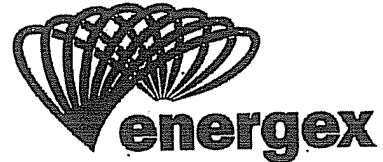


11 January, 2011



media release

ENERGEX to switch off some Brisbane CBD power

ENERGEX crews will start switching off electricity to many parts of Brisbane's CBD from 7 am tomorrow (Wednesday 12 January 2011) for safety reasons.

The electricity sub-stations are mainly in buildings close to the Brisbane River which is expected to reach near record levels during the next few days.

The ENERGEX crews will inspect the sub-stations after tomorrow afternoon's peak high tide to assess the amount of damage and to determine the re-energisation timetable.

Other areas in Brisbane and Ipswich are also being closely monitored by ENERGEX to determine whether or not electricity will be turned off.

These areas are primarily those identified by Brisbane City Council flood mapping along the Brisbane and Bremer Rivers and their tributaries.

The outages could impact approximately 100,000 customers with restoration times dependent on the rate that floodwaters recede and the amount of damage caused to electrical equipment.

Similar safety plans were implemented by ENERGEX earlier this week in Gympie.

More information about flood prone areas can be found on the Brisbane City Council and Ipswich City Council websites.

ENERGEX is also urging people with medical conditions that rely on electrical-powered equipment, as well as refrigerated medications, to keep in close contact with their medical practitioner and seek advice.

At 5pm there were 22,000 homes and businesses without supply in South East Queensland.

ENERGEX spokesman, Mike Swanston, said safety was the key issue during extreme weather and thanked South East Queenslanders for their patience while crews were working in trying conditions to get supplies back on.

"No one should never underestimate the old adage that power and water don't mix, and as water continues to rise ENERGEX will be taking a safety first approach under these extreme weather conditions," Mr Swanston said.

"Similarly, as the weather worsens over night, power interruptions caused by winds blowing tree branches onto powerlines and other extreme conditions are expected to continue.

"But we ask customers to remain patient as our crews work around the clock in the in heavy rains and high winds."

ENERGEX is also asking any customers who see damaged or threatened power infrastructure to stay well clear and to call ENERGEX's priority line on 13 19 62.

The public is also being urged to keep out of flood waters near any electrical equipment and stay away from fallen powerlines.

For media inquiries: Office Hours (07) 3407 4420 or After Hours (07) 3407 5191

ATTACHMENT CJA-5

This table is a list of events on certain high voltage feeders impacted over the flood period. The first column gives the operational designation of the ENERGEX zone substation. The localities supplied by for each substation are provided in the subsequent list. The second column is the operational designation of each affected feeder. The third column is the time feeder was turned off, with the fourth column the time the feeder was turned back on. The table is sorted by the ON time.

Substation	Date/Time Off	Date/Time ON
SSHDN	10/01/11 17:09	10/01/11 18:58
SSHDN	10/01/11 15:06	10/01/11 19:46
SSYDA	10/01/11 21:53	10/01/11 22:40
SSMTB	10/01/11 22:42	10/01/11 22:44
SSLBH	10/01/11 21:53	10/01/11 22:59
SSQPT	11/01/11 00:00	11/01/11 01:18
SSMTB	11/01/11 04:04	11/01/11 04:23
SSBVL	11/01/11 04:17	11/01/11 04:29
SSLGV	11/01/11 04:48	11/01/11 04:49
SSGTN	10/01/11 16:43	11/01/11 09:18
SSMTB	11/01/11 08:52	11/01/11 10:23
SSRCN	11/01/11 09:04	11/01/11 10:32
SSMLY	11/01/11 11:29	11/01/11 11:54
SSBLB	11/01/11 12:37	11/01/11 12:38
SSNMK	11/01/11 09:15	11/01/11 13:07
SSMBG	11/01/11 08:45	11/01/11 14:31
SSMFN	11/01/11 11:40	11/01/11 15:41
SSMFN	11/01/11 11:40	11/01/11 15:42
SSKCY	11/01/11 00:49	11/01/11 16:34
SSKCY	11/01/11 00:49	11/01/11 16:34
SSKCY	11/01/11 00:49	11/01/11 16:34
SSKCY	11/01/11 00:49	11/01/11 16:34
SSDRA	11/01/11 11:35	11/01/11 17:05
SSLBH	11/01/11 17:42	11/01/11 17:44
SSTCB	11/01/11 16:23	11/01/11 18:16
SSLTN	11/01/11 17:08	11/01/11 19:14
SST16	11/01/11 17:39	11/01/11 20:48
SSNIP	12/01/11 01:53	12/01/11 03:08
SSIPS	11/01/11 23:29	12/01/11 03:23
SSWED	12/01/11 04:05	12/01/11 05:35
SSRBK	12/01/11 06:12	12/01/11 06:14
SSEBV	12/01/11 06:12	12/01/11 06:15
SSRBK	12/01/11 01:06	12/01/11 06:17
SST162	11/01/11 23:07	12/01/11 08:36
SSESK	10/01/11 14:17	12/01/11 10:13
SST160	12/01/11 07:45	12/01/11 10:15
SSWED	12/01/11 09:41	12/01/11 10:41
SST160	12/01/11 07:45	12/01/11 10:45
SSKMR	12/01/11 08:15	12/01/11 11:44
SSWCL	12/01/11 11:10	12/01/11 12:11
SSDRA	12/01/11 03:00	12/01/11 12:47
SSTRP	12/01/11 12:53	12/01/11 13:29
SSTRP	12/01/11 12:53	12/01/11 13:29

Substation
SSCPR
SSINA
SSMDH
SSCPK
SSWED
SSCST
SSWED
SSWED
SSBMG
SSRLA
SSMGL
SSMST
SSMST
SSMST
SSMST
SST162
SSMCW
SSCPD
SSCPD
SSEDK
SSEDK
SSEDK
SSRLA
SSWED
SSWED
SSWED
SSMCW
SSTRP
SSMBG
SSWED
SSOXL
SSRBK
SSJDL
SSJDL
SSJDL
SSJDL
SSJDL
SSWED
SST162
SSOXL
SSNSD
SEENS
SSRLA
SST162
SSOXL
SSOXL
SSWED
SSMLT
SSVPK
SSVPK
SSOXL

Date/Time Off	Date/Time ON
12/01/11 16:30	14/01/11 10:30
12/01/11 13:30	14/01/11 10:31
12/01/11 20:35	14/01/11 11:02
11/01/11 23:39	14/01/11 13:12
12/01/11 10:15	14/01/11 14:45
12/01/11 11:11	14/01/11 15:06
12/01/11 12:15	14/01/11 16:15
12/01/11 14:15	14/01/11 16:15
12/01/11 10:22	14/01/11 17:00
12/01/11 14:00	14/01/11 17:07
12/01/11 04:26	14/01/11 17:15
12/01/11 14:45	14/01/11 17:33
12/01/11 14:45	14/01/11 17:33
12/01/11 14:45	14/01/11 17:33
12/01/11 14:45	14/01/11 17:33
11/01/11 23:07	14/01/11 17:53
12/01/11 07:39	14/01/11 18:22
11/01/11 07:28	14/01/11 18:23
11/01/11 07:28	14/01/11 18:23
12/01/11 11:15	14/01/11 23:45
12/01/11 11:24	15/01/11 00:07
12/01/11 11:24	15/01/11 00:07
12/01/11 11:24	15/01/11 00:07
12/01/11 11:14	15/01/11 08:45
12/01/11 13:45	15/01/11 11:45
12/01/11 13:45	15/01/11 11:45
11/01/11 21:03	15/01/11 14:59
11/01/11 13:00	15/01/11 15:09
11/01/11 07:44	15/01/11 15:45
12/01/11 13:45	15/01/11 16:15
12/01/11 13:28	15/01/11 16:29
11/01/11 23:49	15/01/11 17:12
12/01/11 12:15	15/01/11 19:45
12/01/11 12:15	15/01/11 20:15
12/01/11 12:15	15/01/11 20:58
12/01/11 12:15	15/01/11 23:00
12/01/11 12:15	15/01/11 23:05
12/01/11 13:45	16/01/11 09:45
11/01/11 23:07	16/01/11 10:34
12/01/11 13:28	16/01/11 12:30
12/01/11 16:05	16/01/11 13:51
12/01/11 16:05	16/01/11 13:51
12/01/11 11:25	16/01/11 14:17
11/01/11 23:07	16/01/11 17:10
11/01/11 15:53	16/01/11 17:21
12/01/11 13:26	16/01/11 19:39
12/01/11 10:45	17/01/11 00:15
12/01/11 13:45	17/01/11 03:45
12/01/11 14:30	17/01/11 07:00
12/01/11 14:30	17/01/11 07:00
12/01/11 13:15	17/01/11 15:15

A list of councils, zone substations, and suburbs with power outages during the flood period.

