using the “best estimate” identified by Cliff W. Hamal, Julie M. Carey and Christopher L. Ring, Navigant, Spent Nuclear Fuel Management: How Centralized Interim Storage Can Expand Options and Reduce Costs, for the Blue Ribbon Commission on America’s Nuclear Future, May 16, 2011 (p.27), which is 1.34 times the GAO mean. Estimates are adjusted from 2009 to 2012 dollars using the Producer Price Index for Intermediate materials and supplies (PPI change factor = 1.096).

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>DOE Repository + At-Reactor Storage Cost in Billions of 2012 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Repository</td>
<td>$34</td>
</tr>
<tr>
<td>Stranded Waste 300 years</td>
<td>$105</td>
</tr>
<tr>
<td>3 repacks over 300 years</td>
<td>$75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$214</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost in $/KWH</th>
<th>DOE Assumption (29,000 TWH)</th>
<th>DOE Corrected (22,000 TWH)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$0.0074</td>
<td>$0.012</td>
</tr>
<tr>
<td></td>
<td>$0.0097</td>
<td>$0.016</td>
</tr>
</tbody>
</table>

Source: see text for discussion. Repository costs are the most recent DOE estimates. Stranded waste costs are based on the Hamal, 2011, estimate that shows stranding adds $22 billion over the first 70 years. Repackaging costs are estimated by multiplying the cost per cask ($1.6 million) times the number of casks (15,000). The output of the nuclear fleet is assumed to be 25% lower than estimated by DOE based on declining load factors, early retirements, and abandoned uprates not considered by DOE. This is also consistent with all remaining reactors plus five new ones – Vogtle, Summer, Watts Bar – running for a full 60 years at 90 percent capacity factor.
Impact of Nuclear Waste Cost on Comparative Economics

There are Cheap Ways and Costly Ways to Clean the Generation Fleet

Levelized Cost of Clean Energy Options in PJM

New Nuclear

Sources: Lazard, Levelized Cost of Electricity 6.0 for all except solar PV 202, which is Lazard, Levelized Cost of Electricity 5.0.
OVERNIGHT COST TRENDS IN THE U.S. AND UK

PORTFOLIO ANALYSIS OF RISK/COST REWARD ANALYSIS

Reward

Risk

Cost

Efficient Frontier

Current Portfolio

Same Risk
Higher Reward

Lower Risk
Same Reward

Efficient Frontier

Current Portfolio

Same Cost
Less Risk

Expected Cost = \sqrt{(LCOE^2) + (St. Dev^2)}

Same Risk
Lower Cost

RISK FRAMEWORK EXPECTED COST WHERE WASTE COSTS AFFECT PERCEIVED ATTRACTIVENESS OF RESOURCES

Source: Expected cost is distance from the origin. See text for discussion.
All-in Nuclear Plant Economics are Thin in Off-Peak

Source: Credit Suisse, Nuclear... The Middle Age Dilemma?, Facing Declining Performance, Higher Costs, Inevitable Mortality, February 19, 2013, p. 10.
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EDUCATION:
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University of Maryland, M.A., 1973, Sociology
City College of New York, B.A., 1968, English

PROFESSIONAL EXPERIENCE:
President, Citizens Research, 1983 - present
Research Director, Consumer Federation of America, 1983-present
Associated Fellow, Columbia Institute on Tele-Information, 2003-present
Fellow, Donald,McGannon Communications Research Center, Fordham University, 2005-present
Senior Fellow for Economic Analysis, Institute for Energy and the Environment, Vermont Law School, 2009-present
Fellow, Silicon Flatirons, University of Colorado, 2009-present
Fellow, Stanford Center on Internet and Society, 2000-2010
Director of Energy, Consumer Federation of America, 1984-1986
Director of Research, Consumer Energy Council of America, 1980-1983
Technical Manager, Economic Analysis and Social Experimentation Division, Applied Management Sciences, 1979
Research Associate, American Research Center in Egypt, 1976-1977
Research Fellow, American University in Cairo, 1976
Staff Associate, Checchi and Company, Washington, D.C., 1974-1976
Consultant, Division of Architectural Research, National Bureau of Standards, 1974
Consultant, Voice of America, 1974
Research Assistant, University of Maryland, 1972-1974

TEACHING EXPERIENCE:
Lecturer, Washington College of Law, American University, Spring, 1984 - 1986, Seminar in Public Utility Regulation
Guest Lecturer, University of Maryland, 1981-82, Energy and the Consumer, American University, 1982, Energy Policy Analysis
Assistant Professor, Northeastern University, Department of Sociology, 1978-1979, Sociology of Business and Industry, Political Economy of Underdevelopment, Introductory Sociology, Contemporary Sociological Theory; College of Business Administration, 1979, Business and Society
Assistant Instructor, Yale University, Department of Sociology, 1977, Class, Status and Power
Teaching Assistant, Yale University, Department of Sociology, 1975-1976, Methods of Sociological Research, The Individual and Society
Instructor, University of Maryland, Department of Sociology, 1974, Social Change and Modernization, Ethnic Minorities
Instructor, U.S. Army Interrogator/Linguist Training School, Fort Hood, Texas, 1970-1971

PROFESSIONAL ACTIVITIES:
Member, Energy Conservation Advisory Panel, Office of Technology Assessment, 1990-1991
Member, Increased Competition in the Electric Power Industry Advisory Panel, Office of Technology Assessment, 1989
Member, Subcommittee on Finance, Tennessee Valley Authority Advisory Panel of the Southern States Energy Board, 1986-1987
Member, Electric Utility Generation Technology Advisory Panel, Office of Technology Assessment, 1984-1985
Member, Natural Gas Availability Advisor Panel, Office of Technology Assessment, 1983-1984
Participant, Workshop on Energy and the Consumer, University of Virginia, November 1983
Participant, Workshop on Unconventional Natural Gas, Office of Technology Assessment, July 1983
Participant, Seminar on Alaskan Oil Exports, Congressional Research Service, June 1983
Member, Thermal Insulation Subcommittee, National Institute of Building Sciences, 1981-1982
Member, University Committee on International Student Policy, Northeastern University, 1978-1979
Chairman, Session on Dissent and Societal Reaction, 45th Annual Meeting of the Eastern Sociological Society, April, 1975
Member, Papers Committee, 45th Annual Meeting of the Eastern Sociological Society, 1975
Student Representative, Programs, Curricula and Courses Committee, Division of Behavioral and Social Sciences, University of Maryland, 1973-1974
President, Graduate Student Organization, Department of Sociology, University of Maryland, 1973-1974

HONORS AND AWARDS:
Ester Peterson Award for Consumer Service, 2010
American Sociological Association, Travel Grant, Uppsala, Sweden, 1978
Fulbright-Hayes Doctoral Research Abroad Fellowship, Egypt, 1976-1977
Council on West European Studies Fellowship, University of Grenoble, France, 1975
Yale University Fellowship, 1974-1978
Alpha Kappa Delta, Sociological Honorary Society, 1973
Phi Delta Kappa, International Honorary Society, 1973
Graduate Student Paper Award, District of Columbia Sociological Society, 1973
Science Fiction Short Story Award, University of Maryland, 1973
Maxwell D. Taylor Award for Academic Excellence, Arabic, United States Defense Language Institute, 1971
Theodore Goodman Memorial Award for Creative Writing, City College of New York, 1968
New York State Regents Scholarship, 1963-1968
National Merit Scholarship, Honorable Mention, 1963

PUBLICATIONS:
ENERGY
Books and Chapters


**Articles and Papers:**


“Nuclear Safety and Affordable Reactors: Can We Have Both?,” *Bulletin of the Atomic Scientists*, 68(2), 2012


“Too Much Deregulation or Not Enough,” *Natural Gas and Electricity*, June 2005

“Real Energy Crisis is $200 Billion Natural Gas Price Increase,” *Natural Gas and Electricity*, August 2004

“Regulators Should Regain Control to Prevent Abuses During Scarcity,” *Natural Gas*, August 2003


