1.0 Purpose/Objective

This minor revision is prepared to revise the DCSDM scenario step time entry format to address the issue documented under CAP AR 01474466. Specifically, colons are replaced with periods between the digits for seconds and tenths of a second.

The pending changes associated with EC 25695 are also incorporated in the DCSDM database under this minor revision.

2.0 Methodology

The methodology of Revision 003 remains unaffected.

3.0 Acceptance Criteria

Acceptance criteria are not changed by this minor revision.

4.0 Assumptions

This minor revision adds no assumptions.

5.0 References

The following references are added under this minor revision.

5.9 DC Load Study Reports

5.9.1 DC Load Study Report EC 25695 – Evaluate Replacement for Obsolete Relays ESRX1/2, ZSR1/2, MSR1/2, VSR1/2

6.0 Input Data

Revision 003 inputs are unaffected by this minor revision.

7.0 Calculation

The database file which was used to perform this analysis is:
02-192_Rev003A.db, 03/22/2016 10:46, 19,130,368 bytes

8.0 Results and Conclusions

The conclusions of revision 003 remain unchanged in that the battery is sufficiently sized to support the required duty cycle.

8.1. Device Voltage

All devices analyzed meet the acceptance criteria defined in base revision 003 Section 3.2 with the following justifications:

Items with negative voltage margins are identified in Attachment C, along with justifications for their acceptability. The most limiting loads for each of the batteries are described below. These devices and others that were close to limiting were reviewed and additional analysis performed (voltage divider analysis) to more accurately calculate actual terminal voltage. The results of these additional analyses are provided below. Some of the low margin loads are part of nonsafety related circuits and not required to operate during the various scenarios (as described in Attachment Q) or

are annunciator circuits that have short term voltage drops due to other occurrences (i.e. spring charge motor inrush or EDG field flash. Thus these loads were not considered in determining the minimum required battery voltage.

The low margin loads were determined from a review of the Path Voltage Drop summary (Attachment B). Loads on safety related circuits with less than 2.0 volts of margin were reviewed and a summary is shown below.

8.2. Battery Sizing

8.2.1. Minimum Battery Terminal Voltage

As outlined in base revision 003 Section 2.2, Attachment B was reviewed to determine the minimum required terminal voltage for the battery. Additionally, the resolutions for several of the devices in Attachment C are also included in this review since the validity of those resolutions is dependent upon maintaining adequate voltage at the nodes supplying the devices.

Attachment F was also reviewed to determine the times in the scenario where the minimum device voltages are present. The details of this review are as follows:

There are several devices supplied from Panels C84A, C84B, and the C04 annunciators (Nodes 28, 31, and 33, respectively) with voltage margins of 1.25 volts or less. These are all are annunciator circuits that have voltage margin greater than 3 volts (as shown in Attachment F) for all time periods except for the last minute of the scenario (when the EDG is manually started for the SBO scenario and there are 4 kV breaker spring charge motors at inrush). The relay contacts in these circuits are used for annunciator functions only with no impact to plant equipment. Further review of Attachment B and the resolutions for the circuit breaker closing coils in Attachment C indicate that there are four time periods that require examination in determining the minimum required battery terminal voltage. These time periods are the first minute, the 120th minute, and the last 2 minutes of the scenario.

The devices with the lowest margin in the first minute of the event are located at 13 kV Swgr #12 (Node 21) and 4 kV Switchgear No. 16 (Node 23). Since the 13 kV Swgr is not Class 1E (not safety related), these loads are will not be considered. On 4 kV Switchgear No. 16 (Node 23), the devices are the close coils for Breaker 152-604 and 152-605. These circuits are discussed in attachment C and are shown to require 105.57 Vdc and 105.64 Vdc, respectively, at node 23. The most limiting of these two is the close coil for 152-605 with a margin of 1.84 volts. From Attachment F, the battery terminal voltage during the first minute is 110.90 Vdc. The required battery terminal voltage for the first minute is then (110.90 - 1.84) 109.06 Vdc. This is equivalent to 1.881 Volts per Cell for the 58 cell battery.

