

Engineering Connection Assessment

P1926 Vauxhall Solar Farm Connection

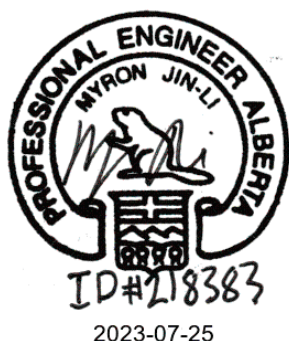
Solar Krafte Utilities Inc.

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The Association of Professional Engineers and
Geoscientists of Alberta (APEGA)

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V1 Final



NOTE:

The conclusions and recommendations in this report are based on the results presented in *Attachment A: Engineering Connection Assessment: Study Results*, which was prepared by a third party consultant in accordance with the AESO Connection Process.

The AESO has reviewed the *Engineering Connection Assessment: Study Results*, and finds it acceptable for the purpose of assessing the potential impacts of the proposed connection on the performance of the Alberta interconnected electric system.

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Attachments

Attachment A: Engineering Connection Assessment Results

1 Introduction

This AESO Engineering Connection Assessment describes the engineering studies that were completed to assess the impact of the Project (as defined below) on the performance of the Alberta interconnected electric system (AIES). This report also provides the AESO's conclusions and recommendations based on the results of the engineering studies.

Attached to this Engineering Connection Assessment are the results of the engineering studies (see Attachment A) and the scope and methodology used to perform the studies (see Attachment A1 to Attachment A). These attachments provide details regarding the technical criteria, assumptions, and methods for performing these engineering studies, and the results of the engineering studies.

1.1 Project Overview

Solar Krafte Utilities Inc. (Market Participant) has submitted a request for system access service to the Alberta Electric System Operator (AESO) to connect its approved Solar Krafte Vauxhall (Facility) to the AIES. The Facility includes an approved collector substation, to be designated as the Solstice 549S substation.

The Market Participant's request includes: a request for a new system access service in the area, with a Rate STS, *Supply Transmission Service*, contract capacity of 60 MW and a Rate DTS, *Demand Transmission Service*, contract capacity of 0.375 MW; and a request for transmission development (collectively, the Project).

The scheduled in-service date (ISD) for the Project is June 1, 2024.

2 Assessment Scope

2.1 Objectives

The objectives of the AESO Engineering Connection Assessment are as follows:

- Assess the impact of the Project on the performance of the AIES.
- Evaluate Project connection alternatives and identify the AESO's preferred alternative.
- Recommend mitigation measures, if required, to reliably connect the Project to the AIES.
- Identify Project dependencies, including any TFO projects or AESO plans to expand or enhance the transmission system that must be completed prior to connection.

2.2 Existing System

Geographically, the Project is located in the AESO planning area of Vauxhall (Area 52), which is part of the AESO South planning region. The Vauxhall Area (Area 52) is surrounded by the planning areas of Medicine Hat (Area 4), Lethbridge (Area 54), and Brooks (Area 47).

From a transmission system perspective, the Vauxhall Area (Area 52) consists primarily of a 138 kV transmission system. The Vauxhall Area (Area 52) is connected to neighbouring planning areas Brooks (Area 47), Lethbridge (Area 54) and Medicine Hat (Area 4) through 138 kV transmission lines.

Existing constraints in the South planning region are managed in accordance with the procedures set out in Section 302.1 of the ISO rules, *Real Time Transmission Constraint Management* (TCM Rule).

2.3 Study Area

The Study Area for the Project consists of the AESO Planning areas of Medicine Hat (Area 4), Brooks (Area 47), and Vauxhall (Area 52), including the tie lines connecting these planning areas to the rest of the AIES. All transmission facilities within the Study Area will be studied and monitored for violations of the Reliability Criteria (defined in Section 3.1 of Attachment A1).

3 Connection Alternatives

3.1 Overview

The AESO, in consultation with the TFO in the Study Area and the Market Participant, examined two transmission alternatives to meet the Market Participant's request for system access service, as detailed in Section 3.2.

3.2 Connection Alternatives Examined

Below is a description of the development associated with the transmission alternatives that were examined for the Project.

Alternative 1 – T-tap connection to 138 kV Transmission Line 763L

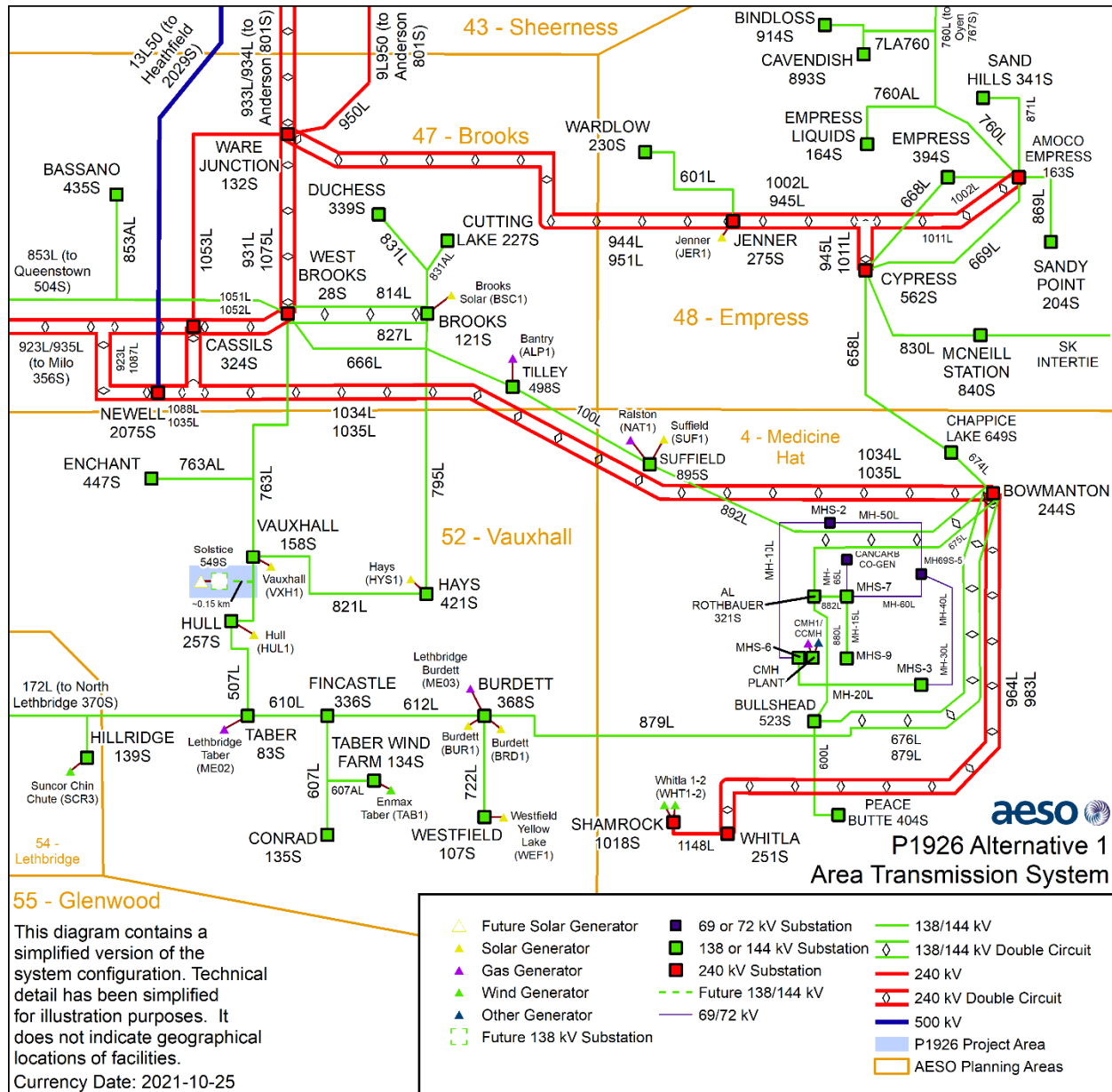
This alternative includes the following developments:

- Add one 138 kV circuit, approximately 0.15 km in length¹, to connect the Facility to the existing 138 kV transmission line 763L (between Vauxhall 158S and Hull 257S) in a T-tap configuration; and
- Add or modify associated equipment as required for the above developments.

The proposed connection configuration is shown in Figure 3-1.

¹ Exact line length to be determined by TFO

Figure 3-1: Connection Alternative 1



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Alternative 2 – Radial Connection to Vauxhall 158S substation

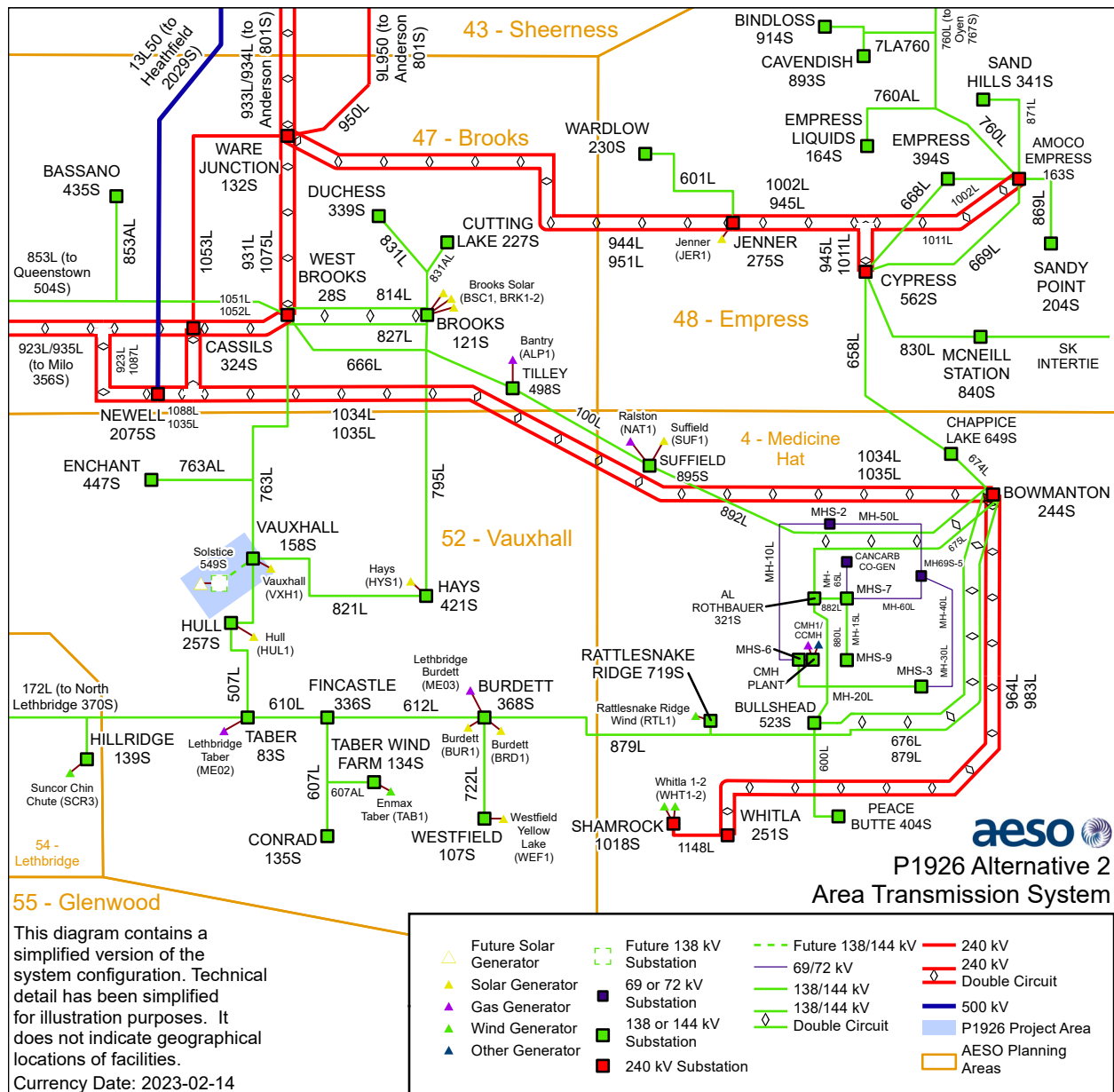
This alternative includes the following developments:

- Add one 138 kV circuit, approximately 2.5 km in length², to connect the Facility to the existing Vauxhall 158S substation; and
- Add or modify associated equipment as required for the above developments.

The proposed connection configuration is shown in Figure 3-2.

² Exact line length to be determined by TFO

Figure 3-2: Connection Alternative 2



3.2.1 Connection Alternatives Selected for Further Study

Alternative 2 would require greater scope of transmission development, and hence increase cost, compared to Alternative 1. Therefore, only Alternative 1 was selected for further studies.

4 Assessment Approach

4.1 Standards, Criteria and Assumptions

A detailed description of the standards, criteria, and assumptions that were used for the connection assessment is provided in Attachment A (see Attachment A1).

4.2 Studies Performed

At the time of study, the scheduled ISD for the Project is August 1, 2023. Therefore, studies were performed using scenarios for 2023 Summer Peak (SP) and 2023 Summer Light (SL). After the completion of the majority of the studies, the ISD of the Project was changed from August 1, 2023 to June 1, 2024. The AESO determined that the ISD change would not have a material impact on the connection alternative and the mitigation measures and the conclusions for the base and sensitivity scenario studies conducted.

Short-circuit studies were performed using the 2023 Summer Peak and 2031 Summer Peak scenarios.

Table 4-1 lists the study scenarios. Post-Project scenarios reflect the requested Rate DTS/Rate STS contract capacity.

In addition to studying the main scenarios (scenarios 1 to 5), the AESO also added three sets of sensitivity scenarios to study the additional impacts of projects in the area. Sensitivity scenarios 6 to 9 assess the impact of distributed energy resource (DER) projects P2362, 2363, 2364, and 2365. Sensitivity scenarios 10 and 11 were added to assess the impact of P2348 - *Wheatcrest Solar Project Connection* on the system, which is further ahead in the AESO's connection process. Finally, sensitivity scenarios 12 and 13 were added to study the impact of high solar as well as high wind generation in the local area, including the Taber and Rattlesnake Ridge wind facilities.

Table 4-1: Connection Study Scenarios

Scenario No.	Year/Season	System Generation Dispatch Conditions	Scenario Name	Project Load (MW)	Project Generation (MW)
Pre-Project					
1	2023 Summer Light (SL)	High Solar (HS)	2023 SL HS Pre-Project	0	0
2	2023 Summer Peak (SP)	HS	2023 SP HS Pre-Project	0	0
Post-Project					
3	2023 SL	HS	2023 SL HS Post-Project	0.375	60
4	2023 SP	HS	2023 SP HS Post-Project	0.375	60
5	2031 SP	All generation in the Study Area on	2031 SP Post-Project	0.375	60
Pre-Project Sensitivity (Enchant DERs)					

Scenario No.	Year/Season	System Generation Dispatch Conditions	Scenario Name	Project Load (MW)	Project Generation (MW)
6	2023 SL	HS	2023 SL HS Pre-Project-Sen	0	0
7	2023 SP	HS	2023 SP HS Pre-Project-Sen	0	0
Post-Project Sensitivity (Enchant DERs)					
8	2023 SL	HS	2023 SL HS Post-Project-Sen	0.375	60
9	2023 SP	HS	2023 SP HS Post-Project-Sen	0.375	60
Post-Project Sensitivity (P2348 – Wheatcrest Solar Project Connection)					
10	2023 SL	HS	2023 SL HS Post-Project-2348	0.375	60
11	2023 SP	HS	2023 SP HS Post-Project-2348	0.375	60
Post-Project Sensitivity (High Local Solar and Wind Generation)					
12	2023 SL	HS / High Wind	2023 SL HS Post-Project-HW	0.375	60
13	2023 SP	HS / High Wind	2023 SP HS Post-Project-HW	0.375	60

The AESO Planning Region load forecasts used for the connection studies were based on the *AESO 2021 Long-term Outlook (2021 LTO)*³.

4.2.1 Power Flow Studies

The purpose of the power flow studies is to identify and quantify any thermal and voltage criteria violations in the Study Area.

In addition, power flow studies are also used to identify point of delivery (POD) low voltage bus voltage deviations beyond the limits listed in Table 3-1 of Attachment A1.⁴

Power flow studies were performed for 2023 Summer Peak, 2023 Summer Light pre-Project and pre-Project Sensitivity scenarios, and for 2023 Summer Peak, 2023 Summer Light post-Project and post-Project Sensitivity scenarios.

4.2.2 Transient Stability Studies

The purpose of the transient stability studies is to assess the post-Project stability of the transmission system after three-phase to ground faults are applied on select transmission lines in the Study Area.

Transient stability studies were performed for 2023 Summer Peak, 2023 Summer Light post-Project and post-Project Sensitivity scenarios.

³ The 2021 LTO is available on the AESO website.

⁴ The AESO's desired post-contingency voltage deviations for low voltage busses represent guidelines rather than criteria. A POD bus voltage deviation that exceeds the desired limits shown in Table 3-1 of Attachment A1 does not represent a Reliability Criteria violation. Mitigation measures would not be developed to specifically address POD bus voltage deviations that exceed the desired values in Table 3-1 of Attachment A1.

4.2.3 Short-Circuit Current Level Studies

The purpose of short-circuit current level studies is to determine the expected system short-circuit current levels in the vicinity of the Project.

Short circuit studies were performed for the 2023 Summer Peak pre-Project scenario, 2023 Summer Peak and 2031 Summer Peak post-Project scenarios.

4.3 Mitigation Measure Development and Evaluation

As explained in Section 6 of Attachment A1, mitigation measures were developed to address system performance issues that were identified in the post-Project scenarios. Studies performed to assess the effectiveness of mitigation measures are briefly outlined below.

4.3.1 Post-Mitigation Studies

Power flow and transient stability studies were performed to assess the impact of the Project on the performance of the AIES following implementation of the AESO's proposed mitigation measures.

4.3.2 Constraint Effective Factor Studies

Constraint effective factor studies were used to determine the generator and load constraint effective factors and to identify the most effective generators or loads to manage thermal criteria violations that were observed under Category B conditions.

5 Interpretation of Results

5.1 Results Overview

This section provides an assessment of the impact of the Project on the performance of the AIES. The Reliability Criteria violations observed during the connection assessment studies, and the proposed mitigation measures are summarized in Table 5-1.

- Section 5.2 includes an overview of the pre-Project studies results.
- Section 5.3 includes an overview of the post-Project studies results.
- Section 5.4 includes a description of the proposed mitigation measures to address observed Reliability Criteria violations.
- Section 5.5 includes an overview of the post-mitigation studies results.

Detailed study results are provided in Attachment A.