3
Research Reports

The Zero Emissions Vehicle Program: Clean Cars States Lead in Innovation, October 24, 2013
Public Risk, Private Profit, Ratepayer Cost, Utility Impudence; Advanced Cost Recovery for Reactor Construction Creates another Nuclear Fiasco, Not a Renaissance, March 2013
Fundamental Flaws In SCE&G’s Comparative Economic Analysis, October 1, 2012
U.S. Oil Market Fundamentals and Public Opinion, Consumer Federation of America, May 2010
Building on the Success of Energy Efficiency Programs to Ensure an Affordable Energy Future, Consumer Federation of America, February 2010
Shifting Fuel Economy Standards into High Gear, Consumer Federation of America, November 24, 2009
All Risk; No Reward, Institute for Energy and the Environment, Vermont Law School, Dec 2009.
A Consumer Analysis of the Adoption of the California Clean Cars Program in Other States: Florida, Consumer Federation of America, November 2008
Climate Change and the Electricity Consumer: Background Analysis to Support a Policy Dialogue, Consumer Federation of America, June 2008
Ending America’s Oil Addiction: A Quarterly Report on Consumption, Prices and Imports, Consumer Federation of America, April 2008
A Consumer Analysis of the Adoption of the California Clean Cars Program in Other States: Arizona, Consumer Federation of America, March 2008
A Step Toward A Brighter Energy Future, Consumer Federation of America, December 2007
A Consumer Analysis of the Adoption of the California Clean Cars Program in Other States: New Mexico, Consumer Federation of America, November 2007
Technology, Cost and Timing, Consumer Federation of America, July 2007
Florida's Stake in the Fuel Economy Battle, July 2007
Big Oil v. Ethanol, Consumer Federation of America, July 2007
Too Little, Too Late: Why the Auto Industry Proposal To Go Low and Slow on Fuel Economy Improvements Is Not in the Consumer or National Interest, Consumer Federation of America, July 2007
The Senate Commerce Committee Bill Is Much Better For Consumers and The Nation Than the Automobile Industry Proposal, Consumer Federation of America, June 2007
Rural Households Benefit More From Increases In Fuel Economy, Consumer Federation of America, June 2007
Time to Change the Record on Oil Policy, Consumer Federation of America, August 2006
50 by 2030: Why $3.00 Gasoline Makes the 50-Miles Per Gallon Car Feasible, Affordable and Economic, Consumer Federation of America, (May 2006)
Debunking Oil Industry Myths and Deception: The $100 Billion Consumer Rip-Off (Consumer Federation of America and Consumers Union, May 3, 2006)
The Impact of Rising Prices on Household Gasoline Expenditures (Consumer Federation of America, September 2005)
Record Prices, Record Oil Company Profits: The Failure Of Antitrust Enforcement To Protect American Energy Consumers (Consumer Federation of America, Consumers Union, September 2004)
Spring Break in the U.S. Oil Industry: Price Spikes, Excess Profits and Excuses (Consumer Federation of America, October 2003)
How Electricity Deregulation Puts Pressure On The Transmission Network And Increases It’s Cost (Consumer Federation of America, Consumers Union and U.S. PIRG, August 2003)
A Discouraging Word (or Two, or Three, or Four) About Electricity Restructuring in Texas, Pennsylvania, New England and Elsewhere (Consumer Federation of America, U.S. Public Interest Research Group and Consumers Union, March 2003)
All Pain, No Gain: Restructuring and Deregulation in the Interstate Electricity Market (Consumer Federation of America, September 2002)
U.S. Capitalism and the Public Interest: Restoring the Balance in Electricity and Telecommunications Markets (Consumer Federation of America, August 2002)
Electricity Deregulation and Consumers: Lesson from a Hot Spring and a Cool Summer (Consumer Federation of America, August 30, 2001)
Ending the Gasoline Price Spiral: Market Fundamentals for Consumer-Friendly Policies to Stop the Wild Ride (Consumer Federation of America, July 2001)
Analysis of Economic Justifications and Implications of Taxing Windfall Profits in the California Wholesale Electricity Market (Consumer Federation of America and Consumers Union, June 13, 2001)
Behind The Headlines Of Electricity Restructuring A Story Of Greed, Irresponsibility And Mismangement Of A Vital Service In A Vulnerable Market (Consumer Federation of America, March 20, 2001)
Reconsidering Electricity Restructuring: Do Market Problems Indicate a Short Circuit or a Total Blackout? (Consumer Federation of America, November 30, 2000)
Mergers and Open Access to Transmission in the Restructuring Electric Industry (Consumer Federation of America, April 2000)
Electricity Restructuring and the Price Spikes of 1998 (Consumer Federation of America and Consumers Union, June 1999)
The Residential Ratepayer Economics of Electric Utility Restructuring (Consumer Federation of America, July 1998)
Consumer Issues in Electric Utility Restructuring (Consumer Federation of America, February 12, 1998)
A Residential Consumer View of Bypass of Natural Gas Local Distribution Companies, February 1988
The Energy, Economic and Tax Effects of Oil Import Fees, October 25, 1985
The Bigger the Better: The Public Interest in Building a Larger Strategic Petroleum Reserve, June 12, 1984
The Consumer Economics of CWIP: A Short Circuit for American Pocketbooks, April 1984
Public Preference in Hydro Power Relicensing: The Consumer Interest in Competition, April 1984
Concept Paper for a Non-profit, Community-based, Energy Services Company, November 1983
The Consumer and Energy Impacts of Oil Exports, April 1983
Up Against the Consumption Wall: The Impact of Rising Energy Prices on Lower Income Consumers, March 1983
A Decade of Despair: Rising Energy Prices and the Living Standards of Lower Income Americans, September 1982
The Impact of Rising Energy Prices on the Delivery of Public Service by Local Governments, August 1982
The Impact of Rising Energy Prices on the Low Income Population of the Nation, the South, and the Gulf Coast Region, July, 1982
A Comprehensive Analysis of the Impact of a Crude Oil Import Fee: Dismantling a Trojan Horse, April 1982
The Past as Prologue II: The Macroeconomic Impacts of Rising Energy prices, A Comparison of Crude Oil Decontrol and Natural Gas Deregulation, March, 1982
The Past as Prologue I: The Underestimation of Price Increases in the Decontrol Debate, A Comparison of Oil and Natural Gas, February 1982
Oil Price Decontrol and the Poor: A Social Policy Failure, February 1982
Natural Gas Decontrol: A Case of Trickle-Up Economics, January 1982
A Comprehensive Analysis of the Costs and Benefits of Low Income Weatherization and Its Potential Relationship to Low Income Energy Assistance, June 1981
Summary of Market Inhibitors, February 1981
An Analysis of the Economics of Fuel Switching Versus Conservation for the Residential Heating Oil Consumer, October 1980

COMMUNICATIONS AND MEDIA

Books and Chapters
The Case Against Media Consolidation (Donald McGannon Communications Research Center, 2007)
Open Architecture as Communications Policy (Stanford Law School, Center for Internet and Society: 2004)
Media Ownership and Democracy in the Digital Information Age: Promoting Diversity with First Amendment Principles and Rigorous Market Structure Analysis (Stanford Law School, Center for Internet and Society: 2003)
“When Law and Social Science Go Hand in Glove: Usage and Importance of Local and National News Sources, Critical Questions and Answers for Media Market Analysis,” forthcoming in, Philip Napoli, Ed. Media Diversity and Localism: Meaning and Metrics, (Lawrence Erlbaum, 2007)

“Reclaiming The First Amendment: Legal, Factual And Analytic Support For Limits On Media Ownership,” Robert McChesney and Benn Scott (Eds.), News Incorporated: Corporate Media Ownership And Its Threat To Democracy (Prometheus Books, 2005)

“Building A Progressive Media And Communications Sector,” Elliot Cohen (Ed.), News Incorporated: Corporate Media Ownership And Its Threat To Democracy (Prometheus Books, 2005)

“Hyper-Commercialism In The Media: The Threat To Journalism And Democratic Discourse,” Snyder-Gasher-Compton-(Eds), Converging Media, Diverging Politics: A Political Economy Of News In The United States And Canada (Lexington Books, 2005)


Articles and Papers:


“Crowd Sourcing Enforcement: Building a Platform for Participatory Regulation in the Digital Information Age,” presentation at The Digital Broadband Migration: The Dynamics of Disruptive Innovation, Silicon Flatirons Ctr. Feb. 12, 2011


“New Media and Localism: Are Local Cable Channels and Locally Focused Websites Significant New and Diverse Sources of Local News and Information? An Empirical Analysis,” Telecommunications Research Policy Conference, September 2007, with Adam Lynn


“The Central Role of Network Neutrality in the Internet Revolution,” Public Interest Advocacy Center, Ottawa Canada, November 24, 2006


“Independent, Non-Commercial Video,” Beyond Broadcast, Berkman Center, Harvard University, May 12, 2006


“The Importance of Collaborative Communications and Deliberative Discourse in Building Internet-Based Media Reform Movements,” Online Deliberation: Design, Research and Practice/DLAC, November, 2005


“Open Communications in Open Economies and Open Societies: Public Interest Obligations are Vital in the Digital Information Age,” Convergence: Broadband Policy and Regulation Issues for New Media Businesses in the New Millennium Georgetown University Law Center, Advanced Computer and Internet Law Institute March 5, 2003.