There are several circuit breaker closures modeled in the last minute of the second hour of the scenario. Two of the close coils for these breakers are analyzed in Attachment C. From examination of the disposition in Attachment C, the close coil for circuit breaker 152-605 (Device 152-605-CC) is limiting and has an operating margin of 0.45 Vdc when operated in the last minute of the second hour. From Attachment F, the battery voltage during the final minute of the second hour is 109.31 Vdc. The required battery terminal voltage at the end of two hours is then (109.31-0.45) 108.86 Vdc. This is equivalent to 1.877 Volts per Cell for the 58 cell battery. Since required

battery voltage at the end of two hours is less than that required for the first minute and the calculated battery terminal voltage at the end of two hours is greater than the minimum required for the first minute, the minimum required voltage determined for the first minute will be used for the first two hours of the event.

From examination of Attachment B and the dispositions in Attachment C, the limiting device for the next to last minute (3:58 to 3:59) of the event is the close coil for circuit breaker 152-610 (Device 152-610-CC). This close coil is analyzed in Attachment C. From examination of the disposition in Attachment C, the close coil for circuit breaker 152-610 (Device 152-610-CC) has an operating margin of 2.74 Vdc when operated in the next to last minute of the scenario. From Attachment F, the battery terminal voltage during the next to last minute of the event is 109.71 Vdc. The required battery terminal voltage at the next to last minute of the scenario is then (109.71 - 2.74) 106.97 Vdc. This is equivalent to 1.845 Volts per Cell for the 58 cell battery. This voltage is lower than the minimum required for the first two hours of the event and allows for a separate battery sizing analysis.

From examination of Attachment B and the dispositions in Attachment C, the limiting devices for the last minute of the event are part of the EDG 12 starting control circuit (Node 20). The two most limiting loads are the Booster Pump Motor (D211-11-BPM) with a margin of 0.40 Vdc at time step 58 and the main start solenoid valve (MVST1/C-92) with a margin of 1.34 Vdc at time step 56. The EDG start sequence begins at time step 56 and the voltage at the BPM dips momentarily due to the EDG field flash energizing during the manual start of the EDG at the end of the scenario. This motor is already running when this slight voltage dip occurs and will continue running during time step 58 (when the EDG flashes). This leaves the main start solenoid valve as the limiting load. From Attachment F, the battery terminal voltage during the last minute of the event is 106.50 Vdc. The required battery terminal voltage at the end of the scenario is then (106.50 – 1.34) 105.16 Vdc. This is equivalent to 1.814 Volts per Cell for the 58 cell battery. This voltage is lower than the minimum required for the first 3 hours and 59 minutes of the event and allows for a separate battery sizing analysis.

The minimum required voltages for the composite scenario are:

Scenario	Min Required Terminal Volts	Min Required Cell Volts
D2DBA – First 120 Min	109.06	1.881
D2DBA – 2:00 – 3:59	106.97	1.845
D2DBA – Last Min of Event	105.16	1.814

8.2.2. Minimum Required Battery Size
Battery D2 (C&D KCR-13 Cells) was shown to be adequately sized for the evaluated scenario and corresponding load profile. The acceptability of the battery is based on the results of Attachments H1, H2 and H3. The battery size is determined using the minimum required battery terminal voltages determined in Section 8.2.1.

Scenario	Required Cell Size	Actual Cell Size	Spare Capacity
D2DBA – First 120 Min	5.82 Positive Plates	6 Positive Plates	3.09%
D2DBA – 2:00 – 3:59	5.04 Positive Plates	6 Positive Plates	19.05%
D2DBA – Last Min of Event	5.33 Positive Plates	6 Positive Plates	12.57%

8.2.3. Minimum Number of Cells
Based on these results, an analysis of the battery will not be performed to determine the number of cells that can be removed from service while maintaining adequate battery capacity as it is clear that there is not adequate margin to remove a cell and maintain a positive design margin with cells removed and the parameters used in this calculation.

8.3. Margin Load
An additional 1.0 Adc constant impedance load is included on panel D21 to allow for future load additions.

8.4. Cable Ampacity Verification
The cables in the system are sized adequately with regard to ampacity as described in section 7.7 of major revision 003.