Table 5-1: Summary of Reliability Criteria Violations, Project Impact and Mitigation Measures



Scenario	Type of Reliability Criteria Violation		Contingency (System Element Lost)	Details of Violation	Project Impact	Pre-Project Mitigation Measures	Post-Project Mitigation Measures
	Pre-Project	Post-Project					
2023SL	Thermal - above normal rating	Thermal - above normal rating	610L (Taber 83S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	No impact	Real-time operational practices (RTOP)	RTOP
2023SP	Thermal - above normal rating	Thermal - above normal rating	612L (Burdett 368S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	No impact	RTOP	RTOP
	Thermal - above normal rating	Thermal - above normal rating	610L (Taber 83S to Fincastle 336S)	879L (Burdett 368S to 879AL_Tap)	No impact	RTOP	RTOP
	Thermal - above emergency rating	Thermal - above emergency rating		879L (Bowmanton 244S to 879AL Tap)	No impact	Planned RAS 180	Modified Planned RAS 180
	Thermal - above normal rating	Thermal - above normal rating	507L (Taber 83S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	Marginally decreased violation	RTOP	RTOP
	None	Thermal - above normal rating	674L (Bowmanton 244S to Chappice Lake 649S)	763L (Vauxhall 158S to P1926 Tap)	Materially increased violation	None	RTOP
	None	Thermal - above normal rating	658L (Chappice Lake 649S to Cypress 562S)	763L (Vauxhall 158S to P1926 Tap)	Materially increased violation	None	RTOP
	None	Thermal - above normal rating	1036L (Milo 356S to Travers 554S)	763L (Vauxhall 158S to P1926 Tap)	Materially increased violation	None	RTOP
	Thermal - above emergency rating	Thermal - above emergency rating		1005L (Milo 356S to P2009 Tap)	Marginally increased violation	Planned RAS 170	Planned RAS 170
	None	Thermal - above normal rating	1005L (Milo 356S to Picture Butte 120S)	763L (Vauxhall 158S to P1926 Tap)	Materially increased violation	None	RTOP
	None	Thermal - above normal rating	763L (Vauxhall 158S to West Brooks 28S)	821L (Vauxhall 158S to Hays 421S)	Materially increased violation	None	RTOP
	None	Thermal - above normal rating		879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	None	RTOP
	Thermal - above normal rating	Thermal - above emergency rating	Vauxhall 158S Transformer T2	879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	RTOP	Modified Planned RAS 180
	None	Thermal - above normal rating		1005L (Milo 356S to P2009 Tap)	Marginally increased violation	None	RTOP
	Thermal - above normal rating	Thermal - above normal rating	Hull 257S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	Marginally decreased violation	RTOP	RTOP
	Thermal - above normal rating	Thermal - above normal rating	Fincastle 336S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	Marginally decreased violation	RTOP	RTOP
	Thermal - above normal rating	Thermal - above normal rating	763L (Vauxhall 158S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	Marginally increased violation	RTOP	RTOP
2023SL Sensitivity with Enchant DERs	Thermal - above normal rating	Thermal - above normal rating	610L (Taber 83S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	No impact	RTOP	RTOP
2023SP Sensitivity with Enchant DERs	Thermal - above normal rating	Thermal - above normal rating	612L (Burdett 368S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	No impact	RTOP	RTOP
	Thermal - above normal rating	Thermal - above normal rating	610L (Taber 83S to Fincastle 336S)	879L (Burdett 368S to 879AL_Tap)	Marginally decreased violation	RTOP	RTOP
	Thermal - above emergency rating	Thermal - above emergency rating		879L (Bowmanton 244S to 879AL Tap)	No impact	Planned RAS 180	Modified Planned RAS 180
	None	Thermal - above emergency rating	795L (Brooks 121S to Hays 421S)	763L (West Brooks to 763AL Tap)	Materially increased violation	None	New RAS 195
	Thermal - above normal rating	Thermal - above normal rating	507L (Taber 83S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	Marginally decreased violation	RTOP	RTOP
	None	Thermal - above emergency rating	821L (Vauxhall 158S to Hays 421S)	763L (West Brooks to 763AL Tap)	Materially increased violation	None	New RAS 195



	None	Thermal - above normal rating		879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	None	RTOP
	None	Thermal - above normal rating	1148L (Whitla 251S to Shamrock 1018S)	1005L (Milo 356S to P2009 Tap)	Marginally increased violation	None	RTOP
	None	Thermal - above normal rating	1036L (Milo 356S to Travers 554S)	879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	None	RTOP
	Thermal - above emergency rating	Thermal - above emergency rating		1005L (Milo 356S to P2009 Tap)	Marginally increased violation	Planned RAS 170	Planned RAS 170
	None	Thermal - above normal rating	763L (Vauxhall 158S to West Brooks 28S)	821L (Vauxhall 158S to Hays 421S)	Materially increased violation	None	RTOP
	None	Thermal - above normal rating		879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	None	RTOP
	Thermal - above normal rating	Thermal - above emergency rating	Vauxhall 158S Transformer T2	879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	RTOP	Modified Planned RAS 180
	None	Thermal - above normal rating		1005L (Milo 356S to P2009 Tap)	Marginally increased violation	None	RTOP
	Thermal - above normal rating	Thermal - above normal rating	Hull 257S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	Marginally decreased violation	RTOP	RTOP
	None	Thermal - above emergency rating	Hays 421S 138/25 kV Transformer T2	763L (West Brooks to 763AL Tap)	Materially increased violation	None	New RAS 195
	None	Thermal - above normal rating		879L (Bowmanton 244S to 879AL Tap)	Materially increased violation	None	RTOP
	Thermal - above normal rating	Thermal - above normal rating	Fincastle 336S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	No impact	RTOP	RTOP
	None	Thermal - above emergency rating	Brooks 121S 138/25 kV Transformer T2	763L (West Brooks to 763AL Tap)	Materially increased violation	None	New RAS 195
	Thermal - above normal rating	Thermal - above normal rating	763L (Vauxhall 158S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	Marginally increased violation	RTOP	RTOP
2023 SP Sensitivity with P2348	None	Thermal - above normal rating	System Normal (N-0)	763L (West Brooks to 763AL Tap)	Materially increased violation	None	RTOP
2023 SL Sensitivity with P2348 and high area wind	Not studied	Thermal - above normal rating	System Normal (N-0)	610L (Taber 83S to Fincastle 336S)	Not studied	Not studied	RTOP, Vauxhall Area Transmission Development (P7075)
	Not studied	Thermal - above emergency rating	System Normal (N-0)	879L (Bowmanton 244S to 879AL Tap)	Not studied	Not studied	RTOP, Vauxhall Area Transmission Development (P7075)
	Not studied	Thermal - above emergency rating	System Normal (N-0)	763L (West Brooks to 763AL Tap)	Not studied	Not studied	RTOP
2023 SP Sensitivity with P2348 and high area wind	Not studied	Thermal - above normal rating	System Normal (N-0)	763L (West Brooks to 763AL Tap)	Not studied	Not studied	RTOP

- Notes:**
- Marginally increased (or marginally decreased) refers to a percent loading difference (post-Project percent loading minus pre-Project percent loading) between 0% and 3% (or -3%).
 - Materially increased (or materially decreased) refers to a percent loading difference (post-Project percent loading minus pre-Project percent loading) above or equal to 3% (or below or equal to -3%).
 - RAS 170 was proposed for the approved P2009 Travers project in the *Travers Solar Project Connection NID*. This RAS is referred to herein as “Planned RAS 170”.
 - RAS 180 was proposed for the approved P2212 Rattlesnake project in the *Rattlesnake Ridge Wind Project Connection NID*. Modifications to RAS 180 were proposed for the proposed P1926 Vauxhall project in the *Vauxhall Solar Farm Connection NID*. This modified version of RAS 180 is referred to herein as “Modified Planned RAS 180”.
 - RAS 195 is proposed for the P1926 Vauxhall project in the *Vauxhall Solar Farm Connection NID*. This RAS is referred to herein as “New RAS 195”.
 - In this table, “Modify” refers to adding the Project to the logic of the respective RAS

5.2 Pre-Project Study Results

5.2.1 Category A Conditions

No Reliability Criteria violations were observed under the Category A condition (i.e., all elements in service) for any of the pre-Project scenarios. The short-circuit fault levels were found to be within the typical capabilities of the nearby facilities.

5.2.2 Category B Conditions

The pre-Project power flow studies identified a number of thermal violations under Category B conditions (i.e., loss of a single system element).

No voltage Reliability Criteria violations or voltage deviations were observed that were beyond the limits listed in Table 3-1 of Attachment A1 (hereafter referred to as point of delivery (POD) bus voltage deviations) under Category B conditions.

5.3 Post-Project Study Results

5.3.1 Category A Conditions

No Reliability Criteria violations were observed under Category A condition for the post-Project base case scenarios without P2348. However, thermal criteria violations were observed under the Category A condition on the 138 kV transmission line 763L (West Brooks 28S– 763AL Tap) in the sensitivity scenario with P2348 and additionally on the 138 kV transmission lines 610L and 879L in the sensitivity scenarios with P2348 and high area wind.

Post-Project short-circuit fault levels were not significantly higher than pre-Project levels.

The long term short circuit levels were found to be within the designed capabilities of the nearby facilities.

5.3.2 Category B Conditions

The post-Project power flow studies identified a number of thermal criteria violations under Category B conditions in both the base case and sensitivity scenarios.

No voltage Reliability Criteria violations or voltage deviations were observed that were beyond the limits listed in Table 3-1 of Attachment A1 (hereafter referred to as point of delivery (POD) bus voltage deviations) under Category B conditions.

Results did not indicate any transient stability concerns, and the system showed acceptable dynamic response to all Category B conditions studied.

5.4 Mitigation Measures

This section discusses the AESO's proposed mitigation measures to address the system performance issues that were identified in the pre-Project and post-Project scenarios.

5.4.1 Pre-Project

Prior to connection of the Project, the observed thermal criteria violations on 879L can be managed by using real-time operational practices. The remaining thermal criteria violations can be mitigated with the Planned RAS 170 and Planned RAS 180.

5.4.2 Post-Project

After connection of the Project, most of the thermal criteria violations observed can be mitigated by using real-time operational practices. The remaining thermal criteria violations can be mitigated with Planned RAS 170, and modification of the Planned RAS 180 by including the Project in the RAS logic.

5.4.3 Post-Project Sensitivities

Under Category A conditions, a thermal criteria violation is observed on the 138 kV transmission line 763L in scenarios 11, 12 and 13, following the inclusion of P2348 – Wheatcrest Solar Project Connection. This thermal criteria violation can be mitigated by real-time operational practices, such as applying the TCM Rule to curtail generation as required. If the AESO determines congestion is likely to occur on 763L, the AESO will file an application for an “exception” under Section 15(2) of the *Transmission Regulation*.

In scenario 12, which includes high wind and solar generation in the area, Category A thermal criteria violations were also observed on the 138 kV transmission lines 610L and 879L. These thermal criteria violations can be mitigated by real-time operational practices, such as applying the TCM Rule to curtail generation as required. The AESO has applied to the Alberta Utilities Commission for approval of an “exception” under Section 15(2) of the *Transmission Regulation* as congestion has already been observed on 610L and 879L under the Category A condition in real time.⁵

In the longer term, the energization of the proposed Vauxhall Area Transmission Development system project⁶ would reduce the thermal overloads on the transmission facilities 610L and 879L.

5.4.4 Post-Project Mitigation Study Results

All of the thermal criteria violations exceeding emergency ratings observed under Category B conditions can be alleviated by new RAS 195, planned RAS 170 or modified planned RAS 180.

⁵ AUC Proceeding 27776. *Vauxhall Area Transmission Development Needs Identification Document*.

⁶ *Ibid*.

6 Project Dependencies

The Project does not require the completion of any other AESO plans to expand or enhance the transmission system prior to connection.

7 Conclusions and Recommendations

Based on the study results, Alternative 1 is technically viable. The connection assessment identified a number of pre-Project and post-Project system performance issues.

The identified system performance issues can be mitigated through the use of planned RAS 170, modified planned RAS 180, new RAS 195 and real-time operational practices, alone or in combination, as appropriate. The use of these mitigation measures may result in generation curtailment during the Category A condition. With implementation of these mitigation measures, connecting the project with the preferred alternative does not adversely affect the performance of the AES.

The connection assessment uses credible worst-case conditions to assess the impact of the Facility connection on the Alberta interconnected electric system. Category A thermal criteria violations were observed under these credible worst-case load and generation forecast conditions. The probability of Category A thermal criteria violations materializing is highly dependent upon the production profile of the Facility and other generation facilities in the area. The AESO has applied to the Alberta Utilities Commission for approval of an “exception” under Section 15(2) of the *Transmission Regulation* as congestion has already been observed on 610L and 879L under the Category A condition in real time. Closer to the ISD, if the AESO determines that congestion will arise under Category A conditions on 763L, the AESO will make an application to the AUC to obtain approval for an “exception” under Section 15(2) of the *Transmission Regulation*.

The AESO recommends proceeding with the Project using Alternative 1 as the preferred alternative to respond to the Market Participant’s request for system access service. Real-time operational practices and the RASs mentioned above are recommended to mitigate the identified system performance issues.

Alternative 1 involves adding one 138 kV circuit to connect the Facility to the existing 138 kV transmission line 763L in a T-tap configuration. The conductor used for the 138 kV circuit should have a minimum capacity of 67 MVA to meet the Market Participant's requested STS contract capacity.

Attachment A: Engineering Connection Assessment Results

Engineering Connection Assessment: Study Results

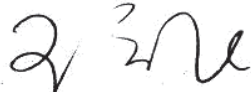
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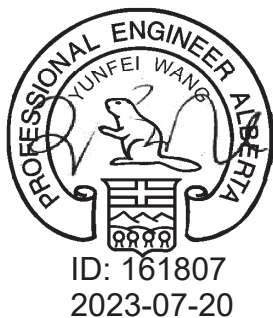
Solar Krafte Utilities Inc.

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1 Introduction

This report presents the results of the engineering studies that were completed by AltaLink Management Ltd. (the Studies Consultant) to assess the impact of the Project (as defined in Attachment A1: AESO Engineering Connection Assessment Scope) on the performance of the Alberta interconnected electric system (AIES). The studies were performed in accordance with Attachment A1: AESO Engineering Connection Assessment: Study Scope and Amendments, which were prepared by the AESO.

The power system network analysis tool that was used for the studies in this connection assessment was PSS/E version 33.

2 Pre-Project Study Results

This section describes the results of the pre-Project power flow studies.

2.1 Power Flow Studies

Power flow diagrams illustrating the pre-Project power flow studies results for Category A and Category B conditions are provided in Attachment A2.

2.1.1 Scenario 1: 2023 Summer Light (SL) High Solar (HS) Pre-Project

Category A Conditions

No Reliability Criteria (as defined in Section 3.1 of Attachment A1) violations were observed under Category A conditions.

Category B Conditions

Thermal Criteria Violations

Thermal criteria violations were observed under certain Category B conditions as shown in Table 2-1.

Table 2-1: Thermal Criteria Violations under Category B Conditions for Scenario 1

Contingency (System Element Lost)	Violation Location Details	Thermal Ratings (MVA)		Pre-Project Results	
		Normal Rating	Emergency Rating	Power Flow ^b (MVA)	% Loading ^c
610L	879L (Bowmanton 244S – 879AL Tap)	85.0	94.0	85.1	100.1

Notes:

^b Power flow (MVA) is current expressed as MVA (i.e., $S = \sqrt{3} \times V_{\text{base}} \times I_{\text{actual}}$)

^c Reported as a percentage of the power flow (in MVA, i.e., $S = \sqrt{3} \times V_{\text{base}} \times I_{\text{actual}}$) relative to the transmission line's Normal Rating (also in MVA), as shown in Attachment A1.

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

POD Bus Voltage Deviations

No voltage deviations beyond the limits listed in Table 3-1 of Attachment A1 (hereafter referred to as point of delivery (POD) bus voltage deviations) were observed.

2.1.2 Scenario 2: 2023 Summer Peak (SP) HS Pre-Project

Category A Conditions

No Reliability Criteria (as defined in Section 3.1 of Attachment A1) violations were observed under Category A conditions.

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Category B Conditions

Thermal Criteria Violations

Thermal criteria violations were observed under certain Category B conditions as shown in Table 2-2.

Table 2-2: Thermal Criteria Violations under Category B Conditions for Scenario 2

Contingency (System Element Lost)	Violation Location Details	Thermal Ratings (MVA)		Pre-Project Results	
		Normal Rating	Emergency Rating	Power Flow (MVA)	% Loading
612L	879L (Bowmanton 244S - 879AL Tap)	85	94	89.2	104.9
610L	879L (Burdett 368S - 879AL Tap)	85	94	92.9	109.3
	879L (Bowmanton 244S - 879AL Tap)	85	94	149.6	176.0
507L	879L (Bowmanton 244S - 879AL Tap)	85	94	89.4	105.2
763L	879L (Bowmanton 244S - 879AL Tap)	85	94	90.6	106.6
1036L	1005L (Milo 356S - P2009 Tap)	481	588	594.5	123.6
Vauxhall 158S T2	879L (Bowmanton 244S - 879AL Tap)	85	94	91.4	107.5
	1005L (Milo 356S - P2009 Tap)	481	588	481.0	100.0
Hull 257S T1	879L (Bowmanton 244S - 879AL Tap)	85	94	89.6	105.4
Fincastle 336S T1	879L (Bowmanton 244S - 879AL Tap)	85	94	89.3	105.0

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

2.1.3 Scenario 6: 2023 SL HS Pre-Project Sensitivity Enchant DERs

Category A Conditions

No Reliability Criteria (as defined in Section 3.1 of Attachment A1) violations were observed under Category A conditions.

Category B Conditions

Thermal Criteria Violations

Thermal criteria violations were observed under certain Category B conditions as shown in Table 2-3.

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Table 2-3: Thermal Criteria Violations under Category B Conditions for Scenario 6

Contingency (System Element Lost)	Violation Location Details	Thermal Ratings (MVA)		Pre-Project Results	
		Normal Rating	Emergency Rating	Power Flow (MVA)	% Loading
610L	879L (Bowmanton 244S – 879AL Tap)	85.0	94.0	85.0	100.0

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

2.1.4 Scenario 7: 2023 SP HS Pre-Project Sensitivity Enchant DERs

Category A Conditions

No Reliability Criteria (as defined in Section 3.1 of Attachment A1) violations were observed under Category A conditions.

Category B Conditions

Thermal Criteria Violations

Thermal criteria violations were observed under certain Category B conditions as shown in Table 2-4.

Table 2-4: Thermal Criteria Violations under Category B Conditions for Scenario 7

Contingency (System Element Lost)	Violation Location Details	Thermal Ratings (MVA)		Pre-Project Results	
		Normal Rating	Emergency Rating	Power Flow (MVA)	% Loading
612L	879L (Bowmanton 244S - 879AL Tap)	85	94	89.1	104.8
610L	879L (Burdett 368S - 879AL_Tap)	85	94	92.9	109.3
	879L (Bowmanton 244S - 879AL Tap)	85	94	149.5	175.9
507L	879L (Bowmanton 244S - 879AL Tap)	85	94	88.5	104.1
763L	879L (Bowmanton 244S - 879AL Tap)	85	94	89.7	105.5
1036L	1005L (Milo 356S - P2009 Tap)	481	588	599.3	124.6
Vauxhall 158S T2	879L (Bowmanton 244S - 879AL Tap)	85	94	90.4	106.3
Hull 257S T1	879L (Bowmanton 244S - 879AL Tap)	85	94	88.7	104.3
Fincastle 336S T1	879L (Bowmanton 244S - 879AL Tap)	85	94	89.2	104.9

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

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POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

3 Post-Project Study Results

This section describes the results of the post-Project power flow studies and transient stability studies.

As described in Section 2 of Attachment A1, the post-Project studies were performed using Alternative 1.

3.1 Power Flow Studies

Power flow diagrams illustrating the post-Project power flow studies results for Category A and Category B conditions are included in Attachment A3.

3.1.1 Scenario 3: 2023 SL HS Post-Project Alternative 1

Category A Conditions

No Reliability Criteria violations were observed under Category A conditions.

Category B Conditions

Thermal criteria violations were observed under certain Category B conditions as shown in Table 3-1.

Table 3-1: Thermal Criteria Violations under Category B Conditions for Scenario 3

Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Normal Rating (MVA)	Emergency Rating (MVA)	Pre-Project Results		Post-Project Results		% Loading Difference (Post-Pre)
				Observed Power Flow (MVA)	% Loading	Observed Power Flow (MVA)	% Loading	
610L (Taber 83S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	85	94	85.1	100.1	85.1	100.1	0.0

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

3.1.2 Scenario 4: 2023 SP HS Post-Project Alternative 1

Category A Conditions

No Reliability Criteria violations were observed under Category A conditions.

Category B Conditions

Thermal criteria violations were observed under certain Category B conditions as shown in Table 3-2.