“What’s ‘New” About Telecommunications in the 21st Century Economy: Not Enough to Abandon Traditional 20th century Public Interest Values” Models of Regulation For the New Economy, University of Colorado School of Law, February 1, 2003

“Comments on Broadband: Bringing Home the Bits, Columbia Institute for Tele-Information, March 18, 2002


“Foundations And Principles Of Local Activism In The Global, New Economy,” The Role of Localities and States in Telecommunications Regulation: Understanding the Jurisdictional Challenges in an Internet Era, University of Colorado Law School, April 16, 2001

“The Role Of Technology And Public Policy In Preserving An Open Broadband Internet,” The Policy Implications Of End-To-End, Stanford Law School, December 1, 2000


“Open Access To The Broadband Internet: Technical And Economic Discrimination In Closed, Proprietary Networks,” University of Colorado Law Review, Vol. 69, Fall 2000


“Evolving Concepts of Universal Service,” The Federalist Society, October 18, 1996

"Delivering the Information Age Now," Telecom Infrastructure: 1993, Telecommunications Reports, 1993

"Divestiture Plus Four: Take the Money and Run," Telematics, January 1988


**Research Reports**

Digital Disintermediation and Copyright in the 21st Century: Lessons From The Transformation Of The Music Sector, November 2013

E-Book Price Fixing Violates The Antitrust Laws And Harms Consumers, April 9, 2012

The Impact of the Vertically Integrated, Television-Movie Studio Oligopoly on Source Diversity and Independent Production, Independent Film and Television Association, October 2006


Mapping the Terrain in the Battle Over Access to Knowledge in the Digital Information Age (June 2006)

Online Deliberation: Mapping The Field: Tapping The Potential From The Perspective Of A Media/Internet Activist (August 2005)

Broken Promises and Strangled Competition: The Record of Baby Bell Merger and Market Opening Behavior (Consumer Federation of America, June 2005)

Over a Barrel: Why Aren’t Oil Companies Using Ethanol to Lower Gasoline Prices? (Consumer Federation of America, May 2005)


Expanding the Digital Divide and Falling Behind in Broadband (Consumer Federation of America and Consumers Union, October 2004)

Time to Give Consumers Real Cable Choices: After Two Decades of Anti-consumer Bundling and Anti-Competitive Gate keeping (Consumer Federation of America and Consumers Union, July 2004)

The Public Interest in Open Communications Networks (Consumer Federation of America, July 2004)

Caution Flag in the FCC’s Race to Eliminate the Unbundled Network Element Platform (Consumer Federation of America, June 2003)

New Survey Finds Americans Rely on Newspapers Much More than Other Media for Local News and Information: FCC Media Ownership Rules Based on Flawed Data (Consumer Federation of America, Consumers Unions, January 2004)


Competition At The Crossroads: Can Public Utility Commissions Save Local Phone Competition? (Consumer Federation of America, October 7, 2003)


Abracadabra! Hocus-Pocus! Making Media Market Power Disappear With The FCC’s Diversity Index (Consumer Federation of America and Consumers Union, July 2003)

Promoting The Public Interest Through Media Ownership Limits: A Critique Of The FCC’s Draft Order Based On Rigorous Market Structure Analysis And High Competitive Standards (Consumer Federation of America and Consumers Union, May 2003)

Public Opinion Opposes The FCC’s March Toward Concentrated Media Markets (Consumer Federation of America, April 2003)

Democratic Discourse in the Digital Information Age: Legal Principles and Economic Challenge (Consumer Federation of America, February 2003)

Cable Mergers, Monopoly Power and Price Increases (Consumer Federation of America and Consumers Union, January 2003)

Public Support for a Citizen-Friendly Media and Communications Industry in the Digital Age: A Review of Recent Survey Evidence (Consumer Federation of America, October 2002)

The Battle for Democratic Discourse: Recapturing a Bold Aspiration for the First amendment (Consumer Federation of America, October 2002)

The Failure of ‘Intermodal Competition in Cable and Communications Markets’ (Consumer Federation of America and Consumers Union, April, 2002).


A Roadblock On The Information Superhighway: Anticompetitive Restrictions On Automotive Markets (Consumer Federation of America, February 2001)

Lessons From 1996 Telecommunications Act: Deregulation Before Meaningful Competition Spells Consumer Disaster (Consumer Federation of America, February 2000)

Florida Consumers Need Real Local Phone Competition: Access To Monopoly Wires Is The Key (Consumer Federation of America, January 2001)

The Real Deal: The Comparative Value of Verizon’s Local Telephone Rates (New Jersey Citizen Action, December 2000)

Maryland Consumers Need Real Local Phone Competition: Fair Access to Monopoly Wires Is the Key (Consumer Federation of America, December 7, 2000)


Setting The Record Straight From A Consumer Perspective On Verizon’s Radical Rate Restructuring Proposal (Citizen Action, October 2000)

Disconnected, Disadvantaged and Disenfranchised (Consumer Federation of America and Consumers Union, October 11, 2000)

Open Access Phase II (Consumer Federation of America, July 13, 2000)

Who Do You Trust? AOL And AT&T … When They Challenge The Cable Monopoly Or AOL And AT&T. When They Become The Cable Monopoly? (Consumer Federation of America, Consumers Union and Media Access Project, February 2000)

Monopoly Power, Anticompetitive Business Practices and Consumer Harm in the Microsoft Case (Consumer Federation of America, December 1999)

Keeping the Information Superhighway Open for the 21st Century (Consumer Federation of America, December 1999)

Creating Open Access to the Broadband Internet: Overcoming Technical and Economic Discrimination in Closed Proprietary Network (Consumer Federation of America, December 1999)

The Consumer Harm Caused By The Microsoft Monopoly: The Facts Speak For Themselves And They Call For A Stern Remedy (Consumer Federation of America, November 1999)

A Consumer Perspective On Economic, Social And Public Policy Issues In The Transition To Digital Television: Report Of The Consumer Federation Of America To People For Better TV (Consumer Federation of America, October 29, 1999)

Transforming the Information Superhighway into a Private Toll Road: Ma Cable and Baby Bell Efforts to Control the High-Speed Internet (Consumer Federation of America, October 1999)

Transforming the Information Superhighway into a Private Toll Road: The Case Against Closed Access Broadband Internet Systems (Consumer Federation of America and Consumer Action, Sept. 20, 1999)

Breaking the Rules: AT&T’s Attempt to Buy a National Monopoly in Cable TV and Broadband Internet Services (Consumer Federation of America, Consumers Union and Media Access Project, Aug. 17, 1999)

Economic Evidence in the Antitrust Trial: The Microsoft Defense Stumbles Over the Facts (Consumer Federation of America, March 18, 1999)

The Consumer Cost of the Microsoft Monopoly: $10 Billion of Overcharges and Counting (Consumer Federation of America, Media Access Project and U.S. PIRG, January 1999)

The Digital Divide (Consumer Federation of America and Consumers Union, February 1999)

The Consumer Case Against the SBC-Ameritech Merger (Consumer Federation, et. al, January 20, 1999)

The Consumer Case Against Microsoft (Consumer Federation of America, October 1998)

The Need for Telephone Lifeline Programs in New Jersey: An Update (Center for Media Education and the Consumer Federation of America, July 1998)
Competition in Local Markets: Is the Glass 98 Percent Empty or 2 Percent Full (Consumer Federation of America, February 17, 1998)

Two Years After the Telecom Act: A Snapshot of Consumer Impact (Consumer Federation of America, January 21, 1998)

Stonewalling Local Competition: The Baby Bell Strategy to Subvert the Telecommunications Act of 1996 (Consumer Federation of America, January 1998)

The Need for Telephone Lifeline Programs in Kentucky (Kentucky Youth Advocates and Center for Media Education, October 1997)


Excess Profits and the Impact of Competition on the Baby Bells, Consumer Federation of America, September 1996

Universal Service: An Historical Perspective and Policies for the 21st Century, Benton Foundation and the Consumer Federation of America, August 1996


Evolving Notions of Universal Service (Consumer Federation of America, October 18, 1996)

Economic Concentration and Diversity in the Broadcast Media: Public Policy and Empirical Evidence, December 1995

Federal Deregulation and Local Telephone and Cable TV Rates: Rate Shock in the 1980s and Prospects in the 1990s, November 1995

Basic Service Rates and Financial Cross-Subsidy of Unregulated Baby Bell Activities: The Importance of Effective Competition for Local Service Before Deregulation of Profits and Cross-Ownership, October, 1995

Federal Policy and Local Telephone and Cable TV Rates: Rate Shock in the 1980s and Prospects for the 1990s, October 1995

Mergers and Deregulation on the Information Superhighway: The Public Takes a Dim View: Results of a National Opinion Poll, September 1995

Competition and Consumer Protection in the Florida Telecommunications Legislation, Prepared for the Florida Office of the People's Counsel, April 1995

The Meaning of the Word Infrastructure, June 30, 1994

Protecting the Public Interest in the Transition to Competition in Network Industries, June 14, 1994

Local Exchange Costs and the Need for a Universal Service Fund: A Consumer View, May 1994

Milking the Monopoly: Excess Earnings and Diversification of the Baby Bells Since Divestiture, February 1994

A Consumer Road Map to the Information Superhighway: Finding the Pot of Gold at the End of the Road and Avoiding the Potholes Along the Way, January 26, 1994

Consumers with Disabilities in the Information Age: Public Policy for a Technologically Dynamic Market Environment, 1993

Selling Information Services During 800 and 900 Number Calls: The Need for Greater Consumer Protection, October 2, 1992

The Economics of Deregulation and Reregulation in the Cable Industry: A Consumer View, September 1992

Developing the Information Age in the 1990s: A Pragmatic Consumer View, June 8, 1992

Divestiture Plus Eight: The Record of Bell Company Abuses Since the Break-up of AT&T, December 1991

Transmission Planning, Citing, and Certification in the 1990s: Problems, Prospects and Policies, August 1990

Expanding the Information Age for the 1990s: A Pragmatic Consumer Analysis, January 11, 1990

Divestiture Plus Five: Residential Telephone Service Five Years After the Breakup of AT&T, December 1988

Public Opinion About Deregulation and Regulation in the Transportation and Communications Industries, May 1988

