



# Network Quality and Reliability of Supply Code

## 2013/2014 Performance Report

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**Audited by:** Qualeng

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## CONTENTS

### Contents

1.	INTRODUCTION	4
2.	AUDIT BY INDEPENDENT EXPERT	4
3.	SCHEDULE 1 - INFORMATION TO BE PUBLISHED:	5
	Clause 4 and 10	5
	Clause 5 - Significant interruptions to small use customers.	6
	Clause 6 and 10 - Total number of complaints received	11
	Clause 7 and 10 - Number of customer complaints in each discrete area:	11
	Clause 8 and 10 - Total amount spent addressing complaints.	12
	Clause 9 and 10 - Payments to customers for failure to meet certain standards	12
	Clause 11, 12 and 13(a) - (CAIDI)	13
	Clause 11, 12 and 13(b) - (SAIFI)	14
	Clause 11, 12 and 13(c) - Av % of Time That Electricity Has Been Supplied	15
	Clause 11, 12 and 13(d) - (SAIDI)	16
	Clause 14(a) - Horizon Power - Av Length of Interruption - Frequency Distribution	17
	Clause 15(a) - CAIDI Frequency Graph.	17
	Clause 14(b) - Horizon Power - Number of Interruptions - Frequency Distribution	18
	Clause 15(b) - SAIFI Frequency Graph.	18
	Clause 14(c) - Total Length of all Interruptions - Frequency Distribution	19
	Clause 15(c) - SAIDI Frequency Graph	19
4.	MAJOR EVENT DAYS	20
5.	APPENDIX	21

# Horizon Power Service 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 (ERAWA) publishes the Electricity Distribution Licence Performance Reporting Handbook which specifies measures to be reported. This report is compiled in accordance with ERAWA Electricity Distribution Licence Performance Reporting Handbook – May 2014 however as Horizon Power is a vertically integrated business (responsible for generation, transmission and distribution) reliability data includes generation and transmission outages.

## **2. AUDIT BY INDEPENDENT EXPERT**

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.

Horizon Power has appointed Qualeng to perform the audit of its systems for compliance with the code. Qualeng is a locally based engineering consulting group with over 15 years engineering, regulatory and quality assurance expertise throughout various industries. Qualeng has a long and successful trading history and comprises a team of highly experienced consultants with recent, relevant and international expertise in the energy sector.

**3. SCHEDULE 1 - INFORMATION TO BE PUBLISHED:**

**Clause 4 and 10**

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

<i>Quality of Supply</i>	<i>2012/13</i>	<i>2013/14</i>
Voltage fluctuations	0	0
Harmonics	0	0

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

Voltage Fluctuations

<i>Location</i>	<i>Action Taken</i>
	N/A

Harmonics

<i>Location</i>	<i>Action Taken</i>
	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.**

	<i>Clause Description</i>	<i>Total</i>
NQR1	Clause 5(a) Number of premises that experienced interruptions greater than 12 hours continuous.	3,785*
NQR2	Clause 5(b) Number of premises that experienced more than 16 interruptions.	1,263

Note:- 3494 out of 3785 interruptions were caused due to cyclone Christine.

Detailed analysis of interruptions where duration is greater than 12 hours.

<i>Discrete Area</i>	<i>Duration (Minutes)</i>	<i>Premises</i>	<i>Start Date</i>	<i>Cause Description</i>	<i>Incident Category</i>
<b>Beagle Bay</b>	734	6	15/12/2013	Unknown	Protective Device Trip
<b>Bidyadanga</b>	1131	1	13/02/2014	Customer Installation or Appliance	Part Power
<b>Broome</b>	18691	1	19/02/2014	External Owner Equipment	Disconnect For Fault
<b>Broome</b>	10098	1	11/03/2014	Customer Installation or Appliance	Electric Shock
<b>Broome</b>	1457	1	17/03/2014	Plan Outage or Disconnection	No Power
<b>Broome</b>	12535	1	24/03/2014	Vehicle	Underground Dome Damaged
<b>Broome</b>	5073	1	05/04/2014	Customer Installation or Appliance	Electric Shock
<b>Broome</b>	33385	1	07/04/2014	Customer Installation or Appliance	Part Power
<b>Carnarvon</b>	970	11	19/02/2014	Wind or Wind Bourne Debris	Recloser Trip
<b>Derby</b>	1440	1	02/10/2013	Bird	No Power
<b>Derby</b>	840	2	10/10/2013	Vehicle	LV Fuse Trip
<b>Derby</b>	870	18	11/10/2013	Vehicle	RMU Fuse Trip
<b>Derby</b>	778	1	11/12/2013	Vandalism or Willful Damage	No Power
<b>Derby</b>	1221	1	26/01/2014	Equipment Failure (Includes Pole Top Fire)	No Power
<b>Derby</b>	1337	1	11/03/2014	Customer Installation or Appliance	No Power
<b>Derby</b>	1611	1	03/04/2014	Vegetation	Service Wire Down
<b>Derby</b>	15321	1	01/05/2014	Customer Installation or Appliance	No Power
<b>Derby</b>	1485	1	06/05/2014	Bat	Part Power
<b>Derby</b>	2227	1	04/06/2014	Customer Installation or Appliance	Reconnection
<b>Derby</b>	7256	1	11/06/2014	Customer Installation or Appliance	Electric Shock
<b>Esperance</b>	1449	3	17/07/2013	Wind or Wind Bourne Debris	Recloser Trip
<b>Esperance</b>	1323	1	17/02/2014	Equipment Failure (Includes Pole Top Fire)	Part Power
<b>Esperance</b>	1680	10	23/04/2014	Vehicle	Drop Out Fuse Trip
<b>Esperance</b>	744	1	25/05/2014	Customer Installation or Appliance	No Power

