



Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

Consequence Analysis Scenario Calculation Sheets

Revision	Date	By Name / Company	Comments
00	29/05/2015	SHA / AECOM	First Issue (E2-scenarios)
01	07/10/2015	SHA / AECOM	Add scenarios at FSU
02	15/03/2016	SHA / AECOM	Revised with comments from local authorities' advisor
03			
04			
05			
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Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
FS-011-250	FSU cargo tanks, Large leak, 250 mm	Flash fire	FS-011-250-FF (F2)	Thermal	483								Rapid
FS-011-250	FSU cargo tanks, Large leak, 250 mm	Flash fire	FS-011-250-FF (D5)	Thermal	347								Rapid
FS-011-250	FSU cargo tanks, Large leak, 250 mm	VCE	FS-011-250-VCE	Overpressure		N/A	N/A		N/A		N/A	570	Rapid
FS-011-250	FSU cargo tanks, Large leak, 250 mm	Jet fire	FS-011-250-JF	Thermal		132	139	140	144	146	151		Rapid
FS-011-250	FSU cargo tanks, Large leak, 250 mm	Pool fire	FS-011-250-PF	Thermal		109	180	188	218	239	276		Rapid
FS-011-250	FSU cargo tanks, Large leak, 250 mm	Freezing liquid release	FS-011-250-FLR	Thermal	23								Rapid
FS-011-250	FSU cargo tanks, Large leak, 250 mm	Rapid phase transition	FS-011-250-RPT	Thermal	23								Rapid
FS-011-500	FSU cargo tanks, Large leak, 500 mm	Pool fire	FS-011-500-PF	Thermal		168	267	279	318	346	400		Rapid
FS-011-1000	FSU cargo tanks, Large leak, 1000 mm	Pool fire	FS-011-1000-PF	Thermal		211	356	374	433	476	555		Rapid
FS-021-10	LNG liquid header, Small leak, Ship-to- ship transfer	Flash fire	FS-021-10-FF (F2)	Thermal	11								Rapid
FS-021-10	LNG liquid header, Small leak, Ship-to- ship transfer	Flash fire	FS-021-10-FF (D5)	Thermal	11								Rapid
FS-021-10	LNG liquid header, Small leak, Ship-to- ship transfer	Jet fire	FS-021-10-JF	Thermal		17	18	19	20	21	22		Rapid
FS-021-10	LNG liquid header, Small leak, Ship-to- ship transfer	Pool fire	FS-021-10-PF	Thermal		30	44	45	52	56	64		Rapid
FS-021-50	LNG liquid header, Medium leak, Ship-to- ship transfer	Flash fire	FS-021-50-FF (F2)	Thermal	70								Rapid
FS-021-50	LNG liquid header, Medium leak, Ship-to- ship transfer	Flash fire	FS-021-50-FF (D5)	Thermal	32								Rapid
FS-021-50	LNG liquid header, Medium leak, Ship-to- ship transfer	VCE	FS-021-50-VCE	Overpressure		N/A	N/A		N/A		N/A	85	Rapid
FS-021-50	LNG liquid header, Medium leak, Ship-to- ship transfer	Jet fire	FS-021-50-JF	Thermal		67	68	69	71	72	75		Rapid
FS-021-50	LNG liquid header, Medium leak, Ship-to- ship transfer	Pool fire	FS-021-50-PF	Thermal		30	44	45	52	56	64		Rapid
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-021-FBR-FF (F2)	Thermal	624								Rapid
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-021-FBR-FF (D5)	Thermal	422								Rapid
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	VCE	FS-021-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	731	Rapid
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	Jet fire	FS-021-FBR-JF	Thermal		197	207	208	213	218	225		Rapid

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N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	Pool fire	FS-021-FBR-PF	Thermal		123	201	211	244	268	306		Rapid
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	Freezing liquid release	FS-021-FBR-FLR	-	27								Rapid
FS-021-FBR	LNG liquid header, Full bore rupture, Ship-to-ship transfer	Rapid phase transition	FS-021-FBR-RPT	-	27								Rapid
FS-022-10	LNG liquid header, Small leak, Transfer between tanks	Flash fire	FS-022-10-FF (F2)	Thermal	11								Rapid
FS-022-10	LNG liquid header, Small leak, Transfer between tanks	Flash fire	FS-022-10-FF (D5)	Thermal	12								Rapid
FS-022-10	LNG liquid header, Small leak, Transfer between tanks	Jet fire	FS-022-10-JF	Thermal		17	18	19	20	21	22		Rapid
FS-022-10	LNG liquid header, Small leak, Transfer between tanks	Pool fire	FS-022-10-PF	Thermal		30	44	45	52	56	64		Rapid
FS-022-50	LNG liquid header, Medium leak, Transfer between tanks	Flash fire	FS-022-50-FF (F2)	Thermal	70								Rapid
FS-022-50	LNG liquid header, Medium leak, Transfer between tanks	Flash fire	FS-022-50-FF (D5)	Thermal	32								Rapid
FS-022-50	LNG liquid header, Medium leak, Transfer between tanks	VCE	FS-022-50-VCE	Overpressure		N/A	N/A		N/A		N/A	85	Rapid
FS-022-50	LNG liquid header, Medium leak, Transfer between tanks	Jet fire	FS-022-50-JF	Thermal		67	68	69	71	72	75		Rapid
FS-022-50	LNG liquid header, Medium leak, Transfer between tanks	Pool fire	FS-022-50-PF	Thermal		30	44	45	52	56	64		Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	Flash fire	FS-022-FBR-FF (F2)	Thermal	415								Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	Flash fire	FS-022-FBR-FF (D5)	Thermal	220								Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	VCE	FS-022-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	455	Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	Jet fire	FS-022-FBR-JF	Thermal		93	96	97	98	99	102		Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	Pool fire	FS-022-FBR-PF	Thermal		80	134	140	162	177	204		Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	Freezing liquid release	FS-022-FBR-FLR	-	16								Rapid