9.0 Plant Impact

9.1. No new Future Actions are identified in this minor revision.

Attachment K
Voltage Profile

Voltage Profile

Generation Date: 03/22/2016 10:26 am

Battery: D2

Load (amperes)	Corrected Load (amps)	Time (min.)	AMP-HRS Removed	AMP-HR/ Pos Plt	AMPS/ Pos Plt	Cell Voltage (Volts)	Terminal Voltage (Volts)
130.64	160.97	1	2.68	0.45	26.83	* 1.912	110.90
63.17	77.83	2	3.98	0.66	12.97	1.950	113.11
63.12	77.77	3	5.28	0.88	12.96	1.950	113.11
63.12	77.77	4	6.57	1.10	12.96	1.950	113.10
63.12	77.77	5	7.87	1.31	12.96	1.950	113.09
63.12	77.77	6	9.16	1.53	12.96	1.950	113.09
63.12	77.77	7	10.46	1.74	12.96	1.950	113.08
63.12	77.77	8	11.76	1.96	12.96	1.950	113.07
63.12	77.77	9	13.05	2.18	12.96	1.949	113.07
63.12	77.77	10	14.35	2.39	12.96	1.949	113.06
63.12	77.77	11	15.65	2.61	12.96	1.949	113.05
63.12	77.77	12	16.94	2.82	12.96	1.949	113.05
63.12	77.77	13	18.24	3.04	12.96	1.949	113.04
63.12	77.77	14	19.53	3.26	12.96	1.949	113.03
63.12	77.77	15	20.83	3.47	12.96	1.949	113.02
63.12	77.77	16	22.13	3.69	12.96	1.949	113.02
63.12	77.77	17	23.42	3.90	12.96	1.948	113.01
63.12	77.77	18	24.72	4.12	12.96	1.948	113.00
63.12	77.77	19	26.01	4.34	12.96	1.948	112.99
63.12	77.77	20	27.31	4.55	12.96	1.948	112.99
63.12	77.77	21	28.61	4.77	12.96	1.948	112.98
63.12	77.77	22	29.90	4.98	12.96	1.948	112.97
63.12	77.77	23	31.20	5.20	12.96	1.948	112.96
63.12	77.77	24	32.50	5.42	12.96	1.947	112.95
63.12	77.77	25	33.79	5.63	12.96	1.947	112.95
63.12	77.77	26	35.09	5.85	12.96	1.947	112.94
63.12	77.77	27	36.38	6.06	12.96	1.947	112.93
63.12	77.77	28	37.68	6.28	12.96	1.947	112.92
63.12	77.77	29	38.98	6.50	12.96	1.947	112.91
68.40	84.28	30	40.38	6.73	14.05	1.943	112.72
59.54	73.35	31	41.60	6.93	12.23	1.949	113.02
59.54	73.35	32	42.83	7.14	12.23	1.949	113.02
59.54	73.35	33	44.05	7.34	12.23	1.948	113.01
59.54	73.35	34	45.27	7.55	12.23	1.948	113.00
59.54	73.35	35	46.49	7.75	12.23	1.948	112.99
59.54	73.35	36	47.72	7.95	12.23	1.948	112.99
59.54	73.35	37	48.94	8.16	12.23	1.948	112.98
59.54	73.35	38	50.16	8.36	12.23	1.948	112.97
59.54	73.35	39	51.38	8.56	12.23	1.948	112.96
59.54	73.35	40	52.61	8.77	12.23	1.948	112.96
59.54	73.35	41	53.83	8.97	12.23	1.947	112.95

'*' Denotes Extrapolated Data. Please Verify the Battery Characteristics Library.