<i>Discrete Area</i>	<i>Duration (Minutes)</i>	<i>Premises</i>	<i>Start Date</i>	<i>Cause Description</i>	<i>Incident Category</i>
Exmouth	13984	1	09/01/2014	Equipment Failure (Includes Pole Top Fire)	SFW PQI Low Volts
Exmouth	776	1	27/01/2014	Customer Installation or Appliance	Arcing Service Wire
Exmouth	809	57	07/04/2014	Plan Outage or Disconnection	Switch Isolation
Exmouth	880	57	09/05/2014	Vehicle	Recloser Trip
Exmouth	857	1	22/06/2014	Unknown	Part Power
Fitzroy Crossing	9945	1	15/05/2014	Unnecessary Attendance	No Power
Hopetoun	742	1	10/02/2014	Equipment Failure (Includes Pole Top Fire)	No Power
Kalumburu	876	11	29/12/2013	Equipment Failure (Includes Pole Top Fire)	Feeder Trip
Karratha	1285	1	29/07/2013	Equipment Failure (Includes Pole Top Fire)	No Power
Karratha	4005	142	30/12/2013	Wind or Wind Bourne Debris	Feeder Trip
Karratha	5112	1	30/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	720	1	30/12/2013	Transmission Failure	Feeder Trip
Karratha	1046	674	30/12/2013	Equipment Failure (Includes Pole Top Fire)	Feeder Trip
Karratha	4869	1	30/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	5030	133	30/12/2013	Wind or Wind Bourne Debris	Feeder Trip
Karratha	2759	644	30/12/2013	Wind or Wind Bourne Debris	Feeder Trip
Karratha	9594	179	30/12/2013	Wind or Wind Bourne Debris	Drop Out Fuse Trip
Karratha	981	230	30/12/2013	Generation Failure	Feeder Trip
Karratha	2032	620	30/12/2013	Wind or Wind Bourne Debris	Feeder Trip
Karratha	28229	6	30/12/2013	Wind or Wind Bourne Debris	Switch Isolation
Karratha	1069	299	30/12/2013	Wind or Wind Bourne Debris	Feeder Trip
Karratha	3977	1	31/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	4656	1	31/12/2013	Wind or Wind Bourne Debris	Reconnection
Karratha	2122	1	31/12/2013	Customer Installation or Appliance	Disconnect For Fault
Karratha	4648	1	31/12/2013	Wind or Wind Bourne Debris	Service Wire Down
Karratha	3519	1	31/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	3289	1	31/12/2013	Wind or Wind Bourne Debris	Low Hanging Street Wire
Karratha	1375	1	31/12/2013	Wind or Wind Bourne Debris	Street Wire Down
Karratha	2719	1	31/12/2013	Wind or Wind Bourne Debris	Part Power
Karratha	3032	1	31/12/2013	Wind or Wind Bourne Debris	SFW Tree Fouling Street Wire
Karratha	1787	1	31/12/2013	Customer Installation or Appliance	Miscellaneous Hazard
Karratha	761	1	31/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	1622	1	31/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	1356	1	31/12/2013	Wind or Wind Bourne Debris	Transformer On A Pole Damaged
Karratha	4106	1	31/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	2764	1	31/12/2013	Wind or Wind Bourne Debris	No Power
Karratha	2300	1	31/12/2013	Vegetation	No Power
Karratha	1053	1	31/12/2013	Wind or Wind Bourne Debris	Service Wire Down
Karratha	3146	1	31/12/2013	Wind or Wind Bourne Debris	Part Power
Karratha	1172	420	31/12/2013	Wind or Wind Bourne Debris	Feeder Trip



