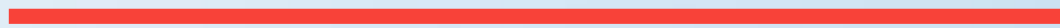


Appendix 9.2

Climate Change Calculations



design life of the plant = 30 years obtained from the FRA (2013)

Wave height

2006 wave height (m) obtained from App B of the 2013 FRA 1.19

2050 wave height (m) obtained from App B of the 2013 FRA 1.59

It is uncertain how the wave heights were estimated in the original FRA. However, there is no change to the climate change guidance related to wave height since the FRA was produced (2013), hence the wave heights estimated in the App B of the FRA is considered to be valid.

Risk of Breach on Overtopping

2006 data was extracted from App B of the FRA (2013) - this data was obtained from Table C1 of the EA's Overtopping Report (December 2010).

SWL between 2007 and 2050 were estimated using current EA climate change guidance for sea level rise.

Wave height was extracted from App B of the FRA (2013).

Section 21

	1yr SWL	10yr SWL	75yr SWL	100yr SWL	150yr SWL	200yr SWL	Wave height	1yr SWL+Wave	10yr SWL + Wave	75yr SWL +Wave	100yr SWL+Wave	150yr SWL+Wave	200yr SWL+wave
2006	4.36	4.73	5.06	5.1	5.17	5.21	1.19	5.55	5.92	6.25	6.29	6.36	6.4
2007	4.37	4.74	5.07	5.11	5.18	5.22	1.20	5.57	5.94	6.27	6.31	6.38	6.42
2008	4.37	4.74	5.07	5.11	5.18	5.22	1.21	5.58	5.95	6.28	6.32	6.39	6.43
2009	4.38	4.75	5.08	5.12	5.19	5.23	1.22	5.60	5.97	6.30	6.34	6.41	6.45
2010	4.38	4.75	5.08	5.12	5.19	5.23	1.23	5.61	5.98	6.31	6.35	6.42	6.46
2011	4.39	4.76	5.09	5.13	5.20	5.24	1.24	5.63	6.00	6.33	6.37	6.44	6.48
2012	4.39	4.76	5.09	5.13	5.20	5.24	1.24	5.63	6.00	6.33	6.37	6.44	6.48
2013	4.40	4.77	5.10	5.14	5.21	5.25	1.25	5.65	6.02	6.35	6.39	6.46	6.50
2014	4.40	4.77	5.10	5.14	5.21	5.25	1.26	5.66	6.03	6.36	6.40	6.47	6.51
2015	4.41	4.78	5.11	5.15	5.22	5.26	1.27	5.68	6.05	6.38	6.42	6.49	6.53
2016	4.42	4.79	5.12	5.16	5.23	5.27	1.28	5.70	6.07	6.40	6.44	6.51	6.55
2017	4.42	4.79	5.12	5.16	5.23	5.27	1.29	5.71	6.08	6.41	6.45	6.52	6.56

