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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

Requirement	Threshold	Objective	Aurora-P	Status
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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