January 15, 2014

Lisa Skumatz, Ph. D.

Skumatz Economic Research Associates (SERA)

762 Eldorado Drive

Superior, CO 80027

**Re: UIL Review of the Draft “CT Ground Source Heat Pump Impact Evaluation & Market Assessment, NMR Group Inc., December 10, 2013**

Dear Ms. Skumatz:

The United Illuminating Company (“UI”), Connecticut Natural Gas Corporation (“CNG”) and The Southern Connecticut Gas Company (“SCG,” and with UI and CNG, the “Companies”), hereby submits the following comments on the “CT Ground Source Heat Pump Impact Evaluation & Market Assessment” Draft Report by NMR Group Inc., and dated December 10, 2013.The draft was submitted to UI on December 17, 2013 with a request for comments to be provided by January 15, 2014.

The primary purpose of the study was to provide performance and savings information on residential GSHPs to the administrators of the GSHP Program in Connecticut: The electric utilities and the Connecticut Energy Financing and Investment Authority (CEFIA). The objectives of the study include the following:

* Quantify energy and peak demand savings of the Connecticut GSHP programs
* Quantify improvements in air quality
* Assess the GSHP program for potential improvements
* Assess the market for GSHPs in Connecticut

After a review of the study, the Companies feel that the evaluation vender has presented a draft report that is well organized and provides results that the companies can use to improve future program design and performance. However, the overall report seems to be sparse in terms of technical details used to determine results and in the formularization of recommendations. The companies would like to see additional detail on the methodology used within the study and provide technical justification for the methodology and assumptions used within. Since this evaluation focused on results based on FEFIA and CEEF incentives, the companies will limit comments specifically to CEEF directed results and recommendations.

In the results presented in tables ES-1, ES-2 and ES-3 the vendor presents GSHP savings results based on a typical existing or new construction home. These results are simply expressed in the annual kWh savings for a “typical existing home” and a “typical new construction home”. While these results have value, a more useful representation that is consistent with the CT PSD would be savings/ton. Can the vendor produce a table of results that show Annual Heating and Cooling consumption based on a kWh/ton and an efficiency value as well as a Summer kW/ton? This will allow us to update inputs in the current and future CT PSD’s. It would also be of great value if the vendor could give guidance on updates to the GSHP Measure within the current CT PSD.

Can the vender give more detail into the chosen method of determining the NTG values within the study and why it is most appropriate method for determining the NTG associated with the CT GSHP Program? In the report it appears that the utility net-to-gross is calculated based on the assumption that the purpose of the utility incentive program is to provide an incentive to customers for installing a GSHP. While this informative and shed light on the customer decision making process, the results fail to consider that the primary purpose of the utility incentive is to ensure a properly performing system. The companies suggests that the utility net-to-gross ratios should consider how effective the utility VIP program is at ensuring proper installation as opposed to relying exclusively on customer interviews and their decision to install a GSHP.

Page XII of the report provides recommendations based on the customer feedback of this study and is focused upon ways improve program performance as it relates to the goals of the program.

* **Recommendation 1 – Consider providing clear guidelines for contractors regarding operating assumptions for the GSHP system in order to reduce the extent of oversizing**

The companies agree that providing clear guidance for the proper sizing of GSHP is important. UIL will continue to communicate with the contractor field to stress the importance of right sizing GSHP sizing of systems while providing technical support and guidance as necessary.

* **Recommendation 2 – Consider requiring advanced training in GSHP design, installation and performance for program staff**

To our knowledge, it does not appear that the vendor has ever reached out to the companies to discuss or assess the level of GSHP knowledge, training or certifications of the company’s staff. It appears that this recommendation may have been made in hast after comments from a frustrated contractor(s) as a result of having to comply with the rigid design and installation criteria of the program. Currently UI has one staff who have successful obtained certification from the International Ground Source Heat Pump Association (IGSHPA) and who is also Certified Geoexchange Designer with the Association of Energy Engineers (AEE). As this program continues to grow and develop, the companies will continue to consideration and investigate the various GSHP Certifications or training sessions available to our staff.

* **Recommendation 3 – Consider redesigning the VIP spreadsheet to allow for more flexibility**

The companies will take this recommendation into consideration and review the current VIP spreadsheet for new ways of increasing its flexibility. It was also the companies hope that the evaluating contractor was going to provide guidance and recommendations as to how the VIP tool could be improved and therefore improve installations and GSHP operations.

* **Recommendation 4 – If CEFIA incentives return, consider ways in which the program could be offered more seamlessly to both contractors and customers**

The companies will take this recommendation into consideration if CEFIA incentives return.

* **Recommendation 5 – If CEFIA incentives return, consider reintroducing the CEFIA incentive in 2017 after the federal tax credit expires on Dec 31, 2016**

This is a recommendation that is directed towards CEFIA.

* **Recommendation 6 – If the CEFIA program is offered again in the future, consider revising the CEFIA baseline assumptions to accommodate those participants that would choose a natural gas or propane heating system in the absence of a GSHP Program**

This is a recommendation that is directed towards CEFIA.

Thanks you for the opportunity to provide these comments.

Very truly yours,



Paul M. Gray, CEM

Senior Business Development Professional

UIL Holdings Corporation