

## Project Proposal Form

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Please complete and submit this form to:

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### Submission Date:

2013-09-24

### Proposal Number:

e.g. ESRD-2013-05

### Champion:

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### Background:

When a helicopter is running with a full load of fuel, the amount of water the pilot can carry in the bucket is limited. To stay within maximum weight limitations, helicopter pilots manually restrict the volume of their buckets (i.e., strapping). They do this by either landing and strapping the bucket themselves, or hovering while someone on the ground straps the bucket. Once the bucket has been strapped to a given volume, it stays that way until it is changed.

A new load-shedding helicopter bucket is available that allows the pilot to release, or shed, some of the water in his bucket while hovering. Pilots can freely adjust the amount of water in their bucket to offset the amount of fuel they are currently carrying. As fuel is consumed, more water can be carried. The load-shedding bucket allows the pilot to maximize the amount of water carried in the bucket with each dip while staying within the gross weight limits for the helicopter.

### Issue:

What is the overall improvement in efficiency and anticipated cost savings of a load-shedding bucket over a standard bucket?  
Are the differences significant enough to justify the widespread inclusion of load-shedding buckets in agency contracts?

### Objective(s):

Determine the cost-saving benefits of using the load-shedding bucket over the standard bucket.  
Determine whether, under operational conditions, the load-shedding bucket is a practical device for pilots.

**Approach:**

Calculate the amount of water delivered over a single fuel cycle and related costs for each bucket type, and compare. Survey pilots for feedback about the pros and cons of each bucket type.

<http://www.sei-ind.com/products/bambi-max>