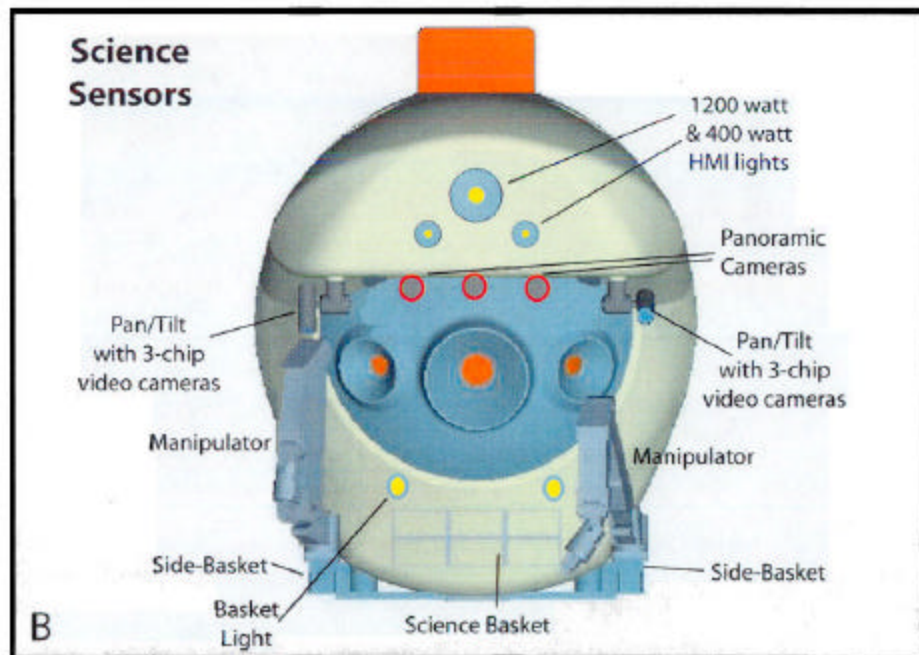
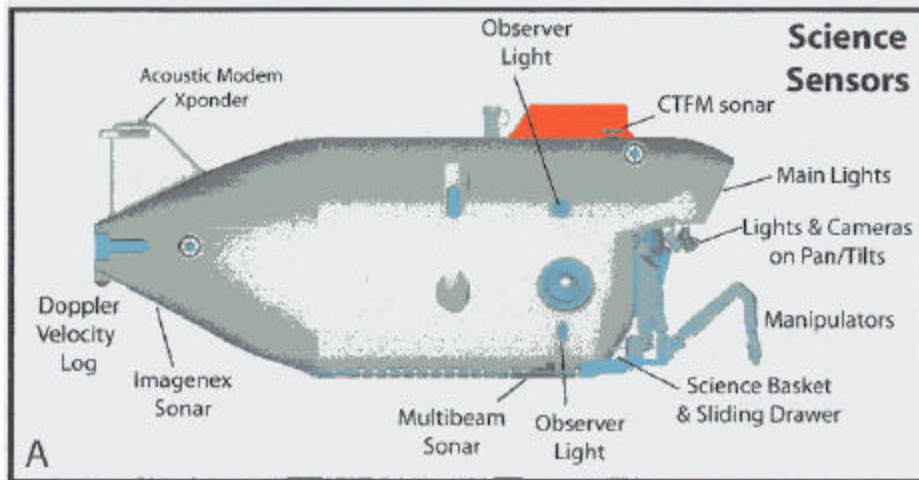