COUNCIL	ZONE SUBSTATION	SUBURB SUPPLIED
BRISBANE CITY COUNCIL	SSAFD	ARCHERFIELD ROCKLEA
	SSAGE	PADDINGTON THE GAP
	SSAHL	EVERTON PARK FERNY GROVE
	SSALY	ANNERLEY DUTTON PARK FAIRFIELD GREENSLOPES SOUTH BRISBANE WOOLLOONGABBA YERONGA
	SSARG	ACACIA RIDGE
	SSAST	BRISBANE
	SSBBS	BELMONT BURBANK CAPALABA WEST CHANDLER MACKENZIE MANSFIELD ROCHEDALE WISHART
	SSBHL	BALD HILLS BRACKEN RIDGE
	SSBLB	BALMORAL BULIMBA HAWTHORNE MORNINGSIDE NORMAN PARK
	SSCFD	ALBION BOWEN HILLS CLAYFIELD WINDSOR
	SSCHL	CANNON HILL
	SSCPC	ELLEN GROVE FOREST LAKE
	SSCPL	ACACIA RIDGE DURACK WILLAWONG
	SSCPR	COORPAROO EAST BRISBANE GREENSLOPES WOOLLOONGABBA
	SSCSE	KEDRON
	SSCST	BRISBANE
	SSDRA	DARRA RICHLANDS SUMNER

	WACOL
SSEMP	BURBANK EIGHT MILE PLAINS ROCHEDALE
SSENG	ASHGROVE ENOGGERA GAYTHORNE MITCHELTON
SSGAP	THE GAP
SSGBG	GEEBUNG
SSGLY	KEPERRA MITCHELTON
SSHPE	HOLLAND PARK
SSHPK	ANERLEY COORPAROO GREENSLOPES HOLLAND PARK HOLLAND PARK WEST TARRAGINDI
SSHTN	ALBION ASCOT EAGLE FARM HAMILTON NEWSTEAD PINKENBA
SSHWD	DOOLANDELLA FOREST LAKE HEATHWOOD PALLARA
SSIDY	CHAPEL HILL INDOOROPILLY TARINGA TOOWONG
SSINA	DURACK FOREST LAKE INALA OXLEY RICHLANDS
SSJDL	JAMBOREE HEIGHTS JINDALEE KENMORE MT OMMANEY OXLEY SEVENTEEN MILE ROCKS SINNAMON PARK WESTLAKE
SSKMR	BROOKFIELD CHAPEL HILL FIG TREE POCKET KENMORE KENMORE HILLS MT COOTTHA PINJARRA HILLS PULLENVALE

	UPPER BROOKFIELD
SSKRN	LUTWYCHE
SSLBS	HEMMANT LYTTON
SSMCW	KARANA DOWNS KHOLO MOUNT CROSBY
SSMDH	PINKENBA
SSMGL	ANSTEAD BELLBOWRIE MOGGILL PINJARRA HILLS WESTLAKE
SSMLS	BRISBANE EAST BRISBANE FORTITUDE VALLEY NEW FARM NEWSTEAD
SSMLT	AUCHENFLOWER BRISBANE MILTON PADDINGTON SPRING HILL
SSMRE	MURARRIE TINGALPA
SSMRK	ANNERLEY MOOROOKA TARRAGINDI TENNYSON YEERONGPILLY YERONGA
SSMST	BRISBANE
SSNIP	KHOLO
SSNMK	ASHGROVE
SSNSD	BOWEN HILLS FORTITUDE VALLEY HERSTON NEW FARM NEWSTEAD WINDSOR
SSOXL	ARCHERFIELD CORINDA DURACK INALA OXLEY ROCKLEA SEVENTEEN MILE ROCKS
SSQPT	CANNON HILL
SSRCN	KURABY RUNCORN STRETTON
SSRLA	ARCHERFIELD COOPERS PLAINS MOOROOKA

	ROCKLEA SALISBURY TARRAGINDI YEERONGPILLY
SSSBK	COOPERS PLAINS EIGHT MILE PLAINS MACGREGOR ROBERTSON SUNNYBANK
SSSBY	MOOROOKA NATHAN SALISBURY TARRAGINDI
SSSFD	EVERTON PARK MCDOWALL STAFFORD STAFFORD HEIGHTS
SSSGT	BRACKEN RIDGE
SSSHW	CHELMER CORINDA FIG TREE POCKET GRACEVILLE INDOOROPILLY ROCKLEA SHERWOOD TENNYSON
SSSRD	CARINA CARINDALE
SSSTL	ST LUCIA
SST160	DARRA JAMBOREE HEIGHTS MIDDLE PARK MT OMMANEY RIVERHILLS SEVENTEEN MILE ROCKS SINNAMON PARK SUMNER WESTLAKE
SST161	ACACIA RIDGE ALGESTER LARAPINTA PALLARA WILLAWONG
SST162	KARANA DOWNS
SSTRG	INDOOROPILLY ST LUCIA TARINGA TOOWONG
SSTWG	AUCHENFLOWER BARDON INDOOROPILLY PADDINGTON TARINGA TOOWONG

	SSUMG	UPPER MT GRAVATT
	SSVPK	FORTITUDE VALLEY HERSTON
	SSWCL	BELLBOWRIE DARRA MOGGILL RIVERHILLS SUMNER WACOL
	SSWED	EAST BRISBANE HIGHGATE HILL SOUTH BRISBANE WEST END
	SSWNM	LYTTON PORT OF BRISBANE WYNNUM WYNNUM WEST
	SSWRD	COORPAROO EAST BRISBANE KANGAROO POINT NORMAN PARK
	SSWSO	WACOL
	SSZMR	ASPLEY GEEBUNG ZILLMERE
	SSARL	ARUNDEL COOMBABAH LABRADOR
	SSCMA	COOMERA UPPER COOMERA WILLOW VALE
GOLD COAST CITY COUNCIL	SSCRB	CURRUMBIN VALLEY CURRUMBIN WATERS TALLEBUDGERA VALLEY
	SSHIS	HOPE ISLAND
	SSHWL	COOMBABAH RUNAWAY BAY
	SSLDR	LABRADOR
	SSMGP	BONOGIN MUDGEERABA
	SSMTB	ADVANCETOWN CLAGIRABA GUANABA LOWER BEECHMONT MAUDSLAND MOUNT NATHAN
	SSPBH	PALM BEACH
	SSPPE	JACOBS WELL
	SSSMF	CEDAR CREEK
	SSSPO	ASHMORE SOUTHPORT
	SST108	CEDAR CREEK LUSCOMBE

GYMPIE REGIONAL COUNCIL		YATALA
	SST128	TALLAI
	SST75	ADVANCETOWN CLAGIRABA LOWER BEECHMONT NERANG
	SST81	COOMERA HELENSVALE OXENFORD UPPER COOMERA WONGAWALLAN
	SSAMR	AMAMoor BOLLIER COLES CREEK DAGUN IMBIL KANDANGA KYBONG TRAVESTON TUCHEKOI
	SSBMT	BOLLIER CARTERS RIDGE IMBIL TUCHEKOI
	SSGYS	CEDAR POCKET EAST DEEP CREEK GREENS CREEK GYMPIE KYBONG MOTHAR MOUNTAIN NEUSA VALE TANDUR TRAVESTON WOLVI WOONDUM
	SSIBL	BELLA CREEK BOLLIER BORUMBA DAM BROOLOO IMBIL MOY POCKET UPPER KANDANGA
	SSKWH	MOY POCKET
	SST8	ANDERLEIGH CANINA COONDOO DOWNSFIELD FISHERMANS POCKET GLASTONBURY GOOMBOORIAN GREENS CREEK GYMPIE KIA ORA

IPSWICH CITY COUNCIL		MARYS CREEK NAHRUNDA NEERDIE PIE CREEK ROSS CREEK SCRUBBY CREEK SOUTHSIDE THE PALMS VETERAN WIDGEE CROSSING NTH WIDGEE CROSSING STH WOLVI
	SSTCB	COOLOOLA COVE INSKIP RAINBOW BEACH TIN CAN BAY
	SSABY	AMBERLEY PURGA WILLOWBANK
	SSBVL	BASIN POCKET BLACKSTONE BOOVAL BUNDAMBA EAST IPSWICH NORTH BOOVAL SILKSTONE
	SSCPC	CAMIRA CAROLE PARK
	SSCPK	BELLBIRD PARK CAMIRA CAROLE PARK GAILES GOODNA SPRINGFIELD
	SSFDS	GOOLMAN PURGA
	SSGGR	GRANDCHESTER
	SSIPS	AMBERLEY CHURCHILL LEICHHARDT ONE MILE RACEVIEW WEST IPSWICH WULKURAKA YAMANTO
	SSKBN	AMBERLEY BLACKSOIL BRASSALL HAIGSLEA IRONBARK KARRABIN LEICHHARDT MUIRLEA

	PINE MOUNTAIN ROSEWOOD SADLIERS CROSSING THAGOONA WALLOON WULKURAKA
SSLLY	GRANDCHESTER MT MORT
SSMBG	ASHWELL HAIGSLEA MARBURG MT MARROW NORTH ROSEWOOD ROSEWOOD TALLEGALLA THAGOONA THE BLUFF WALLOON
SSMCW	CHUWAR MUIRLEA
SSNIP	BRASSALL CHUWAR EAST IPSWICH MOORES POCKET MUIRLEA NORTH IPSWICH PINE MOUNTAIN TIVOLI WOODEND
SSRBK	COLLINGWOOD PARK GOODNA REDBANK RIVERVIEW
SSRST	IPSWICH WEST IPSWICH
SSRWD	AMBERLEY ASHWELL CALVERT EBENEZER LANEFIELD LOWER MOUNT WALKER MOUNT FORBES MT MORT ROSEWOOD TALLEGALLA THAGOONA THE BLUFF WALLOON WILLOWBANK
SST162	BARELLAN POINT BUNDAMBA CHUWAR DINMORE EBBW VALE

		KARALEE NEW CHUM NORTH BOOVAL NORTH TIVOLI RIVERVIEW TIVOLI
	SST80	BELLBIRD PARK COLLINGWOOD PARK REDBANK PLAINS
	SSWSO	CAROLE PARK GAILES
LOCKYER VALLEY REGIONAL COUNCIL	SSCMY	CHURCHABLE
	SSCPD	BLANCHVIEW CARPENDALE DERRYMORE FLAGSTONE CREEK HELIDON HELIDON SPA IREDALE LAIDLEY NORTH LILYDALE POSTMANS RIDGE ROCKMOUNT SILVER RIDGE STOCKYARD UPPER FLAGSTONE VERADILLA
	SSGGR	GLENORE GROVE HATTON VALE LAKE CLARENDON MORTON VALE REGENCY DOWNS SUMMERHOLM
	SSGTN	ADARE COLLEGE VIEW GATTON GRANTHAM LAKE CLARENDON LAWES LOWER TENTHILL PLACID HILLS RINGWOOD VERADILLA WINWILL
	SSH DN	CARPENDALE GRANTHAM HELIDON HELIDON SPA POSTMANS RIDGE VERADILLA
	SSLLY	BLenheim LAIDLEY LAIDLEY NORTH