FS-022-FBR	LNG liquid header, Full bore rupture, Transfer between tanks	Rapid phase transition	FS-022-FBR-RPT	-	16								Rapid
FS-031-10	LNG spray header, Small leak	Flash fire	FS-031-10-FF (F2)	Thermal	14								Rapid
FS-031-10	LNG spray header, Small leak	Flash fire	FS-031-10-FF (D5)	Thermal	15								Rapid
FS-031-10	LNG spray header, Small leak	Jet fire	FS-031-10-JF	Thermal		20	21	22	23	24	25		Rapid

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FS-031-10	LNG spray header, Small leak	Pool fire	FS-031-10-PF	Thermal		30	44	45	52	56	64		Rapid
FS-031-FBR	LNG spray header, Full bore rupture	Flash fire	FS-031-FBR-FF (F2)	Thermal	158								Rapid
FS-031-FBR	LNG spray header, Full bore rupture	Flash fire	FS-031-FBR-FF (D5)	Thermal	65								Rapid
FS-031-FBR	LNG spray header, Full bore rupture	Jet fire	FS-031-FBR-JF	Thermal		27	28	29	30	31	32		Rapid
FS-031-FBR	LNG spray header, Full bore rupture	Pool fire	FS-031-FBR-PF	Thermal		30	44	45	52	56	64		Rapid
FS-031-FBR	LNG spray header, Full bore rupture	Freezing liquid release	FS-031-FBR-FLR	-	4								Rapid
FS-031-FBR	LNG spray header, Full bore rupture	Rapid phase transition	FS-031-FBR-RPT	-	4								Rapid
FS-041-10	LNG new liquid line, Small leak	Flash fire	FS-041-10-FF (F2)	Thermal	16								Rapid
FS-041-10	LNG new liquid line, Small leak	Flash fire	FS-041-10-FF (D5)	Thermal	17								Rapid
FS-041-10	LNG new liquid line, Small leak	Jet fire	FS-041-10-JF	Thermal		22	23	24	25	26	27		Rapid
FS-041-10	LNG new liquid line, Small leak	Pool fire	FS-041-10-PF	Thermal		30	44	45	52	56	64		Rapid
FS-041-50	LNG new liquid line, Medium leak	Flash fire	FS-041-50-FF (F2)	Thermal	107								Rapid
FS-041-50	LNG new liquid line, Medium leak	Flash fire	FS-041-50-FF (D5)	Thermal	48								Rapid
FS-041-50	LNG new liquid line, Medium leak	VCE	FS-041-50-VCE	Overpressure		N/A	N/A		N/A		N/A	123	Rapid
FS-041-50	LNG new liquid line, Medium leak	Jet fire	FS-041-50-JF	Thermal		90	93	94	97	98	102		Rapid
FS-041-50	LNG new liquid line, Medium leak	Pool fire	FS-041-50-PF	Thermal		30	44	45	52	56	64		Rapid
FS-041-FBR	LNG new liquid line, Full bore rupture	Flash fire	FS-041-FBR-FF (F2)	Thermal	211								Rapid
FS-041-FBR	LNG new liquid line, Full bore rupture	Flash fire	FS-041-FBR-FF (D5)	Thermal	64								Rapid
FS-041-FBR	LNG new liquid line, Full bore rupture	VCE	FS-041-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	248	Rapid
FS-041-FBR	LNG new liquid line, Full bore rupture	Jet fire	FS-041-FBR-JF	Thermal		49	50	51	52	53	54		Rapid
FS-041-FBR	LNG new liquid line, Full bore rupture	Pool fire	FS-041-FBR-PF	Thermal		39	69	72	83	91	104		Rapid
FS-041-FBR	LNG new liquid line, Full bore rupture	Freezing liquid release	FS-041-FBR-FLR	-	7								Rapid

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FS-041-FBR	LNG new liquid line, Full bore rupture	Rapid phase transition	FS-041-FBR-RPT	-	7								Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-051-FBR-FF (F2)	Thermal	624								Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-051-FBR-FF (D5)	Thermal	422								Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	VCE	FS-051-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	731	Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	Jet fire	FS-051-FBR-JF	Thermal		197	207	208	213	218	225		Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	Pool fire	FS-051-FBR-PF	Thermal		123	201	211	244	268	306		Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	Freezing liquid release	FS-051-FBR-FLR	-	27								Rapid
FS-051-FBR	LNG loading hoses, Full bore rupture, Ship-to-ship transfer	Rapid phase transition	FS-051-FBR-RPT	-	27								Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	Flash fire	FS-061-FBR-FF (F2)	Thermal	211								Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	Flash fire	FS-061-FBR-FF (D5)	Thermal	118								Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	VCE	FS-061-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	248	Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	Jet fire	FS-061-FBR-JF	Thermal		49	50	51	52	53	54		Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	Pool fire	FS-061-FBR-PF	Thermal		30	44	45	52	56	64		Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	Freezing liquid release	FS-061-FBR-FLR	-	7								Rapid
FS-061-FBR	LNG unloading arm, Full bore rupture	Rapid phase transition	FS-061-FBR-RPT	-	7								Rapid
FS-071-10	Vapour header, Small leak, Normal operation	Flash fire	FS-071-10-FF (F2)	Thermal	2								Rapid
FS-071-10	Vapour header, Small leak, Normal operation	Flash fire	FS-071-10-FF (D5)	Thermal	2								Rapid
FS-071-10	Vapour header, Small leak, Normal operation	Jet fire	FS-071-10-JF	Thermal		N/A	3	4	5	6	7		Rapid
FS-071-50	Vapour header, Medium leak, Normal operation	Flash fire	FS-071-50-FF (F2)	Thermal	8								Rapid
FS-071-50	Vapour header, Medium leak, Normal operation	Flash fire	FS-071-50-FF (D5)	Thermal	8								Rapid
FS-071-50	Vapour header, Medium leak, Normal operation	Jet fire	FS-071-50-JF	Thermal		11	12	13	14	15	16		Rapid
