NRG Energy, Inc. Response to the Report of the Maryland Resiliency Through Microgrid Taskforce

NRG Energy, Inc. ("NRG") appreciates the opportunity to provide comments on the Maryland Resiliency Through Microgrids Task Force Report ("Task Force Report"). The Task Force Report does an excellent job identifying the benefits of microgrids, including improved reliability, improved environmental characteristics, decreased line losses, and improved customer engagement on energy consumption decisions. The reliability and environmental benefits of microgrids, as the Task Force Report identifies, are exciting and the technical portions of the Task Force Report thoroughly describe the beneficial attributes of microgrids.

Governor O'Malley charged the Task Force to "pave the way for private sector deployment of microgrids across the State."[1] NRG, however, deeply concerned that the Task Force may have partially missed the mark, and instead of focusing on bringing *private* investment dollars into Maryland, has instead made a series of recommendations on how best to spend *ratepayer* dollars. In addressing whether Electric Distribution Companies ("EDCs") should own and operate microgrids, the Task Force Report is in full-throated support.[2] By contrast, the Task Force Report concludes that whether private parties should own and operate public purpose microgrids is more a "nuanced" issue, that such opportunities should be "limited,"[3] and that private ownership of non-public purpose microgrids is "by far the most controversial."[4] The Task Force Report's conclusion that private sector investment should take a

[1] Task Force Report at p. 1.

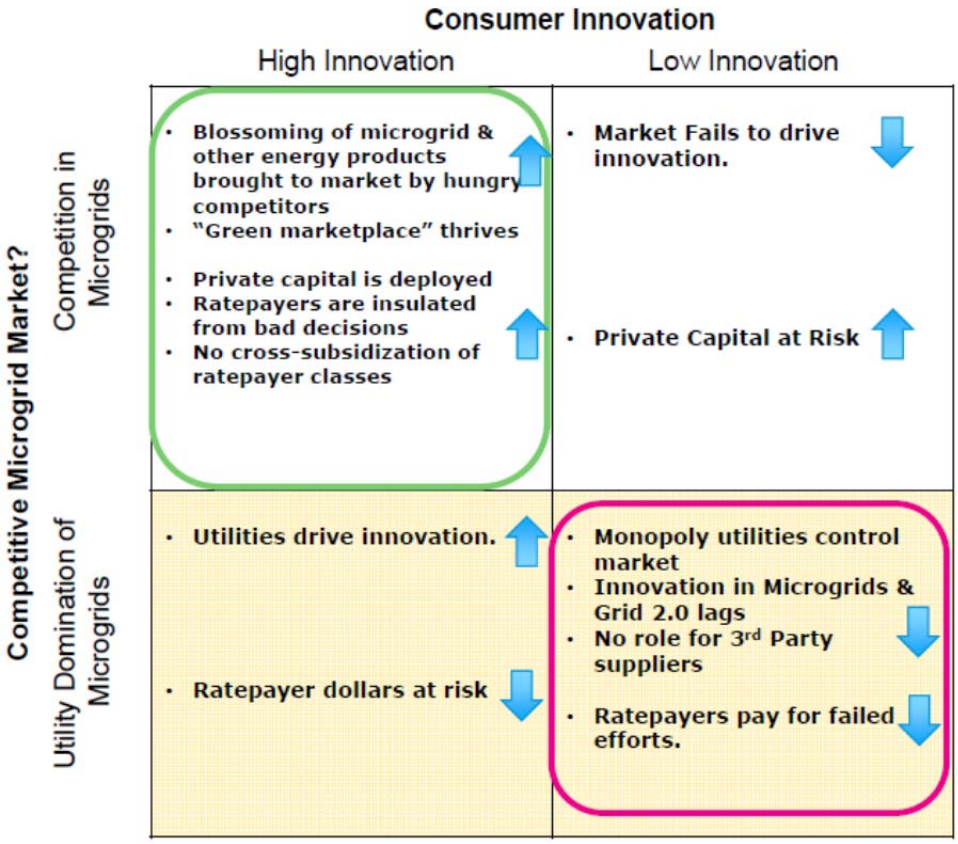
[2] In particularly, the Report concludes that "it is in the interest of the State to deploy EDC owned and operated public purpose microgrids in the short term." Task Force Report at p. 26.

