ATTACHMENT 6 OF SYSTEM OPERATING ORDER 7T-13

ILM 500 kV SYSTEM OPERATION
Supersedes SOO 7T-13 Attachment 6 dated 13 August 2019

Effective Date: 04 February 2020

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APPROVED BY: Bob Cielens
Operations Planning Manager, T&D System Operations

Denotes Revision ||
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## 1.1 Line Ratings

Refer to System Operating Order (SOO) 5T-10 for the source of the Amp rating. The MW rating is calculated from the corresponding Amp rating. The MW rating is used in the generation shedding tables in this Attachment 6.

### 1.1.1 Continuous Ratings

<table>
<thead>
<tr>
<th>500 kV Circuit</th>
<th>Variable Name Used in Generation Shedding Tables</th>
<th>Conductor Continuous Rating (Amp)</th>
<th>Corresponding Continuous MW Rating</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41</td>
<td>5L41_Norm_Rating</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Apr 1 – Oct 31 (Based on 10º C ambient)</td>
<td>Note 1</td>
</tr>
<tr>
<td>5L62</td>
<td>5L62_Norm_Rating</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Nov 1 – Mar 31 (Based on 10º C ambient)</td>
<td>Note 1</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>230 kV Circuit</th>
<th>Variable Name Used in Generation Shedding Tables</th>
<th>Conductor Continuous Rating (Amp)</th>
<th>Corresponding Continuous MW Rating</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41</td>
<td>5L41_Norm_Rating</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Apr 1 – Oct 31 (Based on 10º C ambient)</td>
<td>Note 1</td>
</tr>
<tr>
<td>5L62</td>
<td>5L62_Norm_Rating</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Nov 1 – Mar 31 (Based on 10º C ambient)</td>
<td>Note 1</td>
</tr>
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<table>
<thead>
<tr>
<th>200 kV Circuit</th>
<th>Variable Name Used in Generation Shedding Tables</th>
<th>Conductor Continuous Rating (Amp)</th>
<th>Corresponding Continuous MW Rating</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>5L41</td>
<td>5L41_Norm_Rating</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Apr 1 – Oct 31 (Based on 10º C ambient)</td>
<td>Note 1</td>
</tr>
<tr>
<td>5L62</td>
<td>5L62_Norm_Rating</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Nov 1 – Mar 31 (Based on 10º C ambient)</td>
<td>Note 1</td>
</tr>
</tbody>
</table>

### 1.1.2 Overload-Ratings

<table>
<thead>
<tr>
<th>500 kV Circuit</th>
<th>Variable Name Used in Generation Shedding Tables</th>
<th>Conductor Over-Rating (Amp)</th>
<th>Corresponding MW Over-Rating (MW = (1.732 \cdot \text{Rating in KA} \cdot 500,\text{V})^{0.99})</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41</td>
<td>5L41_Over_Rating</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Note 1</td>
</tr>
<tr>
<td>5L62</td>
<td>5L62_Over_Rating</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Note 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>230 kV Circuit</th>
<th>Variable Name Used in Generation Shedding Tables</th>
<th>Conductor Over-Rating (Amp)</th>
<th>Corresponding MW Over-Rating (MW = (1.732 \cdot \text{Rating in KA} \cdot 500,\text{V})^{0.99})</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41</td>
<td>5L41_Over_Rating</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Apr 1 – Oct 31 (Based on 30º C ambient)</td>
<td>Note 1</td>
</tr>
<tr>
<td>5L62</td>
<td>5L62_Over_Rating</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Nov 1 – Mar 31 (Based on 30º C ambient)</td>
<td>Note 1</td>
</tr>
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### Notes for 1.1.2 Overload-Ratings follow on next page
2.0 General Pre-outage Restrictions for Contingencies

None.

3.0 General Post-contingency Requirements

- Refer to Section 5.3.5 of SOO 7T-13 for GMS/PCN minimal units on line post contingency requirements.

5.40 contingency: If TSA alarms “VIOLATION_5L41_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L4 MDN below its continuous rating within 30 minutes:
  - Reduce SI generation or import from Alberta, or
  - Reduce GMS or PCN or other generation north of KLY

5.41 contingency: If TSA alarms “VIOLATION_5L42_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L42 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.42 contingency: If TSA alarms “VIOLATION_5L43_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L43 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.42 contingency: If TSA alarms “VIOLATION_5L44_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L44 MDN below its continuous rating within 30 minutes:
  - Reduce SI generation or import from Alberta, or
  - Reduce GMS or PCN or other generation north of KLY

5.43 contingency: If TSA alarms “VIOLATION_5L44_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L44 MDN below its continuous rating within 30 minutes:
  - Reduce SI generation or import from Alberta, or
  - Reduce GMS or PCN or other generation north of KLY

5.43 contingency: If TSA alarms “VIOLATION_5L42_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L42 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.43 contingency: If TSA alarms “VIOLATION_5L41_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L41 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.43 contingency: If TSA alarms “VIOLATION_5L41_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L41 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.43 contingency: If TSA alarms “VIOLATION_5L42_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L42 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.43 contingency: If TSA alarms “VIOLATION_5L43_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L43 KLY below its continuous rating within 30 minutes:
  - Reduce GMS or PCN or other generation north of KLY, or
  - Reduce SI generation or import from Alberta

5.43 contingency: If TSA alarms “VIOLATION_5L44_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L44 MDN below its continuous rating within 30 minutes:
  - Reduce SI generation or import from Alberta, or
  - Reduce GMS or PCN or other generation north of KLY

By Pass CHP SCX1 contingency:
- Reduce SI generation or import from Alberta

Note 1: Data is from Attachment 1 of SOO 7T-34
Note 2: Data is from Attachment 1 of SOO 7T-14
Note 3: 2L79 line DS MLE 2D22 rating: 1200 A
Note 4: 2L79 MW continuous ratings are calculated by: MW = 1.732 * Rating in KA * 235 kV * 0.97 pf
Note 5: Single Breaker Closed DS Rating: 800A - BRT 2D2CB1, BRT 2D1CB1
Note 6: IL32 line DS GIB 1D21 rating: 600 A
Note 7: IL32 MW continuous rating is calculated by: MW = 1.732 * Rating in KA * 136 kV * 0.97 pf
Note 8: IL32 MW Overload-Ratings are calculated by: MW = 1.732 * Rating in KA * 230 kV * 0.99 pf
Note 9: IL32 MW Overload-Rating is calculated by: MW = 1.732 * Rating in KA * 132 kV * 0.97 pf

Note 3: 2L79 line DS MLE 2D22 rating: 1200 A
Note 4: 2L79 MW continuous ratings are calculated by: MW = 1.732 * Rating in KA * 235 kV * 0.97 pf
Note 5: Single Breaker Closed DS Rating: 800A - BRT 2D2CB1, BRT 2D1CB1
Note 6: IL32 line DS GIB 1D21 rating: 600 A
Note 7: IL32 MW continuous rating is calculated by: MW = 1.732 * Rating in KA * 136 kV * 0.97 pf
Note 8: IL32 MW Overload-Ratings are calculated by: MW = 1.732 * Rating in KA * 230 kV * 0.99 pf
Note 9: IL32 MW Overload-Rating is calculated by: MW = 1.732 * Rating in KA * 132 kV * 0.97 pf
If TSA alarms “VIOLATION_5L44_NORM_RATING” post-contingency, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L44 MDN below its continuous rating within 30 minutes:
- Reduce SI generation or import from Alberta, or
- Reduce GMS or PCN or other generation north of KLY

4.0 Settings of 2L112 OL RAS and 2L293 OL RAS to Runback NLY PST

(Applicable to generation shedding tables in this Attachment 6)

<table>
<thead>
<tr>
<th>RAS Name</th>
<th>Variable Name Used in Generation Shedding Tables</th>
<th>RAS Setting (from Apr. 1st to Oct. 31st)</th>
<th>RAS Setting (from Nov. 1st to Mar. 31st)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2L112 OL RAS</td>
<td>2L112OLRAS_PickupMW</td>
<td>410 MW (1050A * 1.732 * 230kV * 0.98pf)</td>
<td>468 MW (1200A * 1.732 * 230kV * 0.98pf)</td>
</tr>
<tr>
<td></td>
<td>2L112OLRAS_ResetMW</td>
<td>351 MW (900A * 1.732 * 230kV * 0.98pf)</td>
<td>371 MW (950A * 1.732 * 230kV * 0.98pf)</td>
</tr>
<tr>
<td>2L293 OL RAS</td>
<td>2L293OLRAS_PickupMW</td>
<td>410 MW (1050A * 1.732 * 230kV * 0.98pf)</td>
<td>468 MW (1200A * 1.732 * 230kV * 0.98pf)</td>
</tr>
<tr>
<td></td>
<td>2L293OLRAS_ResetMW</td>
<td>351 MW (900A * 1.732 * 230kV * 0.98pf)</td>
<td>429 MW (1100A * 1.732 * 230kV * 0.98pf)</td>
</tr>
</tbody>
</table>

5.0 Removed
Table 1.1 - All NIC/KLY – LM (ILM) 500 kV Circuits and Series Capacitor Banks In-Service

Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
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<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: 3.2 * [0.5 * 5L40 CBN + 5L44 MDN - 5L44 Over_Rating]</td>
</tr>
<tr>
<td>5L41</td>
<td>A1 = 3.5 * [0.4 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating]; a1 = 3.1 * [0.51 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating]; GS1 = max(0, A1, a1); GS2 - No generation shedding</td>
</tr>
</tbody>
</table>
|             | GS1 = max(0, A1, a1); Y = 2L112 KLY + 0.066 * 5L41 KLY - 0.05 * GS1 + 2L90_Over_Rating; Z = 2L293 SEL + 0.027 * 5L41 KLY - 10.1 * GS1, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.027 * 5L41 KLY - 0.11 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:
|             | • Max(A1 + 3.6 * 0.2) * (Y - 2L112OLRAS_ResetMW), a1 + 3.1 * 0.6 * (Z - 2L293OLRAS_ResetMW), or
|             | • Max(3.5 * 0.5 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1 = max(0, A1, a1); GS2 - No generation shedding |

5L42

GS = max(0, 4.1 * (0.36 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating); a3 = 3.1 * (0.52 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating); GS3 = max(0, A3, a3); If 2L90 OOS, Y = 2L112 KLY + 0.033 * 5L41 KLY - 0.029 * 2L90 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.027 * 5L41 KLY + 0.029 * 2L90 KLY - 0.11 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:

5L45

No generation shedding required.

5L87

No generation shedding required.

By Pass CHIP 5C1X

No generation shedding required.

By Pass CRK 5C1X

No generation shedding required.

5L41 and 5L83

A1 = 3.5 * (0.35 * 5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_Rating; GS1 = max(0, A1); If 2L90 I/S and (2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC) - 0.05 * GS1) >= 2L90_Over_Rating, Y = 2L112 KLY + 0.036 * 5L41 KLY + 5L83 NIC - 0.111 * GS1, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.031 * (5L41 KLY + 5L83 NIC) - 0.103 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:

5L40

Y = 2L112 KLY + 0.036 * (5L41 KLY + 5L83 NIC) - 0.111 * GS1, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.031 * (5L41 KLY + 5L83 NIC) - 0.103 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:

5L41

If 2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC) - 0.05 * GS1) >= 2L90_Over_Rating, Y = 2L112 KLY + 0.036 * (5L41 KLY + 5L83 NIC) + 5L42_Over_Rating; GS2 = max(0, A2, a2); If 2L90 I/S and (2L90 KLY + 0.066 * 5L41 KLY - 0.05 * GS1) >= 2L90_Over_Rating, Y = 2L112 KLY + 0.033 * 5L41 KLY - 0.032 * 2L90 KLY - 0.11 * GS2, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.027 * 5L41 KLY + 0.029 * 2L90 KLY - 0.11 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:

5L42

If 2L90 OOS, Y = 2L112 KLY + 0.033 * 5L41 KLY - 0.032 * 2L90 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.027 * 5L41 KLY + 0.029 * 2L90 KLY - 0.11 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:

5L44

Y = 2L112 KLY + 0.036 * 5L41 KLY + 5L83 NIC - 0.111 * GS1, if 2L112 is in service, otherwise, Y = 0; Z = 2L293 SEL + 0.031 * (5L41 KLY + 5L83 NIC) - 0.103 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0; If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of:

5L45

No generation shedding required.

5L87

No generation shedding required.

By Pass CHIP 5C1X

No generation shedding required.

By Pass CRK 5C1X

No generation shedding required.
<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SCHEDDING REQUIREMENTS</th>
</tr>
</thead>
</table>
| 5L41        | A1 = 3.1 * (0.30 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating)  
a1 = 3.6 * (0.38 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)  
If 2L90 I/S and (2L90 KLY + 0.136 * 5L41 KLY - 0.046 * GS1) < 2L90_Over_Rating,  
Shed at GMS/PCN: GS1 = max (0, A1, a1)  
A2 = 3.1 * (0.1 * (0.142 * 5L41 KLY + 2L90 KLY) + 0.30 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating)  
a2 = 3.4 * (0.142 * 5L41 KLY + 2L90 KLY) + 0.38 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)  
If 2L90 I/S and (2L90 KLY + 0.136 * 5L41 KLY - 0.046 * GS1) >= 2L90_Over_Rating,  
Shed at GMS/PCN: GS2 = max (0, A2, a2)  
A3 = 3.2 * (0.31 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating)  
a3 = 3.4 * (0.44 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)  
If 2L90 OOS,  
Shed at GMS/PCN: GS3 = max (0, A3, a3) |
| 5L42        | Shed at GMS/PCN: 17.5 * (2L79 CBM + 0.145 * 5L42 KLY - 2L79_Over_Rating) |
| 5L45        | Shed at GMS/PCN: 13.04 * (2L79 CBM + 0.11 * 5L45 CKY - 2L79_Over_Rating) |
| 5L87        | GS = Max(0, 1.79 * (0.68 * 5L87 KLY + 5L42 KLY - 5L42 Over_Rating),  
8.33 * (0.14 * 5L87 KLY + 2L79 CBN – 2L79_Over_Rating))  
If 2L90 I/S AND 2L80 KLY = 0.06 * 5L87 KLY – 0.07 * GS < 2L90_Over_Rating  
Shed at GMS/PCN: GS  
If 2L90 I/S AND (2L90 KLY + 0.06 * 5L87 KLY – 0.07 * GS) >= 2L90_Over_Rating  
Shed at GMS/PCN: 1.69 * (0.70 * 5L87 KLY + 0.49 * 2L90 KLY + 5L42 KLY – 5L42_Over_Rating)  
If 2L90 OOS,  
Then  
Shed at GMS/PCN: Max(0, 1.69 * (0.7 * 5L87 KLY + 5L42 KLY – 5L42_Over_Rating),  
6.11 * (0.14 * 5L87 KLY + 2L79 CBN – 2L79_Over_Rating)) |

By Pass CHP 5CX1  
No generation shedding required.  
By Pass CRK 5CX1  
No generation shedding required.  

5L41 and 5L83  
A1 = 3.1 * (0.4 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42 Over_rating)  
GS1 = max (0, A1)  
If 2L90 I/S and (2L90 KLY + 0.102 * (5L41 KLY + 5L83 NIC) - 0.054 * GS1) < 2L90_Over_rating,  
Y = 2L112 KLY + 0.048 * (5L41 KLY + 5L83 NIC) - 0.126 * GS1, if 2L112 is in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.043 * (5L41 KLY + 5L83 NIC) - 0.115 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_ResetMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
A1 + 3.1 * 0.192 * (Y – 2L112OLRAS_ResetMW), or  
A1 + 3.1 * 0.233 * (Z – 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_ResetMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS1  
A2 = 3.1 * (0.4 * (5L41 KLY + 5L83 NIC) + 0.45 * (0.102 * (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L42 KLY - 5L42 Over_rating)  
GS2 = max (0, A2)  
If 2L90 I/S and (2L90 KLY + 0.102 * (5L41 KLY + 5L83 NIC) - 0.054 * GS1) >= 2L90_Over_rating,  
Y = 2L112 KLY + 0.048 * (5L41 KLY + 5L83 NIC) + 0.035 * (2L90 KLY + 0.102 * (5L41 KLY + 5L83 NIC)) - 0.126 * GS2, if 2L112 & 2L293 are in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.043 * (5L41 KLY + 5L83 NIC) + 0.031 * (2L90 KLY + 0.102 * (5L41 KLY + 5L83 NIC)) - 0.115 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_ResetMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
A2 + 3.1 * 0.192 * (Y – 2L112OLRAS_ResetMW), or  
A2 + 3.1 * 0.233 * (Z – 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_ResetMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS2  
A3 = 2.9 * (0.43 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42 Over_rating)  
GS3 = max (0, A3)  
If 2L90 OOS,  
Y = 2L112 KLY + 0.048 * (5L41 KLY + 5L83 NIC) - 0.13 * GS3, if 2L112 is in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.043 * (5L41 KLY + 5L83 NIC) - 0.11 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_ResetMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
A3 + 2.9 * 0.188 * (Y – 2L112OLRAS_ResetMW), or  
A3 + 2.9 * 0.229 * (Z – 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_ResetMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS3
### Table 1.3 – SL41 O.O.S.

#### Pre-outage Restrictions

None

#### Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L42</td>
<td>GS = max (0, 1.44 * (5L87 KLY + 0.86 * 5L42 KLY - 5L87_Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.093 * 5L42 KLY - 0.075 * GS &gt; 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.093 * 5L42 KLY - 0.075 * GS &gt; 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.32 * (0.96 * GS42 + 2L90 KLY + 5L87 KLY + 0.86 * 5L42 KLY -</td>
</tr>
<tr>
<td></td>
<td>5L87_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then shed at GMS/PCN:</td>
</tr>
<tr>
<td></td>
<td>GS = max (0, 2L90 KLY + 5L42 KLY + 5L87 KLY - 5L87_Over_Rating)</td>
</tr>
<tr>
<td>5L45</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L87</td>
<td>GS = max (0, 1.25 * 5L87 KLY + 5L44 MDN - 5L44_Over_Rating),</td>
</tr>
<tr>
<td></td>
<td>1.48 * (0.8 * 5L87 KLY + 5L42 KLY - 5L42_Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.09 * 5L87 KLY - 0.04 * GS) &lt; 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.09 * 5L87 KLY - 0.04 * GS) &gt;= 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: Max(0, 1.20 * (0.12 * 5L87 + 0.33 * 2L90 KLY + 5L44 MDN - 5L44</td>
</tr>
<tr>
<td></td>
<td>_Over_Rating)), 1.32 * (0.88 * 5L87 KLY + 0.78 * 2L90 KLY + 5L42 KLY - 5L42_Over</td>
</tr>
<tr>
<td></td>
<td>_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: Max(0, 1.3 * (0.88 * 5L87 KLY + 5L42 KLY - 5L42_Over_Rating),</td>
</tr>
<tr>
<td></td>
<td>2.12 * (0.15 * 5L87 KLY + 5L44 MDN - 5L44_Over_Rating))</td>
</tr>
<tr>
<td>By Pass CRK 5CX1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L83</td>
<td>(use the signal for loss of both 5L41 and 5L83 to shed GMS/PCN generation, if 5L42</td>
</tr>
<tr>
<td></td>
<td>is over-loaded)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.03 * (5L41 KLY + 5L83 NIC) - 0.057 * GS1) &gt; 2L90_Over</td>
</tr>
<tr>
<td></td>
<td>rating, Y = 2L112 NLY + 0.035 * (5L41 KLY + 5L83 NIC) - 0.123 * GS1, if 2L112 is in</td>
</tr>
<tr>
<td></td>
<td>service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.031 * (5L41 KLY + 5L83 NIC) - 0.111 * GS1, if 2L112 &amp; 2L293 are in</td>
</tr>
<tr>
<td></td>
<td>service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>• A1 + 3.1 * 0.19 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>• A1 + 3.1 * 0.235 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>A2 = 3.1 * (0.22 * (5L41 KLY + 5L83 NIC) + 0.44 * (0.03 * (5L41 KLY + 5L83 NIC) + 2L90</td>
</tr>
<tr>
<td></td>
<td>KLY) + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.03 * (5L41 KLY + 5L83 NIC) - 0.057 * GS1) &gt; 2L90_Over</td>
</tr>
<tr>
<td></td>
<td>rating, Y = 2L112 NLY + 0.035 * (5L41 KLY + 5L83 NIC) + 0.034 * (2L90 KLY + 0.03 *</td>
</tr>
<tr>
<td></td>
<td>(5L41 KLY + 5L83 NIC)) - 0.123 * GS2, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.031 * (5L41 KLY + 5L83 NIC) + 0.027 * (2L90 KLY + 0.03 * (5L41 KLY</td>
</tr>
<tr>
<td></td>
<td>+ 5L83 NIC)) - 0.111 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>• A2 + 3.1 * 0.19 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>• A2 + 3.1 * 0.235 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>A3 = 2.9 * (0.23 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS3 = max (0, A3)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, Y = 2L112 NLY + 0.037 * (5L41 KLY + 5L83 NIC) + 0.13 * GS3, if 2L112 is</td>
</tr>
<tr>
<td></td>
<td>in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.032 * (5L41 KLY + 5L83 NIC) + 0.111 * GS3, if 2L112 &amp; 2L293 are</td>
</tr>
<tr>
<td></td>
<td>in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greatest of</td>
</tr>
<tr>
<td></td>
<td>• A3 + 2.9 * 0.188 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>• A3 + 2.9 * 0.232 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
</tr>
</tbody>
</table>
## Pre-outage Restrictions