FS-071-FBR	Vapour header, Full bore rupture, Normal operation	Flash fire	FS-071-FBR-FF (F2)	Thermal	74								Rapid

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FS-071-FBR	Vapour header, Full bore rupture, Normal operation	Flash fire	FS-071-FBR-FF (D5)	Thermal	63								Rapid
FS-071-FBR	Vapour header, Full bore rupture, Normal operation	VCE	FS-071-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	92	Rapid
FS-071-FBR	Vapour header, Full bore rupture, Normal operation	Jet fire	FS-071-FBR-JF	Thermal		80	86	87	90	92	101		Rapid
FS-072-10	Vapour header, Small leak, Ship-to-ship transfer	Flash fire	FS-072-10-FF (F2)	Thermal	2								Rapid
FS-072-10	Vapour header, Small leak, Ship-to-ship transfer	Flash fire	FS-072-10-FF (D5)	Thermal	2								Rapid
FS-072-10	Vapour header, Small leak, Ship-to-ship transfer	Jet fire	FS-072-10-JF	Thermal		N/A	3	4	5	6	7		Rapid
FS-072-50	Vapour header, Medium leak, Ship-to-ship transfer	Flash fire	FS-072-50-FF (F2)	Thermal	8								Rapid
FS-072-50	Vapour header, Medium leak, Ship-to-ship transfer	Flash fire	FS-072-50-FF (D5)	Thermal	8								Rapid
FS-072-50	Vapour header, Medium leak, Ship-to-ship transfer	Jet fire	FS-072-50-JF	Thermal		11	12	13	14	15	16		Rapid
FS-072-FBR	Vapour header, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-072-FBR-FF (F2)	Thermal	74								Rapid
FS-072-FBR	Vapour header, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-072-FBR-FF (D5)	Thermal	63								Rapid
FS-072-FBR	Vapour header, Full bore rupture, Ship-to-ship transfer	VCE	FS-072-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	92	Rapid
FS-072-FBR	Vapour header, Full bore rupture, Ship-to-ship transfer	Jet fire	FS-072-FBR-JF	Thermal		80	86	87	90	92	101		Rapid
FS-081-FBR	BOG loading hose, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-081-FBR-FF (F2)	Thermal	28								Rapid
FS-081-FBR	BOG loading hose, Full bore rupture, Ship-to-ship transfer	Flash fire	FS-081-FBR-FF (D5)	Thermal	27								Rapid
FS-081-FBR	BOG loading hose, Full bore rupture, Ship-to-ship transfer	Jet fire	FS-081-FBR-JF	Thermal		37	38	39	40	41	42		Rapid
FS-091-FBR	BOG unloading hoses, Full bore rupture	Flash fire	FS-091-FBR-FF (F2)	Thermal	55								Rapid
FS-091-FBR	BOG unloading hoses, Full bore rupture	Flash fire	FS-091-FBR-FF (D5)	Thermal	41								Rapid
FS-091-FBR	BOG unloading hoses, Full bore rupture	VCE	FS-091-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	72	Rapid
FS-091-FBR	BOG unloading hoses, Full bore rupture	Jet fire	FS-091-FBR-JF	Thermal		64	68	69	70	72	75		Rapid
E2-011-10	LNG pipeline, Small leak, Jetty	Flash fire	E2-011-10-FF (F2)	Thermal	15								Rapid
E2-011-10	LNG pipeline, Small leak, Jetty	Flash fire	E2-011-10-FF (D5)	Thermal	14								Rapid

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E2-011-10	LNG pipeline, Small leak, Jetty	Jet fire	E2-011-10-JF	Thermal		22	23	24	25	26	27		Rapid
E2-011-50	LNG pipeline, Medium leak, Jetty	Flash fire	E2-011-50-FF (F2)	Thermal	190								Rapid
E2-011-50	LNG pipeline, Medium leak, Jetty	Flash fire	E2-011-50-FF (D5)	Thermal	132								Rapid
E2-011-50	LNG pipeline, Medium leak, Jetty	VCE	E2-011-50-VCE	Overpressure		N/A	N/A		N/A		N/A	216	Rapid
E2-011-50	LNG pipeline, Medium leak, Jetty	Jet fire	E2-011-50-JF	Thermal		90	93	94	97	98	102		Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	Flash fire	E2-011-FBR-FF (F2)	Thermal	181								Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	Flash fire	E2-011-FBR-FF (D5)	Thermal	118								Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	VCE	E2-011-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	215	Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	Jet fire	E2-011-FBR-JF	Thermal		43	44	45	46	47	48		Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	Pool fire	E2-011-FBR-PF	Thermal		39	69	72	83	91	104		Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	Freezing liquid release	E2-011-FBR-FLR	-	7								Rapid
E2-011-FBR	LNG pipeline, Full bore rupture, Jetty	Rapid phase transition	E2-011-FBR-RPT	-	7								Rapid
E2-021-10	BOG pipeline, Small leak, Jetty, Normal operation	Flash fire	E2-021-10-FF (F2)	Thermal	2								Rapid
E2-021-10	BOG pipeline, Small leak, Jetty, Normal operation	Flash fire	E2-021-10-FF (D5)	Thermal	2								Rapid
E2-021-10	BOG pipeline, Small leak, Jetty, Normal operation	Jet fire	E2-021-10-JF	Thermal		N/A	N/A	3	4	5	6		Rapid
E2-021-50	BOG pipeline, Medium leak, Jetty, Normal operation	Flash fire	E2-021-50-FF (F2)	Thermal	7								Rapid
E2-021-50	BOG pipeline, Medium leak, Jetty, Normal operation	Flash fire	E2-021-50-FF (D5)	Thermal	7								Rapid
E2-021-50	BOG pipeline, Medium leak, Jetty, Normal operation	Jet fire	E2-021-50-JF	Thermal		11	12	13	14	15	16		Rapid
E2-021-FBR	BOG pipeline, Full bore rupture, Jetty, Normal operation	Flash fire	E2-021-FBR-FF (F2)	Thermal	55								Rapid
E2-021-FBR	BOG pipeline, Full bore rupture, Jetty, Normal operation	Flash fire	E2-021-FBR-FF (D5)	Thermal	41								Rapid
E2-021-FBR	BOG pipeline, Full bore rupture, Jetty, Normal operation	VCE	E2-021-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	72	Rapid