[3] Task Force Report at p. 27.

[4] Task Force Report at p. 28.

back seat to EDC investment appears contrary to the Governor's stated goals and risks saddling consumers with stranded costs as microgrid technology continues evolving. .

It is vital that Maryland's microgrid policies maximize private innovation and minimize ratepayer risk or cross-subsidization by various customer classes. One hundred years of experience has shown that innovation is largely driven by competitive companies investing shareholder dollars and putting their own capital at risk. Monopoly utilities, by contrast, are ill-suited to driving change in the way consumers engage with and consume energy. The graph below shows how consumers are vastly better off when investment is in the upper left box (with maximum innovation, shareholder-driven investment decisions and minimal ratepayer risk) than in the lower right (with utility-driven investments funded by ratepayers, with a high degree of cross-subsidization risk):



How do we end up in the 1st rather than the 4th quadrant?

Unfortunately, the recommendations set forth in the Task Force Report appear to position Maryland squarely in the bottom right corner.

"Open access" to the distribution system is not, as the Task Force Report concludes, a question worthy of "exploring . . . at some point in the future."[5] It is a here and now issue. Companies like NRG stand ready to invest private capital in Maryland's microgrid infrastructure, but cannot do so unless Maryland insists that its utilities open their distribution systems to private investment and prevents the partial vertical re-integration of its regulated public utilities by allowing them to extend their monopoly to behind-the-meter energy goods and services.

A. Utility Rate Based Investment in Microgrids is Pernicious.

1. Ratepayer backed investment drives private capital from the market.

The State should focus on attracting as-risk investment dollars to fund new investments in the energy sector – it should not be focused on how it can mandate ratepayers pony up these investments with a guaranteed rate of return for the monopoly EDCs. This is especially true for microgrids, where changes in technology are driving down deployment costs. A system of private ownership has key advantages over an EDC owned and operated model, including: (1) eliminating ratepayer risk, because private investors bear the risks of their investment decisions; (2) preventing cross-subsidization of behind-the-meter EDC investments by various EDC ratepayer classes, including low-income customers; (3) allowing customers to work with third-parties to deploy technology in an innovative and customizable manner; (4) promoting robust competition in order to speed technological progress and drive down prices; and (5) limiting the exercise of vertical market power by the EDCs.

[5] Task Force Report at p. 28.

The vertical market power issues are especially concerning. Several of the structures discussed in the Report appear designed to give the EDCs both the opportunity and incentive to engage in anti-competitive activities, and would reverse many of the benefits brought about by restructuring.[6] In order for companies like NRG to invest in Maryland's microgrid future, we must be secure in the knowledge that our investments in long-lived assets will not be undercut by ratepayer-backed investment by the utility and cross-subsidization by utility ratepayers.

Fortunately, there are other options if the State wishes to allow the incumbent utilities to participate in microgrid development. The State can allow those utilities to compete in this burgeoning industry, at full arm's length from their regulated affiliate, with their own shareholders' money.[7] This could be done, for example, through the Public Service Commission's existing Code-of-Conduct rules, or the kind of firewall required in FERC's Orders 888 and 889 between transmission scheduling and the rest of a utility's businesses.

