

Network Quality and Reliability of Supply Code

2020/21 Performance Report

Prepared by: Asset Services

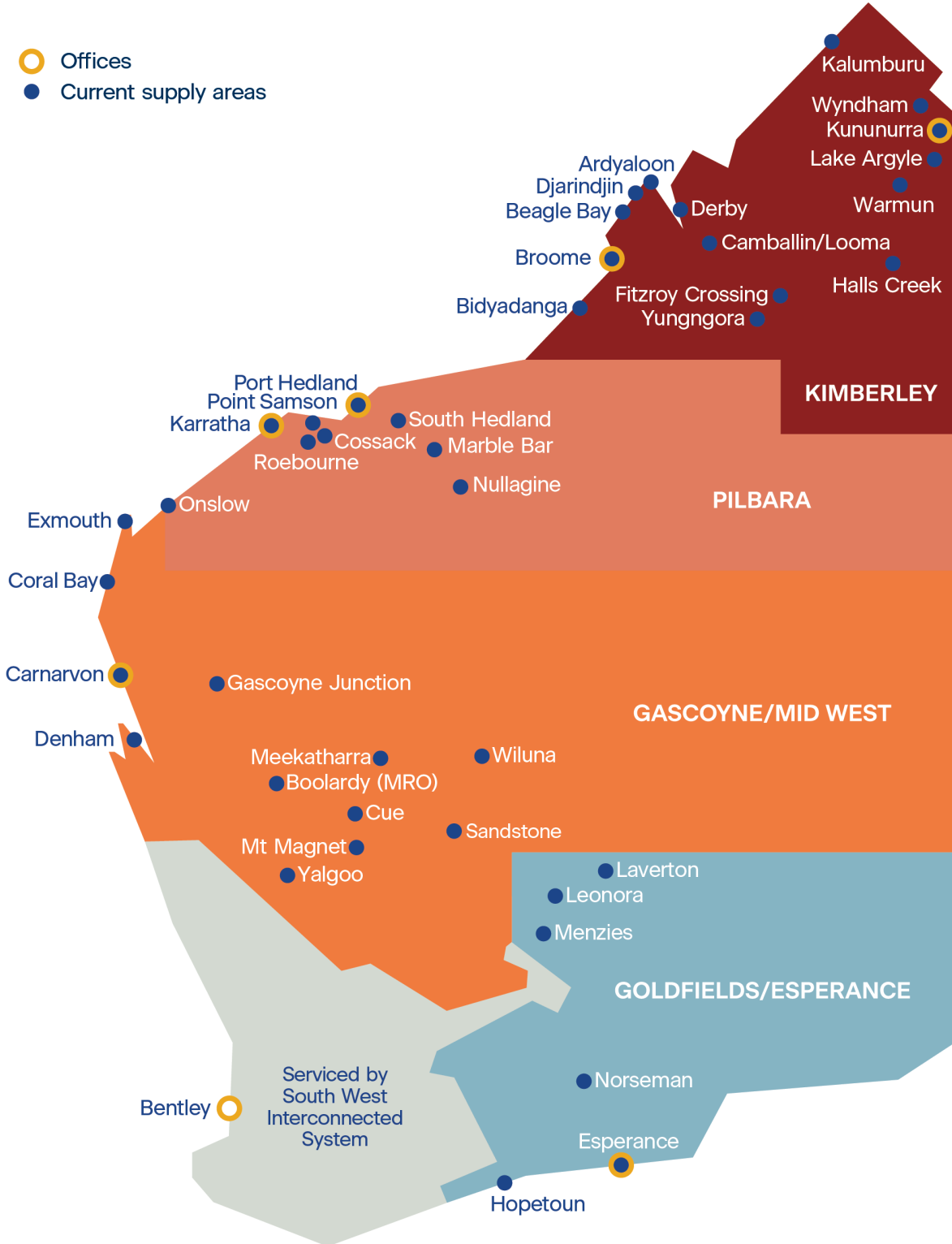
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Service Area

- Offices
- Current supply areas



1. 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.

2. 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 last audit was undertaken for the 2020 report and the next audit will be performed in 2023.

3. Schedule 1 - Information to be published

Clause 4 and 10 – Voltage Fluctuations and Harmonics

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

Quality of Supply	2019/20	2020/21
Voltage fluctuations	0	0
Harmonics	0	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 Available.

