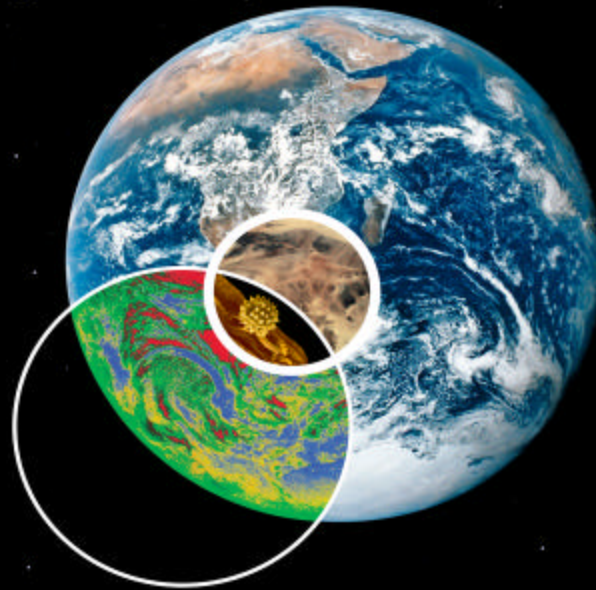


LAMONT-DOHERTY
EARTH OBSERVATORY
OF COLUMBIA UNIVERSITY





Ewing Midlife Refit Community Workshop, October 2002

- Objectives identified to meet future needs
 - Tow a longer streamer for 2-D MCS work
 - Tow multiple long streamers
 - Improved source array (better repeatability)
 - Linear Arrays
 - Maintain general purpose capabilities
 - In particular, ability to do over-the-side operations including deploying and recovering OBSs
- Not all possible on Ewing

Ewing Midlife Refit Community Workshop, October 2002

- Workshop Recommendation
 - “Only a replacement vessel provides all desired capabilities. LDEO should investigate thoroughly the replacement vessel option with the National Science Foundation because it is the ONLY way to obtain the long streamer (6 km+) 3-D seismic capability, linear gun arrays, and improved general-purpose capabilities.”



17. 5. 2001

Western Legend

(EWING in parenthesis)

Length:	235 feet	<i>(237 feet)</i>
Beam:	56 feet	<i>(46 feet)</i>
Displacement Lightship Tonnage:	2578 metric tons	<i>(1867 metric tons)</i>
HP:	7200 HP	<i>(3200 HP)</i>
Bollard Pull:	86.2 metric tonnes	<i>(20.2 metric tonnes)</i>
Compressor Capacity:	2x2750cfm	<i>(3x1000cfm)</i>
Speed Cruising/Max:	12/14 kt	<i>(11/13 kt)</i>
Ship's Complement/ Maximum Science Party	58/38 people	<i>(50/29 people)</i>

EWING Replacement Conversion Oversight Committee

Thomas Shipley (Chair)
U. Texas, UTIG
tom@ig.utexas.edu

Jeffrey Babcock
Scripps, IGPP
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Larry Mayer
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Paul Ljunggren (*ex officio*)
LDEO
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Charge to the EWING Replacement Conversion Oversight Committee

The Committee is established to provide oversight on all aspects of the conversion of the Western Legend for use as a research vessel within the UNOLS fleet. This includes consideration of the ship modifications, selection and placement of the seismic and other oceanographic equipment and establishment of design and budget priorities to ensure the project remains within the agreed scope and cost. The Committee responds to specific questions posed by NSF and LDEO management and provides reports to NSF following each meeting. The Committee communicates regularly with LDEO management providing advice and guidance on all aspects of the conversion project. LDEO management ensures that the Committee is well informed in a timely way of all conversion related issues and decisions. A dedicated web page will be established by LDEO to facilitate this communication.