<i>Discrete Area</i>	<i>Duration (Minutes)</i>	<i>Premises</i>	<i>Start Date</i>	<i>Cause Description</i>	<i>Incident Category</i>
<b>Karratha</b>	2535	1	31/12/2013	Wind or Wind Bourne Debris	No Power
<b>Karratha</b>	5322	1	31/12/2013	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	13088	1	01/01/2014	Wind or Wind Bourne Debris	Pole Leaning
<b>Karratha</b>	3293	9	01/01/2014	Wind or Wind Bourne Debris	Protective Device Trip
<b>Karratha</b>	2707	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1678	1	01/01/2014	Wind or Wind Bourne Debris	Street Wire Down
<b>Karratha</b>	2772	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	934	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	4400	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	2773	1	01/01/2014	Wind or Wind Bourne Debris	No Power
<b>Karratha</b>	2399	1	01/01/2014	Wind or Wind Bourne Debris	No Power
<b>Karratha</b>	2323	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	2348	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	2208	1	01/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	2910	1	02/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	3290	1	02/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1693	1	02/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	82220	1	02/01/2014	Customer Installation or Appliance	No Power
<b>Karratha</b>	1620	1	02/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1752	1	02/01/2014	Wind or Wind Bourne Debris	No Power
<b>Karratha</b>	5626	1	02/01/2014	Wind or Wind Bourne Debris	Miscellaneous Non Hazard
<b>Karratha</b>	1657	1	02/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1155	1	02/01/2014	Wind or Wind Bourne Debris	Reconnection
<b>Karratha</b>	1339	1	02/01/2014	Wind or Wind Bourne Debris	Disconnect For Fault
<b>Karratha</b>	1047	1	02/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1290	1	03/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1636	1	03/01/2014	Wind or Wind Bourne Debris	Reconnection
<b>Karratha</b>	1126	1	03/01/2014	Wind or Wind Bourne Debris	Part Power
<b>Karratha</b>	1149	1	03/01/2014	Wind or Wind Bourne Debris	Switch Isolation
<b>Karratha</b>	19836	5	25/02/2014	Wind or Wind Bourne Debris	Feeder Trip
<b>Karratha</b>	873	1	27/06/2014	Machine or Tool	Street Wire Down
<b>Kununurra</b>	1468	1	25/02/2014	Vegetation	Debris On Service Wire
<b>Kununurra</b>	1301	1	26/02/2014	Water Infiltration or Flooded Equipment	No Power
<b>Kununurra</b>	1082	2	10/03/2014	Equipment Failure (Includes Pole Top Fire)	Recloser Trip
<b>Kununurra</b>	950	2	01/05/2014	Animal	Switch Isolation
<b>Kununurra</b>	1486	7	30/05/2014	Equipment Failure (Includes Pole Top Fire)	Recloser Trip
<b>Kununurra</b>	1311	1	16/06/2014	Customer Installation or Appliance	Reconnection
<b>Lake Argyle</b>	4538	1	25/01/2014	Vegetation	Miscellaneous Non Hazard
<b>Laverton</b>	1456	1	18/01/2014	Equipment Failure (Includes Pole Top Fire)	Transformer On A Pole Damaged
<b>Looma</b>	887	17	08/04/2014	Lightning	Drop Out Fuse Trip
<b>Looma</b>	4015	1	13/06/2014	Customer Installation or Appliance	Street Wire Down

<i>Discrete Area</i>	<i>Duration (Minutes)</i>	<i>Premises</i>	<i>Start Date</i>	<i>Cause Description</i>	<i>Incident Category</i>
Marble Bar	2160	1	04/12/2013	Equipment Failure (Includes Pole Top Fire)	Miscellaneous Non Hazard
Marble Bar	1347	1	04/01/2014	Water Infiltration or Flooded Equipment	Part Power
Marble Bar	5474	1	16/03/2014	Customer Installation or Appliance	No Power
Marble Bar	4355	1	17/03/2014	Customer Installation or Appliance	No Power
Marble Bar	1163	1	26/06/2014	Wind or Wind Bourne Debris	Miscellaneous Non Hazard
Meekatharra	1203	1	04/11/2013	Lightning	No Power
Onslow	1270	1	16/06/2014	Vehicle	Street Wire Down
Port Hedland	1440	1	21/09/2013	Vandalism or Willful Damage	No Power
Port Hedland	13884	1	22/10/2013	Customer Installation or Appliance	Reconnection
Port Hedland	9709	1	25/10/2013	Customer Installation or Appliance	Part Power
Port Hedland	5882	1	25/10/2013	Plan Outage or Disconnection	No Power
Port Hedland	15609	1	15/11/2013	Customer Installation or Appliance	Part Power
Port Hedland	4699	1	29/11/2013	Vehicle	Miscellaneous Hazard
Port Hedland	1103	1	14/12/2013	Equipment Failure (Includes Pole Top Fire)	No Power
Port Hedland	1441	1	30/12/2013	Wind or Wind Bourne Debris	No Power
Port Hedland	1496	27	30/12/2013	Wind or Wind Bourne Debris	Feeder Trip
Port Hedland	1441	1	30/12/2013	Wind or Wind Bourne Debris	No Power
Port Hedland	1096	58	30/12/2013	Generation Failure	Feeder Trip
Port Hedland	4320	1	03/01/2014	Wind or Wind Bourne Debris	Miscellaneous Non Hazard
Port Hedland	21522	1	31/12/2013	Wind or Wind Bourne Debris	Pole Broken/Damaged
Port Hedland	721	1	31/12/2013	Customer Installation or Appliance	Electric Shock
Port Hedland	721	1	02/01/2014	Customer Installation or Appliance	No Power
Port Hedland	722	1	10/01/2014	Vehicle	Arcing Street Wire
Port Hedland	1187	1	06/03/2014	Vehicle	Pole Down
Port Hedland	766	1	26/03/2014	Equipment Failure (Includes Pole Top Fire)	Part Power
Port Hedland	1339	1	02/04/2014	Transmission Failure	Part Power
Port Hedland	34243	1	07/04/2014	Customer Installation or Appliance	Electric Shock
Port Hedland	19883	1	16/04/2014	Customer Installation or Appliance	Disconnect For Fault
Port Hedland	869	20	23/04/2014	Plan Outage or Disconnection	LV Fuse Trip
Port Hedland	8341	1	28/05/2014	Customer Installation or Appliance	Miscellaneous Non Hazard
Port Hedland	2550	1	01/06/2014	External Owner Equipment	No Power
Port Hedland	2698	1	07/06/2014	Unnecessary Attendance	Part Power
Port Hedland	1590	1	16/06/2014	Equipment Failure (Includes Pole Top Fire)	Miscellaneous Non Hazard
Port Hedland	1262	1	17/06/2014	Vehicle	Pole Hit
Wiluna	2638	5	17/03/2014	Plan Outage or Disconnection	Switch Isolation
		<b>3,785</b>			

Customer interruptions greater than 12 hours were largely due to extreme weather events (cyclones, severe storms & floods) that Horizon Power systems experienced in 2013/14.