E2-021-FBR	BOG pipeline, Full bore rupture, Jetty, Normal operation	Jet fire	E2-021-FBR-JF	Thermal		64	68	69	70	72	75		Rapid

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E2-022-10	BOG pipeline, Small leak, Jetty, Ship-to-ship transfer	Flash fire	E2-022-10-FF (F2)	Thermal	2								Rapid
E2-022-10	BOG pipeline, Small leak, Jetty, Ship-to-ship transfer	Flash fire	E2-022-10-FF (D5)	Thermal	2								Rapid
E2-022-10	BOG pipeline, Small leak, Jetty, Ship-to-ship transfer	Jet fire	E2-022-10-JF	Thermal		N/A	N/A	2	3	4	5		Rapid
E2-022-50	BOG pipeline, Medium leak, Jetty, Ship-to-ship transfer	Flash fire	E2-022-50-FF (F2)	Thermal	6								Rapid
E2-022-50	BOG pipeline, Medium leak, Jetty, Ship-to-ship transfer	Flash fire	E2-022-50-FF (D5)	Thermal	6								Rapid
E2-022-50	BOG pipeline, Medium leak, Jetty, Ship-to-ship transfer	Jet fire	E2-022-50-JF	Thermal		10	11	12	13	14	15		Rapid
E2-022-FBR	BOG pipeline, Full bore rupture, Jetty, Ship-to-ship transfer	Flash fire	E2-022-FBR-FF (F2)	Thermal	45								Rapid
E2-022-FBR	BOG pipeline, Full bore rupture, Jetty, Ship-to-ship transfer	Flash fire	E2-022-FBR-FF (D5)	Thermal	36								Rapid
E2-022-FBR	BOG pipeline, Full bore rupture, Jetty, Ship-to-ship transfer	VCE	E2-022-FBR-VCE	Overpressure		N/A	N/A		N/A		N/A	60	Rapid
E2-022-FBR	BOG pipeline, Full bore rupture, Jetty, Ship-to-ship transfer	Jet fire	E2-022-FBR-JF	Thermal		56	60	61	62	63	66		Rapid
E2-031-10	LNG pipeline, Small leak, Onshore	Flash fire	E2-031-10-FF (F2)	Thermal	25								Rapid
E2-031-10	LNG pipeline, Small leak, Onshore	Flash fire	E2-031-10-FF (D5)	Thermal	14								Rapid
E2-031-10	LNG pipeline, Small leak, Onshore	VCE	E2-031-10-VCE	Overpressure		12	19		27		34	182	Rapid
E2-031-10	LNG pipeline, Small leak, Onshore	Jet fire	E2-031-10-JF	Thermal		22	23	24	25	26	27		Rapid
E2-031-10	LNG pipeline, Small leak, Onshore	Pool fire	E2-031-10-PF	Thermal		4	9	9	10	11	13		Rapid
E2-031-50	LNG pipeline, Medium leak, Onshore	Flash fire	E2-031-50-FF (F2)	Thermal	89								Rapid
E2-031-50	LNG pipeline, Medium leak, Onshore	Flash fire	E2-031-50-FF (D5)	Thermal	88								Rapid
E2-031-50	LNG pipeline, Medium leak, Onshore	VCE	E2-031-50-VCE	Overpressure		46	75		107		137	734	Rapid
E2-031-50	LNG pipeline, Medium leak, Onshore	Jet fire	E2-031-50-JF	Thermal		90	94	95	97	98	102		Rapid
E2-031-50	LNG pipeline, Medium leak, Onshore	Pool fire	E2-031-50-PF	Thermal		4	9	9	10	11	13		Rapid
E2-031-FBR	LNG pipeline, Full bore rupture, Onshore	Flash fire	E2-031-FBR-FF (F2)	Thermal	220								Rapid
E2-031-FBR	LNG pipeline, Full bore rupture, Onshore	Flash fire	E2-031-FBR-FF (D5)	Thermal	59								Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-031-FBR	LNG pipeline, Full bore rupture, Onshore	VCE	E2-031-FBR-VCE	Overpressure		46	75		107		137	734	Rapid
E2-031-FBR	LNG pipeline, Full bore rupture, Onshore	Jet fire	E2-031-FBR-JF	Thermal		36	37	38	39	40	41		Rapid
E2-031-FBR	LNG pipeline, Full bore rupture, Onshore	Pool fire	E2-031-FBR-PF	Thermal		33	48	50	56	61	70		Rapid
E2-031-FBR	LNG pipeline, Full bore rupture, Onshore	Freezing liquid release	E2-031-FBR-FLR	-	7								Rapid
E2-041-10	BOG pipeline, Small leak, Onshore, Normal operation	Flash fire	E2-041-10-FF (F2)	Thermal	2								Rapid
E2-041-10	BOG pipeline, Small leak, Onshore, Normal operation	Flash fire	E2-041-10-FF (D5)	Thermal	2								Rapid
E2-041-10	BOG pipeline, Small leak, Onshore, Normal operation	Jet fire	E2-041-10-JF	Thermal		N/A	N/A	3	4	5	6		Rapid
E2-041-50	BOG pipeline, Medium leak, Onshore, Normal operation	Flash fire	E2-041-50-FF (F2)	Thermal	6								Rapid
E2-041-50	BOG pipeline, Medium leak, Onshore, Normal operation	Flash fire	E2-041-50-FF (D5)	Thermal	4								Rapid
E2-041-50	BOG pipeline, Medium leak, Onshore, Normal operation	Jet fire	E2-041-50-JF	Thermal		11	12	13	14	15	16		Rapid
E2-041-FBR	BOG pipeline, Full bore rupture, Onshore, Normal operation	Flash fire	E2-041-FBR-FF (F2)	Thermal	76								Rapid
E2-041-FBR	BOG pipeline, Full bore rupture, Onshore, Normal operation	Flash fire	E2-041-FBR-FF (D5)	Thermal	77								Rapid
E2-041-FBR	BOG pipeline, Full bore rupture, Onshore, Normal operation	VCE	E2-041-FBR-VCE	Overpressure		30	49		70		90	479	Rapid
E2-041-FBR	BOG pipeline, Full bore rupture, Onshore, Normal operation	Jet fire	E2-041-FBR-JF	Thermal		64	67	68	70	72	75		Rapid
E2-042-10	BOG pipeline, Small leak, Onshore, Ship-to-ship transfer	Flash fire	E2-042-10-FF (F2)	Thermal	2								Rapid
E2-042-10	BOG pipeline, Small leak, Onshore, Ship-to-ship transfer	Flash fire	E2-042-10-FF (D5)	Thermal	1								Rapid
E2-042-10	BOG pipeline, Small leak, Onshore, Ship-to-ship transfer	Jet fire	E2-042-10-JF	Thermal		N/A	N/A	2	3	4	5		Rapid
E2-042-50	BOG pipeline, Medium leak, Onshore, Ship-to-ship transfer	Flash fire	E2-042-50-FF (F2)	Thermal	5								Rapid
E2-042-50	BOG pipeline, Medium leak, Onshore, Ship-to-ship transfer	Flash fire	E2-042-50-FF (D5)	Thermal	4								Rapid
E2-042-50	BOG pipeline, Medium leak, Onshore, Ship-to-ship transfer	Jet fire	E2-042-50-JF	Thermal		11	12	13	14	15	16		Rapid
E2-042-FBR	BOG pipeline, Full bore rupture, Onshore, Ship-to-ship transfer	Flash fire	E2-042-FBR-FF (F2)	Thermal	49								Rapid