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	2019/20	2020/21
Clause 5(a) Number of premises that experienced interruptions greater than 12 hours continuous	1333	743
Clause 5(b) Number of premises that experienced more than 16 interruptions.	61	46

Detailed analysis of interruptions where duration is greater than 12 hours (720 minutes) continuously for 2020/21

System	Duration (Minutes)	Premises	Start Date	Cause Description	Incident Category
Beagle Bay	1,203	1	02/02/2021	Lightning	No Power
Bidyadanga	1,084	1	11/03/2021	Wind or Windborne Debris	Part Power
Broome	1,730	1	29/01/2021	Machine or Tool	Underground Cable Damaged
Carnarvon	1,327	1	26/11/2020	Equipment Failure	Arcing Service Wire
Carnarvon	880	1	01/01/2021	Pollution	Pole Arcing
Carnarvon	2,388	94	04/02/2021	Wind or Windborne Debris	Feeder Trip
Carnarvon	945	1	04/02/2021	Water Infiltration or Flooded Equipment	Part Power
Carnarvon	1,220	1	04/02/2021	Equipment Failure	Part Power
Carnarvon	909	1	04/02/2021	Unknown	No Power
Carnarvon	993	1	04/02/2021	Equipment Failure	Low Hanging Street Wire
Carnarvon	3,378	1	06/02/2021	Water Infiltration or Flooded Equipment	No Power
Carnarvon	41,493	368	06/02/2021	Water Infiltration or Flooded Equipment	Recloser Trip
Denham	1,222	1	15/07/2020	Equipment Failure	Part Power
Denham	1,071	1	26/02/2021	Equipment Failure	Part Power
Derby	982	1	24/07/2020	Equipment Failure	Miscellaneous Non Hazard
Djarindjin	775	1	17/11/2020	Equipment Failure	SFW PQI Low Volts
Esperance	3,272	1	01/07/2020	External Owner Equipment	Electric Shock
Esperance	861	17	03/08/2020	Lightning	Recloser Trip
Esperance	1,030	1	26/08/2020	Human Error	No Power
Esperance	1,005	1	26/08/2020	Human Error	No Power
Esperance	1,004	1	09/09/2020	Equipment Failure	No Power
Esperance	1,004	3	09/09/2020	Plan Outage or Disconnection	Switch Isolation
Esperance	862	1	20/09/2020	Wind or Windborne Debris	No Power
Esperance	826	11	06/10/2020	Unknown	Drop Out Fuse Trip
Esperance	1,023	1	30/10/2020	Emergency Outage For Hazard	Planned HVN Incident
Esperance	1,398	1	30/10/2020	Machine or Tool	Low Hanging Street Wire
Esperance	1,338	1	12/11/2020	PQI - Default Code	SFW PQI High Volts
Esperance	1,221	1	24/11/2020	Insect	Miscellaneous Non Hazard
Esperance	1,582	13	12/12/2020	Equipment Failure	Recloser Trip
Esperance	874	13	13/12/2020	Unknown	Recloser Trip
Esperance	1,436	1	16/12/2020	Vehicle	Service Wire Down

Esperance	1,345	1	16/12/2020	Emergency Outage For Hazard	Switch Isolation
Esperance	879	1	23/01/2021	Lightning	No Power
Esperance	838	1	23/01/2021	Lightning	No Power
Esperance	2,494	1	23/01/2021	Water Infiltration or Flooded Equipment	Miscellaneous Hazard
Esperance	1,061	1	01/02/2021	Vehicle	No Power
Esperance	1,040	21	17/02/2021	Lightning	Drop Out Fuse Trip
Esperance	1,084	1	17/02/2021	Lightning	No Power
Esperance	848	1	17/02/2021	Lightning	No Power
Esperance	938	1	18/02/2021	Lightning	No Power
Esperance	1,524	1	26/03/2021	PQI - Default Code	SFW PQI High Volts
Esperance	1,811	1	12/04/2021	Equipment Failure	Switch Isolation
Esperance	1,221	1	18/04/2021	Machine or Tool	Street Wire Down
Esperance	1,221	1	18/04/2021	Machine or Tool	No Power
Esperance	1,023	7	18/04/2021	Vehicle	Drop Out Fuse Trip
Esperance	1,564	1	29/04/2021	Equipment Failure	No Power
Esperance	1,721	3	23/06/2021	Vegetation	Recloser Trip
Esperance	1,577	1	23/06/2021	Vegetation	Service Wire Down
Exmouth	5,376	3	16/10/2020	Machine or Tool	Drop Out Fuse Trip
Exmouth	2,043	1	19/01/2021	Equipment Failure	SFW PQI Low Volts
Exmouth	842	1	03/04/2021	Equipment Failure	Pole Fire
Exmouth	994	1	04/05/2021	Equipment Failure	Part Power
Exmouth	797	1	27/05/2021	Equipment Failure	Part Power
Exmouth	24,616	1	10/06/2021	Emergency Outage For Hazard	LV Fuse Trip
Fitzroy Crossing	1,298	1	25/07/2020	Vehicle	Pole Broken/Damaged
Fitzroy Crossing	3,190	1	16/11/2020	Lightning	No Power
Fitzroy Crossing	2,026	21	16/11/2020	Lightning	Recloser Trip
Fitzroy Crossing	1,012	1	24/11/2020	Bat	Part Power
Halls Creek	2,795	1	31/05/2021	Machine or Tool	Miscellaneous Hazard
Hopetoun	1,322	1	19/11/2020	Vehicle	Underground Dome Damaged
Hopetoun	3,697	2	20/01/2021	Equipment Failure	Planned HVN Incident
Hopetoun	975	1	20/01/2021	Pollution	Arcing Street Wire
Hopetoun	1,423	1	24/03/2021	Equipment Failure	No Power
Hopetoun	783	1	12/05/2021	Wind or Windborne Debris	No Power
Kununurra	3,947	1	01/10/2020	Vandalism or Wilful Damage	Potential Neutral Problem - AMI
Kununurra	1,424	1	27/01/2021	Equipment Failure	Part Power
Kununurra	958	1	14/02/2021	Vegetation	Debris On Service Wire
Kununurra	2,633	1	21/04/2021	Vehicle	Underground Dome Damaged
Kununurra	925	1	06/06/2021	Equipment Failure	Part Power
Marble Bar	2,005	1	27/12/2020	Lightning	No Power
Marble Bar	1,085	1	17/01/2021	Lightning	Part Power
Meekatharra	745	1	18/12/2020	Vehicle	Pole Hit
Meekatharra	808	1	08/01/2021	Unknown	Part Power
Meekatharra	1,727	8	17/02/2021	Lightning	Feeder Trip