Notable weather events for 2013/14 were:

- One tropical cyclone occurred in the WA region during 2013/14:
  - TC Christine (Dec 2013) made landfall near Whim Creek, where its intensity was a Category 3 system. There were heavy rains and some flooding.

**Clause 6 and 10 - Total number of complaints received**

	<b>2012/13</b>	<b>2013/14</b>
NQR19	30	31

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

<b>Discrete Area</b>	<b>2012/13</b>	<b>2013/14</b>
NWIS	12	6
Ardyaloon		
Beagle Bay		
Bidyadanga		
Broome	2	4
Carnarvon	3	
Coral Bay		
Cue		
Denham		
Derby		3
Djarindjin		
Esperance	6	4
Exmouth	1	3
Fitzroy Crossing		
Gascoyne Junction		
Halls Creek	1	2
Hopetoun	1	1
Kununurra	3	5
Lake Argyle		1
Laverton		
Leonora		
Looma		
Marble Bar		
Meekatharra		
Menzies		
Mount Magnet	1	
Norseman		
Nullagine		
Onslow		
Sandstone		
Warmun		1
Wiluna		
Wyndham		1
Yalgoo		
<b>Horizon Power</b>	<b>30</b>	<b>31</b>

**Clause 8 and 10 - Total amount spent addressing complaints.**

	<b>2012/13</b>	<b>2013/14</b>
NQR21	\$313,186	\$385,313

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

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

	<b>2012/13</b>		<b>2013/14</b>	
	<b>Number</b>	<b>Cost</b>	<b>Number</b>	<b>Cost</b>
NQR40	1	\$20	0	\$0 **

The number and total payments made to customers for supply interruptions exceeding 12 hours.

	<b>2012/13</b>		<b>2013/14</b>	
	<b>Number</b>	<b>Cost</b>	<b>Number</b>	<b>Cost</b>
NQR41	34	\$2,720	89	\$7,120*

Note\*:- The increase in total payments is primarily due to claims related to Cyclone Christine which was a Category 3 Cyclone

Note\*\* - The number and total payments made to customers for failure to give required notice of planned interruption NQR40 corrected from 10 and 200\$ reported initially to 0 and 0\$ for 2013/14.

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

<b>Discrete Area</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>Average</b>
NWIS	77.32	131.59	90.56	164.04	115.88
Ardyaloon	0.00	376.34	80.90	113.00	142.56
Beagle Bay	141.09	0.00	0.00	38.15	44.81
Bidyadanga	29.00	23.44	92.06	52.29	49.20
Broome	44.97	88.98	70.71	52.25	64.23
Carnarvon	210.54	62.72	74.87	35.54	95.92
Coral Bay	0.00	208.00	0.00	0.00	52.00
Cue	185.00	76.20	183.17	32.45	119.20
Denham	64.27	12.47	41.40	26.32	36.11
Derby	54.39	68.31	146.39	54.94	81.01
Djarindjin	0.00	0.00	110.81	0.00	27.70
Esperance	81.29	163.86	149.22	88.41	120.70
Exmouth	68.46	28.19	74.71	74.29	61.42
Fitzroy Crossing	104.83	91.82	55.14	45.70	74.37
Gascoyne Junction	264.00	0.00	0.00	90.00	88.50
Halls Creek	77.63	43.36	78.31	54.82	63.53
Hopetoun	165.46	71.32	94.70	100.71	108.05
Kalumburu	N/A	N/A	0.00	105.64	52.82
Kununurra	68.19	45.95	38.61	37.97	47.68
Lake Argyle	89.17	91.68	50.59	125.50	89.24
Laverton	74.13	185.11	201.42	132.73	148.35
Leonora	199.85	83.10	99.84	50.55	108.33
Looma	47.20	156.78	159.33	163.34	131.66
Marble Bar	8.46	54.93	92.42	87.91	60.93
Meekatharra	92.87	257.61	139.61	97.50	146.90
Menzies	135.52	46.87	0.00	58.06	60.11
Mount Magnet	36.41	34.98	15.75	24.21	27.84
Norseman	85.00	51.40	152.53	102.46	97.85
Nullagine	0.00	21.80	62.10	111.81	48.93
Onslow	74.96	67.19	96.03	37.59	68.94
Sandstone	60.85	78.57	268.00	12.63	105.01
Warmun	61.50	74.13	101.62	28.72	66.49
Wiluna	76.38	213.95	184.90	125.04	150.07
Wyndham	52.33	70.37	48.70	36.54	51.98
Yalgoo	0.00	254.00	27.83	278.67	140.13
Yungngora	N/A	N/A	225.00	47.31	136.16
<b>Horizon Power</b>	<b>87.35</b>	<b>90.99</b>	<b>77.74</b>	<b>81.90</b>	<b>84.50</b>

