	Example of Buoy-to-Shore Satellite Communications Options											
	Service Provider	**Service /Plan Name**	**Terminal or Modem PN**	**Current Satellite Coverage**	**Antenna**	**Uplink /downlink Raw Data Rate kbps**	**Estimated uplink kbps**	**2007 Airtime Cost per Minute**	**Maximum Feasible Data per Day**	**Power required when trans. Watts**	**Cost-per-Mbyte**	**Joules-per-Kbyte**
Currently available	Globalstar	Liberty 48000 dial-up	Qualcomm 1620	Coastal regions to 200 miles from shore	omni-directional	to 9.6/9.6 kbps	7.8	$0.14	30 MB (2)	8	$2.58	8.2
	Iridium	PPP or RUDICS	NAL Research, A3LA-D	Worldwide	omni-directional	to 2.4/2.4 kbps	2.4	$0.85	15MB (3)	2.5	$48.35	8.3
	INMARSAT	F-33, MPDS	KVH TracPhone F33	Spot beam, most of americas	stabilized, 14" dia.	28/64 kbps	28	billed per Mbit	68 MB +	60	$30.00	17.1
Potentially feasible 2008	INMARSAT	BGAN	Thrane & Thrane Marine Mobile Terminal	All but Western, Central Pacific (1)	stabilized, F33 size	Max rate 492kbps (4)	32	Billed per Mbyte	68 MB +	100	$3.09	25.0
	INMARSAT	BGAN	Thrane & Thrane Marine Mobile Terminal	All but Western, Central Pacific (1)	stabilized, F33 size	Guaranteed rate 32/64 kbps (5)	246	Billed per Mbyte	68 MB +	100	$3.09	3.3

(1) - The launch of the INMARSAT BGAN Pacific region satellite is scheduled for 2007.
(2) - Actual uncompressed data return at 40% satellite availability.
(3) - Calculated data return at 95% satellite availability.
(4) - This is at the maximum system data rate, depends on network loading.
(5) - This is at the minimum guaranteed system data rate.

Cost per year for 22MB/day buoy
$20,717
$388,251
$240,900
$24,813
$24,813