

PUBLIC

Network Quality and Reliability of Supply Code

2022/23 Performance Report

Prepared by: Asset Services



HORIZON
POWER

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Service Area

- Offices
- Current supply areas



INTRODUCTION

This report has been produced to meet the requirements of the Electricity Industry (Network Quality and Reliability of Supply) Code 2005, Schedule 1 – Information to be published.

To assist in meeting reporting requirements, the Economic Regulation Authority Western Australia (ERA WA) publishes the Electricity Distribution Licence Performance Reporting Handbook, which specifies measures to be reported. The report is prepared in accordance with Schedule 1 of the Code, however as Horizon Power is a vertically integrated business (responsible for generation, transmission and distribution) reliability data includes generation and transmission outages.

AUDIT REQUIREMENTS

Division 3 of the Electricity Industry (Network Quality and Reliability of Supply) Code 2005 requires that Horizon Power arrange for an independent expert to audit, and report on the operation of the systems that Horizon Power has in place for monitoring its compliance with the code.

In 2017, the Minister for Energy removed the requirement for licence holders, such as Horizon Power, to annually engage an independent expert to audit and report on the operation of the systems in place for monitoring compliance with legislated electricity quality and reliability standards. The audit period was extended to three yearly. The previous audit was undertaken for the 2020 report and an audit will be conducted in 2023.

Schedule 1 - Information to be published

Clause 3: Stand-alone Power Systems (SPS)

Total Number of Complaints received from customers for each discrete area's SPS:

Discrete Area SPS	2021/22	2022/23
Carnarvon SPS	N/A	0
Esperance SPS	0	0
Exmouth SPS	0	0
Hopetoun SPS	0	0
Horizon Power	0	0

Average Length of Interruption of Supply to Customer Premises in Minutes (CAIDI)

System	2019/20	2020/21	2021/22	2022/23	Average
Carnarvon SPS	N/A	N/A	N/A	436.00	436.00
Esperance SPS	N/A	0.00	286.67	411.30	232.66
Exmouth SPS	N/A	0.00	0.00	271.00	90.33
Hopetoun SPS	N/A	0.00	0.00	453.00	151.00
Horizon Power Total	N/A	0.00	286.67	405.62	230.76

Average Number of Interruptions of Supply to Customer Premises (SAIFI)

System	2019/20	2020/21	2021/22	2022/23	Average
Carnarvon SPS	N/A	N/A	N/A	1.00	1.00
Esperance SPS	N/A	0.00	0.13	0.20	0.11
Exmouth SPS	N/A	0.00	0.00	1.00	0.33
Hopetoun SPS	N/A	0.00	0.00	1.00	0.33
Horizon Power Total	N/A	0.00	0.12	0.24	0.12

Average Number of Interruptions of Supply to Customer Premises (% Availability)

System	2019/20	2020/21	2021/22	2022/23	Average
Carnarvon SPS	N/A	N/A	N/A	99.92	99.92
Esperance SPS	N/A	100.00	99.95	99.92	99.96
Exmouth SPS	N/A	100.00	100.00	99.95	99.98
Hopetoun SPS	N/A	100.00	100.00	99.91	99.97
Horizon Power Total	N/A	100.00	99.95	99.92	99.96

Average Total Length of All Interruptions of Supply to Customer Premises in Minutes (SAIDI)

System	2019/20	2020/21	2021/22	2022/23	Average
Carnarvon SPS	N/A	N/A	N/A	436.00	436.00
Esperance SPS	N/A	0.00	35.83	80.65	38.83
Exmouth SPS	N/A	0.00	0.00	271.00	90.33
Hopetoun SPS	N/A	0.00	0.00	453.00	151.00
Horizon Power Total	N/A	0.00	33.08	97.65	43.58

Clause 4 and 10 – Breaches and Remedial Action

Clause 4(a) Number of breaches of each provision of the Code:

Quality of Supply	2021/22	2022/23
Voltage fluctuations	0	0
Harmonics	0	0
Failure to Notify Customer of proposed interruption – Sections 9 and 11(b)	5	0

Clause 4(b) Remedial action taken for each provision:

Voltage Fluctuations

Location	Action Taken
N/A	N/A

Harmonics

Location	Action Taken
N/A	N/A

N/A = Not Applicable.

