

SPEAR ENTERPRISE

AGENT TECHNICAL BOARD (ATB)

ROUTING FORM - MULTI-PLANETARY SUPPLY CHAIN CONOPS

Document Title: Multi-Planetary Supply Chain Architecture - OSY/Barge/Tug/Mars Base Interoperability

Document ID: SE-ATB-CONOPS-MPSC-001

Revision: v1

Classification: Internal Engineering

Author: Sam (AI Assistant)

Submitted To: ATB Review Board

MULTI-PLANETARY SUPPLY CHAIN ARCHITECTURE

OSY–BARGE–TUG–MARS BASE INTEROPERABILITY CONOPS v1

1. EXECUTIVE SUMMARY

This document defines the baseline architecture for a persistent, bidirectional, high-capacity logistics network connecting Earth and Mars, enabling humanity to become a multi-planetary species.

2. SYSTEM OVERVIEW

OSY-E: Construction + Industrial Hub

OSY-M: Mars Orbital Hub

Barges A and B: Bidirectional interplanetary freight haulers

Tugs: Local logistics (Earth-side and Mars-side)

Mars Base: Heavy ISRU and surface manufacturing

3. OPERATIONAL CONCEPT

OSY-M constructed near OSY-E, fully commissioned, then tug-transferred to Mars.

Two barges alternate Earth→Mars and Mars→Earth each synodic window.

Tug fleets distribute cargo locally.

4. MATERIAL FLOW SUMMARY

Earth → Mars: High-tech equipment, modules, crew.

Mars → Earth: CH₄, LOX, NH₃, water, metals, scientific cargo.

5. PHASE EXPANSION

Phase 1: OSY-E Operational

Phase 2: OSY-M Build at Earth

Phase 3: OSY-M Transit to Mars

Phase 4: Two-Barge Continuous Cycle

Phase 5: Mars Base Expansion

Phase 6: Multi-Planetary Industrial Growth

ATB ACTION REQUEST

1. Review and validate CONOPS.
 2. Approve interface definitions.
 3. Route for ICD development.
-

END OF DOCUMENT