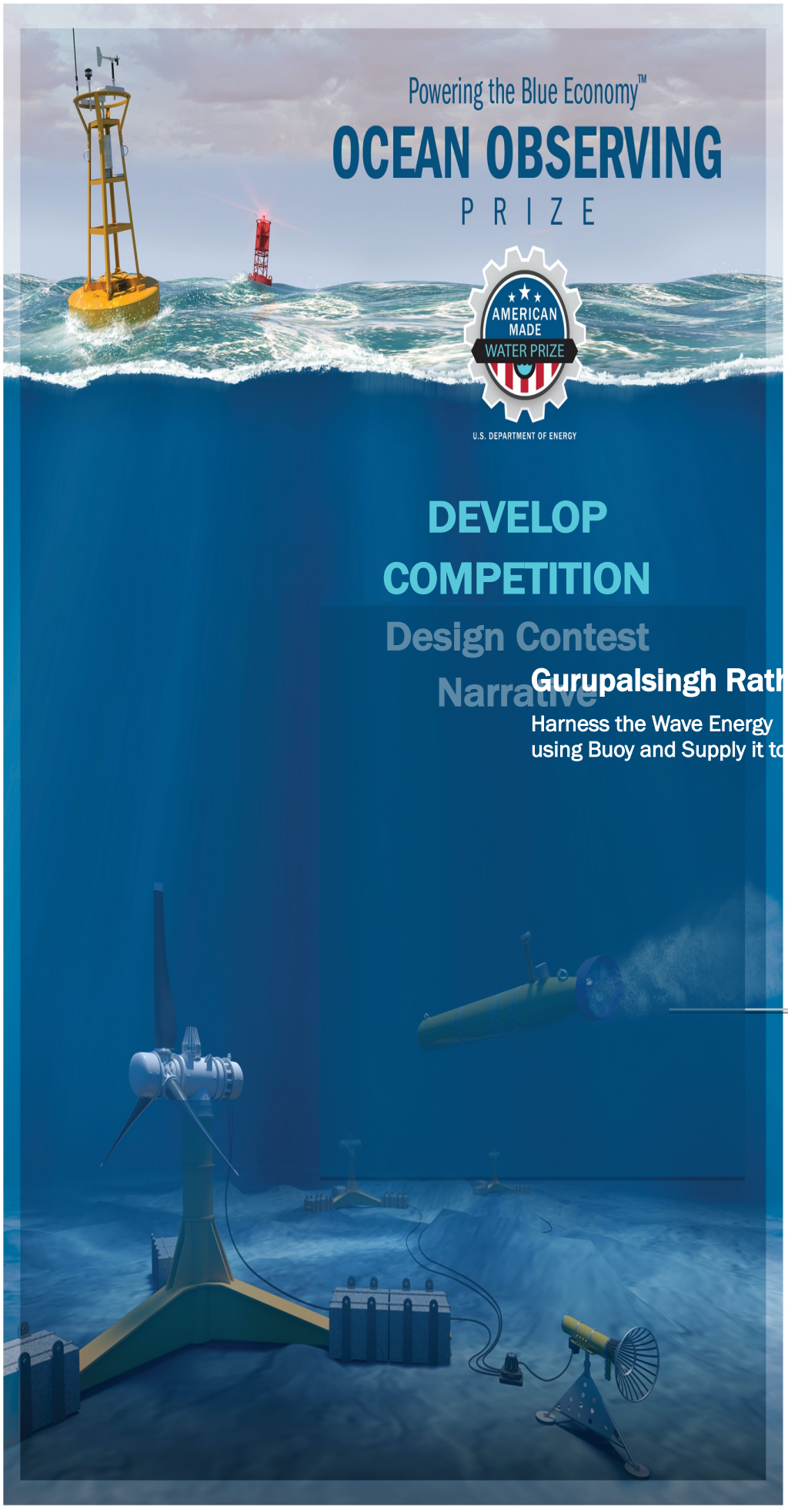
Powering the Blue Economy™
OCEAN OBSERVING
PRIZE
AMERICAN MADE WATER PRIZE
U.S. DEPARTMENT OF ENERGY
DEVELOP
COMPETITION
Design Contest
Narrative
Gurupalsingh Rath
Harness the Wave Energy
using Buoy and Supply it to

1 General

1.1 Design Philosophy

[We use specialized Buoy arrangement to harness the power of Waves, store it and supply it to AUV when they need it in automated way]

1.2 Market Opportunity

[Anergy can be used to either supply to AUV or other vehicles in sea or delivered to community]

1.3 Team Experience

[Team have experience of making GPS guided drones for mapping and also with collision avoidance technology]

2 System Architecture

2.1 Hull Design and Structure

[Design is submitted in another submission at https://www.herox.com/oceanobserving/round/565/entry/34846]

2.2 Wave Energy Harvesting

[One Buoy can harvest 3 kw to 6 kw energy using a small ac generator, which is stored in battery array]

2.3 Propulsion

[Underwater drone is used to navigate using GPS guided feature]

2.4 Payload and Sampling

[Details submitted under another submission at https://www.herox.com/oceanobserving/round/565/entry/34846.]

2.5 Communications

[Details available in https://www.herox.com/oceanobserving/round/565/entry/34846]

2.6 Navigation and Control

[Details available in https://www.herox.com/oceanobserving/round/565/entry/34846]

2.7 Power Systems

[Details available in https://www.herox.com/oceanobserving/round/565/entry/34846]

2.8 Safety and Environmental

[NO Potential hazardous materials used. Total weight of assembly is about 30 kg and can be taken off the sea easily as it floats and is visible]

3 Operations

3.1 Energy Harvesting

[3kw to 6 kw power will be harnessed and stored in battery bank for each wave]

3.2 Sampling and Data Collection

[Details available in https://www.herox.com/oceanobserving/round/565/entry/34846]

3.3 Communications

[Details available in https://www.herox.com/oceanobserving/round/565/entry/34846]

3.4 Assembly, deployment and recovery

[Details available in https://www.herox.com/oceanobserving/round/565/entry/34846]

4 Build Plan

4.1 Estimated Costs

[About $ 6000 for Power Harnessing which includes Buoy, Generator and Battery Bank with controller.]

4.2 Tasks and Schedule

[4-6 months.]

4.3 Risks and Mitigation Strategies

[NA]

5 System Modifications

[Describe future modifications to the prototype design that would make it suitable for the intended mission of a six-month deployment for hurricane monitoring in the Atlantic. This could include changes to the hull structure, control strategies, extreme sea-state survival strategies, material changes, etc.]