E2-042-FBR	BOG pipeline, Full bore rupture, Onshore, Ship-to-ship transfer	Flash fire	E2-042-FBR-FF (D5)	Thermal	51								Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-042-FBR	BOG pipeline, Full bore rupture, Onshore, Ship-to-ship transfer	VCE	E2-042-FBR-VCE	Overpressure		22	36		52		66	354	Rapid
E2-042-FBR	BOG pipeline, Full bore rupture, Onshore, Ship-to-ship transfer	Jet fire	E2-042-FBR-JF	Thermal		56	59	60	62	63	66		Rapid
E2-051-CR	LNG suction drum, Catastrophic rupture, Overpressure	Flash fire	E2-051-CR-FF (F2)	Thermal	220								Rapid
E2-051-CR	LNG suction drum, Catastrophic rupture, Overpressure	Flash fire	E2-051-CR-FF (D5)	Thermal	59								Rapid
E2-051-CR	LNG suction drum, Catastrophic rupture, Overpressure	VCE	E2-051-CR-VCE	Overpressure		46	75		107		137	734	Rapid
E2-051-CR	LNG suction drum, Catastrophic rupture, Overpressure	Pool fire	E2-051-CR-PF	Thermal		33	48	50	56	61	70		Rapid
E2-051-CR	LNG suction drum, Catastrophic rupture, Overpressure	Bursting	E2-051-CR-B	Overpressure		11	16		22		28	114	Rapid
E2-061-10	HP LNG pumps suction line, Small leak	Flash fire	E2-061-10-FF (F2)	Thermal	25								Rapid
E2-061-10	HP LNG pumps suction line, Small leak	Flash fire	E2-061-10-FF (D5)	Thermal	14								Rapid
E2-061-10	HP LNG pumps suction line, Small leak	VCE	E2-061-10-VCE	Overpressure		12	19		27		34	182	Rapid
E2-061-10	HP LNG pumps suction line, Small leak	Jet fire	E2-061-10-JF	Thermal		22	23	24	25	26	27		Rapid
E2-061-10	HP LNG pumps suction line, Small leak	Pool fire	E2-061-10-PF	Thermal		4	9	9	10	11	13		Rapid
E2-061-50	HP LNG pumps suction line, Medium leak	Flash fire	E2-061-50-FF (F2)	Thermal	89								Rapid
E2-061-50	HP LNG pumps suction line, Medium leak	Flash fire	E2-061-50-FF (D5)	Thermal	88								Rapid
E2-061-50	HP LNG pumps suction line, Medium leak	VCE	E2-061-50-VCE	Overpressure		46	75		107		137	734	Rapid
E2-061-50	HP LNG pumps suction line, Medium leak	Jet fire	E2-061-50-JF	Thermal		90	94	95	97	98	102		Rapid
E2-061-50	HP LNG pumps suction line, Medium leak	Pool fire	E2-061-50-PF	Thermal		4	9	9	10	11	13		Rapid
E2-061-FBR	HP LNG pumps suction line, Full bore rupture	Flash fire	E2-061-FBR-FF (F2)	Thermal	264								Rapid
E2-061-FBR	HP LNG pumps suction line, Full bore rupture	Flash fire	E2-061-FBR-FF (D5)	Thermal	173								Rapid
E2-061-FBR	HP LNG pumps suction line, Full bore rupture	VCE	E2-061-FBR-VCE	Overpressure		46	75		107		137	734	Rapid
E2-061-FBR	HP LNG pumps suction line, Full bore rupture	Jet fire	E2-061-FBR-JF	Thermal		103	107	108	111	113	116		Rapid
E2-061-FBR	HP LNG pumps suction line, Full bore rupture	Pool fire	E2-061-FBR-PF	Thermal		72	93	96	107	115	129		Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-061-FBR	HP LNG pumps suction line, Full bore rupture	Freezing liquid release	E2-061-FBR-FLR	-	10								Rapid
E2-071-10	HP LNG pumps discharge line, Small leak	Flash fire	E2-071-10-FF (F2)	Thermal	42								Rapid
E2-071-10	HP LNG pumps discharge line, Small leak	Flash fire	E2-071-10-FF (D5)	Thermal	25								Rapid
E2-071-10	HP LNG pumps discharge line, Small leak	VCE	E2-071-10-VCE	Overpressure		14	23		32		41	218	Rapid
E2-071-10	HP LNG pumps discharge line, Small leak	Jet fire	E2-071-10-JF	Thermal		27	28	29	30	31	32		Rapid
E2-071-10	HP LNG pumps discharge line, Small leak	Pool fire	E2-071-10-PF	Thermal		4	9	9	10	11	13		Rapid
E2-071-50	HP LNG pumps discharge line, Medium leak	Flash fire	E2-071-50-FF (F2)	Thermal	155								Rapid
E2-071-50	HP LNG pumps discharge line, Medium leak	Flash fire	E2-071-50-FF (D5)	Thermal	95								Rapid
E2-071-50	HP LNG pumps discharge line, Medium leak	VCE	E2-071-50-VCE	Overpressure		46	75		107		137	734	Rapid
E2-071-50	HP LNG pumps discharge line, Medium leak	Jet fire	E2-071-50-JF	Thermal		70	74	75	78	80	86		Rapid
E2-071-50	HP LNG pumps discharge line, Medium leak	Pool fire	E2-071-50-PF	Thermal		4	9	9	10	11	13		Rapid
E2-071-FBR	HP LNG pumps discharge line, Full bore rupture	Flash fire	E2-071-FBR-FF (F2)	Thermal	158								Rapid
E2-071-FBR	HP LNG pumps discharge line, Full bore rupture	Flash fire	E2-071-FBR-FF (D5)	Thermal	61								Rapid
E2-071-FBR	HP LNG pumps discharge line, Full bore rupture	VCE	E2-071-FBR-VCE	Overpressure		46	75		107		137	734	Rapid
E2-071-FBR	HP LNG pumps discharge line, Full bore rupture	Jet fire	E2-071-FBR-JF	Thermal		43	44	45	46	47	48		Rapid
E2-071-FBR	HP LNG pumps discharge line, Full bore rupture	Pool fire	E2-071-FBR-PF	Thermal		41	56	58	66	72	83		Rapid
E2-071-FBR	HP LNG pumps discharge line, Full bore rupture	Freezing liquid release	E2-071-FBR-FLR	-	7								Rapid
E2-081-10	LNG small scale pumps suction line, Small leak	Flash fire	E2-081-10-FF (F2)	Thermal	25								Rapid
E2-081-10	LNG small scale pumps suction line, Small leak	Flash fire	E2-081-10-FF (D5)	Thermal	14								Rapid
E2-081-10	LNG small scale pumps suction line, Small leak	VCE	E2-081-10-VCE	Overpressure		12	19		27		34	182	Rapid
E2-081-10	LNG small scale pumps suction line, Small leak	Jet fire	E2-081-10-JF	Thermal		22	23	24	25	26	27		Rapid
E2-081-10	LNG small scale pumps suction line, Small leak	Pool fire	E2-081-10-PF	Thermal		4	9	9	10	11	13		Rapid