		LAIDLEY SOUTH MOUNT BERRYMAN PLAINLAND SUMMERHOLM
	SSMSV	BLACK DUCK CREEK EAST HALDON JUNCTION VIEW MT SYLVIA
	SSSPC	CHURCHABLE
	SST29	BALLARD BLANCHVIEW HELIDON SPA IREDALE LOCKYER MURPHYS CREEK POSTMANS RIDGE SILVER RIDGE SPRING BLUFF UPPER LOCKYER WITHCOTT
	SST78	HATTON VALE KENTVILLE LOCKROSE
	SSTHL	CAFFEY FORDSDALE INGOLDSBY MA MA CREEK MT WHITESTONE ROPELEY UPPER TENTHILL
LOGAN CITY COUNCIL	SSBDT	CEDAR VALE MUNDOOLUN VERESDALE WOODHILL
	SSBPN	BROWNS PLAINS REGENTS PARK
	SSBTA	BAHRS SCRUB BEENLEIGH BETHANIA BUCCAN EDENS LANDING HOLMVIEW WATERFORD
	SSCNB	CARBROOK CORNUBIA
	SSCPC	BROWNS PLAINS
	SSEMP	PRIESTDALE ROCHEDALE SOUTH
	SSH22	KINGSTON LOGAN CENTRAL WOODRIDGE
	SSJBB	CEDAR GROVE CEDAR VALE CHAMBERS FLAT

		JIMBOOMBA LOGAN VILLAGE MUNDOOLUN MUNRUBEN NORTH MACLEAN SOUTH MACLEAN STOCKLEIGH WOODHILL
	SSKSN	MARSDEN
	SSLGV	LOGAN VILLAGE
	SSNMC	GREENBANK
	SSNSW	ROCHEDALE SOUTH SLACKS CREEK
	SSRLB	CARBROOK
	SST108	BANNOCKBURN BEENLEIGH BELIVAH MOUNT WARREN PARK WOLFFDENE
	SSWRG	SLACKS CREEK SPRINGWOOD WOODRIDGE
	SSACR	ALBANY CREEK EATONS HILL
MORETON BAY REGIONAL COUNCIL	SSAHL	ARANA HILLS BUNYA EVERTON HILLS FERNY HILLS
	SSBWH	BOOROOBIN
	SSCBW	BELLMERE CABOOLTURE CABOOLTURE SOUTH DAYBORO ELIMBAH KING SCRUB MOODLU MOORINA OCEAN VIEW ROCKSBERG UPPER CABOOLTURE WAMURAN WAMURAN BASIN
	SSDBY	DECEPTION BAY
	SSKCY	MT DELANEY NEURUM STONY CREEK WOODFORD
	SSKLG	KALLANGUR MURRUMBA DOWNS PETRIE
	SSLTN	ARMSTRONG CREEK DAYBORO JOYNER

		KING SCRUB KURWONGBAH LACEYS CREEK LAWNTON MT PLEASANT OCEAN VIEW PETRIE RUSH CREEK SAMSONVALE STRATHPINE WHITESIDE
	SSMFN	MORAYFIELD
	SSNRA	MOORINA NARANGBA
	SSSMF	ARMSTRONG CREEK CASHMERE CEDAR CREEK CLEAR MOUNTAIN CLOSEBURN DAYBORO KOBBLE CREEK LACEYS CREEK MOUNT NEBO MOUNT SAMSON MT GLORIOUS SAMSONVALE STRATHPINE
	SSSPE	BRENDALE
	SST108	CEDAR CREEK
	SSTPT	NINGI
	SSWFD	BRACALBA CEDARTON D'AGUILAR ELIMBAH MOUNT MEE STANMORE STONY CREEK WAMURAN WOODFORD
REDLAND CITY COUNCIL	SSBKD	ALEXANDRA HILLS WELLINGTON POINT
	SSRBY	CLEVELAND ORMISTON
	SSRLB	REDLAND BAY
	SSSIS	DUNWICH
SCENIC RIM REGIONAL COUNCIL	SSABY	MUTDAPILLY
	SSBDT	ALLENVIEW BEAUDESERT BIDDADDABA BIRNAM BOYLAND CAINBABLE

	CANUNGRA CRYNA GLENEAGLE ILBOGAN KERRY NINDOOINBAH SARABAH TABRAGALBA VERESDALE SCRUB WONGLEPONG
SSBNH	MOOGERAH
SSBTN	BEAUDESERT BROMELTON GLENEAGLE
SSFDS	ANTHONY COLEYVILLE HARRISVILLE LIMESTONE RIDGES MILBONG MILORA MUNBILLA PEAK CROSSING ROADVALE WOOLOOMAN
SSIPL	BARNEY VIEW CANUNGRA CHINGHEE CREEK CHRISTMAS CREEK DARLINGTON HILLVIEW INNISPLAIN JOSEPHVILLE KNAPP CREEK KOORALBYN LAMINGTON LARAVAL MAROON MT LINDESAY OAKY CREEK PALEN CREEK RATHDOWNEY RUNNING CREEK TABOOBA TAMROOKUM CREEK
SSJBB	ALLENVIEW KAGARU UNDULLAH
SSKBR	ARATULA CLUMBER COULSON KALBAR KENTS LAGOON MOOGERAH MT EDWARDS

SOMERSET REGIONAL COUNCIL		MUNBILLA ROADVALE SILVERDALE WYARALONG
	SSMTB	BEECHMONT BINNA BURRA CANUNGRA EAGLE HEIGHTS FERNY GLEN FLYING FOX ILLINBAH MOUNT TAMBORINE NORTH TAMBORINE PINE CREEK SARABAH WITHEREN
	SSRWD	ARATULA COLEYVILLE MERRYVALE MOORANG MOUNT WALKER MT WALKER WEST MUTDAPILLY ROSEVALE TAROME
	SST108	TAMBORINE
	SST75	BEECHMONT
	SSCMY	BUARABA COOMINYA
	SSESK	BIARRA CEDAR GROVE (QLD) COAL CREEK ESK GALLANANI GLEN ESK MOOMBRA MOUNT HALLEN MURRUMBA OTTABA REDBANK CREEK TOOGOOLOWAH WIVENHOE POCKET
	SSGTN	CLARENDON
	SSKBN	BORALLON FAIRNEY VIEW GLAMORGAN VALE WANORA
	SSKCY	GREGORS CREEK HARLIN HAZELDEAN JIMNA KILCOY MOUNT ARCHER

	MOUNT KILCOY ROYSTON SANDY CREEK SHEEP STATION CREEK VILLENEUVE WINYA WOOLMAR
SSLWD	CLARENDON FERNVALE LOWOOD PATRICK ESTATE VERNOR WIVENHOE POCKET
SSMBG	FAIRNEY VIEW FERNVALE GLAMORGAN VALE LARK HILL LOWOOD MINDEN VERNOR WANORA
SSMCW	LAKE MANCHESTER
SSMRB	GLEN ESK
SSSPC	ATKINSONS DAM BUARABA BUARABA CREEK CLARENDON COOMINYA
SST78	MT TARAMPA
SST8	SANDY CREEK
SSTGW	AVOCA AVOCA VALE BIARRA COLINTON COOEEIMBARDI CRESSBROOK EMU CREEK ESKDALE FULHAM GREGORS CREEK HARLIN IVORY CREEK LINVILLE LOWER CRESSBROOK MOORE MT STANLEY NURINDA TOOGOOLAWAH
SSTRP	BRIGHTVIEW CLARENDON COOLANA COOMINYA GLAMORGAN VALE LOWOOD

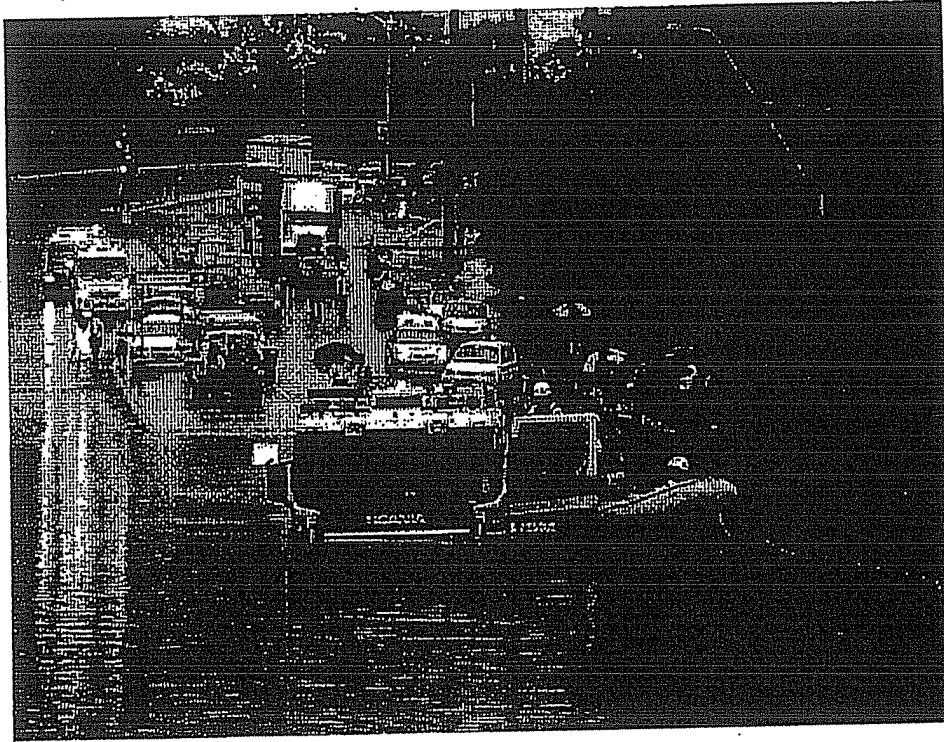
SUNSHINE COAST REGIONAL COUNCIL		MINDEN MT TARAMPA PATRICK ESTATE PRENZLAU RIFLE RANGE TARAMPA
	SSWHO	BRYDEN DUNDAS FAIRNEY VIEW FERNVALE SPLIT YARD CREEK VERNOR WIVENHOE WIVENHOE POCKET
	SSAHD	BLI BLI MAROOCHYDORE MUDJIMBA PACIFIC PARADISE TWIN WATERS
	SSAMR	COORAN
	SSBMT	BELLI PARK BLACK MOUNTAIN BOREEN POINT COORAN COOROY COOTHARABA FEDERAL GHEERULLA KIN KIN PINBARREN POMONA RIDGEWOOD
	SSBWH	CROHAMHURST GLASSHOUSE MOUNTAINS MALENY PEACHESTER
	SSCLD	BEERWAH BELLS CREEK CALOUNDRA WEST COOCHIN CREEK GOLDEN BEACH
	SSCLM	COOLUM BEACH PEREGIAN BEACH YAROOMBA
	SSIBL	GHEERULLA
	SSKWH	BELLI PARK CAMBROON CONONDALE COOLABINE GHEERULLA KENILWORTH MAPLETON

