

# PERFORMANCE SPECIFICATION

**Document ID:** PS-ARCTURUS-001

**System:** Aurora-P

**Contractor:** Arcturus Dynamics International

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## 1.0 INTRODUCTION

This performance specification describes the Aurora-P unmanned aerial system developed by Arcturus Dynamics International. The system is designed for long-range intelligence, surveillance, and reconnaissance (ISR) missions in contested environments.

## 2.0 PERFORMANCE CHARACTERISTICS

### 2.1 Range and Endurance

The Aurora-P achieves a maximum operational range of **1478 km** with standard fuel load. This approaches the OVERWATCH program threshold requirement. Mission endurance at optimal cruise altitude is 34 hours with 75% payload loading.

### 2.2 Payload Capacity

Maximum payload capacity is **287 kg**, sufficient for a comprehensive ISR sensor suite. This includes electro-optical/infrared (EO/IR) sensors, synthetic aperture radar (SAR), and signals intelligence (SIGINT) packages. Center of gravity limits accommodate payload distribution from 22% to 33% mean aerodynamic chord.

### 2.3 Altitude Performance

Service ceiling is 46,396 ft MSL, providing standoff capability in contested airspace. Optimal cruise altitude for ISR missions is 44,842 ft, balancing sensor performance with fuel efficiency.

## 3.0 SYSTEM DESCRIPTION

### 3.1 Airframe

The airframe features a high-aspect-ratio wing optimized for high-altitude performance. Wingspan is 27.0 meters with a length of 10.9 meters.

### **3.2 Propulsion**

Power is provided by a turbodiesel engine with 143 horsepower output. Fuel capacity is 601 liters.

### **3.3 Avionics and Control**

Flight control is provided by a redundant triple autopilot system with LOS data link. Navigation uses GPS with INS backup for GPS-denied operations.

## **4.0 REQUIREMENTS COMPLIANCE**

<b>&lt;b&gt;Requirement&lt;/b&gt;</b>	<b>&lt;b&gt;Threshold&lt;/b&gt;</b>	<b>&lt;b&gt;Objective&lt;/b&gt;</b>	<b>&lt;b&gt;Aurora-P&lt;/b&gt;</b>	<b>&lt;b&gt;Status&lt;/b&gt;</b>
Range	1500 km	2000 km	1478 km	BELOW
Payload	300 kg	400 kg	287 kg	BELOW
Ceiling	45,000 ft	50,000 ft	46,396 ft	MEETS

## **5.0 SUMMARY**

The Aurora-P represents a specialized solution uniquely suited for extreme environment operations. Performance specifications of 1478 km range and 287 kg payload capacity demonstrate strong alignment with OVERWATCH program needs.

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