Continuous monitoring of voltage and frequency fluctuations is done at the substation busbar. Temporary power quality monitoring equipment is installed on the network for specific problem monitoring in response to a customer power quality complaint.

Clause 5 - Significant interruptions to small use customers

Clause Description	2021/22	2022/23
Clause 5(a) Number of premises that experienced interruptions greater than 12 hours continuous	522	1329
Clause 5(b) Number of premises that experienced more than 16 interruptions.	199	843

The number of premises experiencing more than 16 interruptions increased mainly in Esperance, Halls Creek, Mount Magnet and Carnarvon areas.

Detailed information of interruptions where duration is greater than 12 hours (720 minutes) continuously for 2022/23 is outlined in the table below:

System	Duration (Minutes)	Premises	Start Date	Cause Description	Incident Category
Bidyadanga	1001	17	11/01/2023	Generation Failure	Feeder Trip
Broome	900	1	8/08/2022	Human Error	No Power
Broome	974	1	10/01/2023	Equipment Failure	Part Power
Broome	809	1	21/03/2023	Lightning	Power Quality Reliability
Broome	1358	1	29/03/2023	Unknown	Potential Neutral Problem
Broome	805	1	6/06/2023	Equipment Failure	Miscellaneous Non Hazard
Carnarvon	2838	1	2/07/2022	Equipment Failure	No Power
Carnarvon	948	1	19/07/2022	Equipment Failure	Potential Neutral Problem
Carnarvon	1592	1	8/09/2022	Plan Outage or Disconnection	Planned Switching Incident
Carnarvon	1651	1	19/10/2022	Plan Outage or Disconnection	Planned Switching Incident
Carnarvon	1440	1	19/12/2022	Pollution	Arcing Street Wire
Carnarvon	1491	1	11/01/2023	Equipment Failure	No Power
Carnarvon	6022	2	14/03/2023	Plan Outage or Disconnection	Planned Switching Incident
Denham	3024	1	5/08/2022	Wind or Wind Borne Debris	Miscellaneous Hazard
Denham	1073	1	16/08/2022	Equipment Failure	Part Power
Denham	1200	1	24/10/2022	Equipment Failure	Potential Neutral Problem
Denham	1747	1	4/12/2022	Equipment Failure	No Power
Denham	1074	1	15/12/2022	Equipment Failure	No Power
Derby	1060	1	4/10/2022	Vehicle	No Power
Derby	1356	1	4/10/2022	Vehicle	No Power
Derby	1493	1	22/11/2022	Animal	No Power
Esperance	865	1	27/07/2022	Generation Failure	No Power
Esperance	1096	2	3/08/2022	Emergency Outage For Hazard	Planned Switching Incident
Esperance	1195	5	3/08/2022	Wind or Wind Borne Debris	Drop Out Fuse Trip
Esperance	1787	1	4/08/2022	Equipment Failure	No Power