	OBI OBI
SSLBH	GLENVIEW LANDSBOROUGH MERIDAN PLAINS MOOLOOLAH VALLEY PALMVIEW
SSMLB	BUDERIM CHEVALLUM FOREST GLEN ILKLEY MONS MOUNTAIN CREEK SIPPY DOWNS TANAWHA
SSMLY	CONONDALE CURRAMORE ELAMAN CREEK MALENY REESVILLE WITTA
SSNVL	CASTAWAYS BEACH MARCUS BEACH NOOSA HEADS NOOSA NORTH SHORE NOOSAVILLE PEREGIAN BEACH SUNRISE BEACH SUNSHINE BEACH
SSPGN	DOONAN MARCUS BEACH PEREGIAN BEACH WEYBA DOWNS
SSPWC	BURNSIDE EUDLO ILKLEY MONTVILLE TOWEN MOUNTAIN WOOMBYE
SST16	BURNSIDE COOLOOLABIN IMAGE FLAT KIAMBA KULANGOOR NAMBOUR YANDINA
SST70	BELLI PARK COOLOOLABIN COOROY EERWAH VALE RIDGEWOOD
SST8	KIN KIN
SSTWT	TEWANTIN VERRIERDALE
SSWFD	COMMISSIONERS FLAT

	PEACHESTER
SSWMD	MARCOOLA MUDJIMBA
SSYDA	BRIDGES COOLOOLABIN EERWAH VALE EUMUNDI KIAMBA MAROOCHY RIVER NINDERRY NORTH ARM YANDINA

ATTACHMENT CJA-6

ENERGEX FLOOD RISK MANAGEMENT PLAN



2010/11

Document Amendment History

Issue No.	Date	Comments
1	Dec 2010	First Draft
2	Jan 2011	Second Draft
3		

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1 INTRODUCTION

1.1 Overview

ENERGEX is committed to the achievement of best practice asset management strategies to ensure the safe and reliable operation of its network. A key component of this strategy is to manage its assets in a manner that minimises the associated risk to its assets and customer supply reliability during times of major flood events.

ENERGEX has obligations under the Queensland Industry Code (The Code) to produce annual plans to manage the network and prepare for the summer storm season. These plans are:

- Network Management Plan
- Summer Preparedness Plan

The Flood Risk Management Plan is a companion to these plans and targets specific issues and initiatives relating to major flood events.

Terry Effenev
Chief Executive Officer

Chris Arnold
Executive General Manager Network
Performance

1.2 Scope

The Flood Risk Management Plan covers the following major areas:

- Identification of electricity assets which may be affected by a major flood
- Asset maintenance procedures,
- Network Operations Response to Major Floods,
- Liaison with other organisations regarding flood related issues,
- Information to be provided to customers related to flood risk and public safety

1.3 Availability of Plan

The Flood Risk Management Plan will be available to ENERGEX internal staff, contractors, local Councils and Emergency Management Queensland.

2 IDENTIFICATION AND RECORDING OF HIGH FLOOD RISK AREAS

To identify major flood risk areas, ENERGEX will utilise information supplied by the local councils and Emergency Queensland. Major floods are considered to be higher than 1 in 20 year events.

The major flood risk areas will be overlayed into ENERGEX's Geographical Information System and network maps can be produced which identify network assets which may be affected in a major flood.

The equipment which will be affected by a major flood event include:

- Bulk and zone substations
- C&I substations
- Overhead lines
- Padmount and ground transformers
- Underground pillars

2.1 Asset Management Information Facilities

In order to maintain an up-to-date record of its asset information and their characteristics, ENERGEX has in place the following management tools:

Ellipse and NFM Equipment Register

ENERGEX maintains an equipment register in an enterprise computer system. The equipment register stores technical information about the power assets and allows tracking of the various transferable assets such as transformers.

Geographical Information System

ENERGEX also uses a Geographical Information System (GIS) which records, stores and enables the retrieval of relevant information about its electricity assets. This includes

the physical location and layout of the assets, and types and lengths of overhead lines. The GIS system has a layer which provides the high bushfire risk areas in South East Queensland.

3 NETWORK OPERATIONS FLOOD RESPONSE

3.1 Introduction

Each natural disaster (floods, bushfire and storms) can present different problems to the Network which require different solutions. The main processes to follow during an emergency are to ensure:

- a) Safety at all times - members of the public, staff of emergency services, and employees.
- b) A coordinated response to the emergency.
- c) Speedy restoration of adequate supply to customers.
- d) Timely restoration of the network to its normal operating condition.
- e) Resumption of normal operations as quickly as possible.

3.2 Operating Procedures

3.2.1 Flood Warnings

Network Control Centre will need to monitor the flood event using information from the Bureau of Meteorology and local Councils. When flood warnings are given on rivers and creeks in the ENERGEX network, the Network Control Shift Manager is to alert the Asset Managers and Hub Managers of the flood warning.

The Hub Manager is to advise the Hub Resource Coordinator to commence river height monitoring using the BoM website, Floodwise system and/or SES information and commence making preparations for the flood response.

The Flood Warning Centre websites for information relating to flood heights provided by BoM are:

- <http://www.bom.gov.au>
- <http://www.bom.gov.au/hydro/flood/qld/>

Network Operations will have access to the Brisbane City Council *Floodwise* system which has a number of rainfall stations and river and creek gauges across South East Queensland. *Floodwise* can also provide information on roads and areas in BCC which are in flood.

3.2.2 Flood Maps

Reference should be made to the following flood level maps of South East Queensland:

Brisbane – FloodWise (<http://www.brisbane.qld.gov.au/community-support/emergency-management/flooding/flood-flag-map/index.htm>)

Other Areas - Refer to local authorities

3.2.3 Level of Emergency and Organisation Structure

A major prolonged flood that would affect many parts of South East Queensland would be declared a Level 3 emergency.

3.2.4 Communications with Emergency Services

It is vital during a major flood event that close contact be made with all emergency services, in particular Police, SES and local disaster coordinators.

The key organisations and contacts are:

State Counter Disaster Operations – Kedron Park

BCC Local Disaster Coordination – 266 George St, Brisbane

Gold Coast City Council

Ipswich Council

Lockyer Council

Gympie Council

3.2.5 Advice to the Public

Close liaison should be maintained with media organisations. The public should be told to treat all electrical equipment as *live* unless advised to the contrary, and to stay clear.

3.3 Asset and Hub Manager Response to Floods

During a major flood event, the Asset and Hub Manager with staff are to:

- ♦ Ensure all items on Flood Operational Plans are being carried out and the resources are available to deal with the threat of flood. Arrange external resources such as contractors, helicopters, boats etc.
- ♦ Liaise with Counter Disaster representatives, to communicate with local Counter Disaster Groups, State Emergency Services (SES) and other Emergency Services as is necessary. SES are to be provided with telephone number for direct contact.
- ♦ Ensure communication lines are in place between Corporate Communications, Control Centre, and Hub depots.
- ♦ Communicate with Control Centre on the state of the network belonging to that Hub.

- ♦ Monitor river heights using data from BOM and forecast future resource requirements.
- ♦ Arrange for vehicles and equipment to be positioned to suit anticipated river levels.
- ♦ Ensure that premises are isolated in a timely manner before water reaches wiring or switchboards.
- ♦ Arrange for disconnects and reconnects and removal of meters.
- ♦ Arrange for street patrols to identify areas of disconnect if energised circuits are within required clearances to flood waters.

3.4 Operational Response to Floods

Network Operation

When a major flood event is predicted for the Brisbane River (above 3.0 metres at the City Gauge) the Control Centre should be relocated to the back-up Victoria Park Network Operations Centre. The Storm Room should also be relocated to Victoria Park and Central Dispatch and Contact Centre to Warry St, Spring Hill.

Bulk and Zone Substations

Operational plans (short term) are being developed for bulk and zone substations which is affected by a major flood event. The operational plans should incorporate the following considerations:

- (i) Switching should commence immediately to transfer as much load as possible from the substations which will be affected by flooding to other substations.
- (ii) Each affected substation should be brought down to the minimum necessary number of transformers and feeder circuits.
- (iii) An (SES) boat may be required in the vicinity of each substation where ENERGEX staff are working to ensure staff are not trapped by the flood waters.
- (iv) Capacitor banks should be disconnected when the flood level is at the base of the capacitor banks and expected to rise further. Before re-energisation, the capacitor banks should be hosed and dried out and insulation tested.
- (v) Field crews should be organised to remove from site all withdrawable spare CBs, capacitor CBs, the CBs of the transformers that have been switched out, and the CBs of any feeders that have been deloaded. Where removal from site is not possible, withdrawable CBs should be left connected to the bus.
- (vi) Field crews should remove from site all withdrawable protection relays which are not in service at the substations. Relays must be tagged before

they are removed from their service position so as to expedite later reconnection. Refer to the Flood Field book.

- (vii) All DC links from batteries should be disconnected to avoid DC shocks.
- (viii) Substations should be de-energised as soon as water begins to enter the substation yard and expected to rise further. This will give field crews time to remove the remaining withdrawable protection relays and other equipment.
- (ix) Transformers that will be covered by water should have the breather removed and plugged, but only after the transformer has been de-energised and allowed to cool.
- (x) The SACS units should be powered down and all circuit boards, PCs, VDUs, etc removed from site after the substations are de-energised.
- (xi) All DC supply should be isolated from the main supply fuses. Minor DC supplies (SACS and communications) should be removed if possible, along with chargers.

Longer Term Operational Plan

Consideration should be given to relocation of critical substation assets above the Q200 level or installing permanent or temporary bunding around key substation equipment such as capacitor banks and neutral earthing resistors or reactors.

Consideration should also be given to sealing wall and floor penetrations in substation buildings to withstand a major flood event.

CBD Substations

An Operational Plan is being developed for C&I substations in CBD areas which may be impacted by a flood event. The Operational Plan should follow a disconnection and recovery strategy.