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Table 3-2: Thermal Criteria Violations under Category B Conditions for Scenario 4

Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Normal Rating (MVA)	Emergency Rating (MVA)	Pre-Project Results		Post-Project Results		% Loading Difference (Post-Pre)
				Observed Power Flow (MVA)	% Loading	Observed Power Flow (MVA)	% Loading	
612L (Burdett 368S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	85	94	89.2	104.9	89.2	104.9	0.0
610L (Taber 83S to Fincastle 336S)	879L (Burdett 368S to 879AL Tap)	85	94	92.9	109.3	92.9	109.3	0.0
	879L (Bowmanton 244S to 879AL Tap)	85	94	149.6	176.0	149.6	176.0	0.0
507L (Taber 83S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	85	94	89.4	105.2	88.0	103.5	-1.7
674L (Bowmanton 244S to Chappice Lake 649S)	763L (Vauxhall 158S to P1926 Tap)	120	132	86.0	71.7	121.4	101.2	29.5
658L (Chappice Lake 649S to Cypress 562S)	763L (Vauxhall 158S to P1926 Tap)	120	132	85.0	70.8	120.5	100.4	29.6
1036L (Milo 356S to Travers 554S)	763L (Vauxhall 158S to P1926 Tap)	120	132	94.3	78.6	129.1	107.6	29.0
	1005L (Milo 356S to P2009 Tap)	481	588	594.5	123.6	596.4	124.0	0.4
1005L (Milo 356S to Picture Butte 120S)	763L (Vauxhall 158S to P1926 Tap)	120	132	87.5	72.9	122.3	101.9	29.0
763L (Vauxhall 158S to West Brooks 28S)	821L (Vauxhall 158S to Hays 421S)	85.1	94	67.8	79.7	92.0	108.1	28.4
	879L (Bowmanton 244S to 879AL Tap)	85	94	80.1	94.2	86.4	101.6	7.4
Vauxhall 158S Transformer T2	879L (Bowmanton 244S to 879AL Tap)	85	94	91.4	107.5	103.2	121.4	13.9
	1005L (Milo 356S to P2009 Tap)	481	588	481.0	100.0	491.1	102.1	2.1
Hull 257S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	85	94	89.6	105.4	88.1	103.7	-1.7

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Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Normal Rating (MVA)	Emergency Rating (MVA)	Pre-Project Results		Post-Project Results		% Loading Difference (Post-Pre)
				Observed Power Flow (MVA)	% Loading	Observed Power Flow (MVA)	% Loading	
Fincastle 336S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	85	94	89.3	105.0	89.2	104.9	-0.1
763L (Vauxhall 158S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	85	94	90.6	106.6	90.9	106.9	0.3

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

3.1.3 Scenario 8: 2023 SL HS Post-Project Alternative 1 - Sensitivity Enchant DERs

Category A Conditions

No Reliability Criteria violations were observed under Category A conditions.

Category B Conditions

Thermal criteria violations were observed under certain Category B conditions as shown in Table 3-3.

Table 3-3: Thermal Criteria Violations under Category B Conditions for Scenario 8

Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Normal Rating (MVA)	Emergency Rating (MVA)	Pre-Project Results		Post-Project Results		% Loading Difference (Post-Pre)
				Observed Power Flow (MVA)	% Loading	Observed Power Flow (MVA)	% Loading	
610L (Taber 83S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	85	94	85.0	100.0	85.0	100.0	0.0

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

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POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

3.1.4 Scenario 9: 2023 SP HS Post-Project Alternative 1 - Sensitivity Enchant DERs

Category A Conditions

No Reliability Criteria violations were observed under Category A conditions.

Category B Conditions

Thermal criteria violations were observed under certain Category B conditions as shown in Table 3-4.

Table 3-4: Thermal Criteria Violations under Category B Conditions for Scenario 9

Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Normal Rating (MVA)	Emergency Rating (MVA)	Pre-Project Results		Post-Project Results		% Loading Difference (Post-Pre)
				Observed Power Flow (MVA)	% Loading	Observed Power Flow (MVA)	% Loading	
612L (Burdett 368S to Fincastle 336S)	879L (Bowmanton 244S to 879AL Tap)	85	94	89.1	104.8	89.1	104.8	0.0
610L (Taber 83S to Fincastle 336S)	879L (Burdett 368S to 879AL Tap)	85	94	92.9	109.3	92.8	109.2	-0.1
	879L (Bowmanton 244S to 879AL Tap)	85	94	149.5	175.9	149.5	175.9	0.0
795L (Brooks 121S to Hays 421S)	763L (West Brooks to 763AL Tap)	120	132	108.5	90.4	138.7	115.6	25.2
507L (Taber 83S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	85	94	88.5	104.1	87.0	102.4	-1.7
821L (Vauxhall 158S to Hays 421S)	763L (West Brooks to 763AL Tap)	120	132	115.5	96.3	145.6	121.3	25.0
821L (Vauxhall 158S to Hays 421S)	879L (Bowmanton 244S to 879AL Tap)	85	94	80.7	95.0	85.5	100.6	5.6
1148L (Whitla 251S to Shamrock 1018S)	1005L (Milo 356S to P2009 Tap)	481	588	480.4	99.9	481.5	100.1	0.2
1036L (Milo 356S to Travers 554S)	879L (Bowmanton 244S to 879AL Tap)	85	94	83.1	97.7	86.7	102.0	4.3
	1005L (Milo 356S to P2009 Tap)	481	588	599.3	124.6	601.3	125.0	0.4
763L (Vauxhall 158S to West Brooks 28S)	821L (Vauxhall 158S to Hays 421S)	85.1	94	69.4	81.5	93.5	109.9	28.4
	879L (Bowmanton 244S to 879AL Tap)	85	94	81.0	95.3	87.2	102.6	7.3

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Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Normal Rating (MVA)	Emergency Rating (MVA)	Pre-Project Results		Post-Project Results		% Loading Difference (Post-Pre)
				Observed Power Flow (MVA)	% Loading	Observed Power Flow (MVA)	% Loading	
Vauxhall 158S Transformer T2	879L (Bowmanton 244S to 879AL Tap)	85	94	90.4	106.3	102.2	120.2	13.9
	1005L (Milo 356S to P2009 Tap)	481	588	480.0	99.8	490.1	101.9	2.1
Hull 257S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	85	94	88.7	104.3	87.2	102.6	-1.7
Hays 421S 138/25 kV Transformer T2	763L (West Brooks to 763AL Tap)	120	132	114.7	95.6	144.7	120.6	25.0
	879L (Bowmanton 244S to 879AL Tap)	85	94	80.6	94.8	85.3	100.4	5.6
Fincastle 336S 138/25 kV Transformer T1	879L (Bowmanton 244S to 879AL Tap)	85	94	89.2	104.9	89.2	104.9	0.0
Brooks 121S 138/25 kV Transformer T2	763L (West Brooks to 763AL Tap)	120	132	106.9	89.1	137.0	114.2	25.1
763L (Vauxhall 158S to Hull 257S)	879L (Bowmanton 244S to 879AL Tap)	85	94	89.7	105.5	89.9	105.8	0.3

Voltage Criteria Violations

No voltage criteria violations were observed under Category B conditions.

POD Bus Voltage Deviations

No POD bus voltage deviations were observed.

3.1.5 Scenario 10: 2023 SL HS Post-Project Alternative 1 - Sensitivity P2348 and Enchant DERs

Category A Conditions

No Reliability Criteria violations were observed under Category A conditions.

3.1.6 Scenario 11: 2023 SP HS Post-Project Alternative 1 - Sensitivity P2348 and Enchant DERs

Category A Conditions

One thermal violation was observed on 763L under Category A conditions as shown in Table 3-5. No voltage criteria violation was observed under Category A condition.

Table 3-5: Thermal Criteria Violations under Category A Conditions for Scenario 11

Contingency	Violation Location Details	Thermal Ratings (MVA)	Post-Project Results

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(System Element Lost)		Normal Rating	Emergency Rating	Power Flow (MVA)	% Loading
Base Case	763L (West Brooks 28S - 763AL Tap)	120	132	131.6	109.7

3.1.7 Scenario 12: 2023 SL HS Post-Project Alternative 1 - Sensitivity P2348, Enchant DERs, High Taber and P2122

Category A Conditions

Three thermal violations were observed on under Category A conditions as shown in Table 3-6. No voltage criteria violation was observed under Category A condition.

Table 3-6: Thermal Criteria Violations under Category A Conditions for Scenario 12

Contingency (System Element Lost)	Violation Location Details	Thermal Ratings (MVA)		Post-Project Results	
		Normal Rating	Emergency Rating	Power Flow (MVA)	% Loading
Base Case	763L (West Brooks 28S - 763AL Tap)	120	132	134.2	111.8
Base Case	610L (Taber 83S to Fincastle 336S)	118	130	129.6	109.8
Base Case	879L (Bowmanton 244S to 879AL Tap)	85	94	108.6	127.8

3.1.8 Scenario 13: 2023 SP HS Post-Project Alternative 1 - Sensitivity P2348, Enchant DERs, High Taber and P2122

Category A Conditions

One thermal violation was observed on 763L under Category A conditions as shown in Table 3-7. No voltage criteria violation was observed under Category A condition.

Table 3-7: Thermal Criteria Violations under Category A Conditions for Scenario 13

Contingency (System Element Lost)	Violation Location Details	Thermal Ratings (MVA)		Post-Project Results	
		Normal Rating	Emergency Rating	Power Flow (MVA)	% Loading
Base Case	763L (West Brooks 28S - 763AL Tap)	120	132	131.6	109.7

3.2 Transient Stability Studies

Transient stability studies were completed for Scenarios 3, 4, 8, and 9.

The results did not indicate any transient stability concerns, and the system showed acceptable dynamic response to all Category B conditions studied, as shown in Table 3-8 to Table 3-11. The post-Project transient stability plots are provided in Attachment A4. The dynamic data and assumptions of all equipment proposed for the Facility are provided in Attachment A5.

Table 3-8: Transient Stability Study Results under Category B Conditions for Scenario 3

Studied Contingency	Fault Description and Location	Results
612L (Burdett 368S - Fincastle 336S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Fincastle 336S	Stable
610L (Taber 83S - Fincastle 336S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Fincastle 336S	Stable
507L (Taber 83S - Hull 257S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Hull 257S	Stable
879L (Burdett 368S - Bowmanton 244S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Bowmanton 244S	Stable
763L (Vauxhall 158S - West Brooks 28S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at West Brooks 28S	Stable
795L (Hays 421S - Brooks 121S)	3-phase fault at Hays 421S	Stable
	3-phase fault at Brooks 121S	Stable
821L (Vauxhall 158S - Hays 421S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at Hays 421S	Stable

Table 3-9: Transient Stability Study Results under Category B Conditions for Scenario 4

Studied Contingency	Fault Description and Location	Results
612L (Burdett 368S - Fincastle 336S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Fincastle 336S	Stable
610L (Taber 83S - Fincastle 336S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Fincastle 336S	Stable
507L (Taber 83S - Hull 257S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Hull 257S	Stable
879L (Burdett 368S - Bowmanton 244S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Bowmanton 244S	Stable

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Studied Contingency	Fault Description and Location	Results
763L (Vauxhall 158S - West Brooks 28S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at West Brooks 28S	Stable
795L (Hays 421S - Brooks 121S)	3-phase fault at Hays 421S	Stable
	3-phase fault at Brooks 121S	Stable
821L (Vauxhall 158S - Hays 421S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at Hays 421S	Stable

Table 3-10: Transient Stability Study Results under Category B Conditions for Scenario 8

Studied Contingency	Fault Description and Location	Results
612L (Burdett 368S - Fincastle 336S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Fincastle 336S	Stable
610L (Taber 83S - Fincastle 336S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Fincastle 336S	Stable
507L (Taber 83S - Hull 257S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Hull 257S	Stable
879L (Burdett 368S - Bowmanton 244S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Bowmanton 244S	Stable
763L (Vauxhall 158S - West Brooks 28S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at West Brooks 28S	Stable
795L (Hays 421S - Brooks 121S)	3-phase fault at Hays 421S	Stable
	3-phase fault at Brooks 121S	Stable
821L (Vauxhall 158S - Hays 421S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at Hays 421S	Stable

Table 3-11: Transient Stability Study Results under Category B Conditions for Scenario 9

Studied Contingency	Fault Description and Location	Results
612L (Burdett 368S - Fincastle 336S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Fincastle 336S	Stable
610L (Taber 83S - Fincastle 336S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Fincastle 336S	Stable
507L (Taber 83S - Hull 257S)	3-phase fault at Taber 83S	Stable
	3-phase fault at Hull 257S	Stable

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Studied Contingency	Fault Description and Location	Results
879L (Burdett 368S - Bowmanton 244S)	3-phase fault at Burdett 368S	Stable
	3-phase fault at Bowmanton 244S	Stable
763L (Vauxhall 158S - West Brooks 28S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at West Brooks 28S	Stable
795L (Hays 421S - Brooks 121S)	3-phase fault at Hays 421S	Stable
	3-phase fault at Brooks 121S	Stable
821L (Vauxhall 158S - Hays 421S)	3-phase fault at Vauxhall 158S	Stable
	3-phase fault at Hays 421S	Stable

4 Short Circuit Studies

4.1 Pre-Project Results

Pre-Project short-circuit current levels are provided in Table 4-1 and Table 4-2¹.

Table 4-1: Pre-Project Short-Circuit Current Levels for Scenario 2

Substation Name and Number	Base Voltage (kV)	Pre-Fault Voltage (kV)	3- Φ Fault (kA)	Positive Sequence Thevenin Source Impedance ($R1+jX1$) (pu)	1- Φ Fault (kA)	Zero Sequence Thevenin Source Impedance ($R0+jX0$) (pu)
Vauxhall 158S	138	140.8	6.04	0.031192+ j0.072266	4.17	0.044553+ j0.177992
Hays 421S	138	140.7	4.74	0.039129+ j0.092903	3.22	0.055886+ j0.233335
Hull 257S	138	141.5	5.67	0.033984+ j0.076293	3.91	0.048844+ j0.188629
Enchant 447S	138	137.9	3.38	0.056749+ j0.126875	2.31	0.072298+ j0.324907
West Brooks 28S	240	252.0	13.56	0.004671+ j0.020742	13.54	0.002759+ j0.021170
	138	140.8	15.26	0.006479+ j0.031176	16.83	0.001813+ j0.022230
Taber 83S	138	142.2	6.37	0.030158+ j0.067258	4.41	0.042126+ j0.165186

Table 4-2: Pre-Project Short-Circuit Current Levels for Scenario 7

Substation Name and Number	Base Voltage (kV)	Pre-Fault Voltage (kV)	3- Φ Fault (kA)	Positive Sequence Thevenin Source Impedance ($R1+jX1$) (pu)	1- Φ Fault (kA)	Zero Sequence Thevenin Source Impedance ($R0+jX0$) (pu)
Vauxhall 158S	138	140.8	6.04	0.031192+ j0.072266	4.17	0.044553+ j0.177992
Hays 421S	138	140.7	4.74	0.039129+ j0.092903	3.22	0.055886+ j0.233335
Hull 257S	138	141.5	5.67	0.033984+ j0.076293	3.91	0.048844+ j0.188629
Enchant 447S	138	137.9	3.38	0.056749+ j0.126875	2.31	0.072298+ j0.324907
West Brooks 28S	240	252.0	13.56	0.004671+ j0.020742	13.54	0.002759+ j0.021170
	138	140.8	15.26	0.006479+ j0.031176	16.83	0.001813+ j0.022230
Taber 83S	138	142.2	6.37	0.030158+ j0.067258	4.41	0.042126+ j0.165186

¹ Short-circuit current studies were based on modeling information provided to the AESO by third parties. The authenticity of the modeling information has not been validated. Fault levels could change as a result of system developments, new customer connections, or additional generation in the area. It is recommended that these changes be monitored and fault levels reviewed to ensure that the fault levels are within equipment operating limits. The information provided in this study should not be used as the sole source of information for electrical equipment specifications or for the design of safety-grounding systems.

4.2 Post-Project Results

4.2.1 Scenario 4: 2023 SP HS Post-Project

Post-Project short-circuit current levels for Scenario 4 are provided in Table 4-3.

Table 4-3: Post-Project Short-Circuit Current Levels for Scenario 4

Substation Name and Number	Base Voltage (kV)	Pre-Fault Voltage (kV)	3- Φ Fault (kA)	Positive Sequence Thevenin Source Impedance ($R1+jX1$) (pu)	1- Φ Fault (kA)	Zero Sequence Thevenin Source Impedance ($R0+jX0$) (pu)
Vauxhall 158S	138	142.2	6.06	0.031480+ j0.072536	4.17	0.045656+ j0.180039
Hays 421S	138	141.5	4.74	0.039266+ j0.093068	3.22	0.056294+ j0.234223
Hull 257S	138	142.6	5.69	0.034191+ j0.076496	3.92	0.049520+ j0.189890
Enchant 447S	138	138.7	3.39	0.056875+ j0.127054	2.32	0.072611+ j0.325633
West Brooks 28S	240	251.9	13.55	0.004635+ j0.020662	13.50	0.002760+ j0.021175
	138	140.7	15.21	0.006453+ j0.031137	16.76	0.001813+ j0.022240
Taber 83S	138	142.8	6.38	0.030243+ j0.067366	4.41	0.042337+ j0.165602
Solstice 549S	138	142.3	5.96	0.032142+ j0.073758	4.08	0.047142+ j0.184565

4.2.2 Scenario 5: 2031 SP Post-Project

Post-Project short-circuit current levels for Scenario 5 are provided in Table 4-4.

Table 4-4: Post-Project Short-Circuit Current Levels for Scenario 5

Substation Name and Number	Base Voltage (kV)	Pre-Fault Voltage (kV)	3- Φ Fault (kA)	Positive Sequence Thevenin Source Impedance ($R1+jX1$) (pu)	1- Φ Fault (kA)	Zero Sequence Thevenin Source Impedance ($R0+jX0$) (pu)
Vauxhall 158S	138	142.0	5.70	0.029938+ j0.072562	3.94	0.045100+ j0.177130
Hays 421S	138	139.7	4.49	0.036325+ j0.091286	3.10	0.050447+ j0.221040
Hull 257S	138	142.9	5.34	0.033407+ j0.077139	3.68	0.050766+ j0.190356
Enchant 447S	138	140.4	3.17	0.054858+ j0.129155	2.18	0.072303+ j0.323431
West Brooks 28S	240	251.7	14.58	0.003149+ j0.017936	15.91	0.001509+ j0.013557
	138	140.0	15.28	0.004745+ j0.028805	17.30	0.001038+ j0.018410
Taber 83S	138	143.1	5.97	0.030629+ j0.068348	4.08	0.046830+ j0.171192
Solstice 549S	138	142.2	5.61	0.030675+ j0.073840	3.85	0.046755+ j0.181988

4.2.3 Scenario 9: 2023 SP HS Post-Project

Post-Project short-circuit current levels for Scenario 9 are provided in Table 4-5.

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Table 4-5: Post-Project Short-Circuit Current Levels for Scenario 9

Substation Name and Number	Base Voltage (kV)	Pre-Fault Voltage (kV)	3- Φ Fault (kA)	Positive Sequence Thevenin Source Impedance ($R1+jX1$) (pu)	1- Φ Fault (kA)	Zero Sequence Thevenin Source Impedance ($R0+jX0$) (pu)
Vauxhall 158S	138	142.7	6.14	0.031537+ j0.072639	4.22	0.045641+ j0.180005
Hays 421S	138	141.6	4.80	0.039333+ j0.093177	3.26	0.056287+ j0.234204
Hull 257S	138	143.0	5.75	0.034238+ j0.076576	3.96	0.049512+ j0.189872
Enchant 447S	138	141.6	3.50	0.056919+ j0.127278	2.40	0.072457+ j0.325328
West Brooks 28S	240	251.6	13.56	0.004732+ j0.020857	13.57	0.002760+ j0.021173
	138	140.2	15.27	0.006549+ j0.031288	16.86	0.001813+ j0.022237
Taber 83S	138	143.0	6.43	0.030277+ j0.067420	4.45	0.042335+ j0.165596
Solstice 549S	138	142.8	6.04	0.032198+ j0.073860	4.14	0.047128+ j0.184533

5 Mitigation Measure Development and Evaluation

The Studies Consultant, in consultation with the AESO, developed mitigation measures to address the system performance issues that were identified in the post-Project scenarios. Existing remedial action schemes (RASs) are described in Section 1.2.2 of Attachment A1.

5.1 Pre-Project

Pre-Project mitigation measures are summarized in Table 5-1.

Table 5-1: Pre-Project Mitigation Measures

Mitigation Measure	Location of Observed Violation	Contingency
Planned RAS 170 ^a	1005L (Milo 356S – P2009 Tap)	1036L (Milo 356S – Travers 554S)
Planned RAS 180 ^b	879L (Bowmanton 244S – 879AL Tap)	610L (Taber 83S – Fincastle 336S)
TFO capital maintenance project to restore ratings on the 138 kV transmission line 610L	610L (Taber 83S - Fincastle 336S)	System normal
Real time operational practices	879L (Burdett 368S – 879AL Tap)	610L (Taber 83S – Fincastle 336S)

Notes:

^a RAS 170 is a RAS proposed for the planned Travers Solar project.

^b Planned RAS 180 is a RAS proposed for the planned P2212 (Rattlesnake Wind project), P1918, an P1959.

5.2 Post-Project

Post-Project mitigation measures are summarized in Table 5-2.

