Appendix 11.0-C

Wave Height and Energy Changes for Alternatives

Appendix 11-C. Energy Changes in Camp Ellis Alternatives

Annual Eastern (90-110 degree) approach bin

Alt.	Description	Area	Existing		Alternative		% Change	
1	Jetty Extension Removal		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.16	1605.57	-0.77	-0.85
	Nearshore region from A to erosion end	B	1.11	1475.78	1.14	1529.35	3.63	2.70
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.18	3390.25	0.27	0.00
	Along Structure - Nearshore	D	1.47	2769.20	1.47	2777.89	0.31	0.00
	Along Structure - to first bend	E	1.69	6264.07	1.71	6343.65	1.27	1.18
	Along Structure - to second bend	F	1.44	2836.09	1.54	3253.91	14.73	6.94
	Along Structure - Jetty Extension	G	1.87	9668.63	1.92	10049.54	3.94	2.67
	Entrance Channel	H	1.25	3589.86	1.50	5126.87	42.82	20.00
	Offshore	I	1.27	19857.73	1.27	20037.78	0.91	0.00
2	Jetty Ext. Removal and Lowering		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.22	1753.60	8.38	4.27
	Nearshore region from A to erosion end	B	1.11	1475.78	1.07	1290.64	-12.55	-3.60
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.15	3213.69	-4.95	-2.54
	Along Structure - Nearshore	D	1.47	2769.20	1.41	2646.68	-4.42	-4.08
	Along Structure - to first bend	E	1.69	6264.07	1.57	5482.62	-12.48	-7.10
	Along Structure - to second bend	F	1.44	2836.09	1.40	2753.96	-2.90	-2.78
	Along Structure - Jetty Extension	G	1.87	9668.63	1.91	10026.55	3.70	2.14
	Entrance Channel	H	1.25	3589.86	1.50	5127.69	42.84	20.00
	Offshore	I	1.27	19857.73	1.23	18676.95	-5.95	-3.15
3	750' Spur at offshore location, straight		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.10	1468.94	-9.21	-5.98
	Nearshore region from A to erosion end	B	1.11	1475.78	1.10	1343.63	-8.95	-0.90
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.18	3341.00	-1.19	0.00
	Along Structure - Nearshore	D	1.47	2769.20	1.33	2270.30	-18.02	-9.52
	Along Structure - to first bend	E	1.69	6264.07	1.63	6117.69	-2.34	-3.55
	Along Structure - to second bend	F	1.44	2836.09	1.57	3420.60	20.61	9.03
	Along Structure - Jetty Extension	G	1.87	9668.63	1.90	9973.76	3.16	1.60
	Entrance Channel	H	1.25	3589.86	1.26	3617.85	0.78	0.80
	Offshore	I	1.27	19857.73	1.25	19648.85	-1.05	-1.57
4	500' Spur at inshore location, straight		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.10	1497.02	-7.48	-5.98
	Nearshore region from A to erosion end	B	1.11	1475.78	1.10	1410.65	-4.41	-0.90
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.20	3502.93	3.60	1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.21	1921.52	-30.61	-17.69
	Along Structure - to first bend	E	1.69	6264.07	1.78	7008.33	11.88	5.33
	Along Structure - to second bend	F	1.44	2836.09	1.51	3142.83	10.82	4.86
	Along Structure - Jetty Extension	G	1.87	9668.63	1.89	9859.29	1.97	1.07
	Entrance Channel	H	1.25	3589.86	1.26	3633.04	1.20	0.80
	Offshore	I	1.27	19857.73	1.26	19886.39	0.14	-0.79
5	Dual 500' Spurs		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.09	1430.69	-11.57	-6.84
	Nearshore region from A to erosion end	B	1.11	1475.78	1.10	1381.15	-6.41	-0.90
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.19	3492.46	3.29	0.85
	Along Structure - Nearshore	D	1.47	2769.20	1.18	1807.43	-34.73	-19.73
	Along Structure - to first bend	E	1.69	6264.07	1.70	6356.48	1.48	0.59
	Along Structure - to second bend	F	1.44	2836.09	1.31	2439.12	-14.00	-9.03
	Along Structure - Jetty Extension	G	1.87	9668.63	1.92	10357.69	7.13	2.67
	Entrance Channel	H	1.25	3589.86	1.33	4089.03	13.90	6.40
	Offshore	I	1.27	19857.73	1.30	20937.66	5.44	2.36

6	750' Spur at inshore location, straight		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.05	1335.81	-17.44	-10.26
	Nearshore region from A to erosion end	B	1.11	1475.78	1.11	1399.64	-5.16	0.00
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.15	3211.49	-5.02	-2.54
	Along Structure - Nearshore	D	1.47	2769.20	1.00	1318.22	-52.40	-31.97
	Along Structure - to first bend	E	1.69	6264.07	1.80	7242.38	15.62	6.51
	Along Structure - to second bend	F	1.44	2836.09	1.52	3193.90	12.62	5.56
	Along Structure - Jetty Extension	G	1.87	9668.63	1.89	9866.65	2.05	1.07
	Entrance Channel	H	1.25	3589.86	1.26	3633.79	1.22	0.80
	Offshore	I	1.27	19857.73	1.25	19457.19	-2.02	-1.57
7	750' Spur at inshore location, straight with Jetty Ext. Removal		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.04	1312.08	-18.91	-11.11
	Nearshore region from A to erosion end	B	1.11	1475.78	1.11	1403.06	-4.93	0.00
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.15	3237.25	-4.26	-2.54
	Along Structure - Nearshore	D	1.47	2769.20	0.97	1246.82	-54.98	-34.01
	Along Structure - to first bend	E	1.69	6264.07	1.79	7275.95	16.15	5.92
	Along Structure - to second bend	F	1.44	2836.09	1.56	3345.96	17.98	8.33