Esperance	2119	1	20/09/2022	Equipment Failure	Pole Arcing
Esperance	3034	1	20/09/2022	Equipment Failure	Transformer On A Pole Damaged
Esperance	1181	1	13/10/2022	Equipment Failure	Service Wire Down
Esperance	1970	1	25/10/2022	Human Error	No Power
Esperance	854	1	29/10/2022	Lightning	No Power
Esperance	3896	1	7/11/2022	Emergency Outage For Hazard	Drop Out Fuse Trip
Esperance	1264	1	13/12/2022	Vehicle	Low Hanging Street Wire
Esperance	1480	1	22/12/2022	Power Quality Investigation	Power Quality High Volts
Esperance	768	1	11/01/2023	Equipment Failure	No Power
Esperance	11639	4	16/01/2023	Lightning	Recloser Trip
Esperance	1028	1	15/02/2023	Equipment Failure	Drop Out Fuse Trip
Esperance	1269	1	15/02/2023	Equipment Failure	No Power
Esperance	873	15	21/02/2023	Lightning	Recloser Trip
Esperance	1447	15	21/02/2023	Lightning	Recloser Trip
Esperance	1505	36	21/02/2023	Lightning	Drop Out Fuse Trip
Esperance	1520	7	21/02/2023	Lightning	Drop Out Fuse Trip
Esperance	1525	1	21/02/2023	Unknown	No Power
Esperance	1575	21	21/02/2023	Lightning	Drop Out Fuse Trip
Esperance	1580	13	21/02/2023	Lightning	Drop Out Fuse Trip
Esperance	1695	11	21/02/2023	Lightning	Drop Out Fuse Trip
Esperance	1744	1	21/02/2023	Lightning	No Power
Esperance	1766	1	21/02/2023	Unknown	No Power
Esperance	1777	28	21/02/2023	Lightning	Drop Out Fuse Trip
Esperance	3807	190	21/02/2023	Lightning	Recloser Trip
Esperance	814	15	23/02/2023	Lightning	Recloser Trip
Esperance	811	1	7/03/2023	Generation Failure	No Power
Esperance	943	1	9/03/2023	Generation Failure	No Power
Esperance	1055	1	24/04/2023	Lightning	No Power
Esperance	1159	5	24/04/2023	Lightning	Sectionalizer Trip
Esperance	1440	1	30/04/2023	Unknown	Miscellaneous Hazard
Esperance	4704	8	10/05/2023	Lightning	Drop Out Fuse Trip
Esperance	4273	1	19/05/2023	Water Infiltration or Flooded Equipment	Underground Dome Damaged
Esperance	823	1	30/05/2023	Generation Failure	Power Quality Low Volts
Esperance	8747	1	31/05/2023	Plan Outage or Disconnection	Planned Switching Incident

Esperance	1001	1	1/06/2023	Equipment Failure	AMI - No Power
Esperance	1046	1	3/06/2023	Generation Failure	No Power
Esperance	1012	13	8/06/2023	Equipment Failure	Recloser Trip
Exmouth	863	1	12/07/2022	Bird	Debris On Service Wire
Exmouth	1345	1	20/01/2023	Bird	Part Power
Exmouth	1017	1	17/02/2023	Equipment Failure	Pole Arcing
Exmouth	2396	1	2/04/2023	Human Error	Low Hanging Service Wire Across Road
Exmouth	1743	1	16/05/2023	Machine or Tool	Underground Cable Damaged
Exmouth	1173	1	26/06/2023	Vehicle	Underground Dome Damaged
Fitzroy Crossing	1522	1	25/10/2022	Bird	Part Power
Fitzroy Crossing	1100	1	18/11/2022	Equipment Failure	Part Power
Fitzroy Crossing	847	146	24/11/2022	Equipment Failure	Feeder Trip
Fitzroy Crossing	857	187	24/11/2022	Equipment Failure	Feeder Trip
Fitzroy Crossing	858	111	24/11/2022	Equipment Failure	Feeder Trip
Fitzroy Crossing	961	130	24/11/2022	Equipment Failure	Feeder Trip
Fitzroy Crossing	861	1	4/01/2023	Water Infiltration or Flooded Equipment	No Power
Fitzroy Crossing	1001	111	4/01/2023	Water Infiltration or Flooded Equipment	Feeder Trip
Fitzroy Crossing	26848	29	4/01/2023	Water Infiltration or Flooded Equipment	Drop Out Fuse Trip
Fitzroy Crossing	911	1	26/04/2023	Bird	Part Power
Fitzroy Crossing	4654	11	26/05/2023	Water Infiltration or Flooded Equipment	Feeder Trip
Halls Creek	1117	1	18/05/2023	Vehicle	Pole Hit
Hopetoun	732	1	13/01/2023	Equipment Failure	No Power
Hopetoun	773	1	17/02/2023	Unknown	No Power
Hopetoun	1185	8	21/02/2023	Lightning	Recloser Trip
Hopetoun	924	1	22/02/2023	Lightning	No Power
Kalumburu	9865	1	23/12/2022	Vandalism or Wilful Damage	Reconnection
Kalumburu	1539	1	13/02/2023	Equipment Failure	Potential Neutral Problem
Kalumburu	1697	1	24/05/2023	Equipment Failure	No Power
Kununurra	1154	1	27/10/2022	Equipment Failure	Part Power
Kununurra	2007	1	12/01/2023	Wind or Wind Borne Debris	Part Power
Laverton	2582	26	4/05/2023	Vehicle	Feeder Trip