Menzies	1,933	1	08/11/2020	Generation Failure	No Power
Mount Magnet	4,530	1	09/12/2020	Equipment Failure	No Power
Mount Magnet	1,275	7	09/12/2020	Lightning	Recloser Trip
Mount Magnet	1,218	1	14/01/2021	Equipment Failure	Part Power
Norseman	750	1	02/07/2020	Equipment Failure	Potential Neutral Problem - AMI
Norseman	1,352	1	13/10/2020	Plan Outage or Disconnection	Switch Isolation
Norseman	1,510	1	20/05/2021	Plan Outage or Disconnection	Reconnection
NWIS	1,626	1	14/07/2020	Plan Outage or Disconnection	Electric Shock
NWIS	8,542	3	21/07/2020	Plan Outage or Disconnection	Planned HVN Incident
NWIS	12,407	5	17/08/2020	Plan Outage or Disconnection	Planned HVN Incident
NWIS	1,131	1	23/11/2020	Emergency Outage For Hazard	Disconnect For Fault
NWIS	3,408	1	07/12/2020	Vehicle	Underground Dome Damaged
NWIS	1,375	1	11/12/2020	Equipment Failure	No Power
NWIS	1,182	33	04/02/2021	Plan Outage or Disconnection	Planned HVN Incident
NWIS	3,188	1	06/02/2021	Equipment Failure	No Power
NWIS	2,815	27	04/04/2021	Equipment Failure	Feeder Trip
NWIS	1,563	10	26/06/2021	Plan Outage or Disconnection	Planned HVN Incident
Onslow	22,130	1	17/07/2020	Equipment Failure	Miscellaneous Non Hazard
Wiluna	2,883	1	26/09/2020	Unknown	Reconnection
Wyndham	1,727	1	20/08/2020	Plan Outage or Disconnection	Switch Isolation
743			Number of Interruptions* = 94		

*Interruptions listed are beyond the control of the customer.

Customer interruptions greater than 12 hours continuously that were due to significant events (cyclones, severe storms, fire & floods) that Horizon Power systems experienced in 2020/21.

Power System	Significant Event Dates	Event
Carnarvon	6 February 2021	Flood from Tropical Low

Clause 6 and 10 - Total number of complaints received

2019/20	2020/21
56	452

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

Discrete Area	2019/20	2020/21
NWIS	6	15
Ardyaloon		
Beagle Bay		
Bidyadanga		
Broome	1	
Carnarvon	2	415
Coral Bay		
Cue		
Denham		
Derby	2	
Djarindjin		
Esperance	17	7
Exmouth		1
Fitzroy Crossing	1	
Gascoyne Junction		1
Halls Creek	16	10
Hopetoun	1	
Kalumburu		
Kununurra	4	1
Lake Argyle		
Laverton	1	
Leonora	1	
Looma		
Marble Bar		
Meekatharra	2	
Menzies	2	1
Mount Magnet		
Norseman		
Nullagine		
Onslow		
Sandstone		
Warmun		
Wiluna		
Wyndham		
Yalgoo		1
Yungngora		
Horizon Power Total	56	452

The increase was due to the over 12 hour complaints was from the significant flooding event in Carnarvon.

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

2019/20	2020/21
\$541,710	\$536,838

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.