Table 5-2: Post-Project Mitigation Measures

Mitigation Measure	Location of Observed Violation	Contingency
Planned RAS 170	1005L (Milo 356S – P2009 Tap)	1036L (Milo 356S – Travers 554S)
Planned RAS 180	879L (Bowmanton 244S – 879AL Tap)	610L (Taber 83S – Fincastle 336S)
Modified Planned RAS 180 ^a	879L (Bowmanton 244S – 879AL Tap)	Vauxhall 158S Transformer T2
New RAS 1	763L (West Brooks 28S – 763AL Tap)	795L (Brooks 121S – Hays 421S)
		821L (Vauxhall 158S – Hays 421S)
		Hays 421S Transformer T2
		Brooks 121S Transformer T2
Real time operational practices	879L (Burdett 368S – 879AL Tap)	610L (Taber 83S – Fincastle 336S)
	821L (Vauxhall 158S – Hays 421S)	763L (Vauxhall 158S – West Brooks 28S)
	763L (Vauxhall 158S to P1926 Tap)	674L (Bowmanton 244S to Chappice Lake 649S)
		658L (Chappice Lake 649S to Cypress 562S)
		1005L (Milo 356S to Picture Butte 120S)
		1036L (Milo 356S to Travers 554S)

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Mitigation Measure	Location of Observed Violation	Contingency
Real time operational practices	763L (West Brooks 28S - 763AL Tap)	System normal ^b

Notes:

^a "Modify" refers to adding the Project to the logic of the planned RAS 180.

^b Real time operational practices will be used for post-Project sensitivity scenario.

5.3 Evaluation of Mitigation Measures

This section describes the results of the power flow studies that were performed to assess the impact of the Project on the performance of the AIES following the implementation of proposed mitigation measures.

The post-mitigation measures studies were performed under Category B conditions for Scenario 4 and Scenario 9 using Alternative 1 and the RASs described in the previous section.

The post-mitigation power flow diagrams for selected Category B conditions are provided in Attachment A6. Post-mitigation power flow diagrams present only those post-Project contingencies that result in thermal criteria violations that require RAS mitigation. Post-Project contingencies that result in thermal criteria violations that can be mitigated by real-time operational practices or TFO capital maintenance projects were not studied.

5.3.1 Scenario 4: 2023 SP HS Post-Project

Category B Conditions

Thermal criteria violations observed under certain Category B conditions in the post-Project studies were mitigated by RASs as shown in Table 5-3.

After RAS actions were complete, real-time operational practices are required to fully alleviate certain thermal criteria violations observed on 138 kV transmission line 763L.

Table 5-3: Post-RAS Power Flow Study Results for Scenario 4

Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Seasonal Continuous Rating (MVA)	Short-term (Emergency) Rating (MVA)	Post-Project Results		Post-RAS Action Results	
				Power Flow (MVA)	% Loading	Power Flow (MVA)	% Loading
610L	879L (Burdett 368S to 879AL_Tap)	85	94	92.9	109.3	51.8	60.9
	879L (Bowmanton 244S to 879AL Tap)	85	94	149.6	176.0	47.1	55.4
1036L	763L (Vauxhall 158S to P1926 Tap)	120	132	129.1	107.6	125.8	104.8 ^a
	1005L (Milo 356S to P2009 Tap)	481	588	596.4	124.0	350.2	72.8
Vauxhall 158S T2	879L (Bowmanton 244S to 879AL Tap)	85	94	103.2	121.4	58.5	68.8
	1005L (Milo 356S to P2009 Tap)	481	588	491.1	102.1	476.7	99.1

Notes:

^a Thermal violation remained after RAS actions were complete, and real-time operational practices will mitigate the overload

5.3.2 Scenario 9: 2023 SP HS Post-Project Sensitivity

Category B Conditions

The thermal criteria violations observed under certain Category B conditions in the post-Project studies were mitigated by RASs as shown in Table 5-4.

Table 5-4: Post-RAS Power Flow Study Results for Scenario 9

Contingency (System Element Lost)	Details of Violation (Violation Observed On)	Seasonal Continuous Rating (MVA)	Short-term (Emergency) Rating (MVA)	Post-Project Results		Post-RAS Action Results	
				Power Flow (MVA)	% Loadin g	Power Flow (MVA)	% Loading
610L	879L (Burdett 368S to 879AL_Tap)	85	94	92.9	109.3	51.7	60.8
	879L (Bowmanton 244S to 879AL Tap)	85	94	149.6	176.0	47.0	55.3
795L	763L (West Brooks 28S – 763AL Tap)	120	132	138.7	115.6	108.5	90.4
821L	763L (West Brooks to 763AL Tap)	120	132	145.6	121.3	115.5	96.3
	879L (Bowmanton 244S to 879AL Tap)	85	94	85.5	100.6	80.7	95.0
1036L	879L (Bowmanton 244S to 879AL Tap)	85	94	86.7	102.0	84.9	99.9
	1005L (Milo 356S to P2009 Tap)	481	588	601.3	125.0	355.0	73.8
Vauxhall 158S T2	879L (Bowmanton 244S to 879AL Tap)	85	94	102.2	120.2	57.5	67.7
	1005L (Milo 356S to P2009 Tap)	481	588	490.1	101.9	475.7	98.9
Hays 421S T2	763L (West Brooks to 763AL Tap)	120	132	144.7	120.6	114.7	95.6
	879L (Bowmanton 244S to 879AL Tap)	85	94	85.3	100.4	80.6	94.8
Brooks 121S T2	763L (West Brooks to 763AL Tap)	120	132	137.0	114.2	106.9	89.1

5.4 Constraint Effective Factor Studies

Constraint effective factor studies were conducted for all post-Project scenarios. The constraint effective factors were calculated for all Category B conditions when the loadings of the monitored transmission elements in the Study Area exceeded 100% (i.e., for all of the contingencies that resulted in thermal criteria violations). The results of the constraint effective factor studies are provided in Attachment A7.

Attachment A1

Engineering Connection Assessment: Study Scope

Engineering Connection Assessment: Study Scope

P1926 Solar Krafte Vauxhall

Solar Krafte Utilities Inc.

Date: November 16, 2021

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Classification: Public

Company Name	Name and Credentials	Date	Signature
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Attachments

Attachment A: Transmission Planning Criteria – Basis and Assumptions

1 Introduction

This Study Scope provides an overview of the engineering studies to be completed by AltaLink Management Ltd. (the Studies Consultant) to assess the impact of the Project (as defined in section 1.1) on the performance of the Alberta interconnected electric system (AIES). Technical criteria, assumptions and methods for performing these engineering studies are provided in this document.

1.1 Project Overview

Solar Krafte Utilities Inc. (Market Participant) has submitted a request for system access service to the Alberta Electric System Operator (AESO) to connect its proposed Solar Krafte Vauxhall (Facility) to the AIES.

The Facility includes a proposed collector substation, to be designated the Solstice 549S substation.

The Market Participant's request includes: a request for a new system access service in the area, with a Rate STS, *Supply Transmission Service*, contract capacity of 60 MW and a Rate DTS, *Demand Transmission Service*, contract capacity of 0.375 MW; and a request for transmission development (collectively, the Project).

The Project in-service date (ISD) used for the purpose of the studies is August 1, 2023.

Load and generation components of the Project are listed in Table 1-1.

Table 1-1: Project Load and Generation Details

Project Component		Description
Load	Existing Rate DTS, <i>Demand Transmission Service</i> , contract capacity	No existing contract
	Requested Rate DTS	0.375 MW
	Type	Substation service and auxiliary load
	Motors (number and size)	TBD
	Power factor	0.9 PF
	Future load expansion plans	No
Generation	Generation type	Solar PV
	Existing Rate STS, <i>Supply Transmission Service</i> , contract capacity	0 MW
	Requested Rate STS	60 MW
	Number and size of generating units	Aggregated Solar PV
	Maximum authorized real power (MARF)	60 MW
	Maximum capability (MC)	60 MW
	Reactive power capability	0.95 pf absorbing

Project Component		Description
		0.9 pf producing
	Future generation expansion plans	No

Note:

MARP and MC are defined in the AESO's *Consolidated Authoritative Document Glossary*, which can be found on the AESO's website.

1.2 Existing System Overview

1.2.1 Study Area

Geographically, the Project is located in the AESO planning area of Vauxhall (Area 52).

The Study Area for the Project consists of the AESO planning areas of Medicine Hat (Area 4), Brooks (Area 47), and Vauxhall (Area 52), including the tie lines connecting these planning areas to the rest of the AIES.

The existing transmission system in the Study Area is shown in Figure 1-1.

1.2.2 Existing Constraints

Existing constraints in the Study Area are managed in accordance with the procedures set out in Section 302.1 of the ISO rules, *Real Time Transmission Constraint Management* (TCM Rule).

There are a number of constraints in the Study Area that are mitigated by existing remedial action schemes (RASs) and/or other protection schemes.

The following existing RASs and/or other protection schemes are used to manage constraints in the area:

- RAS 141: 498S Voltage Instability Mitigation
- RAS 164: 1034L and 1035L Contingency Mitigation
- RAS 168: 172L-83S Overload Mitigation
- RAS 173: 880L-321S Overload Mitigation Scheme
- RAS 2607: 28S - 1075L Overvoltage Line Trip

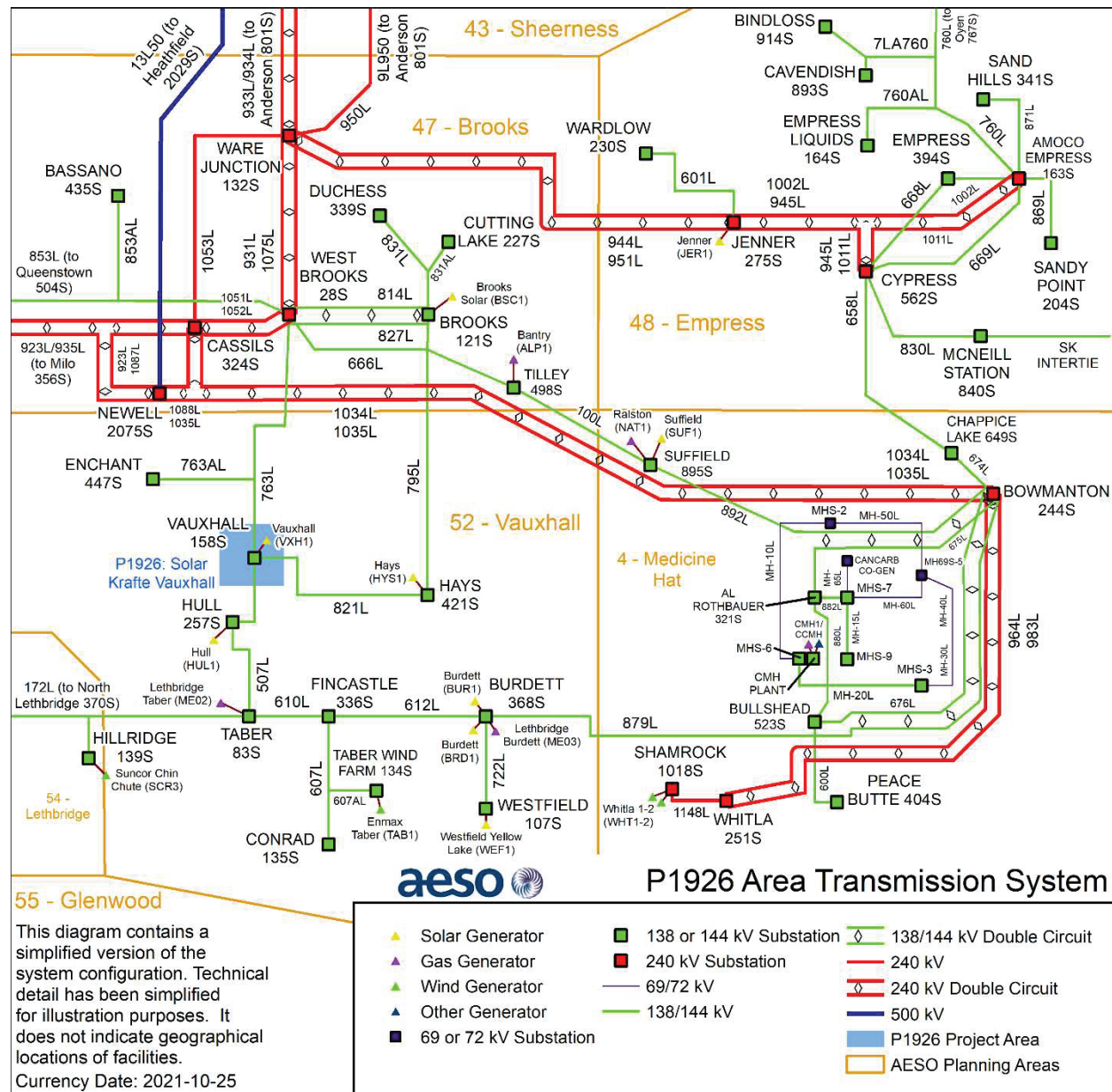
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Figure 1-1: Transmission System in the Study Area



2 Connection Alternative to be Studied

The following alternative will be studied:

2.1 Alternative 1 – T-tap connection to 763L (between Vauxhall 158S and Hull 257S)

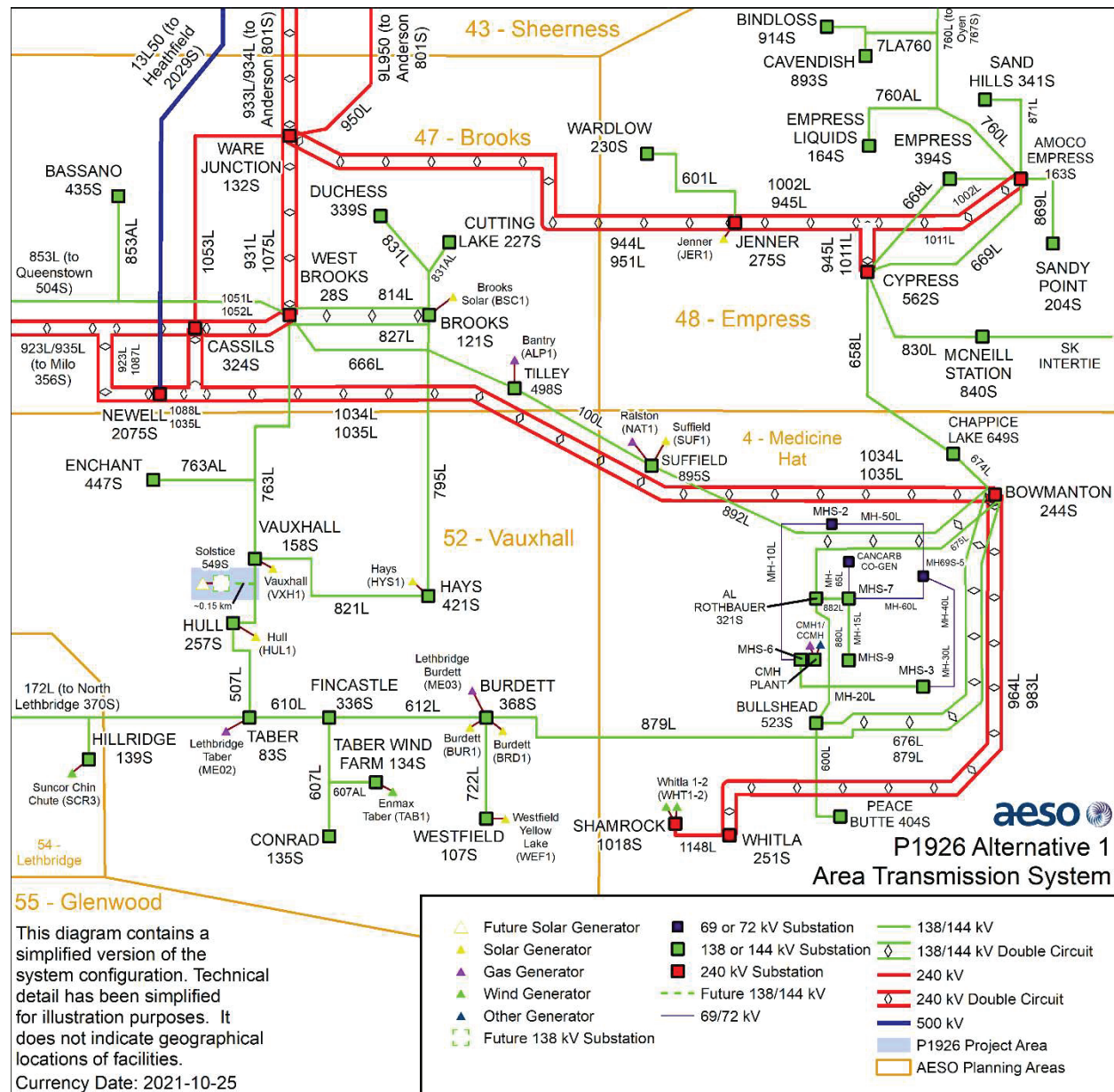
This alternative included the following developments:

- Add a 138 kV circuit, approximately 0.15km¹ in length to connect Market Participant's proposed facility to the existing 138 kV transmission line 763L between Vauxhall 158S and Hull 257S using a T-tap connection configuration; and
- Add or modify associated equipment as required for the above developments.

The proposed connection configuration is shown in Figure 2-1.

¹ Exact line length to be determined by TFO

Figure 2-1: Connection Alternative 1



3 Criteria, Standards and Requirements

3.1 AESO Reliability Criteria

The Transmission Planning (TPL) Standards, which are included in the Alberta Reliability Standards, and *Transmission Planning Criteria – Basis and Assumptions* (see Attachment A), (collectively, the Reliability Criteria) will be applied to evaluate system performance under Category A system conditions (i.e., all elements in-service) and following Category B contingencies (i.e., single element outage), prior to and following the studied alternatives. Below is a summary of Category A and Category B system conditions.

Category A, often referred to as the N-0 condition, represents a normal system with no contingencies and all facilities in service. Under this condition, the system must be able to supply all firm load and firm transfers to other areas. All equipment must operate within its applicable rating, voltages must be within their applicable range, and the system must be stable with no cascading outages.

Category B events, often referred to as an N-1 or N-G-1 with the most critical generator out of service, result in the loss of any single specified system element under specified fault conditions with normal clearing. These elements are a generator, a transmission circuit, a transformer, or a single pole of a DC transmission line. The acceptable impact on the system is the same as Category A. Planned or controlled interruptions of electric supply to radial customers or some local network customers, connected to or supplied by the faulted element or by the affected area, may occur in certain areas without impacting the overall reliability of the interconnected transmission systems. To prepare for the next contingency, system adjustments are permitted, including curtailments of contracted firm (non-recallable reserved) transmission service electric power transfers.

The TPL standards, TPL-001-AB-0, TPL-002-AB1-0, have referenced Applicable Ratings when specifying the required system performance under Category A, Category B events. For the purpose of applying the TPL standards to the studies documented in this report, Applicable Ratings are defined as follows:

- Normal thermal rating of the line's loading limits for each season;
- The highest specified loading limits for transformers;
- For Category A conditions: Voltage range under normal operating condition per AESO Information Document #2010-007RS, *General Operating Practices – Voltage Control* (ID #2010-007RS). For the busses not listed in ID #2010-007RS, Table 2-1 in the *Transmission Planning Criteria – Basis and Assumptions* applies;
- For Category B conditions: The extreme voltage range values per Table 2-1 in the *Transmission Planning Criteria – Basis and Assumptions*; and
- Desired post-contingency voltage deviation limits for three defined post-event timeframes as provided in Table 3-1.

Table 3-1: Post-Contingency Voltage Deviation Guidelines for Low Voltage Busses

Parameter and reference point	Time Period		
	Post Transient (up to 30 sec)	Post Auto Control (30 sec to 5 min)	Post Manual Control (Steady State)
Voltage deviation from steady state at point of delivery (POD) low voltage bus.	±10%	±7%	±5%

3.2 ISO Rules and Information Documents

ID #2010-007RS will be used to establish system normal (i.e., pre-contingency) voltage profiles for the Study Area.

The TCM Rule will be followed to set up the study scenarios and assess the impact of the Project. In addition, due regard will be given to the following:

- The AESO's *Connection Study Requirements*;
- Section 502.1 of the ISO rules, *Aggregated Generating Facilities Technical Requirements*;
- Section 502.16 of the ISO rules, *Aggregated Generating Facilities Operating Requirements*;
- Section 502.5 of the ISO rules *Generating Unit Technical Requirements*; and
- Section 502.6 of the ISO rules *Generating Unit Operating Requirements*.

4 Scenarios and Assumptions

4.1 Scenarios

The following section describes the scenarios to be studied and the assumptions to be used in the studies.