In the Brisbane CBD, the substations which were impacted on the Jan 2011 flood event (where flood waters reached 4.6 metres on the City Guage) are given in Appendix B, Table 2.2.

Padmounted Transformers

Power should be disconnected when the flood level is 300 mm below the HV cable terminations and expected to rise further.

Flood affected transformers should be hosed, dried and insulation tested prior to re-energisation.

Ground Transformers

Power should be disconnected when the flood level is at the base of ground transformers and expected to rise further (above 300 mm). Transformers with

breathers should have the breathers removed and plugged to prevent the ingress of water.

Ring Main Units

Power should be disconnected when the flood level is at the base of ring main units and expected to rise further (above 300 mm).

Overhead Network

All overhead lines and apparatus from HV through to LV (including services) must be de-energised before the clearances from flood water are encroached.

Nominal System Voltage (kV)	Minor Flood Level – No Masts (m)	Minor Flood Level – Masts (m)	Major Flood Level – Large Catchments ¹ (m)	Major Flood Level – Small Catchments ² (m)
Up to and including 33	5.0	Highest mast + 2.5 m or 7.1 m assuming 4.6 m mast	4.0	3.0
Above 33 – up to and including 132	5.5	Highest mast + 3.0 m or 7.6 m assuming 4.6 m mast	4.5	3.5

Notes:

- (1) It is assumed in large catchments, the rivers will remain at major flood for a number of days and there will be craft or emergency vessels in the waterway
- (2) It is assumed that for small catchments, the creek rise and fall in short time (hours) and there will be no vessel or craft in the waterway

Table 3.1 – Clearances Over Waterways for Uninsulated Energised Crossings

Individual Premises

Power should be disconnected before switchboards are flooded and meters removed. Flooded gas supplies should be shut off at the meter.

On flood affected premises, switchboards and wiring should be inspected individually and an insulation resistance test performed.

Solar PV systems should be considered as "live" during sunlight hours. The PV systems should be disconnected if the equipment is at risk of flooding. Any flood affected wiring, switches and inverter should also be treated as "live".

Pillars

Power should be disconnected when the flood level is at the base of pillars and expected to rise further. It is likely that the padmounted transformer supplying the pillar will be disconnected before the flood level reaches the base of pillars.

Flood affected pillars should be inspected individually and hosed out if necessary.

Without IPCs, a minimum insulation resistance of 100 M Ω at 2.5kV for 1 minute between each phase and phase to neutral should be achieved before re-energisation.

With IPCs, a minimum insulation resistance of 5 M Ω at 2.5kV for 1 minute between each phase and phase to neutral should be achieved before re-energisation.

Mary River Floods

A detailed Disaster Management Plan for a flood of the Mary River affecting the Gympie area can be accessed from the intranet at the following location:

GympieFlood.doc

Strategic Deployment of Generators

ENERGEX has a fleet of generators available in the emergency flood event. These consist of:

- 5 x 11 kV 1250 KVA generators
- 40 x 240 volt 300 kVA and 500 kVA generators

Smaller generators (in range 30 kVA to 120 kVA) are available from local hire companies.

Generators will generally be dispatched on a priority basis and approved by senior management. Where there is a major flood and access to communities are likely to be inaccessible, generators should be dispatched to strategic locations during the flood event. Communities which may be islanded in a major event are:

- Belbowrie
- Karana Downs
- Moggill/Pullenvale

4 RESTORATION OF ENERGEX ASSETS

The restoration of ENERGEX assets should be undertaken in accordance with standard business emergency processes plus the additional flood process documentation:

System Operation

EWP110113b – Restoration of Electricity Supply Following Flooding
EWP1101 - Process for Managing LV in the CBD Following Flooding

Work Practice

WP – 1134 Re-energisation of Flood Affected Distribution Equipment
WP – 1133 Installation Reconnection After Natural Disaster
WP – 1135 Reinstating Pole Mounted Equipment

5 RISK ASSESSMENT OF ENERGEX ASSETS

In Appendix A, a risk assessment has been conducted on ENERGEX assets which may be affected by a 1 in 100 year flood event. The assets which have been investigated include:

1. Overhead line crossing waterways
2. Bulk and Zone Substations
3. C&I Substations

6 REVIEW AND REPORTING

ENERGEX will undertake a review of the Flood Risk Management plan on an annual basis. Operational Plans will be continually developed for key critical infrastructures such as zone substations.

ENERGEX will prepare reports for the Executive on a needs basis for aspects of flood preparedness such as;

- Upgrades of overhead line crossing of waterways
- Specific projects for critical infrastructure to address flood risk, and
- Liaisons with other emergency organisations to address flood risk

Details of the maintenance, reliability and safety aspects of ENERGEX's electricity network are reported in the Network Management Plan.

APPENDIX B - RISK ASSESSMENT OF ENERGEX ASSETS AFFECTED BY 1 IN 100 YEAR FLOOD EVENT

OVERHEAD LINES

A list of overhead lines that could potentially encroach the minimum clearances in a Major Flood is given below.

Crossing Number	Voltage	Water Crossing Location	Major Flood Water Rise (m)	Distance between Flood Rise and Water Crossing (km)	Measured Line Clearance Over Waterway (m)
WD37	LV	22 MacDonald Rd, Wivenhoe Pocket	16	1.6	15.3
ND14	LV	Morayfield Rd, Caboolture	9.5	1.1	9.97
SD157	LV	Sinnamon Rd, Jindalee	10	2.1	9.8
ND26	11kV	Gympie Rd, Petrie	8.17	0.6	7.43
ND15	11kV	Dux St, Caboolture	9.5	2.8	10.38

Table A.1 – Water crossings that Potentially Encroach Minimum Clearances during a Major Flood

BULK AND ZONE SUBSTATIONS

A list of substations that are potentially below Q100 flood level is given below.

Hub	Sub	Name	Depot
Central West	SSOXL	Oxley	Oxley Depot
Central West	SSJDL	Jindalee	Oxley Depot
Central West	SSMLT	Milton	Taringa Depot
Metro North	SSMDH	Meeandah	Geebung Depot
Metro North	SSMTN	Myrtletown	Geebung Depot
Metro North	SSBRD	Brendale	Redcliffe Depot
Metro South	SSBLN	Beenleigh	Beenleigh Depot
Metro South	SSQR46	Qrail	Beenleigh Depot
Metro South	SSAFD	Archerfield	Greenslopes Depot
South Coast	SSPBH	Palm Beach	Burleigh Depot
South Coast	SSUPC	Upper Coomera	Labrador Depot
South Coast	SST81	Cades County	Labrador Depot
Western	SSMTC	Mt Crosby	Ipswich Depot

Table 2.2.1 – Zone/Bulk Substations Potentially Below Q100 Flood Level

Zone Substations which were flood affected in the 2011 event.

Hub	Sub	Name	Depot
Central West	SSOXL	Oxley	Oxley Depot
Central West	SSJDL	Jindalee	Oxley Depot
Central West	SSMLT	Milton	Taringa Depot
Metro South	SSAFD	Archerfield	Greenslopes Depot
Western	SSMTC	Mt Crosby	Ipswich Depot

Table 2.2.1 – Zone Substations Affected by 2011 Flood Event

Depot

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

Brisbane CBD

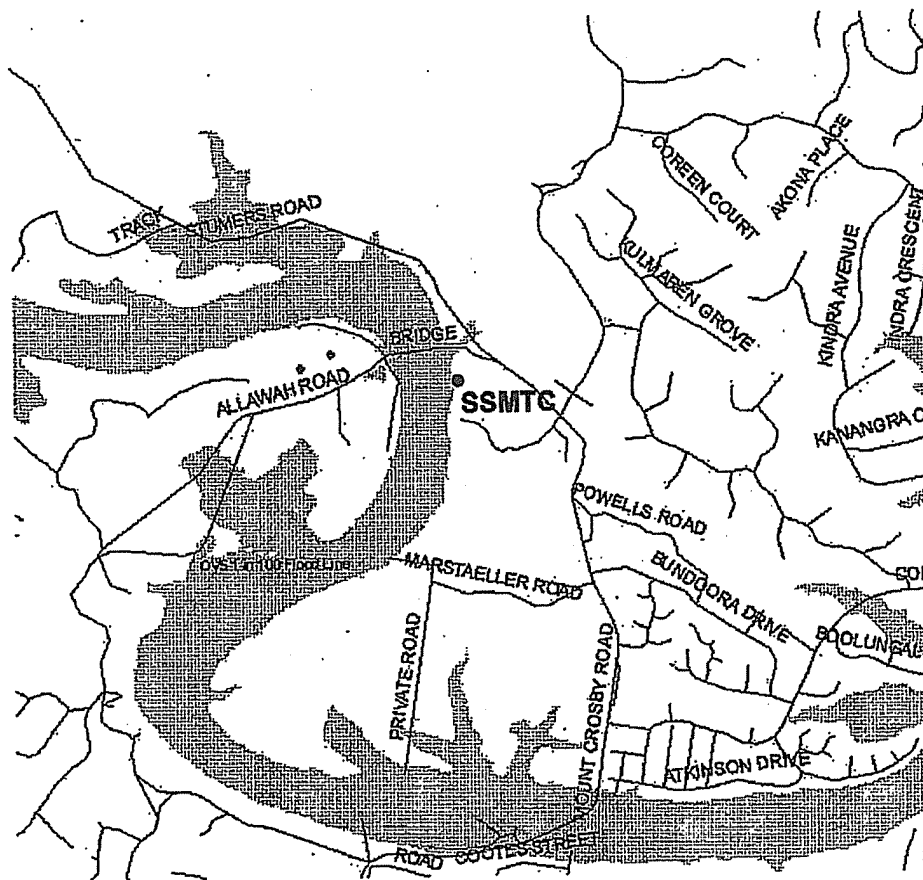
Brisbane CBD

Table 2.2.2 – C&I Substations Affected by Flood Waters in 2011 Flood Event

KEY ZONE SUBSTATIONS.