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

<i>Discrete Area</i>	<i>2010/11</i>	<i>2011/12</i>	<i>2012/13</i>	<i>2013/14</i>	<i>Average</i>
NWIS	2.41	1.98	3.24	3.03	2.66
Ardyaloon	0.00	1.53	2.93	0.61	1.27
Beagle Bay	0.50	0.00	0.00	1.35	0.46
Bidyadanga	0.09	0.91	1.08	2.15	1.06
Broome	3.80	4.08	0.82	1.91	2.65
Carnarvon	6.88	3.77	5.05	6.61	5.58
Coral Bay	0.00	0.11	0.00	0.00	0.03
Cue	0.96	1.70	1.45	2.04	1.54
Denham	3.81	4.54	2.02	3.93	3.58
Derby	5.99	3.96	1.15	5.62	4.18
Djarindjin	0.00	0.00	0.89	0.00	0.22
Esperance	5.25	3.03	2.40	3.40	3.52
Exmouth	3.60	0.84	3.30	2.07	2.45
Fitzroy Crossing	3.35	2.77	1.22	0.41	1.94
Gascoyne Junction	0.50	0.00	0.00	0.15	0.16
Halls Creek	1.22	3.07	3.30	1.40	2.25
Hopetoun	2.22	4.81	5.25	4.55	4.21
Kalumburu	N/A	N/A	0.00	2.08	1.04
Kununurra	6.14	15.73	20.18	17.62	14.92
Lake Argyle	4.00	12.47	1.88	2.03	5.10
Laverton	2.54	5.11	0.49	0.94	2.27
Leonora	1.16	3.78	7.94	2.28	3.79
Looma	1.13	2.22	0.28	2.30	1.48
Marble Bar	1.00	1.28	3.42	1.80	1.88
Meekatharra	1.19	0.34	1.96	3.17	1.66
Menzies	1.68	1.37	0.00	1.79	1.21
Mount Magnet	4.46	3.25	7.03	7.77	5.63
Norseman	4.71	4.14	1.09	2.60	3.13
Nullagine	0.00	0.47	0.52	0.91	0.47
Onslow	5.23	6.33	20.54	8.19	10.07
Sandstone	1.65	4.43	0.06	1.00	1.79
Warmun	1.52	2.88	2.61	0.81	1.96
Wiluna	1.33	1.09	3.35	3.17	2.24
Wyndham	7.41	18.44	20.39	6.26	13.13
Yalgoo	0.00	0.38	1.93	1.50	0.95
Yungngora	N/A	N/A	0.19	11.73	5.96
<b>Horizon Power</b>	<b>3.77</b>	<b>3.72</b>	<b>4.09</b>	<b>4.09</b>	<b>3.92</b>

**Clause 11, 12 and 13(c) - Average Percentage Of Time That Electricity Has Been Supplied To Customer Premises.**

<b>Discrete Area</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>Average</b>
NWIS	99.99	99.97	99.98	99.97	99.98
Ardyaloon	100.00	99.93	99.98	99.98	99.97
Beagle Bay	99.97	100.00	100.00	99.99	99.99
Bidyadanga	99.99	100.00	99.98	99.99	99.99
Broome	99.99	99.98	99.99	99.99	99.99
Carnarvon	99.96	99.99	99.99	99.99	99.98
Coral Bay	100.00	99.96	100.00	100.00	99.99
Cue	99.96	99.99	99.97	99.99	99.98
Denham	99.99	100.00	99.99	99.99	99.99
Derby	99.99	99.99	99.97	99.99	99.98
Djarindjin	100.00	100.00	99.98	100.00	99.99
Esperance	99.98	99.97	99.97	99.98	99.98
Exmouth	99.99	99.99	99.99	99.99	99.99
Fitzroy Crossing	99.98	99.98	99.99	99.99	99.99
Gascoyne Junction	99.95	100.00	100.00	99.98	99.98
Halls Creek	99.99	99.99	99.99	99.99	99.99
Hopetoun	99.97	99.99	99.98	99.98	99.98
Kalumburu	N/A	N/A	100.00	99.98	99.99
Kununurra	99.99	99.99	99.99	99.99	99.99
Lake Argyle	99.98	99.98	99.99	99.98	99.98
Laverton	99.99	99.96	99.96	99.97	99.97
Leonora	99.96	99.98	99.98	99.99	99.98
Looma	99.99	99.97	99.97	99.97	99.97
Marble Bar	100.00	99.99	99.98	99.98	99.99
Meekatharra	99.98	99.95	99.97	99.98	99.97
Menzies	99.97	99.99	100.00	99.99	99.99
Mount Magnet	99.99	99.99	100.00	100.00	99.99
Norseman	99.98	99.99	99.97	99.98	99.98
Nullagine	100.00	100.00	99.99	99.98	99.99
Onslow	99.99	99.99	99.98	99.99	99.99
Sandstone	99.99	99.99	99.95	100.00	99.98
Warmun	99.99	99.99	99.98	99.99	99.99
Wiluna	99.99	99.96	99.96	99.98	99.97
Wyndham	99.99	99.99	99.99	99.99	99.99
Yalgoo	100.00	99.95	99.99	99.95	99.97
Yungngora	N/A	N/A	99.96	99.99	99.97
<b>Horizon Power</b>	<b>99.99</b>	<b>99.98</b>	<b>99.99</b>	<b>99.98</b>	<b>99.98</b>



