

Location: Aughinish CHP and ESB Sub Station Co. Limerick		Unique ID: 240366 (from PFRA database)	
Initial OPW Designation	APSR <input type="checkbox"/>	AFRR <input checked="" type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 129250	Northing: 153000	
River / Catchment / Sub-catchment	River Shannon / Shannon		
Type of Flooding / Flood Risk (identify all that apply)	Fluvial non-tidal <input type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input checked="" type="checkbox"/>		

Stage 1: Desktop Review	
<p>1.1 Flood History (include review of Floodmaps.ie)</p>	<p>River Flow Path</p> <p>Aughinish CHP and ESB Sub Station are situated on Aughinish Island in the Shannon Estuary and at the mouth of the Robertstown river and Poulaweala Creek.</p> <p>At this location the Shannon Estuary is several km wide, fully influenced by the tide rather than fluvial flows, and is therefore noted as being vulnerable to “coastal” flooding rather than “fluvial tidal” flooding.</p> <p>Flood event records</p> <p>No flood records are listed in floodmaps.ie</p>
<p>1.2 Relevant information on flooding issues from OPW and LA staff</p>	<p>PFRA database comments (<i>in italics</i>):</p> <p>OPW comments <i>ESB Sub station, coastal, IRR Risk Review, using ICPSS data when available - and possible minor works - Inform ESB - Not an APSR Original comment related to MORGANS NORTH</i></p> <p>LA comments <i>No comments.</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments No comments</p> <p>LA comments No comments</p>

1.4 PFRA Data			
1.4.1 PFRA hazard mapping	PFRA mapping available in GIS layer:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	PFRA mapping included on FRR map:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
1.4.2 Summary of Principal Receptors	Type	FRI score (if available)	
	ESB_HV_Sub_Weighted_T_C Total Note: The additional score of 13.7 is from the RES_COAST (coastal residential) score.	3435 3448.7	
1.7 Stage 1 Evaluation	Aspect	Clearly IRR	Uncertain
	Flood History (1.1)		x
	OPW / LA Information (1.2)		x
	PFRA Evaluation (1.4)	x	
	Overall Desktop Evaluation (if any above aspect is uncertain then overall designation is uncertain)		x
1.8 Proposed level of assessment for Stage 2 site visits	Level A Site Visit	X	
	Level B Site Visit		

Stage 2: Site Inspection		Level A Assessment		
Date and Time of Inspection		Date: 07/09/11		
		Time: 10:00		
Names of inspection team (including OPW/LA staff if present)		Iain Blackwell		
		Peter Smyth		
2.1 Ground-truthing of Hazard Mapping	Fluvial non-tidal <input type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/> Not available <input checked="" type="checkbox"/>			
No hazard mapping for coastal flooding for ground truthing.				
2.2 Spot check ground-truthing of selected receptor vulnerability (also note any key receptors noted during visit that are not identified by PFRA)	Receptor Type	Location description (if not obvious)	Exists?	Overall Vulnerability / Risk (L / M / H)
	CHP Plant and HV Sub-station	Close to entrance of Aughinish Alumina Plant on Aughinish Island	Y	L
2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit)	No on site comments			
2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes	Any potential flood risk is from the Shannon Estuary, and therefore there are no hydraulic constrictions or conveyance routes.			