Connection scenarios must be studied as outlined in Table 4-1.

Table 4-1: Connection Study Scenarios

Scenario No.	Year/Season	System Generation Dispatch Conditions	Scenario Name	Project Load (MW)	Project Generation (MW)
Pre-Project					
1	2023 Summer Light (SL)	High Solar (HS)	2023 SL HS Pre-Project	0	0
2	2023 Summer Peak (SP)	HS	2023 SP HS Pre-Project	0	0
Post-Project					
3	2023 SL	HS	2023 SL HS Post-Project	0.375	60
4	2023 SP	HS	2023 SP HS Post-Project	0.375	60
5	2031 SP	All generation in the Study Area on	2031 SP Post-Project	0.375	60
Pre-Project-Sensitivity (Enchant DERs)					
6	2023 SL	HS	2023 SL HS Pre-Project-Sen	0	0
7	2023 SP	HS	2023 SP HS Pre-Project-Sen	0	0
Post-Project-Sensitivity (Enchant DERs)					
8	2023 SL	HS	2023 SL HS Post-Project-Sen	0.375	60
9	2023 SP	HS	2023 SP HS Post-Project-Sen	0.375	60

4.2 Assumptions

4.2.1 System Project Assumptions

The pre-Project and post-Project connection assessment will not include any system transmission projects because there are no planned system transmission developments in the Study Area that are expected to be in service before the scheduled Project ISD.

4.2.2 Connection Project Assumptions

Table 4-2 summarizes the connection projects in the Study Area that should be included in the studies.

Table 4-2: Planned Connection Projects Included in the Studies

AESO Project No.	AESO Project Name	AESO Planning Area No.	Generation (MW)	Load (MW)	Scheduled ISD
P2362, P2363, P2364, P2365*	Fortis Enchant 447S DER Solar 1 to 4	52	71.9	NA	Nov 30, 2021

*Projects are considered for sensitivity analysis

4.2.3 Load Assumptions

The load forecast to be used for the studies is shown in Table 4-3 and is a forecast for the AESO South Planning Region peak based on the *AESO 2021 Long-term Outlook (2021 LTO)*² with modifications to incorporate the latest forecast intelligence. For the post-Project studies, when the Study Area loads are modified to align with the regional load forecast, the active power to reactive power ratio in the base case scenarios shall be maintained.

Table 4-3: Forecast Load (at AESO South Planning Region Peak)

AESO Planning Region Name	Forecast Peak Load by Year/Season (MW)	
	2023 SL	2023 SP
South Planning Region ¹	862	1579

Note:

¹ The South Region comprises the following AESO planning areas 4, 43, 44, 45, 46, 47, 48, 49, 52, 53, 54, and 55

IDEV files contain non-motor loads in zones 34, 36, and 351. These loads are not accounted for in the forecasted peak loads shown above and should not be considered when scaling load. The AESO engineer will provide guidance to load scaling procedures as required.

4.2.4 Generation Assumptions

The generation forecast to be used for the studies is based on the 2021 LTO with modifications to incorporate the latest forecast intelligence. The generation assumptions for the studies will assume High Solar dispatch conditions. Additional studies may be required in the event of changes to the AESO's corporate forecast.

The existing generation (excluding wind and solar) dispatch conditions for the study scenarios are described in Table 4-4.

Table 4-4: Existing Generation (excluding Wind and Solar) Dispatch Conditions

Facility Name Unit No.	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation ^a (MW) by Scenario	
				2023 SL	2023 SP
Altgas Bantry (ALP1)	4275	7	47	0	5

² The 2021 LTO is available on the AESO website.

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Facility Name Unit No.	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation ^a (MW) by Scenario	
				2023 SL	2023 SP
Lethbridge Coaldale (ME04)	4690	6	54	0	6
Chin Chute Hydroelectric facility (CHN)	407	15	54	10	9
Lethbridge Taber (ME02)	3272	8	52	0	7
Lethbridge Burdett (ME03)	4269	7	52	0	7

Notes:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

Pre-Project dispatch levels for the existing wind and solar generation facilities are shown in Table 4-5 and Table 4-6.

Table 4-5: Dispatch Conditions for Existing Wind Generation Facilities

Facility Name and Code	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation ^a (MW) by Scenario	
				2023 SL	2023 SP
Ardenville Wind (ARD1)	4735, 4740	68	53	13.6	40.8
Blue Trail Wind (BTR1)	66328, 67328	66	53	13.2	39.6
Castle River #1 (CR1)	2234, 3234	39	53	7.8	23.4
Castle Rock Wind Farm (CRR1)	67221	77	53	15.4	46.2
Cowley Ridge (CRE3)	4264	20	53	4.0	12.0
Enmax Taber (TAB1)	15343, 16343	81	52	16.2	48.6
Kettles Hill (KHW1)	2402, 3402	63	53	12.6	37.8
McBride Lake Windfarm (AKE1)	2901, 3901, 4901	73	53	14.6	43.8
Soderghen Wind (GWW1)	12358, 13358	71	53	14.2	42.6
Summerview 1 (IEW1)	2338, 3338	66	53	13.2	39.6
Summerview 2 (IEW2)	4339, 5337	66	53	13.2	39.6
Suncor Chin Chute (SCR3)	2389	30	54	6.0	18.0
Suncor Magrath (SCR2)	11002	30	53	6.0	18.0
Suncor Wintering Hills (SCR4)	60789, 60791, 60793, 60846, 60848, 60850	88	43	17.6	52.8
Old Man River(OWF1)	61543	46	53	9.2	27.6
Blackspring Ridge(BSR1)	61736, 61737	300	49	60.0	180.0
Castle Rock Ridge 2 (CRR2)	567221	30.6	53	6.1	18.4
Enel Riverview Wind Farm (RIV1)	69221	115	53	23.0	69.0

Facility Name and Code	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation ^s (MW) by Scenario	
				2023 SL	2023 SP
Capital Power Whitla Wind Power Facility (WHT1)	60990	201.6	4	40.3	121.0
Ghost Pine (NEP1)	2621, 2622, 2623, 2624, 2625	82	42	16.4	49.2
Halkirk (HAL1)	66435, 67435	150	42	30.0	90.0
Fortis Bull Creek Phases 1 and 2 (BUL1 & BUL2)	550003, 550004	29	37	5.8	17.4

Note:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

Table 4-6: Dispatch Conditions for Existing Solar Generation Facilities

Facility Name and Code	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation ^s (MW) by Scenario	
				2023 SL	2023 SP
Brooks Solar (BSC1)	553257	15	47	10.5	15.0
Hull DER Solar (HUL1)	552402	24.5	52	17.2	24.5
Vauxhall Solar (VXH1)	554273	22	52	15.4	22.0
Claresholm 1 (CLR1)	60894	58	49	40.6	55.1
Claresholm 2 (CLR2)	61894	75	49	52.5	71.3
Suffield (SUF1)	557270	23	52	16.1	23.0
Burdett (BRD1)	992692	10.5	52	7.4	10.5
Burdett (BUR1)	558269	20	52	14.0	20.0
Westfield Yellow Lake (WEF1)	557277	19	52	13.3	19.0
Innisfail Solar (INF1)	557120	22	39	15.4	20.9

Note:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

Table 4-7 and Table 4-8 list the pre-Project dispatch levels for the planned wind and solar generation projects in the AESO South and Central planning regions that are included in the study scenarios.

Table 4-7: Dispatch Conditions for Planned Wind Generation Projects

Project Number	Project Name	Planned ISD	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation Dispatch ^a (MW) by Scenario	
						2023 SL	2023 SP
P1892	Fortis Buffalo Atlee Cluster 3 WAGF (REP #2)	2-Dec-22	552260	17.25	48	3.5	10.4
P1853	Fortis Buffalo Atlee Cluster 1 WAGF (REP #2)	2-Dec-22	553260	17.25	48	3.5	10.4
P2199	Buffalo Atlee Wind Farm 2 (REP #2)	2-Dec-22	557261	13.8	48	2.8	8.3
P1719	Stirling WAGF Project	1-Aug-22	61630	113	54	22.6	67.8
P2122	EDF Cypress Wind (REP #2)	1-Nov-22	560003	201.6	4	40.3	121.0
P1533	Joss MPC WAGF (REP #3)	31-Aug-22	60798, 60799	122.4	47	24.5	73.4
P1698 & P2234	Joss Jenner WAGF - Phase 2 (REP #3) & Jenner Wind Phase 3	31-Aug-22 & 30-Jun-22	61798, 61799	180	47	36.1	108.4
P2041	TransAlta Windrise MPC Wind (REP #3)	1-Apr-21	56703	207	53	41.4	124.2
P1812	Suncor Forty Mile Granlea WAGF	16-Nov-21	61994, 62994	200	4	40.0	120.0
P1800	Capital Power Whitla Wind Power Facility	1-Aug-21	61990	97.2	4	19.4	58.3
P2212	RESC Rattlesnake Ridge MPC Wind	30-Jul-21	60873	115.9	4	23.2	69.5
P1718	Wheatland WAGF	30-Sep-22	61632, 60632	120	43	24.0	72.0
P1909	TransAlta Garden Plain Wind	1-Jul-22	565002	130	42	26	78
P2338	Capital Power Whitla Wind Phase 3	15-Sep-21	64990	54	4	10.8	32.4

Note:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

Table 4-8: Dispatch Conditions for Planned Solar Generation Projects

Project Number	Project Name	Planned ISD	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation Dispatch ^a (MW) by Scenario	
						2023 SL	2023 SP
P2009 & P2341	Greengate Travers MPC Solar & Travers Solar Phase 2	1-Apr-21 & 1-Apr-22	560026, 561026, 562026	465	49	325.5	441.8
P1839	Fortis 421S Hays DG PV	Feb. 15, 2021	554401	23	52	16.1	23.0
P1831	Fortis 255S Vulcan Faribault Farms DG PV	24-May-21	4244	22	49	15.4	20.9

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Project Number	Project Name	Planned ISD	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation Dispatch ^a (MW) by Scenario	
						2023 SL	2023 SP
P1850	Fortis Coaldale 254S DER Solar 3	24-May-21	554691	22	54	15.4	20.9
P1851	Fortis Monarch 492S DER Solar	24-May-21	2005	23.6	54	16.5	22.4
P1862	Fortis Spring Coulee 385S Solar DG	Oct. 15, 2021	553246, 554246	29.5	55	20.7	28.0
P1870	Fortis Stavely 349S DER Solar	24-May-21	2004	16.5	49	11.6	15.7
P1918	FortisAlberta Conrad DER Solar 1	Aug. 15, 2021	554291	23.4	52	16.4	23.4
P1959	FortisAlberta Conrad DER Solar 2	Aug. 15, 2021	553291	22.5	52	15.8	22.5
P2029	FortisAlberta Strathmore 151S DER Solar 1	Aug. 15, 2021	557259	18	45	12.6	17.1
P2030	FortisAlberta Strathmore 151S DER Solar 2	Aug. 15, 2021	558259	22.5	45	15.8	21.4
P2195	FortisAlberta Bassano 435S DER Solar	Feb 1, 2023	557399	9.25	47	6.48	8.8
P1932	FortisAlberta Namaka DER Solar	Sep.3, 2021	553340	20.1	45	14	19.1
P2249	FortisAlberta Empress 394S DER Solar 1	May 1, 2022	558316	22.5	48	11.3	15.8
P2250	FortisAlberta Empress 394S DER Solar 2	May 1, 2022	558016	16	48	8.0	11.2
P2362 ^b	Fortis Enchant 447S DER Solar-1	30-Nov-21	993287	23	52	16.1	23.0
P2363 ^b	Fortis Enchant 447S DER Solar-2	30-Nov-21	993289	17.9	52	12.5	17.9
P2364 ^b	Fortis Enchant 447S DER Solar-3	30-Nov-21	994287	10	52	7.0	10.0
P2365 ^b	Fortis Enchant 447S DER Solar-4	30-Nov-21	994289	24	52	16.8	24.0

Note:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

^b To be dispatched only in sensitivity cases.

The post-Project scenario wind and solar generation dispatch levels will be identical to the pre-Project scenario dispatch levels shown in Table 4-5 to Table 4-8.

4.2.5 Intertie Flow Assumptions

The intertie flow assumptions for the Alberta-British Columbia (AB-BC), Alberta-Saskatchewan (AB-SK), and Alberta-Montana (MATL) interties are shown in Table 4-9.

For the 2031 scenario, the intertie flow values should be set to the AESO planning base cases.

Table 4-9: Intertie Flows by Scenario

Scenario Number	Scenario Name	Import (-) / Export (+) (MW) by Intertie		
		AB-BC	AB-SK	MATL
1,3	2023 SL HS Pre & Post-Project	227	150	0
2,4	2023 SP HS Pre & Post-Project	-138	150	-300

4.2.6 HVDC Power Order Assumptions

The Western Alberta Transmission Line (WATL) and the Eastern Alberta Transmission Line (EATL) are high-voltage direct current (HVDC) transmission lines. The HVDC power order assumptions for the studies will be set to minimize losses for the pre-Project and post-Project study scenarios.

For the 2031 scenario, the HVDC power order should be as per the AESO base cases and will not be adjusted.

Table 4-10: HVDC Power Order by Scenario

Scenario Number	Scenario Name	WATL (MW)	EATL (MW)
1,3	2023 SL HS Pre & Post-Project	TBD	TBD
2,4	2023 SP HS Pre & Post-Project	TBD	TBD

Notes:

N → S: HVDC flow direction is North to South

S → N: HVDC flow direction is South to North

The reactive power limits of the MVar exchanges between the HVDC terminals (WATL and EATL) and the connected alternating current (AC) transmission systems are shown in Table 4-11. These limits must be maintained when performing the studies.

Table 4-11: HVDC to Adjacent AC System MVar Exchange Limits

HVDC Facility	North Terminal Reactive Power Limit (MVar)	South Terminal Reactive Power Limit (MVar)
EATL	-85 to 75	-35 to 35
WATL	-75 to 75	-35 to 35

4.2.7 Transmission Facility Ratings

The legal owners of transmission facilities (TFOs) provided the thermal ratings assumptions for the existing transmission lines in the Study Area. Table 4-12 shows the normal ratings and emergency ratings for the key transmission lines in the Study Area, which will be used to perform the engineering studies.

Table 4-12: Thermal Rating Assumptions for Key Transmission Lines in the Study Area

Line ID	Line Description	Voltage Class (kV)	Normal Rating (MVA)	Emergency Rating (MVA)
892L	Suffield 895S-Bowmanton 244S	138	80	88
507L	Hull 257S – Taber 83S	138	120	132
172L	North Lethbridge 370S - Coaldale 254S	138	119	131
172L	Fort Macleod 15S - North Lethbridge 370S	138	85	94
172L	Coaldale 254S - Taber 83S	138	119	131
100L	Tilley 498S - Suffield 895S	138	78	86
612L	Fincastle 336S - Burdett 368S	138	85	94
610L	Taber 83S - Fincastle 336S	138	118*	130*
658L	Cypress 562S – Chappice Lake 649S	138	121	149
674L	Bowmanton 244S - Chappice Lake 649S	138	121	149
763L	West Brooks 28S - Vauxhall 158S	138	120	132
763L	Vauxhall 158S - Hull 257S	138	120	132
763AL	Enchant 447S – Enchant 447S tap point	138	96	96
821L	Hays 421S - Vauxhall 158S	138	85	94
795L	Hays 421S - Brooks 121S	138	119	131
814L/827L	Brooks 121S - West Brooks 28S	138	167	184
879L	Burdett 368S-Bowmanton 244S	138	85	94
1087L	Cassils 324S-Newell 2075S	240	547	656

*It is assumed the line rating of 610L will be increased upon energization of P2212

The TFOs provided the details of the substation transformers in the Study Area. The key transformers in the Study Area are shown in Table 4-13.

Table 4-13: Summary of Key Transformer Ratings in the Study Area

Substation Name and Number	Transformer ID	Transformer Voltages (kV)	Transformer Rating (MVA)
North Lethbridge 370S	T3	240/138	193.6
	T5	240/138	200
	T6	240/138	200
West Brooks 28S	T1	240/138	400
	T2	240/138	400
	T3	138/25	25
	T1	240/138	200

Substation Name and Number	Transformer ID	Transformer Voltages (kV)	Transformer Rating (MVA)
Bowmanton 244S	T2	240/138	200

The TFOs provided the details of the shunt elements in the Study Area. The key shunt elements in the Study Area are shown in Table 4-14.

Table 4-14: Summary of Key Shunt Elements in the Study Area

Substation Name and Number	Voltage Class (kV)	Capacitors	
		Number of Switched Shunt Blocks	Total at Nominal Voltage (MVar)
Taber 83S	138	1 x 24.46 MVar + 1 x 24.50 MVar	48.96
Hays 421S	138	1 x 22.96 MVar	22.96
Picture Butte 120S	240	2 x 50.00 MVar	100.00
Burdett 368S	138	1 x 22.96 MVar + 1 x 24.50 MVar	47.46

4.2.8 Protection Fault Clearing Times

The transient stability studies will be performed using the actual fault clearing times for the selected contingencies, as provided by the TFOs and as shown in Table 4-15. Only those contingencies shown in Table 4-15 will be studied for transient stability studies. If the TFOs did not specify the fault clearing times (e.g. for new transmission lines) for a selected contingency, then the studies for that contingency will be performed using the standard fault clearing times that are specified in Table 2-3 of the AESO's *Transmission Planning Criteria – Basis and Assumptions*.

Table 4-15: Protection Fault Clearing Times

Contingency (System Element Lost)	Fault Location	Clearing Times (Cycles)	
		Near End	Far End
612L (Burdett 368S – Fincastle 336S)	Burdett 368S	9	30
612L (Burdett 368S – Fincastle 336S)	Fincastle 336S	30	9
610L (Taber 83S – Fincastle 336S)	Taber 83S	9	30
610L (Taber 83S – Fincastle 336S)	Fincastle 336S	30	9
507L (Taber 83S – Hull 257S)	Taber 83S	9	30
507L (Taber 83S – Hull 257S)	Hull 257S	30	9
879L (Burdett 368S – Bowmanton 244S)	Burdett 368S	9	30
879L (Burdett 368S – Bowmanton 244S)	Bowmanton 244S	30	9
763L (Vauxhall 158S – West Brooks 28S)	Vauxhall 158S	9	60
763L (Vauxhall 158S – West Brooks 28S)	West Brooks 28S	60	9
795L (Hays 421S – Brooks 121S)	Hays 421S	9	30
795L (Hays 421S – Brooks 121S)	Brooks 121S	30	9
821L (Vauxhall 158S – Hays 421S)	Vauxhall 158S	9	30
821L (Vauxhall 158S – Hays 421S)	Hays 421S	30	9

4.2.9 Project Dynamic Data

Dynamic data for the Project can be found in Attachment A7.

4.2.10 Voltage Profile Assumption

ID #2010-007RS will be used to establish system normal (i.e., pre-contingency) voltage profiles for key area busses prior to commencing any studies. Table 2-1 of the *Transmission Planning Criteria – Basis and Assumptions* applies for the busses not included in ID #2010-007RS. These voltages will be used to set the voltage profile for the study base cases prior to the power flow studies.

5 Study Methodology

The studies to be performed for this connection assessment are identified in Table 5-1.

Table 5-1: Summary of the Studies to be Performed

Scenario No. and Name		Power Flow		Voltage Stability		Transient Stability		Motor Starting		Short Circuit
		Category		Category		Category		Category		Category A
		A	B	A	B	A	B	A	B	
Pre-Project										
1	2023 SL HS Pre-Project	X	X							
2	2023 SP HS Pre-Project	X	X							X
Post-Project										
3	2023 SL HS Post-Project	X	X			X*	X*			
4	2023 SP HS Post-Project	X	X			X*	X*			X
5	2031 SP Post-Project									X
Post-Project-Sensitivity (Enchant DERs)										
6	2023 SL HS Pre-Project-Sen	X	X							
7	2023 SP HS Pre-Project-Sen	X	X							X
Post-Project-Sensitivity (Enchant DERs)										
8	2023 SL HS Post-Project-Sen	X	X			X*	X*			
9	2023 SP HS Post-Project-Sen	X	X			X*	X*			X

* If the post-project scenario identifies instability, then the pre-project case will be tested to capture the impact of the project

For the engineering studies, all transmission facilities 69 kV and above, within the Study Area and the transmission lines connecting these planning areas to neighboring planning areas will be studied and monitored to assess the impact of the Project on the performance of the AIES, including any violations of the Reliability Criteria (as defined in Section 3.1).