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

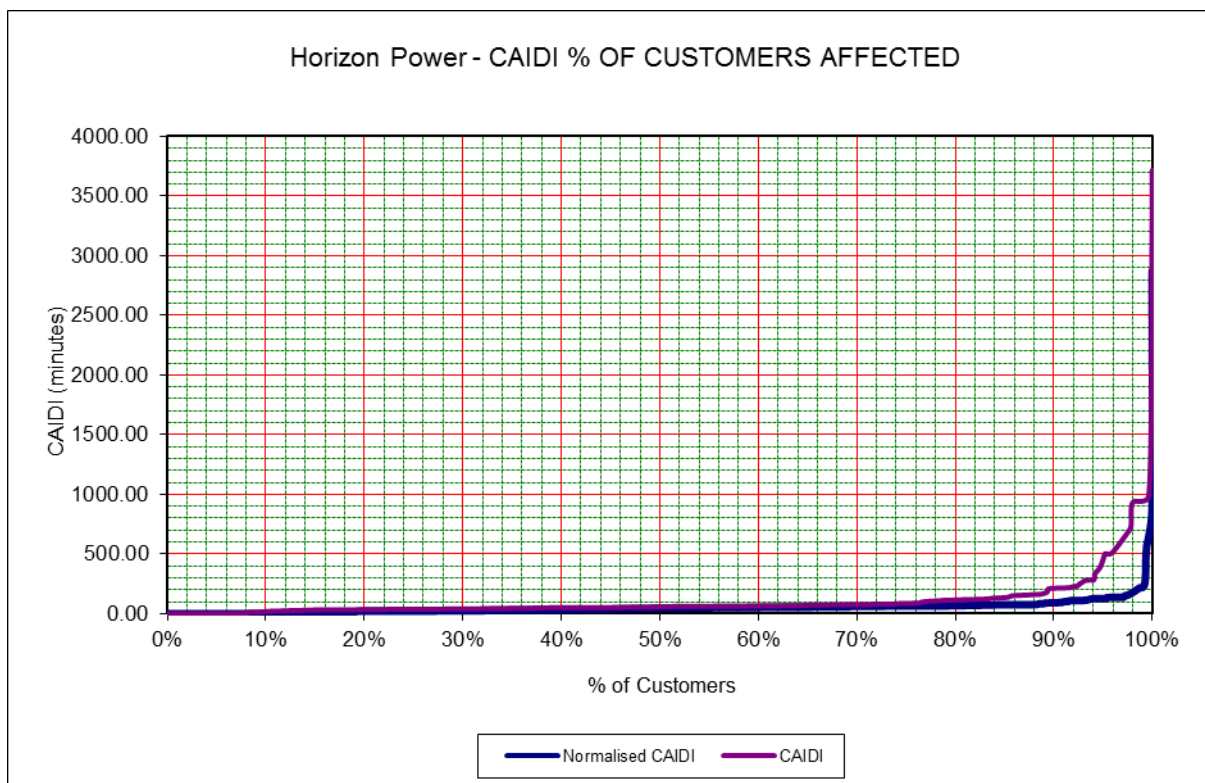
<b>DISCRETE AREA</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>Average</b>
NWIS	186	261	293	496	309
Ardayaloon	0	577	237	69	221
Beagle Bay	70	0	0	52	30
Bidyadanga	3	21	99	112	59
Broome	171	363	58	100	173
Carnarvon	1448	236	378	235	574
Coral Bay	0	24	0	0	6
Cue	178	129	265	66	160
Denham	245	57	84	104	122
Derby	326	270	168	309	268
Djarindjin	0	0	99	0	25
Esperance	427	496	358	300	395
Exmouth	246	24	246	154	168
Fitzroy Crossing	351	255	67	19	173
Gascoyne Junction	133	0	0	14	37
Halls Creek	95	133	258	77	141
Hopetoun	368	343	497	458	416
Kalumburu	N/A	N/A	0.00	219	110
Kununurra	419	723	779	669	647
Lake Argyle	357	1143	95	255	462
Laverton	188	946	98	125	339
Leonora	232	314	793	115	363
Looma	53	348	44	375	205
Marble Bar	8	70	316	158	138
Meekatharra	110	88	274	309	195
Menzies	228	64	0	104	99
Mount Magnet	162	113	111	188	144
Norseman	400	213	166	267	261
Nullagine	0	10	32	102	36
Onslow	392	425	1973	308	774
Sandstone	101	348	17	13	119
Warmun	94	214	265	23	149
Wiluna	102	233	619	396	338
Wyndham	388	1298	993	229	727
Yalgoo	0	98	54	418	142
Yungngora	N/A	N/A	42.43	555	299
<b>Horizon Power</b>	<b>329</b>	<b>339</b>	<b>318</b>	<b>335</b>	<b>330</b>

For the period 01/07/2013 to 30/06/2014 SAIDI using the Normalised data sets was **155** minutes.

