



**NORTHROP GRUMMAN**

## Lighter Than Air (LTA)...

### “A Revolutionary Capability in Persistent Surveillance with a Flexible, Reconfigurable Payload Design to Meet Emerging Multi-mission Needs”

#### Why LTA:

- Very Low Fuel Consumption (\$12K-\$15K for 3 weeks)
- Small Ground Footprint for Operational support
  - Lower Total Ownership Costs (TOC)
  - Truly Multi-Mission Capable

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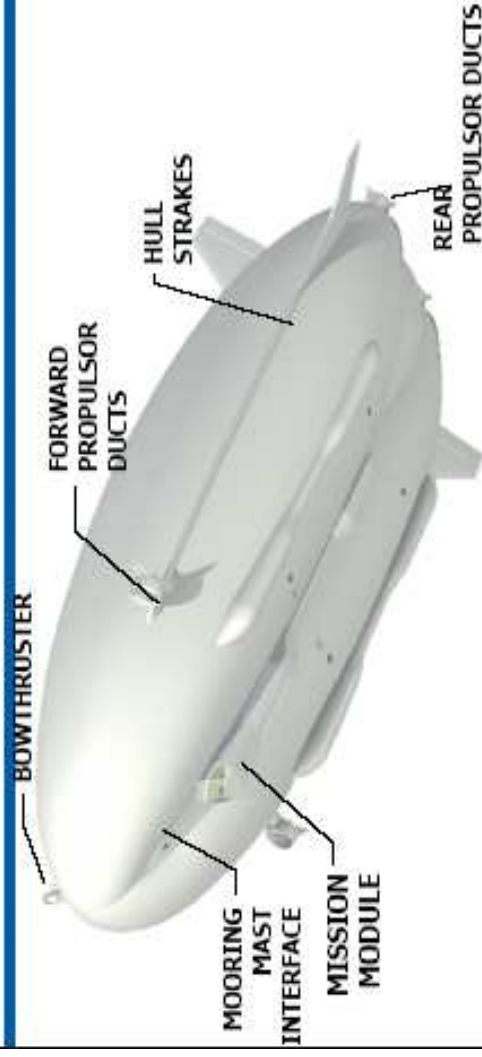
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Sliding approval AS-05EA-11-00482

# What is Lighter Than Air?

Persistent Long Range Surveillance and Reconnaissance

**NORTHROP GRUMMAN**



**Hybrid Air Vehicle – Rqm'ts:**

- 20,000ft Altitude, 2500 lb Payload, ~20 Days



## **LTA – “A Revolutionary Capability in Persistent Surveillance”**

- Sec Def's direct approval of Quick Response Capability (QRC) under an “Other Transactional Agreement” (OTA) to streamline the Acquisition Process and Expedite Delivery
- **LTA optimizes:**
  - Greater performance thru aerodynamic lift, aerostatic lift and vector thrust
  - Greater payload capacity - more robust Multi-INT
  - Greater Mission Flexibility - Reconfigurable Mission combinations of Multi-INT / Stationary Lift

***LTA– Redefining both a Streamlined Acquisition Process and Persistent ISR for the DoD***

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# LTA-ISR Operational Benefits

## Long Endurance

- ~20 Day Mission Endurance
- 6,000 nmi Ferry Range
- Unmatched ISR Endurance
- Up to 25 Fixed Wing Medium Altitude ISR platforms to match a single mission LTA operating for 3 weeks
- At-sea refueling capability will provide extended maritime persistence

## Affordable

- Lower Total Ownership Costs (TOC)
- 8-10 years between hull replacements
- Extremely low in fuel costs (4.5 gals/hr)
- Reduced Ground Footprint
  - Very Low Helium usage
  - Low maintenance costs

## Survivable

- 20,000-30,000 Ft altitude is Above Most Small Arms Fire
- Robust Fabric designed with Long Life
- Minimal Pressure Differential
  - Three Layers of High Quality Materials Provides Increased Strength & Durability

- Improved Lift Efficiencies, Greater Ground Stability and Enhanced Low Speed Control Capabilities

- Safehaven basing mitigates ingress & egress concerns

- Self Deployable
- Aircraft size Deployable Ground Support Equipment



- 9 Independent Systems
- Signal Intercept
- Radar on Positioner for 360 Coverage

- Short Takeoff and Vertical Landing Vehicle

- Full ISR Payload and Endurance Takeoff < 1,500 ft
- No Airfield or Other Improved Surface Required
- Modular and Reconfigurable for C4ISR and Cargo in the Field – based on Open Architecture Design

## Flexible

- 4 HD EO/IR Systems With 360 Degree Field of View
- 3 Communication Systems for Communications Relay

## Multi-INT

# Game Changing Endurance, Flexibility, Affordability, Survivability and Multi-Int Capability

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