Voltage Profile

Generation Date: 03/22/2016 10:26 am

Battery: D2

Load (amperes)	Corrected Load (amps)	Time (min.)	AMP-HRS Removed	AMP-HR/ Pos Plt	AMPS/ Pos Plt	Cell Voltage (Volts)	Terminal Voltage (Volts)
59.54	73.35	42	55.05	9.18	12.23	1.947	112.94
59.54	73.35	43	56.27	9.38	12.23	1.947	112.93
59.54	73.35	44	57.50	9.58	12.23	1.947	112.92
59.54	73.35	45	58.72	9.79	12.23	1.947	112.92
59.54	73.35	46	59.94	9.99	12.23	1.947	112.91
59.54	73.35	47	61.16	10.19	12.23	1.947	112.90
59.54	73.35	48	62.39	10.40	12.23	1.946	112.89
59.54	73.35	49	63.61	10.60	12.23	1.946	112.88
59.54	73.35	50	64.83	10.81	12.23	1.946	112.88
59.54	73.35	51	66.05	11.01	12.23	* 1.946	112.87
59.54	73.35	52	67.28	11.21	12.23	* 1.946	112.86
59.54	73.35	53	68.50	11.42	12.23	* 1.946	112.85
59.54	73.35	54	69.72	11.62	12.23	* 1.946	112.84
59.54	73.35	55	70.94	11.82	12.23	* 1.945	112.84
59.54	73.35	56	72.17	12.03	12.23	* 1.945	112.83
59.54	73.35	57	73.39	12.23	12.23	* 1.945	112.82
59.54	73.35	58	74.61	12.44	12.23	1.945	112.81
59.54	73.35	59	75.83	12.64	12.23	1.945	112.80
59.53	73.35	60	77.06	12.84	12.23	1.945	112.79
59.47	73.27	61	78.28	13.05	12.21	1.945	112.79
59.47	73.27	62	79.50	13.25	12.21	1.944	112.78
59.47	73.27	63	80.72	13.45	12.21	1.944	112.77
59.47	73.27	64	81.94	13.66	12.21	1.944	112.76
59.47	73.27	65	83.16	13.86	12.21	1.944	112.75
59.47	73.27	66	84.38	14.06	12.21	1.944	112.74
59.47	73.27	67	85.61	14.27	12.21	1.944	112.73
59.47	73.27	68	86.83	14.47	12.21	1.944	112.72
59.47	73.27	69	88.05	14.67	12.21	1.943	112.71
59.47	73.27	70	89.27	14.88	12.21	1.943	112.71
59.47	73.27	71	90.49	15.08	12.21	1.943	112.70
59.47	73.27	72	91.71	15.29	12.21	1.943	112.69
59.47	73.27	73	92.93	15.49	12.21	1.943	112.68
59.47	73.27	74	94.15	15.69	12.21	1.943	112.67
59.47	73.27	75	95.38	15.90	12.21	1.942	112.66
59.47	73.27	76	96.60	16.10	12.21	1.942	112.65
59.47	73.27	77	97.82	16.30	12.21	1.942	112.64
59.47	73.27	78	99.04	16.51	12.21	1.942	112.63
59.47	73.27	79	100.26	16.71	12.21	1.942	112.62
59.47	73.27	80	101.48	16.91	12.21	1.942	112.61
59.47	73.27	81	102.70	17.12	12.21	1.941	112.60
59.47	73.27	82	103.92	17.32	12.21	1.941	112.59

'*' Denotes Extrapolated Data. Please Verify the Battery Characteristics Library.