5.1 Power Flow Studies

Power flow studies will be performed to identify thermal and voltage criteria violations as per the Reliability Criteria, and any deviations from the limits listed in Table 3-1.

For information purposes, the Studies Consultant must also provide, as a separate file, a list of any transmission elements where the thermal loading exceeds 95% of the element's normal rating under Category A and Category B conditions.

For the Category B power flow studies, the transformer taps and switched shunt reactive compensating devices such as shunt capacitors and reactors will be locked and continuous shunt devices will be enabled.

Voltage deviations at point-of-delivery (POD) low voltage busses will also be assessed for both the pre-Project and post-Project networks by first locking all tap changers and area shunt reactive compensating devices to identify any post-transient voltage deviations above 10%. Second, tap changers will be allowed to move while shunt reactive compensating devices remained locked to determine if any voltage deviations above 7% would occur in the area. Third, all the taps and shunt reactive compensating devices will be allowed to adjust, and voltage deviations above 5% will be reported.

The scenarios to be studied are shown in Table 5-1.

5.1.1 Contingencies to be Studied

Power flow studies will be performed for the Category A and all Category B conditions in the Study Area.

5.2 Transient Stability Studies

The Keephills generating Unit 3 in the AESO planning area of Wabamun (Area 40) will be used as the reference for the studies.

The report presenting the results of the transient stability studies must provide response plots for several variables, including rotor angle, and active and reactive power output for the Sheerness#3 Power Plant, Lethbridge Burdett, Lethbridge Taber, Altagas Bantry, and Lethbridge Coaldale. The results report must also provide the 500 kV, 240 kV and 138 kV bus voltage levels for substations near the point of connection. Other busses will be monitored and will be reported as determined by the results. The results report must also provide the key branch active and reactive power flow surrounding the Facility.

Transient stability studies will be performed for the post-Project scenarios as shown in Table 5-1. If any transient stability issues are observed, transient stability analysis will be performed for the corresponding pre-Project scenarios.

5.2.1 Contingencies to be Studied

Transient stability studies will be performed for the contingencies shown in Table 4-15.

5.3 Short-Circuit Current Level Studies

A maximum fault level must be provided for the substations in the vicinity of the Project assuming normal system operation with all transmission elements in service and generation dispatched. Three-phase faults and single line-to-ground faults will be simulated. Polar coordinates and per-unit values will be used for reporting the results.

Summer peak scenarios will be used for the short-circuit studies.

Estimated maximum three-phase faults and single line-to-ground short-circuit current levels will be reported for the following substations:

- Vauxhall 158S substation
- Hays 421S substation
- Hull 257S substation
- Enchant 447S substation
- West Brooks 28S substation
- Taber 83S substation
- Solstice 549S (proposed)

Further sensitivity studies, in consultation with the TFO, may be required if the primary short-circuit analysis indicates a potential to exceed or approach the existing fault rating of the transmission facilities.

The scenarios to be studied are as shown in Table 5-1.

6 Mitigation Measures

6.1 Development

Mitigation measures may be required if the post-Project study results identify system performance issues. Mitigation measures for the Project may involve modifying or adding real-time operational practices and/or remedial action schemes (RASs).

The Studies Consultant must notify the AESO of any system performance issues in a timely manner, following which the AESO Studies Engineer may instruct the Studies Consultant as follows:

- Develop tables showing the constraint effective factors³ for generation or load based on thermal criteria violations that are observed.
- Collaborate with the AESO to propose changes, if any, to the connection alternatives that could remove the requirement for a RAS.
- Collaborate with the AESO to study modifications to existing and/or planned RASs, proposed by the AESO, to ensure the coordination of existing protection schemes with the addition of any proposed protection schemes.
- Collaborate with the AESO to identify and study new RASs, if any, that may be required to ensure system reliability is maintained after connecting the Project to the AES.

The AESO Studies Engineer will work closely with the Studies Consultant and guide the development and/or modifications of the proposed mitigation measures to ensure system reliability, security and compliance with AESO ID #2018-018T, *Provision of System Access Service and the Connection Process*.

6.2 Evaluation

6.2.1 Post-Mitigation Studies

Studies to evaluate the effectiveness of mitigation measures, if required, will be performed in accordance with the technical criteria, assumptions, and methods provided in this Study Scope and in accordance with further instructions from the AESO.

6.2.2 Constraint Effective Factor Studies

Constraint effective factor analysis are used to determine the generator- and load- constraint effective factors and to identify the most effective generators or loads to manage the thermal criteria violations, if any, that are observed under Category B conditions.

³ Constraint effective factor studies are performed to determine the generator- and load- constraint effective factors. Constraint effective factors are used to estimate the ability of generators and loads to manage transmission constraints. A generator's or load's constraint effective factor is defined as the change in power flow over a specific transmission line following a change in the generator's energy production or in the load's energy consumption. The greater the constraint effective factor, the more effective a generator or load can be in managing a thermal criteria violation on the specific transmission line.

7 Changes to Study Assumptions

This study will utilize the AESO's planning base cases, which are based on the AESO's current corporate forecast (2021 LTO) with modifications to incorporate the latest forecast intelligence. Sensitivity studies or restudy may be required in the event of revisions to the AESO's corporate forecast, forecast intelligence, or other study assumptions. Additional engineering studies may also be required to assess new connection alternatives, changes to project ISD, or delays in proposed system developments. Any additional or revised study requirements shall be captured in a signed Study Scope Amendment document.

Attachment A: Transmission Planning Criteria – Basis and Assumptions

Transmission Planning Criteria – Basis and Assumptions

Date: July 9, 2019

Version: V1.2

1. Introduction

This document presents the reliability standards, criteria, and assumptions to be used as the basis for planning the Alberta Transmission System. The criteria, standards and assumptions identified in this document supersede those previously established.

2. Transmission Reliability Standards and Criteria¹

The AESO applies the following Alberta Reliability Standards to ensure that the transmission system is planned to meet applicable performance requirements under a defined set of system conditions and contingencies. A brief description of each of these standards is given below:

1. TPL-001-AB-0: System Performance Under Normal Conditions

Category A represents a normal system condition with all elements in service (N-0). All equipment must be within its applicable rating, voltages must be within their applicable ratings and the system must be stable with no cascading outages. Under Category A, electric supply to load cannot be interrupted and generating units cannot be removed from service.

2. TPL-002-AB1-0: System Performance Following Loss of a Single BES Element

Category B events result in the loss of any single element (N-1) under specified fault conditions with normal clearing. The specified elements are a generating unit, a transmission circuit, a transformer or a single pole of a direct current transmission line. The acceptable impact on the system is the same as Category A with the exception that radial customers or some local network customers, including loads or generating units, are allowed to be disconnected from the system if they are connected through the faulted element. The loss of opportunity load or opportunity interchanges is allowed. No cascading can occur.

3. TPL-003-AB-0: System Performance Following Loss of Two or More BES Elements

Category C events result in the loss of two or more bulk electric system elements (sequential, N-1-1 or concurrent, N-2) under specified fault conditions and include both normal and delayed fault clearing. All of the system limits for Category A and B events apply with the exception that planned and controlled loss of firm load, firm transfers and/or generation is acceptable provided there is no cascading.

4. TPL-004-AB-0: System Performance Following Extreme BES Events

Category D represents a wide variety of extreme, rare and unpredictable events, which may result in the loss of load and generation in widespread areas. The system may not be able to reach a new stable steady state, which means a blackout is a possible outcome. The AESO needs to evaluate these events, at its discretion, for risks and consequences prior to creating mitigation plans.

5. FAC-014-AB1-2: Establishing and Communicating System Operating Limits

The AESO is required to establish system operating limits where a contingency is not mitigated through construction of transmission facilities

¹ A complete description of the *Alberta Reliability Standards* can be found on the AESO's website: <https://www.aeso.ca/rules-standards-and-tariff/alberta-reliability-standards/>

2.1 Thermal Loading Criteria

The AESO Thermal Loading Criteria require that the continuous thermal rating of any transmission element is not exceeded under normal and post-contingency operating conditions. Thermal limits are assumed to be 100% of the respective normal summer and winter ratings. Emergency limits are not considered in the planning evaluations.

2.2 Voltage Range and Voltage Stability Criteria

The normal minimum and maximum voltage limits as specified in the following table are used to identify Category A system voltage violations, while the extreme minimum and maximum limits are used to identify Category B and C system violations. Table 2-1 presents the acceptable steady state and contingency state voltage ranges for the AIES. Table 2-2 provides voltage stability criteria used to test the system performance.

Table 2-1: Acceptable Range of Steady State Voltage (kV)

Nominal Voltage	Extreme Minimum	Normal Minimum	Normal Maximum	Extreme Maximum
500	475	500	525	550
240	216	234	252	264
260 (Northeast & Northwest)*	234	247	266	275
144	130	137	151	155
138	124	135	145	150
72	65	68.5	75.5	79
69	62	65.5	72.5	76

Table 2-2: Voltage Stability Criteria

Performance Level	Disturbance (1)(2)(3)(4) Initiated by: Fault or No Fault DC Disturbance	MW Margin (P-V method) (5)(6)(7)	MVar Margin (V-Q method) (6)(7)
A	Any element such as: One Generator One Circuit One Transformer One Reactive Power Source One DC Monopole	$\geq 5\%$	Worst Case Scenario(8)
B	Bus Section	$\geq 5\%$	50% of Margin Requirement in Level A
C	Any combination of two elements such as: A Line and a Generator A Line and a Reactive Power Source Two Generators Two Circuits Two Transformers Two Reactive Power Sources DC Bipole	$\geq 2.5\%$	50% of Margin Requirement in Level A
D	Any combination of three or more elements such as: Three or More Circuits on ROW Entire Substation Entire Plant Including Switchyard	> 0	> 0

2.3 Transient Stability Analysis Assumptions

Standard fault clearing times as shown in Table 2-3 are used for the new facilities or when the actual clearing times are not available for the existing facilities. Double line-to-ground faults are applied for the Category C5 events with normal clearing times. Single line-to-ground faults are applied for Category C6 to C9 events with delayed clearing times as depicted in Table 2-4 and Table 2-5.

Table 2-3: Fault Clearing Times

Nominal (kV)	Near End (Cycles)	Far End (Cycles)
500	4	5
240	5	6
144/138 with telecommunications	6	8
144/138 without telecommunications	6	30

Table 2-4: Stuck Breaker Clearing Times for Lines

Voltage (kV)	Fault Clearing Times (Cycles)		
	Near End	Far End	2 nd Ckt (C5 and C7 only)
138/144	15	24	24
240	12	6	14
500	9	5	11

Table 2-5: Stuck Breaker Clearing Times for Transformers

Voltage (kV)	Fault Location	Fault Clearing Times (Cycles)		
		High Side	Low Side	2 nd Ckt (breaker fail)
240/138	240 kV side	12	6	14
	138 kV side	5	15	24
500/240	500 kV side	9	5	11
	240 kV side	4	12	14

Study Scope Amendment 2

P1926 Vauxhall Solar Farm Connection

Solar Krafte Utilities Inc.

Date: April 11, 2023

Version: V1

Classification: Public

Company Name	Name and Credentials	Date	Signature
AltaLink Management Ltd. (Studies Consultant)	Ryan Cui, P. Eng.	Jul. 20 2023	
AESO	Myron Jin-Li, P.Eng.	July 24, 2023	
Solar Krafte Utilities Inc.	Jeff Thachuk	Jul. 20 2023	

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1 Introduction

The original Study Scope for P1926 - *Vauxhall Solar Farm Connection* was signed on November 16, 2021. In addition, an amendment was signed on June 22, 2022. This study scope amendment is triggered due to the following:

- Change in the generation assumptions.
- Change in the studies to be performed.

2 Scope of Change

The following amendments apply to the Study Scope for the Project. All other study assumptions will be the same as the original signed Study Scope.

2.1 Scenarios

Table 2-1 is an addition to Table 4-1 in the original signed Study Scope.

Table 2-1: Connection Study Scenarios

Scenario No.	Year/Season	System Generation Dispatch Conditions	Scenario Name	Project Load (MW)	Project Generation (MW)
Post-Project-Sensitivity (High Taber and P2122 generation output)					
12	2023 SL	HS	2023 SL HS Post-Project-Sen	0.375	60
13	2023 SP	HS	2023 SP HS Post-Project-Sen	0.375	60

2.2 Assumptions

2.2.1 Renewable Generation Assumptions

The dispatch assumptions for wind and solar generation facilities will be identical to the assumptions in the June 2022 Study Scope Amendment, except for the following changes to Table 4-5 and Table 4-7, which applies only to sensitivity scenarios 12 and 13.

Table 2-2: Alteration to Dispatch Conditions for Existing and Under Construction Wind Generation Facilities

Facility Name and Code	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation (MW) by Scenario	
				2023 SL	2023 SP
Enmax Taber (TAB1)	15343, 16343	81	52	81.0	48.6

Table 2-3: Alteration to Dispatch Conditions for Planned Wind Generation Projects

Project Number	Project Name	Planned ISD	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation Dispatch ^a (MW) by Scenario	
						2023 SL	2023 SP
P2212	RESC Rattlesnake Ridge MPC Wind	30-Jul-21	60873	115.9	4	115.9	69.5

Note:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

2.3 Study Methodology

The additional studies to be performed for this connection assessment are identified in Table 2-3. Table 2-3 is an addition to Table 5-1 in the original signed Study Scope.

Table 2-4: Summary of the Studies to be Performed

Scenario No. and Name		Power Flow		Voltage Stability		Transient Stability		Motor Starting		Short Circuit
		Category		Category		Category		Category		Category A
		A	B	A	B	A	B	A	B	
12	2023 SL HS Post-Project-Sen	X								
13	2023 SP HS Post-Project-Sen	X								

* If the post-project scenario identifies instability, then the pre-project case will be tested to capture the impact of the project

Study Scope Amendment

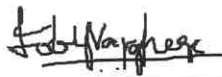
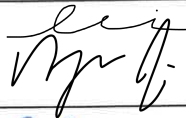
P1926 Vauxhall Solar Farm Connection

Solar Krafte Utilities Inc.

Date: June 22, 2022

Version: V1

Classification: Public

Company Name	Name and Credentials	Date	Signature
AltaLink Management Ltd. (Studies Consultant)	for Ryan Cui, P. Eng.	June 29, 2022	
AESO	Lin Li, E.I.T. Myron Jin-Li, P.Eng.	2022-06-30 July 9, 2022	
Solar Krafte Utilities Inc.	Jeff Thachuk	JUNE 29/22	

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1 Introduction

The original Study Scope for P1926 - *Vauxhall Solar Farm Connection* was signed on November 16, 2021. This study scope amendment is triggered due to the following:

- Change in the study assumptions due to projects moving forward in the AESO Connection Process
- Change in the generation assumptions.
- Change in the connection study scenario.
- Change in the studies to be performed.

2 Scope of Change

The following amendments apply to the Study Scope for the Project. All other study assumptions will be the same as the original signed Study Scope.

2.1 Scenarios

Table 2-1 is replacing Table 4-1 in the original signed Study Scope.

Table 2-1: Connection Study Scenarios

Scenario No.	Year/Season	System Generation Dispatch Conditions	Scenario Name	Project Load (MW)	Project Generation (MW)
Pre-Project					
1	2023 Summer Light (SL)	High Solar (HS)	2023 SL HS Pre-Project	0	0
2	2023 Summer Peak (SP)	HS	2023 SP HS Pre-Project	0	0
Post-Project					
3	2023 SL	HS	2023 SL HS Post-Project	0.375	60
4	2023 SP	HS	2023 SP HS Post-Project	0.375	60
5	2031 SP	All generation in the Study Area on	2031 SP Post-Project	0.375	60
Pre-Project-Sensitivity (Enchant DERs)					
6	2023 SL	HS	2023 SL HS Pre-Project-Sen	0	0
7	2023 SP	HS	2023 SP HS Pre-Project-Sen	0	0
Post-Project-Sensitivity (Enchant DERs)					
8	2023 SL	HS	2023 SL HS Post-Project-Sen	0.375	60
9	2023 SP	HS	2023 SP HS Post-Project-Sen	0.375	60
Post-Project-Sensitivity (P2348 BluEarth Wheatcrest MPC Solar and Enchant DERs)					
10	2023 SL	HS	2023 SL HS Post-Project-Sen	0.375	60
11	2023 SP	HS	2023 SP HS Post-Project-Sen	0.375	60

2.2 Assumptions

2.2.1 Connection Project Assumptions

Table 2-2 summarizes the connection projects in the Study Area that should be included in the sensitivity studies. Table 2-2 is replacing Table 4-2 in the original signed Study Scope.

Table 2-2: Planned Connection Projects Included in the Studies

AESO Project No.	AESO Project Name	AESO Planning Area No.	Generation (MW)	Load (MW)	Scheduled ISD
P2362, P2363, P2364, P2365	Fortis Enchant 447S DER Solar 1 to 4	52	71.9	NA	August 31, 2022
P2348	BluEarth Wheatcrest MPC Solar	52	50	0.5	March 15, 2023

2.2.2 Renewable Generation Assumptions

The wind and solar generation facilities will be dispatched to the renewable dispatch scenarios presented in Table 2-3. Table 2-3 is replacing Table 4-8 in the original signed Study Scope.

Table 2-3: Dispatch Conditions for Planned Solar Generation Projects

Project Number	Project Name	Planned ISD	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation Dispatch ^a (MW) by Scenario	
						2023 SL	2023 SP
P2009 & P2341	Greengate Travers MPC Solar & Travers Solar Phase 2	Recently Energized	560026, 561026, 562026	465	49	325.5	441.8
P1839	Fortis 421S Hays DG PV	Recently Energized	554401	23	52	16.1	23.0
P1831	Fortis 255S Vulcan Faribault Farms DG PV	Sep 1, 2022	4244	22	49	15.4	20.9
P1850	Fortis Coaldale 254S DER Solar 3	Recently Energized	554691	22	54	15.4	20.9
P1851	Fortis Monarch 492S DER Solar	ISD Under Review	2005	23.6	54	16.5	22.4
P1862	Fortis Spring Coulee 385S Solar DG	ISD Under Review	553246, 554246	29.5	55	20.7	28.0
P1870	Fortis Stavely 349S DER Solar	Oct 1, 2022	2004	16.5	49	11.6	15.7
P1918	Fortis Alberta Conrad DER Solar 1	ISD Under Review	554291	23.4	52	16.4	23.4

Project Number	Project Name	Planned ISD	Bus No.	MC (MW)	AESO Planning Area No.	Unit Net Generation Dispatch* (MW) by Scenario	
						2023 SL	2023 SP
P1959	FortisAlberta Conrad DER Solar 2	ISD Under Review	553291	22.5	52	15.8	22.5
P2029	FortisAlberta Strathmore 151S DER Solar 1	Recently Energized	557259	18	45	12.6	17.1
P2030	FortisAlberta Strathmore 151S DER Solar 2	Recently Energized	558259	22.5	45	15.8	21.4
P2195	FortisAlberta Bassano 435S DER Solar	Feb 1, 2023	557399	9.25	47	6.48	8.8
P1932	FortisAlberta Namaka DER Solar	Recently Energized	553340	20.1	45	14	19.1
P2249	FortisAlberta Empress 394S DER Solar 1	Jul 1, 2022	558316	22.5	48	11.3	15.8
P2250	FortisAlberta Empress 394S DER Solar 2	Jul 1, 2022	558016	16	48	8.0	11.2
P2362 ^b	Fortis Enchant 447S DER Solar-1	Aug 31, 2022	993287	23	52	16.1	23.0
P2363 ^b	Fortis Enchant 447S DER Solar-2	Aug 31, 2022	993289	17.9	52	12.5	17.9
P2364 ^b	Fortis Enchant 447S DER Solar-3	Aug 31, 2022	994287	10	52	7.0	10.0
P2365 ^b	Fortis Enchant 447S DER Solar-4	Aug 31, 2022	994289	24	52	16.8	24.0
P2348 ^b	BluEarth Wheatcrest MPC Solar	August 22, 2022	557051	50	52	50	50

Note:

^a "Unit Net Generation" refers to gross generating unit output (MW) less unit service load.

^b To be dispatched only in sensitivity cases.

2.3 Study Methodology

The studies to be performed for this connection assessment are identified in Table 2-4. Table 2-4 is replacing Table 5-1 in the original signed Study Scope.