- **5L41 and 5L83 contingency:**
  - If 2L90 I/S and (2L90 KLY + 0.08 * (5L41 KLY + 5L83 NIC) - 0.09 * (armed GMS/PCN gen shed amount for 5L41 & 5L83 contingency) - 0.05 * (armed MCA/REV gen shed amount for 5L41 & 5L83 contingency)) <= 2L90_Over_rating, limit: 2L1 PEM + 0.02 * (5L41 KLY + 5L83 NIC) - 0.019 * (armed GMS/PCN gen shed amount for 5L41 & 5L83 contingency) - 0.011 * (armed MCA/REV gen shed amount for 5L41 & 5L83 contingency) <= 2L1_Over_Rating MW
  - If TSA alarms "VIOLATION_5L41 PEM OVER_RATING_5L41AND5L83CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

- **5L41 contingency:**
  - If 2L90 I/S, limit: 2L1 PEM + 0.02 * 5L41 KLY <= 2L1_Over_Rating MW
  - If TSA alarms "VIOLATION_5L41 PEM OVER_RATING_5L41CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

- **5L40 contingency:**
  - If 2L90 I/S, limit: 2L1 PEM + 0.03 * 5L40 CBN <= 2L1_Over_Rating MW
  - If 2L90 OOS, limit: 2L1 PEM + 0.023 * 5L40 CBN <= 2L1_Over_Rating MW
  - If TSA alarms "VIOLATION_5L41 PEM OVER_RATING_5L40CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

## Generation Shedding Requirements

### Table 1.4 – 5L42 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SCHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: max (0, 11.4 * (0.31 * 5L40 CBN + 2L79 CBN - 2L79 Over_Rating))</td>
</tr>
<tr>
<td>5L41</td>
<td>GS = max(0, 1.42 * (0.86 * 5L41 KLY + 5L87 KLY - 5L87_Over_Rating))</td>
</tr>
<tr>
<td>5L45</td>
<td>Referred to SOO 77-41, Attachment 2 – table 2.3 Generation Shedding Requirements for the loss of North V1 - LM.</td>
</tr>
<tr>
<td>5L87</td>
<td>GS = max(0, 1.51 * (0.78 * 5L87 KLY + 5L41 KLY - 5L41_Over_Rating))</td>
</tr>
<tr>
<td>5L41 and 5L83</td>
<td>GS87_1 = max (max(0, 1.8 * (0.8 * (5L41 KLY + 5L83 NIC) + 5L87 KLY - 5L87_Over_Rating)), max(0, 0.34 * (5L41 KLY + 5L87 KLY - 5L87_Over_Rating) - 0.23 * GS87_1))</td>
</tr>
<tr>
<td></td>
<td>GS82_1 = max (max(0, 3.2 * (0.45 * (5L41 KLY + 5L83 NIC) + 5L82_Over_rating) - 0.23 * GS82_1))</td>
</tr>
<tr>
<td></td>
<td>GS82_3 + 3.1 * 0.67 * (Y - Y &lt;= 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>GS82_3 + 3.1 * 0.31 * (Z - Z &lt;= 2L293OLRAS_ResetMW), or</td>
</tr>
<tr>
<td>By Pass CHP 5CX1</td>
<td>No generation shedding required.</td>
</tr>
</tbody>
</table>

**Example Calculation for GS82_1**

- **5L87 KLY**

  - If 2L90 I/S and (2L90 KLY + 0.087 * (5L41 KLY + 5L83 NIC) - 0.087 * GS82_1 - 0.079 * GS82_1) <= 2L90_Over_rating, limit: 2L1 PEM + 0.02 * (5L87 KLY + 0.087 * (5L41 KLY + 5L83 NIC)) <= 2L1_Over_Rating MW

**Example Calculation for GS82_3**

- **5L87 KLY**

  - If 2L90 I/S and (2L90 KLY + 0.087 * (5L41 KLY + 5L83 NIC) - 0.087 * GS82_1 - 0.079 * GS82_1) <= 2L90_Over_rating, limit: 2L1 PEM + 0.02 * (5L87 KLY + 0.087 * (5L41 KLY + 5L83 NIC)) <= 2L1_Over_Rating MW

**Example Calculation for GS87_1**

- **5L87 KLY**

  - If 2L90 I/S and (2L90 KLY + 0.087 * (5L41 KLY + 5L83 NIC) - 0.087 * GS87_1 - 0.077 * GS87_1) <= 2L90_Over_rating, limit: 2L1 PEM + 0.02 * (5L87 KLY + 0.087 * (5L41 KLY + 5L83 NIC)) <= 2L1_Over_Rating MW

**Example Calculation for GS82_1**

- **5L87 KLY**

  - If 2L90 I/S and (2L90 KLY + 0.087 * (5L41 KLY + 5L83 NIC) - 0.087 * GS82_1 - 0.079 * GS82_1) <= 2L90_Over_rating, limit: 2L1 PEM + 0.02 * (5L87 KLY + 0.087 * (5L41 KLY + 5L83 NIC)) <= 2L1_Over_Rating MW

**Example Calculation for GS82_3**

- **5L87 KLY**

  - If 2L90 I/S and (2L90 KLY + 0.087 * (5L41 KLY + 5L83 NIC) - 0.087 * GS82_1 - 0.079 * GS82_1) <= 2L90_Over_rating, limit: 2L1 PEM + 0.02 * (5L87 KLY + 0.087 * (5L41 KLY + 5L83 NIC)) <= 2L1_Over_Rating MW
Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: 14.1 ° (0.3 ° 5L40 CBN + 2L79 CBN - 2L79 Over_Rating)</td>
</tr>
<tr>
<td>5L41</td>
<td>GS1 = max(0, 4.8 ° (0.41 ° 5L41 KLY + 5L44 MDN - 5L44 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.084 ° 5L41 KLY - 0.061 ° GS1) &lt; 2L90 Over_Rating, Shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.084 ° 5L41 KLY - 0.061 ° GS1) &gt; 2L90 Over_Rating, Shed at GMS/PCN: 5.9 ° (0.191 ° (0.084 ° 5L41 KLY + 2L90 KLY) + 0.41 ° 5L41 KLY + 5L44 MDN - 5L44 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, Shed at GMS/PCN: 5 ° (0.41 ° 5L41 KLY + 5L44 MDN - 5L44 Over_Rating)</td>
</tr>
<tr>
<td>5L42</td>
<td>Referred to SOO 7T-41, Attachment 2 – table 2.3 Generation Shedding Requirements for the loss of North VI - LM.</td>
</tr>
<tr>
<td>5L87</td>
<td>If 2L90 I/S AND (2L90 KLY + 0.08 * 5L87 KLY) &gt;= 2L90_Over_Rating, then Shed at GMS/PCN: 1.73 ° (0.66 ° 5L87 KLY + 0.79 ° 2L90 KLY + 5L41 KLY - 5L41_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then Shed at GMS/PCN: 1.45 ° (0.75 ° 5L87 KLY + 5L41 KLY - 5L41_Over_Rating)</td>
</tr>
<tr>
<td>By Pass CHP 5CX1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>By Pass CRK 5CX1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L41 and 5L83</td>
<td>A1 = 4.1 ° (0.4 ° (5L41 KLY + 5L83 NIC) + 5L82 NIC - 5L82_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.072 ° (5L41 KLY + 5L83 NIC) - 0.043 ° GS1) &lt; 2L90 Over_rating, Y = 2L112 NLY + 0.047 ° (5L41 KLY + 5L83 NIC) - 0.14 ° GS1, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.041 ° (5L41 KLY + 5L83 NIC) - 0.133 ° GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt;= 2L112OLRAS_PickupMW or Z &gt;= 2L293OLRAS_PickupMW, shed at MCA/REV the greater of a1 + 4.1 * 0.328 ° (Y - 2L112OLRAS_ResetMW), or a1 + 4.1 * 0.4 ° (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_ResetMW and Z &lt;= 2L293OLRAS_ResetMW, shed at MCA/REV: GS1</td>
</tr>
<tr>
<td>5L42</td>
<td>A2 = 4.1 ° (0.4 ° (5L41 KLY + 5L83 NIC) + 0.53 ° (0.072 ° (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L82 NIC - 5L82_Over_rating)</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.072 ° (5L41 KLY + 5L83 NIC) - 0.043 ° GS1) &gt;= 2L90 Over_rating, Y = 2L112 NLY + 0.047 ° (5L41 KLY + 5L83 NIC) - 0.14 ° GS2, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.041 ° (5L41 KLY + 5L83 NIC) - 0.133 ° GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt;= 2L112OLRAS_PickupMW or Z &gt;= 2L293OLRAS_PickupMW, shed at MCA/REV the greater of a2 + 4.1 * 0.328 ° (Y - 2L112OLRAS_ResetMW), or a2 + 4.1 * 0.4 ° (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_ResetMW and Z &lt;= 2L293OLRAS_ResetMW, shed at MCA/REV: GS2</td>
</tr>
<tr>
<td>5L42</td>
<td>A3 = 4.15 ° (0.41 ° (5L41 KLY + 5L83 NIC) + 5L82 NIC - 5L82_Over_rating)</td>
</tr>
<tr>
<td></td>
<td>GS3 = max (0, A3)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, Y = 2L112 NLY + 0.052 ° (5L41 KLY + 5L83 NIC) - 0.154 ° GS3, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.046 ° (5L41 KLY + 5L83 NIC) - 0.145 ° GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt;= 2L112OLRAS_PickupMW or Z &gt;= 2L293OLRAS_PickupMW, shed at MCA/REV the greatest of a3 + 4.15 * 0.32 ° (Y - 2L112OLRAS_ResetMW), or a3 + 4.15 * 0.39 ° (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at MCA/REV: GS3</td>
</tr>
</tbody>
</table>
### Table 1.6 – 5L44 O.O.S.

#### Pre-outage Restrictions

None

#### Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
</table>
| 5L40        | \[
A1 = 11.3 \times (0.30 \times 5L40 \text{ CBN} + 2L79 \text{ CBN} - 2L79_{\text{Over \_ Rating}}) \\
GS1 = \max (0, A1) \\
\text{If 2L90 I/S,} \\
Y = 2L112 \text{ NLY} + 0.035 \times 5L40 \text{ CBN} - 0.094 \times GS1, \text{if 2L112 is in service, otherwise, } Y = 0 \\
Z = 2L293 \text{ SEL} + 0.031 \times 5L40 \text{ CBN} - 0.09 \times GS1, \text{if 2L112 & 2L293 are in service, otherwise, } Z = 0 \\
\text{If } Y > 2L112_{\text{OLRAS \_ PickupMW}} \text{ or } Z > 2L293_{\text{OLRAS \_ PickupMW}}, \text{shed at GMS/PCN the greater of} \\
\quad \bullet A1 + 11.3 \times 0.075 \times (Y - 2L112_{\text{OLRAS \_ ResetMW}}), \text{or} \\
\quad \bullet A1 + 11.3 \times 0.088 \times (Z - 2L293_{\text{OLRAS \_ ResetMW}}), \\
\text{If } Y <= 2L112_{\text{OLRAS \_ PickupMW}} \text{ and } Z <= 2L293_{\text{OLRAS \_ PickupMW}}, \text{shed at GMS/PCN: GS1} \\
\] |
| 5L41        | No generation shedding required. |
| 5L42        | No generation shedding required. |
| 5L45        | No generation shedding required. |
| 5L87        | No generation shedding required. |
| By Pass CHP SCX1 | No generation shedding required. |
| By Pass CRK SCX1 | No generation shedding required. |
| 5L41 and 5L83 | No generation shedding required. |
For 5L41

- Reduce SI generation

Restrictions

\[
A_4 = 2.4 \times (0.66 \times 5L41_{KLY} + 5L44_{MDN})
\]

\[
A_1 = 3.2
\]

\[
A_3 = 3.51 \times (0.31 \times (0.010 \times 5L40_{CBN} + 2L90_{KLY}) + 0.31 \times 5L40_{CBN} + 5L42_{KLY})
\]

\[
A_1 = 3.7 \times (0.31 \times 5L40_{CBN} + 5L42_{KLY})
\]

If the required gen shedding amount is greater than 2500 MW, then dispatcher shall

\[
Z = 2L293_{SE} + 0.034 \times 5L41_{KLY}
\]

\[
Y = 2L112_{NLY} + 0.039 \times 5L41_{KLY}
\]

\[
Z = 2L293_{SE} + 0.027 \times 5L40_{CBN} + 0.025 \times (2L90_{KLY} + 0.010 \times 5L40_{CBN})
\]

\[
Y = 2L112_{NLY} + 0.031 \times 5L40_{CBN} + 0.029 \times (2L90_{KLY} + 0.010 \times 5L40_{CBN})
\]

If \[Y \leq 2L112\text{OLRAS\_PickupMW}\] and \[Z \leq 2L293\text{OLRAS\_ResetMW}\], or other

\[
\text{Max} (A_3 + 3.1 \times 0.33 \times (0.43 \times 5L41_{KLY} + 5L42_{KLY})) \leq 2L79_{Over\_Rating}
\]

\[
\text{Max} (A_1 + 3.7 \times 0.2 \times (Z - 2L293\text{OLRAS\_ResetMW})) \leq 2L79_{Over\_Rating}
\]

\[
\text{Max} (A_2 + 2.35 \times 0.94 \times (Z - 2L293\text{OLRAS\_ResetMW})) \leq 2L79_{Over\_Rating}
\]

\[
\text{Max} (A_4 + 2.4 \times 0.94 \times (0.66 \times 5L41_{KLY} + 5L44_{MDN})) \leq 2L79_{Over\_Rating}
\]

\[
\text{Max} (A_5, A_6)
\]
By Pass CHP

5L42

A1 = 3.7 * (0.38 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)

GS1 = max (0, A1)

If 2L90 I/S and (2L90 KLY + 0.06 * 5L42 KLY - 0.051 * GS1) < 2L90_Over_Rating,
Y = 2L112 NLY + 0.026 * 5L42 KLY - 0.101 * GS1, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.023 * 5L42 KLY - 0.088 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L1120LRS_PickupMW or Z > 2L2930LRS_PickupMW, shed at GMS/PCN the greater of
- A1 + 3.7 * 0.24 * (Y - 2L1120LRS_ResetMW), or
- A1 + 3.7 * 0.28 * (Z - 2L2930LRS_ResetMW)

If Y <= 2L1120LRS_PickupMW and Z <= 2L2930LRS_PickupMW, shed at GMS/PCN: GS1

A2 = 3.5 * (0.44 * (0.06 * 5L42 KLY + 2L90 KLY) + 0.38 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)

GS2 = max (0, A2)

If 2L90 I/S and (2L90 KLY + 0.06 * 5L42 KLY - 0.051 * GS1) >= 2L90_Over_Rating,
Y = 2L112 NLY + 0.026 * 5L42 KLY + 0.04 * (2L90 KLY + 0.06 * 5L42 KLY) - 0.101 * GS2, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.023 * 5L42 KLY - 0.305 * (2L90 KLY + 0.06 * 5L42 KLY) - 0.101 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L2930LRS_PickupMW or Z > 2L2930LRS_PickupMW, shed at GMS/PCN the greater of
- A2 + 3.5 * 0.26 * (Y - 2L1120LRS_ResetMW), or
- A2 + 3.5 * 0.30 * (Z - 2L2930LRS_ResetMW)

If Y <= 2L1120LRS_PickupMW and Z <= 2L2930LRS_PickupMW, shed at GMS/PCN: GS2

A3 = 3.41 * (0.41 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)

GS3 = max (0, A3)

If 2L50 OOS,
Y = 2L112 NLY + 0.028 * 5L42 KLY - 0.101 * GS3, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.025 * 5L42 KLY - 0.101 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L2930LRS_PickupMW or Z > 2L2930LRS_PickupMW, shed at GMS/PCN the greater of
- A3 + 3.41 * 0.26 * (Y - 2L1120LRS_ResetMW), or
- A3 + 3.41 * 0.30 * (Z - 2L2930LRS_ResetMW)

If Y <= 2L1120LRS_PickupMW and Z <= 2L2930LRS_PickupMW, shed at GMS/PCN: GS3

5L45

No generation shedding required.

By Pass CHP 5CX1

A1 = 2.82 * (0.68 * 0.40 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating)

GS1 = max (0, A1)

If 2L90 I/S and (2L90 KLY + 0.071 * 0.40 * 5L41 KLY - 0.043 * GS1) < 2L90_Over_Rating,
Y = 2L112 NLY + 0.041 * 0.40 * 5L41 KLY - 0.101 * GS1, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.035 * 0.40 * 5L41 KLY - 0.096 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L2930LRS_PickupMW or Z > 2L2930LRS_PickupMW, shed at GMS/PCN the greater of
- A1 + 2.82 * 0.72 * (Y - 2L1120LRS_ResetMW), or
- A1 + 2.82 * 0.85 * (Z - 2L2930LRS_ResetMW)

If Y <= 2L1120LRS_PickupMW and Z <= 2L2930LRS_PickupMW, shed at GMS/PCN: GS1

A2 = 2.8 * (0.20 * 0.071 * 0.40 * 5L41 KLY + 2L90 KLY) + 0.68 * 0.40 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating)

GS2 = max (0, A2)

If 2L90 I/S and (2L90 KLY + 0.071 * 0.40 * 5L41 KLY - 0.043 * GS1) >= 2L90_Over_Rating,
Y = 2L112 NLY + 0.041 * 0.40 * 5L41 KLY + 0.034 * 2L90 KLY - 0.105 * GS2, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.036 * 0.40 * 5L41 KLY + 0.029 * 2L90 KLY - 0.105 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L2930LRS_PickupMW or Z > 2L2930LRS_PickupMW, shed at GMS/PCN the greater of
- A2 + 2.8 * 0.74 * (Y - 2L1120LRS_ResetMW), or
- A2 + 2.8 * 0.87 * (Z - 2L2930LRS_ResetMW)

If Y <= 2L1120LRS_PickupMW and Z <= 2L2930LRS_PickupMW, shed at GMS/PCN: GS2

A3 = 2.75 * (0.71 * 0.40 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating)

GS3 = max (0, A3)

If 2L50 OOS,
Y = 2L112 NLY + 0.044 * 0.40 * 5L41 KLY - 0.105 * GS3, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.038 * 0.40 * 5L41 KLY - 0.098 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L2930LRS_PickupMW or Z > 2L2930LRS_PickupMW, shed at GMS/PCN the greater of
- A3 + 2.75 * 0.73 * (Y - 2L1120LRS_ResetMW), or
- A3 + 2.75 * 0.87 * (Z - 2L2930LRS_ResetMW)

If Y <= 2L1120LRS_PickupMW and Z <= 2L2930LRS_PickupMW, shed at GMS/PCN: GS3
## Generation Shedding Requirements Continued from Last Page for Table 1.7 – SL81 O.O.S.