	Along Structure - Jetty Extension	G	1.87	9668.63	1.92	10105.64	4.52	2.67
	Entrance Channel	H	1.25	3589.86	1.37	4290.34	19.51	9.60
	Offshore	I	1.27	19857.73	1.25	19431.90	-2.14	-1.57
8	750' Spur at inshore location, straight with Terminal Groin		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.05	1333.51	-17.58	-10.26
	Nearshore region from A to erosion end	B	1.11	1475.78	1.11	1412.71	-4.27	0.00
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.15	3227.84	-4.54	-2.54
	Along Structure - Nearshore	D	1.47	2769.20	1.00	1315.47	-52.50	-31.97
	Along Structure - to first bend	E	1.69	6264.07	1.80	7259.66	15.89	6.51
	Along Structure - to second bend	F	1.44	2836.09	1.52	3218.59	13.49	5.56
	Along Structure - Jetty Extension	G	1.87	9668.63	1.90	9920.18	2.60	1.60
	Entrance Channel	H	1.25	3589.86	1.27	3646.77	1.59	1.60
	Offshore	I	1.27	19857.73	1.25	19557.66	-1.51	-1.57
9	T-Heads, 1st Configuration		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.02	1406.62	-13.06	-12.82
	Nearshore region from A to erosion end	B	1.11	1475.78	1.05	1462.80	-0.88	-5.41
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.19	3415.55	1.02	0.85
	Along Structure - Nearshore	D	1.47	2769.20	1.48	2803.14	1.23	0.68
	Along Structure - to first bend	E	1.69	6264.07	1.69	6319.70	0.89	0.00
	Along Structure - to second bend	F	1.44	2836.09	1.44	2858.04	0.77	0.00
	Along Structure - Jetty Extension	G	1.87	9668.63	1.88	9699.20	0.32	0.53
	Entrance Channel	H	1.25	3589.86	1.25	3598.26	0.23	0.00
	Offshore	I	1.27	19857.73	1.28	20205.92	1.75	0.79
10	T-Heads, 2nd Configuration		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.09	1586.43	-1.95	-6.84
	Nearshore region from A to erosion end	B	1.11	1475.78	1.07	1503.86	1.90	-3.60
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3464.85	2.47	-1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.49	2877.33	3.90	1.36
	Along Structure - to first bend	E	1.69	6264.07	1.70	6442.91	2.85	0.59
	Along Structure - to second bend	F	1.44	2836.09	1.45	2893.40	2.02	0.69
	Along Structure - Jetty Extension	G	1.87	9668.63	1.88	9731.17	0.65	0.53
	Entrance Channel	H	1.25	3589.86	1.26	3637.23	1.32	0.80
	Offshore	I	1.27	19857.73	1.28	20327.02	2.36	0.79

11	Breakwater, Offshore Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.18	1633.88	0.98	0.85
	Nearshore region from A to erosion end	B	1.11	1475.78	0.96	1058.26	-28.29	-13.51
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3211.84	-5.01	-1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.46	2763.89	-0.19	-0.68
	Along Structure - to first bend	E	1.69	6264.07	1.44	4441.30	-29.10	-14.79
	Along Structure - to second bend	F	1.44	2836.09	1.38	2599.72	-8.33	-4.17
	Along Structure - Jetty Extension	G	1.87	9668.63	1.87	9613.30	-0.57	0.00
	Entrance Channel	H	1.25	3589.86	1.25	3559.85	-0.84	0.00
	Offshore	I	1.27	19857.73	1.15	16356.55	-17.63	-9.45
11a	Breakwater, Nearshore Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.09	1419.33	-12.28	-6.84
	Nearshore region from A to erosion end	B	1.11	1475.78	0.78	706.64	-52.12	-29.73
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3298.00	-2.46	-1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.49	2877.75	3.92	1.36
	Along Structure - to first bend	E	1.69	6264.07	1.69	6371.58	1.72	0.00
	Along Structure - to second bend	F	1.44	2836.09	1.44	2874.94	1.37	0.00
	Along Structure - Jetty Extension	G	1.87	9668.63	1.88	9786.75	1.22	0.53
	Entrance Channel	H	1.25	3589.86	1.26	3625.88	1.00	0.80
	Offshore	I	1.27	19857.73	1.29	20990.31	5.70	1.57
11b	Breakwater, Middle Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.21	1720.27	6.32	3.42
	Nearshore region from A to erosion end	B	1.11	1475.78	0.94	1019.38	-30.93	-15.32
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.18	3363.16	-0.53	0.00
	Along Structure - Nearshore	D	1.47	2769.20	1.44	2670.26	-3.57	-2.04
	Along Structure - to first bend	E	1.69	6264.07	1.52	5132.83	-18.06	-10.06
	Along Structure - to second bend	F	1.44	2836.09	1.42	2767.69	-2.41	-1.39
	Along Structure - Jetty Extension	G	1.87	9668.63	1.86	9562.50	-1.10	-0.53
	Entrance Channel	H	1.25	3589.86	1.26	3607.57	0.49	0.80
	Offshore	I	1.27	19857.73	1.14	17094.75	-13.91	-10.24
12	Breakwater, Nearshore Location and 500' Spur at Offshore Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.09	1410.38	-12.83	-6.84
	Nearshore region from A to erosion end	B	1.11	1475.78	0.76	651.52	-55.85	-31.53
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.13	3091.69	-8.56	-4.24
	Along Structure - Nearshore	D	1.47	2769.20	1.48	2814.68	1.64	0.68
	Along Structure - to first bend	E	1.69	6264.07	1.67	6329.36	1.04	-1.18
	Along Structure - to second bend	F	1.44	2836.09	1.51	3156.23	11.29	4.86
	Along Structure - Jetty Extension	G	1.87	9668.63	1.90	9966.21	3.08	1.60
	Entrance Channel	H	1.25	3589.86	1.27	3681.53	2.55	1.60