Telecommunications Policy Regarding Deregulation, May 1988

Universal Telephone Service in Ohio: A Review of Recent Evidence, November 12, 1987
The Role of Natural Gas in Solving the Clean Air Problem: Reconciling Consumer and Environmental Interests, April 19, 1988

Divestiture Plus Four: Take the Money and Run, December 1987

The Telecommunications Needs of Older, Low Income and General Consumers in the Post-Divestiture Era, October 1987

Bulk Commodities and the Railroads After the Staggers Act: Freight Rates, Operating Costs and Market Power, October 1987

Divestiture Plus Three: Still Crazy After All These Years, December 1986

Low Income Households in the Post Divestiture Era: A study of Telephone Subscribership and Use in Michigan, October 1986

Sorry Wrong Numbers: Federal Agency Analyses of Telephone Subscribership in the Post-Divestiture Era, February 1986

Industrial Organization and Market Performance in the Transportation and Communications Industries, July 1985

Ringing Off the Wall: An Alarming Increase in Residential Phone Rates, 1984-1986, May 12, 1985

Divestiture: One Year Later, December 19, 1984

**OTHER**

**Books and Chapters**

*The Transformation of Egypt: State and State Capitalism in Crisis* (Baltimore: Johns Hopkins University Press, 1982)


**Articles and Papers**


“Restoring the Balance of Public Values and Private Incentives in American Capitalism,” *Too Much Deregulation or Not Enough*, Cato Institution, November 1, 2002


"The Trouble with the ICC and the Staggers Act," *Pacific Shipper*, June 1, 1987

"The Leftist Opposition in Egypt," *Conference on Sadat's Decade: An Assessment*, conducted by the Middle Eastern Studies Program of the State University of New York at Binghamton, April, 1984


"Impact of Incentive Payments and Training on Nursing Home Admissions, Discharges, Case Mix and Outcomes," *Massachusetts Sociological Society*, November, 1979

"The Domestic Origins of Sadat’s Peace Initiative," Yale Political Union, March, 1979
"Racialism and Pluralism: A Further Dimensional Analysis," Race and Class, XV:3, 1974
"Personality Correlates of Technology and Modernization in Advanced Industrial Society (with Ed Dager), 8th Annual Meeting of the International Sociological Society, August, 1974

Research Reports
with Barbara Roper, Reform of Financial Markets: the Collapse Of Market Fundamentalism and the First Steps to Revitalize the Economy, April 2009
Unconventional Wisdom: Ten New State Polls Offer a Chance to Rethink How Americans View the Assault Weapons Ban (Consumer Federation of America and the Educational Fund to Stop Gun Violence, July 13, 2004)
A Consumer Perspective on Direct Billing: The Next Step in Reforming the Market for Ancillary Medical Services, July 1991
Clearing the Air on Airline Deregulation, May 22, 1991
Airport Pricing of Access for Off-Premise Auto Rental Companies: The Growing Pattern of Abuse, April 24, 1990
Public Opinion About Health Care Purchases: Cost, Ease of Shopping and Availability, April 27, 1989
Bailing Out the Savings and Loans Who Bears the Burden Under Alternative Financing Approaches, March 9, 1989
Airport Fees for Auto Rental Companies: A Consumer Perspective, June 1988,
Reforming the Interstate Commerce Commission: Getting the Facts Straight, February 10, 1988
The Benefits of the Modernization of the Tort Law in the Context of the Social Movement for Improved Safety and Quality in the National Economy, September 1987
The Potential Costs and Benefits of Allowing Banks to Sell Insurance, February 10, 1987
The Costs and Benefits of Exclusive Franchising: The Case of Malt Beverages, September 17, 1986
Punitive Damages in Product Liability Cases: Setting the Record Straight, September 1986
Local Rate Increases in the Post-Divestiture Era, Excessive Returns to Telephone Company Capital, September 1986
Farm worker Demographics, National and State Planning Packages, May 1986
The Great Train Robbery: Electric Utility Consumers and the Unregulated Rail Monopoly Over Coal Transportation, Overview, The Rail Monopoly Over Bulk Commodities, A Continuing Dilemma for Public Policy, August 1985
Deregulation of the Dairy Industry, November 1983
Meal Production Costs in School Food Kitchens: An Economic Analysis of Production Processes and Efficiencies, December 1981

A Study of Program Management Procedures in the Campus-based and Basic GRANTS Programs: Final Report, March 1980

A Study of Program Management Procedures in the Campus-based and Basic Grants Programs: Site Visit Report, December 1975

A Comparative Evaluation of Operation Breakthrough, Chapter 3, August 1975

Judging the Merits of Child Feeding Programs, 1975

A Comparative Evaluation of Ongoing Programs in Columbia, Kenya, and the Philippines, 1974

TESTIMONY:

FEDERAL AGENCIES AND COURTS


American Federalism At Its Best: Why The Environmental Protection Agency Should Grant A Clean Air Act Waiver To California For Its Advanced Clean Cars Program, Environmental Protection Agency, September 19, 2012


Statement Of Dr. Mark Cooper, Director Of Research, Joint NHTSA-EPA Hearings On Fuel Economy Standards For 2017-2025, January 2012

Statement Of Dr. Mark Cooper, Director Of Research, Consumer Federation Of America to The Federal Communications Commission Broadband Workshop On The Unserved And Underserved, August 12, 2009

Comment Of The Consumer Federation Of America In The Matter Of Applications Of Cellico Partnership C/B/A Verizon Wireless And Spectrumco LLC For Consent To Assign Licenses, WT Docket No.12-4, Application Of Cellico Partnership D/B/A, Verizon Wireless And Cox TMI Wireless, LLC For Consent To Assign Licenses, July 9, 2012,

Letter Urging Close Scrutiny Of UMG-EMI Merger, Subcommittee On Antitrust, Competition Policy And Consumer Rights, United States Senate, Committee On The Judiciary, April 26, 2012

Comments Of The Consumer Federation Of America To The U.S. Department Of Commerce Internet Policy Task Force, Docket No. 101214614-0614-01, RIN 0660-XA22, Information Privacy And Innovation In The Internet Economy, January 28, 2011

Comments of the Consumer Federation of America on the Proposed Horizontal Merger Guidelines, Before the Federal Trade Commission, FTC File No. PO92700, June 4, 2010


“Comments of the Consumer Federation of America,” before the Environmental Protection Agency and Department of Transportation, Proposed Rulemaking to Establish Light-Duty Vehicles Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, November 27, 2009


“Comment and Technical Support Appendices of the Consumer Federation of America,” Average Fuel Economy Standards, Passenger Cars and Light Trucks, Model Years 2011-2015, July 1, 2008


“Comment of the Texas Office of Public Utility Counsel, Consumer Federation of America and Consumers Union,” In the Matter of Intercarrier Compensation, CC Docket No. 91-92, October 25, 2006

“Statement,” Local Hearing, Federal Communications Commission, Los Angeles, October 2006

“Affidavit,” with Trevor Roycroft, In the Matter of Review of AT&T Inc. and BellSouth Corporation, Application for Consent to Transfer of Control, WC Docket No. 06-74.

“Comments and Reply Comments of the Consumer Federation Of America and Consumers Union In Opposition To The Transfer Of Licenses,” Applications of Adelphia Communications Corporation, Comcast Corporation and Time Warner Cable Inc., For Authority to Assign and/or Transfer Control of Various Licenses, Before the Federal Communications Commission, MM Docket No. 05-192

“Comments of Consumer Federation of America, Consumers Union and Free Press,” In the Matter of the Commission’s Cable Horizontal and Vertical Ownership Limits and Attribution Rules, MM Docket No. 92-264, August 8, 2005

“Petition to Deny of the Consumer Federation of America, Consumers Union, and USPIRG, In the Matter of Applications of SBC Communications Inc. and AT&T Corporation to Transfer Control of Section 214 and 308 Licenses and Authorizations and Cable Landing Licenses, WC Docket No. 05-65, April 25, 2005

“Petition to Deny of the Consumer Federation of America, Consumers Union, and USPIRG, In the Matter of Applications of Verizon Communications Inc. and MCI Inc. Applications for Approval of Transfer of Control of Section, WC Docket No. 05-75, May 9, 2005

“Comments of the Consumer Federation of America and Consumers Union,” before the Federal Communications Commission, In the Matter of Broadcast Localism MB Docket No. 04-233, November 1, 2004


“Comments Of Consumer Federation Of America and Consumers Union,” In The Matter Of IP-Enabled Services, Petition Of SBC Communications Inc. For Forbearance, Before The Federal Communications Commission, WC Docket No. 04-29, 04-36, July 14, 2004

“Testimony of Mark Cooper,” before the Federal Energy Regulatory Commission, Solicitation Processes for Public Utilities, June 10, 2004


“Comments of the Texas Office of Public Utility Counsel, The Consumer Federation of America, Consumers Union,” In the Matter of Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges, Federal communications Commission, WC Docket No. 02-361, January 18, 2003


“An Economic Explanation of Why the West and South Want to Avoid Being Infected by FERC's SMD and Why Market Monitoring is Not an Effective Cure for the Disease,” SMD Market Metrics Conference, Federal Energy Regulatory Commission, October 2, 2002