2019/20		2020/21	
Number	Cost	Number	Cost
3	\$60	15	\$300

There were 10 claims in Halls Creek from one planned outage that had a failure to notify customers within the 72-hour standard.

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

2019/20		2020/21	
Number	Cost	Number	Cost
47	\$3,760	434	\$34,720

The increase was due to the significant flooding event in Carnarvon.

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

System	2017/18	2018/19	2019/20	2020/21	Average
NWIS ¹	53.65	159.53	251.60	62.65	131.86
Ardyaloon	9.75	0.00	0.00	184.48	48.56
Beagle Bay	142.52	173.30	66.46	0.00	95.57
Bidyadanga	144.01	139.78	53.10	248.56	146.36
Broome	116.09	191.07	35.95	117.94	115.26
Carnarvon	110.63	51.25	64.55	101.93	82.09
Coral Bay	37.25	14.08	70.68	2.89	31.22
Cue	744.85	83.69	47.27	44.25	230.01
Denham	27.55	36.24	11.93	97.66	43.35
Derby	92.75	153.68	233.35	52.53	133.08
Djarindjin	145.32	119.75	25.29	213.01	125.84
Esperance	138.38	114.39	77.84	123.67	113.57
Exmouth	136.49	192.95	159.72	162.05	162.80
Fitzroy Crossing	166.14	190.43	104.30	217.07	169.49
Gascoyne Junction	81.26	207.64	84.60	0.00	93.38
Halls Creek	73.70	233.86	201.36	102.67	152.90
Hopetoun	116.70	136.26	57.31	40.58	87.71
Kalumburu	12.68	27.51	48.22	44.59	33.25
Kununurra	43.19	52.91	48.36	28.56	43.25
Lake Argyle	215.13	106.65	84.00	90.01	123.95
Laverton	116.39	159.62	154.39	103.45	133.46
Leonora	148.31	212.97	199.09	88.88	162.31
Looma	272.34	427.66	168.91	21.69	222.65
Marble Bar	32.50	113.38	0.00	14.44	40.08
Meekatharra	274.63	113.60	94.30	102.90	146.36
Menzies	39.92	106.43	327.93	138.38	153.16
Mount Magnet	50.18	67.84	156.64	76.49	87.79
Norseman	149.47	84.88	307.57	153.25	173.79
Nullagine	152.12	476.27	61.04	77.98	191.85
Onslow	82.99	32.82	116.77	74.60	76.79
Sandstone	203.00	172.33	32.75	464.33	218.10
Warmun	134.28	0.00	1.08	22.23	39.40
Wiluna	36.22	41.14	94.83	127.79	74.99
Wyndham	35.53	45.90	21.03	90.01	48.12
Yalgoo	2.42	69.42	19.41	148.00	59.81
Yungngora	41.66	269.49	16.83	0.00	81.99
Horizon Power Total	101.22	120.50	123.73	89.50	108.74

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	2017/18	2018/19	2019/20	2020/21	Average
NWIS ¹	0.74	0.68	1.55	1.48	1.11
Ardyaloon	1.81	0.00	0.00	0.58	0.60
Beagle Bay	1.37	3.37	1.60	0.00	1.58
Bidyadanga	5.24	0.34	2.83	1.05	2.37
Broome	1.22	1.58	0.61	1.50	1.23
Carnarvon	1.58	4.71	5.36	5.87	4.38
Coral Bay	3.60	5.82	3.33	1.72	3.62
Cue	0.87	1.12	2.13	4.59	2.18
Denham	4.63	3.55	2.64	7.94	4.69
Derby	1.05	2.29	2.72	4.63	2.67
Djarindjin	1.51	2.05	1.11	1.24	1.48
Esperance	2.60	2.91	4.65	2.23	3.10
Exmouth	1.92	1.45	0.69	2.87	1.73
Fitzroy Crossing	0.27	1.53	1.94	1.33	1.27
Gascoyne Junction	1.47	0.84	5.86	0.00	2.04
Halls Creek	0.96	0.82	0.69	3.07	1.39
Hopetoun	1.53	3.64	3.11	2.54	2.71
Kalumburu	0.88	2.63	0.90	1.55	1.49
Kununurra	2.08	3.10	5.74	2.41	3.33
Lake Argyle	0.94	6.44	0.94	5.65	3.49
Laverton	4.25	3.47	4.08	3.08	3.72
Leonora	2.99	7.44	9.62	5.45	6.38
Looma	0.41	3.28	1.02	1.47	1.55
Marble Bar	1.09	1.40	0.00	1.80	1.07
Meekatharra	0.73	1.16	1.88	5.51	2.32
Menzies	0.34	4.65	1.08	1.41	1.87
Mount Magnet	4.02	3.21	4.24	1.79	3.32
Norseman	3.17	4.14	2.76	0.57	2.66
Nullagine	1.28	0.63	0.58	0.16	0.66
Onslow	0.67	2.64	2.10	3.69	2.28
Sandstone	0.06	0.17	3.15	0.27	0.91
Warmun	1.80	0.00	0.30	3.54	1.41
Wiluna	3.21	7.71	4.48	3.35	4.69
Wyndham	3.26	1.51	2.16	1.79	2.18
Yalgoo	0.61	1.80	1.84	0.16	1.10
Yungngora	2.88	2.41	1.80	0.00	1.77
Horizon Power Total	1.50	1.94	2.54	2.28	2.07