### Table 1.7 – SL81 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Pass CRK 5CX1</td>
<td>No generation shedding required.</td>
</tr>
</tbody>
</table>

### SL41 and SL83

**A1** = 2.81 * (0.4 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating) + 5L82_Over_rating

**A2** = 4.9 * (0.46 * (5L41 KLY + 5L83 NIC) + 5L82 NIC - 5L82_Over_rating)

**C1** = 2.5 * (0.23 * (5L41 KLY + 5L83 NIC) + 5L44 MDN - 5L44_Over_rating)

**GS1** = max (0, A1, B1, C1)

If 2L90 I'S and (2L90 KLY + 0.067 * (5L41 KLY + 5L83 NIC) - 0.064 * GS1) < 2L90_Over_rating,

- **Y** = 2L112 KLY + 0.054 * (5L41 KLY + 5L83 NIC) - 0.119 * GS1, if 2L112 is in service, otherwise, Y = 0
- **Z** = 2L293 SEL + 0.048 * (5L41 KLY + 5L83 NIC) - 0.113 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN first, then MCA/REV the greatest of:

- **A1** + 2.81 * 0.206 * (Y - 2L112OLRAS_ResetMW), or
- **A1** + 2.81 * 0.254 * (Z - 2L293OLRAS_ResetMW)
- **B1** + 4.9 * 0.406 * (Y - 2L112OLRAS_ResetMW), or
- **B1** + 4.9 * 0.5 * (Z - 2L293OLRAS_ResetMW)
- **C1** + 2.5 * 0.15 * (Y - 2L112OLRAS_ResetMW), or
- **C1** + 2.5 * 0.185 * (Z - 2L293OLRAS_ResetMW)

If Y = 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW,

- shed at GMS/PCN first, then MCA/REV, GS1

**A2** = 2.81 * (0.4 * (5L41 KLY + 5L83 NIC) + 0.49 * (0.067 * (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L42 KLY - 5L42_Over_rating)

**B2** = 4.9 * (0.46 * (5L41 KLY + 5L83 NIC) + 0.364 * (0.067 * (5L41 KLY + 5L83 NIC) + 2L90 KLY + 5L82 NIC - 5L82_Over_rating)

**C2** = 2.5 * (0.23 * (5L41 KLY + 5L83 NIC) + 0.367 * (0.067 * (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L44 MDN - 5L44_Over_rating)

**GS2** = max (0, A2, B2, C2)

If 2L90 I'S and (2L90 KLY + 0.067 * (5L41 KLY + 5L83 NIC) - 0.064 * GS1) >= 2L90_Over_rating,

- **Y** = 2L112 KLY + 0.054 * (5L41 KLY + 5L83 NIC) + 0.067 * (2L90 KLY + 0.067 * (5L41 KLY + 5L83 NIC)) - 0.119 * GS2, if 2L112 is in service, otherwise, Y = 0
- **Z** = 2L293 SEL + 0.048 * (5L41 KLY + 5L83 NIC) + 0.062 * (2L90 KLY + 0.067 * (5L41 KLY + 5L83 NIC)) - 0.113 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN first, then MCA/REV the greatest of:

- **A2** + 2.81 * 0.206 * (Y - 2L112OLRAS_ResetMW), or
- **A2** + 2.81 * 0.254 * (Z - 2L293OLRAS_ResetMW)
- **B2** + 4.9 * 0.406 * (Y - 2L112OLRAS_ResetMW), or
- **B2** + 4.9 * 0.5 * (Z - 2L293OLRAS_ResetMW)
- **C2** + 2.5 * 0.15 * (Y - 2L112OLRAS_ResetMW), or
- **C2** + 2.5 * 0.185 * (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW,

- shed at GMS/PCN first, then MCA/REV, GS2

**A3** = 2.58 * (0.45 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)

**B3** = 4.35 * (0.48 * (5L41 KLY + 5L83 NIC) + 5L82 NIC - 5L82_Over_rating)

**C3** = 2.37 * (0.25 * (5L41 KLY + 5L83 NIC) + 5L44 MDN - 5L44_Over_rating)

**GS3** = max (0, A3, B3, C3)
Pre-outage Restrictions

- None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>D = 16.71 * (0.28 * 5L40 CBN + 2L79 CBN - 2L79 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>A1 = 3.72 * (0.303 * 5L40 CBN + 5L42 KLY - 5L42 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1, D)</td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.009 * 5L40 CBN - 0.041 * GS1) &lt; 2L90 Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.029 * 5L40 CBN - 0.11 * GS1, if 2L112 is in service, otherwise, Y = 0</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.025 * 5L40 CBN - 0.105 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
<td></td>
</tr>
<tr>
<td>• D or</td>
<td></td>
</tr>
<tr>
<td>• A1 + 3.72 * 0.19 * (Y - 2L112OLRAS_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• A1 + 3.72 * 0.23 * (Z - 2L293OLRAS_ResetMW)</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1</td>
<td></td>
</tr>
<tr>
<td>A2 = 3.6 * (0.31 * (0.009 * 5L40 CBN + 2L90 KLY) + 0.303 * 5L40 CBN + 5L42 KLY - 5L42 Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS2 = max (0, A2, D)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.009 * 5L40 CBN - 0.041 * GS1) &gt;= 2L90 Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.029 * 5L40 CBN + 0.032 * 2L90 KLY - 0.11 * GS2, if 2L112 is in service, otherwise, Y = 0</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.025 * 5L40 CBN + 0.028 * 2L90 KLY - 0.107 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
<td></td>
</tr>
<tr>
<td>• D or</td>
<td></td>
</tr>
<tr>
<td>• A2 + 3.6 * 0.21 * (Y - 2L112OLRAS_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• A2 + 3.6 * 0.25 * (Z - 2L293OLRAS_ResetMW)</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2</td>
<td></td>
</tr>
<tr>
<td>A3 = 3.6 * (0.31 * 5L41 KLY + 5L42 KLY) - 5L42 (Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS3 = max (0, A3, D)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 OOS,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.029 * 5L40 CBN - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.025 * 5L40 CBN - 0.106 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
<td></td>
</tr>
<tr>
<td>• D or</td>
<td></td>
</tr>
<tr>
<td>• A3 + 3.6 * 0.21 * (Y - 2L112OLRAS_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• A3 + 3.6 * 0.24 * (Z - 2L293OLRAS_ResetMW)</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
<td></td>
</tr>
<tr>
<td>5L41</td>
<td>A1 = 3.5 * (0.42 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>a1 = 7.5 * (0.25 * 5L41 KLY = 5L81 NIC - 5L81 (Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1, a1)</td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.007 * 5L41 KLY - 0.05 * GS1) &lt; 2L90 Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.039 * 5L41 KLY - 0.11 * GS1, if 2L112 is in service, otherwise, Y = 0</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.034 * 5L41 KLY - 0.105 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
<td></td>
</tr>
<tr>
<td>• Max (A1 + 3.5 * 0.23 * (Y - 2L112OLRAS_ResetMW), a1 + 7.5 * 0.38 * (Y - 2L112OLRAS_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• Max (A1 + 3.5 * 0.27 * (Z - 2L293OLRAS_ResetMW), a1 + 7.5 * 0.45 * (Z - 2L293OLRAS_ResetMW))</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1</td>
<td></td>
</tr>
<tr>
<td>A2 = 3.22 * (0.45 * (0.071 * 5L41 KLY + 2L90 KLY) + 0.42 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>a2 = 6.92 * (0.24 * (0.071 * 5L41 KLY + 2L90 KLY) + 0.25 * 5L41 KLY + 5L81 NIC - 5L81 Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS2 = max (0, A2, a2)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.007 * 5L41 KLY - 0.05 * GS1) &gt;= 2L90 Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.039 * 5L41 KLY + 0.047 * 2L90 KLY - 0.115 * GS2, if 2L112 is in service, otherwise, Y = 0</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.034 * 5L41 KLY + 0.041 * 2L90 KLY - 0.109 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
<td></td>
</tr>
<tr>
<td>• Max (A2 + 3.22 + 0.27 (Y - 2L112OLRAS_ResetMW), a2 + 6.92 + 0.41 (Y - 2L112OLRAS_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• Max (A2 + 3.22 + 0.31 * (Z - 2L293OLRAS_ResetMW), a2 + 6.92 + 0.49 * (Z - 2L293OLRAS_ResetMW))</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2</td>
<td></td>
</tr>
<tr>
<td>A3 = 3.21 * (0.45 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>a3 = 6.85 * (0.27 * 5L41 KLY + 5L81 NIC - 5L81 Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS3 = max (0, A3, a3)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 OOS,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.042 * 5L41 KLY - 0.115 * GS3, if 2L112 is in service, otherwise, Y = 0</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.036 * 5L41 KLY - 0.105 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
<td></td>
</tr>
<tr>
<td>• Max (A3 + 3.21 + 0.26 * (Y - 2L112OLRAS_ResetMW), a3 + 6.85 + 0.40 * (Y - 2L112OLRAS_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• Max (A3 + 3.21 + 0.29 * (Z - 2L293OLRAS_ResetMW), a3 + 6.85 + 0.46 * (Z - 2L293OLRAS_ResetMW))</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
<td></td>
</tr>
</tbody>
</table>

Generation Shedding Requirements Continued on Next Page for Table 1.8 – 5L82 O.O.S.

Attachment 6 of SOO 7T-13
Effective Date: 04 February 2020
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### Generation Shedding Requirements Continued from Last Page for Table 1.8 – 5L82 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L42</td>
<td>A1 = 4.0 * (0.39 * 5L42 KLY + 5L41 KLY + 5L41 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>a1 = 8.5 * (0.19 * 5L42 KLY + 5L81 NIC - 5L81 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1, a1)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.065 * 5L42 KLY - 0.057 * GS1) &lt; 2L90 Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.034 * 5L42 KLY - 0.12 * GS1, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.030 * 5L42 KLY - 0.11 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>• Max (A1 + 4.0 * 0.21 * (Y - 2L112OLRAS_ResetMW), a1 + 8.5 * 0.36 * (Y - 2L112OLRAS_ResetMW)), or</td>
</tr>
<tr>
<td></td>
<td>• Max (A1 + 4.0 * 0.26 * (Z - 2L293OLRAS_ResetMW), a1 + 8.5 * 0.43 * (Z - 2L293OLRAS_ResetMW))</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>A2 = 3.91 * (0.42 * (0.065 * 5L42 KLY + 2L90 KLY) + 0.39 * 5L42 KLY + 5L41 KLY - 5L41 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>a2 = 7.8 * (0.21 * (0.065 * 5L42 KLY + 2L90 KLY) + 0.20 * 5L41 KLY + 5L81 NIC - 5L81 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A2, a2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.065 * 5L42 KLY - 0.057 * GS1) &lt;= 2L90 Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.035 * 5L42 KLY + 0.039 * 2L90 KLY - 0.12 * GS2, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.031 * 5L42 KLY + 0.033 * 2L90 KLY - 0.114 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>A3 = 3.8 * (0.41 * 5L42 KLY + 5L41 KLY - 5L41 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>a3 = 7.6 * (0.21 * 5L42 KLY + 5L81 NIC - 5L81 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS3 = max (0, A3, a3)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.038 * 5L42 KLY - 0.127 * GS3, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.034 * 5L42 KLY - 0.119 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 2L112OLRAS_PickupMW or Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>• Max (A3 + 3.8 * 0.24 * (Y - 2L112OLRAS_ResetMW), a3 + 7.6 * 0.39 * (Y - 2L112OLRAS_ResetMW)), or</td>
</tr>
<tr>
<td></td>
<td>• Max (A3 + 3.8 * 0.29 * (Z - 2L293OLRAS_ResetMW), a3 + 7.6 * 0.46 * (Z - 2L293OLRAS_ResetMW))</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
</tr>
</tbody>
</table>

5L45 No generation shedding required.

5L87 No generation shedding required.

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Generation Shedding Requirements Continued on Next Page for Table 1.8 – 5L82 O.O.S.
## Table 1.8 – SL82 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>By Pass CHP 5CX1</strong></td>
<td></td>
</tr>
<tr>
<td>A1 = 4.05 * (0.42 * 0.41 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
<td>GS1 = max (0, A1)</td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY &lt; 0.069 * 0.41 * 5L41 KLY - 0.042 * GS1) &lt; 2L90_Over_Rating, if GMS, if 2L112 is in service, otherwise, Y = 0, Z = 2L293 SEL + 0.034 * 0.41 * 5L41 KLY - 0.10 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y = 2L112OLS_Ras_PickupMW or Z = 2L293OLS_Ras_PickupMW, shed at GMS/PCN the greater of</td>
<td>• A1 = 4.05 * 0.15 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• A1 = 4.05 * 0.18 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>If Y &lt;= 2L112OLS_PickupMW and Z &lt;= 2L293OLS_PickupMW, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td>A2 = 3.82 * (0.36 * (0.069 * 0.41 * 5L41 KLY + 2L90 KLY) + 0.42 * 0.41 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
<td>GS2 = max (0, A2)</td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY &lt; 0.069 * 0.41 * 5L41 KLY - 0.042 * GS1) &lt;= 2L90_Over_Rating, if GMS, if 2L112 is in service, otherwise, Y = 0, Z = 2L293 SEL + 0.034 * 0.41 * 5L41 KLY + 0.032 * 2L90 KLY - 0.10 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y = 2L112OLS_PickupMW or Z = 2L293OLS_PickupMW, shed at GMS/PCN the greater of</td>
<td>• A2 = 3.82 * 0.16 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• A2 = 3.82 * 0.21 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>If Y &lt;= 2L112OLS_PickupMW and Z &lt;= 2L293OLS_PickupMW, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td>A3 = 3.82 * (0.45 * 0.40 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
<td>GS3 = max (0, A3)</td>
</tr>
<tr>
<td>If 2L90 OOS, Y = 2L112 KLY + 0.043 * 0.40 * 5L41 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0, Z = 2L293 SEL + 0.037 * 0.40 * 5L41 KLY - 0.10 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y = 2L112OLS_PickupMW or Z = 2L293OLS_PickupMW, shed at GMS/PCN the greater of</td>
<td>• A3 = 3.82 * 0.18 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• A3 = 3.82 * 0.21 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>If Y &lt;= 2L112OLS_PickupMW and Z &lt;= 2L293OLS_PickupMW, shed at GMS/PCN: GS3</td>
</tr>
<tr>
<td><strong>By Pass CRK 5CX1</strong></td>
<td></td>
</tr>
<tr>
<td>No generation shedding required</td>
<td></td>
</tr>
<tr>
<td><strong>SL41 and SL83</strong></td>
<td></td>
</tr>
<tr>
<td>A1 = 2.8 * (0.42 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)</td>
<td>B1 = 4.7 * (0.45 * (5L41 KLY + 5L83 NIC) + 5L81 NIC – 5L81_Over_rating)</td>
</tr>
<tr>
<td>GS1 = max (0, A1, B1)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY &lt; 0.067 * (5L41 KLY + 5L83 NIC) - 0.064 * GS1) &lt;= 2L90_Over_Rating, if GMS, if 2L112 is in service, otherwise, Y = 0, Z = 2L293 SEL + 0.049 * (5L41 KLY + 5L83 NIC) - 0.114 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y = 2L112OLS_PickupMW or Z = 2L293OLS_PickupMW, shed at GMS/PCN first, then MCA/REV the greatest of</td>
<td>• A1 = 2.8 * 0.173 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• A1 = 2.8 * 0.213 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td></td>
</tr>
<tr>
<td>• B1 = 4.7 * 0.333 * (Y - 2L112OLS_Ras_ResetMW), or</td>
<td></td>
</tr>
<tr>
<td>• B1 = 4.7 * 0.41 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>If Y &lt;= 2L112OLS_PickupMW and Z &lt;= 2L293OLS_PickupMW, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td>A2 = 2.8 * (0.42 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)</td>
<td>B2 = 4.7 * (0.45 * (5L41 KLY + 5L83 NIC) + 0.37 * (0.067 * (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L81 NIC – 5L81_Over_rating)</td>
</tr>
<tr>
<td>GS2 = max (0, A2, B2)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY &lt; 0.067 * (5L41 KLY + 5L83 NIC) - 0.064 * GS1) &gt;= 2L90_Over_Rating, if 2L90 &amp; 2L293 are in service, otherwise, Y = 0, Z = 2L293 SEL + 0.049 * (5L41 KLY + 5L83 NIC) + 0.049 * (Z) + 2L90 KLY + 0.067 * (5L41 KLY + 5L83 NIC) - 0.12 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y = 2L112OLS_PickupMW or Z = 2L293OLS_PickupMW, shed at GMS/PCN first, then MCA/REV the greatest of</td>
<td>• A2 = 2.8 * 0.173 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• A2 = 2.8 * 0.213 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>• B2 = 4.7 * 0.333 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• B2 = 4.7 * 0.41 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>If Y &lt;= 2L112OLS_PickupMW and Z &lt;= 2L293OLS_PickupMW, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td>A3 = 2.54 * (0.46 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)</td>
<td>B3 = 4.12 * (0.46 * (5L41 KLY + 5L83 NIC) + 5L81 NIC – 5L81_Over_rating)</td>
</tr>
<tr>
<td>GS3 = max (0, A3, B3)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 OOS, Y = 2L112 KLY + 0.066 * (5L41 KLY + 5L83 NIC) - 0.131 * GS3, if 2L112 is in service, otherwise, Y = 0, Z = 2L293 SEL + 0.054 * (5L41 KLY + 5L83 NIC) - 0.122 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
<td></td>
</tr>
<tr>
<td>If Y = 2L112OLS_PickupMW or Z = 2L293OLS_PickupMW, shed at GMS/PCN first, then MCA/REV the greatest of</td>
<td>• A3 = 2.54 * 0.268 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• A3 = 2.54 * 0.329 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>• B3 = 4.12 * 0.428 * (Y - 2L112OLS_Ras_ResetMW), or</td>
</tr>
<tr>
<td>• B3 = 4.12 * 0.525 * (Z - 2L293OLS_Ras_ResetMW)</td>
<td>If Y &lt;= 2L112OLS_PickupMW and Z &lt;= 2L293OLS_PickupMW, shed at GMS/PCN first, then MCA/REV: GS3</td>
</tr>
</tbody>
</table>
Table 1.9 – 5L87 O.O.S.

Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>GS = max (0, 1.82 * (0.54 * 5L40 CBN + 5L42 KLY - 5L42 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.03 * 5L40 CBN - 0.06 * GS &lt; 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.03 * 5L40 CBN - 0.06 * GS &gt;= 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.71 * (0.50*5L40 CBN +2L90 KLY) +5L42 KLY + 0.54 * 5L40 CBN - 5L42 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then shed at GMS/PCN: 1.72 * (0.56 * 5L40 CBN + 5L42 KLY - 5L42 Over_Rating)</td>
</tr>
<tr>
<td>5L41</td>
<td>GS = max (0, 1.49 * (0.79 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating), 2.33 * (0.66 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.073 * 5L41 KLY - 0.052 * GS &lt; 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.073 * 5L41 KLY - 0.052 * GS &gt;= 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: max (0, 1.36 * (0.8<em>5L90 KLY + 0.12</em>5L41 KLY)+0.80 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating), 2.4 * (0.3 * (2L90 KLY + 0.073 * 5L41 KLY) + 0.66 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: max (0, 1.37 * (0.88 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating), 2.3 * (0.69 * 5L41 KLY + 5L44 MDN - 5L44 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>Additional gen shed requirement for transient stability purpose:</td>
</tr>
<tr>
<td></td>
<td>If one of (5L1, 5L2, 5L3, 5L4, 5L7) and one of (5L11, 5L12, 5L13) OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed GMS/PCN/BMW/DKW/CM down to 3100 MW</td>
</tr>
<tr>
<td>5L42</td>
<td>GS = max (0, 2.7 * (0.78 * 5L42 KLY + 5L41 KLY - 5L41 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.11 * 5L42 KLY - 0.058 * GS &lt; 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.11 * 5L42 KLY - 0.058 * GS &gt;= 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 2 * (0.8 * (0.11 * 5L42 KLY +2L90 KLY) + 5L41 KLY + 0.79 * 5L42 KLY - 5L41 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 2.1 * (0.87 * 5L42 KLY + 5L41 KLY - 5L41 Over_Rating)</td>
</tr>
<tr>
<td>5L45</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>By Pass CHP 5C1</td>
<td>GS = max (0, 2.11 * (0.80 * 0.35 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.04 * 0.35 * 5L41 KLY - 0.064 * GS &lt; 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.04 * 0.35 * 5L41 KLY - 0.064 * GS &gt;= 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.96 * (0.56 * (0.04 * 0.35 * 5L41 KLY +2L90 KLY) + 5L42 KLY) + 0.80 * 0.35 * 5L41 KLY - 5L42 Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.96 * (0.89 * 0.34 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)</td>
</tr>
<tr>
<td>By Pass CRK 5C1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L41 and 5L3</td>
<td>GS1 = max (0, 1.52 * (0.82 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, 1.52 * (0.82 * 5L41 KLY + 0.762 * (0.125 * 5L41 KLY + 2L90 KLY) + 5L42 KLY - 5L42 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.125 * 5L41 KLY - 0.102 * GS1) &lt; 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.125 * 5L41 KLY - 0.102 * GS1) &gt;= 2L90 Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>GS3 = max (0, 1.35 * (0.91 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 is OOS, shed at GMS/PCN: GS3</td>
</tr>
</tbody>
</table>

Table 1.10 – CHP 5C1 O.O.S.

Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: 3.2 * (0.45 * 5L40 CBN + 5L44 MDN - 5L44 Over_Rating)</td>
</tr>
<tr>
<td>5L41</td>
<td>Same as Table 1.1 – System Normal.</td>
</tr>
<tr>
<td>5L42</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L43</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L47</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>By Pass CRK 5C1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L41 and 5L3</td>
<td>Same as Table 1.1 – System Normal.</td>
</tr>
</tbody>
</table>
Table 1.11 – CRK 5CX1 O.O.S.