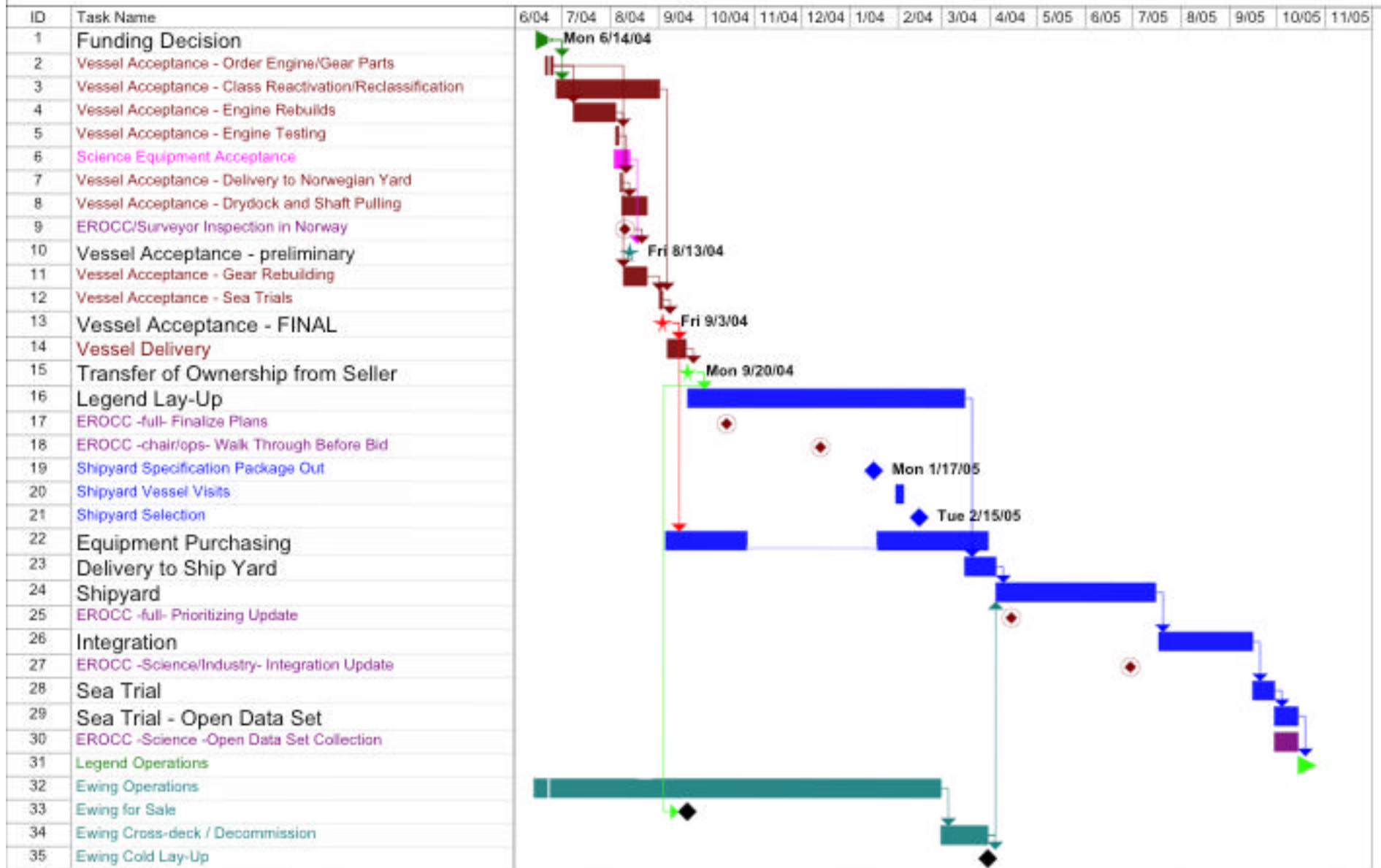
The Committee will consist of 7 -10 members, including a Chair. Employees of LDEO, or subcontractors involved in this project, may not be members of this Committee but may participate in an ex-officio capacity. The Committee is established and supported by LDEO, and its membership and scope of activities are approved by NSF.

It is anticipated that the EWING Replacement Oversight Conversion Committee will have carried out its charge with the completion of science sea trials. Thus, shortly thereafter, the Committee will be dissolved.

Science Capabilities after conversion

Streamers:	4 Streamers x 6 km (8 km) with separation up to 200m
Sound Source:	4 Linear Gun Arrays
DP:	Twin Screw with Bow Thruster expandable to include forward azimuthing thruster and stern tunnel thruster
Sonars:	Wide Hull for high resolution 1°x1° Deep Sea Multibeam and subbottom profiler
Over the Side:	Ability to match or exceed Ewing for over the side handling
Lab Area:	Lab area far exceeds Ewing's capacity
Open Main Deck:	More open deck than Ewing
Portable Vans:	5 Van/Container capacity without effecting other operations

Western Legend Timeline



Project: legend_time5
Date: Wed 6/23/04



Legend Modifications

- **Reflagging**
 - Stability Bulkhead and Inclining
 - Structural Fire Integrity
 - Safety Equipment
- **Open Main Deck**
 - Remove Structure
 - Remove Equipment for 8 Streamers
- **Increase General Laboratory Area**
 - Add Main Deck Labs (Port Side, Forward, Wet)
 - Instrument Room more General Purpose
 - Add Upper Deck Lab
- **Over-the-Side Ability**
 - Side A-Frame and Aft Over Boarding Boom
 - Cross-Deck Ewing Winches (Core, CTD, Camera)
 - Add Articulating Cranes





