Dear Ma'am/Sir,

We would like to formally request technical assistance from the Larta Institute to help us develop and test the Solar Panel Extreme Weather Protection (SPEWP) system, if approved. Our technology will be intricately designed, and it will use fairly simple but veritable designs to carry out the protection of solar panels. A key advantage with the SPEWP System is that it can be completely developed, demonstrated and commercialized well within the next five years, and it is a simple, inexpensive idea that will connect present-day technology to a safe source of alternative energy. With the solar industry rapidly growing, our technology can revolutionize the safety and reliability of solar panels in homes across America. With global warming on the rise, weather conditions will only get worse. Our technology will prevent moisture and dirt build-up in the panels, and it will also protect the panel from heavy winds, precipitation, hail, flooding, and other inclement weather conditions. These weather types lead to damage in the solar panel such as delamination, corrosion, micro-cracks, snail trails, and hotspots. The SPEWP System prevents long-term damage, especially the damage that causes the panels to be replaced or repaired.

We would like to request technical assistance from the Larta Institute in the following areas: (i) design review focusing on the plastic sheet thickness that is needed to protect against extreme conditions (such as fast moving hail), (ii) selection of appropriate motor, (iii) weather apps that are reliable for integration into our technology, and (iv) the test plan with particular emphasis on what else needs to be tested to address the customer needs. We would also like to get input on the advantages of protecting only against extreme weather versus additional protection every night from precipitation. The latter requires motor operation for a few minutes every day which can add some wear and tear to the motor as well as power consumption burden. Finally, we would like to learn more about the options to protect any Intellectual Property resulting from this effort. On the commercialization side, we would like to obtain contacts and introductions from the Larta Institute with potential customers so we can secure letters of interest before we approach the Institute for follow-on funding.

Between our team and advisors, we have the capability to accomplish most of the tasks that we planned in this project including the construction and testing of our concept. We will continue to mature our system to be fully functional and adequate in real weather conditions. We are requesting technical assistance (and some non-technical assistance) to complement the skill set that we possess within our team and advisors.

Let's get into action and begin protection! We look forward to hearing back from your institute about the outcome of this contest, so we can formally proceed to building and testing our technology. Thank you for considering our project.

Sincerely,

Aditi R. Devarakonda, (781)-460-8088, ardmatx@gmail.com

&

Nikhil Devarakonda, (469)-388-8763, <u>nikhil.devarakonda@tagmagnet.org</u> Students at the Townview School for the Talented and Gifted, Dallas, TX