Voltage Profile

Generation Date: 03/22/2016 10:26 am

Battery: D2

Load (amperes)	Corrected Load (amps)	Time (min.)	AMP-HRS Removed	AMP-HR/ Pos Plt	AMPS/ Pos Plt	Cell Voltage (Volts)	Terminal Voltage (Volts)
59.47	73.27	83	105.15	17.52	12.21	1.941	112.58
59.47	73.27	84	106.37	17.73	12.21	1.941	112.57
59.47	73.27	85	107.59	17.93	12.21	1.941	112.56
59.47	73.27	86	108.81	18.13	12.21	1.941	112.55
59.47	73.27	87	110.03	18.34	12.21	1.940	112.54
59.47	73.27	88	111.25	18.54	12.21	1.940	112.53
59.47	73.27	89	112.47	18.75	12.21	1.940	112.52
59.47	73.27	90	113.69	18.95	12.21	1.940	112.51
58.98	72.67	91	114.91	19.15	12.11	1.940	112.52
58.98	72.67	92	116.12	19.35	12.11	1.940	112.51
58.98	72.67	93	117.33	19.55	12.11	1.940	112.50
58.98	72.67	94	118.54	19.76	12.11	1.939	112.49
58.98	72.67	95	119.75	19.96	12.11	1.939	112.48
58.98	72.67	96	120.96	20.16	12.11	1.939	112.47
58.98	72.67	97	122.17	20.36	12.11	1.939	112.46
58.98	72.67	98	123.38	20.56	12.11	1.939	112.45
58.98	72.67	99	124.60	20.77	12.11	1.939	112.44
58.98	72.67	100	125.81	20.97	12.11	1.938	112.43
58.98	72.67	101	127.02	21.17	12.11	1.938	112.41
58.98	72.67	102	128.23	21.37	12.11	1.938	112.40
58.98	72.67	103	129.44	21.57	12.11	1.938	112.39
58.98	72.67	104	130.65	21.78	12.11	1.938	112.38
58.98	72.67	105	131.86	21.98	12.11	1.937	112.37
58.98	72.67	106	133.07	22.18	12.11	* 1.937	112.36
58.98	72.67	107	134.28	22.38	12.11	* 1.937	112.35
58.98	72.67	108	135.50	22.58	12.11	* 1.937	112.34
58.98	72.67	109	136.71	22.78	12.11	* 1.937	112.33
58.98	72.67	110	137.92	22.99	12.11	* 1.936	112.32
58.98	72.67	111	139.13	23.19	12.11	* 1.936	112.30
58.98	72.67	112	140.34	23.39	12.11	* 1.936	112.29
58.98	72.67	113	141.55	23.59	12.11	* 1.936	112.28
58.98	72.67	114	142.76	23.79	12.11	1.936	112.27
58.98	72.67	115	143.97	24.00	12.11	1.935	112.26
58.98	72.67	116	145.19	24.20	12.11	1.935	112.25
58.98	72.67	117	146.40	24.40	12.11	1.935	112.23
58.98	72.67	118	147.61	24.60	12.11	1.935	112.22
58.98	72.67	119	148.82	24.80	12.11	1.935	112.21
124.31	153.17	120	151.37	25.23	25.53	1.885	109.31
58.21	71.72	121	152.57	25.43	11.95	1.935	112.21
58.21	71.72	122	153.76	25.63	11.95	1.934	112.20
58.21	71.72	123	154.96	25.83	11.95	1.934	112.19

'*' Denotes Extrapolated Data. Please Verify the Battery Characteristics Library.

Voltage Profile

Generation Date: 03/22/2016 10:26 am

Battery: D2

Load (amperes)	Corrected Load (amps)	Time (min.)	AMP-HRS Removed	AMP-HR/ Pos Plt	AMPS/ Pos Plt	Cell Voltage (Volts)	Terminal Voltage (Volts)
58.21	71.72	124	156.15	26.03	11.95	1.934	112.17
58.21	71.72	125	157.35	26.22	11.95	1.934	112.16
58.21	71.72	126	158.54	26.42	11.95	1.934	112.15
58.21	71.72	127	159.74	26.62	11.95	1.933	112.14
58.21	71.72	128	160.93	26.82	11.95	1.933	112.12
58.21	71.72	129	162.13	27.02	11.95	1.933	112.11
58.21	71.72	130	163.33	27.22	11.95	1.933	112.10
58.21	71.72	131	164.52	27.42	11.95	1.933	112.09
58.21	71.72	132	165.72	27.62	11.95	1.932	112.07
58.21	71.72	133	166.91	27.82	11.95	1.932	112.06
58.21	71.72	134	168.11	28.02	11.95	1.932	112.05
58.21	71.72	135	169.30	28.22	11.95	1.932	112.03
58.21	71.72	136	170.50	28.42	11.95	1.931	112.02
58.21	71.72	137	171.69	28.62	11.95	1.931	112.01
58.21	71.72	138	172.89	28.81	11.95	1.931	112.00
58.21	71.72	139	174.08	29.01	11.95	1.931	111.98
58.21	71.72	140	175.28	29.21	11.95	1.931	111.97
58.21	71.72	141	176.47	29.41	11.95	1.930	111.96
58.21	71.72	142	177.67	29.61	11.95	1.930	111.94
58.21	71.72	143	178.86	29.81	11.95	1.930	111.93
58.21	71.72	144	180.06	30.01	11.95	1.930	111.92
58.21	71.72	145	181.26	30.21	11.95	1.929	111.90
58.21	71.72	146	182.45	30.41	11.95	1.929	111.89
58.21	71.72	147	183.65	30.61	11.95	1.929	111.87
58.21	71.72	148	184.84	30.81	11.95	1.929	111.86
58.21	71.72	149	186.04	31.01	11.95	1.928	111.85
58.21	71.72	150	187.23	31.21	11.95	1.928	111.83
63.38	78.09	151	188.53	31.42	13.02	1.923	111.55
107.20	132.08	152	190.73	31.79	22.01	* 1.885	109.33
58.14	71.64	153	191.93	31.99	11.94	1.927	111.78
58.14	71.64	154	193.12	32.19	11.94	1.927	111.76
58.14	71.64	155	194.32	32.39	11.94	1.927	111.75
58.14	71.64	156	195.51	32.59	11.94	1.926	111.74
58.14	71.64	157	196.70	32.78	11.94	1.926	111.72
58.14	71.64	158	197.90	32.98	11.94	1.926	111.71
58.14	71.64	159	199.09	33.18	11.94	1.926	111.69
58.14	71.64	160	200.29	33.38	11.94	1.925	111.68
58.14	71.64	161	201.48	33.58	11.94	1.925	111.66
58.14	71.64	162	202.67	33.78	11.94	1.925	111.65
58.14	71.64	163	203.87	33.98	11.94	1.925	111.63
58.14	71.64	164	205.06	34.18	11.94	1.924	111.62