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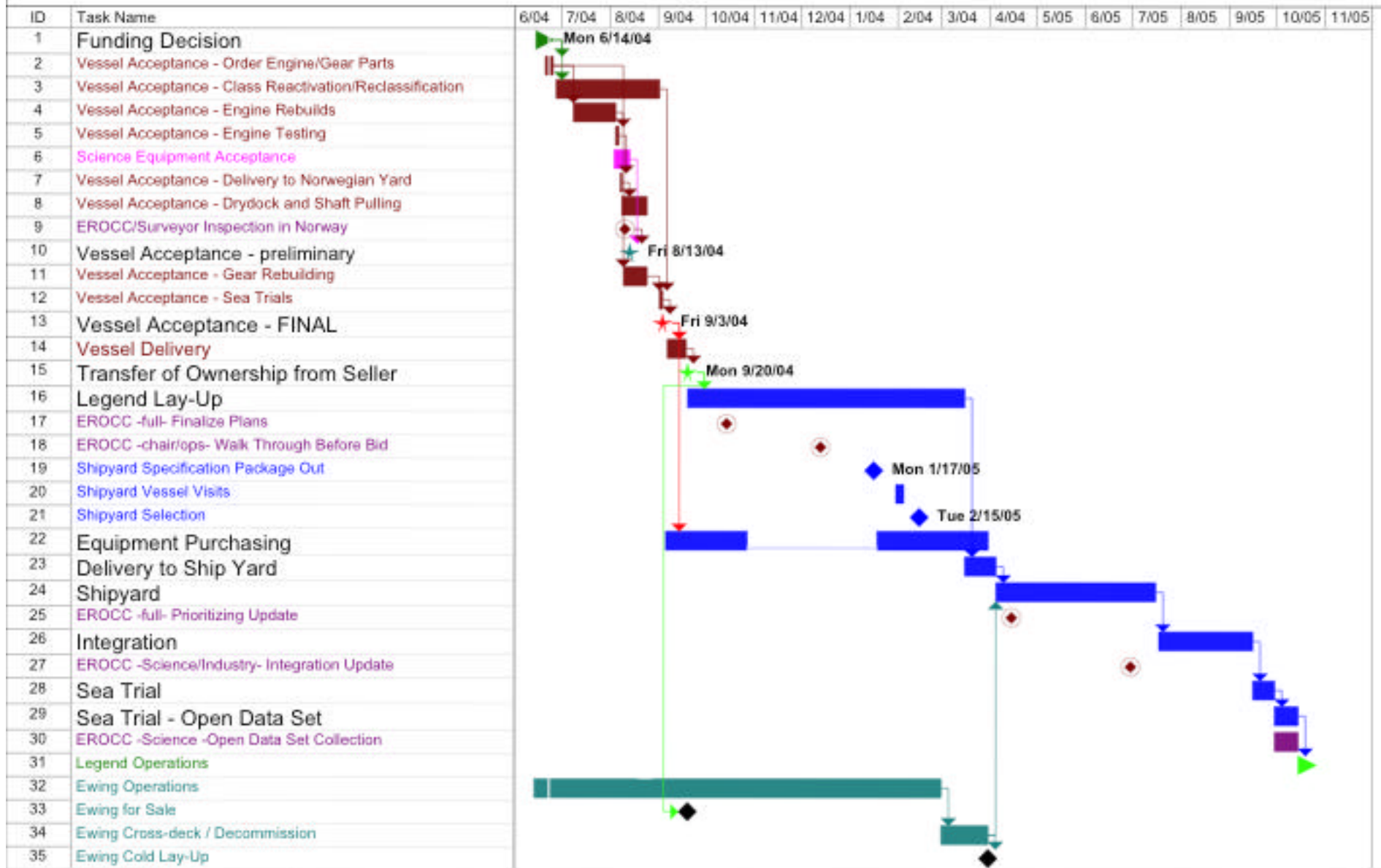


Legend Modifications - continued

- Accommodation
 - Habitability Improvements (Mess, Reading Room, Movie Room)
 - Add 8 Staterooms
 - Maximize Single Crew Staterooms/Increase on Ewing's capacity
- Sonar Systems
 - 1°x1° Deep Sea Multibeam and Sub-bottom Profiler
- Dynamic Positioning Control System
- Mammal Observation and Mitigations
- General Purpose Abilities
 - Equipment Lift
 - Computer and Network Systems
 - Clear Main Deck with Long Open Rail
- MCS
 - Retain Equipment Designed for Multiple Streamer Operations



Western Legend Timeline



Project: legend_time5
Date: Wed 6/23/04