Table 2-4: Summary of the Studies to be Performed

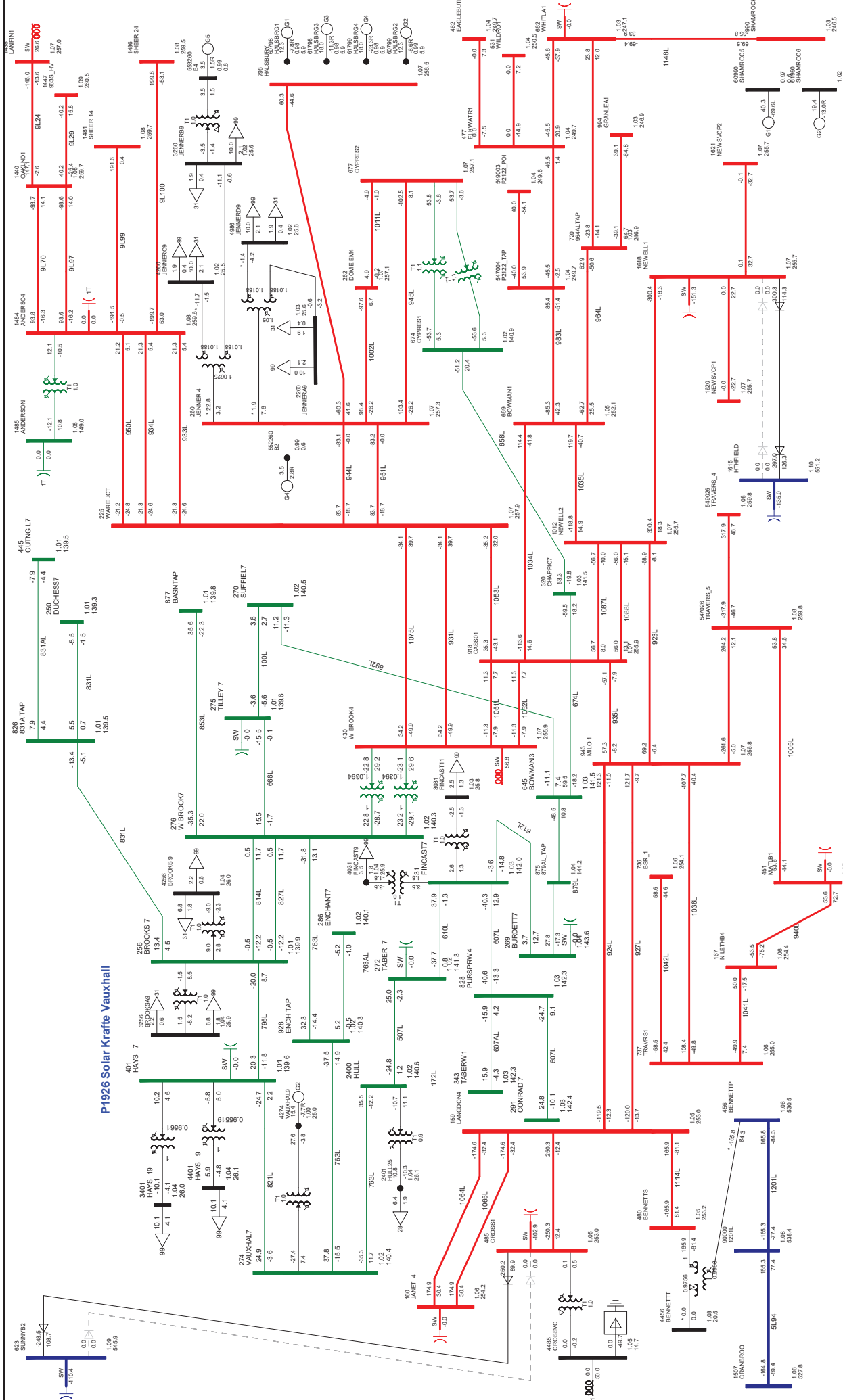
Scenario No. and Name		Power Flow		Voltage Stability		Transient Stability		Motor Starting		Short Circuit
		Category		Category		Category		Category		Category A
		A	B	A	B	A	B	A	B	
Pre-Project										
1	2023 SL HS Pre-Project	X	X							
2	2023 SP HS Pre-Project	X	X							X
Post-Project										
3	2023 SL HS Post-Project	X	X			X*	X*			
4	2023 SP HS Post-Project	X	X			X*	X*			X
5	2031 SP Post-Project									X
Pre-Project-Sensitivity (Enchant DERs)										
6	2023 SL HS Pre-Project-Sen	X	X							
7	2023 SP HS Pre-Project-Sen	X	X							X
Post-Project-Sensitivity (Enchant DERs)										
8	2023 SL HS Post-Project-Sen	X	X			X*	X*			
9	2023 SP HS Post-Project-Sen	X	X			X*	X*			X
Post-Project-Sensitivity (P2348 BluEarth Wheatcrest MPC Solar and Enchant DERs)										
10	2023 SL HS Post-Project-Sen	X								

11	2023 SP HS Post-Project- Sen	X								

* If the post-project scenario identifies instability, then the pre-project case will be tested to capture the impact of the project

Attachment A2

Pre-Project Power Flow Diagrams



P1926 Solar Krafte Vauxhall

BC Import:-255.2 MW Ssk Import:-150.0 MW MATL Import:0.0 MW
Mfr Export: 96.0 MW

FIGURE A2.1-N-0: NORMAL OPERATION
2023 SUMMER LIGHT (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

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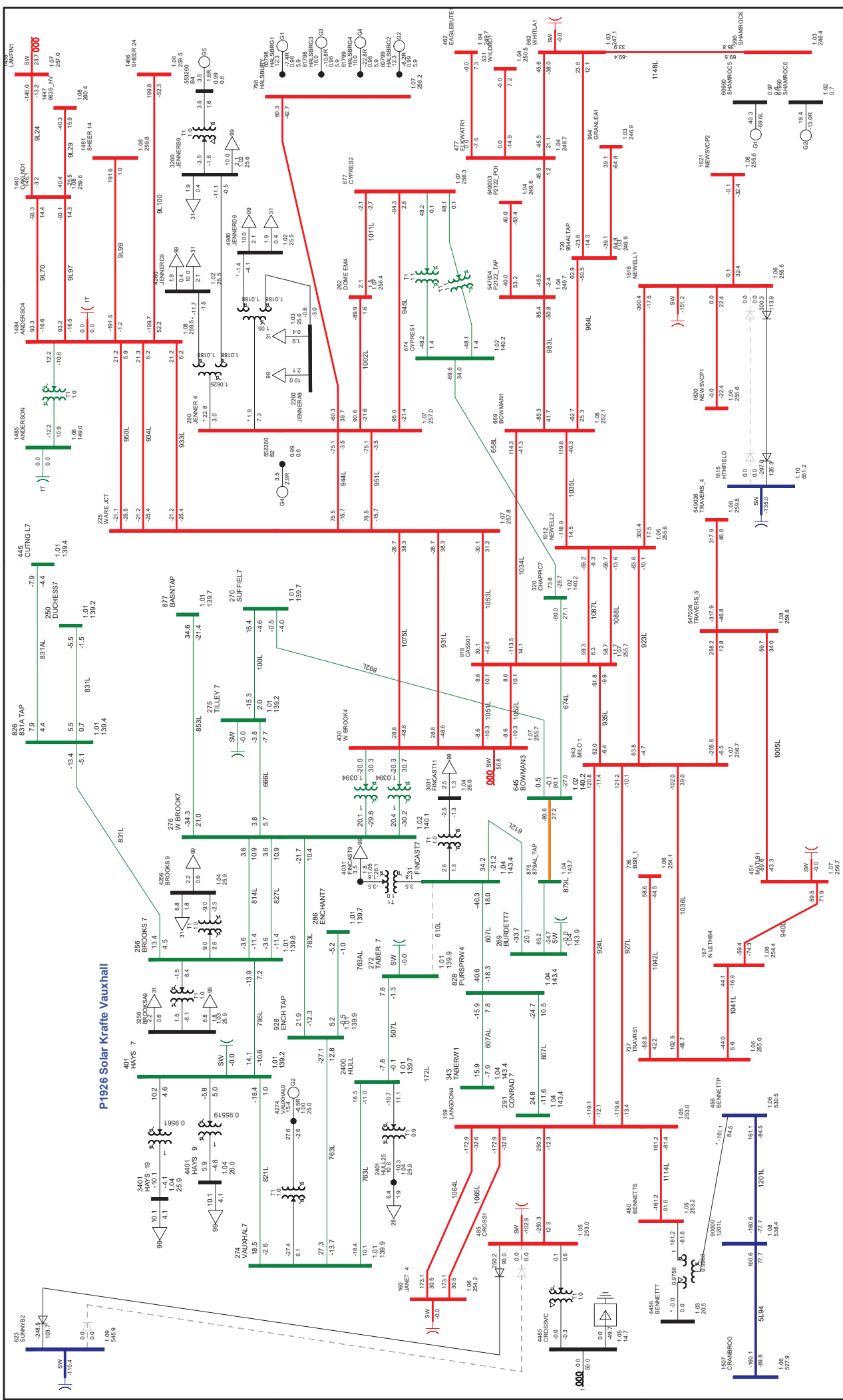


FIGURE A2.1-2 N-1: 6'10L (TABER 83S TO FINCASTLE 336S)
2023 SUMMER LIGHT (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

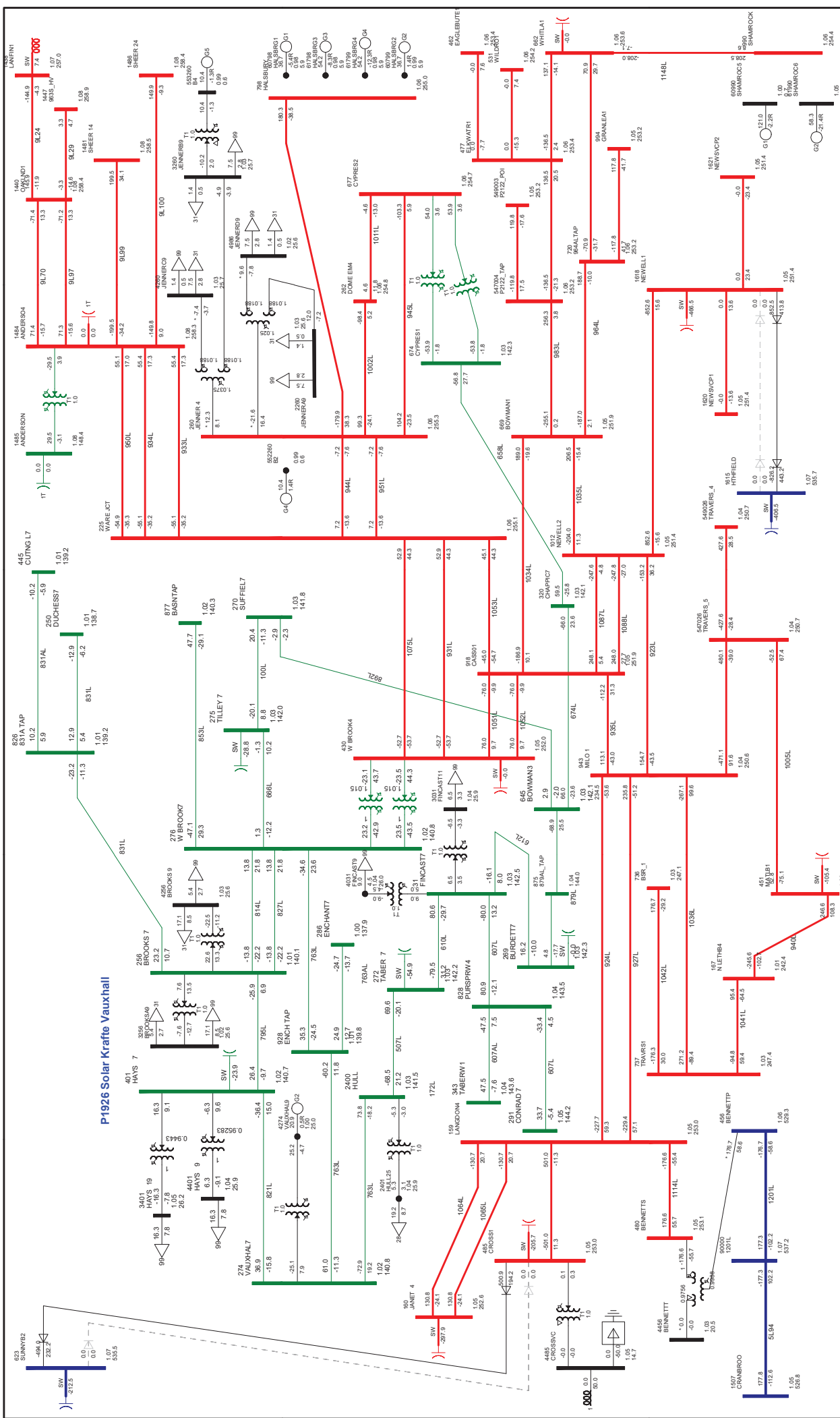
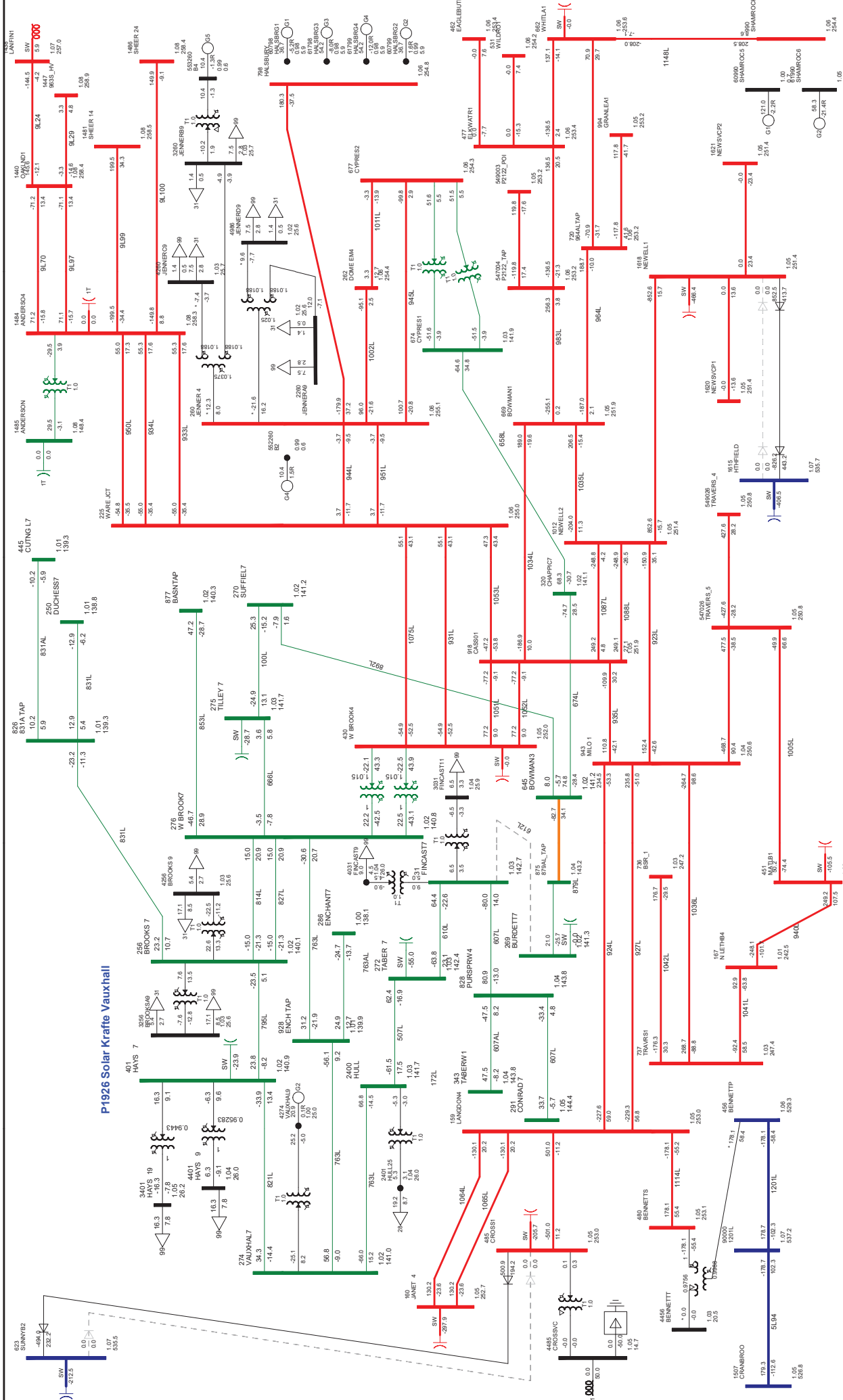


FIGURE A2.2-1-N-0: NORMAL OPERATION
2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



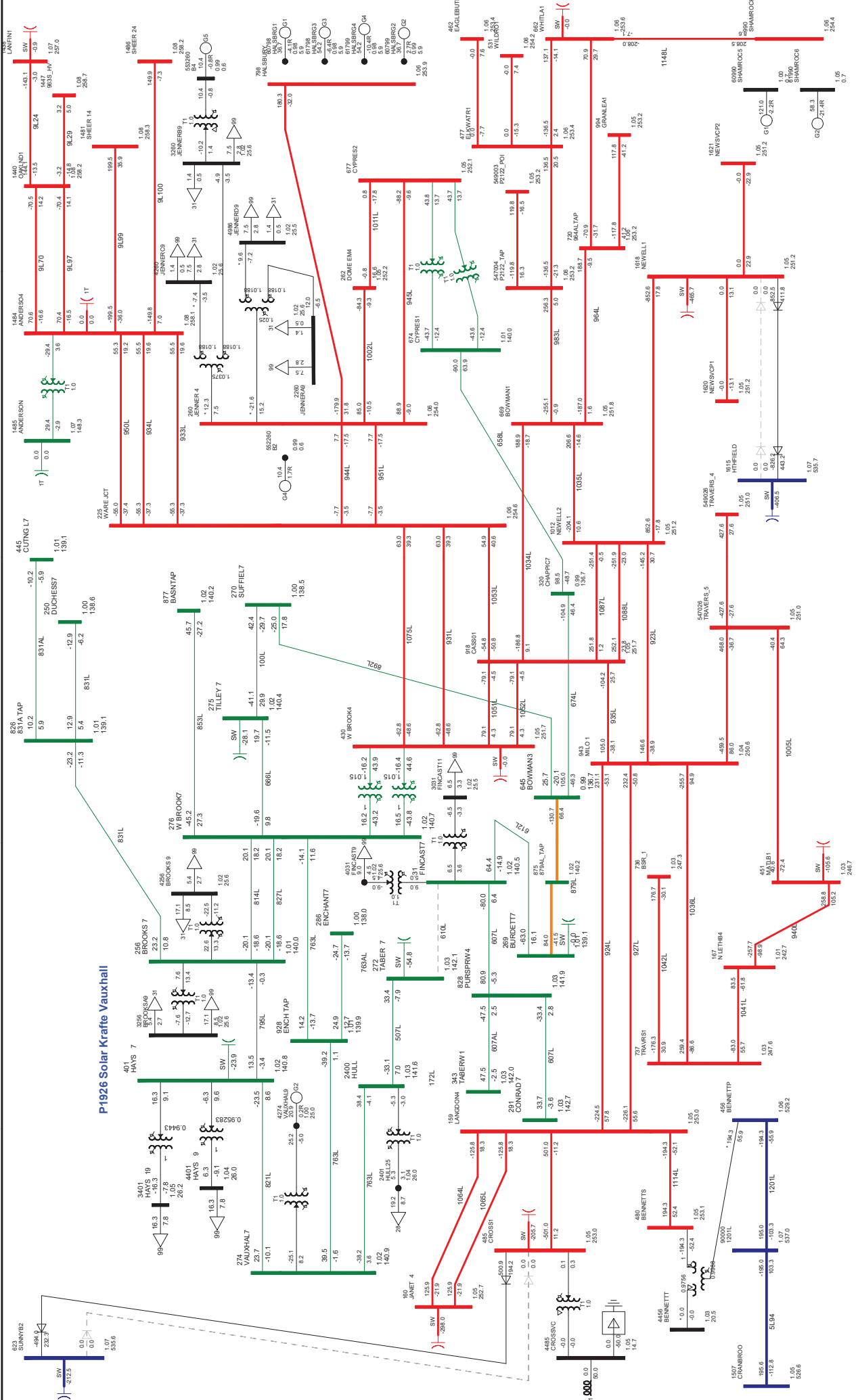
P1926 Solar Krafte Vauxhall

FIGURE A2.2-2 N-1: 612L (BURDETT 368S TO FINCASTLE 336S)
2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 142.5 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

