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March 9, 2012

Mr. Bryan Neff  
California Energy Commission  
1516 Ninth St, MS-43  
Sacramento, CA 95814-5512

RE: Comments on CEC's CHP Policy Analysis and Market Assessment

Dear Mr. Neff:

I appreciate CEC's interest in National Energy Solutions (NES) comments on this subject. We have analyzed the impact of California's new greenhouse gas (GHG) regulations and other regulatory matters on our company's work with clients in developing new CHP. The following points provide highlights on our findings-

- Projects as small as 4.6 MW will trigger the Cap & Trade (C&T) threshold of 25,000 metric tons of CO<sub>2</sub>e annual emissions. We are developing a couple of projects with natural gas turbines and at the 4.6 MW size the emissions exceed the threshold by a couple thousand tons.
- Local air pollution control district BACT NO<sub>x</sub> requirements forced two hospital projects to change turbine models so that, with the addition of selective catalytic reduction (SCR) equipment, the projects can meet BACT. But the switch also meant an increase in CO<sub>2</sub>e emissions since the BACT-compliant turbine model uses more natural gas and as a result the turbine now exceeds the C&T threshold.
- For prospective CHP facilities the CARB GHG regulations are further compounded by regulations at local air districts (e.g., Title V, emissions offsets, operating permits, etc.). CARB GHG regulations mean that new CHP facilities will have to understand and accept new regulatory responsibilities with a regulatory agency (CARB) with which the facility usually has no precedence/relation. This will be true for even smaller CHP facilities given the 10,000 metric tons of CO<sub>2</sub>e annual emissions threshold which will require new CHP facilities to file annual reports with CARB

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under the mandatory GHG reporting regulation. If a new CHP facility triggers the higher 25,000 metric ton threshold then the new regulatory burden on the facility gets much higher due to C&T responsibilities and costs that are in addition to the required annual GHG reports. CHP projects by their nature have complex engineering, regulatory and investment issues with which prospective new CHP facilities must get comfortable before they will approve a new CHP project. CARB's GHG regulations, as another layer of air quality regulation beyond the historical interaction with local air districts, are a significant, additional source for concern/confusion when working with prospective new CHP facilities.

- An unprecedented situation like CARB's C&T regulation means there are lots of new ambiguities that must be accounted for by prospective new CHP facilities. To address the risks presented by such ambiguities, CHP project developers have to use conservative assumptions when analyzing the impact of C&T. These include assumptions used in project financial analyses where the analyses need to use the high range of CO<sub>2</sub>e credit cost projections. According to CEC's CHP market assessment report, this range of projections starts at about \$21 per credit in 2013, rising to \$100 per credit in 2030. Where such numbers provide some level of objective input about C&T regulation risks, other C&T risks are highly subjective, like the broader impact to energy prices and how CHP is affected by the changed economic and project variables.
- Prospective impacts of C&T to California energy prices are another area of high ambiguity where the effect on new CHP facilities creates confusion. For instance, CARB tells us that CHP should get a boost from C&T since comparative electricity rates from the utilities will increase due to the cost of utilities' compliance with C&T. Yet there is no precedent to help determine/project such increased costs, or the degree to which they will mitigate CHP facilities' own compliance costs for C&T. The ambiguity is further increased since CARB has provided the utilities with allowances, in part to help reduce C&T-related electric rate increases. No similar allowances were provided to CHP projects. In effect the electric utility allowances reduce the need for utility rate increases, with their ability to help the economic benefit of CHP projects, while at the same time CHP projects must still bear the full C&T cost burden.
- CHP project development and construction timelines often extend longer than 1-2 years, even more for larger, complex projects. The current ambiguity about CARB GHG/C&T regulation impacts threatens to further extend CHP project timelines. A real threat to CHP is that GHG regulation impacts create too much new risk and development of new projects is effectively reduced or stopped for the next few years while we learn more about the impacts (e.g., natural gas and electricity rate increases, actual CO<sub>2</sub>e credit trades/costs). This is also a problem if there is a year or longer period in approving mitigations for CHP from GHG regulation impacts, or if

a tepid initial mitigation effort is chosen where it will take years to learn whether mitigations are effective and what if any changes are then needed to get an effective level of mitigation. So, adding years of CHP development/construction to years of regulatory ambiguity/risk threatens to undermine and delay new CHP development for years to come.

- Third party financing is critical to non-profit companies and public agencies, and more broadly the public/private initiatives working to expand CHP installations in California. It is also important to for-profit companies that are protecting available capital or using it only for investment in their core business activities. As an example, hospital CHP project finance packages we are now working on help non-profit hospitals take advantage of CHP tax incentives and avoid tying up their capital by using 3rd party financing and ownership through the initial 8 years with the hospital buying the CHP system in year 9 (2020). Any regulatory initiative needs to support and accommodate third party finance interests; similar to how the California Solar Initiative and the Self Generation Incentive Program allow the use of rebates in project finance that includes third parties.
- A hospital CHP project NES is currently in the midst of provides an example of how C&T can damage CHP project development.
  - o The project includes a 4.6 MW turbine that is projected to operate at 97%, producing 26,486 tons of CO<sub>2</sub>e per year. The credit purchase related to these emissions is \$679,000 in 2013 escalating to \$2,648,000 in 2030 and 2031.
  - o Without cap & trade the payback is 5.63 years and the IRR at year 9 for the 3rd party investor is 10.02%.
  - o With cap & trade the payback is 7.66 years and the IRR at year 9 for the 3rd party investor is 1.39%. The IRR reduction is because the operating expenses go up so much due to the cost of buying credits each year.
  - o After ownership switches from the 3rd party investor to the hospital in year 9 the cost of buying credits shifts to the hospital. Buying the credits reduces the hospital's 20 year savings from the CHP project by \$23,595,000.
  - o The financial impacts shown by this conservative analysis on cap & trade affects clearly show that the project is no longer possible due to reductions in investor returns and hospital savings. These impacts are compounded by the unknowns and risks of doing such a project while trying to comply with cap & trade regulations that are so new, evolving and without precedent for the hospital and investor parties.

Given the above comments it makes sense for all CHP under 20 MW to be exempt from C&T. At minimum there needs to be an exemption for critical public facilities like hospitals, universities/colleges, public safety facilities and more, where the need for CHP efficiencies and cost savings is increasingly important and the energy

stability/redundancy is critical to public safety and service. Even with this exemption there will be a major impact on CHP from C&T since CHP projects will have to pay for increased natural gas rates that will be adjusted to include the cost of natural gas utility CO2e credit purchases which begin in 2015. In other words, the exemption would not mean that CHP will avoid the cost of CO2e credits or the intention of C&T to provide related cost signals in CHP projects.

NES understands that CEC, CPUC and CARB are working to balance a number of policy objectives in incentivizing CHP and also creating a new C&T regulation. We appreciate the support to date for CHP and respectfully request the broad regulatory support highlighted above and at CEC's February workshop on CHP. Thank you for consideration of our related experiences and suggestions.

Sincerely,

/s/

Edric F. Guise  
Partner  
National Energy Solutions, LLC