Pre-outage Restrictions

- **5L41 contingency:**
  If 2L90 I/S and 2L90 KLY + 0.083 * 5L41 KLY < 2L90_Over_Rating, limit: 2L1 PEM + 0.015 * 5L41 KLY < 2L1_Over_rating MW
  If TSA alarms “VIOLATION_2L1 PEM OVER RATING_5L41CTG”, the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

- **5L40 contingency:**
  If 2L90 I/S, Limit: 2L1 PEM + 0.023 * 5L40 CBN < 2L1_Over_rating MW
  If TSA alarms “VIOLATION_2L1 PEM OVER RATING_5L40CTG”, the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: 22 * (0.28 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating)</td>
</tr>
<tr>
<td>5L41</td>
<td>Shed at GMS/PCN: 3.9 * (0.52 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating)</td>
</tr>
<tr>
<td>5L42</td>
<td>Shed at GMS/PCN: 3.9 * (0.39 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)</td>
</tr>
<tr>
<td>5L45</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L47</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>By Pass CHP 5CX1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L41 and 5L83</td>
<td>No generation shedding required.</td>
</tr>
</tbody>
</table>
Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
</table>
| 5L40        | D = 14.9 * (0.27 * SL40 CBN + 2L79 CBN – 2L79_Over_Rating) A1 = 2.75 * (0.55 * SL40 CBN + SL44 MDN - SL44_Over_Rating) GS1 = max (0, A1, D) If 2L90 I/S and (2L90 KLY + 0.0074 * SL40 CBN - 0.035 * GS1) < 2L90_Over_Rating, Y = 2L112 SEL + 0.025 * 2L90 CBN - 0.015 * GS1, if 2L112 is in service, otherwise, Y = 0 Z = 2L293 SEL + 0.023 * SL40 CBN - 0.1 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0 If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of D, or A1 + 2.75 * 0.62 * (Y - 2L112OLRAS_ResetMW), or A1 + 2.75 * 0.73 * (Z - 2L293OLRAS_ResetMW) If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1 A2 = 2.72 * (0.063 * (0.0074 * SL40 CBN + 2L90 KLY) + 0.55 * SL40 CBN + SL44 MDN - SL44_Over_Rating) GS2 = max (0, A2, D) If 2L90 I/S and (2L90 KLY + 0.0074 * SL40 CBN - 0.035 * GS1) >= 2L90_Over_Rating, Y = 2L112 SEL + 0.025 * 2L90 CBN + 0.025 * 2L90 KLY - 0.105 * GS2, if 2L112 is in service, otherwise, Y = 0 Z = 2L293 SEL + 0.023 * SL40 CBN + 0.022 * 2L90 KLY - 0.1 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0 If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of D, or A2 + 2.72 * 0.62 * (Y - 2L112OLRAS_ResetMW), or A2 + 2.72 * 0.73 * (Z - 2L293OLRAS_ResetMW) If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2 A3 = 2.72 * (0.55 * SL40 CBN + SL44 MDN - SL44_Over_Rating) GS3 = max (0, A3, D) If 2L90 I/O, Y = 2L112 SEL + 0.026 * SL40 CBN - 0.105 * GS3, if 2L112 is in service, otherwise, Y = 0 Z = 2L293 SEL + 0.023 * SL40 CBN - 0.1 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0 If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of D, or A3 + 2.72 * 0.62 * (Y - 2L112OLRAS_ResetMW), or A3 + 2.72 * 0.73 * (Z - 2L293OLRAS_ResetMW) If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3 A4 = 3.1 * (0.43 * SL44 KLY + SL44_Over_Rating) A5 = 3.1 * (0.43 * SL44 KLY + 2L90_Over_Rating) A6 = 2.7 * (0.57 * SL44 KLY + 2L90_Over_Rating) A7 = 2.7 * (0.57 * SL44 KLY + 2L90_Over_Rating) A8 = 2.7 * (0.57 * SL44 KLY + 2L90_Over_Rating) A9 = 2.7 * (0.57 * SL44 KLY + 2L90_Over_Rating) A10 = 0.4 * (0.94 * SL24 KLY + SL24_Over_Rating) A11 = 0.4 * (0.94 * SL24 KLY + SL24_Over_Rating) A12 = 2.7 * (0.37 * 2L42 KLY + SL24_Over_Rating) GS1 = max (0, A11, D) A2 = 3.8 * (0.43 * (0.057 * 5L42 KLY + 2L90 KLY) + 0.37 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating) GS2 = max (0, A2, D) If 2L90 I/S and (2L90 KLY + 0.057 * 5L42 KLY - 0.050 * GS1) <= 2L90_Over_Rating, Y = 2L112 SEL + 0.024 * 5L42 KLY - 0.105 * GS1, if 2L112 is in service, otherwise, Y = 0 Z = 2L293 SEL + 0.021 * 5L42 KLY - 0.1 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0 If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of A4 + 4 * 0.2 * (Y - 2L112OLRAS_ResetMW), or A4 + 4 * 0.23 * (Z - 2L293OLRAS_ResetMW) If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1
5L41 and 5L83

Y = 2L112 KLY + 0.023 * 5L42 KLY + 0.007 * 2L90 KLY - 0.11 * GS2, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.021 * 5L42 KLY + 0.003 * 2L90 KLY - 0.105 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of
• A2 + 3.8 * 0.22 (Y - 2L112OLRAS_ResetMW), or
• A3 + 3.8 * 0.26 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2
A3 = 3.8 * (0.39 * 5L42 KLY + LS41 KLY - 5L41_Over_Rating)
GS3 = max (0, A3)

If 2L90 OOS,
Y = 2L112 KLY + 0.007 * 5L42 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.024 * 5L42 KLY - 0.105 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of
• A3 + 3.8 * 0.22 (Y - 2L112OLRAS_ResetMW), or
• A3 + 3.8 * 0.26 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3
A3 = 3.8 * (0.39 * 5L42 KLY + LS41 KLY - 5L41_Over_Rating)

5L45
No generation shedding required.

5L83
No generation shedding required.

By Pass CHP 5CX1
A1 = 3.3 * (0.58 * 0.40 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating)
GS1 = max (0, A1)

If 2L90 I/S and (2L90 KLY + 0.067 * 0.40 * 5L41 KLY - 0.039 * GS1) < 2L90_Over_Rating,
B2 = 3.15 * 0.22 (Y - 2L112OLRAS_ResetMW), or
A2 = 3.15 * 0.26 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2
A3 = 3.8 * (0.39 * 5L42 KLY + LS41 KLY - 5L41_Over_Rating)
GS3 = max (0, A3)

If 2L90 OOS,
Y = 2L112 KLY + 0.007 * 5L42 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.024 * 5L42 KLY - 0.105 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of
• A3 + 3.8 * 0.22 (Y - 2L112OLRAS_ResetMW), or
• A3 + 3.8 * 0.26 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3
A3 = 3.8 * (0.39 * 5L42 KLY + LS41 KLY - 5L41_Over_Rating)

By Pass CRK 5CX1
No generation shedding required.

5L41 and 5L83

A1 = 3.3 * (0.35 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_Rating)
B1 = 3.15 * (0.12 * (5L41 KLY + 5L83 NIC) - 5L44 MDN - 5L44_Over_Rating)
GS1 = max (0, A1, B1)

If 2L90 I/S and (2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC) - 0.057 * GS1) < 2L90_Over_rating,
Y = 2L112 KLY + 0.044 * (5L41 KLY + 5L83 NIC) - 0.118 * GS1, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.039 * (5L41 KLY + 5L83 NIC) - 0.111 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of
• A1 + 3.3 * 0.225 (Y - 2L112OLRAS_ResetMW), or
• A1 + 3.3 * 0.276 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1
A2 = 3.3 * (0.35 * (5L41 KLY + 5L83 NIC) + 0.454 * (0.057 * (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L42 KLY - 5L42_Over_rating)
B2 = 3.15 * (0.12 * (5L41 KLY + 5L83 NIC) + 0.407 * (0.057 * (5L41 KLY + 5L83 NIC) + 2L90 KLY) + 5L44 MDN - 5L44_Over_Rating)
GS2 = max (0, A2, B2)

If 2L90 I/S and (2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC) - 0.057 * GS1) > 2L90_Over_rating,
Y = 2L112 KLY + 0.044 * (5L41 KLY + 5L83 NIC) + 0.05 (2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC)) - 0.118 * GS2, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.039 * (5L41 KLY + 5L83 NIC) + 0.044 (2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC)) - 0.111 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of
• A2 + 3.3 * 0.225 (Y - 2L112OLRAS_ResetMW), or
• A2 + 3.3 * 0.276 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2
A3 = 3.96 * (0.38 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)
B3 = 3.05 * (0.13 * (5L41 KLY + 5L83 NIC) + 5L44 MDN - 5L44_Over_Rating)
GS3 = max (0, A3, B3)

If 2L90 OOS,
Y = 2L112 KLY + 0.047 * (5L41 KLY + 5L83 NIC) - 0.122 * GS3, if 2L112 is in service, otherwise, Y = 0
Z = 2L293 SEL + 0.042 * (5L41 KLY + 5L83 NIC) - 0.116 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0

If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of
• A3 + 2.96 * 0.226 (Y - 2L112OLRAS_ResetMW), or
• A3 + 2.96 * 0.276 (Z - 2L293OLRAS_ResetMW)

If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3
A3 = 2.96 * (0.38 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)
B3 = 3.05 * (0.13 * (5L41 KLY + 5L83 NIC) + 5L44 MDN - 5L44_Over_Rating)
GS3 = max (0, A3, B3)
### Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
</table>
| **5L40** | \( D = 16.6 \cdot (0.27 \cdot 5L40\ CBN + 2L79\ CBN - 2L79\ Over\ Rating) \)  
  \( A1 = 3.8 \cdot (0.29 \cdot 5L40\ CBN + 5L42\ KLY - 5L42\ Over\ Rating) \)  
  \( GS1 = \text{max}(O, A1, A2) \)  
  If 2L90 I/S and (2L90 KLY + 0.068 \* 5L40 CBN - 0.068 \* 5L40 CBN - 0.068 \* GS1 < 2L90 Over_Rating),  
  \( Y = 2L112\ NLY + 0.026 \* 5L40\ CBN - 0.105 \* GS1, \) if 2L112 is in service, otherwise, \( Y = 0 \)  
  \( Z = 2L293\ SEL + 0.023 \* 5L40\ CBN - 0.1 \* GS1, \) if 2L112 & 2L293 are in service, otherwise, \( Z = 0 \)  
  If \( Y < 2L112\OLRAS\_PickupMW\) or \( Z > 2L293\OLRAS\_PickupMW, \) shed at GMS/PCN the greater of  
  - \( D, \) or  
  - \( A1 + 3.8 \cdot 0.20 \) (Y - 2L112\OLRAS\_ResetMW), or  
  - \( A1 + 3.8 \cdot 0.23 \) (Z - 2L293\OLRAS\_ResetMW)  
  If \( Y = 2L112\OLRAS\_PickupMW\) and \( Z <= 2L293\OLRAS\_PickupMW, \) shed at GMS/PCN: GS1  
  If \( Y = 2L112\OLRAS\_PickupMW\) and \( Z > 2L293\OLRAS\_PickupMW, \) shed at GMS/PCN: GS3  |
| **5L41** | \( A1 = 3.6 \cdot (0.40 \cdot 5L41\ KLY + 5L42\ KLY - 5L42\ Over\ Rating) \)  
  \( A2 = 3.32 \cdot (0.50 \cdot 5L41\ KLY + 5L44\ MDN - 5L44\ Over\ Rating) \)  
  \( GS1 = \text{max}(O, A1, A2) \)  
  If 2L90 I/S and (2L90 KLY + 0.070 \* 5L41 KLY - 0.048 \* GS1) \( <= 2L90\ Over\ Rating),  
  \( Y = 2L112\ NLY + 0.034 \* 5L41\ KLY - 0.105 \* GS1, \) if 2L112 is in service, otherwise, \( Y = 0 \)  
  \( Z = 2L293\ SEL + 0.030 \* 5L41\ KLY - 0.1 \* GS1, \) if 2L112 & 2L293 are in service, otherwise, \( Z = 0 \)  
  If \( Y < 2L112\OLRAS\_PickupMW\) or \( Z > 2L293\OLRAS\_PickupMW, \) shed at GMS/PCN the greater of  
  - \( D, \) or  
  - \( A2 + 3.7 \cdot 0.21 \) (Y - 2L112\OLRAS\_ResetMW), or  
  - \( A2 + 3.7 \cdot 0.25 \) (Z - 2L293\OLRAS\_ResetMW)  
  If \( Y = 2L112\OLRAS\_PickupMW\) and \( Z <= 2L293\OLRAS\_PickupMW, \) shed at GMS/PCN: GS1  
  If \( Y = 2L112\OLRAS\_PickupMW\) and \( Z > 2L293\OLRAS\_PickupMW, \) shed at GMS/PCN: GS3  |

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**Note:** Generation Shedding Requirements Continued on Next Page for Table 1.13 – AMC 5CX2 O.O.S.
### CONTINGENCY SHEDDING REQUIREMENTS

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
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</table>
| 5L41        | A1 =  4.0 * (0.37 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
           | GS1 = max (0, A1)  
           | If 2L90 I/S and (2L90 KLY + 0.058 * 5L42 KLY - 0.049 * GS1) < 2L90_Over_Rating,  
           | Y = 2L112 NLY + 0.027 * 5L42 KLY - 0.115 * GS1, if 2L112 is in service, otherwise, Y = 0  
           | Z = 2L293 SEL + 0.024 * 5L42 KLY + 0.049 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0  
           | If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
           | • A1 + 4 * 0.24 * (Y - 2L112OLRAS_ResetMW), or  
           | • A1 + 4 * 0.27 * (Z - 2L293OLRAS_ResetMW)  
           | If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1  
           | A2 = 3.9 * (0.058 * 5L42 KLY + 2L90 KLY) + 0.37 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
           | GS2 = max (0, A2)  
           | If 2L90 I/S and (2L90 KLY + 0.058 * 5L42 KLY - 0.049 * GS1) >= 2L90_Over_Rating,  
           | Y = 2L112 NLY + 0.027 * 5L42 KLY + 0.049 * 2L90 KLY - 0.115 * GS2, if 2L112 is in service, otherwise, Y = 0  
           | Z = 2L293 SEL + 0.024 * 5L42 KLY + 0.035 * 2L90 KLY - 0.109 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0  
           | If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
           | • A2 + 3.9 + 0.11 * GS1  
           | • A2 + 3.9 + 0.049 * GS1) < 2L90_Over_rating,  
           | • A2 + 3.9 + Z = 0  
           | If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS2  
           | A3 = 3.9 + 0.058 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
           | GS3 = max (0, A3)  
           | If 2L90 OOS,  
           | Y = 2L112 NLY + 0.03 * 5L42 KLY - 0.116 * GS3, if 2L112 is in service, otherwise, Y = 0  
           | Z = 2L293 SEL + 0.026 * 5L42 KLY - 0.109 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0  
           | If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
           | • A3 + 3.9 + 0.25 * (Y - 2L112OLRAS_ResetMW), or  
           | • A3 + 3.9 + 0.29 * (Z - 2L293OLRAS_ResetMW)  
           | If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS3  
| 5L45        | No generation shedding required.  
| 5L87        | No generation shedding required.  
| 5L81        | No generation shedding required.  
| By Pass CHF 5CX1 | No generation shedding required.  
| By Pass CRK 5CX1 | No generation shedding required.  
| 5L41 and 5L83 | A1 = 3.15 * (0.36 * (5L41 KLY + 5L83 NIC) + 5L42 KLY - 5L42_Over_rating)  
          | GS1 = max (0, A1, B1)  
          | If 2L90 I/S and (5L41 KLY + 0.057 * (5L41 KLY + 5L83 NIC) - 0.058 * GS1) < 2L90_Over_rating,  
          | Y = 2L112 NLY + 0.043 * (5L41 KLY + 5L83 NIC) - 0.114 * GS1, if 2L112 is in service, otherwise, Y = 0  
          | Z = 2L293 SEL + 0.038 * (5L41 KLY + 5L83 NIC) - 0.108 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0  
          | If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
          | • A1 + 3.15 + 0.231 * (Y - 2L112OLRAS_ResetMW), or  
          | • A1 + 3.15 + 0.281 * (Z - 2L293OLRAS_ResetMW)  
          | If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS1  
          | A2 = 3.15 * (0.36 * (5L41 KLY + 5L83 NIC) + 0.462 * (5L41 KLY + 5L83 NIC) + 5L42_Over_rating)  
          | GS2 = max (0, A2, B2)  
          | If 2L90 I/S and (2L90 KLY + 0.057 * (5L41 KLY + 5L83 NIC) - 0.058 * GS1) >= 2L90_Over_rating,  
          | Y = 2L112 NLY + 0.043 * (5L41 KLY + 5L83 NIC) + 0.067 * (5L41 KLY + 5L83 NIC) - 0.044 * GS2, if 2L112 is in service, otherwise, Y = 0  
          | Z = 2L293 SEL + 0.038 * (5L41 KLY + 5L83 NIC) + 0.044 * (2L90 KLY + 0.087 * (5L41 KLY + 5L83 NIC) - 0.018 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0  
          | If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
          | • A2 + 3.15 + 0.231 * (Y - 2L112OLRAS_ResetMW), or  
          | • A2 + 3.15 + 0.281 * (Z - 2L293OLRAS_ResetMW)  
          | If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS2  
          | A3 = 2.9 * (0.36 * (5L41 KLY + 5L83 NIC) + 5L42_Over_rating)  
          | GS3 = max (0, A3, B3)  
          | If 2L90 OOS,  
          | Y = 2L112 NLY + 0.047 * (5L41 KLY + 5L83 NIC) - 0.088 * GS3, if 2L112 is in service, otherwise, Y = 0  
          | Z = 2L293 SEL + 0.041 * (5L41 KLY + 5L83 NIC) - 0.074 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0  
          | If Y = 2L112OLRAS_PickupMW or Z > 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of  
          | • A3 + 2.9 + 0.228 * (Y - 2L112OLRAS_ResetMW), or  
          | • A3 + 2.9 + 0.278 * (Z - 2L293OLRAS_ResetMW)  
          | If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_ResetMW, shed at GMS/PCN: GS3
Table 1.14 – GUI SCX1 O.O.S.

Pre-outage Restrictions
None

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5L40</strong></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>3.05 * (0.51 * SL40 CBN + 5L44 MDN - SL44_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>- GS1 = max (0, A1)</td>
</tr>
<tr>
<td></td>
<td>- If 2L90 I/S and (2L90 KLY + 0.012 * SL40 CBN - 0.040 * GS1) &gt;= 2L90_Over_Rating, Y = 2L112 KLY + 0.02 * SL40 CBN - 0.10 * GS1, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>- Z = 2L293 SEL + 0.018 * SL40 CBN - 0.095 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L90_Over_Rating or Z &gt; 2L293OLRAS_ResetMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>- A1 + 3.05 * 0.471 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A1 + 3.05 * 0.57 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td>A2</td>
<td>3.07 * (0.04 * SL40 CBN + 2L90 KLY) + 0.51 * SL40 CBN + 5L44 MDN - SL44_Over_Rating</td>
</tr>
<tr>
<td></td>
<td>- GS2 = max (0, A2)</td>
</tr>
<tr>
<td></td>
<td>- If 2L90 I/S and (2L90 KLY + 0.012 * SL40 CBN - 0.040 * GS1) &gt;= 2L90_Over_Rating, Y = 2L112 KLY + 0.02 * SL40 CBN + 0.021 * 2L90 KLY - 0.10 * GS2, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>- Z = 2L293 SEL + 0.018 * SL40 CBN + 0.018 * 2L90 KLY - 0.097 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>- IF Y &gt; 2L90_Over_Rating or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>- A2 + 3.07 * 0.49 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A2 + 3.07 * 0.58 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td>A3</td>
<td>3.07 * (0.51 * SL40 CBN + 5L44 MDN - SL44_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>- GS3 = max (0, A3)</td>
</tr>
<tr>
<td></td>
<td>- If 2L90 OOS, Y = 2L112 KLY + 0.021 * SL40 CBN - 0.10 * GS3, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>- Z = 2L293 SEL + 0.018 * SL40 CBN - 0.097 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>- IF Y &gt; 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>- A3 + 3.07 * 0.49 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A3 + 3.07 * 0.58 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
</tr>
<tr>
<td><strong>5L41</strong></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>2.8 * (0.48 * SL41 KLY + 2L42 KLY - SL42_Over_Rating)</td>
</tr>
<tr>
<td>A2</td>
<td>2.8 * (0.53 * SL41 KLY + 5L44 MDN - SL44_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>- GS1 = max (0, A1, A2)</td>
</tr>
<tr>
<td></td>
<td>- If 2L90 I/S and (2L90 KLY + 0.076 * SL41 KLY - 0.056 * GS1) &gt;= 2L90_Over_Rating, Y = 2L112 KLY + 0.03 * SL41 KLY - 0.105 * GS1, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>- Z = 2L293 SEL + 0.025 * SL41 KLY - 0.098 * GS1, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW or Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>- A1 + 2.8 * 0.14 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A1 + 2.9 * 0.16 * (Z - 2L293OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A2 + 2.9 * 0.53 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A2 + 2.9 * 0.62 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
</tr>
<tr>
<td>A3</td>
<td>2.51 * (0.50 * SL41 KLY + 2L90 KLY) + 0.48 * SL41 KLY + 5L42 KLY - SL42_Over_Rating</td>
</tr>
<tr>
<td>A4</td>
<td>2.8 * (0.09 * SL41 KLY + 2L90 KLY) + 0.53 * SL41 KLY + 5L44 MDN - SL44_Over_Rating</td>
</tr>
<tr>
<td></td>
<td>- GS2 = max (0, A3, A4)</td>
</tr>
<tr>
<td></td>
<td>- If 2L90 I/S and (2L90 KLY + 0.076 * SL41 KLY - 0.056 * GS1) &gt;= 2L90_Over_Rating, Y = 2L112 KLY + 0.028 * SL41 KLY + 0.032 * 2L90 KLY - 0.107 * GS2, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>- Z = 2L293 SEL + 0.024 * SL41 KLY + 0.028 * 2L90 KLY - 0.10 * GS2, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>- A3 + 2.51 * 0.16 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A3 + 2.51 * 0.18 * (Z - 2L293OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A4 + 2.8 * 0.53 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A4 + 2.8 * 0.62 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td>A5</td>
<td>2.51 * (0.52 * SL41 KLY + 5L42 KLY - SL42_Over_Rating)</td>
</tr>
<tr>
<td>A6</td>
<td>2.8 * (0.54 * SL41 KLY + 5L44 MDN - SL44_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>- GS3 = max (0, A5, A6)</td>
</tr>
<tr>
<td></td>
<td>- If 2L90 OOS, Y = 2L112 KLY + 0.031 * SL41 KLY - 0.107 * GS3, if 2L112 is in service, otherwise, Y = 0</td>
</tr>
<tr>
<td></td>
<td>- Z = 2L293 SEL + 0.027 * SL41 KLY - 0.10 * GS3, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>- A5 + 2.51 * 0.16 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A5 + 2.51 * 0.18 * (Z - 2L293OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A6 + 2.8 * 0.53 * (Y - 2L112OLRAS_ResetMW), or</td>
</tr>
<tr>
<td></td>
<td>- A6 + 2.8 * 0.62 * (Z - 2L293OLRAS_ResetMW)</td>
</tr>
<tr>
<td></td>
<td>- IF Y &lt;= 2L112OLRAS_PickupMW and Z &lt;= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3</td>
</tr>
</tbody>
</table>