	Offshore	I	1.27	19857.73	1.27	20725.49	4.37	0.00
13	Comb Spur Groins		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.08	1443.49	-10.78	-7.69
	Nearshore region from A to erosion end	B	1.11	1475.78	1.06	1320.47	-10.52	-4.50
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3260.38	-3.57	-1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.40	2621.26	-5.34	-4.76
	Along Structure - to first bend	E	1.69	6264.07	1.62	5937.90	-5.21	-4.14
	Along Structure - to second bend	F	1.44	2836.09	1.34	2601.69	-8.26	-6.94
	Along Structure - Jetty Extension	G	1.87	9668.63	1.87	9699.19	0.32	0.00
	Entrance Channel	H	1.25	3589.86	1.26	3604.62	0.41	0.80
	Offshore	I	1.27	19857.73	1.25	19351.34	-2.55	-1.57
14	Offshore Borrow Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.17	1629.66	0.72	0.00
	Nearshore region from A to erosion end	B	1.11	1475.78	1.10	1428.31	-3.22	-0.90
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.18	3375.72	-0.16	0.00
	Along Structure - Nearshore	D	1.47	2769.20	1.46	2740.91	-1.02	-0.68
	Along Structure - to first bend	E	1.69	6264.07	1.69	6291.28	0.43	0.00
	Along Structure - to second bend	F	1.44	2836.09	1.42	2778.73	-2.02	-1.39
	Along Structure - Jetty Extension	G	1.87	9668.63	1.87	9623.88	-0.46	0.00
	Entrance Channel	H	1.25	3589.86	1.25	3578.33	-0.32	0.00
	Offshore	I	1.27	19857.73	1.26	19832.21	-0.13	-0.79

15	750' Spur at offshore location, angled		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.10	1471.79	-9.03	-5.98
	Nearshore region from A to erosion end	B	1.11	1475.78	1.09	1353.90	-8.26	-1.80
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3294.05	-2.58	-1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.21	1867.50	-32.56	-17.69
	Along Structure - to first bend	E	1.69	6264.07	1.61	6303.87	0.64	-4.73
	Along Structure - to second bend	F	1.44	2836.09	1.57	3462.67	22.09	9.03
	Along Structure - Jetty Extension	G	1.87	9668.63	1.92	10189.60	5.39	2.67
	Entrance Channel	H	1.25	3589.86	1.28	3759.22	4.72	2.40
	Offshore	I	1.27	19857.73	1.25	19593.22	-1.33	-1.57
16	Jetty Roughening		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.08	1426.50	-11.83	-7.69
	Nearshore region from A to erosion end	B	1.11	1475.78	1.05	1275.96	-13.54	-5.41
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.15	3210.26	-5.06	-2.54
	Along Structure - Nearshore	D	1.47	2769.20	1.26	2204.29	-20.40	-14.29
	Along Structure - to first bend	E	1.69	6264.07	1.49	5122.72	-18.22	-11.83
	Along Structure - to second bend	F	1.44	2836.09	1.34	2500.76	-11.82	-6.94
	Along Structure - Jetty Extension	G	1.87	9668.63	1.87	9647.12	-0.22	0.00
	Entrance Channel	H	1.25	3589.86	1.26	3611.62	0.61	0.80
	Offshore	I	1.27	19857.73	1.22	18376.15	-7.46	-3.94
17	Submerged Breakwater		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.17	1646.32	1.75	0.00
	Nearshore region from A to erosion end	B	1.11	1475.78	1.09	1420.38	-3.75	-1.80
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.19	3417.44	1.07	0.85
	Along Structure - Nearshore	D	1.47	2769.20	1.49	2862.69	3.38	1.36
	Along Structure - to first bend	E	1.69	6264.07	1.64	5933.71	-5.27	-2.96
	Along Structure - to second bend	F	1.44	2836.09	1.41	2730.17	-3.73	-2.08
	Along Structure - Jetty Extension	G	1.87	9668.63	1.87	9611.64	-0.59	0.00
	Entrance Channel	H	1.25	3589.86	1.26	3596.35	0.18	0.80
	Offshore	I	1.27	19857.73	1.23	18830.74	-5.17	-3.15
18	Breakwater, Nearshore Location with 500' straight spur at inshore location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	0.99	1186.01	-26.70	-15.38
	Nearshore region from A to erosion end	B	1.11	1475.78	0.74	644.91	-56.30	-33.33
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3264.09	-3.46	-1.69
	Along Structure - Nearshore	D	1.47	2769.20	1.21	1940.69	-29.92	-17.69
	Along Structure - to first bend	E	1.69	6264.07	1.77	7007.52	11.87	4.73
	Along Structure - to second bend	F	1.44	2836.09	1.51	3160.85	11.45	4.86
	Along Structure - Jetty Extension	G	1.87	9668.63	1.90	9954.83	2.96	1.60
	Entrance Channel	H	1.25	3589.86	1.27	3649.59	1.66	1.60
	Offshore	I	1.27	19857.73	1.28	21040.80	5.96	0.79
19	750' Spur with Jetty Roughening from spur to bend and partial ext. removal		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.03	1296.44	-19.87	-11.97
	Nearshore region from A to erosion end	B	1.11	1475.78	1.09	1344.18	-8.92	-1.80
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.14	3176.85	-6.04	-3.39
	Along Structure - Nearshore	D	1.47	2769.20	0.94	1173.35	-57.63	-36.05
	Along Structure - to first bend	E	1.69	6264.07	1.66	6230.22	-0.54	-1.78
	Along Structure - to second bend	F	1.44	2836.09	1.46	2943.93	3.80	1.39
	Along Structure - Jetty Extension	G	1.87	9668.63	1.90	9924.89	2.65	1.60
	Entrance Channel	H	1.25	3589.86	1.35	4122.11	14.83	8.00
	Offshore	I	1.27	19857.73	1.22	18505.48	-6.81	-3.94
