TITLE: Supplemental Sources of “Green” Energy for a Hot Tub

SPONSOR: Master Spas

Proposal/Scope

Hot tub water is typically maintained at 102°F. Maintaining this consistently warm water (higher than ambient air temperatures) requires many kilowatts of electrical energy input. This energy is currently supplied through conventional means (i.e., via hookup to the power grid). This energy usage makes a noticeable increase in the energy consumption of a consumer’s household. Although “green” alternative energy sources likely cannot provide 100% of the energy needed to power a hot tub, they could contribute to a measurable decrease in the amount of power supplied through conventional means.

The goal of this project is to investigate “green” alternative energy sources that can be incorporated into the hot tub and provide sufficient power to operate in standby mode. Standby mode is defined as the hot tub maintaining water temperature and performing filtration cycles when bathers are not present. Some of the alternative energy sources to consider include:

• Solar panels that are incorporated into the hot tub skirting, cover, or both

• Batteries for consistent power storage and delivery

• Heat pumps

• Fuel cells

• Reclaimed water and/or exercise energy

Any solution must be cost effective and provide a reasonable Return On Investment (ROI) for the consumer.

Budget: $10,000