

APPENDIX XII

A Modification and Extension of Betzer Report Implications

January 10, 1997

R. A. Knox

1. Funding Estimates, Current Era (1996/7)

The first table reproduces Betzer Report numbers (upright type) and interleaves NSF/OCFS data presented at FIC in San Francisco, December 1996, in italics. The Betzer Report estimated 1996 agency funding levels, and then projected them forward in constant dollars to the year 2000. The NSF data afford some more recent funding estimates and preliminary guesses into 1997.

The rightmost column (boxed) is a set of guesses about the approximate realistic current-era funding, in light of the more recent info, to be extrapolated forward in the light of agency trends. The italics show the change (+/-) from the corresponding Betzer Report entry:

- NSF. Given \$32-33M numbers for 1996 and 1997, a current era number of \$36M to project forward seems optimistic. Guess \$33M instead.
- ONR. 1996 and 1997 afford little confidence in the \$6.3M figure; guess \$4.5M.
- NOAA. We have good reason now to hope for \$2.5M in light of recent NOAA meetings.
- OTHER. This includes the NAVO funding, the biggest wild card. It is quite possible that this is a one-year only source. On the other hand, effort is now underway to obtain additional years. The guess of a projectable level of \$6M in this category is indeed a guess, and perhaps an optimistic one.
- INST. Some cautious optimism, based on 1996/7 numbers; increase to \$2.5M

The net of all this is that the current-era sum to be projected forward is estimated at \$48.5M, \$1.2M larger than the Betzer Report \$47.3M. Another way to say this is that the substantial NOAA and NAVO impacts have produced nearly a wash in the bottom line, offset by decreases elsewhere.

II. Future Trends

The Betzer Report simply projected constant dollars in all categories to the year 2000. There is some macro-information to modify this. Trends to 2002 in three macro-categories from both the President's budget and the Congressional budget resolution of last summer are shown, taken from AAAS budget analysis (<http://www.aaas.org/spp/dspp/rd/outyr.htm>). "Factors" are the ratios of the 2002 values to the 1996 values. There is no separate Congressional projection in DOD R&D. The three macro-categories selected are NSF R&RA (factor a), NOAA Operations, Research and Facilities R&D (factor b), and DOD R&D (factor c).

Assume that these factors apply as shown in the final table to the UNOLS micro-situation. In particular, assume that the DOD factor applies to "OTHER" because of the preponderance of the NAVO component in "OTHER," assuming the NAVO link holds up at all. Then the UNOLS funding projections to 2002 are as shown in the final tab!-.: \$48.055M under the President's plan, \$51.698M under the Congressional plan.

III. Gap

Fleet costs in 2002 - are projected in two ways. Method (a) is to extend the Betzer Report to 2002 with 2 additional years of 4% inflation, the same inflation assumed in the original report. Method (b) is to use the smaller inflation figures, average 2.2%, that AAAS uses, and to recalculate the Betzer Report cost time series (table 4 of Betzer Report) accordingly. In both cases the same assumptions as in the original

Budget Trends 1996-2002 per AAAS (millions)

	1996	2002 Pres.	2002 Cong.	Factor Pres.	Factor Congr.
NSF	2,138	2,241	2,507	1.05	1.17 (a)
NOAA	508	534	440	1.05	0.87 (b)
DOD R&D	35,884	28,494	**	0.79	0.79 (c)

UNOLS Projections (thousands)

	Now	Factor	2002 Pres.	2002 Congr.	2002 Fleet Costs:	
NSF+ODP	33,000	(a)	34,590	38,696	a. Betzer (4%)	70,900
ONR+NRL	4,500	(c)	3,573	3,573		
NOAA	2,500	(b)	2,628	2,165	b. AAAS (2.2%)	59,100
OTHER	8,000	(c)	4,764	4,784		
INST	2,500	(const)	2,500	2,500		
	48,500		48,055	51,698	Best Case Gap	7,402
					Worst Case Gap	22,845