20	Case 11a with a salient formation		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.09	1404.62	-13.19	-6.84
	Nearshore region from A to erosion end	B	1.11	1475.78	0.67	526.88	-64.3	-39.64
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.1	2920.44	-13.63	-6.78
	Along Structure - Nearshore	D	1.47	2769.2	1.49	2866.4	3.51	1.36
	Along Structure - to first bend	E	1.69	6264.07	1.69	6383.04	1.9	0.00
	Along Structure - to second bend	F	1.44	2836.09	1.45	2885.26	1.73	0.69
	Along Structure - Jetty Extension	G	1.87	9668.63	1.88	9800.45	1.36	0.53
	Entrance Channel	H	1.25	3589.86	1.26	3629.09	1.09	0.80
	Offshore	I	1.27	19857.73	1.28	20881.62	5.16	0.79
21	Case 11a with partial salient formation		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	1.09	1421.06	-12.17	-6.84
	Nearshore region from A to erosion end	B	1.11	1475.78	0.78	697.83	-52.71	-29.73
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.15	3248.99	-3.91	-2.54
	Along Structure - Nearshore	D	1.47	2769.2	1.49	2890.67	4.39	1.36
	Along Structure - to first bend	E	1.69	6264.07	1.69	6387.92	1.98	0.00
	Along Structure - to second bend	F	1.44	2836.09	1.44	2881.82	1.61	0.00
	Along Structure - Jetty Extension	G	1.87	9668.63	1.88	9798.57	1.34	0.53
	Entrance Channel	H	1.25	3589.86	1.27	3635.23	1.26	1.60
	Offshore	I	1.27	19857.73	1.29	21085.43	6.18	1.57

22	750' Spur with Segmented BW (2)		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	0.87	899.19	-44.42	-25.64
	Nearshore region from A to erosion end	B	1.11	1475.78	1.09	1325.47	-10.19	-1.80
	Inshore region of area B	B2	1.1	622.77	1.09	596.4268	-4.23	-0.91
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.16	3252.22	-3.82	-1.69
	Along Structure - Nearshore	D	1.47	2769.2	0.94	1203.24	-56.55	-36.05
	Along Structure - to first bend	E	1.69	6264.07	1.81	7306.9	16.65	7.10
	Along Structure - to second bend	F	1.44	2836.09	1.53	3237.09	14.14	6.25
	Along Structure - Jetty Extension	G	1.87	9668.63	1.9	9957.5	2.99	1.60
	Entrance Channel	H	1.25	3589.86	1.27	3654.75	1.81	1.60
	Offshore	I	1.27	19857.73	1.27	20330.36	2.38	0.00
23	500' Spur with Segmented BW (3)		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	0.85	891.5	-44.90	-27.35
	Nearshore region from A to erosion end	B	1.11	1475.78	1.05	1251.04	-15.23	-5.41
	Inshore region of area B	B2	1.1	622.77	1.09	583.4	-6.32	-0.91
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.2	3491.54	3.26	1.69
	Along Structure - Nearshore	D	1.47	2769.2	1.11	1716.94	-38.00	-24.49
	Along Structure - to first bend	E	1.69	6264.07	1.79	7087.69	13.15	5.92
	Along Structure - to second bend	F	1.44	2836.09	1.51	3181.2	12.17	4.86
	Along Structure - Jetty Extension	G	1.87	9668.63	1.9	9932.63	2.73	1.60
	Entrance Channel	H	1.25	3589.86	1.27	3656.09	1.85	1.60
	Offshore	I	1.27	19857.73	1.29	20926.96	5.38	1.57
24	Alt. 23 with additional northern BW		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	0.86	896.24	-44.61	-26.50
	Nearshore region from A to erosion end	B	1.11	1475.78	0.97	1171.37	-20.63	-12.61
	Inshore region of area B	B2	1.1	622.77	0.84	348.82	-43.99	-23.64
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.21	3547.47	4.92	2.54
	Along Structure - Nearshore	D	1.47	2769.2	1.11	1711.06	-38.21	-24.49
	Along Structure - to first bend	E	1.69	6264.07	1.79	7083.37	13.08	5.92
	Along Structure - to second bend	F	1.44	2836.09	1.51	3177.74	12.05	4.86
	Along Structure - Jetty Extension	G	1.87	9668.63	1.89	9895.67	2.35	1.07
	Entrance Channel	H	1.25	3589.86	1.27	3643.11	1.48	1.60
	Offshore	I	1.27	19857.73	1.3	21122.41	6.37	2.36
25	Spur moved landward and 3 BW		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	0.84	867.77	-46.37	-28.21
	Nearshore region from A to erosion end	B	1.11	1475.78	0.97	1213.69	-17.76	-12.61
	Inshore region of area B	B2	1.1	622.77	0.77	310.42	-50.16	-30.00
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.2	3500.14	3.52	1.69
	Along Structure - Nearshore	D	1.47	2769.2	1.23	2370.35	-14.4	-16.33
	Along Structure - to first bend	E	1.69	6264.07	1.75	6780.83	8.25	3.55
	Along Structure - to second bend	F	1.44	2836.09	1.49	3075.69	8.45	3.47
	Along Structure - Jetty Extension	G	1.87	9668.63	1.9	9938.53	2.79	1.60
	Entrance Channel	H	1.25	3589.86	1.27	3658.37	1.91	1.60
	Offshore	I	1.27	19857.73	1.3	21151.58	6.52	2.36
26	Case 24 with add. longer northern BW		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.17	1617.97	0.85	892.42	-44.84	-27.35
	Nearshore region from A to erosion end	B	1.11	1475.78	0.95	1166.39	-20.96	-14.41
	Inshore region of area B	B2	1.1	622.77	0.75	293.62	-52.85	-31.82
	Nearshore region - Ferry Beach	C	1.18	3381.22	1.21	3524.65	4.24	2.54
	Along Structure - Nearshore	D	1.47	2769.2	1.11	1727.43	-37.62	-24.49
	Along Structure - to first bend	E	1.69	6264.07	1.78	7048.76	12.53	5.33
	Along Structure - to second bend	F	1.44	2836.09	1.51	3157.93	11.35	4.86