2. The microgrid market is finite.

The Task Force Report's division of recommendations into short, medium and long term recommendations fundamentally ignores commercial realities that the microgrid market is an important, but relatively finite, market. Allowing the utilities to ratebase investment in the "lowest hanging fruit" would be extremely destructive to private investment in microgrids. The recommendations in the Task Force Report largely amount to a handout to the utilities and the

[6] The vertical market power issues associated with utility control over microgrids should not be ignored. Utilities already have an enormous amount of control over both customer information as well as operation of the distribution system. Allowing additional vertical integration would give the regulated utilities a virtual blank check to favor their own (or their affiliate's own) microgrid projects over those owned by competitors. This type of market power will be extremely difficult for the Commission to police. A structural lack of competition can warp competitive outcomes for decades. Once given, it will be extremely difficult to reverse course and re-invigorate competition due to stranded cost and other concerns.

[7] There is still a broad-based and well-founded concern on the part of competitive market participants that utility affiliate conduct standards mandating functional separation, no matter how well-constructed, simply provide fewer protections against abuse than actual functional separation. However, these standards at least provide a mechanism to police and enforce potential preferences given to a utility's affiliates by its regulated arm.

death knell for future private investment in what should be an incredibly vibrant and exciting new industry.

The fact is that public-purpose microgrids often offer the most exciting and financeable microgrid opportunities. Locations where there is a public resource that can serve as an "anchor tenant" are excellent candidates for microgrid investments. Hospitals, emergency first-responder facilities, civic emergency centers and the like, are often key to financing microgrid projects because they can represent stable, long-term contractual partners and are already active shoppers taking advantage of risk management and other offerings from competitive retail suppliers. Siphoning off of these resources via a utility handout would substantially reduce the number of economically viable microgrid locations in the State, as well as take away a major class of resources participating in retail choice.

3. State laws prohibiting cross-subsidization prohibit the EDCs from ratebasing microgrid costs.

The Task Force Report significantly understates the legal cross-subsidization concerns that arise when utilities get involved in ratepayer-backed investments that benefit a small subset of customers and that can have the anti-competitive effect of forestalling the entry of bona-fide competitors into the market. Vertical reintegration through the ratebasing of non-essential, value-added, energy products and services is plainly prohibited by Maryland law. While the Report focuses on the Public Service Commission's legal authority to authorize new generation to "meet the long-term, anticipated demand in the State for standard-offer-service and other electricity supply," we see no way around the fact that: (a) microgrids benefit particular customers, and (b) can be provided by competitive firms.[8] While public purpose microgrids help bring additional resiliency to the grid, we strongly disagree that including such projects in

[8] Task Force Report at p. 29.

ratebase comports with the letter or the spirit of Public Utilities Article §7-510(c)(6). Further, we see no ways in which cross-subsidization and discrimination concerns allow the Task Force's proposal to meet the four-part test established by Public Utilities Article §4-503(b), which prohibits charging similarly-situated customers different rates and enshrines other open access principles. The Report largely ignores the issue, suggesting that customers in a utility-funded microgrid will be invoiced for the extra costs associated with the microgrid.

Further, creating EDC-funded microgrids effectively creates a new class of customers who will, by definition, have little or no access to retail choice. Such an outcome appears to directly conflict with the seminal laws restructuring Maryland's electric industry and introducing competitive retail choice.[9] Additionally, customers in the EDC-funded microgrid would be effectively removed from the market, denying competitive retail suppliers any opportunity to compete to serve them and harming the competitive retail market in Maryland. This is a not an academic concern – public purpose entities, including hospitals, gas stations, banks, pharmacies, etc., are among the biggest proponents of retail choice.[10] These customer classes tend to be sophisticated shoppers, with many hospitals and other large quasi-public entities having their own energy procurement managers. Insisting that these customers pick between the benefits of shopping or joining an EDC-funded microgrid is poor public policy and likely conflicts with Maryland's restructuring statutes.