'*' Denotes Extrapolated Data. Please Verify the Battery Characteristics Library.

Voltage Profile

Generation Date: 03/22/2016 10:26 am

Battery: D2

Load (amperes)	Corrected Load (amps)	Time (min.)	AMP-HRS Removed	AMP-HR/ Pos Plt	AMPS/ Pos Plt	Cell Voltage (Volts)	Terminal Voltage (Volts)
58.14	71.64	165	206.26	34.38	11.94	1.924	111.60
58.14	71.64	166	207.45	34.58	11.94	1.924	111.58
58.14	71.64	167	208.64	34.77	11.94	1.924	111.57
58.14	71.64	168	209.84	34.97	11.94	1.923	111.55
58.14	71.64	169	211.03	35.17	11.94	1.923	111.54
58.14	71.64	170	212.23	35.37	11.94	1.923	111.52
58.14	71.64	171	213.42	35.57	11.94	1.922	111.50
58.14	71.64	172	214.61	35.77	11.94	1.922	111.49
58.14	71.64	173	215.81	35.97	11.94	1.922	111.47
58.14	71.64	174	217.00	36.17	11.94	1.922	111.45
58.14	71.64	175	218.20	36.37	11.94	1.921	111.44
58.14	71.64	176	219.39	36.57	11.94	1.921	111.42
58.14	71.64	177	220.58	36.76	11.94	1.921	111.40
58.14	71.64	178	221.78	36.96	11.94	1.920	111.39
58.14	71.64	179	222.97	37.16	11.94	1.920	111.37
58.14	71.64	180	224.17	37.36	11.94	1.920	111.35
58.10	71.58	181	225.36	37.56	11.93	1.920	111.34
58.10	71.58	182	226.55	37.76	11.93	1.919	111.32
58.10	71.58	183	227.75	37.96	11.93	1.919	111.30
58.10	71.58	184	228.94	38.16	11.93	1.919	111.28
58.10	71.58	185	230.13	38.36	11.93	1.918	111.26
58.10	71.58	186	231.32	38.55	11.93	1.918	111.25
58.10	71.58	187	232.52	38.75	11.93	1.918	111.23
58.10	71.58	188	233.71	38.95	11.93	1.917	111.21
58.10	71.58	189	234.90	39.15	11.93	1.917	111.19
58.10	71.58	190	236.10	39.35	11.93	1.917	111.17
58.10	71.58	191	237.29	39.55	11.93	1.916	111.15
58.10	71.58	192	238.48	39.75	11.93	1.916	111.13
58.10	71.58	193	239.68	39.95	11.93	1.916	111.11
58.10	71.58	194	240.87	40.14	11.93	1.915	111.10
58.10	71.58	195	242.06	40.34	11.93	1.915	111.08
58.10	71.58	196	243.25	40.54	11.93	1.915	111.06
58.10	71.58	197	244.45	40.74	11.93	1.914	111.04
58.10	71.58	198	245.64	40.94	11.93	1.914	111.02
58.10	71.58	199	246.83	41.14	11.93	1.914	111.00
58.10	71.58	200	248.03	41.34	11.93	1.913	110.98
58.10	71.58	201	249.22	41.54	11.93	1.913	110.96
58.10	71.58	202	250.41	41.74	11.93	1.913	110.94
58.10	71.58	203	251.61	41.93	11.93	1.912	110.92
58.10	71.58	204	252.80	42.13	11.93	1.912	110.90
58.10	71.58	205	253.99	42.33	11.93	1.912	110.88