	Along Structure - Jetty Extension	G	1.87	9668.63	1.89	9896.74	2.36	1.07
	Entrance Channel	H	1.25	3589.86	1.27	3652.77	1.75	1.60
	Offshore	I	1.27	19857.73	1.3	21110.64	6.31	2.36
Positive Value = Increase ; Negative Value = Decrease								
WH = Wave Height in Meters, Energy in Meters Squared								

Appendix 11-C. Energy Changes in Camp Ellis Alternatives

			10 Year Storm					
Alt.	Description							
		Area	Existing		Alternative		% Change	
1	Jetty Extension Removal		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.98	4626.02	6.08	2.59
	Nearshore region from A to erosion end	B	2.11	4899.04	2.14	5078.01	3.65	1.42
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.83	7878.10	3.18	1.10
	Along Structure - Nearshore	D	2.30	6690.00	2.42	7350.45	9.87	5.22
	Along Structure - to first bend	E	2.20	10517.06	2.28	11201.76	6.51	3.64
	Along Structure - to second bend	F	1.50	3352.42	1.56	3707.18	10.58	4.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.71	8373.25	2.52	1.18
	Entrance Channel	H	2.24	11600.55	2.38	13004.02	12.10	6.25
	Offshore	I	2.30	63712.47	2.31	64051.60	0.53	0.43
2	Jetty Ext. Removal and Lowering		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.89	4190.59	-3.90	-2.07
	Nearshore region from A to erosion end	B	2.11	4899.04	2.11	4937.67	0.79	0.00
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.81	7663.71	0.37	0.00
	Along Structure - Nearshore	D	2.30	6690.00	2.38	7042.80	5.27	3.48
	Along Structure - to first bend	E	2.20	10517.06	2.02	8941.57	-14.98	-8.18
	Along Structure - to second bend	F	1.50	3352.42	1.47	3322.43	-0.89	-2.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.71	8331.47	2.00	1.18
	Entrance Channel	H	2.24	11600.55	2.36	12808.52	10.41	5.36
	Offshore	I	2.30	63712.47	2.26	60965.25	-4.31	-1.74
3	750' Spur at offshore location, straight		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.90	4237.73	-2.82	-1.55
	Nearshore region from A to erosion end	B	2.11	4899.04	2.04	4557.90	-6.96	-3.32
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.83	7819.47	2.41	1.10
	Along Structure - Nearshore	D	2.30	6690.00	2.22	6246.08	-6.64	-3.48
	Along Structure - to first bend	E	2.20	10517.06	2.07	9867.55	-6.18	-5.91
	Along Structure - to second bend	F	1.50	3352.42	1.72	4238.89	26.44	14.67
	Along Structure - Jetty Extension	G	1.69	8167.80	1.77	8770.93	7.38	4.73
	Entrance Channel	H	2.24	11600.55	2.26	11763.45	1.40	0.89
	Offshore	I	2.30	63712.47	2.29	62769.68	-1.48	-0.43
4	500' Spur at inshore location, straight		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.84	3952.84	-9.36	-4.66
	Nearshore region from A to erosion end	B	2.11	4899.04	2.02	4464.02	-8.88	-4.27
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7350.76	-3.73	-2.21
	Along Structure - Nearshore	D	2.30	6690.00	1.93	4914.66	-26.54	-16.09
	Along Structure - to first bend	E	2.20	10517.06	2.32	11574.29	10.05	5.45
	Along Structure - to second bend	F	1.50	3352.42	1.65	3886.56	15.93	10.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.77	8820.78	7.99	4.73
	Entrance Channel	H	2.24	11600.55	2.24	11644.67	0.38	0.00
	Offshore	I	2.30	63712.47	2.31	63915.93	0.32	0.43
5	Dual 500' Spurs		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.84	3977.23	-8.80	-4.66
	Nearshore region from A to erosion end	B	2.11	4899.04	2.05	4591.19	-6.28	-2.84
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.78	7439.00	-2.57	-1.66
	Along Structure - Nearshore	D	2.30	6690.00	1.91	4808.01	-28.13	-16.96
	Along Structure - to first bend	E	2.20	10517.06	2.30	11353.58	7.95	4.55
	Along Structure - to second bend	F	1.50	3352.42	1.59	3599.76	7.38	6.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.79	9183.55	12.44	5.92
	Entrance Channel	H	2.24	11600.55	2.28	11987.75	3.34	1.79
	Offshore	I	2.30	63712.47	2.31	64425.33	1.12	0.43

6	750' Spur at inshore location, straight		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.84	4028.83	-7.61	-4.66
	Nearshore region from A to erosion end	B	2.11	4899.04	2.05	4624.98	-5.59	-2.84
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.78	7417.89	-2.85	-1.66
	Along Structure - Nearshore	D	2.30	6690.00	1.59	3698.86	-44.71	-30.87
	Along Structure - to first bend	E	2.20	10517.06	2.41	12693.06	20.69	9.55
	Along Structure - to second bend	F	1.50	3352.42	1.74	4311.40	28.61	16.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.81	9162.28	12.18	7.10
	Entrance Channel	H	2.24	11600.55	2.28	11951.42	3.02	1.79
	Offshore	I	2.30	63712.47	2.29	63230.97	-0.76	-0.43
7	750' Spur at inshore location, straight with Jetty Ext. Removal		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.85	4050.96	-7.11	-4.15
	Nearshore region from A to erosion end	B	2.11	4899.04	2.05	4627.21	-5.55	-2.84
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7381.68	-3.32	-2.21