2018	4.43	4.80	5.13	5.17	5.24	5.28	1.30	5.73	6.10	6.43	6.47	6.54	6.58
2019	4.43	4.80	5.13	5.17	5.24	5.28	1.31	5.74	6.11	6.44	6.48	6.55	6.59
2020	4.44	4.81	5.14	5.18	5.25	5.29	1.32	5.76	6.13	6.46	6.50	6.57	6.61
2021	4.44	4.81	5.14	5.18	5.25	5.29	1.33	5.77	6.14	6.47	6.51	6.58	6.62
2022	4.45	4.82	5.15	5.19	5.26	5.30	1.34	5.79	6.16	6.49	6.53	6.60	6.64
2023	4.45	4.82	5.15	5.19	5.26	5.30	1.34	5.79	6.16	6.49	6.53	6.60	6.64
2024	4.46	4.83	5.16	5.20	5.27	5.31	1.35	5.81	6.18	6.51	6.55	6.62	6.66
2025	4.46	4.83	5.16	5.20	5.27	5.31	1.36	5.82	6.19	6.52	6.56	6.63	6.67
2026	4.47	4.84	5.17	5.21	5.28	5.32	1.37	5.84	6.21	6.54	6.58	6.65	6.69
2027	4.48	4.85	5.18	5.22	5.29	5.33	1.38	5.86	6.23	6.56	6.60	6.67	6.71
2028	4.48	4.85	5.18	5.22	5.29	5.33	1.39	5.87	6.24	6.57	6.61	6.68	6.72
2029	4.49	4.86	5.19	5.23	5.30	5.34	1.40	5.89	6.26	6.59	6.63	6.70	6.74
2030	4.49	4.86	5.19	5.23	5.30	5.34	1.41	5.90	6.27	6.60	6.64	6.71	6.75
2031	4.50	4.87	5.20	5.24	5.31	5.35	1.42	5.92	6.29	6.62	6.66	6.73	6.77
2032	4.50	4.87	5.20	5.24	5.31	5.35	1.43	5.93	6.30	6.63	6.67	6.74	6.78
2033	4.51	4.88	5.21	5.25	5.32	5.36	1.44	5.95	6.32	6.65	6.69	6.76	6.80
2034	4.51	4.88	5.21	5.25	5.32	5.36	1.44	5.95	6.32	6.65	6.69	6.76	6.80
2035	4.52	4.89	5.22	5.26	5.33	5.37	1.45	5.97	6.34	6.67	6.71	6.78	6.82
2036	4.53	4.90	5.23	5.27	5.34	5.38	1.46	5.99	6.36	6.69	6.73	6.80	6.84
2037	4.54	4.91	5.24	5.28	5.35	5.39	1.47	6.01	6.38	6.71	6.75	6.82	6.86
2038	4.54	4.91	5.24	5.28	5.35	5.39	1.48	6.02	6.39	6.72	6.76	6.83	6.87
2039	4.55	4.92	5.25	5.29	5.36	5.40	1.49	6.04	6.41	6.74	6.78	6.85	6.89
2040	4.56	4.93	5.26	5.30	5.37	5.41	1.50	6.06	6.43	6.76	6.80	6.87	6.91
2041	4.57	4.94	5.27	5.31	5.38	5.42	1.51	6.08	6.45	6.78	6.82	6.89	6.93
2042	4.58	4.95	5.28	5.32	5.39	5.43	1.52	6.10	6.47	6.80	6.84	6.91	6.95
2043	4.59	4.96	5.29	5.33	5.40	5.44	1.53	6.12	6.49	6.82	6.86	6.93	6.97
2044	4.60	4.97	5.30	5.34	5.41	5.45	1.54	6.14	6.51	6.84	6.88	6.95	6.99
2045	4.60	4.97	5.30	5.34	5.41	5.45	1.54	6.14	6.51	6.84	6.88	6.95	6.99
2046	4.61	4.98	5.31	5.35	5.42	5.46	1.55	6.16	6.53	6.86	6.90	6.97	7.01
2047	4.62	4.99	5.32	5.36	5.43	5.47	1.56	6.18	6.55	6.88	6.92	6.99	7.03
2048	4.63	5.00	5.33	5.37	5.44	5.48	1.57	6.20	6.57	6.90	6.94	7.01	7.05
2049	4.64	5.01	5.34	5.38	5.45	5.49	1.58	6.22	6.59	6.92	6.96	7.03	7.07
2050	4.65	5.02	5.35	5.39	5.46	5.50	1.59	6.24	6.61	6.94	6.98	7.05	7.09