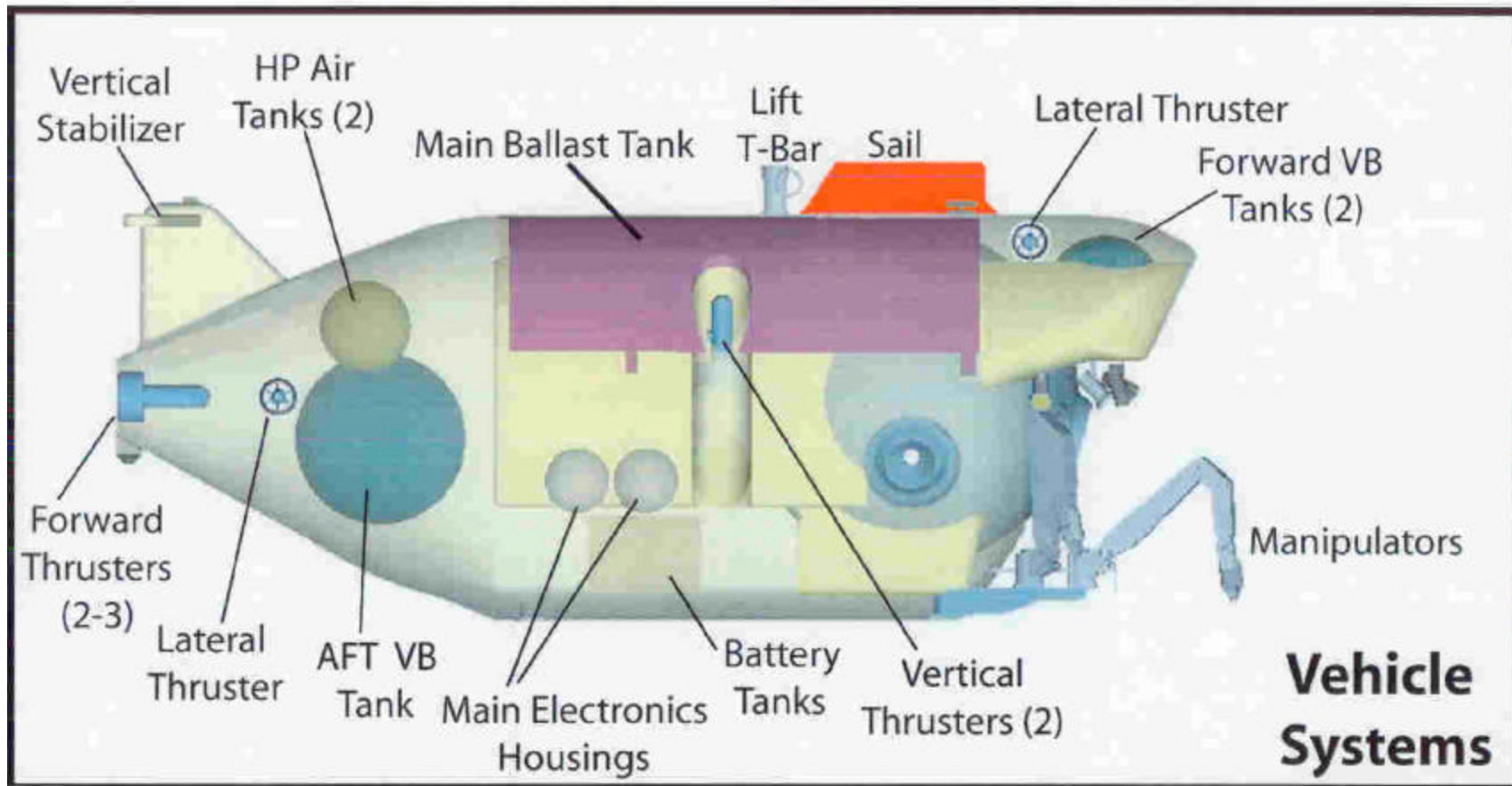


New *ALVIN* Update

New *ALVIN* Science Overview



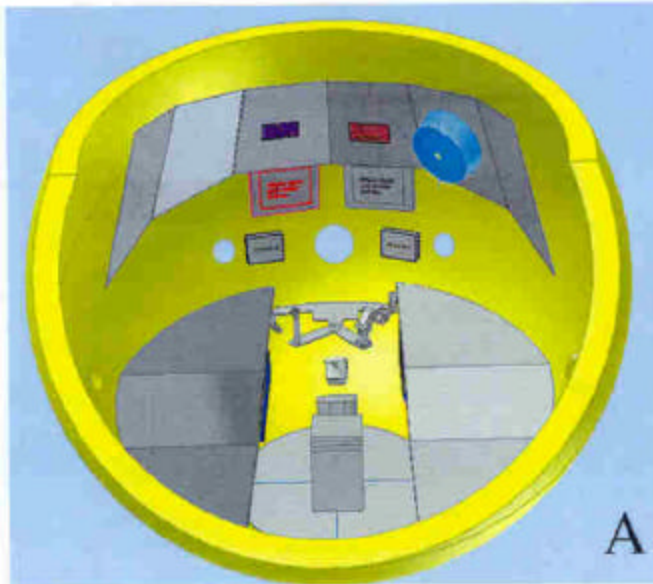
New *ALVIN* Vehicle Overview



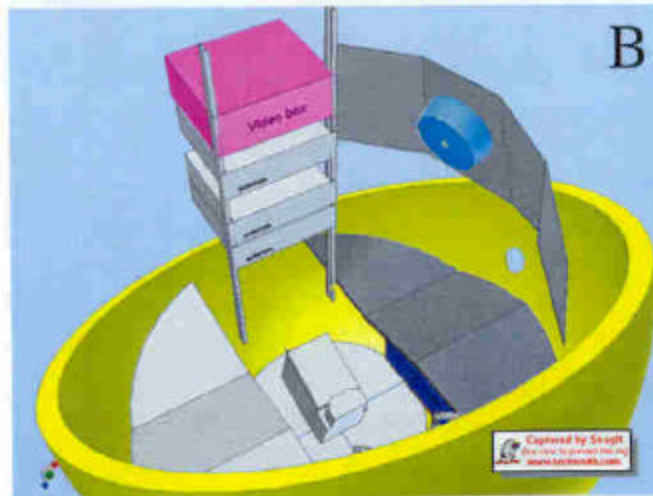
Performance and Science Specifications

	Current <i>Alvin</i>	New <i>Alvin</i>
Depth	4500 M	6500 m
Sphere Volume	144.2 cu. Ft.	170.8 cu. Ft.
Science Payload (Ext)	Typically 275 lbs	400 lbs
Science Payload Volume (internal)	6630 cu. in. of 19" rack space	12,300 cu. in. of 3U high 19" rack space
Max speed forward	2 kts	3 kts
Max speed lateral	Minimum lateral ability	0.5 kts
Max speed vertical	30 m/min	48 m/min