Generation Shedding Requirements Continued on Next Page for Table 1.14 – GUI SCX1 O.O.S.
### Table 1.14 – GUI 5CX1 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
</table>
| 5L42        | A1 = 3.2 * (0.48 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
If 2L90 I/S and (2L90 KLY + 0.067 * 5L42 KLY - 0.058 * GS1) < 2L90_Over_Rating,  
Y = 2L112 NLY + 0.017 * 5L42 KLY - 0.11 * GS1, if 2L112 is in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.015 * 5L42 KLY - 0.1 * GS1, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of  
  • A1 + 3.2 * 0.13 * (Y - 2L112OLRAS_ResetMW), or  
  • A1 + 3.2 * 0.15 * (Z - 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS1  
A2 = 3.0 * (0.48 * (0.067 * 5L42 KLY + 2L90 KLY) + 0.45 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
GS2 = max (0, A2)  
If 2L90 I/S and (2L90 KLY + 0.067 * 5L42 KLY - 0.058 * GS1) >= 2L90_Over_Rating,  
Y = 2L112 NLY + 0.017 * 5L42 KLY + 0.034 * 2L90 KLY - 0.108 * GS2, if 2L112 is in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.015 * 5L42 KLY + 0.03 * 2L90 KLY - 0.1 * GS2, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of  
  • A2 + 3.0 * 0.13 * (Y - 2L112OLRAS_ResetMW), or  
  • A2 + 3.0 * 0.15 * (Z - 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS2  
A3 = 3.07 * (0.48 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
GS3 = max (0, A3)  
If 2L90 OOS,  
Y = 2L112 NLY + 0.02 * 5L42 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.018 * 5L42 KLY - 0.107 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of  
  • A3 + 3.07 * 0.14 * (Y - 2L112OLRAS_ResetMW), or  
  • A3 + 3.07 * 0.17 * (Z - 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS3  
A4 = 3.07 * (0.48 * 5L42 KLY + 5L41 KLY - 5L41_Over_Rating)  
GS4 = max (0, A4)  
If 2L90 OOS,  
Y = 2L112 NLY + 0.02 * 5L42 KLY - 0.11 * GS3, if 2L112 is in service, otherwise, Y = 0  
Z = 2L293 SEL + 0.018 * 5L42 KLY - 0.107 * GS3, if 2L112 & 2L293 are in service, otherwise, Z = 0  
If Y > 2L112OLRAS_PickupMW or Z > 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of  
  • A4 + 3.07 * 0.14 * (Y - 2L112OLRAS_ResetMW), or  
  • A4 + 3.07 * 0.17 * (Z - 2L293OLRAS_ResetMW)  
If Y <= 2L112OLRAS_PickupMW and Z <= 2L293OLRAS_PickupMW, shed at GMS/PCN: GS4  |
| 5L45        | No generation shedding required. |
| 5L47        | No generation shedding required. |
| By Pass CHP 5CX1 | No generation shedding required. |
| By Pass CRK 5CX1 | No generation shedding required. |
| 5L41 and 5L83 | Same as Table 1.1 - System Normal. |
### Table 1.15 – RYC 5CX1 O.O.S.

#### Pre-outage Restrictions

None.

#### Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5L40</strong></td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td><strong>5L41</strong></td>
<td>A1 = 3.6 * ((0.40 \times 5L41 KLY) + 5L42 KLY - 5L42 Over_Rating)) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>A2 = 3.4 * ((0.49 \times 5L41 KLY) + 5L44 MDN - 5L44 Over_Rating)) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1, A2)</td>
</tr>
<tr>
<td></td>
<td>If 5L90 I/S and (2L90 KLY + 0.067 * 5L41 KLY - 0.048 * 5L41 Over_Rating), Y = 2L112 KLY + 0.034 * 5L41 KLY - 0.105 * 5L42 Over_Rating, Z = 2L293 SEL + 0.03 * 5L41 KLY - 0.105 * 5L44 MDN - 0.105 * 5L42 Over_Rating, if 2L112 &amp; 2L293 are in service, otherwise, Y = 0, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y = 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>[0.30 \times 5L42 KLY + 5L41 KLY] + 0.032 * 5L41 KLY - 0.105 * 5L43 MDN - 0.105 * 5L42 Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>[0.09 \times 5L42 KLY + 0.035 \times 5L41 KLY - 0.068 \times 5L42 KLY - 0.111 \times 5L43 MDN + 0.035 \times 5L44 MDN + 5L44 Over_Rating]</td>
</tr>
<tr>
<td></td>
<td>A3 = 3.25 + (0.84 * (5L41 KLY + 5L42 KLY) + 0.40 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>A4 = 3.4 * ((0.067 \times 5L41 KLY + 2L90 KLY) + 0.49 \times 5L41 KLY + 5L44 MDN - 5L44 Over_Rating)) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A3, A4)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.067 * 5L41 KLY - 0.048 * 5L41 Over_Rating), Y = 2L112 KLY + 0.034 * 5L41 KLY - 0.105 * 5L42 Over_Rating, Z = 2L293 SEL + 0.03 * 5L41 KLY - 0.105 * 5L44 MDN - 0.105 * 5L42 Over_Rating, if 2L112 &amp; 2L293 are in service, otherwise, Y = 0, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y = 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>[0.30 \times 5L42 KLY + 5L41 KLY] + 0.032 * 5L41 KLY - 0.105 * 5L43 MDN - 0.105 * 5L42 Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>[0.09 \times 5L42 KLY + 0.035 \times 5L41 KLY - 0.068 \times 5L42 KLY - 0.111 \times 5L43 MDN + 0.035 \times 5L44 MDN + 5L44 Over_Rating]</td>
</tr>
<tr>
<td><strong>5L42</strong></td>
<td>A1 = 4 * ((0.37 \times 5L42 KLY + 0.647 KLY - 3C41 Over_Rating)) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>A2 = 3.9 * ((0.42 \times (0.058 \times 5L42 KLY + 2L90 KLY) + 0.37 \times 5L42 KLY + 5L41 KLY - 5L41 Over_Rating)) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1, A2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.058 * 5L42 KLY - 0.049 * 5L41 Over_Rating), Y = 2L112 KLY + 0.026 * 5L42 KLY - 0.109 * 5L41 Over_Rating, Z = 2L293 SEL + 0.023 * 5L42 KLY - 0.104 * 5L43 Over_Rating, if 2L112 &amp; 2L293 are in service, otherwise, Y = 0, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y = 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>[0.30 \times 5L42 KLY + 5L41 KLY] + 0.032 * 5L41 KLY - 0.105 * 5L43 MDN - 0.105 * 5L42 Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>[0.09 \times 5L42 KLY + 0.035 \times 5L41 KLY - 0.068 \times 5L42 KLY - 0.111 \times 5L43 MDN + 0.035 \times 5L44 MDN + 5L44 Over_Rating]</td>
</tr>
<tr>
<td><strong>5L43</strong></td>
<td>A1 = 3.9 * ((0.39 \times 5L42 KLY + 5L41 KLY - 5L41 Over_Rating)) [0.10 \times GS1 ] + 0.15 \times GS2 [0.00 \times GS3 ]</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1, A2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.058 * 5L42 KLY - 0.049 * 5L41 Over_Rating), Y = 2L112 KLY + 0.026 * 5L42 KLY + 0.04 * 2L30 KLY - 0.115 * 5L42 Over_Rating, if 2L112 is in service, otherwise, Y = 0, Z = 0</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.023 * 5L42 KLY - 0.104 * 5L43 Over_Rating, if 2L112 &amp; 2L293 are in service, otherwise, Z = 0</td>
</tr>
<tr>
<td></td>
<td>If Y = 2L112OLRAS_PickupMW or Z &gt; 2L293OLRAS_PickupMW, shed at GMS/PCN the greater of</td>
</tr>
<tr>
<td></td>
<td>[0.30 \times 5L42 KLY + 5L41 KLY] + 0.032 * 5L41 KLY - 0.105 * 5L43 MDN - 0.105 * 5L42 Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>[0.09 \times 5L42 KLY + 0.035 \times 5L41 KLY - 0.068 \times 5L42 KLY - 0.111 \times 5L43 MDN + 0.035 \times 5L44 MDN + 5L44 Over_Rating]</td>
</tr>
<tr>
<td><strong>5L44</strong></td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td><strong>5L45</strong></td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td><strong>5L47</strong></td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>By Pass CHP 5CX1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>By Pass CRK 5CX1</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L41 and 5L43</td>
<td>Same as Table 1.1 – System Normal.</td>
</tr>
</tbody>
</table>
## Table 1.16 – 5L83 O.O.S.

### Pre-outage Restrictions

None

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>No generation shedding required.</td>
</tr>
</tbody>
</table>
| 5L41        | \( A_1 = 3.3 \times (0.42 \times 5L41 \text{ KLY} + 5L42 \text{ KLY} - 5L42_{\text{Over\_Rating}}) \)  
\( GS_1 = \max (0, A_1) \)  
If 2L90 I/S and (2L90 KLY + 0.07 \times 5L41 KLY - 0.054 \times GS1) < 2L90_{\text{Over\_Rating}},  
\( Y = 2L112 \text{ NLY} + 0.031 \times 5L41 \text{ KLY} - 0.09 \times GS1, \) if 2L112 is in service, otherwise,  
\( Z = 2L293 \text{ SEL} + 0.027 \times 5L41 \text{ KLY} - 0.09 \times GS1, \) if 2L112 & 2L293 are in service, otherwise,  
\( Z = 0 \)  
If \( Y > 2L112_{\text{OLRAS\_PickupMW}} \) or \( Z > 2L293_{\text{OLRAS\_PickupMW}}, \) shed at GMS/PCN the greatest of:  
\( \cdot A_1 + 3.3 \times 0.21 \times (Y - 2L112_{\text{OLRAS\_ResetMW}}), \) or  
\( \cdot A_1 + 3.3 \times 0.25 \times (Z - 2L293_{\text{OLRAS\_ResetMW}}) \)  
If \( Y \leq 2L112_{\text{OLRAS\_PickupMW}} \) and \( Z \leq 2L293_{\text{OLRAS\_PickupMW}}, \) shed at GMS/PCN:  
\( GS_2 = \max (0, A_2) \)  
\( A_2 = 3.13 \times (0.42 \times 5L41 \text{ KLY} + 0.45 \times (0.07 \times 5L41 \text{ KLY} + 2L90 \text{ KLY}) - 2L90_{\text{KLY}}), \) if 2L112 is in service, otherwise,  
\( Z = 2L293_{\text{SEL}} + 0.028 \times 5L41 \text{ KLY} - 0.09 \times GS2, \) if 2L112 & 2L293 are in service, otherwise,  
\( Z = 0 \)  
If \( Y > 2L112_{\text{OLRAS\_PickupMW}} \) or \( Z > 2L293_{\text{OLRAS\_PickupMW}}, \) shed at GMS/PCN the greatest of:  
\( \cdot A_2 + 3.13 \times 0.22 \times (Y - 2L112_{\text{OLRAS\_ResetMW}}), \) or  
\( \cdot A_2 + 3.13 \times 0.26 \times (Z - 2L293_{\text{OLRAS\_ResetMW}}) \)  
If \( Y \leq 2L112_{\text{OLRAS\_PickupMW}} \) and \( Z \leq 2L293_{\text{OLRAS\_PickupMW}}, \) shed at GMS/PCN:  
\( GS_3 = \max (0, A_3) \)  
\( A_3 = 3.07 \times (0.45 \times 5L41 \text{ KLY} + 5L42 \text{ KLY} - 5L42_{\text{Over\_Rating}}) \)  
\( GS_3 = \max (0, A_3) \)  
If 2L90 OOS,  
\( Y = 2L112_{\text{NLY}} + 0.034 \times 5L41 \text{ KLY} - 0.1 \times GS3, \) if 2L112 is in service, otherwise,  
\( Z = 2L293_{\text{SEL}} + 0.028 \times 5L41 \text{ KLY} - 0.1 \times GS3, \) if 2L112 & 2L293 are in service, otherwise,  
\( Z = 0 \)  
If \( Y > 2L112_{\text{OLRAS\_PickupMW}} \) or \( Z > 2L293_{\text{OLRAS\_PickupMW}}, \) shed at GMS/PCN the greatest of:  
\( \cdot A_3 + 3.07 \times 0.22 \times (Y - 2L112_{\text{OLRAS\_ResetMW}}), \) or  
\( \cdot A_3 + 3.07 \times 0.27 \times (Z - 2L293_{\text{OLRAS\_ResetMW}}) \)  
If \( Y \leq 2L112_{\text{OLRAS\_PickupMW}} \) and \( Z \leq 2L293_{\text{OLRAS\_PickupMW}}, \) shed at GMS/PCN:  
\( GS_3 \)  |
| 5L42        | No generation shedding required. |
| 5L45        | No generation shedding required. |
| 5L77        | No generation shedding required. |
| By Pass CHP 5CX1 | No generation shedding required. |
| By Pass CRK 5CX1 | No generation shedding required. |
Table 2.2 – 5L83 AND 5L40 O.O.S.

Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L42</td>
<td>Shed at GMS/PCN: 12.0 * (2L79 CBN + 0.144 * 5L42 KLY - 2L79_Over_Rating)</td>
</tr>
<tr>
<td>5L45</td>
<td>Shed at GMS/PCN: 7.70 * (2L90 CBN + 0.178 * 5L45 KLY - 2L79_Over_Rating)</td>
</tr>
<tr>
<td>5L87</td>
<td>GS = Max (0, 1.88 * (0.85 * 5L87 KLY + 5L42 KLY - 5L42_Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S AND (2L90 KLY + 0.06 * 5L87 KLY - 0.06 * GS) &lt; 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S AND (2L90 KLY + 0.06 * 5L87 KLY - 0.06 * GS) &gt;= 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.79 * (0.68 * 5L87 KLY + 0.48 * 2L90 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.77 * (0.67 * 5L87 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
</tbody>
</table>

By Pass CHP SCX1: No generation shedding required.
By Pass CIR SCX1: No generation shedding required.

Table 2.3 – 5L83 AND 5L41 O.O.S.

Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>No generation shedding required.</td>
</tr>
<tr>
<td>5L42</td>
<td>GS = max (0, 1.42 * (5L87 KLY + 0.86 * 5L42 KLY - 5L87_Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.11 * 5L42 KLY - 0.09 * GS &lt; 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and 2L90 KLY + 0.11 * 5L42 KLY - 0.09 * GS &gt;= 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.3 * (5L87 KLY + 0.95 * 5L42 KLY + 0.84 * 2L90 KLY - 5L87_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then shed at GMS/PCN:</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.35 * (0.87 * 5L87 KLY + 0.8 * 2L90 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
</tbody>
</table>

By Pass CIR SCX1: No generation shedding required.

Table 2.4 – 5L83 AND 5L42 O.O.S.

Pre-outage Restrictions
- 5L41 contingency:
  - If 2L90 I/S, limit: 2L1 PEM + 0.02 * 5L41 CBN <= 2L1_Over_Rating MW
  - If TSA alarms "VIOLATION_2L1 PEM OVER_RATING_5L41CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.
- 5L40 contingency:
  - If 2L90 I/S, limit: 2L1 PEM + 0.03 * 5L40 CBN <= 2L1_Over_Rating MW
  - If 2L90 OOS, limit: 2L1 PEM + 0.023 * 5L40 CBN <= 2L1_Over_Rating MW
  - If TSA alarms "VIOLATION_2L1 PEM OVER_RATING_5L40CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: max (0, 11.35 * (0.31 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating))</td>
</tr>
<tr>
<td>5L41</td>
<td>GS = max (0, 1.40 * (0.85 * 5L41 KLY + 5L87 KLY - 5L87_Over_Rating))</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S, and (2L90 KLY + 0.11 * 5L41 KLY - 0.08 * GS) &lt; 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S, and (2L90 KLY + 0.11 * 5L41 KLY - 0.08 * GS) &gt;= 2L90_Over_Rating, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.30 * (0.86 * 0.11 * 5L41 KLY + 2L90 KLY) + 0.85 * 5L41 KLY + 5L87 KLY - 5L87_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS, then</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: 1.29 * (0.94 * 5L41 KLY + 5L87 KLY - 5L87_Over_Rating)</td>
</tr>
</tbody>
</table>

5L45
- Referred to SOO 7T-41, Attachment 2 – Table 2.3 Generation Shedding Requirements for the loss of North VI - LM.

5L87
- GS = max (0, 1.6 * (0.75 * 5L87 KLY + 5L41 KLY - 5L41_Over_Rating)) |
- If 2L90 I/S AND (2L90 KLY + 0.11 * 5L87 KLY - 0.11 * GS) < 2L90_Over_Rating, then |
  - Shed at GMS/PCN: GS |
- If 2L90 I/S AND (2L90 KLY + 0.11 * 5L87 KLY - 0.11 * GS) >= 2L90_Over_Rating, then |
  - Shed at GMS/PCN: 1.4 * (0.84 * 5L87 KLY + 0.78 * 2L90 KLY + 5L41 KLY - 5L41_Over_Rating) |
- If 2L90 OOS, then |
  - Shed at GMS/PCN: 1.4 * (0.83 * 5L87 KLY + 5L41 KLY - 5L41_Over_Rating) |

By Pass CHP 5CX1: No generation shedding required.
### Table 2.5 – 5L83 AND 5L45 O.O.S.