Section 20

	1yr SWL	10yr SWL	75yr SWL	100yr SWL	150yr SWL	200y SWL	Wave height	1yr SWL+Wave	10yr SWL + Wave	75yr SWL +Wave	100yr SWL+Wave	150yr SWL+Wave	200yr SWL+wave
2006	4.28	4.68	5.03	5.08	5.15	5.2	1.19	5.47	5.87	6.22	6.27	6.34	6.39
2007	4.29	4.69	5.04	5.09	5.16	5.21	1.20	5.49	5.89	6.24	6.29	6.36	6.41
2008	4.29	4.69	5.04	5.09	5.16	5.21	1.21	5.50	5.90	6.25	6.30	6.37	6.42
2009	4.30	4.70	5.05	5.10	5.17	5.22	1.22	5.52	5.92	6.27	6.32	6.39	6.44
2010	4.30	4.70	5.05	5.10	5.17	5.22	1.23	5.53	5.93	6.28	6.33	6.40	6.45
2011	4.31	4.71	5.06	5.11	5.18	5.23	1.24	5.55	5.95	6.30	6.35	6.42	6.47
2012	4.31	4.71	5.06	5.11	5.18	5.23	1.24	5.55	5.95	6.30	6.35	6.42	6.47
2013	4.32	4.72	5.07	5.12	5.19	5.24	1.25	5.57	5.97	6.32	6.37	6.44	6.49
2014	4.32	4.72	5.07	5.12	5.19	5.24	1.26	5.58	5.98	6.33	6.38	6.45	6.50
2015	4.33	4.73	5.08	5.13	5.20	5.25	1.27	5.60	6.00	6.35	6.40	6.47	6.52
2016	4.34	4.74	5.09	5.14	5.21	5.26	1.28	5.62	6.02	6.37	6.42	6.49	6.54
2017	4.34	4.74	5.09	5.14	5.21	5.26	1.29	5.63	6.03	6.38	6.43	6.50	6.55
2018	4.35	4.75	5.10	5.15	5.22	5.27	1.30	5.65	6.05	6.40	6.45	6.52	6.57
2019	4.35	4.75	5.10	5.15	5.22	5.27	1.31	5.66	6.06	6.41	6.46	6.53	6.58
2020	4.36	4.76	5.11	5.16	5.23	5.28	1.32	5.68	6.08	6.43	6.48	6.55	6.60
2021	4.36	4.76	5.11	5.16	5.23	5.28	1.33	5.69	6.09	6.44	6.49	6.56	6.61
2022	4.37	4.77	5.12	5.17	5.24	5.29	1.34	5.71	6.11	6.46	6.51	6.58	6.63
2023	4.37	4.77	5.12	5.17	5.24	5.29	1.34	5.71	6.11	6.46	6.51	6.58	6.63
2024	4.38	4.78	5.13	5.18	5.25	5.30	1.35	5.73	6.13	6.48	6.53	6.60	6.65
2025	4.38	4.78	5.13	5.18	5.25	5.30	1.36	5.74	6.14	6.49	6.54	6.61	6.66
2026	4.39	4.79	5.14	5.19	5.26	5.31	1.37	5.76	6.16	6.51	6.56	6.63	6.68
2027	4.40	4.80	5.15	5.20	5.27	5.32	1.38	5.78	6.18	6.53	6.58	6.65	6.70
2028	4.40	4.80	5.15	5.20	5.27	5.32	1.39	5.79	6.19	6.54	6.59	6.66	6.71
2029	4.41	4.81	5.16	5.21	5.28	5.33	1.40	5.81	6.21	6.56	6.61	6.68	6.73
2030	4.41	4.81	5.16	5.21	5.28	5.33	1.41	5.82	6.22	6.57	6.62	6.69	6.74
2031	4.42	4.82	5.17	5.22	5.29	5.34	1.42	5.84	6.24	6.59	6.64	6.71	6.76
2032	4.42	4.82	5.17	5.22	5.29	5.34	1.43	5.85	6.25	6.60	6.65	6.72	6.77
2033	4.43	4.83	5.18	5.23	5.30	5.35	1.44	5.87	6.27	6.62	6.67	6.74	6.79
2034	4.43	4.83	5.18	5.23	5.30	5.35	1.44	5.87	6.27	6.62	6.67	6.74	6.79

2035	4.44	4.84	5.19	5.24	5.31	5.36	1.45	5.89	6.29	6.64	6.69	6.76	6.81
2036	4.45	4.85	5.20	5.25	5.32	5.37	1.46	5.91	6.31	6.66	6.71	6.78	6.83
2037	4.46	4.86	5.21	5.26	5.33	5.38	1.47	5.93	6.33	6.68	6.73	6.80	6.85
2038	4.46	4.86	5.21	5.26	5.33	5.38	1.48	5.94	6.34	6.69	6.74	6.81	6.86
2039	4.47	4.87	5.22	5.27	5.34	5.39	1.49	5.96	6.36	6.71	6.76	6.83	6.88
2040	4.48	4.88	5.23	5.28	5.35	5.40	1.50	5.98	6.38	6.73	6.78	6.85	6.90
2041	4.49	4.89	5.24	5.29	5.36	5.41	1.51	6.00	6.40	6.75	6.80	6.87	6.92
2042	4.50	4.90	5.25	5.30	5.37	5.42	1.52	6.02	6.42	6.77	6.82	6.89	6.94
2043	4.51	4.91	5.26	5.31	5.38	5.43	1.53	6.04	6.44	6.79	6.84	6.91	6.96
2044	4.52	4.92	5.27	5.32	5.39	5.44	1.54	6.06	6.46	6.81	6.86	6.93	6.98
2045	4.52	4.92	5.27	5.32	5.39	5.44	1.54	6.06	6.46	6.81	6.86	6.93	6.98
2046	4.53	4.93	5.28	5.33	5.40	5.45	1.55	6.08	6.48	6.83	6.88	6.95	7.00
2047	4.54	4.94	5.29	5.34	5.41	5.46	1.56	6.10	6.50	6.85	6.90	6.97	7.02
2048	4.55	4.95	5.30	5.35	5.42	5.47	1.57	6.12	6.52	6.87	6.92	6.99	7.04
2049	4.56	4.96	5.31	5.36	5.43	5.48	1.58	6.14	6.54	6.89	6.94	7.01	7.06
2050	4.57	4.97	5.32	5.37	5.44	5.49	1.59	6.16	6.56	6.91	6.96	7.03	7.08