	Along Structure - Nearshore	D	2.30	6690.00	1.59	3717.54	-44.43	-30.87
	Along Structure - to first bend	E	2.20	10517.06	2.41	12692.61	20.69	9.55
	Along Structure - to second bend	F	1.50	3352.42	1.74	4316.32	28.75	16.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.80	9107.39	11.50	6.51
	Entrance Channel	H	2.24	11600.55	2.34	12692.38	9.41	4.46
	Offshore	I	2.30	63712.47	2.29	63121.14	-0.93	-0.43
8	750' Spur at inshore location, straight with Terminal Groin		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.84	4017.47	-7.87	-4.66
	Nearshore region from A to erosion end	B	2.11	4899.04	2.05	4624.88	-5.60	-2.84
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7404.60	-3.02	-2.21
	Along Structure - Nearshore	D	2.30	6690.00	1.59	3704.65	-44.62	-30.87
	Along Structure - to first bend	E	2.20	10517.06	2.41	12682.66	20.59	9.55
	Along Structure - to second bend	F	1.50	3352.42	1.74	4311.16	28.60	16.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.80	9140.16	11.90	6.51
	Entrance Channel	H	2.24	11600.55	2.28	11956.57	3.07	1.79
	Offshore	I	2.30	63712.47	2.29	63220.11	-0.77	-0.43
9	T-Heads, 1st Configuration		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.78	4080.92	-6.42	-7.77
	Nearshore region from A to erosion end	B	2.11	4899.04	1.95	4697.30	-4.12	-7.58
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.82	7744.82	1.43	0.55
	Along Structure - Nearshore	D	2.30	6690.00	2.31	6729.75	0.59	0.43
	Along Structure - to first bend	E	2.20	10517.06	2.21	10560.38	0.41	0.45
	Along Structure - to second bend	F	1.50	3352.42	1.52	3431.10	2.35	1.33
	Along Structure - Jetty Extension	G	1.69	8167.80	1.70	8234.29	0.81	0.59
	Entrance Channel	H	2.24	11600.55	2.25	11671.76	0.61	0.45
	Offshore	I	2.30	63712.47	2.32	64468.36	1.19	0.87
10	T-Heads, 2nd Configuration		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.86	4448.92	2.02	-3.63
	Nearshore region from A to erosion end	B	2.11	4899.04	1.98	4903.03	0.08	-6.16
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.78	7799.50	2.15	-1.66
	Along Structure - Nearshore	D	2.30	6690.00	2.36	7136.37	6.67	2.61
	Along Structure - to first bend	E	2.20	10517.06	2.23	10875.81	3.41	1.36
	Along Structure - to second bend	F	1.50	3352.42	1.53	3485.58	3.97	2.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.71	8308.73	1.73	1.18
	Entrance Channel	H	2.24	11600.55	2.27	11867.97	2.31	1.34
	Offshore	I	2.30	63712.47	2.33	64925.46	1.90	1.30

11	Breakwater, Offshore Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.74	3529.09	-19.07	-9.84
	Nearshore region from A to erosion end	B	2.11	4899.04	2.03	4459.74	-8.97	-3.79
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.79	7511.67	-1.62	-1.10
	Along Structure - Nearshore	D	2.30	6690.00	1.78	3991.58	-40.34	-22.61
	Along Structure - to first bend	E	2.20	10517.06	1.58	5512.87	-47.58	-28.18
	Along Structure - to second bend	F	1.50	3352.42	1.32	2599.81	-22.45	-12.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.70	8185.05	0.21	0.59
	Entrance Channel	H	2.24	11600.55	2.23	11558.32	-0.36	-0.45
	Offshore	I	2.30	63712.47	1.94	47419.02	-25.57	-15.65
11a	Breakwater, Nearshore Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.68	3396.76	-22.11	-12.95
	Nearshore region from A to erosion end	B	2.11	4899.04	1.67	3059.83	-37.54	-20.85
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.83	7825.27	2.49	1.10
	Along Structure - Nearshore	D	2.30	6690.00	2.32	6923.62	3.49	0.87
	Along Structure - to first bend	E	2.20	10517.06	2.21	10775.79	2.46	0.45
	Along Structure - to second bend	F	1.50	3352.42	1.52	3452.18	2.98	1.33
	Along Structure - Jetty Extension	G	1.69	8167.80	1.76	8862.88	8.51	4.14
	Entrance Channel	H	2.24	11600.55	2.27	11905.15	2.63	1.34
	Offshore	I	2.30	63712.47	2.33	67958.71	6.66	1.30
11b	Breakwater, Middle Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.87	4036.25	-7.44	-3.11
	Nearshore region from A to erosion end	B	2.11	4899.04	1.88	3874.78	-20.91	-10.90
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.81	7726.56	1.20	0.00
	Along Structure - Nearshore	D	2.30	6690.00	1.97	4959.26	-25.87	-14.35
	Along Structure - to first bend	E	2.20	10517.06	1.98	8395.99	-20.17	-10.00
	Along Structure - to second bend	F	1.50	3352.42	1.49	3366.43	0.42	-0.67
	Along Structure - Jetty Extension	G	1.69	8167.80	1.70	8182.18	0.18	0.59
	Entrance Channel	H	2.24	11600.55	2.26	11823.41	1.92	0.89
	Offshore	I	2.30	63712.47	2.07	55529.77	-12.84	-10.00
12	Breakwater, Nearshore Location and 500' Spur at Offshore Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.70	3488.04	-20.01	-11.92
	Nearshore region from A to erosion end	B	2.11	4899.04	1.56	2739.14	-44.09	-26.07
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.81	7717.25	1.07	0.00
	Along Structure - Nearshore	D	2.30	6690.00	2.29	6634.24	-0.83	-0.43