Consequence Analysis Summary Results Table

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Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-081-50	LNG small scale pumps suction line, Medium leak	Flash fire	E2-081-50-FF (F2)	Thermal	89								Rapid
E2-081-50	LNG small scale pumps suction line, Medium leak	Flash fire	E2-081-50-FF (D5)	Thermal	88								Rapid
E2-081-50	LNG small scale pumps suction line, Medium leak	VCE	E2-081-50-VCE	Overpressure		46	75		107		137	734	Rapid
E2-081-50	LNG small scale pumps suction line, Medium leak	Jet fire	E2-081-50-JF	Thermal		90	94	95	97	98	102		Rapid
E2-081-50	LNG small scale pumps suction line, Medium leak	Pool fire	E2-081-50-PF	Thermal		4	9	9	10	11	13		Rapid
E2-081-FBR	LNG small scale pumps suction line, Full bore rupture	Flash fire	E2-081-FBR-FF (F2)	Thermal	262								Rapid
E2-081-FBR	LNG small scale pumps suction line, Full bore rupture	Flash fire	E2-081-FBR-FF (D5)	Thermal	170								Rapid
E2-081-FBR	LNG small scale pumps suction line, Full bore rupture	VCE	E2-081-FBR-VCE	Overpressure		46	75		107		137	734	Rapid
E2-081-FBR	LNG small scale pumps suction line, Full bore rupture	Jet fire	E2-081-FBR-JF	Thermal		99	104	105	107	109	112		Rapid
E2-081-FBR	LNG small scale pumps suction line, Full bore rupture	Pool fire	E2-081-FBR-PF	Thermal		71	92	95	106	114	128		Rapid
E2-081-FBR	LNG small scale pumps suction line, Full bore rupture	Freezing liquid release	E2-081-FBR-FLR	-	10								Rapid
E2-091-10	LNG small scale pumps discharge line, Small leak	Flash fire	E2-091-10-FF (F2)	Thermal	42								Rapid
E2-091-10	LNG small scale pumps discharge line, Small leak	Flash fire	E2-091-10-FF (D5)	Thermal	25								Rapid
E2-091-10	LNG small scale pumps discharge line, Small leak	VCE	E2-091-10-VCE	Overpressure		14	23		32		41	218	Rapid
E2-091-10	LNG small scale pumps discharge line, Small leak	Jet fire	E2-091-10-JF	Thermal		27	28	29	30	31	32		Rapid
E2-091-10	LNG small scale pumps discharge line, Small leak	Pool fire	E2-091-10-PF	Thermal		4	9	9	10	11	13		Rapid
E2-091-50	LNG small scale pumps discharge line, Medium leak	Flash fire	E2-091-50-FF (F2)	Thermal	80								Rapid
E2-091-50	LNG small scale pumps discharge line, Medium leak	Flash fire	E2-091-50-FF (D5)	Thermal	58								Rapid
E2-091-50	LNG small scale pumps discharge line, Medium leak	VCE	E2-091-50-VCE	Overpressure		33	54		76		98	526	Rapid
E2-091-50	LNG small scale pumps discharge line, Medium leak	Jet fire	E2-091-50-JF	Thermal		46	48	49	50	52	57		Rapid
E2-091-50	LNG small scale pumps discharge line, Medium leak	Pool fire	E2-091-50-PF	Thermal		4	9	9	10	11	13		Rapid
E2-091-FBR	LNG small scale pumps discharge line, Full bore rupture	Flash fire	E2-091-FBR-FF (F2)	Thermal	149								Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
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Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-091-FBR	LNG small scale pumps discharge line, Full bore rupture	Flash fire	E2-091-FBR-FF (D5)	Thermal	43								Rapid
E2-091-FBR	LNG small scale pumps discharge line, Full bore rupture	VCE	E2-091-FBR-VCE	Overpressure		39	64		91		118	630	Rapid
E2-091-FBR	LNG small scale pumps discharge line, Full bore rupture	Jet fire	E2-091-FBR-JF	Thermal		24	25	26	27	28	29		Rapid
E2-091-FBR	LNG small scale pumps discharge line, Full bore rupture	Pool fire	E2-091-FBR-PF	Thermal		24	33	35	39	43	49		Rapid
E2-091-FBR	LNG small scale pumps discharge line, Full bore rupture	Freezing liquid release	E2-091-FBR-FLR	-	4								Rapid
E2-101-CR	IFV (shell side), Catastrophic rupture, Overpressure	Flash fire	E2-101-CR-FF (F2)	Thermal	90								Rapid
E2-101-CR	IFV (shell side), Catastrophic rupture, Overpressure	Flash fire	E2-101-CR-FF (D5)	Thermal	109								Rapid
E2-101-CR	IFV (shell side), Catastrophic rupture, Overpressure	VCE	E2-101-CR-VCE	Overpressure		47	77		110		141	757	Rapid
E2-101-CR	IFV (shell side), Catastrophic rupture, Overpressure	Bursting	E2-101-CR-B	Overpressure		11	15		22		27	110	Rapid
E2-102-CR	IFV (shell side), BLEVE	BLEVE blast	E2-102-CR-BB	Overpressure		21	31		43		54	221	Rapid
E2-102-CR	IFV (shell side), BLEVE	Fireball	E2-102-CR-FB	Thermal	N/A		N/A				54		Rapid
E2-103-SV	IFV (shell side), Safety valve (fire)	Flash fire	E2-103-SV-FF (F2)	Thermal	20								Rapid
E2-103-SV	IFV (shell side), Safety valve (fire)	Flash fire	E2-103-SV-FF (D5)	Thermal	17								Rapid
E2-104-SV	IFV (shell side), Safety valve (internal failure)	Flash fire	E2-104-SV-FF (F2)	Thermal	23								Rapid
E2-104-SV	IFV (shell side), Safety valve (internal failure)	Flash fire	E2-104-SV-FF (D5)	Thermal	21								Rapid
E2-104-SV	IFV (shell side), Safety valve (internal failure)	Jet fire	E2-104-SV-JF	Thermal		N/A	31	34	39	44	51		Rapid
E2-111-10	LNG suction drum head line, Small leak	Flash fire	E2-111-10-FF (F2)	Thermal	2								Rapid
E2-111-10	LNG suction drum head line, Small leak	Flash fire	E2-111-10-FF (D5)	Thermal	2								Rapid
E2-111-10	LNG suction drum head line, Small leak	Jet fire	E2-111-10-JF	Thermal		N/A	4	4	4	4	5		Rapid
E2-111-FBR	LNG suction drum head line, Full bore rupture	Flash fire	E2-111-FBR-FF (F2)	Thermal	12								Rapid