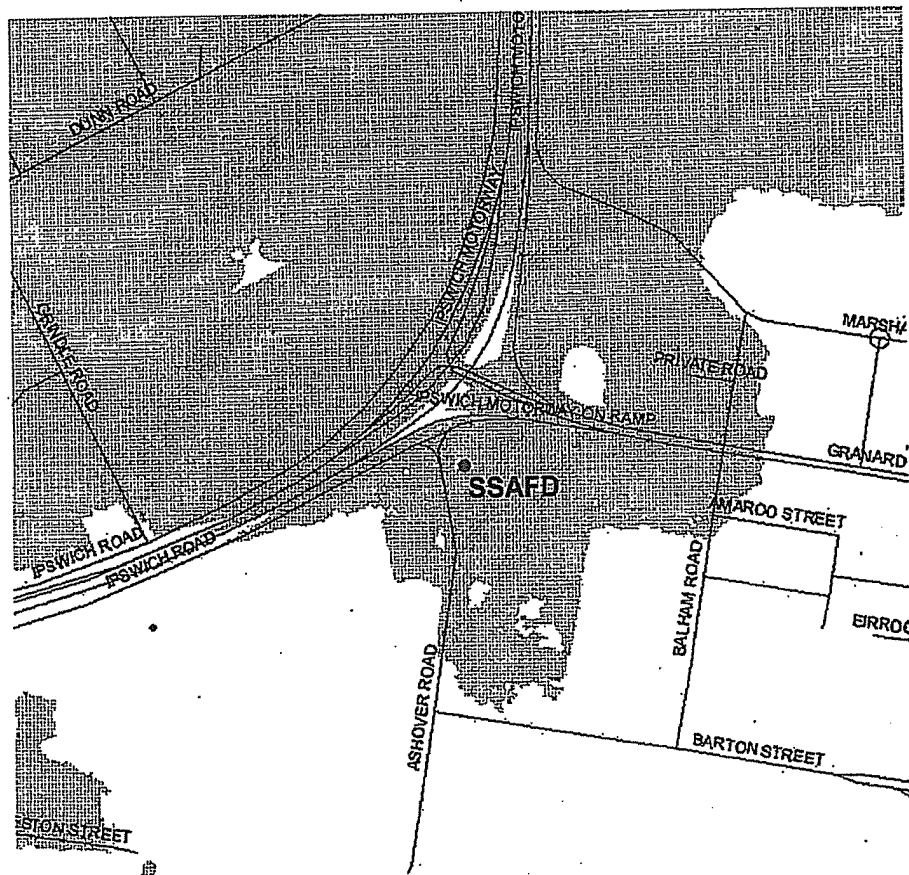
(i) **SSMTC - Mt Crosby**

Access to SSMTC would be affected, as all roads would be cut. The only access may be by helicopter. It is unlikely that the substation would flood, but if it did occur, electricity supply should be able to be maintained via Mount Crosby West (SSMCW).



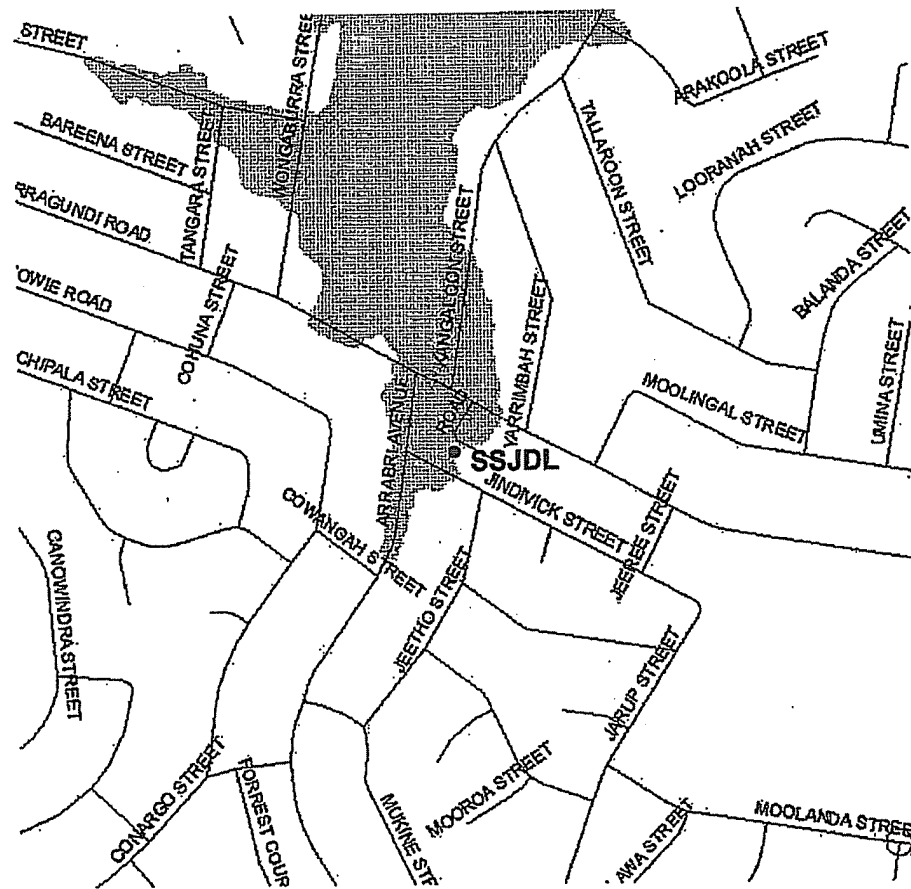
(ii) SSAFD – Archerfield

Archerfield substation would be completely submersed, and only minimal load can be supplied from 11kV ties into Coopers Plains, Sunnybank and Rocklea (which itself will be affected by rotational load shedding). However, if Archerfield substation is flooded so will most of its load so the loss of this substation should not cause any noticeable inconvenience.



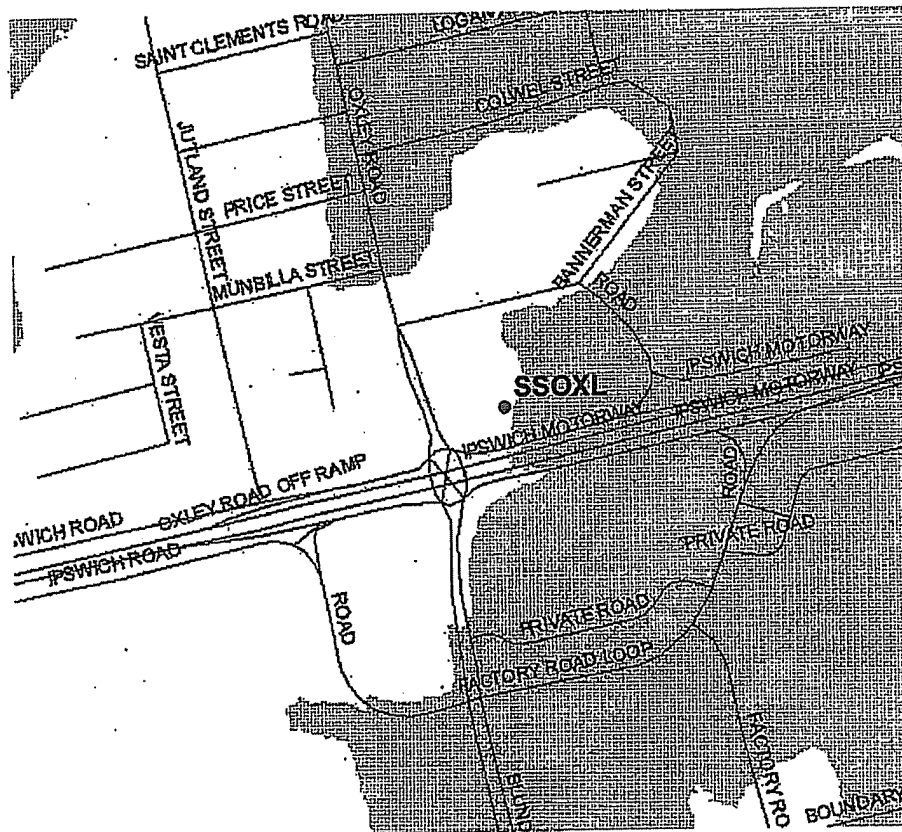
(iii) SSJDL – Jindalee

Jindalee substation will be flooded, and it is expected that approximately two-thirds of its load will be affected by flooding. A small amount of load can be supplied by 11kV ties into Darra and Sherwood (which itself will be affected by rotational load shedding).



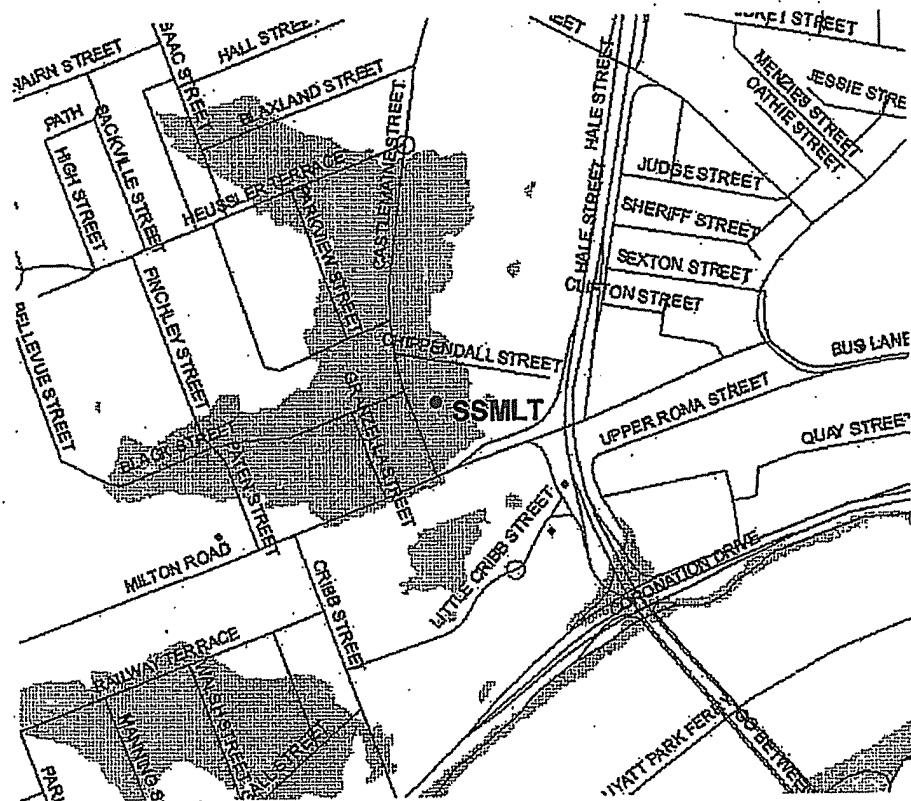
(iv) SSOXL – Oxley

Like the case with Jindalee substation, it is expected that the load on Oxley substation will only be one-third of the normal load due to flooding in the area. A small amount of the remaining load can be supplied by 11kV ties into Inala and Darra substations.