“Comments of Consumers Union, Consumer Federation of America, Civil Rights Forum, Center for Digital Democracy, Leadership Conference on Civil Rights and Media Access Project, before the Federal Communications Commission, In the Matter of Cross Ownership of Broadcast Station and Newspaper/Radio Cross-Ownership Waiver Policy, MM Docket No. 01-235, 96-197; December 3, 2001)

“Motion To Intervene And Request For Rehearing Of The Consumer Federation Of America,” before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company, Complaint, v. All Sellers of Energy and Ancillary Services Into Markets Operated by the California Independent System Operator and the California Power Exchange, Docket Nos. EI00-95-000 et al,


“Reply Comments Of Texas Office Of Public Utility Counsel, Consumer Federation Of America, Consumers Union,” Federal Communications Commission, In The Matter Of Inquiry Concerning High Speed Access To The Internet Over Cable And Other Facilities, GN Docket No. 00-185, January 11, 2001

“Comments Of Texas Office Of Public Utility Counsel, Consumer Federation Of America, Consumers Union,” Federal Communications Commission, In The Matter Of Inquiry Concerning High Speed Access To The Internet Over Cable And Other Facilities, GN Docket No. 00-185, December 1, 2000


“Petition to Deny of Consumers Union, the Consumer Federation of America, Media Access Project and Center for Media Education,” In the Matter of Application of America Online, Inc. and Time Warner for Transfer of Control, CS 00-30, April 26, 2000

“Comments Of The Consumer Federation Of America, In the Matter of Application of SBC Communications Inc. and Southwestern Bell Telephone Company and Southwestern Bell Communications Services, Inc. D/B/A Southwestern Bell long Distance for Provision of In-Region, InterLATA Services in Texas, Before the Federal Communications Commission, CC Docket No. 00-4, February 28, 2000


“Reply Comments Of The Consumer Federation Of America, Consumers Union, and AARP, Proposed Transfer Of Control SBC And Ameritech,” Before the Federal Communications Commission, CC Docket No. 98-141, November 16, 1999


“Comments Of The Consumer Federation Of America,” In the Matter of Application of New York Telephone Company (d/b/a/ Bell Atlantic – New York, Bell Atlantic Communications, Inc. NYNEX Long Distance Company and Bell Atlantic Global Networks, Inc., for Authorization To Provide In-Region, InterLATA Services in New York, Before the Federal Communications Commission, CC Docket No. 99-295, October 20, 1999


The Impact of Telephone Company Megamergers on the Prospect for Competition in Local Markets, Comments of The Consumer Federation of America and Consumers Union, before the Federal communications Commission, before the Federal Communications Commission, Proposed Transfer of Control SBC and Ameritech, CC Docket” No. 98-141, October 15, 1998


“Statement of Dr. Mark N. Cooper, on behalf of the Consumer Federation of America,” In the Matter of Federal-State Joint Board On Universal Service Forward Looking Mechanisms for High Cost Support for Non-Rural LECs, June 8, 1998.


“Statement of Dr. Mark N. Cooper, on Behalf of the Consumer Federation of America,” Before the Federal Communications Commission, Re: Cable TV Rates, December 18, 1997.


“Reply Comments of the Consumer Federation of America,” In the Matter of Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Services in Louisiana, Federal Communications Commission, CC Docket No. 97-231, December 19, 1997

Letter to Reed Hundt, on Behalf of the Consumer Federation of America, Re: CC Docket NO. 92-237: Carrier Identification Codes, October 15, 1997

“Statement of Dr. Mark N. Cooper, on Behalf of the Consumer Federation of America,” before the Federal Communications Commission, In Re: Petition of Consumers Union and the Consumer Federation of America to Update Cable TV Regulation and Freeze Existing Cable Television Rates, MM Docket Nos. 92-264, 92-265, 92-266, September 22, 1997


“Statement of Dr. Mark N. Cooper,” Federal Communications Commission, Hearing on Cable Television Competition and Rates, December 18, 1997

“Reply Comments of the Consumer Federation of America,” In the Matter of Application by BellSouth Corporation, et. al. For Provision of In-Region, InterLATA Services in South Carolina, Federal Communications Commission, CC Docket No. 97-208, November 14, 1997

“Statement of Dr. Mark N. Cooper,” In Re: Petition of Consumers Union and the Consumer Federation of America to Update Cable TV Regulation and Freeze Existing Cable Television Rates, Federal Communications Commission, September 22, 1997.


“Comments of the Consumer Federation of America,” before the Federal Communications Commission In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, August 2, 1996


"Affidavit in Support of the Petition for Relief of the Center for Media Education, Consumer Federation of America, the United Church of Christ, the National Association for the Advancement of Colored People, and the National Council of La Raza, May 24, 1994

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"Response of the Consumer Federation of America and the Center for Media Education to Bell Atlantic's Request for an Expedited Waiver Relating to Out-of-Region Interexchange Services and Satellite Programming Transport," Department of Justice, In Re: United States of America v. Western Electric Company, Inc., and American Telephone and Telegraph Company, Civil No. 82-0192 (HHG), March 8, 1994


"Comment of Mark N. Cooper on Behalf of the Center for Science in the Public Interest," before the Food and Drug Administration, In the Matter of Regulatory Impact Analysis of the Proposed Rule to Amend the food and Labeling Regulations, Docket No. 91N-0219, February 25, 1992


"Affidavit of Dr. Mark N. Cooper on Abuse of the Monopoly Franchise by the Regional Bell Operating Companies in the Marketing of Optional Services," United States District Court for the District of Columbia, United States of America v. Western Electric Company and American Telephone and Telegraph Company, C.A. No. 82-0192, October 17, 1990


"Comments of the Consumer Federation of America in the Matter of Railroad Cost Recovery Procedures -- Productivity Adjustment, Ex Parte No. 290 (Sub-No. 4), Interstate Commerce Commission, December 16, 1988


"Joint Comments of the Consumer Federation of America and the Environmental Action Foundation," Federal Energy Regulatory Commission, Dockets Nos. RM88-4, 5,6-000, July 18, 1988

"Comments of the Consumer Federation of America in Opposition to the Request to Reopen and Set Aside Consent Order," Federal Trade Commission, Docket No. 9033, July 5, 1988


"In the Matter of Coal Rate Guidelines -- Nationwide, ExParle No. 347 (Sub No. 1)," before the Interstate Commerce Commission, July 28, 1983


**FEDERAL CONGRESSIONAL**

Testimony Of Dr. Mark Cooper On Competition In The Evolving Digital Marketplace, Subcommittee On Courts And Competition Policy, Committee On The Judiciary, U.S. House Of Representatives, September 16, 2010

Testimony of Dr. Mark Cooper on Is There Life After Trinko and Credit Suisse? The Role of Antitrust in Regulated Industries, Subcommittee on Courts and Competition Policy Committee on the Judiciary, U.S. House of Representatives, June 15, 2010

Testimony of Dr. Mark Cooper, Senior Fellow for Economic Analysis Institute for Energy and the Environment, Vermont Law School, on "Economic Advisability of Increasing Loan Guarantees for the Construction of Nuclear Power Plants," Domestic Policy Subcommittee, Committee on Oversight and Government Reform, U.S. House of Representatives, April 20, 2010

Testimony of Dr. Mark Cooper, on behalf of Consumer Federation of America, Free Press Consumers Union before the Commerce Committee, U.S. Senate regarding "Consumers, Competition and Consolidation in the Video Broadband Market," March 11, 2010

Dr. Mark Cooper on behalf of Consumer Federation of America, Free Press, Consumers Union before the, U.S. House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Competition Policy and Consumer Rights Regarding "Competition in the Media and Entertainment Distribution Market," February 25, 2010

Dr. Mark Cooper, on behalf of Consumer Federation of America, Free Press, Consumers Union before the U.S. House of Representatives, Subcommittee on Communications, Technology, and the Internet of the Committee on Energy and Commerce regarding “An Examination of the Proposed Combination of Comcast and NBC Universal,” February 4, 2010

Dr. Mark Cooper, on behalf of Consumer Federation of America, Free Press, Consumers Union before the Senate Subcommittee on Antitrust, Competition Policy and Consumer Rights Judiciary Committee on “The Comcast /NBC Universal Merger: What Does the Future Hold for Competition and Consumers?”, February 4, 2010

Testimony of Dr. Mark Cooper “Too Big to Fail? The Role of Antitrust Law in Government-Funded Consolidation in the Banking Industry,” Subcommittee on Courts and Competition Policy, Committee on the Judiciary, United States House of Representatives, March 17, 2009
“Excessive Speculation In Energy Commodities,” Agriculture Committee, United States House of Representatives, July 10, 2008


“Consumer Effects of Retail Gas Prices,” before the Judiciary Committee Antitrust Task Force, United States House of Representatives, May 7, 2008

“Pumping up Prices: The Strategic Petroleum Reserve and Record Gas Prices,” Select Subcommittee on Energy Independence and Global Warming, United States House of Representative, April 24, 2008


“Vertically Integrated Sports Networks and Cable Companies,” Senate Judiciary Committee, December 7, 2006


“Antitrust Should Promote Competition on Top of Well Regulated Infrastructure Platforms,” Antitrust Modernization Commission, December 5, 2005

“Video Competition in 2005 – More Competition or New Choices for Consumers,” Subcommittee on Antitrust, Competition Policy and Consumer Rights, United States Senate, October 19, 2005