	Along Structure - to first bend	E	2.20	10517.06	2.13	10239.12	-2.64	-3.18
	Along Structure - to second bend	F	1.50	3352.42	1.70	4179.66	24.68	13.33
	Along Structure - Jetty Extension	G	1.69	8167.80	1.82	9352.06	14.50	7.69
	Entrance Channel	H	2.24	11600.55	2.28	12031.09	3.71	1.79
	Offshore	I	2.30	63712.47	2.31	67181.01	5.44	0.43
13	Comb Spur Groins		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.75	3645.95	-16.39	-9.33
	Nearshore region from A to erosion end	B	2.11	4899.04	2.06	4666.69	-4.74	-2.37
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.80	7562.86	-0.95	-0.55
	Along Structure - Nearshore	D	2.30	6690.00	2.15	6043.52	-9.66	-6.52
	Along Structure - to first bend	E	2.20	10517.06	2.04	9307.21	-11.50	-7.27
	Along Structure - to second bend	F	1.50	3352.42	1.48	3319.52	-0.98	-1.33
	Along Structure - Jetty Extension	G	1.69	8167.80	1.71	8282.46	1.40	1.18
	Entrance Channel	H	2.24	11600.55	2.25	11674.42	0.64	0.45
	Offshore	I	2.30	63712.47	2.29	62889.80	-1.29	-0.43

14	Offshore Borrow Location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.95	4428.21	1.54	1.04
	Nearshore region from A to erosion end	B	2.11	4899.04	2.11	4883.80	-0.31	0.00
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.80	7621.68	-0.18	-0.55
	Along Structure - Nearshore	D	2.30	6690.00	2.28	6566.79	-1.84	-0.87
	Along Structure - to first bend	E	2.20	10517.06	2.20	10511.90	-0.05	0.00
	Along Structure - to second bend	F	1.50	3352.42	1.51	3371.16	0.56	0.67
	Along Structure - Jetty Extension	G	1.69	8167.80	1.70	8175.66	0.10	0.59
	Entrance Channel	H	2.24	11600.55	2.24	11606.88	0.05	0.00
	Offshore	I	2.30	63712.47	2.31	63985.77	0.43	0.43
15	750' Spur at offshore location, angled		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.91	4325.17	-0.82	-1.04
	Nearshore region from A to erosion end	B	2.11	4899.04	2.05	4596.08	-6.18	-2.84
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.81	7665.56	0.40	0.00
	Along Structure - Nearshore	D	2.30	6690.00	2.06	5461.25	-18.37	-10.43
	Along Structure - to first bend	E	2.20	10517.06	2.17	10941.99	4.04	-1.36
	Along Structure - to second bend	F	1.50	3352.42	1.77	4547.90	35.66	18.00
	Along Structure - Jetty Extension	G	1.69	8167.80	1.81	9268.72	13.48	7.10
	Entrance Channel	H	2.24	11600.55	2.31	12269.47	5.77	3.12
	Offshore	I	2.30	63712.47	2.30	63355.13	-0.56	0.00
16	Jetty Roughening		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.74	3597.66	-17.50	-9.84
	Nearshore region from A to erosion end	B	2.11	4899.04	2.04	4551.12	-7.10	-3.32
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7370.39	-3.47	-2.21
	Along Structure - Nearshore	D	2.30	6690.00	2.05	5575.18	-16.66	-10.87
	Along Structure - to first bend	E	2.20	10517.06	1.88	8067.29	-23.29	-14.55
	Along Structure - to second bend	F	1.50	3352.42	1.37	2773.35	-17.27	-8.67
	Along Structure - Jetty Extension	G	1.69	8167.80	1.70	8171.59	0.05	0.59
	Entrance Channel	H	2.24	11600.55	2.24	11640.97	0.35	0.00
	Offshore	I	2.30	63712.47	2.26	61089.62	-4.12	-1.74
17	Submerged Breakwater		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.92	4329.96	-0.71	-0.52
	Nearshore region from A to erosion end	B	2.11	4899.04	2.08	4785.27	-2.32	-1.42
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.82	7772.16	1.79	0.55
	Along Structure - Nearshore	D	2.30	6690.00	2.27	6511.88	-2.66	-1.30
	Along Structure - to first bend	E	2.20	10517.06	2.12	9841.36	-6.42	-3.64
	Along Structure - to second bend	F	1.50	3352.42	1.45	3134.16	-6.51	-3.33
	Along Structure - Jetty Extension	G	1.69	8167.80	1.69	8153.93	-0.17	0.00
	Entrance Channel	H	2.24	11600.55	2.24	11630.22	0.26	0.00
	Offshore	I	2.30	63712.47	2.26	61579.32	-3.35	-1.74
18	Breakwater, Nearshore Location with 500' straight spur at inshore location		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.51	2831.69	-35.07	-21.76
	Nearshore region from A to erosion end	B	2.11	4899.04	1.47	2412.61	-50.75	-30.33
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.78	7419.35	-2.83	-1.66
	Along Structure - Nearshore	D	2.30	6690.00	1.90	4841.72	-27.63	-17.39
	Along Structure - to first bend	E	2.20	10517.06	2.34	12059.55	14.67	6.36
	Along Structure - to second bend	F	1.50	3352.42	1.66	3977.10	18.63	10.67
	Along Structure - Jetty Extension	G	1.69	8167.80	1.84	9575.33	17.23	8.88
	Entrance Channel	H	2.24	11600.55	2.27	11968.20	3.17	1.34
	Offshore	I	2.30	63712.47	2.32	67856.43	6.50	0.87
19	750' Spur with Jetty Roughening from spur to bend and partial ext. removal		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.84	4035.39	-7.46	-4.66
	Nearshore region from A to erosion end	B	2.11	4899.04	2.05	4590.81	-6.29	-2.84
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7348.04	-3.76	-2.21
	Along Structure - Nearshore	D	2.30	6690.00	1.57	3659.76	-45.30	-31.74