**Pre-outage Restrictions**

- **5L41 contingency:**
  - If 2L90 I/S and 0.09 * 5L41 KLY + 2L90 KLY >= 2L90_Over_Rating, then limit:
    - 0.017 * 5L41 KLY + 0.067 * (0.09 * 5L41 KLY + 2L90 KLY) + 1L32 SEC < 1L32_Over_Rating
  - If 2L90 OOS, then limit:
    - 0.023 * 5L41 KLY + 1L32 SEC <= 1L32_Over_Rating
- If TSA alarms "VIOLATION_1L32_OVER_RATING_5L41CTG", the BC Hydro Control Centre staff shall take the following actions to reduce the flow on 1L32 SEC:
  - Reduce generation at BHU/ BHL/ UCH / LCH / COM, or
  - Increase BR generation,
  - Reduce flow on 2L129 ARN

**Generation Shedding Requirements**

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: 13.05 * (0.3 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating)</td>
</tr>
<tr>
<td>5L41</td>
<td>No generation shedding required</td>
</tr>
<tr>
<td>5L42</td>
<td>Referred to SCO 7T-41, Attachment 2 – table 2.3 Generation Shedding Requirements for the loss of North VI - LM.</td>
</tr>
</tbody>
</table>
| 5L87        | If 2L90 I/S AND (2L90 KLY + 0.08 * 5L87 KLY) >= 2L90_Over_Rating, then
  - Shed at GMS/PCN: 1.85 * (0.69 * 5L87 KLY + 0.62 * 2L90 KLY + 5L41 KLY - 5L41_Over_Rating)
  - If 2L90 OOS, then
    - Shed at GMS/PCN: 1.85 * (0.69 * 5L87 KLY + 5L41 KLY - 5L41_Over_Rating) |

By Pass CHP 5CX1
- No generation shedding required

By Pass CRK 5CX1
- No generation shedding required

### Table 2.6 – 5L83 AND 5L44 O.O.S.

**Pre-outage Restrictions**

None

**Generation Shedding Requirements**

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
</table>
| 5L40        | If 2L53 and 2L90 I/S,
  - A1 = 24.2 * (0.046 * 5L40 CBN + 2L51 COK - 2L51_Over_Rating)
  - A2 = 25.4 * (0.048 * 5L40 CBN + 2L3 WLT - 2L3_Over_Rating)
  - A3 = 11.2 * (0.30 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating)

  GS1 = max (0, A1, A2, A3)
  Y = 2L112 NLY + 0.042 * 5L40 CBN - 0.12 * GS1
  Z = 2L293 SEL + 0.036 * 5L40 CBN - 0.11 * GS1

  If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
  - 1.02 * (A1 + 24.2 * 0.061 * (Y - B)), or
  - 1.02 * (A1 + 24.2 * 0.072 * (Z - C)), if (Z - C) > 40, or
  - 1.02 * A1, if (Z - C) <= 40
  - (A2 = 25.4 * 0.041 * (Y - B)), or
  - (A2 = 25.4 * 0.048 * (Z - C)), if (Z - C) > 40, or
  - A2, if (Z - C) <= 40
  - (A3 = 11.2 * 0.072 * (Y - B)), or
  - (A3 = 11.2 * 0.085 * (Z - C)), if (Z - C) > 40, or
  - A3, if (Z - C) <= 40

  If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1 |

If 2L53 I/S and 2L90 OOS
  - A4 = 21.6 * (0.047 * 5L40 CBN + 2L51 COK - 2L51_Over_Rating)
  - A5 = 36.9 * (0.046 * 5L40 CBN + 2L3 WLT - 2L3_Over_Rating)
  - A6 = 11.4 * (0.30 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating)

  GS2 = max (0, A4, A5, A6)
  Y = 2L112 NLY + 0.042 * 5L40 CBN - 0.12 * GS2
  Z = 2L293 SEL + 0.036 * 5L40 CBN - 0.11 * GS2

  If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
  - 1.01 * (A4 + 21.6 * 0.066 * (Y - B)), or
  - 1.01 * (A4 + 21.6 * 0.077 * (Z - C)), if (Z - C) > 40, or
  - 1.01 * A4, if (Z - C) <= 40
  - 1.01 * (A5 = 36.9 * 0.032 * (Y - B)), or
  - 1.01 * (A5 = 36.9 * 0.038 * (Z - C)), if (Z - C) > 40, or
  - 1.01 * A5, if (Z - C) <= 40
  - (A6 = 11.4 * 0.072 * (Y - B)), or
  - (A6 = 11.4 * 0.085 * (Z - C)), if (Z - C) > 40, or
  - A6, if (Z - C) <= 40

  If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2

Generation Shedding Requirements Continued on Next Page for Table 2.6 – 5L83 AND 5L44 O.O.S.
### Table 2.6 – SL83 AND SL44 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SL40 (Continued)</strong></td>
<td>If 2L53 OOS and 2L90 I/S, A7 = 26.9 * (0.041 * SL40 CBN + 2L51 COK - 2L51_Over_Rating) A8 = 26.7 * (0.046 * SL40 CBN + 2L3 WL7 - 2L3_Over_Rating) A9 = 11.1 * (0.30 * SL40 CBN + 2L79 CBN - 2L79_Over_Rating) GS3 = max(0, A7, A8, A9) Y = 2L112 NLY + 0.042 * SL40 CBN - 0.12 * GS3 Z = 2L293 SEL + 0.036 * SL40 CBN - 0.11 * GS3 If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of • 1.01 * (A7 + 26.9 * 0.058 * (Y - B)), or • 1.01 * (A7 + 26.9 * 0.068 * (Z - C)), if (Z - C) &gt; 40 or • 1.01 * A7, if (Z - C) &lt;= 40 • If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS3 If 2L53 and 2L90 I/S, A10 = 23.6 * (0.043 * SL40 CBN + 2L51 COK - 2L51_Over_Rating) A11 = 39.4 * (0.044 * SL40 CBN + 2L3 WL7 - 2L3_Over_Rating) A12 = 11.4 * (0.30 * SL40 CBN + 2L79 CBN - 2L79_Over_Rating) GS4 = max (0, A10, A11, A12) Y = 2L112 NLY + 0.042 * SL40 CBN - 0.12 * GS4 Z = 2L293 SEL + 0.036 * SL40 CBN - 0.11 * GS4 If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of • 1.01 * (A10 + 23.6 * 0.061 * (Y - B)), or • 1.01 * (A10 + 23.6 * 0.072 * (Z - C)), if (Z - C) &gt; 40 or • 1.01 * A10, if (Z - C) &lt;= 40 • If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS4 Where: B = 350 from April 1st to Oct 31st B = 370 from Nov 1st to Mar 31st C = 350 from April 1st to Oct 31st C = 430 from Nov 1st to Mar 31st</td>
</tr>
</tbody>
</table>
Table 2.6 – SL83 AND SL44 O.O.S.

<table>
<thead>
<tr>
<th>Contingency</th>
<th>Shedding Requirements</th>
</tr>
</thead>
</table>
| SL41 (Continued) | If 2L53 I/S and 2L90 OOS, A4 = 17.7 * (0.086 * SL41 KLY + 2L51 COK - 2L51_Over_Rating) A5 = 14.1 * (0.11 * SL41 KLY + 2L64 SPG - 2L64_Over_Rating) A6 = 17.4 * (0.085 * SL41 KLY + 2L53 MUR - 2L53_Over_Rating) GS2 = max (0, A4, A5, A6) Y = 2L112 NLY + 0.055 * SL41 KLY - 0.13 * GS2 Z = 2L293 SEL + 0.047 * SL41 KLY - 0.12 * GS2 If Y > 400 or Z > 400, shed at GMS/PCN the greatest of • 1.02 * (A4 + 17.7 * 0.072 * (Y - B)), or • 1.02 * (A4 + 17.7 * 0.085 * (Z - C)), if (Z - C) > 40, or • 1.02 * A4, if (Z - C) <= 40 • 1.02 * (A5 + 14.1 * 0.092 * (Y - B)), or • 1.02 * (A5 + 14.1 * 0.11 * (Z - C)), if (Z - C) > 40, or • 1.02 * A5, if (Z - C) <= 40 • 1.02 * (A6 + 17.4 * 0.088 * (Z - C)), if (Z - C) > 40, or • 1.02 * A6, if (Z - C) <= 40 If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2

| If 2L53 and 2L90 I/S, A7 = 22.6 * (0.068 * SL41 KLY + 2L51 COK - 2L51_Over_Rating) A8 = 8.35 * (0.17 * SL41 KLY + 2L20 CSQ - 2L20_Over_Rating) GS3 = max (0, A7, A8) Y = 2L112 NLY + 0.051 * SL41 KLY - 0.13 * GS3 Z = 2L293 SEL + 0.044 * SL41 KLY - 0.11 * GS3 If Y > 400 or Z > 400, shed at GMS/PCN the greatest of • 1.01 * (A7 + 22.6 * 0.061 * (Y - B)), or • 1.01 * (A7 + 22.6 * 0.072 * (Z - C)), if (Z - C) > 40, or • 1.01 * A7, if (Z - C) <= 40 • 1.01 * (A8 + 8.35 * 0.15 * (Y - B)), or • 1.01 * (A8 + 8.35 * 0.18 * (Z - C)), if (Z - C) > 40, or • 1.01 * A8, if (Z - C) <= 40 If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3

| If 2L53 and 2L90 OOS, A9 = 18.6 * (0.08 * SL41 KLY + 2L51 COK - 2L51_Over_Rating) A10 = 6.7 * (0.17 * SL41 KLY + 2L20 CSQ - 2L20_Over_Rating) GS4 = max 90, A9, A100 Y = 2L112 NLY + 0.054 * SL41 KLY - 0.13 * GS4 Z = 2L293 SEL + 0.046 * SL41 KLY - 0.12 * GS4 If Y > 400 or Z > 400, shed at GMS/PCN the greatest of • 1.01 * (A9 + 18.6 * 0.069 * (Y - B)), or • 1.01 * (A9 + 18.6 * 0.081 * (Z - C)), if (Z - C) > 40, or • 1.01 * A9, if (Z - C) <= 40 • 1.01 * (A10 + 8.7 * 0.15 * (Y - B)), or • 1.01 * (A10 + 8.7 * 0.18 * (Z - C)), if (Z - C) > 40, or • 1.01 * A10, if (Z - C) <= 40 If Y <= 400 and Z <= 400, shed at GMS/PCN: GS4

Where: B = 350 from April 1st to Oct 31st C = 350 from April 1st to Oct 31st C = 430 from Nov 1st to Mar 31st

SL42 No generation shedding required.
SL45 No generation shedding required.
SL47 No generation shedding required.
By Pass CHP 5CX1 No generation shedding required.
By Pass CRK 5CX1 No generation shedding required.
### Pre-outage Restrictions

Limit: 5L41 KLY < 5L41_Normal_Rating

If TSA alarms "VIOLATION_5L41_NORM_RATING", the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L41 KLY below their rating within 30 minutes:

- Reduce GMS or PCN or other generation north of KLY, or
- Reduce SI generation or import from Alberta.

### Generation Shedding Requirements

#### Table 2.7 – 5L83 and 5L81 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5L40</strong></td>
<td></td>
</tr>
<tr>
<td>D = 14.10 * (0.29 * 5L40 CBN + 2L99 CBN - 2L99_Over_Rating)</td>
<td>VS1 = max (0, A1, D)</td>
</tr>
<tr>
<td>A1 = 3.18 * (0.36 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
<td>If 2L90 I/S and (2L90 KLY + 0.013 * 5L40 CBN - 0.042 * GS1) &lt; 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.037 * 5L40 CBN - 0.11 * GS1</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
</tr>
<tr>
<td></td>
<td>A1 + 3.18 * 0.30 * (Y - B), or</td>
</tr>
<tr>
<td></td>
<td>A1 if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td>A2 = 3.04 * (0.35 * (0.013 * 5L40 CBN + 2L90 KLY) + 0.36 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
<td>GS2 = max (0, A2, D)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.013 * 5L40 CBN - 0.042 * GS1) &gt;= 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.037 * 5L40 CBN + 0.039 * (2L90 KLY + 0.013 * 5L40 CBN) - 0.11 * GS2</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
</tr>
<tr>
<td></td>
<td>A2 + 3.04 * 0.35 * (Y - B), or</td>
</tr>
<tr>
<td></td>
<td>A2 if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td>GS3 = 3.05 * (0.36 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
<td>If 2L90 OOS,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.038 * 5L40 CBN - 0.12 * GS3</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
</tr>
<tr>
<td></td>
<td>A3 + 3.05 * 0.30 * (Y - B), or</td>
</tr>
<tr>
<td></td>
<td>A3 if (Z - C) &lt;= 40</td>
</tr>
</tbody>
</table>

Where:
- B = 350 from Apr 1st to Oct 31st
- B = 370 from Nov 1st to Mar 31st
- C = 350 from Apr 1st to Oct 31st
- C = 430 from Nov 1st to Mar 31st

| **5L41**    |                        |
| A1 = 2.69 * (0.5 * 5L41 KLY - 5L42 KLY - 5L42_Over_Rating) | VS1 = max (0, A1, A2, A3) |
| A2 = 2.25 * (0.64 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating) | If 2L90 I/S and (2L90 KLY + 0.084 * 5L41 KLY - 0.063 * GS1) < 2L90_Over_Rating, |
| A3 = 4.60 * (0.35 * 5L41 KLY + 5L82 NIC - 5L82_Over_Rating) | Y = 2L112 NLY + 0.052 * 5L41 KLY - 0.12 * GS1 |
| GS1 = max (0, A1, A2, A3) | Z = 2L293 SEL + 0.044 * 5L41 KLY - 0.11 * GS1 |
| If Y > 400 or Z > 400, shed at GMS/PCN the greatest of | 1.01 * (A1 + 2.69 * 0.34 * (Y - B)), or |
|             | 1.01 * (A1 + 2.69 * 0.40 * (Z - C)) if (Z - C) > 40, or |
|             | 1.01 * A1 if (Z - C) <= 40, or |
|             | 1.03 * (A2 + 2.25 + 0.66 * (Y - B)), or |
|             | 1.03 * (A2 + 2.25 + 0.78 * (Z - C)) if (Z - C) > 40, or |
|             | 1.03 * A2 if (Z - C) <= 40, or |
|             | 1.04 * (A3 + 4.6 + 0.57 * (Y - B)), or |
|             | 1.04 * (A3 + 4.6 + 0.67 * (Z - C)) if (Z - C) > 40, or |
|             | 1.04 * A3 if (Z - C) <= 40, or |
| If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1 | If Y <= 400 or Z <= 400, shed at GMS/PCN: GS1 |
| A4 = 2.48 * (0.54 * (0.084 * 5L41 KLY + 2L90 KLY) + 0.50 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating) | If 2L90 I/S and (2L90 KLY + 0.064 * 5L41 KLY - 0.063 * GS1) >= 2L90_Over_Rating, |
| A5 = 2.17 * (0.32 * (0.084 * 5L41 KLY + 0.65 * 5L41 KLY + 5L44 MDN - 5L44_Over_Rating) | Y = 2L112 NLY + 0.051 * 5L41 KLY + 0.056 * (2L90 KLY + 0.084 * 5L41 KLY) - 0.12 * GS2 |
| A6 = 4.15 * (0.39 * (0.084 * 5L41 KLY + 2L90 KLY) + 0.35 * 5L41 KLY + 5L82 NIC - 5L82_Over_Rating) | Z = 2L293 SEL + 0.043 * 5L41 KLY + 0.049 * (2L90 KLY + 0.084 * 5L41 KLY) - 0.11 * GS2 |
| GS2 = max (0, A4, A5, A6) | If Y > 400 or Z > 400, shed at GMS/PCN the greatest of | 1.01 * (A4 + 2.48 + 0.38 * (Y - B)), or |
|             | 1.01 * (A4 + 2.48 + 0.45 * (Z - C)) if (Z - C) > 40, or |
|             | 1.01 * A4 if (Z - C) <= 40, or |
|             | 1.04 * (A5 + 2.17 + 0.65 * (Y - B)), or |
|             | 1.04 * (A5 + 2.17 + 0.77 * (Z - C)) if (Z - C) > 40, or |
|             | 1.04 * A5 if (Z - C) <= 40, or |
|             | 1.04 * (A6 + 4.15 + 0.59 * (Y - B)), or |
|             | 1.04 * (A6 + 4.15 + 0.70 * (Z - C)) if (Z - C) > 40, or |
|             | 1.04 * A6 if (Z - C) <= 40, or |
| If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2 | If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2 |

Generation Shedding Requirements Continued on Next Page for Table 2.7 – 5L83 and 5L81 O.O.S.
Table 2 – 5L83 AND 5L81 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>GENERATION SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41 (Continued)</td>
<td>Table 2.7 continues from Last Page for Table 2.7 – 5L83 AND 5L81 O.O.S.</td>
</tr>
</tbody>
</table>

5L83 AND 5L81 O.O.S.

5L42

A7 = 2.48 * (0.55 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)
A8 = 2.16 * (0.75 * 5L41 KLY - 5L44 MDN - 5L44_Over_Rating)
A9 = 4.14 * (0.39 * 5L41 KLY + 5L82 NIC - 5L82_Over_Rating)

GS3 = max (0, A7, A8, A9)

If 2L90 OOS,
Y = 2L112 NLY + 0.05 * 5L41 KLY - 0.12 * GS3
Z = 2L293 SEL + 0.048 * 5L41 KLY - 0.11 * GS3

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:

1. 0.1 * [(7 + 2.48 * 0.38 * (Y - B)], or
2. 0.1 * [(7 + 2.48 * 0.45 * (Z - C)]) if (Z - C) > 40, or
3. 0.1 * A7 if (Z - C) <= 40, or
4. 0.07 * GS1 if (Z - C) > 40, or
5. 0.13 * [A2 + 4.6 * 0.61 * (Y - B)], or
6. 0.16 * [A1 + 3.73 * 0.33 * (Z - C)]) if (Z - C) > 40, or
7. 0.16 * A1 if (Z - C) <= 40, or
8. 0.1 * A2 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1

A1 = 3.73 * (5L41 KLY + 0.46 * 5L42 KLY - 5L41_Over_Rating)
A2 = 4.6 * (5L82 NIC + 0.42 * 5L42 KLY - 5L82_Over_Rating)

GS1 = max (0, A1, A2)

If 2L90 I/S and 2L90 KLY > 0.05 * 5L42 KLY - 0.15 * GS1

Z = 2L293 SEL + 0.043 * 5L42 KLY - 0.13 * GS1

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:

1. 0.1 * (A1 + 3.73 * 0.27 * (Y - B)], or
2. 1.3 * (A2 + 4.6 * 0.74 * (Z - C)]) if (Z - C) > 40, or
3. 1.3 * A2 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3

A3 = 3.6 * (5L41 KLY + 0.46 * 5L42 KLY + 0.53 * (2L90 NLY + 0.08 * 5L42 KLY) - 5L41_Over_Rating)
A4 = 4.1 * (5L82 NIC + 0.42 * 5L42 KLY + 0.4 * (2L90 NLY + 0.08 * 5L42 KLY) - 5L82_Over_Rating)

GS2 = max (0, A3, A4)

If 2L90 I/S and 2L90 KLY > 0.08 * 5L42 KLY - 0.07 * GS1 => 2L90_Over_Rating,

Y = 2L112 NLY + 0.05 * 5L42 KLY + 0.07 * (2L90 KLY + 0.08 * 5L42 KLY) - 0.15 * GS2
Z = 2L293 SEL + 0.043 * 5L42 KLY + 0.06 * (2L90 KLY + 0.08 * 5L42 KLY) - 0.13 * GS2

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:

1. 1.22 * (A3 + 3.6 * 0.29 * (Y - B)], or
2. 1.12 * (A4 + 4.1 * 0.71 * (Y - B)], or
3. 1.22 * (A3 + 3.6 * 0.36 * (Z - C)]) if (Z - C) > 40, or
4. 1.22 * A3 if (Z - C) <= 40, or
5. 1.12 * (A4 + 4.1 * 0.87 * (Z - C)]) if (Z - C) > 40, or
6. 1.12 * A4 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2

A5 = 3.6 * (5L41 KLY + 0.5 * 5L42 KLY - 5L41_Over_Rating)
A6 = 4.1 * (5L82 NIC + 0.45 * 5L42 KLY - 5L82_Over_Rating)

GS3 = max (0, A5, A6)

If 2L90 OOS,
Y = 2L112 NLY + 0.06 * 5L42 KLY - 0.15 * GS3
Z = 2L293 SEL + 0.05 * 5L42 KLY - 0.13 * GS3

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:

1. 1.22 * (A5 + 3.6 * 0.29 * (Y - B)], or
2. 1.12 * (A6 + 4.1 * 0.71 * (Y - B)], or
3. 1.22 * (A5 + 3.6 * 0.36 * (Z - C)]) if (Z - C) > 40, or
4. 1.22 * A5 if (Z - C) <= 40, or
5. 1.12 * (A6 + 4.1 * 0.87 * (Z - C)]) if (Z - C) > 40, or
6. 1.12 * A6 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3

5L45

No generation shedding required.

5L87

No generation shedding required.
### Table 2.7 – 5L83 AND 5L81 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Pass CHP 5CX1</td>
<td>A1 = 3.65 * (0.19 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td>GS1 = max (0, A1)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.031 * 5L41 KLY - 0.046 * GS1) &lt; 2L90_Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.02 * 5L41 KLY - 0.1 * GS1</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.017 * 5L41 KLY - 0.1 * GS1</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
<td></td>
</tr>
<tr>
<td>* A1 + 3.65 * 0.26 * (Y - B), or</td>
<td></td>
</tr>
<tr>
<td>* A1 + 3.65 * 0.31 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>* A1 if (Z - C) &lt;= 40</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN; GS1</td>
<td></td>
</tr>
<tr>
<td>A2 = 3.37 * (0.41 * (0.031 * 5L41 KLY + 2L90 KLY) + 0.19 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating))</td>
<td></td>
</tr>
<tr>
<td>GS2 = max (0, A2)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.031 * 5L41 KLY - 0.046 * GS1) &gt;= 2L90_Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.02 * 5L41 KLY + 0.047 * (2L90 KLY + 0.031 * 5L41 KLY) - 0.11 * GS2</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.017 * 5L41 KLY + 0.033 * (2L90 KLY + 0.031 * 5L41 KLY) - 0.1 * GS2</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
<td></td>
</tr>
<tr>
<td>* A2 + 3.37 * 0.26 * (Y - B), or</td>
<td></td>
</tr>
<tr>
<td>* A2 + 3.37 * 0.31 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>* A2 if (Z - C) &lt;= 40</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN; GS2</td>
<td></td>
</tr>
<tr>
<td>A3 = 3.37 * (0.2 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS3 = max (0, A3)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 OOS,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.021 * 5L41 KLY - 0.11 * GS3</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.018 * 5L41 KLY - 0.1 * GS3</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
<td></td>
</tr>
<tr>
<td>* A3 + 3.37 * 0.28 * (Y - B), or</td>
<td></td>
</tr>
<tr>
<td>* A3 + 3.37 * 0.33 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>* A3 if (Z - C) &lt;= 40</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN; GS3</td>
<td></td>
</tr>
</tbody>
</table>

Where:

- B = 350 from Apr 1st to Oct 31st
- B = 370 from Nov 1st to Mar 31st
- C = 350 from Apr 1st to Oct 31st
- C = 430 from Nov 1st to Mar 31st

**By Pass CRK 5CX1** No generation shedding required.
**Pre-outage Restrictions**

Limit: 5L42 KLY < 5L42_Normal_rating MW
If TSA alarms “VIOLATION_5L42_NORM_RATING”, the BC Hydro Control Centre staff shall take the following actions to bring the flow on 5L42 KLY below their rating within 30 minutes:
- Reduce GMS or PCN or other generation north of KLY, or
- Reduce SI generation or import from Alberta.