'*' Denotes Extrapolated Data. Please Verify the Battery Characteristics Library.

Voltage Profile

Generation Date: 03/22/2016 10:26 am

Battery: D2

Load (amperes)	Corrected Load (amps)	Time (min.)	AMP-HRS Removed	AMP-HR/ Pos Plt	AMPS/ Pos Plt	Cell Voltage (Volts)	Terminal Voltage (Volts)
58.10	71.58	206	255.18	42.53	11.93	1.911	110.86
58.10	71.58	207	256.38	42.73	11.93	1.911	110.84
58.10	71.58	208	257.57	42.93	11.93	1.911	110.82
58.10	71.58	209	258.76	43.13	11.93	1.910	110.79
58.10	71.58	210	259.96	43.33	11.93	1.910	110.77
58.07	71.55	211	261.15	43.52	11.92	1.910	110.76
58.07	71.55	212	262.34	43.72	11.92	1.909	110.73
58.07	71.55	213	263.53	43.92	11.92	1.909	110.71
58.07	71.55	214	264.73	44.12	11.92	1.908	110.69
58.07	71.55	215	265.92	44.32	11.92	1.908	110.67
58.07	71.55	216	267.11	44.52	11.92	1.908	110.65
58.07	71.55	217	268.30	44.72	11.92	1.907	110.62
58.07	71.55	218	269.50	44.92	11.92	1.907	110.60
58.07	71.55	219	270.69	45.11	11.92	1.907	110.58
58.07	71.55	220	271.88	45.31	11.92	1.906	110.56
58.07	71.55	221	273.07	45.51	11.92	1.906	110.53
58.07	71.55	222	274.27	45.71	11.92	1.905	110.51
58.07	71.55	223	275.46	45.91	11.92	1.905	110.49
58.07	71.55	224	276.65	46.11	11.92	1.905	110.46
58.07	71.55	225	277.84	46.31	11.92	1.904	110.44
58.04	71.52	226	279.04	46.51	11.92	1.904	110.42
58.04	71.52	227	280.23	46.70	11.92	1.903	110.39
58.04	71.52	228	281.42	46.90	11.92	1.903	110.37
58.04	71.52	229	282.61	47.10	11.92	1.902	110.34
58.04	71.52	230	283.80	47.30	11.92	1.902	110.32
58.04	71.52	231	284.99	47.50	11.92	1.902	110.29
58.04	71.52	232	286.19	47.70	11.92	1.901	110.27
58.04	71.52	233	287.38	47.90	11.92	1.901	110.24
58.04	71.52	234	288.57	48.10	11.92	1.900	110.22
58.04	71.52	235	289.76	48.29	11.92	* 1.900	110.19
58.04	71.52	236	290.95	48.49	11.92	* 1.899	110.16
58.04	71.52	237	292.15	48.69	11.92	* 1.899	110.14
58.04	71.52	238	293.34	48.89	11.92	1.899	110.12
63.20	77.87	239	294.64	49.11	12.98	1.892	109.71
105.93	130.52	240	296.81	49.47	21.75	1.836	106.49

'*' Denotes Extrapolated Data. Please Verify the Battery Characteristics Library.