“An Oversight Hearing on Record High Gasoline Prices and Windfall Oil Company Profits,” Senate Democratic Policy Committee, September 19, 2005


“‘The Merger Tsunami is Drowning Competition in the Communications Marketplace,” House Energy and Commerce Committee, March 2, 2005


“Testimony Of Dr. Mark Cooper, On Behalf Of Consumer Federation Of America And Consumers Union On Crude Oil: The Source Of Higher Prices? Before The Senate Judiciary Committee, Antitrust, Competition Policy And Consumer Rights Subcommittee, April 7, 2004

“Testimony of Mark Cooper on Cable Market Power in Multichannel Video Program Distribution,” Subcommittee on Antitrust, Senate Judiciary Committee, February 11, 2004

“Testimony Of Dr. Mark Cooper, Director Of Research On Gasoline Price Volatility,” Senate Commerce Committee, October 9, 2003
“Testimony Of Dr. Mark N. Cooper Director Of Research On Media Ownership,” Before The Senate Commerce Committee, Washington, D. C., October 2, 2003


“From Cheap Seats To Expensive Products, Anticompetitive Practices From The Old Economy Can Rob Consumers Of The Benefits Of The Internet Statement of Dr. Mark Cooper on behalf of The Consumer Federation Of America,” before The Subcommittee On Commerce, Trade And Consumer Protection, July 18, 2002


“Statement Of Dr. Mark Cooper on Electricity Markets: California,” Subcommittee On Energy And Air Quality House Energy And Commerce Committee’s Subcommittee, March 22, 2001


“Statement Of Dr. Mark Cooper on Digital Television,” Senate Commerce Committee, March 1, 2001

“The Proposed United Airlines-US Airways Merger,” Antitrust Committee, United States Senate, June 14, 2000

“Testimony of Dr. Mark N. Cooper on behalf of the Consumer Federation of America and Consumers Union,” Electricity Restructuring at the Federal Level, Subcommittee on Energy and Power, U.S. House of Representatives, October 6, 1999


“Testimony of Dr. Mark N. Cooper on the Regulation of Public Utility Holding Companies,” Committee on Banking, Housing, and Urban Affairs, United States Senate, April 29, 1997

"Testimony Of Dr. Mark N. Cooper on Behalf of the Consumer Federation of America and the Environmental Action Foundation on Exempting Registered Holding Companies from the Public Utility Holding Company Act for Diversification into Telecommunications," Committee on Energy and Commerce, United States House of Representatives, July 29, 1994

"Testimony of Dr. Mark N. Cooper on Universal Service and Local Competition and S. 1822," before the Commerce Committee, United States Senate, May 17, 1994


"Testimony of Dr. Mark N. Cooper on Major Mergers in the Telecommunications Industry," Subcommittee on Antitrust, Monopolies and Business Rights, November 16, 1993

“Testimony of Dr. Mark N. Cooper on Physician Ownership and Referral Arrangements," before the Subcommittee on Oversight, Committee on Ways and Means, October 17, 1991


"Testimony of Dr. Mark N. Cooper on Telephone Consumer Privacy and Advertising Rights," Subcommittee on Telecommunications and Finance, Energy and Commerce Committee, United States House of Representatives, April 24, 1991

"Testimony of Dr. Mark N. Cooper on Regulatory Reform in the Electric Utility Industry," before the Committee on Energy and Natural Resources, U.S. Senate, March 14, 1991

"Testimony of Dr. Mark N. Cooper on Caller Identification," before the Subcommittee on Technology and the Law, Judiciary Committee, U.S. Senate, August 1, 1990


"Testimony of Dr. Mark N. Cooper on Airport Gross Receipts Fees," before the Subcommittee on Antitrust, Monopolies and Business Rights, Judiciary Committee, U.S. Senate, April 24, 1990


"Testimony of Dr. Mark N. Cooper on Acid Rain Legislation, Subcommittee on Energy and Power, Committee on Energy and Commerce, United States House of Representatives, September 7, 1989

"Testimony of Gene Kimmelman and Dr. Mark N. Cooper on Competitive Issues in the Cable Television Industry, before the Subcommittee on Antitrust, Monopolies and Business Rights, Judiciary Committee, United States Senate, April 12, 1989

"Testimony of Peggy Miller and Dr. Mark N. Cooper, on the Savings and Loan Crisis," before the Ways and Means Committee, United States House of Representatives, March 9, 1989

"Testimony of Dr. Mark N. Cooper on The Ethics in Patient Referrals Act of 1989 and Physician Self-Referral," before the Subcommittee on Health, Committee on Ways and Means, United States House of Representatives, March 2, 1989

"Joint Testimony of the Consumer Federation of American and the Citizen Labor Energy Coalition on Bypass of Natural Gas Local Distribution Companies," before the Subcommittee on Energy Regulation and Conservation, Committee on Energy and Natural Resources, United States House of Representatives, September 29, 1988


"Oil Industry Taxes," before the Committee on Finance, U.S. Senate, June 5, 1987

"Comprehensive Natural Gas Legislation," before the Subcommittee on Regulation, Committee on Energy and Natural Resources, U.S. Senate, May 20, 1987


"Comprehensive Natural Gas Legislation," before the Subcommittee on Regulation, Energy and Natural Resources Committee, U.S. Senate, May 20, 1986


"Oil Import Fees," Committee on Energy and Natural Resources, U.S. Senate, March 20, 1986


"Legislative Proposals Governing Construction Work In Progress," before the Subcommittee on Energy and Natural Resources Committee, United States Senate, April 12, 1984

"Legislation Affecting Oil Company Mergers," before the Subcommittee on Energy and Mineral Resources of the Committee on Energy and Natural Resources, United States Senate, April 10, 1984

"Legislative Proposals Governing Corporate Mergers and Takeovers," before the Subcommittee on Monopolies and Commercial Law of the Committee on Judiciary, United States House of Representatives, March 23, 1984

"Review of Federal Policies Affecting Energy Conservation and Housing," before the Subcommittee on Housing and Community Development of the Committee on Banking, Finance and Urban Affairs, United States House of Representatives, March 21, 1984


"The Export of Alaskan Crude Oil," before the Subcommittee on East Asian and Pacific Affairs of the Committee on Foreign Relations, United States Senate, July 19, 1984

"Economics of Natural Gas Deregulation," before the Joint Economic Committee, United States Congress, April 15, 1983

"Bills to Amend the Export Administration Act," before the Subcommittee on International Finance and Monetary Policy of the Committee on Banking, Housing and Urban Affairs, United States Senate, April 14, 1983

"Reauthorization of the Export Administration Act," before the Subcommittee on International Economic Policy and Trade of the Committee on Foreign Affairs, United States House of Representatives, April 12, 1983

"Pending Natural Gas Legislation," before the Subcommittee on Fossil and Synthetic Fuels of the Committee on Energy and Commerce, United States House of Representatives, March 22, 1983


"Natural Gas Hearings," before the Committee on Energy and Natural Resources, United States Senate, March 10, 1983

"The Impacts of Various Energy Tax Options," before the Subcommittee on Fossil and Synthetic Fuels of the Committee on Energy and Commerce, June 15, 1982

"Various Energy Tax Options," before the Subcommittee on Energy and Agricultural Taxation of the Committee on Finance, United States Senate, June 9, 1982


"Natural Gas Policy and Regulatory Issues," before the Committee on Energy and Natural Resources, United States Senate, March 23, 1982

"The Economic Implications of Natural Gas Deregulation," before the Subcommittee on International Trade, Finance and Security Economics of the Joint Economic Committee, United States Congress, February 18, 1982

"The Implementation of Title I of the Natural Gas Policy Act of 1978," before the Committee on Energy and Natural Resources, United States Senate, November 5, 1981

"State and Local Energy Block Grants," before the Committee on Energy and Natural Resources, United States Senate, October 16, 1981


"Building Energy Performance Standards," before the Subcommittee on Energy Regulation of the Committee on Energy and Natural Resources, United States Senate, June 26, 1980

"Analysis of No. 2 Distillate Prices and Margins with Special Focus on the Department of Energy’s Methodology," before the Subcommittee on Environment, Energy and Natural Resources of the Government Operations Committee, United States House of Representatives, February 12, 1980

STATE AND PROVINCE

Testimony and Surrebuttal Testimony on Behalf Of The Sierra Club, Before The South Carolina Public Service Commission, Docket No. 2012-203-E, October 2012

“Testimony of Dr. Mark Cooper on House File 9,” Minnesota House of Representatives Committee on Commerce and Regulatory Reform, February 9, 2011


“Comments of the Consumer Federation of America, Consumers Union, and New York Public Interest Research Group Calling for Review and Denial of the Plan for Merger,” In the Matter of Joint Petition of Verizon New York Inc. and MCI for a Declaratory Ruling Disclaiming Jurisdiction Over or in the Alternative, for Approval of Agreement and Plan of Merger, Public Service Commission, State of New York, Case No. 05-C-0237, April 29, 2005

“Rebuttal Testimony of Dr. Mark Cooper on Behalf of AARP,” In re Application of the National School Lunch Program and Income-Based Criterion at or Below 135% of the Federal Poverty Guidelines as Eligibility Criteria for the Lifeline and Link-up Programs, before the Florida Public Service Commission, Docket No. 040604-TL, December 17, 2004