### Generation Shedding Requirements

**CONTINGENCY** | **SHEDDING REQUIREMENTS**
--- | ---

**5L40**

D = $14 \times (0.28 \times 5L40 \_CBN + 2L79 \_CBN - 2L99\_Over\_Rating)$

A1 = $3.2 \times (0.35 \times 5L40 \_CBN + 5L42 \_KL - 5L42\_Over\_Rating)$

GS1 = max (0, A1, D)

If 2L90 I/S and (2L90 KLY + 0.012 \times 5L40 CBN - 0.041 \times GS1) < 2L90\_Over\_Rating,

Y = 2L112 NLY + 0.033 \times 5L40 CBN - 0.11 \times GS1

Z = 2L293 SEL + 0.028 \times 5L40 CBN - 0.1 \times GS1

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
- D, or
- A1 + 3.2 \times 0.29 \times (Y - B), or
- A1 + 3.2 \times 0.35 \times (Z - C) if (Z - C) > 40, or
- A1 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1

A2 = $3.02 \times (0.37 \times (0.012 \times 5L40 \_CBN + 2L90 \_KL) + 0.35 \times 5L40 \_CBN + 5L42 \_KL - 5L42\_Over\_Rating)$

GS2 = max (0, A2, D)

If 2L90 I/S and (2L90 KLY + 0.012 \times 5L40 CBN - 0.041 \times GS1) >= 2L90\_Over\_Rating,

Y = 2L112 NLY + 0.033 \times 5L40 CBN + 0.033 \times (2L90 KLY + 0.012 \times 5L40 CBN) - 0.11 \times GS2

Z = 2L293 SEL + 0.028 \times 5L40 CBN + 0.033 \times (2L90 KLY + 0.012 \times 5L40 CBN) - 0.1 \times GS2

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
- D, or
- A2 + 3.02 \times 0.30 \times (Y - B), or
- A2 + 3.02 \times 0.36 \times (Z - C) if (Z - C) > 40, or
- A2 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2

A3 = $3.047 \times (0.36 \times 5L40 \_CBN + 5L42 \_KL - 5L42\_Over\_Rating)$

GS3 = max (0, A3, D)

If 2L90 OOS,

Y = 2L112 NLY + 0.032 \times 5L40 CBN - 0.11 \times GS3

Z = 2L293 SEL + 0.027 \times 5L40 CBN - 0.1 \times GS3

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
- D, or
- A3 + 3.047 \times 0.31 \times (Y - B), or
- A3 + 3.047 \times 0.37 \times (Z - C) if (Z - C) > 40, or
- A3 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3

Where:

- B = 350 from Apr 1st to Oct 31st
- B = 370 from Nov 1st to Mar 31st
- C = 350 from Apr 1st to Oct 31st
- C = 430 from Nov 1st to Mar 31st

**5L41**

A1 = $2.70 \times (0.50 \times 5L41 \_KL + 5L42 \_KL - 5L42\_Over\_Rating)$

A2 = $4.21 \times (0.37 \times 5L41 \_KL + 5L81 \_NIC - 5L81\_Over\_Rating)$

GS1 = max (0, A1, A2)

If 2L90 I/S and (2L90 KLY + 0.08 \times 5L41 KLY - 0.06 \times GS1) < 2L90\_Over\_Rating,

Y = 2L112 NLY + 0.045 \times 5L41 KLY - 0.11 \times GS1

Z = 2L293 SEL + 0.038 \times 5L41 KLY - 0.1 \times GS1

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
- 1.01 \times (A1 + 2.7 \times 0.34 \times (Y - B)), or
- (A1 + 2.7 \times 0.41 \times (Z - C)) if (Z - C) > 40, or
- 1.01 \times A1 if (Z - C) <= 40, or
- 1.03 \times (A2 + 4.21 \times 0.56 \times (Y - B)), or
- 1.03 \times (A2 + 4.21 \times 0.66 \times (Z - C)) if (Z - C) > 40, or
- 1.03 \times A2 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1

A3 = $2.65 \times (0.55 \times (0.08 \times 5L41 \_KL + 2L90 \_KL) + 0.5 \times 5L41 \_KL + 5L42 \_KL - 5L42\_Over\_Rating)$

A4 = $4.07 \times (0.39 \times (0.08 \times 5L41 \_KL + 2L90 \_KL) + 0.38 \times 5L41 \_KL + 5L81 \_NIC - 5L81\_Over\_Rating)$

GS2 = max (0, A3, A4)

If 2L90 I/S and (2L90 KLY + 0.08 \times 5L41 \_KL - 0.06 \times A) >= 2L90\_Over\_Rating,

Y = 2L112 NLY + 0.045 \times 5L41 KLY + 0.053 \times (2L90 KLY + 0.08 \times 5L41 KLY) - 0.114 \times GS2

Z = 2L293 SEL + 0.038 \times 5L41 KLY + 0.046 \times (2L90 KLY + 0.08 \times 5L41 KLY) - 0.106 \times GS2

If Y > 400 or Z > 400, shed at GMS/PCN the greatest of
- 1.02 \times (A3 + 2.65 \times 0.38 \times (Y - B)), or
- 1.02 \times (A3 + 2.65 \times 0.45 \times (Z - C)) if (Z - C) > 40, or
- 1.02 \times A3 if (Z - C) <= 40, or
- 1.02 \times (A4 + 4.07 \times 0.63 \times (Y - B)), or
- 1.02 \times (A4 + 4.07 \times 0.741 \times (Z - C)) if (Z - C) > 40, or
- 1.02 \times A4 if (Z - C) <= 40

If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2

---

**Generation Shedding Requirements Continued on Next Page for Table 2.8 -- 5L63 AND 5L82 O.O.S.**
### 5L41 (Continued)

A5 = 2.81 \times (0.54 \times 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)

A6 = 4.015 \times (0.41 \times 5L41 KLY + 5L81 NIC - 5L81 Over_Rating)

**Generation Shedding Requirements Continued on Next Page for Table 2.8**

**Table 2.8 – 5L83 AND 5L82 O.O.S.**

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41 (Continued)</td>
<td><strong>A5</strong> = 2.81 \times (0.54 \times 5L41 KLY + 5L42 KLY - 5L42 Over_Rating) <strong>A6</strong> = 4.015 \times (0.41 \times 5L41 KLY + 5L81 NIC - 5L81 Over_Rating) <strong>GS3</strong> = max (0, A5, A6) <strong>If 2L90 OOS,</strong> Y = 2L112 NLY + 0.049 \times 5L41 KLY - 0.11 \times GS3 Z = 2L293 SEL + 0.041 \times 5L41 KLY - 0.11 \times GS3 If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of: 1.01 \times (A5 + 2.61 \times 0.38 \times (Y - B)), or 1.01 \times (A5 + 2.61 \times 0.45 \times (Z - C)) if (Z - C) &gt; 40, or 1.01 \times A5 if (Z - C) &lt;= 40, or 1.01 \times A6 if (Z - B) &gt; 40, or 1.01 \times A6 if (Z - C) &lt;= 40, or If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS3 <strong>Where:</strong> B = 350 from Apr 1st to Oct 31st B = 370 from Nov 1st to Mar 31st C = 430 from Apr 1st to Oct 31st C = 430 from Nov 1st to Mar 31st</td>
</tr>
</tbody>
</table>

| 5L42 | A1 = 3.84 \times (5L41 KLY + 0.48 \times 5L42 KLY - 5L41 Over_Rating) A2 = 4.6 \times (5L81 NIC + 0.37 \times 5L42 KLY - 5L81 Over_Rating) **GS1** = max (0, A1, A2) **If 2L90 I/S and (2L90 KLY + 0.09 \times 5L42 KLY - 0.06 \times GS1) < 2L90 Over_Rating,** Y = 2L112 NLY + 0.06 \times 5L42 KLY - 0.14 \times GS1 Z = 2L293 SEL + 0.05 \times 5L42 KLY - 0.13 \times GS1 If Y > 400 or Z > 400, shed at GMS/PCN the greatest of: 1.1 \times (A1 + 3.8 \times 0.3 \times (Y - B)), or 1.12 \times (A2 + 4.6 \times 0.3 \times (Y - B)), or 1.1 \times (A1 + 3.8 \times 0.36 \times (Z - C)) if (Z - C) > 40, or 1.1 \times A1 if (Z - C) <= 40, or 1.12 \times (A2 + 4.6 \times 0.74 \times (Z - C)) if (Z - C) > 40, or 1.1 \times A2 if (Z - C) <= 40, or If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1 **A3 = 3.4 \times (5L41 KLY + 0.48 \times 5L42 KLY + 0.55 \times (2L90 NLY + 0.085 \times 5L42 KLY) - 5L41 Over_Rating) A4 = 4.4 \times (5L81 NIC + 0.37 \times 5L42 KLY + 0.43 \times (2L90 NLY + 0.085 \times 5L42 KLY) - 5L81 Over_Rating) **GS2** = max (0, A3, A4) **If 2L90 I/S and (2L90 KLY + 0.09 \times 5L42 KLY - 0.06 \times GS1) <= 2L90 Over_Rating,** Y = 2L112 NLY + 0.06 \times 5L42 KLY + 0.03 \times (2L90 KLY + 0.09 \times 5L42 KLY) - 0.14 \times GS2 Z = 2L293 SEL + 0.05 \times 5L42 KLY + 0.02 \times (2L90 KLY + 0.09 \times 5L42 KLY) - 0.13 \times GS2 If Y > 400 or Z > 400, shed at GMS/PCN the greatest of: 1.13 \times (A3 + 3.4 \times 0.3 \times (Y - B)), or 1.13 \times (A4 + 4.4 \times 0.63 \times (Y - B)), or 1.13 \times (A3 + 3.4 \times 0.38 \times (Z - C)) if (Z - C) > 40, or 1.13 \times A3 if (Z - C) <= 40, or 1.13 \times (A4 + 4.4 \times 0.74 \times (Z - C)) if (Z - C) > 40, or 1.13 \times A4 if (Z - C) <= 40, or If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2 **A5 = 3.4 \times (5L41 KLY + 0.53 \times 5L42 KLY - 5L41 Over_Rating) A6 = 4.4 \times (5L81 NIC + 0.41 \times 5L42 KLY - 5L81 Over_Rating) **GS3** = max (0, A5, A6) **If 2L90 OOS,** Y = 2L112 NLY + 0.072 \times 5L42 KLY - 0.14 \times GS3 Z = 2L293 SEL + 0.06 \times 5L42 KLY - 0.13 \times GS3 If Y > 400 or Z > 400, shed at GMS/PCN the greatest of: 1.13 \times (A5 + 3.4 \times 0.32 \times (Y - B)), or 1.12 \times (A6 + 4.4 \times 0.63 \times (Y - B)), or 1.13 \times (A5 + 3.4 \times 0.38 \times (Z - C)) if (Z - C) > 40, or 1.13 \times A5 if (Z - C) <= 40, or 1.13 \times (A6 + 4.4 \times 0.74 \times (Z - C)) if (Z - C) > 40, or 1.12 \times A6 if (Z - C) <= 40, or If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3 **Where:** B = 350 from Apr 1st to Oct 31st B = 370 from Nov 1st to Mar 31st C = 430 from Apr 1st to Oct 31st C = 430 from Nov 1st to Mar 31st **5L45** No generation shedding required. **5L87** No generation shedding required. **Generation Shedding Requirements Continued on Next Page for Table 2.8 – 5L83 AND 5L82 O.O.S.**
Table 2.8 – 5L83 AND 5L82 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Pass CHP 5CX1</td>
<td>A\textsuperscript{1} = 3.3 * (0.19 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A\textsuperscript{1})</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.03 * 5L41 KLY - 0.048 * GS1) &lt; 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.016 * 5L41 KLY - 0.11 * GS1</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.015 * 5L41 KLY - 0.1 * GS1</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
</tr>
<tr>
<td></td>
<td>• A\textsuperscript{1} + 3.53 * 0.28 * (Y - B), or</td>
</tr>
<tr>
<td></td>
<td>• A\textsuperscript{1} + 3.53 * 0.33 * (Z - C) if (Z - C) &gt; 40, or</td>
</tr>
<tr>
<td></td>
<td>• A\textsuperscript{1} if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td>A\textsuperscript{2} = 3.3 * (0.43 * (0.03 * 5L41 KLY + 2L90 KLY) + 0.19 * 5L41 KLY + 5L42_Over_Rating)</td>
<td>GS2 = max (0, A\textsuperscript{2})</td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.03 * 5L41 KLY - 0.048 * GS1) &gt;= 2L90_Over_Rating,</td>
<td>Y = 2L112 NLY + 0.018 * 5L41 KLY + 0.046 * (2L90 KLY + 0.03 * 5L41 KLY) - 0.11 * GS2</td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.015 * 5L41 KLY + 0.037 * (2L90 KLY + 0.03 * 5L41 KLY) - 0.1 * GS2</td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS2</td>
<td>• A\textsuperscript{2} + 3.3 * 0.28 * (Y - B), or</td>
</tr>
<tr>
<td>A\textsuperscript{3} = 3.3 * (0.20 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
<td>• A\textsuperscript{2} + 3.3 * 0.33 * (Z - C) if (Z - C) &gt; 40, or</td>
</tr>
<tr>
<td>GS3 = max (0, A\textsuperscript{3})</td>
<td>• A\textsuperscript{2} if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td>If 2L90 OOS,</td>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.019 * 5L41 KLY - 0.11 * GS3</td>
<td>Z = 2L293 SEL + 0.016 * 5L41 KLY - 0.1 * GS3</td>
</tr>
<tr>
<td>If Y &lt;= 400 or Z &gt; 400, shed at GMS/PCN the greatest of</td>
<td>• A\textsuperscript{3} + 3.3 * 0.29 * (Y - B), or</td>
</tr>
<tr>
<td>• A\textsuperscript{3} + 3.3 * 0.35 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>• A\textsuperscript{3} if (Z - C) &lt;= 40</td>
<td>Where:</td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS3</td>
<td>B = 350 from Apr 1st to Oct 31st</td>
</tr>
<tr>
<td>By Pass CHK 5CX1</td>
<td>C = 370 from Nov 1st to Mar 31st</td>
</tr>
<tr>
<td>No generation shedding required.</td>
<td>C = 350 from Apr 1st to Oct 31st</td>
</tr>
<tr>
<td>No generation shedding required.</td>
<td>C = 430 from Nov 1st to Mar 31st</td>
</tr>
</tbody>
</table>

Table 2.9 – 5L83 AND 5L87 And (5L71 or 5L72) O.O.S.

Pre-outage Restrictions
None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>B = 7.5 * (0.34 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>A\textsuperscript{1} = 1.7 * (0.57 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A\textsuperscript{1}, B)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.037 * 5L40 CBN - 0.077 * GS1) &lt; 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>A\textsuperscript{2} = 1.6 * (0.58 * (0.037 * 5L40 CBN + 2L90 KLY) + 0.57 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A\textsuperscript{2}, B)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.037 * 5L40 CBN - 0.077 * GS1) &gt;= 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS2</td>
</tr>
<tr>
<td></td>
<td>A\textsuperscript{3} = 1.6 * (0.59 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS3 = max (0, A\textsuperscript{3}, B)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 OOS,</td>
</tr>
<tr>
<td></td>
<td>Shed at GMS/PCN: GS3</td>
</tr>
</tbody>
</table>

| 5L41        | A = 1.36 * (0.88 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating) |
|             | GS1 = max (0, A) |
|             | If 2L90 I/S and (2L90 KLY + 0.13 * 5L41 KLY - 0.12 * GS1) < 2L90_Over_Rating, |
|             | Shed at GMS/PCN: GS1 |
|             | GS2 = max (0, 1.18 * (0.98 * (0.13 * 5L41 KLY + 2L90 KLY) + 0.86 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)) |
|             | If 2L90 I/S and (2L90 KLY + 0.13 * 5L41 KLY - 0.12 * GS1) >= 2L90_Over_Rating, |
|             | Shed at GMS/PCN: GS2 |
|             | GS3 = max (0, 1.18 * (0.98 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)) |
|             | If 2L90 OOS, |
|             | Shed at GMS/PCN: GS3 |

Additional gen shed requirement for transient stability purpose:
If One of (5L1, 5L2, 5L3, 5L4, 5L7) AND One of (5L11, 5L12, 5L13) OOS, then

Shed GMS/PCN/BMW/DKW/MCM down to 3100 MW

Generation Shedding Requirements Continued on Next Page for Table 2.9 – 5L83 AND 5L87 And (5L71 or 5L72) O.O.S.
Table 2.9 – 5L83 AND 5L87 And (5L71 or 5L72) O.O.S.

**CONTINGENCY** | **SHEDDING REQUIREMENTS**
--- | ---
5L42 | A = 1.6 * (5L41 KLY + 0.85 * 5L42 KLY - 5L41_Over_Rating)

GS1 = max (0, A)

If 2L90 I/S and (2L90 KLY + 0.15 * 5L42 KLY - 0.14 * GS1) < 2L90_Over_Rating, then

Shed at GMS/PCN: GS1

GS2 = max (0, 1.3 * (5L41 KLY + 5L42 KLY - 5L41_Over_Rating))

If 2L90 I/S and (2L90 KLY + 0.15 * 5L42 KLY - 0.14 * GS1) >= 2L90_Over_Rating, then

Shed at GMS/PCN: GS2

GS3 = max (0, 1.3 * (5L41 KLY + 5L42 KLY - 5L41_Over_Rating))

If 2L90 OOS, then

Shed at GMS/PCN: GS3

5L45

No generation shedding required.

By Pass CHP 5CX1

No generation shedding required.

By Pass CRK 5CX1

No generation shedding required.

Table 2.10 – 5L83 AND CHP 5CX1 O.O.S.

**Pre-outage Restrictions**

None

**Generation Shedding Requirements**

**CONTINGENCY** | **SHEDDING REQUIREMENTS**
--- | ---
5L40 | No generation shedding required.

5L41 | No generation shedding required.

5L42 | No generation shedding required.

5L45 | No generation shedding required.

5L87 | No generation shedding required.

By Pass CRK 5CX1

No generation shedding required.

Table 2.11 – 5L83 AND CRK 5CX1 O.O.S.

**Pre-outage Restrictions**

- 5L41 contingency:
  
  If 2L90 I/S and 2L90 KLY + 0.083 * 5L41 KLY < 2L90_Over_Rating, limit: 2L1 PEM + 0.015 * 5L41 KLY < 2L1_Over_rating MW

  If TSA alarms "VIOLATION_2L1 PEM OVER RATING_5L41CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

- 5L40 contingency:
  
  If 2L90 I/S, Limit: 2L1 PEM + 0.023 * 5L40 CBN < 2L1_Over_rating MW

  If TSA alarms "VIOLATION_2L1 PEM OVER RATING_5L40CTG", the BC Hydro Control Centre staff should reduce generation at BR or increase generation output at CMS or ASL.

**Generation Shedding Requirements**

**CONTINGENCY** | **SHEDDING REQUIREMENTS**
--- | ---
5L40 | Shed at GMS/PCN: 15.4 * (0.28 * 5L40 CBN + 2L79 CBN - 2L79_Over_Rating)

5L41 | No generation shedding required.

5L42 | No generation shedding required.

5L45 | No generation shedding required.

5L87 | No generation shedding required.

By Pass CHP 5CX1

No generation shedding required.
### Table 2.12 – 5L83 AND AMC 5CX1 O.O.S.

