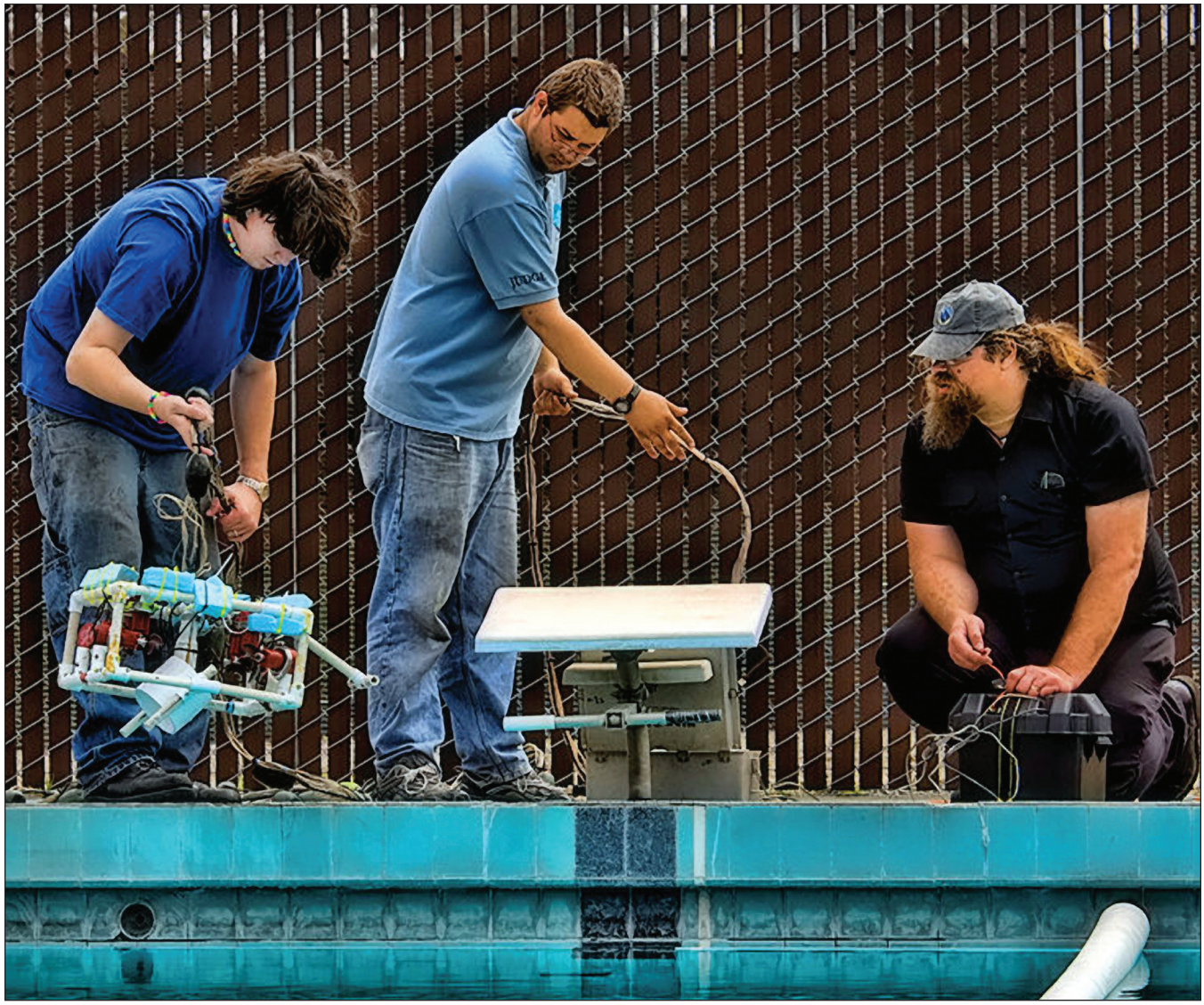
Chapter 8



Power Systems

Chapter 8: **Power Systems**

Stories From Real Life: The *Hunley* and Nuclear Subs

Chapter Outline

Figure 8.1.cover: Battery Powered Robots

This team has their power system figured out and is ready to launch. There's the robot (on the left of the photo), the power source (the battery on the right), and the power delivery mechanism (the tether in the middle).

Image courtesy of Randall Fox

Chapter Learning Outcomes

- Estimate the total amount of energy (in joules and watt-hours) and the maximum instantaneous power (in watts) that your vehicle will require to complete its mission.
- Explain why batteries are a good power source for small underwater vehicles, and select an appropriate battery (or combination of batteries) to supply the energy and power requirements of your vehicle.
- Describe options for placing batteries (on board the vehicle or on the surface), and explain how you would distribute electrical power from those batteries to the parts of your vehicle that need it.
- Describe the important roles of fuses and voltage regulators in power distribution systems.