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 %	2017/18	2018/19	2019/20	2020/21	Average
NWIS ¹	99.99	99.97	99.95	99.99	99.97
Ardyaloon	100.00	100.00	100.00	99.96	99.99
Beagle Bay	99.97	99.97	99.99	100.00	99.98
Bidyadanga	99.97	99.97	99.99	99.95	99.97
Broome	99.98	99.96	99.99	99.98	99.98
Carnarvon	99.98	99.99	99.99	99.98	99.98
Coral Bay	99.99	100.00	99.99	100.00	99.99
Cue	99.86	99.98	99.99	99.99	99.96
Denham	99.99	99.99	100.00	99.98	99.99
Derby	99.98	99.97	99.96	99.99	99.97
Djarindjin	99.97	99.98	100.00	99.96	99.98
Esperance	99.97	99.98	99.99	99.98	99.98
Exmouth	99.97	99.96	99.97	99.97	99.97
Fitzroy Crossing	99.97	99.96	99.98	99.96	99.97
Gascoyne Junction	99.98	99.96	99.98	100.00	99.98
Halls Creek	99.99	99.96	99.96	99.98	99.97
Hopetoun	99.98	99.97	99.99	99.99	99.98
Kalumburu	100.00	99.99	99.99	99.99	99.99
Kununurra	99.99	99.99	99.99	99.99	99.99
Lake Argyle	99.96	99.98	99.98	99.98	99.98
Laverton	99.98	99.97	99.97	99.98	99.97
Leonora	99.97	99.96	99.96	99.98	99.97
Looma	99.95	99.92	99.97	100.00	99.96
Marble Bar	99.99	99.98	100.00	100.00	99.99
Meekatharra	99.95	99.98	99.98	99.98	99.97
Menzies	99.99	99.98	99.94	99.97	99.97
Mount Magnet	99.99	99.99	99.97	99.99	99.98
Norseman	99.97	99.98	99.94	99.97	99.97
Nullagine	99.97	99.91	99.99	99.99	99.96
Onslow	99.98	99.99	99.98	99.99	99.99
Sandstone	99.96	99.97	99.99	99.91	99.96
Warmun	99.97	100.00	100.00	100.00	99.99
Wiluna	99.99	99.99	99.98	99.98	99.99
Wyndham	99.99	99.99	100.00	99.98	99.99
Yalgoo	100.00	99.99	100.00	99.97	99.99
Yungngora	99.99	99.95	100.00	100.00	99.98
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	2017/18	2018/19	2019/20	2020/21	Average
NWIS ¹	40	108	391	93	158
Ardyaloon	18	0	0	108	31
Beagle Bay	196	583	106	0	221
Bidyadanga	754	48	150	261	303
Broome	142	302	22	177	161
Carnarvon	175	241	346	599	340
Coral Bay	134	82	236	5	114
Cue	645	93	101	203	261
Denham	128	129	32	776	266
Derby	98	352	635	243	332
Djarindjin	219	245	28	264	189
Esperance	360	333	362	276	333
Exmouth	262	280	110	464	279
Fitzroy Crossing	45	290	203	289	207
Gascoyne Junction	119	174	496	0	197
Halls Creek	71	191	139	315	179
Hopetoun	179	496	178	103	239
Kalumburu	11	72	43	69	49
Kununurra	90	164	277	69	150
Lake Argyle	202	687	79	508	369
Laverton	495	554	630	318	499
Leonora	444	1586	1916	484	1107
Looma	113	1404	172	32	430
Marble Bar	36	159	0	26	55
Meekatharra	200	132	178	567	269
Menzies	14	494	356	195	265
Mount Magnet	202	218	664	137	305
Norseman	474	351	848	87	440
Nullagine	194	298	35	12	135
Onslow	56	87	245	275	166
Sandstone	12	30	103	124	67
Warmun	242	0	0	79	80
Wiluna	116	317	424	428	322
Wyndham	116	69	45	161	98
Yalgoo	1	125	36	23	46
Yungngora	120	650	30	0	200
Horizon Power Total	152	234	315	204	226

