

**National Renewable Energy Laboratory**

December 6, 2022

*Concerning: Graduate (Year-Long) Intern – Dynamic  
Power System Modeling*

To whom it may concern,

I am a 4th year student in University of Arizona's Applied Mathematics PhD program. As is visible from the attached CV, much of my work as part of the PhD has focused on applications in reduced-order modeling of turbulence. However, my advisor (Dr. Misha Chertkov) and I recently began an effort quantifying uncertainty in optimal natural gas flows originating from intermittency of renewables in the energy grid.

I became very excited by this challenging modeling problem, and its immediate importance as much of the world looks to transition to an increasing share of renewables. In particular, the importance of quantifying the effects of renewable intermittency on joint power systems, to the eventual end of providing security and robustness guarantees.

If selected for this position, I will contribute my knowledge of optimization, dynamical systems, and reduced-order modeling, to develop better models to support the energy transition. I hope to learn more about power system dynamics and considerations, in addition to methodologies to capture effects of the inherent intermittency of renewables on joint power systems.

I appreciate your consideration,

**Criston Hyett**

*Attached: curriculum vitae*