#### Pre-outage Restrictions

None

#### Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td>Shed at GMS/PCN: GS = 16.3 * (0.28 * 5L40 CBN + 2L79 CBN - 2L79 Over_Rating)</td>
</tr>
</tbody>
</table>
| 5L41        | A1 = 3.1 * (0.45 * 5L41 KLY + 5L42 KLY - 5L42 Over_Rating)  
If 2L90 I/S and (2L90 KLY + 0.075 * 5L41 KLY - 0.056 * GS1 < 2L90_Over_Rating,  
Y = 2L112 NLY + 0.040 * 5L41 KLY - 0.1 * GS1  
Z = 2L293 SEL + 0.034 * 5L41 KLY - 0.1 * GS1  
If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:  
1.01 * (A1 + 3.1 * 0.25 * (Y - B)), or  
1.01 * (A1 + 3.1 * 0.30 * (Z - C)) if (Z - C) > 40, or  
1.01 * A1 if (Z - C) <= 40  
If Y <= 400 and Z <= 40, shed at GMS/PCN: GS1  
A2 = 2.8 * (0.49 * 0.073 * 5L41 KLY + 2L90 KLY) + 0.45 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)  
GS2 = max (0, A3)  
If 2L90 I/S and (2L90 KLY + 0.075 * 5L41 KLY - 0.056 * GS1) >= 2L90_Over_Rating,  
Y = 2L112 NLY + 0.038 * 5L41 KLY + 0.041 * 2L90 KLY - 0.1 * GS2  
Z = 2L293 SEL + 0.033 * 5L41 KLY - 0.033 * 2L90 KLY - 0.1 * GS2  
If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:  
1.01 * (A2 + 2.8 * 0.28 * (Y - B)), or  
1.01 * (A2 + 2.8 * 0.34 * (Z - C)) if (Z - C) > 40, or  
1.01 * A2 if (Z - C) <= 40  
If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2  
A3 = 2.82 * (0.48 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)  
GS3 = max (0, A3)  
If 2L90 OOS,  
Y = 2L112 NLY + 0.043 * 5L41 KLY - 0.1 * GS3  
Z = 2L293 SEL + 0.036 * 5L41 KLY - 0.1 * GS3  
If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:  
1.01 * (A3 + 2.82 * 0.27 * (Y - B)), or  
1.01 * (A3 + 2.82 * 0.32 * (Z - C)) if (Z - C) > 40, or  
1.01 * A3 if (Z - C) <= 40  
If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3  
Where:  
B = 350 from Apr 1st to Oct 31st  
B = 370 from Nov 1st to Mar 31st  
C = 350 from Apr 1st to Oct 31st  
C = 430 from Nov 1st to Mar 31st  
5L42  
A1 = 3.63 * (5L41 KLY + 0.41 * 5L42 KLY - 5L41_Over_Rating)  
If 2L90 I/S and (2L90 KLY + 0.07 * 5L42 KLY - 0.06 * GS1) < 2L90_Over_Rating,  
Y = 2L112 NLY + 0.04 * 5L42 KLY - 0.13 * GS1  
Z = 2L293 SEL + 0.033 * 5L42 KLY - 0.11 * GS1  
If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:  
1.06 * (A1 + 3.63 * 0.22 * (Y - B)), or  
1.06 * (A1 + 3.63 * 0.27 * (Z - C)) if (Z - C) > 40, or  
1.06 * A1 if (Z - C) <= 40  
If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1  
A2 = 3.43 * (5L41 KLY + 0.41 * 5L42 KLY + 0.46 * (2L90 NLY + 0.07 * 5L42 KLY) - 5L41_Over_Rating)  
GS2= max (0, A2)  
If 2L90 I/S and (2L90 KLY + 0.07 * 5L42 KLY - 0.06 * GS1) >= 2L90_Over_Rating,  
Y = 2L112 NLY + 0.04 * 5L42 KLY + 0.06 * (2L90 KLY + 0.07 * 5L42 KLY) - 0.13 * GS2  
Z = 2L293 SEL + 0.034 * 5L42 KLY + 0.033 * (2L90 KLY + 0.07 * 5L42 KLY) - 0.11 * GS2  
If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:  
1.06 * (A2 + 3.43 * 0.25 * (Y - B)), or  
1.06 * (A2 + 3.43 * 0.3 * (Z - C)) if (Z - C) > 40, or  
1.06 * A2 if (Z - C) <= 40  
If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2  
A3 = 3.43 * (5L41 KLY + 0.44 * 5L42 KLY - 5L41_Over_Rating)  
GS3 = max (0, A3)  
If 2L90 OOS,  
Y = 2L112 NLY + 0.05 * 5L42 KLY - 0.13 * GS3  
Z = 2L293 SEL + 0.04 * 5L42 KLY - 0.11 * GS3  
If Y > 400 or Z > 400, shed at GMS/PCN the greatest of:  
1.06 * (A3 + 3.43 * 0.25 * (Y - B)), or  
1.06 * (A3 + 3.43 * 0.3 * (Z - C)) if (Z - C) > 40, or  
1.06 * A3 if (Z - C) <= 40  
If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3  
Where:  
B = 350 from Apr 1st to Oct 31st, or  
B = 370 from Nov 1st to Mar 31st  
C = 350 from Apr 1st to Oct 31st, or  
C = 430 from Nov 1st to Mar 31st  
5L45  
No generation shedding required.  
5L87  
No generation shedding required.  
By Pass CHP 5CX1  
No generation shedding required.  
By Pass CRK 5CX1  
No generation shedding required.
Pre-outage Restrictions

None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L40</td>
<td></td>
</tr>
<tr>
<td>D = 16.3 * (0.28 * 5L40 CBN + 2L79 CBN - 2L79 Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>A1 = 3.53 * (0.32 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS1 = max (0, A1, D)</td>
<td></td>
</tr>
<tr>
<td>If 2L5I S and (2L90 KLY + 0.09 * 5L40 CBN - 0.038 * GS1) &lt; 2L90_Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.036 * 5L40 CBN - 0.1 * GS1</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.028 * 5L40 CBN - 0.1 * GS1</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
<td></td>
</tr>
<tr>
<td>• D, or</td>
<td></td>
</tr>
<tr>
<td>• A1 + 5.33 * 0.24 * (Y - B), or</td>
<td></td>
</tr>
<tr>
<td>• A1 + 3.56 * 0.29 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>• A1 if (Z - C) &lt;= 40</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS1</td>
<td></td>
</tr>
<tr>
<td>A2 = 3.39 * (0.009 * 5L40 CBN + 2L90 KLY) + 0.32 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating)</td>
<td></td>
</tr>
<tr>
<td>GS2 = max (0, A2, D)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 I/S and (2L90 KLY + 0.09 * 5L40 CBN - 0.038 * GS1) &gt;= 2L90_Over_Rating,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.036 * 5L40 CBN + 0.03 * 2L90 KLY - 0.1 * GS2</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.027 * 5L40 CBN + 0.03 * 2L90 KLY - 0.1 * GS2</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
<td></td>
</tr>
<tr>
<td>• D, or</td>
<td></td>
</tr>
<tr>
<td>• A2 + 3.39 * 0.24 * (Y - B), or</td>
<td></td>
</tr>
<tr>
<td>• A2 + 3.39 * 0.29 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>• A2 if (Z - C) &lt;= 40</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS2</td>
<td></td>
</tr>
<tr>
<td>A3 = 3.39 * (0.32 * 5L40 CBN + 5L42 KLY - 5L42_Over_Rating))</td>
<td></td>
</tr>
<tr>
<td>GS3 = max (0, A3, D)</td>
<td></td>
</tr>
<tr>
<td>If 2L90 OOS,</td>
<td></td>
</tr>
<tr>
<td>Y = 2L112 NLY + 0.036 * 5L40 CBN - 0.1 * GS3</td>
<td></td>
</tr>
<tr>
<td>Z = 2L293 SEL + 0.028 * 5L40 CBN - 0.1 * GS3</td>
<td></td>
</tr>
<tr>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
<td></td>
</tr>
<tr>
<td>• D, or</td>
<td></td>
</tr>
<tr>
<td>• A3 + 3.39 * 0.24 * (Y - B), or</td>
<td></td>
</tr>
<tr>
<td>• A3 + 3.39 * 0.29 * (Z - C) if (Z - C) &gt; 40, or</td>
<td></td>
</tr>
<tr>
<td>• A3 if (Z - C) &lt;= 40</td>
<td></td>
</tr>
<tr>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS3</td>
<td></td>
</tr>
</tbody>
</table>

Where:

B = 350 from Apr 1st to Oct 31st
B = 370 from Nov 1st to Mar 31st
C = 350 from Apr 1st to Oct 31st
C = 430 from Nov 1st to Mar 31st

5L41

A1 = 3.04 * (0.45 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating) | |
| GS1 = max (0, A1) | |
| If 2L5I S and (2L90 KLY + 0.074 * 5L41 KLY - 0.056 * GS1) < 2L90_Over_Rating, | |
| Y = 2L112 NLY + 0.036 * 5L41 KLY - 0.1 * GS1 | |
| Z = 2L293 SEL + 0.033 * 5L41 KLY - 0.1 * GS1 | |
| If Y > 400 or Z > 400, shed at GMS/PCN the greatest of: | |
| • 1.01 * (A1 + 3.04 * 0.27 * (Y - B)), or | |
| • 1.01 * (A1 + 3.04 * 0.32 * (Z - C)) if (Z - C) > 40, or | |
| • 1.01 * A1 if (Z - C) <= 40 | |
| If Y <= 400 and Z <= 400, shed at GMS/PCN: GS1 | |
| A2 = 2.81 * (0.49 * (0.072 * 5L41 KLY + 2L90 KLY) + 0.45 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating) | |
| GS2 = max (0, A2) | |
| If 2L90 I/S and (2L90 KLY + 0.074 * 5L41 KLY - 0.056 * GS1) >= 2L90_Over_Rating, | |
| Y = 2L112 NLY + 0.037 * 5L41 KLY + 0.041 * 2L90 KLY - 0.1 * GS2 | |
| Z = 2L293 SEL + 0.032 * 5L41 KLY + 0.033 * 2L90 KLY - 0.1 * GS2 | |
| If Y > 400 or Z > 400, shed at GMS/PCN the greatest of: | |
| • 1.01 * (A2 + 2.81 * 0.28 * (Y - B)), or | |
| • 1.01 * (A2 + 2.81 * 0.33 * (Z - C)) if (Z - C) > 40, or | |
| • 1.01 * A2 if (Z - C) <= 40 | |
| If Y <= 400 and Z <= 400, shed at GMS/PCN: GS2 | |
| A3 = 2.81 * (0.48 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating) | |
| GS3 = max (0, A3) | |
| If 2L90 OOS, | |
| Y = 2L112 NLY + 0.042 * 5L41 KLY - 0.1 * GS3 | |
| Z = 2L293 SEL + 0.036 * 5L41 KLY - 0.1 * GS3 | |
| If Y > 400 or Z > 400, shed at GMS/PCN the greatest of: | |
| • 1.01 * (A3 + 2.81 * 0.29 * (Y - B)), or | |
| • 1.01 * (A3 + 2.81 * 0.34 * (Z - C)) if (Z - C) > 40 or | |
| • 1.01 * A3 if (Z - C) <= 40 | |
| If Y <= 400 and Z <= 400, shed at GMS/PCN: GS3 | |

Where:

B = 350 from Apr 1st to Oct 31st
B = 370 from Nov 1st to Mar 31st
C = 350 from Apr 1st to Oct 31st
C = 430 from Nov 1st to Mar 31st

Generation Shedding Requirements Continued on Next Page for Table 2.13 – 5L83 AND AMC 5CX2 O.O.S.
### Table 2.13 – 5L83 AND AMC 5CX2 O.O.S.

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L42</td>
<td>A1 = 3.53 * (5L41_Over_Rating) + 0.43 * 5L42_Over_Rating</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.07 * 5L42 KLY - 0.06 * GS1) &lt; 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.04 * 5L42 KLY - 0.11 * GS1</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.03 * 5L42 KLY - 0.1 * GS1</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
</tr>
<tr>
<td></td>
<td>1.03 * (A1 + 3.53 * 0.25 * (Y - B)), or</td>
</tr>
<tr>
<td></td>
<td>1.03 * (A1 + 3.53 * 0.3 * (Z - C)) if (Z - C) &gt; 40, or</td>
</tr>
<tr>
<td></td>
<td>1.03 * A1 if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>A2 = 3.5 * (5L41_Over_Rating) + 0.43 * 5L42_Over_Rating</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.07 * 5L42 KLY - 0.06 * GS1) &gt;= 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.04 * 5L42 KLY + 0.05 * (2L90 KLY + 0.071 * 5L42 KLY) - 0.11 * GS2</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.03 * 5L42 KLY + 0.04 * (2L90 KLY + 0.071 * 5L42 KLY) - 0.1 * GS2</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
</tr>
<tr>
<td></td>
<td>1.06 * (A2 + 3.5 * 0.25 * (Y - B)), or</td>
</tr>
<tr>
<td></td>
<td>1.06 * (A2 + 3.5 * 0.3 * (Z - C)) if (Z - C) &gt; 40, or</td>
</tr>
<tr>
<td></td>
<td>1.06 * A2 if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS2</td>
</tr>
</tbody>
</table>

Where:

B = 350 from Apr 1st to Oct 31st, or
B = 370 from Nov 1st to Mar 31st
C = 350 from Apr 1st to Oct 31st, or
C = 430 from Nov 1st to Mar 31st

5L45 No generation shedding required.

5L87 No generation shedding required.

By Pass CHP 5CX1 No generation shedding required.

By Pass CRK 5CX1 No generation shedding required.

### Table 2.14 – 5L83 AND GUI 5CX1 O.O.S.

Pre-outage Restrictions
None

Generation Shedding Requirements

<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41</td>
<td>A1 = 2.69 * (0.50 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS1 = max (0, A1)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.079 * 5L41 KLY - 0.065 * GS1) &lt; 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.026 * 5L41 KLY - 0.088 * GS1</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.022 * 5L41 KLY - 0.084 * GS1</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
</tr>
<tr>
<td></td>
<td>1.01 * (A1 + 2.69 * 0.17 * (Y - B)), or</td>
</tr>
<tr>
<td></td>
<td>1.01 * A1 if (Z - C) &gt; 40, or</td>
</tr>
<tr>
<td></td>
<td>1.01 * A1 if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS1</td>
</tr>
<tr>
<td></td>
<td>A2 = 2.46 * (0.52 * (0.079 * 5L41 KLY + 2L90 KLY) + 0.5 * 5L41 KLY + 5L42 KLY - 5L42_Over_Rating)</td>
</tr>
<tr>
<td></td>
<td>GS2 = max (0, A2)</td>
</tr>
<tr>
<td></td>
<td>If 2L90 I/S and (2L90 KLY + 0.079 * 5L41 KLY - 0.065 * GS1) &gt;= 2L90_Over_Rating,</td>
</tr>
<tr>
<td></td>
<td>Y = 2L112 NLY + 0.026 * 5L41 KLY + 0.027 * 2L90 KLY - 0.092 * GS2</td>
</tr>
<tr>
<td></td>
<td>Z = 2L293 SEL + 0.022 * 5L41 KLY + 0.027 * 2L90 KLY - 0.086 * GS2</td>
</tr>
<tr>
<td></td>
<td>If Y &gt; 400 or Z &gt; 400, shed at GMS/PCN the greatest of:</td>
</tr>
<tr>
<td></td>
<td>1.01 * (A2 + 2.46 * 0.19 * (Y - B)), or</td>
</tr>
<tr>
<td></td>
<td>1.01 * A2 if (Z - C) &gt; 40, or</td>
</tr>
<tr>
<td></td>
<td>1.01 * A2 if (Z - C) &lt;= 40</td>
</tr>
<tr>
<td></td>
<td>If Y &lt;= 400 and Z &lt;= 400, shed at GMS/PCN: GS2</td>
</tr>
</tbody>
</table>

Generation Shedding Requirements Continued on Next Page for Table 2.14 – 5L83 AND GUI 5CX1 O.O.S.
<table>
<thead>
<tr>
<th>CONTINGENCY</th>
<th>SHEDDING REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5L41 (Continued)</td>
<td>$A_3 = 2.44 \times (0.54 \times 5L41 \text{ KLY} + 5L42 \text{ KLY} - 5L42_{\text{Over_Rating}})$ $G_{S3} = \max (0, A_3)$ If 2L90 OOS, $Y = 2L112 \text{ NLY} + 0.029 \times 5L41 \text{ KLY} - 0.092 \times G_{S3}$ $Z = 2L293 \text{ SEL} + 0.024 \times 5L41 \text{ KLY} - 0.086 \times G_{S3}$ If $Y &gt; 400$ or $Z &gt; 400$, shed at GMS/PCN the greatest of: $1.01 \times (A_3 + 2.44 \times 0.18 \times (Y - B))$, or $1.01 \times (A_3 + 2.44 \times 0.21 \times (Z - C))$ if $(Z - C) &gt; 40$, or $1.01 \times A_3$ if $(Z - C) \leq 40$. If $Y \leq 400$ and $Z \leq 400$, shed at GMS/PCN: $G_{S3}$ Where: $B = 350$ from Apr 1st to Oct 31st $B = 370$ from Nov 1st to Mar 31st $C = 350$ from Apr 1st to Oct 31st $C = 430$ from Nov 1st to Mar 31st</td>
</tr>
<tr>
<td>A1 = 3.1 $\times (5L41 \text{ KLY} + 0.47 \times 5L42 \text{ KLY} - 5L41_{\text{Over_Rating}})$ $G_{S1} = \max (0, A_1)$ If 2L90 I/S and $(2L90 \text{ KLY} + 0.08 \times 5L42 \text{ KLY} - 0.07 \times G_{S1}) &lt; 2L90_{\text{Over_Rating}}$, $Y = 2L112 \text{ NLY} + 0.03 \times 5L42 \text{ KLY} - 0.11 \times G_{S1}$ $Z = 2L293 \text{ SEL} + 0.023 \times 5L42 \text{ KLY} - 0.1 \times G_{S1}$ If $Y &gt; 400$ or $Z &gt; 400$, shed at GMS/PCN the greatest of: $1.03 \times (A_1 + 3.1 \times 0.15 \times (Y - B))$, or $1.03 \times (A_1 + 3.1 \times 0.18 \times (Z - C))$ if $(Z - C) &gt; 40$, or $1.03 \times A_1$ if $(Z - C) \leq 40$. If $Y \leq 400$ and $Z \leq 400$, shed at GMS/PCN: $G_{S1}$ Where: $B = 350$ from Apr 1st to Oct 31st, or $B = 370$ from Nov 1st to Mar 31st $C = 350$ from Apr 1st to Oct 31st, or $C = 430$ from Nov 1st to Mar 31st</td>
<td></td>
</tr>
<tr>
<td>5L42</td>
<td>$A_2 = 3.0 \times (5L41 \text{ KLY} + 0.47 \times 5L42 \text{ KLY} + 0.5 \times (2L90 \text{ NLY} + 0.08 \times 5L42 \text{ KLY}) - 5L41_{\text{Over_Rating}})$ $G_{S2} = \max (0, A_2)$ If 2L90 I/S and $(2L90 \text{ KLY} + 0.08 \times 5L42 \text{ KLY} - 0.07 \times G_{S1}) &gt; 2L90_{\text{Over_Rating}}$, $Y = 2L112 \text{ NLY} + 0.03 \times 5L42 \text{ KLY} + 0.045 \times (2L90 \text{ KLY} + 0.08 \times 5L42 \text{ KLY}) - 0.11 \times G_{S2}$ $Z = 2L293 \text{ SEL} + 0.023 \times 5L42 \text{ KLY} + 0.04 \times (2L90 \text{ KLY} + 0.08 \times 5L42 \text{ KLY}) - 0.1 \times G_{S2}$ If $Y &gt; 400$ or $Z &gt; 400$, shed at GMS/PCN the greatest of: $1.06 \times (A_2 + 3.0 \times 0.15 \times (Y - B))$, or $1.06 \times (A_2 + 3.0 \times 0.18 \times (Z - C))$ if $(Z - C) &gt; 40$, or $1.06 \times A_2$ if $(Z - C) \leq 40$. If $Y \leq 400$ and $Z \leq 400$, shed at GMS/PCN: $G_{S2}$ Where: $B = 350$ from Apr 1st to Oct 31st, or $B = 370$ from Nov 1st to Mar 31st $C = 350$ from Apr 1st to Oct 31st, or $C = 430$ from Nov 1st to Mar 31st</td>
</tr>
<tr>
<td>A3 = 3.0 $\times (5L41 \text{ KLY} + 0.51 \times 5L42 \text{ KLY} - 5L41_{\text{Over_Rating}})$ $G_{S3} = \max (0, A_3)$ If 2L90 OOS, $Y = 2L112 \text{ NLY} + 0.03 \times 5L42 \text{ KLY} - 0.11 \times G_{S3}$ $Z = 2L293 \text{ SEL} + 0.023 \times 5L42 \text{ KLY} - 0.1 \times G_{S3}$ If $Y &gt; 400$ or $Z &gt; 400$, shed at GMS/PCN the greatest of: $1.06 \times (A_3 + 3.0 \times 0.15 \times (Y - B))$, or $1.06 \times (A_3 + 3.0 \times 0.18 \times (Z - C))$ if $(Z - C) &gt; 40$, or $1.06 \times A_3$ if $(Z - C) \leq 40$. If $Y \leq 400$ and $Z \leq 400$, shed at GMS/PCN: $G_{S3}$ Where: $B = 350$ from Apr 1st to Oct 31st, or $B = 370$ from Nov 1st to Mar 31st $C = 350$ from Apr 1st to Oct 31st, or $C = 430$ from Nov 1st to Mar 31st</td>
<td></td>
</tr>
</tbody>
</table>

| 5L45 |
| No generation shedding required. |
| 5L87 |
| No generation shedding required. |
| By Pass CHP 5CX1 |
| No generation shedding required. |
| By Pass CRK 5CX1 |
| No generation shedding required. |

**Table 2.14 – 5L83 AND GUI 5CX1 O.O.S.**