	Along Structure - to first bend	E	2.20	10517.06	2.18	10468.45	-0.46	-0.91
	Along Structure - to second bend	F	1.50	3352.42	1.55	3545.98	5.77	3.33
	Along Structure - Jetty Extension	G	1.69	8167.80	1.73	8483.92	3.87	2.37
	Entrance Channel	H	2.24	11600.55	2.33	12614.57	8.74	4.02
	Offshore	I	2.30	63712.47	2.26	61544.58	-3.40	-1.74

20	Case 11a with a salient formation		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.57	2891.55	-33.69	-18.65
	Nearshore region from A to erosion end	B	2.11	4899.04	1.41	2267.42	-53.72	-33.18
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.74	7085.42	-7.2	-3.87
	Along Structure - Nearshore	D	2.3	6690	2.25	6416.55	-4.09	-2.17
	Along Structure - to first bend	E	2.2	10517.06	2.19	10520.38	0.03	-0.45
	Along Structure - to second bend	F	1.5	3352.42	1.51	3384.38	0.95	0.67
	Along Structure - Jetty Extension	G	1.69	8167.8	1.76	8788.36	7.6	4.14
	Entrance Channel	H	2.24	11600.55	2.22	11568.71	-0.27	-0.89
	Offshore	I	2.3	63712.47	2.31	67272.19	5.59	0.43
22	750' Spur with Segmented BW (2)		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.51	2789.32	-36.04	-21.76
	Nearshore region from A to erosion end	B	2.11	4899.04	1.96	4208.78	-14.09	-7.11
	Inshore region of area B	B2	1.94	1792.8	1.9	1721.088	-1.04	-2.06
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7353.55	-3.69	-2.21
	Along Structure - Nearshore	D	2.3	6690	1.51	3324.53	-50.31	-34.35
	Along Structure - to first bend	E	2.2	10517.06	2.42	12785.64	21.57	10.00
	Along Structure - to second bend	F	1.5	3352.42	1.76	4411.44	31.59	17.33
	Along Structure - Jetty Extension	G	1.69	8167.8	1.8	9074.75	11.1	6.51
	Entrance Channel	H	2.24	11600.55	2.28	11953.9	3.05	1.79
	Offshore	I	2.3	63712.47	2.34	66519.31	4.41	1.74
23	500' Spur with Segmented BW (3)		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.39	2314.89	-46.92	-27.98
	Nearshore region from A to erosion end	B	2.11	4899.04	1.96	4292.71	-12.38	-7.11
	Inshore region of area B	B2	1.94	1792.8	1.91	1776.55	-0.91	-1.55
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7397.55	-3.11	-2.21
	Along Structure - Nearshore	D	2.3	6690	1.78	4353.57	-34.92	-22.61
	Along Structure - to first bend	E	2.2	10517.06	2.37	12284.14	16.8	7.73
	Along Structure - to second bend	F	1.5	3352.42	1.69	4103.02	22.39	12.67
	Along Structure - Jetty Extension	G	1.69	8167.8	1.8	9112.94	11.57	6.51
	Entrance Channel	H	2.24	11600.55	2.27	11886.64	2.47	1.34
	Offshore	I	2.3	63712.47	2.38	68939.26	8.2	3.48
24	Alt. 23 with additional northern BW		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.4	2336.16	-46.43	-27.46
	Nearshore region from A to erosion end	B	2.11	4899.04	1.88	4153.92	-15.21	-10.90
	Inshore region of area B	B2	1.94	1792.8	1.66	1373.21	-23.4	-14.43
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.77	7393.11	-3.17	-2.21
	Along Structure - Nearshore	D	2.3	6690	1.79	4365.93	-34.74	-22.17
	Along Structure - to first bend	E	2.2	10517.06	2.37	12246.46	16.44	7.73
	Along Structure - to second bend	F	1.5	3352.42	1.68	4051.58	20.86	12.00
	Along Structure - Jetty Extension	G	1.69	8167.8	1.8	9116.2	11.61	6.51
	Entrance Channel	H	2.24	11600.55	2.27	11870.7	2.33	1.34
	Offshore	I	2.3	63712.47	2.4	69657.02	9.33	4.35
25	Spur moved landward and 3 BW		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.44	2494.3	-42.8	-25.39
	Nearshore region from A to erosion end	B	2.11	4899.04	1.72	3691.35	-24.65	-18.48
	Inshore region of area B	B2	1.94	1792.8	1.35	1054.51	-41.18	-30.41
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.78	7467.25	-2.2	-1.66
	Along Structure - Nearshore	D	2.3	6690	1.99	5831.52	-12.83	-13.48
	Along Structure - to first bend	E	2.2	10517.06	2.3	11549.86	9.82	4.55
	Along Structure - to second bend	F	1.5	3352.42	1.64	4016.47	19.81	9.33
	Along Structure - Jetty Extension	G	1.69	8167.8	1.77	8871.04	8.61	4.73
	Entrance Channel	H	2.24	11600.55	2.29	12086.47	4.19	2.23
	Offshore	I	2.3	63712.47	2.38	68735.59	7.88	3.48
26	Case 24 with add. longer northern BW		Avg WH	Energy	Avg WH	Energy	% Energy	WH %
	Nearshore region from structure	A	1.93	4360.84	1.39	2305.89	-47.12	-27.98
	Nearshore region from A to erosion end	B	2.11	4899.04	1.76	3905.17	-20.29	-16.59
	Inshore region of area B	B2	1.94	1792.8	1.38	1075.55	-40.01	-28.87
	Nearshore region - Ferry Beach	C	1.81	7635.26	1.78	7416.41	-2.87	-1.66
	Along Structure - Nearshore	D	2.3	6690	1.78	4327.33	-35.32	-22.61
	Along Structure - to first bend	E	2.2	10517.06	2.37	12258.03	16.55	7.73
	Along Structure - to second bend	F	1.5	3352.42	1.69	4090.75	22.02	12.67
	Along Structure - Jetty Extension	G	1.69	8167.8	1.79	9030.57	10.56	5.92
	Entrance Channel	H	2.24	11600.55	2.27	11871.94	2.34	1.34
	Offshore	I	2.3	63712.47	2.41	70211.52	10.2	4.78
Positive Value = Increase ; Negative Value = Decrease								
WH = Wave Height in Meters, Energy in Meters Squared								