However, should Maryland determine that EDC's may seek to build ratebased mircrogrids, NRG would support the Task Force Report's recommendation that EDCs seek PSC

[9] *See, e.g.*, The Electric Customer Choice and Restructuring Act of 1999 and MD Public Utilities Code, Section §7-504, *et. seq.*

[10] Many of the customers who could be deemed "public good" fall within the Small Commercial, Medium C&I and Large C&I customer classes, who shop at 38%, 72%, and 88%, respectively. *See* MD PSC's Electric Choice Enrollment Report June 30, 2014.

pre-approval of specific microgrid projects.[11] That process could allow the PSC to evaluate, as a condition of approval, whether the EDC appropriate considered competing projects that could achieve comparable goals without the risk of stranded costs or other ratepayer impacts.[12] In any event, a pre-approval hearing would allow competitive microgrid providers to seek legal redress before the rate-based investments are made.

B. Long-term Recommendations Should be Accelerated.

1. <u>The Task Force Report correctly identifies several impediments to microgrid implementation.</u>

The Task Force Report does an excellent job laying out the legal and practical challenges associated with bringing microgrids to market in Maryland. In particular, the Report correctly identifies rules that restrict the ability for third-parties to construct microgrids that cross public roads. While these challenges are not insurmountable, they do limit the ability of private parties to serve multiple customers through a microgrid and should be changed immediately.

However, the State should not destroy any hopes of a competitive microgrid market by rushing ahead with the ratebasing of microgrid investments under the guise of surmounting regulatory obstacles. The private investment that is already being made in microgrid technology is being funded by customers that put a high priority on managing their own energy needs, to achieve greater resiliency and lock in environmental benefits. Maryland should not disrupt those incentives that are motivating and attracting private investment by giving regulated utilities a preferential advantage over competitive firms.

2. <u>Transparency of locational and price information is critical to jumpstarting microgrid investments.</u>

[11] Task Force Report at p. 36.

[12] For example, the PSC could order the EDC to conduct a competitive solicitation for similar projects.

The Task Force Report correctly notes that in order to bring microgrids to market, developers need access to "stackable" benefits, including separate streams of energy, capacity and "resiliency" revenues coming together to make the economics work. All of these values vary significantly between geographic locations. As the report notes, the lack of access to information about where on the distribution system a microgrid would provide the most value to the system is a major challenge:

> The challenging aspect to these stackable benefits, however, is that their value is highly location dependent: proper siting is important in order to maximize the value of these services to the market. Unfortunately, there currently is not a transparent process to identify specific locations where public purpose microgrids or distributed generation might produce the most value.

As the State considers the Task Force Report's recommendations, it should insist that increased "transparency" in the distribution system come first.

The Task Force Report largely identifies the solution: require "EDCs to provide project developers with information identifying the most valuable locations for distributed generation and public purpose microgrid development"[13] and then share the deferred transmission and distribution savings with customers.[14] This will ensure that end-users supporting microgrid investments share in the resiliency benefits that are being provided to all grid customers. However, if the State waits to implement the transparency improvements until *after* the EDCs have a first-mover advantage, the viability of the microgrid industry in Maryland will be permanently damaged.

Adding additional transparency to the distribution system does not need to be a lengthy process, but it does need to be addressed in *advance* of a microgrid project being planned and

[13] Task Force Report at p. 19.

[14] Task Force Report at p. 20.

developed.[15] A program in New York is already doing this and provides an excellent model for Maryland to consider. The Distribution Load Relief Program ("DLRP") in New York City has many of the key attributes, including:

First, the DLRP requires the utility to identify the areas on its distribution system where the value of microgrids is the highest in the form of plain, easy to read street maps, which show regions of the distribution system most in need of reinforcement. In New York parlance, Tier 1 Networks represents the most congested areas with the most value to the distribution system, while Tier 2 Networks are the next most-congested regions. Requiring EDCs to provide end-use customers clear guidance on *where* to direct their microgrid development efforts thus directly addresses the Task Report's recommendation that "[i]deally, developers utilities and public officials would have access to public data at the *distribution* level that would help identify where distributed generation and public purpose microgrids can provide the most benefit in relieving congestion, deferring or avoiding distribution upgrades, mitigating line-losses, and providing other services."[16]

The *second* valuable feature of the DLRP is that it provides a transparent price signal, which includes both a reservation payment (with a stated per kilowatt of capacity rate) and an energy payment (per kilowatt-hour of actual energy provided). Tier 1 Network investments receive the highest payment, while Tier 2 Network investments receive slightly less. This transparent suite of prices greatly aids in customers' understanding the system and the ability of third-party suppliers to finance investment in energy infrastructure.