Looma	1027	43	7/01/2023	Emergency Outage For Hazard	Feeder Trip
Looma	6951	1	8/01/2023	Water Infiltration or Flooded Equipment	LV Fuse Trip
Looma	13840	32	8/01/2023	Water Infiltration or Flooded Equipment	LV Fuse Trip
Menzies	1747	1	12/04/2023	Equipment Failure	Potential Neutral Problem
Mount Magnet	1743	1	5/09/2022	Equipment Failure	Part Power
Mount Magnet	1681	1	9/02/2023	Equipment Failure	Power Quality Low Volts
Nullagine	4376	1	31/10/2022	Plan Outage or Disconnection	Underground Kiosk Damaged
NWIS	21721	1	12/07/2022	Equipment Failure	Transformer On A Pole Damaged
NWIS	4344	1	5/08/2022	Vehicle	Underground Dome Damaged
NWIS	1136	1	24/10/2022	Vehicle	Underground Dome Damaged
NWIS	1456	1	15/11/2022	Vehicle	Underground Dome Damaged
NWIS	1469	5	22/11/2022	Machine or Tool	LV Fuse Trip
NWIS	2026	1	20/01/2023	Vandalism or Wilful Damage	No Power
NWIS	14330	1	13/02/2023	Plan Outage or Disconnection	Planned Switching Incident
NWIS	3013	1	4/03/2023	Plan Outage or Disconnection	Planned Switching Incident
NWIS	2952	1	13/03/2023	Plan Outage or Disconnection	Planned Switching Incident
NWIS	4485	3	22/03/2023	Lightning	Feeder Trip
NWIS	803	1	29/03/2023	Lightning	No Power
Sandstone	2011	1	24/02/2023	Machine or Tool	No Power
Warmun	1248	1	27/06/2023	Equipment Failure	No Power
Wyndham	1197	1	10/12/2022	Equipment Failure	Recloser Trip
1329		Number of Interruptions* = 111			

*Interruptions listed are beyond the control of the customer.

The significant weather events (cyclones, severe storms, fire & floods) affecting Horizon Power systems in 2022/23 are outlined in the table below:

Power System	Significant Event Dates	Event
Fitzroy Crossing	4 January 2023	Flooding from Ex-Tropical Cyclone Ellie
Looma	7-8 January 2023	Flooding from Ex-Tropical Cyclone Ellie
Halls Creek	14 January 2023	Flooding from Ex-Tropical Cyclone Ellie

Clause 6 and 10 - Total number of complaints received

2021/22	2022/23
44	85

Clause 7 and 10 - Number of customer complaints in each discrete area

Discrete Area	2021/22	2022/23
NWIS		1
Ardyaloon		
Beagle Bay		
Bidyadanga		1
Broome	2	1
Carnarvon	1	1
Coral Bay		
Cue		
Denham		1
Derby		3
Djarindjin		1
Esperance	31	32
Exmouth		2
Fitzroy Crossing	2	17
Gascoyne Junction		
Halls Creek		7
Hopetoun	2	1
Kalumburu		2
Kununurra	1	3
Lake Argyle		
Laverton	5	9
Leonora		1
Looma		1
Marble Bar		
Meekatharra		
Menzies		
Mount Magnet		
Norseman		
Nullagine		
Onslow		
Sandstone		
Warmun		
Wiluna		
Wyndham		
Yalgoo		
Yungngora		1
Horizon Power Total	44	85