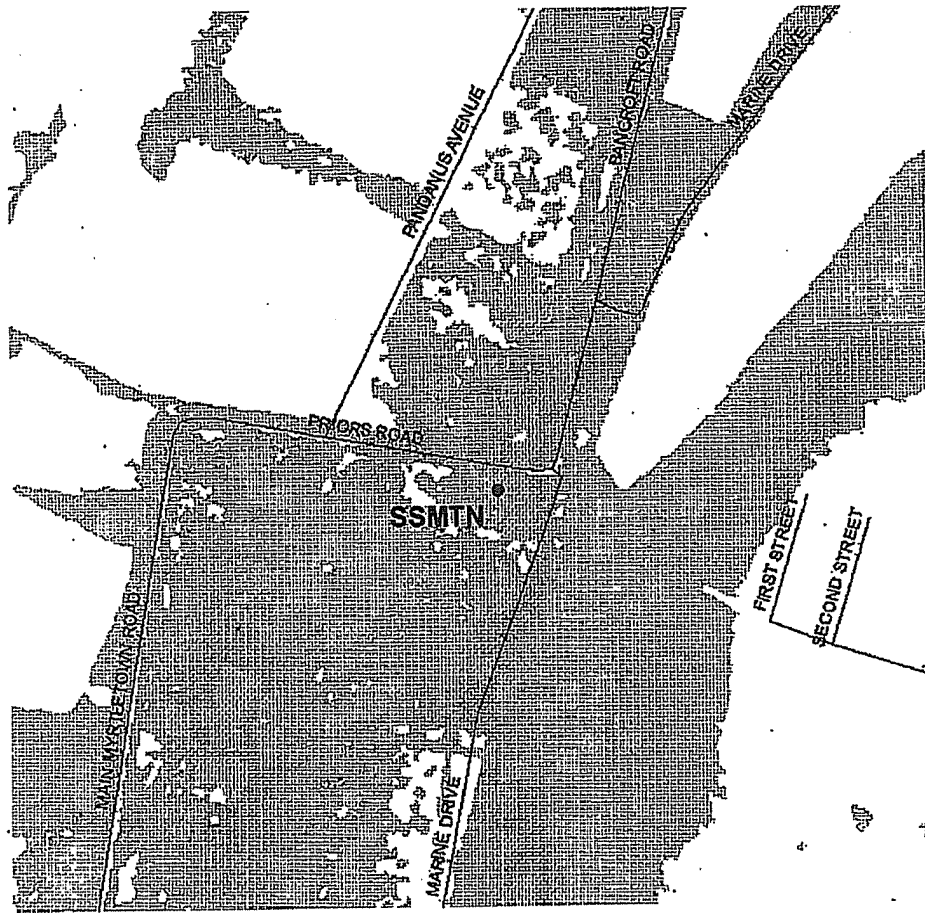
(v) SSMLT – Milton

Access to SSMLT would be affected, but rear entrance via Milton Road/Hale St may be possible. It is likely only the cable basement of SSMLT would flood.



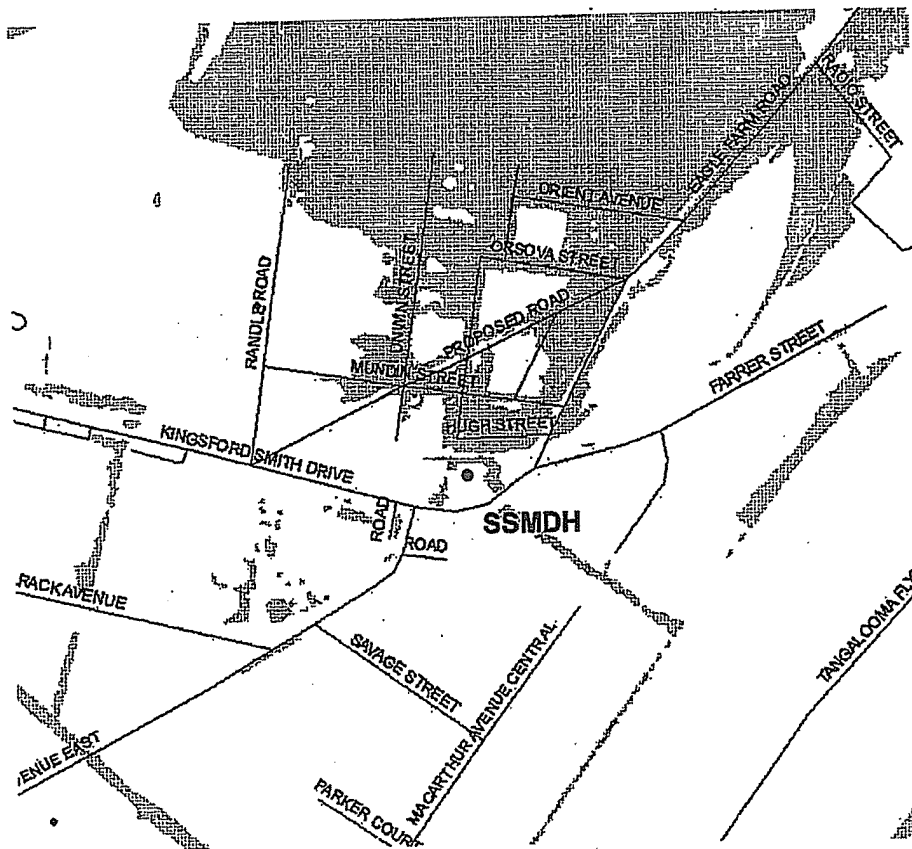
(vi) SSMTN – Myrtlewood

Access to SSMTN would be affected, as all roads would be cut. The only access may be by helicopter. It is expected that approximately X of the substation load will be affected by floods. A small amount of load can be supplied by 11kV ties into X substation.



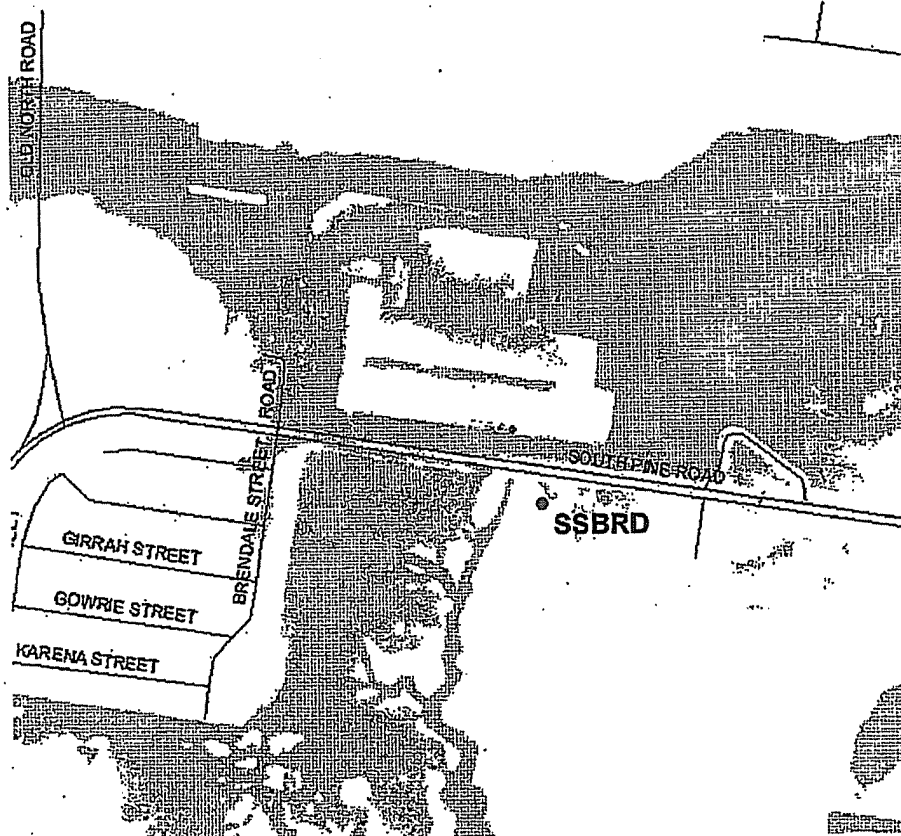
(vii) SSMDH – Meeandah

Access to SSMDH would be possible via Kingsford Smith Drive. It is unlikely that the substation would be completely flooded, and if this is not the case, SSMDH load may be partially supplied by SSXXX.