E2-111-FBR	LNG suction drum head line, Full bore rupture	Flash fire	E2-111-FBR-FF (D5)	Thermal	9								Rapid
E2-111-FBR	LNG suction drum head line, Full bore rupture	VCE	E2-111-FBR-VCE	Overpressure		11	13		16		19	75	Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-111-FBR	LNG suction drum head line, Full bore rupture	Jet fire	E2-111-FBR-JF	Thermal		19	22	23	24	25	26		Rapid
E2-121-10	BOG compressors discharge line, Small leak, Normal operation	Flash fire	E2-121-10-FF (F2)	Thermal	5								Rapid
E2-121-10	BOG compressors discharge line, Small leak, Normal operation	Flash fire	E2-121-10-FF (D5)	Thermal	5								Rapid
E2-121-10	BOG compressors discharge line, Small leak, Normal operation	Jet fire	E2-121-10-JF	Thermal		10	11	12	13	14	15		Rapid
E2-121-50	BOG compressors discharge line, Medium leak, Normal operation	Flash fire	E2-121-50-FF (F2)	Thermal	16								Rapid
E2-121-50	BOG compressors discharge line, Medium leak, Normal operation	Flash fire	E2-121-50-FF (D5)	Thermal	11								Rapid
E2-121-50	BOG compressors discharge line, Medium leak, Normal operation	VCE	E2-121-50-VCE	Overpressure		14	18		23		27	107	Rapid
E2-121-50	BOG compressors discharge line, Medium leak, Normal operation	Jet fire	E2-121-50-JF	Thermal		23	24	25	26	27	28		Rapid
E2-121-FBR	BOG compressors discharge line, Full bore rupture, Normal operation	Flash fire	E2-121-FBR-FF (F2)	Thermal	16								Rapid
E2-121-FBR	BOG compressors discharge line, Full bore rupture, Normal operation	Flash fire	E2-121-FBR-FF (D5)	Thermal	11								Rapid
E2-121-FBR	BOG compressors discharge line, Full bore rupture, Normal operation	VCE	E2-121-FBR-VCE	Overpressure		15	19		23		27	109	Rapid
E2-121-FBR	BOG compressors discharge line, Full bore rupture, Normal operation	Jet fire	E2-121-FBR-JF	Thermal		23	24	25	26	27	28		Rapid
E2-122-10	BOG compressors discharge line, Small leak, Ship-to-ship transfer	Flash fire	E2-122-10-FF (F2)	Thermal	5								Rapid
E2-122-10	BOG compressors discharge line, Small leak, Ship-to-ship transfer	Flash fire	E2-122-10-FF (D5)	Thermal	4								Rapid
E2-122-10	BOG compressors discharge line, Small leak, Ship-to-ship transfer	Jet fire	E2-122-10-JF	Thermal		10	11	12	13	14	15		Rapid
E2-122-50	BOG compressors discharge line, Medium leak, Ship-to-ship transfer	Flash fire	E2-122-50-FF (F2)	Thermal	22								Rapid
E2-122-50	BOG compressors discharge line, Medium leak, Ship-to-ship transfer	Flash fire	E2-122-50-FF (D5)	Thermal	16								Rapid
E2-122-50	BOG compressors discharge line, Medium leak, Ship-to-ship transfer	VCE	E2-122-50-VCE	Overpressure		19	24		29		34	134	Rapid
E2-122-50	BOG compressors discharge line, Medium leak, Ship-to-ship transfer	Jet fire	E2-122-50-JF	Thermal		27	30	31	33	34	36		Rapid
E2-122-FBR	BOG compressors discharge line, Full bore rupture, Ship-to-ship transfer	Flash fire	E2-122-FBR-FF (F2)	Thermal	22								Rapid
E2-122-FBR	BOG compressors discharge line, Full bore rupture, Ship-to-ship transfer	Flash fire	E2-122-FBR-FF (D5)	Thermal	17								Rapid
E2-122-FBR	BOG compressors discharge line, Full bore rupture, Ship-to-ship transfer	VCE	E2-122-FBR-VCE	Overpressure		19	24		29		35	135	Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-122-FBR	BOG compressors discharge line, Full bore rupture, Ship-to-ship transfer	Jet fire	E2-122-FBR-JF	Thermal		28	30	31	33	34	36		Rapid
E2-131-10	NG pipeline from RGU to GRS (tie-in), Small leak	Flash fire	E2-131-10-FF (F2)	Thermal	5								Rapid
E2-131-10	NG pipeline from RGU to GRS (tie-in), Small leak	Flash fire	E2-131-10-FF (D5)	Thermal	5								Rapid
E2-131-10	NG pipeline from RGU to GRS (tie-in), Small leak	Jet fire	E2-131-10-JF	Thermal		10	11	12	13	14	15		Rapid
E2-131-50	NG pipeline from RGU to GRS (tie-in), Medium leak	Flash fire	E2-131-50-FF (F2)	Thermal	39								Rapid
E2-131-50	NG pipeline from RGU to GRS (tie-in), Medium leak	Flash fire	E2-131-50-FF (D5)	Thermal	32								Rapid
E2-131-50	NG pipeline from RGU to GRS (tie-in), Medium leak	VCE	E2-131-50-VCE	Overpressure		N/A	N/A		30		35	122	Rapid
E2-131-50	NG pipeline from RGU to GRS (tie-in), Medium leak	Jet fire	E2-131-50-JF	Thermal		42	48	49	52	54	58		Rapid
E2-131-FBR	NG pipeline from RGU to GRS (tie-in), Full bore rupture	Flash fire	E2-131-FBR-FF (F2)	Thermal	87								Rapid
E2-131-FBR	NG pipeline from RGU to GRS (tie-in), Full bore rupture	Flash fire	E2-131-FBR-FF (D5)	Thermal	81								Rapid
E2-131-FBR	NG pipeline from RGU to GRS (tie-in), Full bore rupture	VCE	E2-131-FBR-VCE	Overpressure		N/A	N/A		65		75	265	Rapid
E2-131-FBR	NG pipeline from RGU to GRS (tie-in), Full bore rupture	Jet fire	E2-131-FBR-JF	Thermal		67	80	81	87	92	100		Rapid
E2-141-10	NG pipeline to CCGT GRS, Small leak	Flash fire	E2-141-10-FF (F2)	Thermal	5								Rapid
E2-141-10	NG pipeline to CCGT GRS, Small leak	Flash fire	E2-141-10-FF (D5)	Thermal	5								Rapid
E2-141-10	NG pipeline to CCGT GRS, Small leak	Jet fire	E2-141-10-JF	Thermal		10	11	12	13	14	15		Rapid
E2-141-50	NG pipeline to CCGT GRS, Medium leak	Flash fire	E2-141-50-FF (F2)	Thermal	39								Rapid