[15] For example, the suggestion that developers may "uncover" deferred transmission or distribution savings as they negotiate with the EDC is unlikely to be a workable model for development. First, there is the problem that EDCs are traditionally hostile to this type of development, and second, that developers generally need to understand where revenues are coming from prior to spending large amounts of development dollars. *See* Task Force Report at p. 57.

[16] Task Force Report at p. 19-20.

Third, the DLRP model could be replicated quickly across Maryland. Utilities know best "where" on the system investment is needed, even if they are unsuited to determining the "what." By quickly identifying where investment is needed, utilities will bring an unprecedented level of transparency onto its system. This transparency will enable additional investment, reduce grid investment needs, and create a highly-competitive framework for attracting and retaining microgrid and other behind-the-meter investments.

Fourth, the DLRP is competitively neutral. Any end-use customer or third-party solutions provider can own and operate the microgrid or behind-the-meter resource on the customer side of the meter and qualify for an extra revenue stream.

We do note that adoption of a DLRP-type program would require EDCs to provide an unprecedented level of transparency into their systems. However, NRG submits that this information should be freely available to all parties, and presents no material threat to the safety of the grid.[17] Moreover, we fully disagree with the Task Force Report that this information is competitively sensitive.[18] The EDCs have this information only because they hold the franchise in Maryland. The information belongs to ratepayers and should be made available for any third-party seeking to improve the efficiency of the distribution system while meeting specific individual customer needs for enhanced resiliency and energy value.

2. The State has many competitive tools to foster microgrid engagement.

Maryland should consider a variety of strategies for making microgrids a financial reality. As the Task Force Report notes, states across the nation are taking a variety of approaches to providing multiple streams of revenue to microgrid investors, including through grants, contracting opportunities and other market reforms. While some of these programs

[17] *See* Task Force Report at p. 20.

[18] *Id.*

involve the commitment of ratepayer funds (and thus are not ideal from either a competitive of public interest standpoint), several states have adopted or are considering adopting , competitively-neutral programs that more closely track competitive outcomes. By requiring private parties to bear cost overruns, operational risk and performance risk, ratepayers are better served than by simply allowing utilities to build microgrids at rate payer expense, with no control or limit on cost overruns, except for the general prudence requirement.

Connecticut: in Connecticut, the Department of Energy and Environmental Protection ("DEEP") has launched an innovate program to provide contracts to microgrids with at least one governmental or municipal tenant. By making grant funding available, the DEEP was able to attract 9 projects, in the first round,[19] and a second round is currently underway.[20] While these types of incentives do involve additional government incentives, such competitively neutral incentives are far more conducive to innovation and far less prejudicial to non-participating ratepayers than outright investment of ratepayer funds.

California: As an alternative to direct utility ratebasing of microgrid investment, Maryland could consider the California experience as a glide-path to a fully competitive market. California's proliferation of renewable resources was largely driven by the establishment of a series of Requests for Offers ("RFO"), whereby the California Public Utilities Commission directed its utilities to conduct a competitive solicitation for stated quantities of the specific product. Through use of designated targets combined with competitive solicitations open to third

[19] *See* http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/40cb9336a459e06185257bb20052b8ff/$FILE/Microgrids%20Funding%20Chart%20Final.pdf

[20] *See* http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/dbd7e9fe5adcdfce85257c93004522f4/$FILE/FINAL%20RFP%20-%20Round%202.pdf

parties, California is leveraging its prior success in bringing renewables to market additional alternative technologies through its "preferred resources" all-source RFO. At the end of the most recent RFO process, California utilities will enter into long-term contracts with several gigawatts of storage and renewable, battery, micro-grid and fuel cell technologies. While contracts are clearly a "second best" solution for the market, it is preferable to allowing utilities to partially vertically reintegrate.