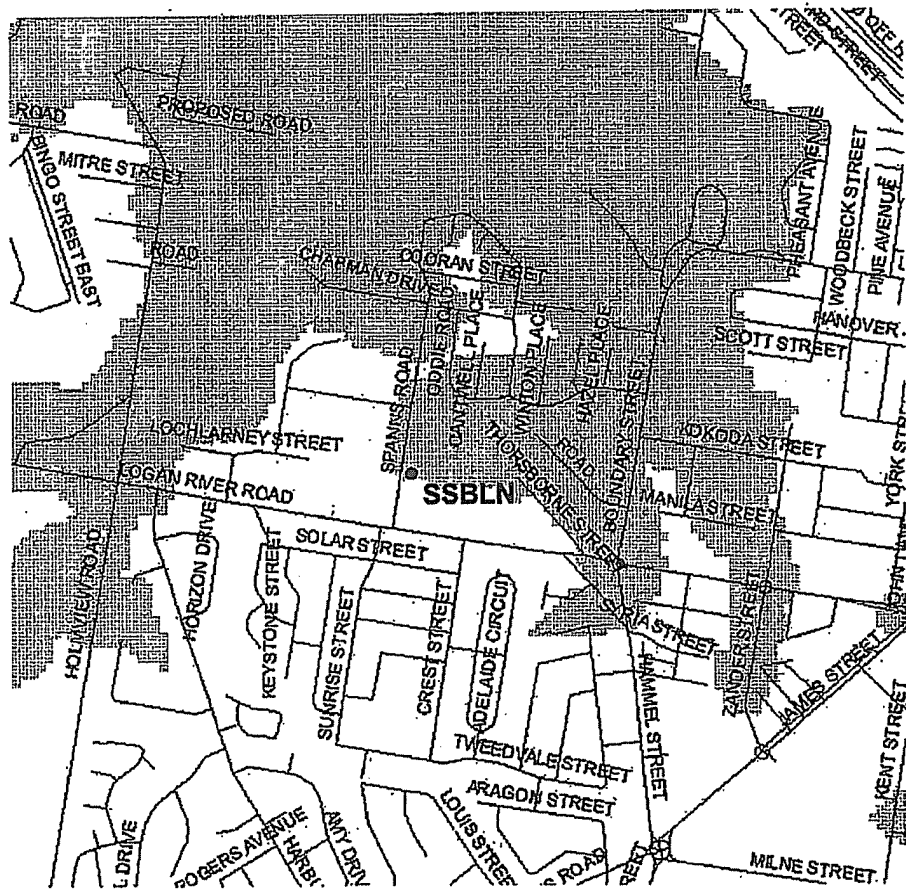
(viii) SSBRD – Brendale

Access to SSMDH would be possible in the case of a Q100 flood. It is unlikely that the substation would be completely flooded.



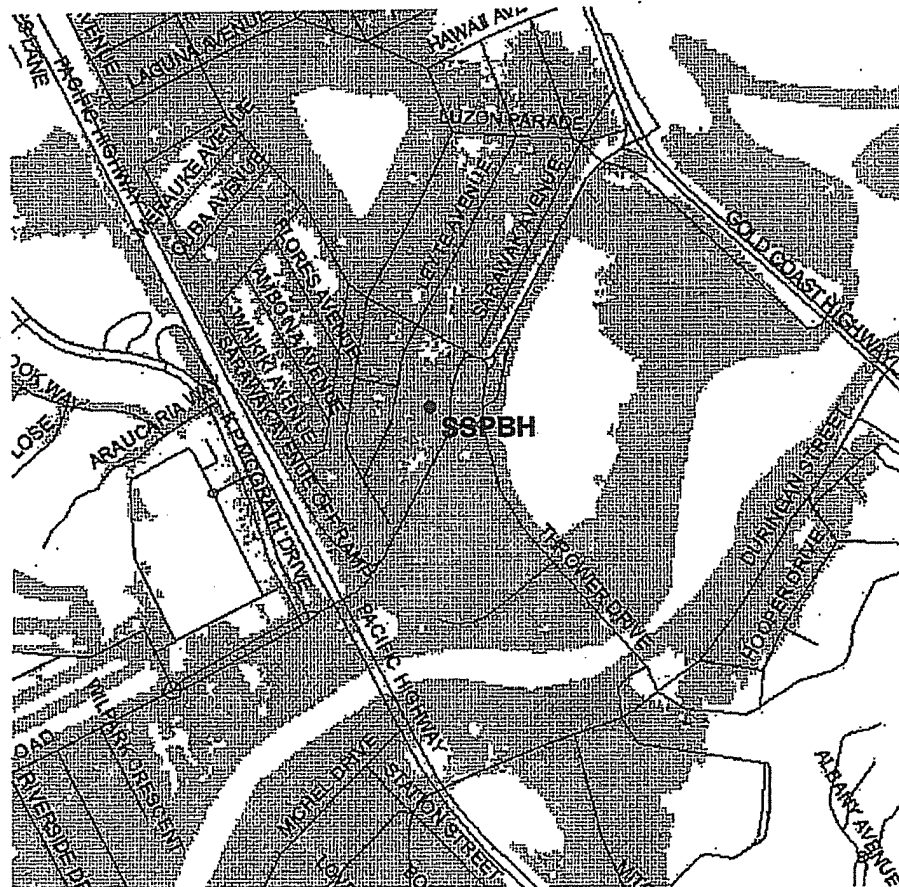
(ix) SSBLN – Beenleigh

Access to SSBLN may not be possible via Logan River Road during a Q100 flood, however, the site may be reached via other routes. It is likely that the pole storage site would be flooded.



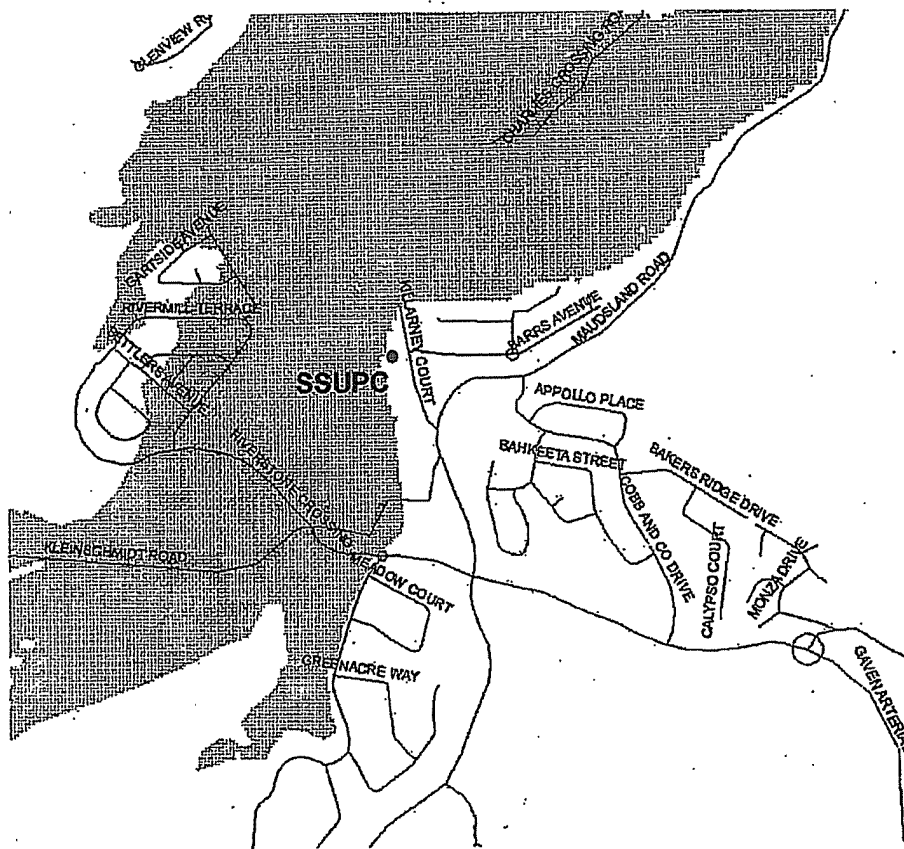
(x) SSQR46 – Queensland Rail

QR46 would be completely submersed, however, so would most of its loadj, hence the loss of this substation should not cause any noticeable inconvenience.



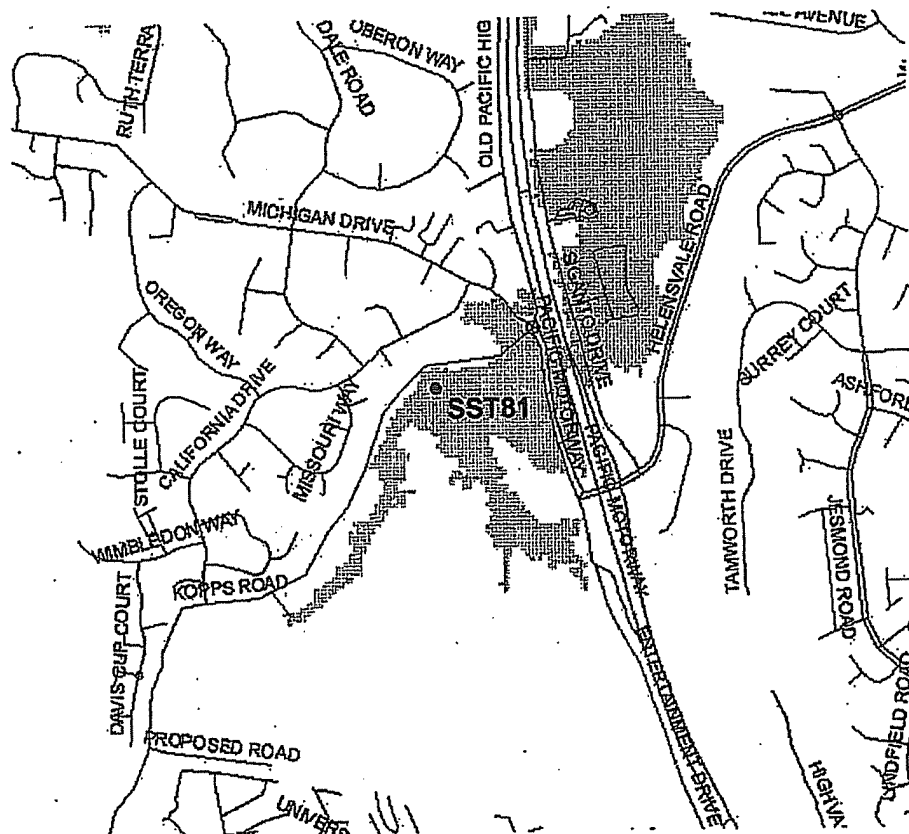
(xii) SSUPC – Upper Coomera

Access to SSUPC would be possible during a Q100 flood. It is unlikely that the substation would be completely flooded, and if this is not the case, SSUPC load may be partially supplied by **SSXXX**.



(xiii) SST81 – Cades County

Access to SST81 may not be possible via the Pacific Motorway exit during a Q100 flood. It is likely that the substation would be flooded, and if this is the case, SSUPC load may be partially supplied by SSXXX.



Note: In addition to the above, there may exist pockets of land not flooded but isolated due to flooding in the surrounding areas. In such cases it may not be possible to supply the area as all 11kV feeds into the area may be under water.

Brisbane City has a detailed Disaster Management Plan. Their Flood Management Plan can be accessed from the intranet at the following location: *BCC.doc*.

ATTACHMENT CJA-7