E2-141-50	NG pipeline to CCGT GRS, Medium leak	Flash fire	E2-141-50-FF (D5)	Thermal	32								Rapid
E2-141-50	NG pipeline to CCGT GRS, Medium leak	VCE	E2-141-50-VCE	Overpressure		N/A	N/A		30		35	122	Rapid
E2-141-50	NG pipeline to CCGT GRS, Medium leak	Jet fire	E2-141-50-JF	Thermal		42	48	49	52	54	58		Rapid
E2-141-FBR	NG pipeline to CCGT GRS, Full bore rupture	Flash fire	E2-141-FBR-FF (F2)	Thermal	74								Rapid
E2-141-FBR	NG pipeline to CCGT GRS, Full bore rupture	Flash fire	E2-141-FBR-FF (D5)	Thermal	67								Rapid
E2-141-FBR	NG pipeline to CCGT GRS, Full bore rupture	VCE	E2-141-FBR-VCE	Overpressure		N/A	N/A		55		64	228	Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
Location	Delimara Power Station – Marsaxlokk, Malta
Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-141-FBR	NG pipeline to CCGT GRS, Full bore rupture	Jet fire	E2-141-FBR-JF	Thermal		61	72	73	79	82	89		Rapid
E2-151-10	NG equipment at CCGT GRS, Small leak	Flash fire	E2-151-10-FF (F2)	Thermal	5								Rapid
E2-151-10	NG equipment at CCGT GRS, Small leak	Flash fire	E2-151-10-FF (D5)	Thermal	4								Rapid
E2-151-10	NG equipment at CCGT GRS, Small leak	Jet fire	E2-151-10-JF	Thermal		10	11	12	13	14	15		Rapid
E2-151-50	NG equipment at CCGT GRS, Medium leak	Flash fire	E2-151-50-FF (F2)	Thermal	38								Rapid
E2-151-50	NG equipment at CCGT GRS, Medium leak	Flash fire	E2-151-50-FF (D5)	Thermal	31								Rapid
E2-151-50	NG equipment at CCGT GRS, Medium leak	VCE	E2-151-50-VCE	Overpressure		13	21		30		39	207	Rapid
E2-151-50	NG equipment at CCGT GRS, Medium leak	Jet fire	E2-151-50-JF	Thermal		38	43	44	47	49	53		Rapid
E2-151-FBR	NG equipment at CCGT GRS, Full bore rupture	Flash fire	E2-151-FBR-FF (F2)	Thermal	39								Rapid
E2-151-FBR	NG equipment at CCGT GRS, Full bore rupture	Flash fire	E2-151-FBR-FF (D5)	Thermal	33								Rapid
E2-151-FBR	NG equipment at CCGT GRS, Full bore rupture	VCE	E2-151-FBR-VCE	Overpressure		14	22		31		40	213	Rapid
E2-151-FBR	NG equipment at CCGT GRS, Full bore rupture	Jet fire	E2-151-FBR-JF	Thermal		39	45	46	49	51	55		Rapid
E2-161-10	NG pipeline to Delimara 3 GRS, Small leak	Flash fire	E2-161-10-FF (F2)	Thermal	5								Rapid
E2-161-10	NG pipeline to Delimara 3 GRS, Small leak	Flash fire	E2-161-10-FF (D5)	Thermal	5								Rapid
E2-161-10	NG pipeline to Delimara 3 GRS, Small leak	Jet fire	E2-161-10-JF	Thermal		10	11	12	13	14	15		Rapid
E2-161-50	NG pipeline to Delimara 3 GRS, Medium leak	Flash fire	E2-161-50-FF (F2)	Thermal	39								Rapid
E2-161-50	NG pipeline to Delimara 3 GRS, Medium leak	Flash fire	E2-161-50-FF (D5)	Thermal	32								Rapid
E2-161-50	NG pipeline to Delimara 3 GRS, Medium leak	VCE	E2-161-50-VCE	Overpressure		N/A	N/A		30		35	122	Rapid
E2-161-50	NG pipeline to Delimara 3 GRS, Medium leak	Jet fire	E2-161-50-JF	Thermal		42	48	49	52	54	58		Rapid
E2-161-FBR	NG pipeline to Delimara 3 GRS, Full bore rupture	Flash fire	E2-161-FBR-FF (F2)	Thermal	72								Rapid
E2-161-FBR	NG pipeline to Delimara 3 GRS, Full bore rupture	Flash fire	E2-161-FBR-FF (D5)	Thermal	66								Rapid
E2-161-FBR	NG pipeline to Delimara 3 GRS, Full bore rupture	VCE	E2-161-FBR-VCE	Overpressure		N/A	N/A		54		62	221	Rapid

Consequence Analysis Summary Results Table

Client	ElectroGas Malta Ltd
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Project n°	47073090 (AEC UK) / 46314870 (AEC France)
Project title	Delimara 4 CCGT & LNG Terminal
Doc n°	ENEM-AEC-E0-00-RP-SE-00001

N° Scenario	Scenario title	Consequence	Reference	Effect	Distance 100% fatality	Distance 99% fatality	Distance 50% fatality	Distance 40% fatality	Distance 5% fatality	Distance 3% fatality	Distance 1% fatality	Distance 20 mbar	Kinetic
E2-161-FBR	NG pipeline to Delimara 3 GRS, Full bore rupture	Jet fire	E2-161-FBR-JF	Thermal		60	71	72	77	81	88		Rapid
E2-171-10	NG equipment at Delimara 3 GRS, Small leak	Flash fire	E2-171-10-FF (F2)	Thermal	3								Rapid
E2-171-10	NG equipment at Delimara 3 GRS, Small leak	Flash fire	E2-171-10-FF (D5)	Thermal	2								Rapid
E2-171-10	NG equipment at Delimara 3 GRS, Small leak	Jet fire	E2-171-10-JF	Thermal		6	7	8	9	10	11		Rapid
E2-171-50	NG equipment at Delimara 3 GRS, Medium leak	Flash fire	E2-171-50-FF (F2)	Thermal	11								Rapid
E2-171-50	NG equipment at Delimara 3 GRS, Medium leak	Flash fire	E2-171-50-FF (D5)	Thermal	9								Rapid
E2-171-50	NG equipment at Delimara 3 GRS, Medium leak	Jet fire	E2-171-50-JF	Thermal		20	22	23	24	25	26		Rapid
E2-171-FBR	NG equipment at Delimara 3 GRS, Full bore rupture	Flash fire	E2-171-FBR-FF (F2)	Thermal	35								Rapid
E2-171-FBR	NG equipment at Delimara 3 GRS, Full bore rupture	Flash fire	E2-171-FBR-FF (D5)	Thermal	32								Rapid
E2-171-FBR	NG equipment at Delimara 3 GRS, Full bore rupture	VCE	E2-171-FBR-VCE	Overpressure		N/A	N/A		30		36	141	Rapid
E2-171-FBR	NG equipment at Delimara 3 GRS, Full bore rupture	Jet fire	E2-171-FBR-JF	Thermal		41	42	43	45	48	53		Rapid
E2-181-00	NVCC, Loss of flame	Flash fire	E2-181-00-FF (F2)	Thermal	38								Rapid
E2-181-00	NVCC, Loss of flame	Flash fire	E2-181-00-FF (D5)	Thermal	31								Rapid
E2-181-00	NVCC, Loss of flame	VCE	E2-181-00-VCE	Overpressure		17	28		40		52	275	Rapid