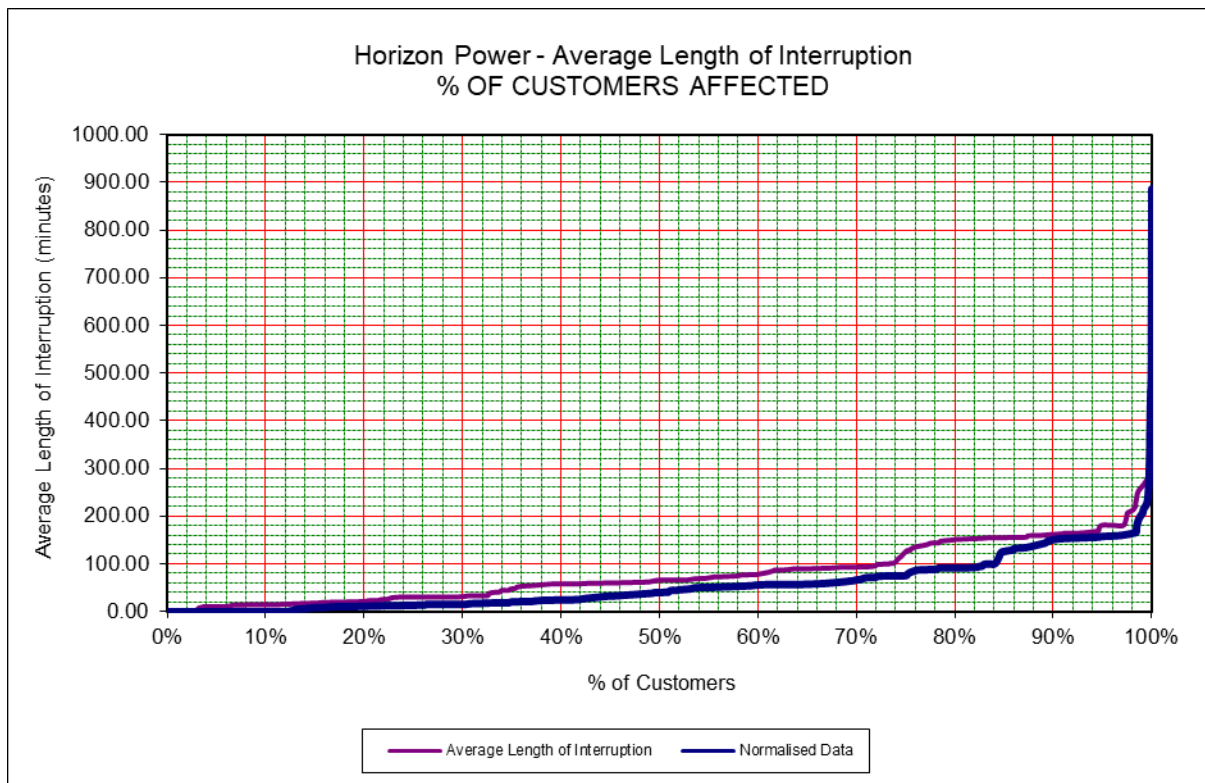
¹NWIS – North West Interconnected System as per Clause 1 - Schedule 1

⁴Corresponds to System Average Interruption Duration Index (SAIDI)

Clause 14(a) - Horizon Power - Average Length of Interruption - Frequency Distribution

Percentile	Minutes
25 th	< 30.80
50 th	< 66.35
75 th	< 125.63
90 th	< 162.28
95 th	< 181.02
98 th	< 212.63
100 th	< 886.51