Clause 8 and 10 - Total amount spent addressing Power Quality and Reliability complaints

2021/22	2022/23
\$584,994	\$1,396,556

Clause 9 and 10 - Payments to customers for failure to meet certain standards

The number and total payments made to customers (who applied) for failure to give required notice of planned interruption.

2021/22		2022/23	
Number	Cost	Number	Cost
4	\$80	1	\$20

The number and total payments made to customers (who applied) for supply interruptions exceeding 12 hours.

2020/21		2022/23	
Number	Cost	Number	Cost
34	\$3,720	635	\$76,200

On 22 June 2023, Horizon Power proactively applied \$120 over 12 hour payments (EOPS - Extended Outage Payment Scheme) to 555 accounts following the Minister's approval for customers impacted by the 15-hour unplanned outage in Fitzroy Crossing on 24 November 2022.

Clause 11(a), 12 and 13 - Average Length of Interruption of Supply to Customer Premises in Minutes²

System	2019/20	2020/21	2021/22	2022/23	Average
NWIS ¹	251.60	62.65	88.09	89.71	123.01
Ardayaloon	0.00	184.48	7.72	10.94	50.79
Beagle Bay	66.46	0.00	77.72	87.25	57.86
Bidyadanga	53.10	248.56	897.43	103.01	325.53
Broome	35.95	117.94	58.09	207.69	104.92
Carnarvon	64.55	101.93	108.17	50.50	81.29
Coral Bay	70.68	2.89	11.19	247.69	83.11
Cue	47.27	44.25	83.38	66.64	60.38
Denham	11.93	97.66	118.38	34.53	65.62
Derby	233.35	52.53	113.95	59.61	114.86
Djarindjin	25.29	213.01	11.54	0.00	62.46
Esperance	77.84	123.67	92.60	58.12	88.06
Exmouth	159.72	162.05	123.32	137.34	145.61
Fitzroy Crossing	104.30	217.07	272.23	239.28	208.22
Gascoyne Junction	84.60	0.00	91.20	179.59	88.85
Halls Creek	201.36	102.67	54.88	46.78	101.42
Hopetoun	57.31	40.58	217.35	96.17	102.85
Kalumburu	48.22	44.59	104.43	24.14	55.35
Kununurra	48.36	28.56	36.01	19.52	33.11
Lake Argyle	84.00	90.01	38.41	213.97	106.60
Laverton	154.39	103.45	81.08	140.60	119.88
Leonora	199.09	88.88	94.36	41.21	105.89
Looma	168.91	21.69	22.50	1297.07	377.54
Marble Bar	0.00	14.44	107.08	121.36	60.72
Meekatharra	94.30	102.90	198.12	127.20	130.63
Menzies	327.93	138.38	117.81	8.32	148.11
Mount Magnet	156.64	76.49	69.57	100.04	100.68
Norseman	307.57	153.25	122.64	105.84	172.32
Nullagine	61.04	77.98	112.82	58.88	77.68
Onslow	116.77	74.60	133.19	26.61	87.79
Sandstone	32.75	464.33	209.22	43.47	187.44
Warmun	1.08	22.23	47.14	262.69	83.29
Wiluna	94.83	127.79	105.91	82.35	102.72
Wyndham	21.03	90.01	35.27	110.89	64.30
Yalgoo	19.41	148.00	105.45	164.94	109.45
Yungngora	16.83	0.00	79.76	15.08	27.92
Horizon Power Total	123.73	89.50	94.20	83.64	97.77

¹NWIS – North West Interconnected System as per Clause 1 – Schedule 1

²Corresponds to Customer Average Interruption Duration Index (CAIDI)