Trim (fwd/aft)	+/- 7.5 deg	+/- 15 deg
Ascent/Descent Method	Steel drop weights	Water ballast
Positioning Control	Manual w/ auto heading	Auto DP w/ auto heading and auto track following control

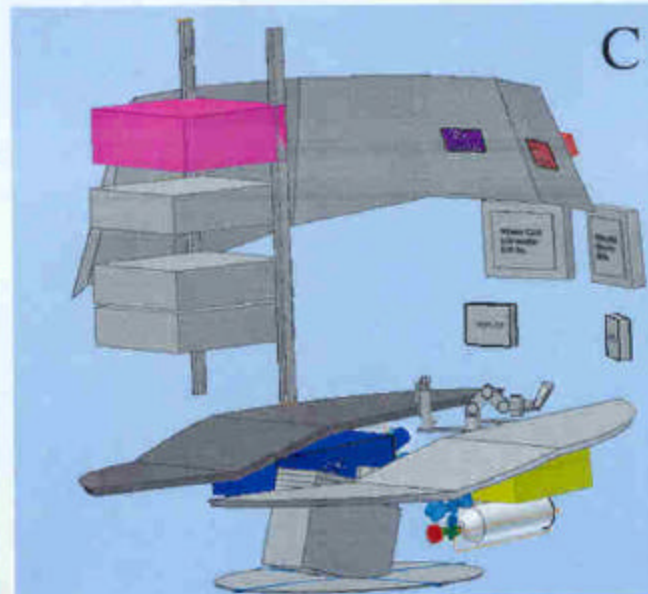
Interior Basics



view from rear of sub.



view from front-stbd. of sub.



interior cut-away from
starboard-aft side

New *ALVIN* - Status

- SwRI report completed
- Proposal submitted to NSF 31 March 2004
- Review process at NSF – anticipated decision Summer '04 ?
- Writing Statement of Work and Request for Proposal Packages
- Continuing to develop material testing plan with Navy, SwRI and ABS