“Affidavit of Dr. Mark Cooper on Behalf of the Wisconsin Citizen Utility Board,” Petition of Wisconsin Bell, Inc., for a Section 271 Checklist Proceeding, before the Public Service Commission of Wisconsin, 6720-TI-170, June 10, 2002

“Opposition of the Consumer Federation of America and TURN,” In the Matter of the Application of Comcast Business Communications, Inc. (U-5380-C) for Approval of the Change of Control of Comcast Business Communications, Inc., That Will Occur Indirectly as a Result of the Placement of AT&T Broadband and Comcast Corporation Under a New Parent, AT&T Comcast Corporation, In the Matter of the Application of AT&T Broadband Phone of California, LLC (U-5698-C) for Approval of the Change of Control of AT&T Broadband Phone of California, LLC That Will Occur Indirectly as a Result of the Placement of AT&T Broadband and Comcast Corporation Under a New Parent, AT&T Comcast Corporation, Public Utilities Commission Of The State Of California, Application 02-05-010 02-05-011, June 7, 2002

“Protecting the Public Interest Against Monopoly Abuse by Cable Companies: Strategies for Local Franchising Authorities in the AT&T Comcast License Transfer Process, Statement to the City of Boston,” May 14, 2002


“Statement of Dr. Mark N. Cooper before the Governor’s Task on Electricity Restructuring,” Las Vegas Nevada, November 30, 2000

“Open Access,” Committee on State Affairs of the Texas House of Representatives, August 16, 2000

“Prepared Statement Of Dr. Mark N. Cooper, Director Of Research Consumer Federation of America, on Internet Consumers’ Bill of Rights,” Senate Finance Committee Annapolis, Maryland March 7, 2000

“Prepared Statement Of Dr. Mark N. Cooper, Director Of Research Consumer Federation of America, on Internet Consumers’ Bill of Rights,” House Commerce and Governmental Matter Committee Annapolis, Maryland February 29, 2000

“Comments Of The Consumer Federation Of America On The Report Of The Expert Review Panel, To The Budget And Fiscal Management Committee, Metropolitan King County Council,” October 25, 1999

“Testimony of Dr. Mark N. Cooper on behalf of Residential Customers, In the Matter of the Investigation on the Commission’s Own Motion Into all Matters Relating to the Merger of Ameritech Corporation and SBC Communications Inc. before the Indiana Utility Regulatory Commission in Cause NO. 41255, June 22, 1999


“Preserving Just, Reasonable and Affordable Basic Service Rates,” on behalf of the American Association of Retired Persons, before the Florida Public Service Commission, Undocketed Special Project, 980000A-SP, November 13, 1998.

“Telecommunications Service Providers Should Fund Universal Service,” Joint Meeting Communications Committee and Ad Hoc Committee on Universal Service, NARUC 110th Annual Convention, November 8, 1998

“Testimony of Dr. Mark N. Cooper on behalf of AARP, In the Matter of the Joint Application for Approval of Reorganization of Illinois Bell Telephone Company d/b/a Ameritech Illinois and Ameritech Illinois Metro, Inc. Into SBC Communications Inc. in Accordance with Section 7-204 of the Public Utility Act, Illinois Commerce Commission, Docket NO. 98-055, October 1998


“Stonewalling Local Competition, Consumer Federation of America,” and Testimony of Dr. Mark N. Cooper on behalf of Citizen Action before the Board of Public Utilities, In the Matter of the Board’s Investigation Regarding the Status of Local Exchange Competition in New Jersey, (Docket No. TX98010010), March 23, 1998.

“Direct Testimony of Mark Cooper on Behalf of Residential Consumers,” In the matter of the Investigation on the Commission’s own motion into any and all matters relating to access charge reform including, but not limited to high cost or Universal Service funding mechanisms relative to telephone and telecommunications services within the state of Indiana pursuant to IC-8-1-2-51, 58, 59, 69; 8-1-2.6 Et Sec., and other related state statues, as well as the Federal Telecommunications Act of 1996 (47 U.S.C.) Sec. 151, Et. Sec., before the Indiana Utility Regulatory Commission, April 14, 1998

“Affidavit of Mark N. Cooper on Behalf of the Texas Office of Public Utility Counsel,” In the matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company Service Inc. d/b/a Southwestern Bell Long Distance, for Provision of In-Region InterLATA Service Texas, Public Utility Commission of Texas, Project 16251, April 1, 1998


“Responses of Dr Mark N. Cooper on behalf of the American Association of Retired persons and the Attorney General of Washington,” Public Counsel Section, before the Washington Transport and Utility Commission, March 17, 1998,

“Direct Testimony of Dr. Mark N. Cooper on Behalf of the North Carolina Justice and Community Devilmnt Center,” In the Matter of Establishment of Intrastate Universal Service Support Mechanisms Pursuant to G.S.62-110 (f) and Section 254 of the Telecommunications Act of 1996, before the North Carolina Utilities Commission, Docket No. P-100, SUB 133g, February 16, 1998

Comments of The Consumer Federation of America,” Re: Case 97-021 - In the Matter of Petition of New York Telephone Company for approve of its statement of generally accepted terms and conditions pursuant to Section 252 of the Telecommunications Act of 1996 and Draft Filing of Petition for InterLATA Entry pursuant to Section 271 of the Telecommunications Act of 1996, before the State of New York, Public Service Commission, January 6, 1998.


“Statement of Dr. Mark N. Cooper,” In the Matter of the Rulemaking by the Oklahoma Corporation Commission to Amend and Establish Certain Rules Regarding the Oklahoma Universal Service Fund, Cause No. RM 970000022.

“Direct Testimony of Dr. Mark N. Cooper on Behalf of the Alliance for South Carolina’s Children,” In Re: Intrastate Universal Service Fund, before the Public Service Commission of South Carolina, Docket NO. 97-239-C, July 21, 1997

“Direct Testimony of Dr. Mark N. Cooper on Behalf of Kentucky Youth Advocate, Inc.,” In the Matter of Inquiry into Universal Service and Funding Issues, before the Public Service Commission Commonwealth of Kentucky, Administrative Case NO. 360, July 11, 1997

“Direct Testimony of Dr. Mark N. Cooper on Behalf of the Office of Public Utility Counsel, Application of Southwestern Bell Telephone Company for Non-Rate Affecting Changes in General Exchange Tariff, Section 23, Pursuant to PURA95 s.3.53 (D), before the Public Utility Commission of Texas, July 10, 1997


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“Direct Testimony of Dr. Mark N. Cooper Submitted on behalf of The American Association of Retired Persons, before the Public Service Commission, State of New York, In the Matter of Competitive Opportunities Case 94-E-0952 New York State Electric and Gas Co. 96-E-0891; Rochester Gas and Electric Corp. 96-E-0898 Consolidated Edison Company of New York, Inc. 96-E-0897


“Direct Testimony of Dr. Mark N. Cooper, on Behalf of New York Citizens Utility Board, the Consumer Federation of America, the American Association of Retired Persons, Consumers Union, Mr. Mark Green, Ms. Catherine Abate, the Long Island Consumer Energy Project,” before the Public Service Commission, State of New York, Proceeding on Motion of the Commission as the Rates, Charges, Rules and Regulations of New York Telephone Company, NYNEX Corporation and Bell Atlantic Corporation for a Declaratory Ruling that the Commission Lacks Jurisdiction to Investigate and Approve a Proposed Merger Between NYNEX and a Subsidiary of Bell Atlantic, or, in the Alternative, for Approval of the Merger, Case 96-c-603, November 25, 1996


“Statement of Dr. Mark N. Cooper on Behalf of the Attorney General of Oklahoma,” In the Matter of An Inquiry by the Oklahoma Corporation Commission into Alternative Forms of Regulation Concerning Telecommunications Service, Cause NO. RM 950000404

“Statement of Dr. Mark N. Cooper to the System Benefits Workshop,” Project on Industry Restructuring, Project No. 15000, before the Public Utility Commission of Texas, May 28, 1996

“Remarks of Dr. Mark N. Cooper, Panel on Service Quality from the Consumer Perspective,” NARUC Winter Meetings, Washington, D.C., February 26, 1996


"Remarks of Dr. Mark N. Cooper on Behalf of the American Association of Retired Persons to the Members of the Executive Committee," Indiana Utility Regulatory Commission, in the Matter of the Investigation on the Commission's Own Motion into Any and All Matters Relating to Local Telephone Exchange Competition Within the State of Indiana, Cause No. 39983, September 28, 1995

"Direct Testimony of Dr. Mark N. Cooper on Behalf of the Office of Public Utility Counsel," before the Public Utility Commission of Texas, Petition of MCI Telecommunications Corporation for an Investigation of the Practices of Southwestern Bell Telephone Company Regarding the 713 Numbering Plan Area and Request for a Cease and Desist Order Against Southwestern Bell Telephone Company, SOAH Docket No. 473-95-1003, September 22, 1995