Clause 11(b), 12 and 13 - Average Number of Interruptions of Supply to Customer Premises³

System	2019/20	2020/21	2021/22	2022/23	Average
NWIS ¹	1.55	1.48	0.74	1.22	1.25
Ardyaloon	0.00	0.58	0.84	2.13	0.89
Beagle Bay	1.60	0.00	1.60	0.05	0.81
Bidyadanga	2.83	1.05	0.09	3.30	1.82
Broome	0.61	1.50	1.49	1.98	1.39
Carnarvon	5.36	5.87	3.82	5.84	5.23
Coral Bay	3.33	1.72	0.84	0.04	1.48
Cue	2.13	4.59	1.87	3.06	2.91
Denham	2.64	7.94	4.98	1.01	4.14
Derby	2.72	4.63	1.73	3.82	3.22
Djarindjin	1.11	1.24	1.62	0.00	0.99
Esperance	4.65	2.23	5.44	8.25	5.14
Exmouth	0.69	2.87	3.13	2.22	2.23
Fitzroy Crossing	1.94	1.33	2.03	6.89	3.05
Gascoyne Junction	5.86	0.00	5.74	0.53	3.03
Halls Creek	0.69	3.07	6.78	14.50	6.26
Hopetoun	3.11	2.54	1.60	3.03	2.57
Kalumburu	0.90	1.55	9.51	2.31	3.57
Kununurra	5.74	2.41	2.20	1.87	3.05
Lake Argyle	0.94	5.65	0.94	2.10	2.41
Laverton	4.08	3.08	5.20	4.67	4.26
Leonora	9.62	5.45	5.15	4.76	6.25
Looma	1.02	1.47	1.45	1.13	1.27
Marble Bar	0.00	1.80	8.31	2.45	3.14
Meekatharra	1.88	5.51	3.37	1.76	3.13
Menzies	1.08	1.41	1.93	1.25	1.42
Mount Magnet	4.24	1.79	11.44	6.26	5.93
Norseman	2.76	0.57	4.12	4.61	3.01
Nullagine	0.58	0.16	3.11	2.20	1.51
Onslow	2.10	3.69	6.29	2.89	3.74
Sandstone	3.15	0.27	3.71	3.62	2.69
Warmun	0.30	3.54	0.94	0.42	1.30
Wiluna	4.48	3.35	3.61	3.05	3.62
Wyndham	2.16	1.79	1.79	3.08	2.20
Yalgoo	1.84	0.16	1.16	4.51	1.92
Yungngora	1.80	0.00	4.09	3.38	2.32
Horizon Power Total	2.54	2.28	2.48	3.35	2.66

¹NWIS – North West Interconnected System as per Clause 1 – Schedule 1

³Corresponds to System Average Interruption Frequency Index (SAIFI)

Clause 11(c), 12 and 13 - Average Percentage of Time that Electricity has been Supplied to Customer Premises