2.5 SVRS Assessment Matrix												
Weightings: A - x1 - reasonable expectation of flooding B - x2 - high expectation of flooding or flooding is tidal (any risk) C - x5 - risk to life												
Approx. Number	1 to 4			5 to 20			>20					
Weighting	A	B	C	A	B	C	A	B	C			
Property (domestic)	10				100				200			
Property (small retail or business)	20				200				400			
Property (large retail or business)	50				500				1000			
Road or Rail Infrastructure	30				300				600			
Critical Infrastructure (local) [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)]	50				500				1000			
Critical Infrastructure (national importance)	250				1000				2000			
Cultural Heritage Site	20				200				400			
Environmental Designated Site	20				200				400			
Hazardous Substances Site	50				500				1000			
Total SVRS							0					
2.6 Defence Assets												
Formal and Informal Flood Defence Assets <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i>	Open Channel Watercourses Man-made river channel <input type="checkbox"/> Flood relief channel <input type="checkbox"/> Canal <input type="checkbox"/> Mill leat <input type="checkbox"/> Drainage channels / back drains <input type="checkbox"/>											
	Bridges and Culvert crossings Single Arch bridge <input type="checkbox"/> Multi-Arch bridge <input type="checkbox"/> Single Span bridge <input type="checkbox"/> Multi-Span bridge <input type="checkbox"/> Box culvert(s) <input type="checkbox"/> Pipe culvert(s) <input type="checkbox"/> Arch Culvert(s) <input type="checkbox"/>											
	Culverted Watercourses (culvert length is greater than just a crossing) Box culvert(s) <input type="checkbox"/> Pipe culvert(s) <input type="checkbox"/> Arch Culvert(s) <input type="checkbox"/> Irregular Culvert(s) <input type="checkbox"/>											
	Walls and Embankments Embankment(s) <input type="checkbox"/> Raised wall(s) <input type="checkbox"/> Retaining wall(s) <input type="checkbox"/>											
	Control Structures – weirs, gates, dams Fixed crest weir <input type="checkbox"/> Adjustable weir <input type="checkbox"/> Dam / Barrage <input type="checkbox"/> Sluice gates <input type="checkbox"/> Lock gates <input type="checkbox"/> Radial gates <input type="checkbox"/>											
	Storage On-line storage (natural) <input type="checkbox"/> On-line storage (artificial) <input type="checkbox"/> Off-line storage <input type="checkbox"/>											

	<p>Outfalls Flapped outfall(s) into watercourse <input type="checkbox"/> Unflapped outfall(s) into watercourse <input type="checkbox"/> <i>i.e. from smaller watercourses, drains etc. into river / estuary / sea</i> Tidal flap(s) <input type="checkbox"/> Tidal sluice(s) <input type="checkbox"/> <i>i.e. from main watercourse into estuary / sea</i></p> <p>Other Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/></p> <p>Additional notes (if required): There are no flood defences at the site as it is well above maximum tide levels (several metres) with no tidal flood risk.</p>
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2.8 Initial Potential Mitigation Measures

Non-structural measures	Planning and Development control <input type="checkbox"/> Sustainable Urban Drainage Systems <input type="checkbox"/> Flood forecasting / warning <input type="checkbox"/> Change in Operating Procedures for water level control: <input type="checkbox"/> Public awareness campaign <input type="checkbox"/> Individual property protection <input type="checkbox"/> Land use management <input type="checkbox"/>
Structural measures	<p>Strategic development management for floodplain development: <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i></p> <p>Storage: On-line <input type="checkbox"/> Off-line <input type="checkbox"/></p> <p>Flow diversion: Flood relief channel <input type="checkbox"/> Flood relief culvert <input type="checkbox"/></p> <p>Increase conveyance: Bridge works <input type="checkbox"/> Channel works <input type="checkbox"/> Floodplain <input type="checkbox"/></p> <p>Flood defences: Walls <input type="checkbox"/> Embankments <input type="checkbox"/></p> <p>Localised works: Defence raising <input type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/></p> <p>Maintenance works: Culvert / channel clearance <input type="checkbox"/> Asset maintenance <input type="checkbox"/></p> <p>Relocation of properties: <input type="checkbox"/></p> <p>Improve existing defences: <input type="checkbox"/> (describe)</p> <p>Other (describe):</p>

Outcomes				
PFRA Designation	APSR <input type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input checked="" type="checkbox"/>		FRI Score: 3448.7	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
				x
Site Visit Review Score	0			
Recommended Designation	APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	There is no known historical evidence of flooding at Aughinish Island; however the strategic importance of the CHP and ESB Sub Station, and the high PFRA score is sufficient to justify a Flood Risk Review of the site. The site visit confirmed that the CHP Plant and Substation are several metres above the highest tides, and therefore there is not a significant flood risk at the site. The site is recommended NOT to be designated as an IRR (or an APSR).			



Photo 1: Aughinish Alumina works with the ESB Sub-station.



Photo 2: ESB 110kV Sub-station located well above high tide levels, at the southern end of the site.



Photo 3: Aughinish Alumina Combined Heat & Power (CHP) Plant located in the centre of the site.



Photo 4: Aerial view of Aughinish Alumina site. The red and white chimney at the CHP plant is seen in the centre of the site.