Clause 15 – Average Length of Interruption - Frequency Graph

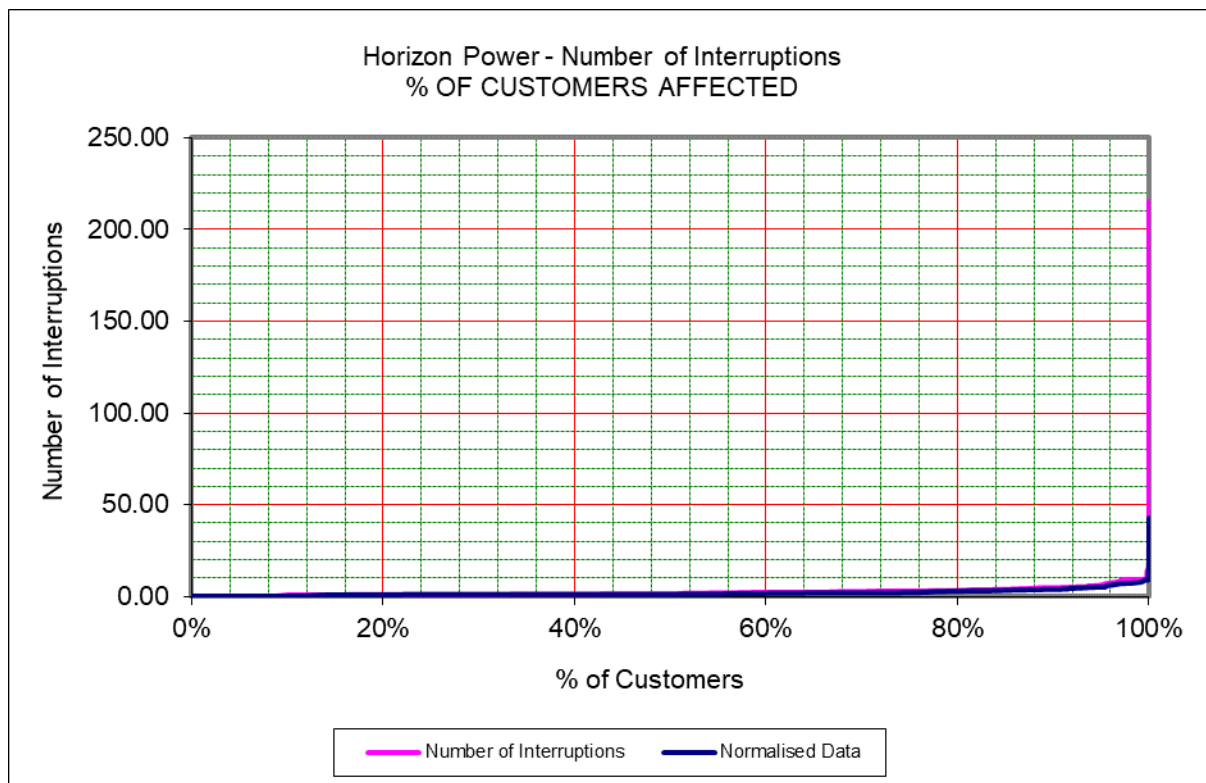


During the period 01/07/2020 to 30/06/2021 of those customers who experienced an interruption, 43% had an interruption of less than 60 minutes.

Clause 14(b) - Horizon Power - Number of Interruptions - Frequency Distribution

Percentile	Interruptions
25 th	< 0.99
50 th	< 1.33
75 th	< 2.94
90 th	< 4.56
95 th	< 6.14
98 th	< 9.14
100 th	< 215.44

