Comments of the American Petroleum Institute:
Draft NARUC Manual on Distributed Energy Resources Compensation

The America Petroleum Institute (API) respectfully submits the following comments to the National Association of Regulatory Utility Commissioners' (NARUC) Staff Subcommittee on Rate Design draft Manual on Distributed Energy Resources Compensation (Manual). API is a national trade association representing over 650 member companies involved in all aspects of the oil and natural gas industry. API's members include producers, refiners, suppliers, pipeline operators, and marine transporters, as well as service and supply companies that support all segments of the industry. API advances its market development priorities by working with industry, government, and customer stakeholders to promote increased demand for and continued availability of our nation's abundant natural gas resources for a cleaner and more secure energy future. Electricity generation is a significant market for clean-burning natural gas and our members are both producers and consumers of electricity. Therefore, API has an interest in ensuring electricity market rules and regulations treat natural gas generation equitably, providing a non-discriminatory level playing field for all resource types.

API applauds the work and effort of the draft Manual as a demonstration of NARUC's leadership to enhance and deepen the regulatory knowledge and toolbox for its members, those regulated by its members, and those stakeholders who have an interest in the activities of the regulatory commissions. API's comments are limited to the importance of cost causation in setting rates, the definition of distributed energy resources (DER) and technologies within, and lastly the examination of the "value" concepts.

With respect to the specific discussions on rate design, API has no position on the retail rate design states may choose as long as the rate design and allocation is consistent with the principle of 'cost causation'. Under cost causation, "all approved rates [must] reflect to some degree the costs actually caused by the customer who must pay them."[1] In other words, states should adopt rate designs that appropriately allocate costs to those entities or individuals that cause the utility to incur the cost[2].

API recognizes that the growth and usage of distributed generation across the grid will likely continue for a variety of reasons. API appreciates that in defining DER, on page 17 of the draft Manual, NARUC does not limit DER to only certain fuel sources. We believe it is inappropriate to continue to advance a narrow definition of DER consisting of only renewable resources. However, in the examples listed after the DER definition and the following discussion of types of DER, there is no mention of natural gas as anything other than a possible fuel for combined heat and power (CHP) facilities. API recommends that the list be modified to incorporate all technologies and to include a further note on potential technologies. Ultimately, rate designs should value attributes, not fuel source or technology. For example, technologies such as small turbines or reciprocating internal combustion engines capable

[1] K N Energy, Inc. v. FERC, 968 F.2d 1295, 1300 (D.C. Cir. 1992)

[2] API recognizes distinct public policy goals borne out in rate designs intended to protect vulnerable customers. For example, subsidizing a wealthy home owner's solar array is not consistent with the public policy objective achieved by assisting an elderly limited income household with a more affordable discounted rate.

of using varying fuel sources should be added to the list, as well as fuel cells. It is imperative that with the discussion and advancement of the usage of DER, definitions do not unintentionally pick winners and losers based on fuel source or technology.

API notes that many DER policies have historically discriminated against non-renewable resources. We believe it is more appropriate to establish a level playing field and let technology and fuel sources compete on the basis of the attributes they offer. Additionally, while some may find the concept of microgrids full of renewable DERs appealing in principle, we note that such a grid could not properly function as a stand-alone system without some sort of dispatchable power.[3] While this could be provided by CHP, where available, other natural gas driven options exist, such as microturbines, reciprocating engines, and fuel cells. Again, API requests the inclusion of the new very efficient and very reliable natural gas DER technologies that can add a great deal of value to the distribution system as singular units, as supportive dispatchable units for renewable-based DER microgrids, or as potentially dispatchable local grid support units for emergencies, or for economic response to high locational marginal prices.

Overall, the Manual's discussion of compensation methodologies raises some very important points, especially with respect to the subsidization issues inherent in the dated net-energy metering (NEM) designs. NEM was indeed devised and implemented in a different era. In this new age of technological advancement and proven commercial deployment of renewable resources the relevance of NEM as a necessary mechanism to enable penetration of renewables has passed. The new methodologies being developed around the "Value of Resource" and "Value of Service" concepts are much more efficient and appropriate to the 21st century. The draft report provides a list of potential components on page 45 that could be considered as part of a method to value energy.[4] It is important to note that in a world of declining demand, any one of those values could be negative (also a cost rather than a benefit) at any particular point on the utility's distribution network. There are many areas where the additional power is simply not needed and this should be respected and reflected in the price. Along these same lines, there are initiatives under way that are examining valuing energy at the distribution node in the way that locational marginal prices value energy at the transmission node.[5] These sorts of efforts are important to the proper valuation of energy, as the electric system becomes increasingly disaggregated.

Thank you for providing an opportunity to submit comments on the draft Manual. API looks forward to working with NARUC and the regulatory community as a resource on this important issue. State commission action to address the appropriate rates for the continued deployment of DER is

[3] Storage will likely be prohibitively expensive at any appreciable scale for the foreseeable future and even with storage as part of an integrated microgrid, there will still be a need for some form of dispatchable generation. Dispatchable generation refers to on demand power available as needed, at a sufficient level, at any point in time.
[4] Included in the list are the following: avoided energy/fuel; energy losses/line losses; avoided capacity; ancillary services; transmission and distribution capacity; avoided criteria pollutants; avoided CO_2 emissions; fuel hedging; utility integration & interconnection costs; utility administration costs; and environmental costs.
[5] An example is the DLMP study in PROCEEDINGS OF THE IEEE I Vol. 104, No. 4, April 2016: "Co-Optimization of Power and Reserves in Dynamic T&D Power Markets With Nondispatchable Renewable Generation and Distributed Energy Resources," by Caramanis *et al*.

paramount for supporting the basic cost causation principles underlying ratemaking. This draft Manual will provide valuable assistance to commissions, enabling swift action to address the existing inequities referenced above. If you have any questions please contact Amy Farrell (farrella@api.org) or Sari Fink (finks@api.org).

Sincerely,

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