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

<i>Percentile</i>	<i>Minutes</i>
25 <sup>th</sup>	37.81
50 <sup>th</sup>	56.33
75 <sup>th</sup>	85.61
90 <sup>th</sup>	211.40
95 <sup>th</sup>	456.75
98 <sup>th</sup>	906.18
100 <sup>th</sup>	3717.46

**Clause 15(a) - CAIDI Frequency Graph.**

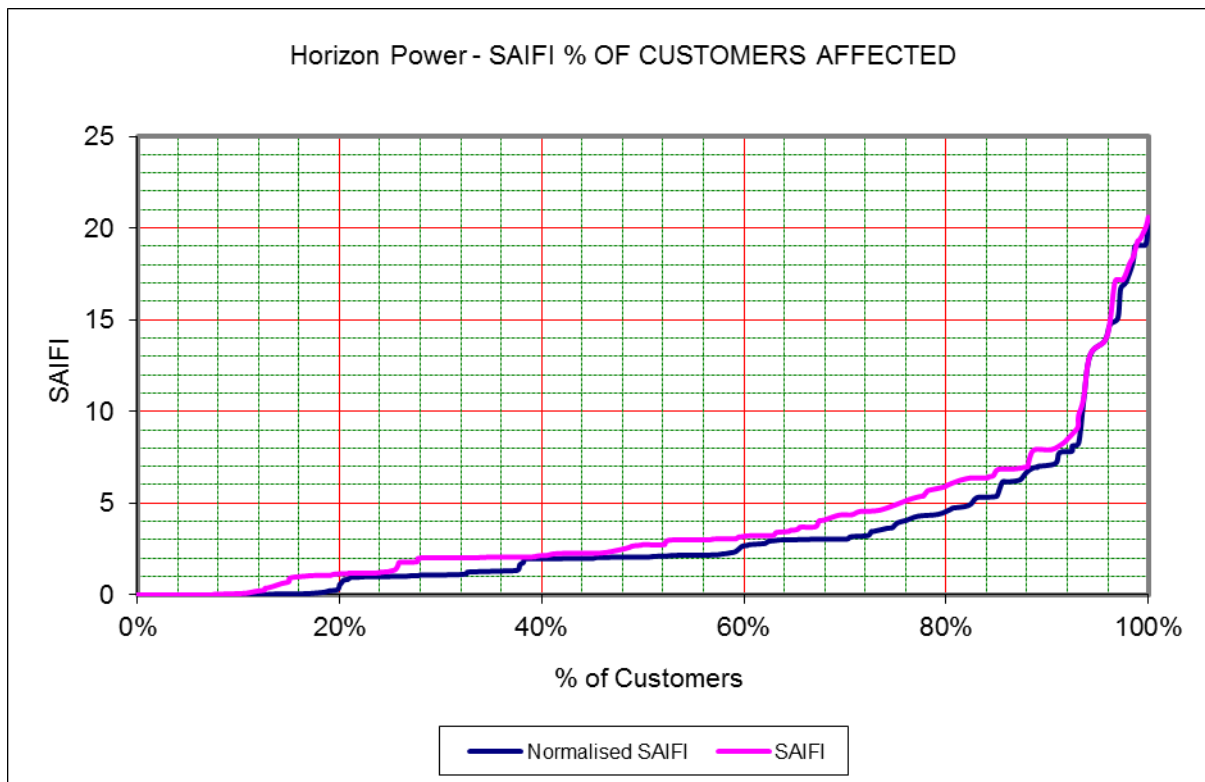


During the period 01/07/2013 to 30/06/2014 of those customers who experienced an interruption, approximately 51% had an interruption of less than 60 minutes.

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

<i>Percentile</i>	<i>Interruptions</i>
25 <sup>th</sup>	1.29
50 <sup>th</sup>	2.73
75 <sup>th</sup>	4.93
90 <sup>th</sup>	7.91
95 <sup>th</sup>	13.48
98 <sup>th</sup>	17.85
100 <sup>th</sup>	20.59

