Lunar Tanker Fleet

The Supply Chain for Space

Purpose

The Lunar Tanker Fleet is the logistical backbone of Aegis Station. Its mission is singular but monumental:

Lift 1.65 million metric tons of lunar water into orbit to shield and sustain humanity's first true orbital city.

This fleet enables that goal—not through one giant launch, but through steady, relentless movement. Day after day. Year after year.

Mission Profile

- Surface to orbit water delivery
- Fully autonomous operation
- Cryogenic or pressurized tankage
- Docking-compatible with Aegis Station shield reservoirs

Tankers operate in continuous cycles: **launch, orbit, offload, return, refuel, repeat**.

Updated Fleet Specifications

Parameter	Value
Number of tankers	30
Payload per trip	30 metric tons
Daily throughput	900 metric tons/day
Target fill time	~5 years (1.65M tons total)
Operation mode	Autonomous, rotational cycle

This capacity ensures that shielding keeps pace with phased ring deployment and allows for system redundancy.

Design Characteristics

Feature	Description
Structure	Cylindrical tankage; modular systems pod; compact lander chassis
Landing	Vertical takeoff and landing; wide stance for regolith stability
Docking	Compatible with Aegis Station ring ports or intermediary depots
Propulsion	Methalox or hypergolic engines; cold-gas or RCS for docking control
Power	Solar + battery hybrid; limited night operations

Autonomous Flight Operations

Each tanker is fully capable of:

- Navigation and terrain-relative landing
- Payload verification
- Orbital docking alignment
- Data relay and remote override

They operate independently or as part of coordinated fleets.

Maintenance and Support

- Onboard self-diagnostic systems
- Field-repairable by Aegis-Class Rovers or automated arms
- Orbital staging and servicing via Aegis Station or Shuttle delivery
- Software updates via Aegis uplink or ground control

Fleet health is tracked continuously via telemetry and predictive analytics.

Integration with Other Systems

The tanker fleet works in concert with:

- **Aegis Station**: Delivers directly to shield reservoirs
- **ISRU Processing Nodes**: Loads water from lunar extraction hubs
- **Aegis-Class Rovers**: Supports field operations and recovery

- **Luna–Aegis Shuttle**: Delivers crews or parts for servicing
- **Orbital Storage Depots**: Optional for excess or mission-specific reserves

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Economic Impact

Metric	Value
Total shielding mass	1.65 million tons
Delivery cost (@$150/kg)	~$247.5 billion
Missions per tanker/year	60–100+ (optimized)
Years to completion	~5 years with margin

This fleet is the first industrial logistics operation off Earth. It is not a one-off—it is the **first link in a cislunar economy**.

Post-Fill Economic Role

Once shielding is complete, the tanker fleet becomes a high-throughput resource distribution network for the lunar orbital system.

Orbital Depot Resupply

- Deliver water to **LLO storage depots** and **EML1/EML2 hubs**
- Enable refueling operations for outbound and return missions
- Support distributed supply chains for multiple space platforms

LOX/LH2 Fuel Production

- Depots crack water via electrolysis
- Tankers support fuel delivery to landers, orbiters, and interplanetary vehicles
- Reduces launch mass and extends operational ranges for all actors

Shielding Services for New Platforms

- Provide shielding mass for other stations or long-duration habitats
- Support commercial and governmental orbital construction projects

Life Support and Industrial Fluids

- Deliver water for closed-loop support systems
- Support hydroponics, environmental systems, and thermal mass buffering

- Act as strategic reserves for large-scale habitation

Strategic Infrastructure Control

- Control of water delivery = control of propellant, shielding, and life
- Tankers form the backbone of scalable in-space commerce

This is a **forever fleet**. Once built, it keeps giving—shaping the infrastructure, logistics, and sustainability of the human presence beyond Earth.

[Diagram Placeholder: Tanker Logistics – Surface, Orbit, Depots]