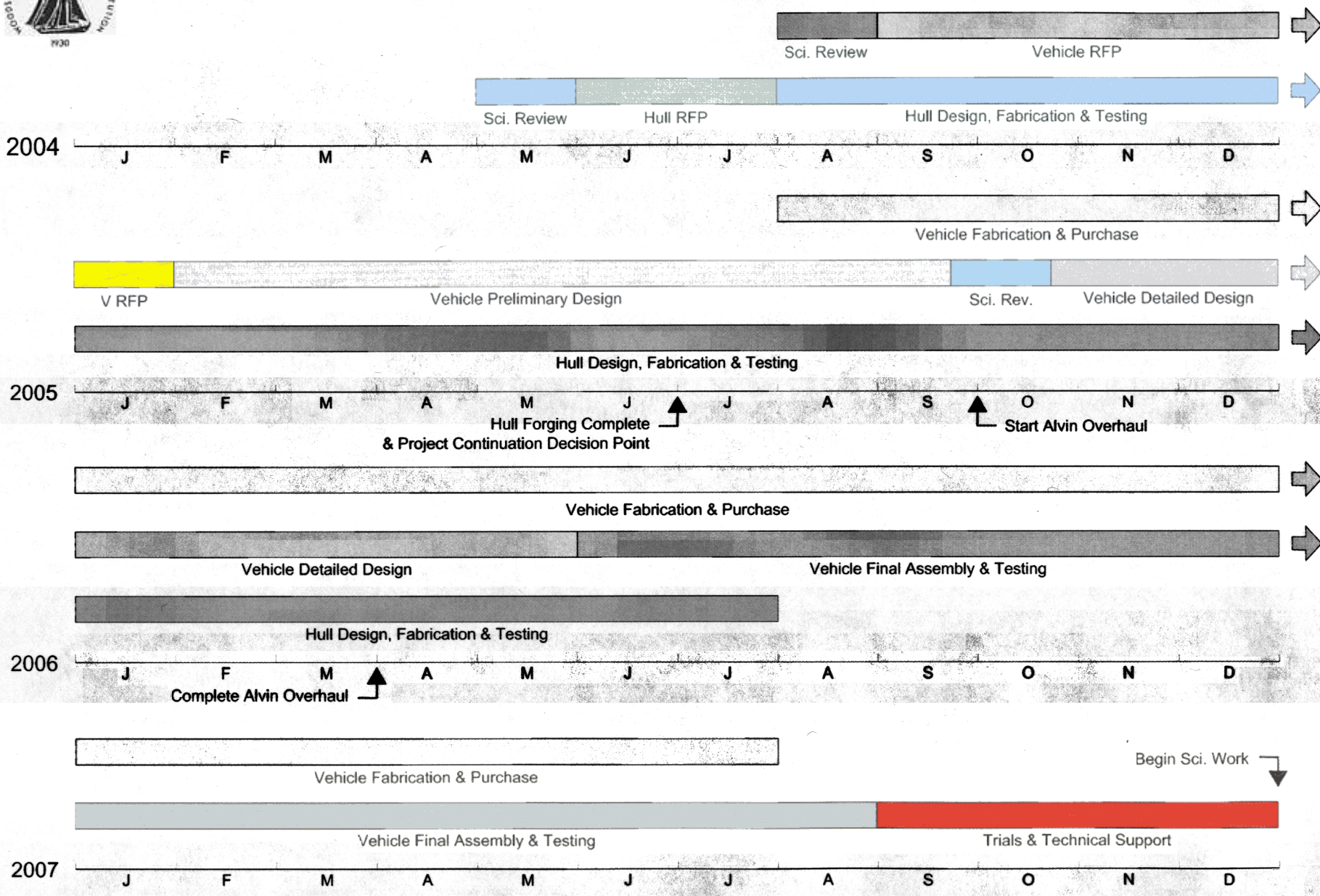
New ALVIN Proposed Build Plan

- Start immediately with hull materials testing program, syntactic foam certification program and hull design and build
- Vehicle design starts early 2005
- Ability to stop vehicle design/build based on results of hull forging
- personnel hull to be supplied to vehicle builder as owner furnished equipment



Construction Schedule for New ALVIN (Hull & Vehicle)

03/23/04



Project Management