"Direct Testimony of Dr. Mark N. Cooper on Behalf of the Office of Public Utility Counsel," before the Public Utility Commission of Texas, Petition of MCI Telecommunications Corporation for an Investigation of the Practices of Southwestern Bell Telephone Company Regarding the 214 Numbering Plan Area and Request for a Cease and Desist Order Against Southwestern Bell Telephone Company, Docket NO. 14447, August 28, 1995


"Promoting Competition and Ensuring Consumer Protection on the Information Superhighway, Testimony of Dr. Mark N. Cooper on Behalf of the American Association of Retired Persons and the Consumer Federation of America on Proposed Revisions of Chapter 364," Committee on Commerce and Economic Opportunities, Florida Senate, April 4, 1995

"Direct Testimony and Exhibits of Dr. Mark N. cooper on Behalf of the Division of consumer Advocacy," In the Matter of Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure in Hawaii, docket No. 7701, March 24, 1995


"Statement of Dr. Mark N. Cooper," DPUC Exploration of Universal Service Policy Options, Docket No. 94-07-08, November 30, 1994

"Statement of Dr. Mark N. Cooper," DPUC Investigation of Local Service Options, including Basic Telecommunications Service Policy Issues and the Definition of Basic Telecommunications Service, Docket No. 94-07-07, November 15, 1994

"Testimony of Dr. Mark N. Cooper on Behalf of Attorney General of the Commonwealth of Kentucky, Utility and Rate Intervention Division, before the Public Service Commission, Commonwealth of Kentucky, Case No. 94-121, August 29, 1994


"Comments of Dr. Mark N. Cooper on Behalf of Consumers Union, Southwest Regional Office, before the Public Utility Commission of Texas, Request for Comments on the Method by which Local Exchange Services are Priced, Project No. 12771, April 18, 1994


"Testimony of Dr. Mark N. Cooper on Behalf of the Virginia Citizens Consumer Council, Inc., before the State Corporation Commission at Richmond, Commonwealth of Virginia, In the Matter of Evaluating Investigating the Telephone Regulatory Case No. PUC930036 Methods Pursuant to Virginia Code § 56-235.5, February 8, 1994

"Testimony of Dr. Mark N. Cooper on Behalf of The American Association of Retired Persons, Citizen Action Coalition, Indiana Retired Teachers Association, and United Senior Action, before the Indiana Utility Regulatory Commission, Cause No. 39705, December 17, 1993

"Testimony of Dr. Mark N. Cooper on Behalf of the Virginia Citizens Consumer Council, Inc.,” before the State Corporation Commission at Richmond, Commonwealth of Virginia, In the Matter of Evaluating the Experimental Plan for Alternative Regulation of Virginia Telephone Companies, Case No. PUC920029, October 22, 1993


"Rebuttal Testimony of Dr. Mark N. Cooper on Behalf of the Attorney General," before the Public Service Commission of the State of Missouri, The Staff of the Missouri Public Service Commission vs. Southwestern Bell Telephone and Telegraph Company, Case No. TO-93-192, April 30, 1993


"Direct Testimony of Dr. Mark N. Cooper on Behalf of the People's Counsel," before the Florida Public Service Commission, Comprehensive Review of the Revenue Requirement and Rate Stabilization Plan of Southern Bell Telephone and Telegraph Company, Docket No. 900960-TL, November 16, 1992


"Testimony of Dr. Mark N. Cooper" before the Regulatory Flexibility Committee, General Assembly, State of Indiana, August 17, 1992

"Testimony of Dr. Mark N. Cooper On Behalf of the Consumer Advocate,” before the Public Service Commission of South Carolina, Petition of the Consumer Advocate for the State of South Carolina to Modify Southern Bell's Call Trace Offering, Docket No. 92-018-C, August 5, 1992

"Telecommunications Infrastructure Hoax," before the Public Service Commission of Colorado, Conference on ISDN for the Rest of Us, April 23, 1992


"Testimony of Dr. Mark N. Cooper on Behalf of the Consumer Federation of America," before the Georgia Public Service Commission, In the Matter of A Southern Bell Telephone and Telegraph Company Cross-subsidy, Docket No. 3987-U, February 12, 1992

"Testimony of Dr. Mark N. Cooper on Behalf of the Consumer Federation of America," before the Arkansas Public Service Commission, in the Matter of an Inquiry into Alternative Rate of Return Regulation for Local Exchange Companies, Docket No. 91-204-U, February 10, 1992

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"Statement on Behalf of the Consumer Federation of America on HB 1076," before the Missouri General Assembly, January 29, 1992

"Testimony on behalf of the American Association of Retired Persons and the Consumer Federation of America," before the Legislative P.C. 391 Study Committee of the Public Service Commission of Tennessee, January 13, 1992

"Direct Testimony on Behalf of the "Consumer Advocate," Public Service Commission State of South Carolina, In the Matter of the Application of Southern Bell Telephone and Telegraph Company for Approval of Revision to its General Subscribers Service Tariff (Caller ID), Docket No. 89-638-C, December 23, 1991

"Comments of the Consumer Federation of America on Proposed Telecommunications Regulation in New Jersey (S36-17/A-5063)," New Jersey State Senate, December 10, 1991

"Comments of the Consumer Federation of America," Before the Public Service Commission, State of Maryland, In the Matter of a Generic Inquiry by the Commission Into the Plans of the Chesapeake and Potomac Telephone Company of Maryland to Modernize the Telecommunications Infrastructure, Case No. 8388, November 7, 1991


"On Behalf of the Office of Public Counsel," before the Florida Public Service Commission, In Re: Proposed Tariff Filings by Southern Bell Telephone and Telegraph Company When a Nonpublished Number Can be Disclosed and Introducing Caller ID to Touchstar Service, Docket No. 891194-TI, September 26, 1990


"On Behalf of the Maryland People's Counsel," before The Public Service Commission of Maryland, In the Matter of Provision of Caller Identification Service by the Chesapeake and Potomac Company of Maryland, Case No. 8283, August 31, 1990


"Testimony of Dr. Mark N. Cooper on Caller Identification" before the Committee on Constitutional and Administrative Law, House of Delegates, Annapolis, Maryland, February 22, 1990


"On Behalf of Manitoba Anti-poverty Organization, the Manitoba Society of Seniors and the Consumers Association of Canada (Manitoba)" before the Public Utilities Board in the Matter of the Request of Manitoba Telephone System for a General Rate Review, February 16, 1989

"On Behalf of the Ohio Consumers Counsel, In the Matter of the Application of GTE MTO Inc. for Authority to Increase and Adjust its Rates and Charges and to Change Regulations and Practices Affecting the Same, Case No. 87-1307-TP-Air," before the Public Utility Commission of Ohio, May 8, 1988

"On Behalf of the Evelyn Soloman, Proceeding on Motion of the Commission as to the Rates, Charges and Regulations of Niagara Mohawk Power Corporation, Case Nos. 29670 and 29671," before the State of New York Public Service Commission, February 16, 1988


"On Behalf of the Office of Consumers' Counsel, State of Ohio," In the Matter of the Application of the Ohio Bell Telephone Company for Authority to Amend Certain of its Intrastate Tariffs to Increase and Adjust the Rates and Charges and to Change its Regulations and Practices Affecting the Same, Case No. 84-1435-TP-AIR, April 6, 1986


"On Behalf of Mississippi Legal Services Coalition, in the Matter of Notice by Mississippi Power and Light of Intent to Change Rates" Before the Mississippi Public Service Commission, April 15, 1985


"On Behalf of the Consumer Advocate in re: Application of Southern Bell Telephone and Telegraph Company for Approval Increases in Certain of Its Intrastate Rates and Charges," Before the South Carolina Public Service Commission, Docket No. 84-308-c, October 25, 1984


"On Behalf of Mississippi Legal Services Coalition in the Matter of the Citation to Show Cause Why the Mississippi Power and Light Company and Middle South Energy Should not Adhere to the Representation Relied Upon by the Mississippi Public Service Commission in Determining the Need and Economic Justification for Additional Generating Capacity in the Form of A Rehearing on Certification of the Grand Gulf Nuclear Project," Before the Mississippi Public Service Commission, Docket No. U-4387, August 13, 1984
"On Behalf of the Mississippi Legal Services Corporation Re: Notice of Intent to Change Rates of South Central Bell Telephone Company for Its Intrastate Telephone Service in Mississippi Effective January 1, 1984," before the Mississippi Public Service Commission, Docket No. U-4415, January 24, 1984

"The Impact of Rising Energy Prices on the Low Income Population of the Nation, the South, and the Gulf Coast Region," before the Mississippi Public Service Commission, Docket No. U4224, November 1982


"The Impact of Rising Utility Rates on the Budgets of Low Income Households in the Region of the United States Served by the Mississippi Power Company and South Central Bell Telephone Company," before the Chancery Court of Forrest County, Mississippi, October 6, 1982

"The Impact of Rising Energy Prices on the Low Income Population of the Nation, the South and the Gulf Coast Region," before the Mississippi Public Service Commission, Docket No. U-4190, August 1982
MERCHAND 'CASH MARGINS' AT DIFFERENT POWER HUBS

Legend:  o = reactors that are being considered for early shut down
        x = license renewals pending or expected in the near future.

Source: Credit Suisse, Nuclear… The Middle Age Dilemma?, Facing Declining Performance, Higher Costs, Inevitable Mortality, February 19, 2013, p. 11.