New York: New York is taking two complementary approaches to microgrid investment. First, New York State Energy Research and Development Agency has established a $40 million "microgrid prize" designed to incent *private* investment in microgrids. This competitive competition rewards projects that help "harden" the New York system against storms and improve system resiliency – goals comparable to those espoused in the Task Force Report.[21]

Second, the New York Public Service Commission has established an extensive process, known as the Reforming the Energy Vision, or REV, proceeding to examine a variety of steps that the NYPSC can take to bolster investment in Distributed Energy Resources, including microgrids. While the REV proceeding is unique to New York, the approach of taking a holistic, pro-competitive, review of New York's laws and regulations to eliminate barriers to adoption of microgrid and other behind-the-meter energy technologies is sensible. Critically, the REV proceeding also entails a full review of rate making policies, and includes an entire section on aligning utility rate incentives with the stated desire of improving adoption of microgrid and other behind-the-meter resources. We submit that Maryland can accomplish this alignment by incenting its utilities to maximize competitive investment and minimize ratepayer expense through proposals such as:

[21] http://www.governor.ny.gov/press/01072013-cuomo-biden-future-recovery-efforts

- Providing tangible rate penalties for utilities that fail to process 90 percent or more of distribution-level interconnection requests within a week;

- Elimination of standby charges for microgrid investments;

- Decreasing rates of return unless utilities make consumer interval meter information available on a real-time (or near real-time) basis to end-use customers and their designated agents; and

- Provide defined targets for penetration of competitive microgrid resources that, if not met, would result in an additional rate of return decrease.

While the universe of potential rate reforms is large, all these ideas have in common the goal of aligning utility incentives with the Report's stated goal of removing barriers to bring microgrid resources onto the system. These rate structures would allow Maryland to be a leader in adoption of innovative clean, low-carbon, and competitively sourced microgrids, without turning the program into a handout for utilities.

3. Proposal to "rent" utility distribution lines has promise and should be fleshed out *prior* to allowing ratebased projects to move forward.

The Task Force Report floats a potential pro-competitive proposal: to create Local Microgrid Operators, or LMOs, that allow private parties to "provide public purpose microgrid services using existing LDC assets." This potentially attractive proposal would allow private parties to install microgrid control systems for a series of customers using a combination of existing infrastructure and new control systems installed at private expense.

The Task Force Report, however, is short on detail and appears to defer development of the LMO proposal until some unspecified future time. The real danger to long-term microgrid adoption is that by the time LMO policy is adopted, the EDCs already would have cherry picked the most desirable public purpose microgrid projects and locations. However, if the State defers utility entry into the microgrid market, NRG believes that the LMO proposal is worthy of further

consideration. We propose a short series of questions that the State should address as it moves forward with the LMO process:

a) Is a legislative change needed to allow an LMO?

b) How would the rate for renting EDC lines be determined?

c) What is the most efficient and innovation enhancing approach to address the operation of the microgrid and the creation of value through the products and services produced by the microgrid?

d) How should LMOs be able to recognize the value of avoided transmission and distribution expenditures?

e) How would LMOs know where to install microgrids in the most efficient manner?

f) Would LMOs have access to the utility bill in order to include microgrid costs?

g) What type of oversight would the Commission employ over LMOs?

h) Is a CPCN process appropriate for an LMO?

i) What is the appropriate mix of regulatory requirements and incentives to ensure that EDCs support an LMO?

j) Is it necessary to restrict LMOs to "public purpose" microgrids?

III. Conclusion

NRG appreciates the opportunity to offer these comments on the Resiliency Through Microgrids Task Force report and raise our concerns.

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