**Clause 15(b) - SAIFI Frequency Graph.**

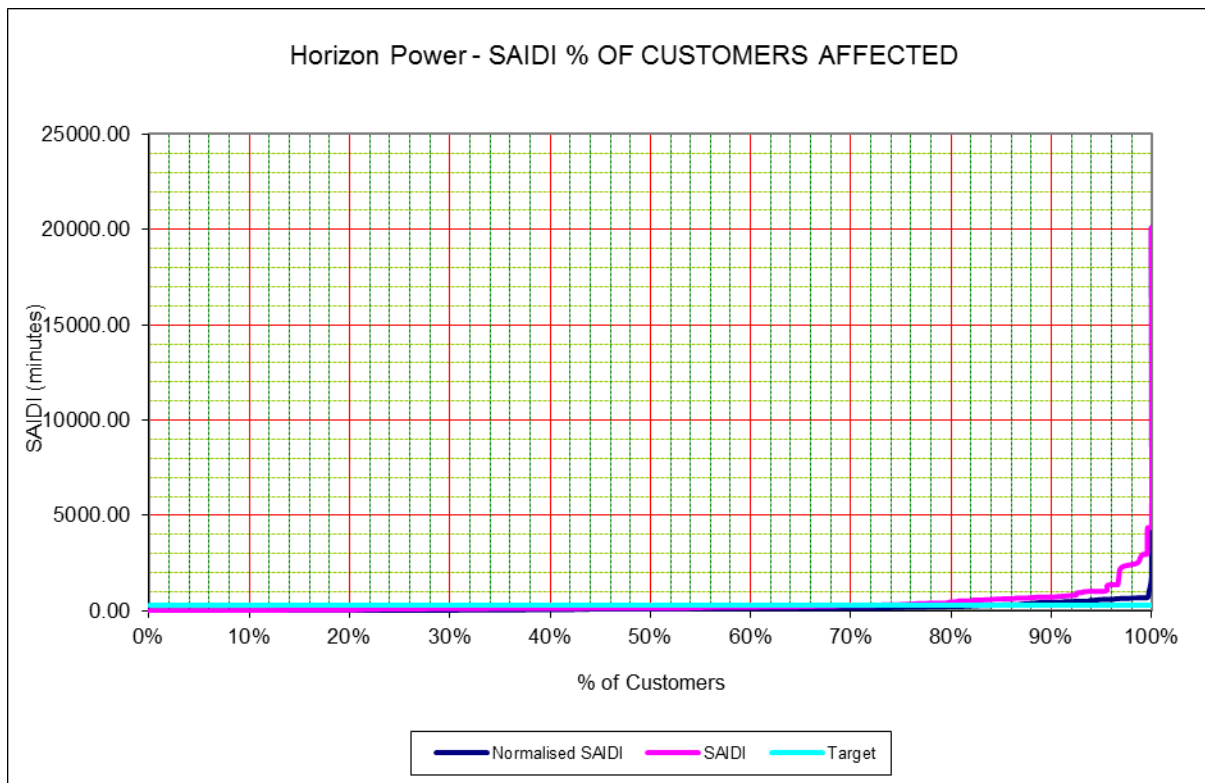


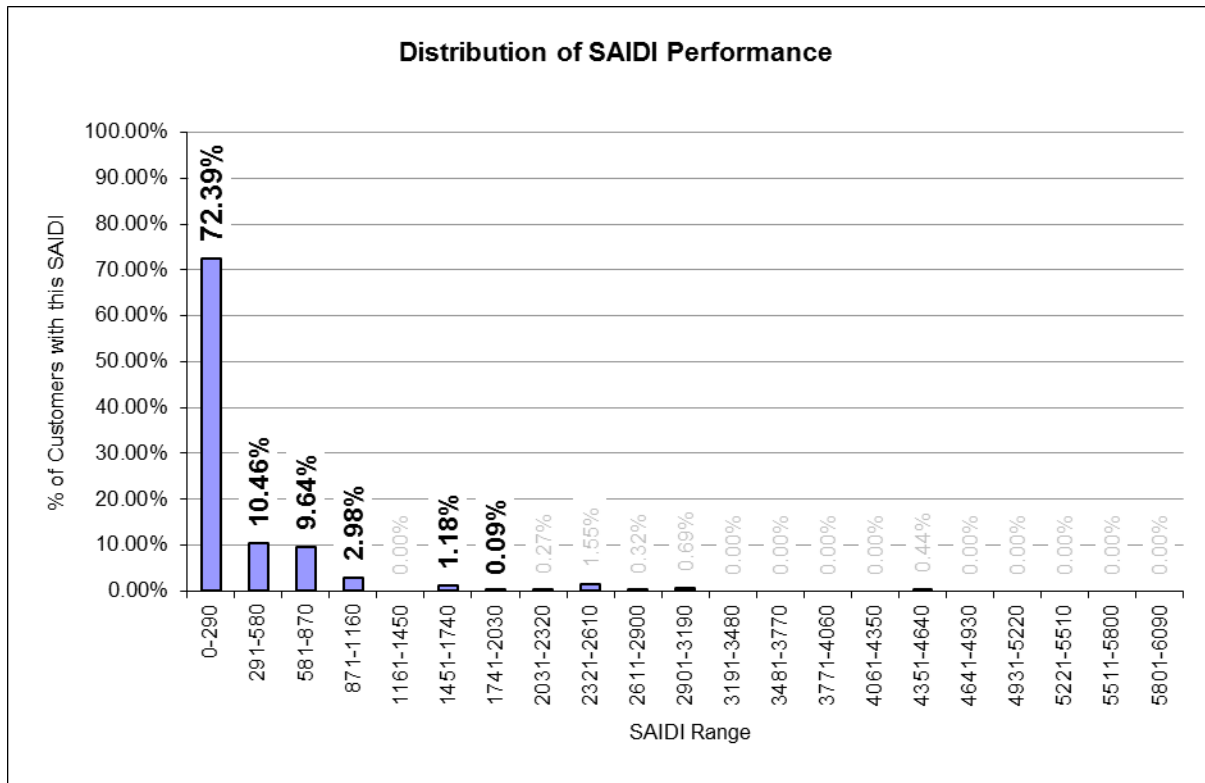
During the period 01/07/2013 to 30/06/2014 approximately 97% of customers experienced an average of less than 16 outages.

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

<i>Percentile</i>	<i>Minutes</i>
25 <sup>th</sup>	97.48
50 <sup>th</sup>	150.63
75 <sup>th</sup>	333.50
90 <sup>th</sup>	724.29
95 <sup>th</sup>	1045.48
98 <sup>th</sup>	2424.36
100 <sup>th</sup>	20106.50

**Clause 15(c) - SAIDI Frequency Graph**





During the period 01/07/2013 to 30/06/2014, 72% of customers experienced outages with durations of less than 290 minutes. Using a normalised data set this is increased to 84%.

#### 4. MAJOR EVENT DAYS

In the period 01/07/2013 to 30/06/2014 there was one Major Event Day recorded for Cyclone (Christine).

Power System	Major Event Day Date	Event
NWIS	31/12/2013	Cyclone Christine

## 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 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 Sets - Unplanned

Horizon Power uses Normalised data sets 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 excludes interruptions from its Normalised data set 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 and floods.

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

Normalised data sets exclude incidents that aren't reasonably practicable to control by Horizon Power.

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