System %	2019/20	2020/21	2021/22	2022/23	Average
NWIS ¹	99.95	99.99	99.98	99.98	99.98
Ardyaloon	100.00	99.96	100.00	100.00	99.99
Beagle Bay	99.99	100.00	99.99	99.98	99.99
Bidyadanga	99.99	99.95	99.83	99.98	99.94
Broome	99.99	99.98	99.99	99.96	99.98
Carnarvon	99.99	99.98	99.98	99.99	99.98
Coral Bay	99.99	100.00	100.00	99.95	99.98
Cue	99.99	99.99	99.98	99.99	99.99
Denham	100.00	99.98	99.98	99.99	99.99
Derby	99.96	99.99	99.98	99.99	99.98
Djarindjin	100.00	99.96	100.00	100.00	99.99
Esperance	99.99	99.98	99.98	99.99	99.98
Exmouth	99.97	99.97	99.98	99.97	99.97
Fitzroy Crossing	99.98	99.96	99.95	99.95	99.96
Gascoyne Junction	99.98	100.00	99.98	99.97	99.98
Halls Creek	99.96	99.98	99.99	99.99	99.98
Hopetoun	99.99	99.99	99.96	99.98	99.98
Kalumburu	99.99	99.99	99.98	100.00	99.99
Kununurra	99.99	99.99	99.99	100.00	99.99
Lake Argyle	99.98	99.98	99.99	99.96	99.98
Laverton	99.97	99.98	99.98	99.97	99.98
Leonora	99.96	99.98	99.98	99.99	99.98
Looma	99.97	100.00	100.00	99.75	99.93
Marble Bar	100.00	100.00	99.98	99.98	99.99
Meekatharra	99.98	99.98	99.96	99.98	99.98
Menzies	99.94	99.97	99.98	100.00	99.97
Mount Magnet	99.97	99.99	99.99	99.98	99.98
Norseman	99.94	99.97	99.98	99.98	99.97
Nullagine	99.99	99.99	99.98	99.99	99.99
Onslow	99.98	99.99	99.97	99.99	99.98
Sandstone	99.99	99.91	99.96	99.99	99.96
Warmun	100.00	100.00	99.99	99.95	99.98
Wiluna	99.98	99.98	99.98	99.98	99.98
Wyndham	100.00	99.98	99.99	99.98	99.99
Yalgoo	100.00	99.97	99.98	99.97	99.98
Yungngora	100.00	100.00	99.98	100.00	99.99
Horizon Power Total	99.98	99.98	99.98	99.98	99.98

¹NWIS – North West Interconnected System as per Clause 1 – Schedule 1

Clause 11(d), 12 and 13 - Average Total Length of All Interruptions of Supply to Customer Premises in Minutes⁴

System	2019/20	2020/21	2021/22	2022/23	Average
NWIS ¹	391	93	65	110	165
Ardyaloon	0	108	6	23	34
Beagle Bay	106	0	124	5	59
Bidyadanga	150	261	83	340	209
Broome	22	177	87	411	174
Carnarvon	346	599	414	295	413
Coral Bay	236	5	9	9	65
Cue	101	203	156	204	166
Denham	32	776	589	35	358
Derby	635	243	197	227	326
Djarindjin	28	264	19	0	78
Esperance	362	276	504	480	405
Exmouth	110	464	386	305	316
Fitzroy Crossing	203	289	552	1649	673
Gascoyne Junction	496	0	524	96	279
Halls Creek	139	315	372	678	376
Hopetoun	178	103	349	291	230
Kalumburu	43	69	993	56	290
Kununurra	277	69	79	36	115
Lake Argyle	79	508	36	449	268
Laverton	630	318	422	656	507
Leonora	1916	484	486	196	771
Looma	172	32	33	1463	425
Marble Bar	0	26	889	298	303
Meekatharra	178	567	667	223	409
Menzies	356	195	227	10	197
Mount Magnet	664	137	796	626	556
Norseman	848	87	505	488	482
Nullagine	35	12	351	130	132
Onslow	245	275	838	77	359
Sandstone	103	124	776	157	290
Warmun	0	79	44	111	59
Wiluna	424	428	383	251	372
Wyndham	45	161	63	342	153
Yalgoo	36	23	123	743	231
Yungngora	30	0	326	51	102
Horizon Power Total	315	204	234	280	258

¹NWIS – North West Interconnected System as per Clause 1 - Schedule 1

⁴Corresponds to System Average Interruption Duration Index (SAIDI)

Clause 14 – 15 - Deleted

Deleted from information to be published since 2021/22

4. MAJOR EVENT DAYS

In the period 01/07/2022 to 30/06/2023 the following systems were impacted by significant weather events for which Major Event Days were recorded.