Clause 15 – Number of Interruptions - Frequency Graph

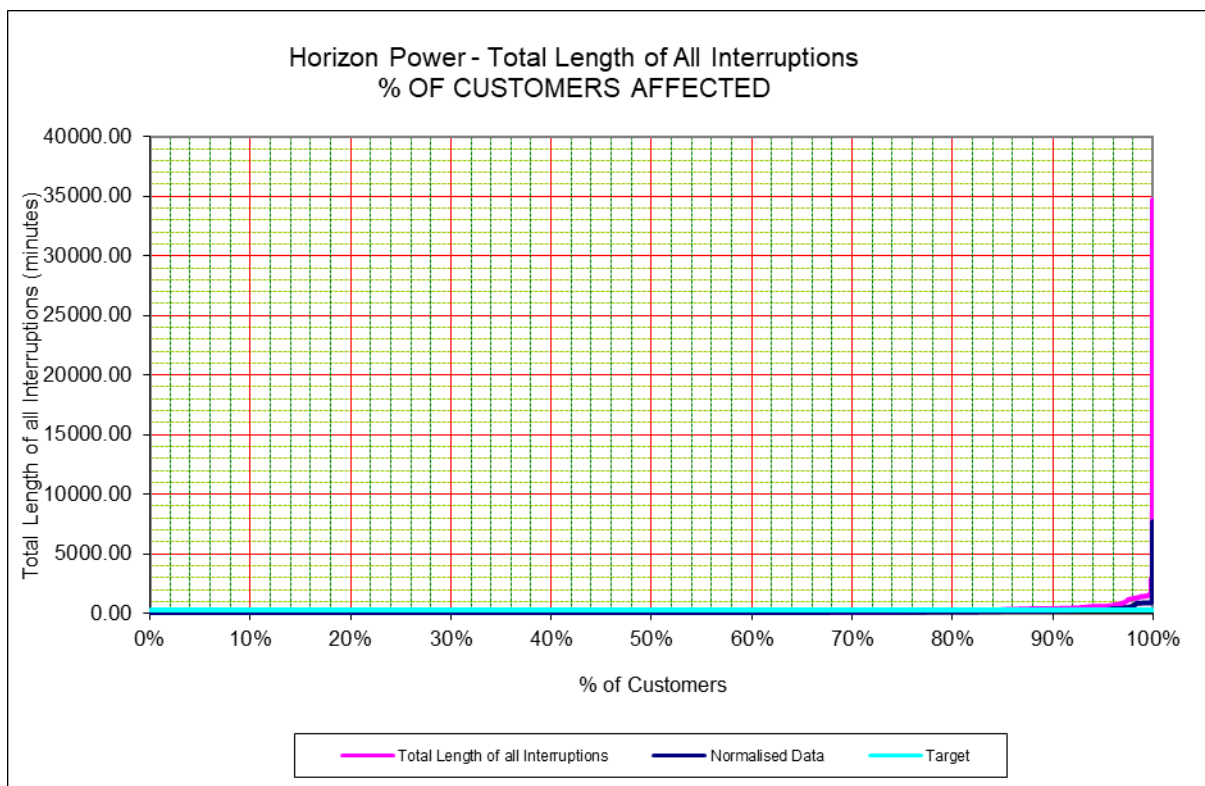


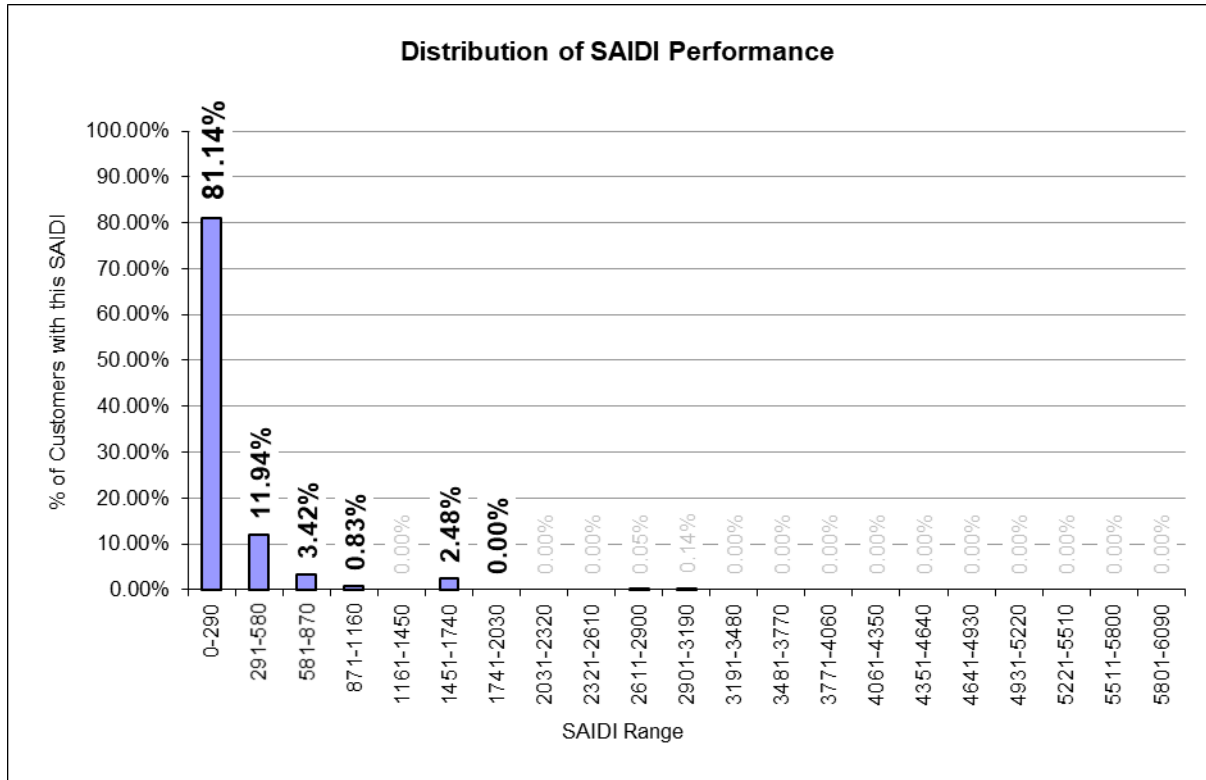
During the period 01/07/2020 to 30/06/2021, 99.93% of customers experienced an average of less than 16 outages or less.

Clause 14(c) - Horizon Power - Total Length of all Interruptions - Frequency Distribution

Percentile	Minutes
25 th	< 34.42
50 th	< 128.11
75 th	< 207.79
90 th	< 453.56
95 th	< 643.65
98 th	< 1280.94
100 th	< 34710.34

Clause 15 – Total Length of all Interruptions - Frequency Graph





During the period 01/07/2020 to 30/06/2021, 81% of customers experienced outages with durations of less than 290 minutes.

4. MAJOR EVENT DAYS

In the period 01/07/2020 to 30/06/2021 there was 1 system impacted by 1 significant weather event for which Major Event Days were recorded.

System	Major Event Days	Event
Carnarvon	6 February 2021	Flooding from Tropical Low

5. Appendix

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.