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TECHNICAL MANUAL

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System: Horizon-200

Contractor: SkyWatch Industries LLC

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1.0 OVERVIEW

This technical manual describes the Horizon-200 unmanned aerial system developed by SkyWatch Industries LLC. 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 Horizon-200 achieves a maximum operational range of **1279 km** with standard fuel load. This approaches the OVERWATCH program threshold requirement. Mission endurance at optimal cruise altitude is 20 hours with 75% payload loading.

2.2 Payload Capacity

Maximum payload capacity is **216 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 24% to 35% mean aerodynamic chord.

2.3 Altitude Performance

Service ceiling is 50,608 ft MSL, providing standoff capability in contested airspace. Optimal cruise altitude for ISR missions is 36,641 ft, balancing sensor performance with fuel efficiency.

3.0 SYSTEM DESCRIPTION

3.1 Airframe

The airframe features a high-aspect-ratio wing optimized for endurance. Wingspan is 27.2 meters with a length of 11.4 meters.

3.2 Propulsion

Power is provided by a heavy-fuel piston engine with 90 horsepower output. Fuel capacity is 725 liters.

3.3 Avionics and Control

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

4.0 REQUIREMENTS COMPLIANCE

Requirement	Threshold	Objective	Horizon-200	Status
Range	1500 km	2000 km	1279 km	BELOW
Payload	300 kg	400 kg	216 kg	BELOW
Ceiling	45,000 ft	50,000 ft	50,608 ft	EXCEEDS OBJ

5.0 SUMMARY

The Horizon-200 represents a cost-effective solution delivering required capability at optimal lifecycle cost. Performance specifications of 1279 km range and 216 kg payload capacity demonstrate strong alignment with OVERWATCH program needs.

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