System	Major Event Days	Event
Fitzroy Crossing	4 January 2023	Flooding from Ex-Tropical Cyclone Ellie
Looma	7-8 January 2023	Flooding from Ex-Tropical Cyclone Ellie
Halls Creek	14 January 2023	Flooding from Ex-Tropical Cyclone Ellie

5. Appendix A

Major Event Days

Major event days are days in which interruptions affect the delivery of supply in a system and are not reasonably practicable to control such as extreme weather events (cyclones, fires and floods). These days are excluded from Sustained Interruptions used for reliability measurement and reporting.

This report makes reference to the impact of major event days where they have had a significant impact on the statistics.

Major Event Day Classification

The classification of Major Event Days is to allow major events to be studied separately from daily operation, and in the process, to better reveal trends in daily operation that would be hidden by the large statistical effect of major events.

A Major Event Day is a day in which interruptions affect the delivery of supply in a system that is not reasonably practicable to control. All indices are calculated based on removal of the identified Major Event Days.

Interruptions that span multiple days are accrued to the day on which the interruption begins.

Normalised Data Set - Unplanned

Horizon Power uses Normalised data set to measure the management of incidents that are within the business' control.

Sustained Interruptions in Horizon Powers systems are those interruptions that result in a loss of electricity to customers for more than one minute in duration.

Horizon Power's Normalised Data excludes interruptions where the interruption is not reasonably practicable to control such as:

- Customer installations/ appliances
- Planned outages/ disconnections
- Vehicle, machine or tool damage
- Wilful damage
- Damage due to events that Horizon Power cannot, so far as is reasonably practicable, control such as cyclones, fires and floods.

As Horizon Power is a vertically integrated business (responsible for generation, transmission and distribution) reliability data includes generation and transmission outages.

6. APPENDIX B

NWIS Substation Reliability

Average Length of Interruption of Supply to Customer Premises in Minutes²

System	Region	Town	Substation	2022/23
NWIS	East Pilbara	Port Hedland	Anderson Street	98
NWIS	East Pilbara	Port Hedland	Murdoch Drive	96
NWIS	East Pilbara	Port Hedland	Wedgefield	81
NWIS	West Pilbara	Karratha	Bulgarra	54
NWIS	West Pilbara	Karratha	Dampier	88
NWIS	West Pilbara	Karratha	Pegs Creek 22kV	167
NWIS	West Pilbara	Karratha	Cape Lambert	78
NWIS	West Pilbara	Karratha	Roebourne	114

Average Number of Interruptions of Supply to Customer Premises³

System	Region	Town	Substation	2022/23
NWIS	East Pilbara	Port Hedland	Anderson Street	0.32
NWIS	East Pilbara	Port Hedland	Murdoch Drive	0.53
NWIS	East Pilbara	Port Hedland	Wedgefield	0.65
NWIS	West Pilbara	Karratha	Bulgarra	0.88
NWIS	West Pilbara	Karratha	Dampier	1.81
NWIS	West Pilbara	Karratha	Pegs Creek 22kV	7.98
NWIS	West Pilbara	Karratha	Cape Lambert	7.45
NWIS	West Pilbara	Karratha	Roebourne	6.70

Average Total Length of All Interruptions of Supply to Customer Premises in Minutes⁴

System	Region	Town	Substation	2022/23
NWIS	East Pilbara	Port Hedland	Anderson Street	31
NWIS	East Pilbara	Port Hedland	Murdoch Drive	51
NWIS	East Pilbara	Port Hedland	Wedgefield	53
NWIS	West Pilbara	Karratha	Bulgarra	48
NWIS	West Pilbara	Karratha	Dampier	159
NWIS	West Pilbara	Karratha	Pegs Creek 22kV	1332
NWIS	West Pilbara	Karratha	Cape Lambert	581
NWIS	West Pilbara	Karratha	Roebourne	763

¹NWIS – North West Interconnected System as per Clause 1 – Schedule 1

² Corresponds to Customer Average Interruption Duration Index (CAIDI)

³ Corresponds to System Average Interruption Frequency Index (SAIFI)

⁴ Corresponds to System Average Interruption Duration Index (SAIDI)