Blue: Vauxhall Vauxhall
Green: Burdett 368S
Red: Fincastle 336S
Yellow: Matl 308.5 MW
Grey: MH Export: -20.9 MW

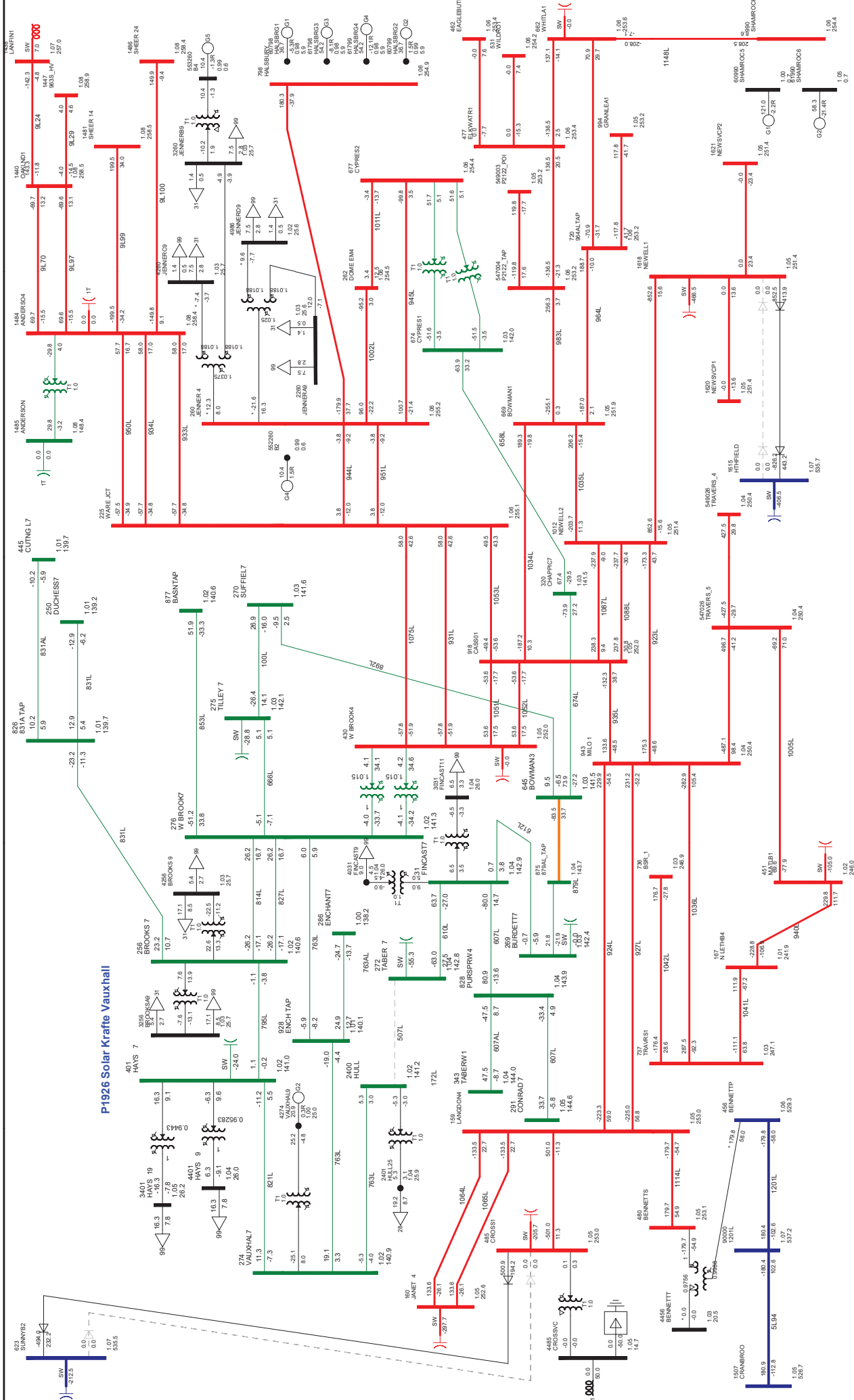


Blue = Voltage kV
Green = Power MW
Red = Power MW
Yellow = Power MW
Grey = Power MW
Black = Power MW

FIGURE A2.2-3 N-1: 610L (TABER 83S TO FINCASTLE 336S)
2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte VauxHall

BC Import: 161.3 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW



P1926 Solar Krafte Vauxhall

BC Import: 143.4 MW Sunk Import: 150.0 MW MATL Import: 308.5 MW
Mtl Export: -20.9 MW

FIGURE A2.2-4 N-1: 507L (TABER 83S TO HULL 257S)

2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

Blue = Voltage (kV)
Green = Power (MW)
Red = Power (MW)
Yellow = Power (MW)
Grey = Power (MW)
Black = Power (MW)

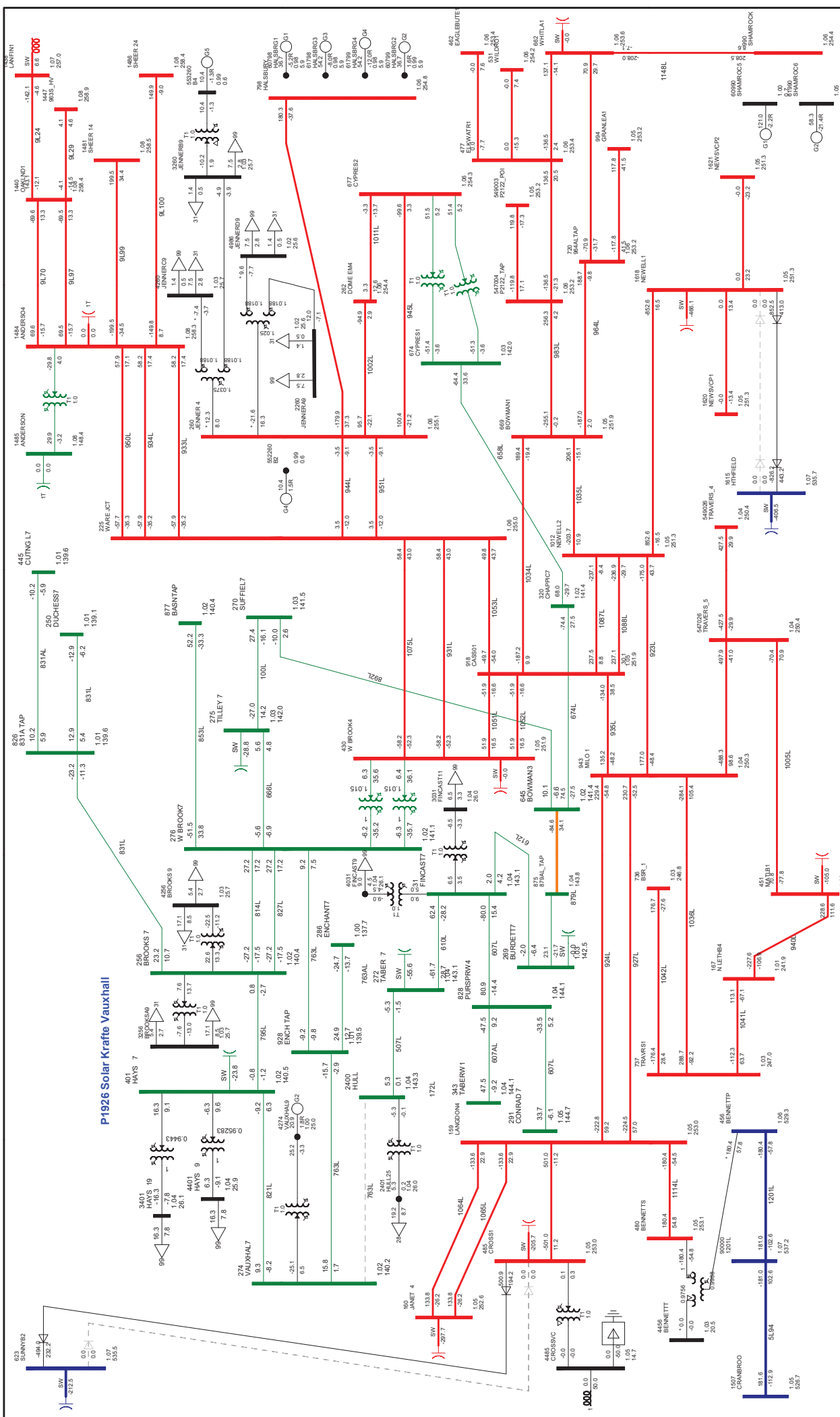
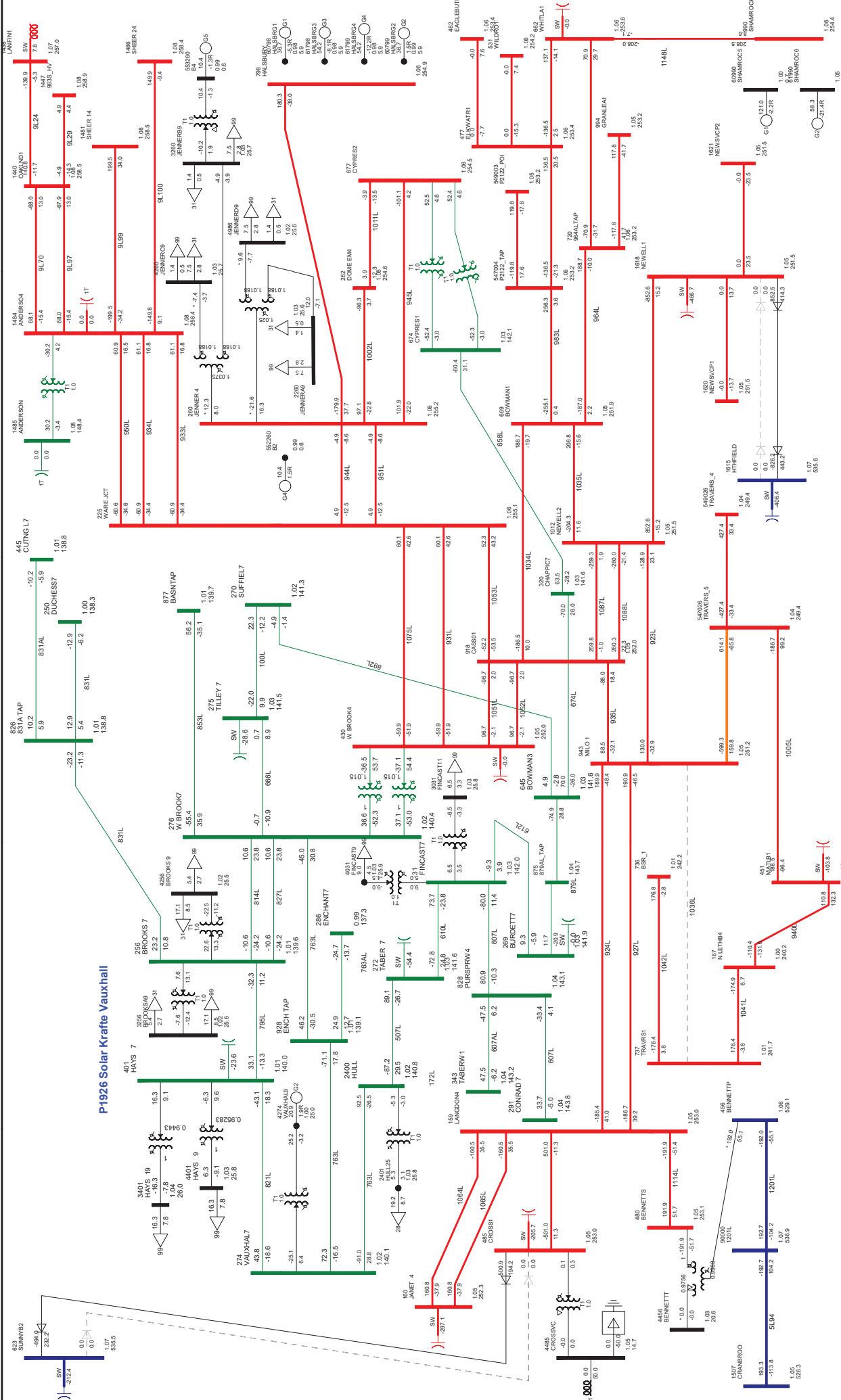


FIGURE A2.2-5 N-1: 763L (VAUXHALL 158S TO HULL 257S)
2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



P1926 Solar Krafte VauxHall

BC Import: 152.2 MW Ssk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

FIGURE A2.2-6 N-1: 1036L (MILO 356S TO TRAVERS 554S)
2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

Blue = Voltage (kV)
Green = Power (MW)
Red = Power (MW)
Yellow = Power (MW)
Grey = Power (MW)
Black = Power (MW)

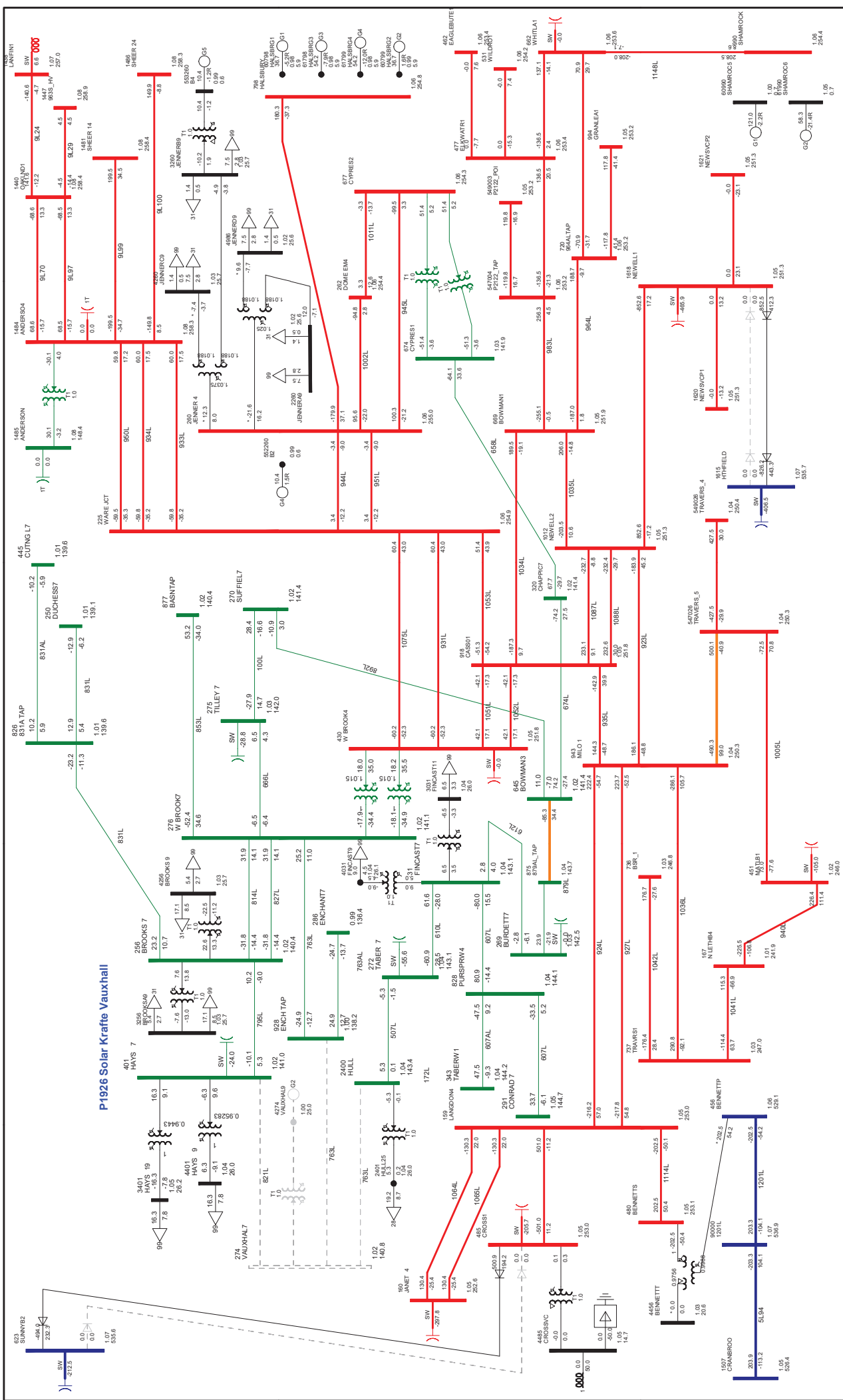
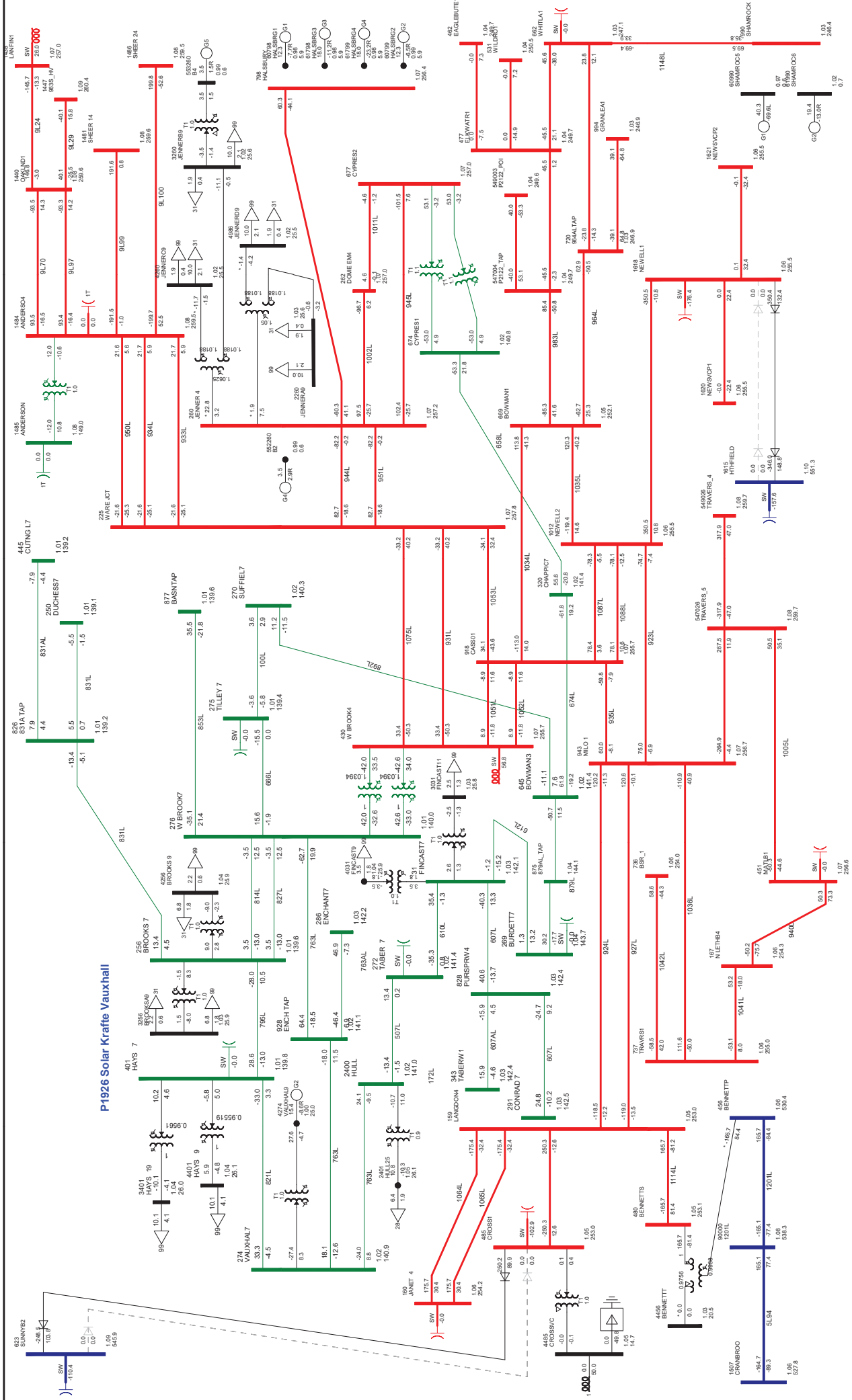


FIGURE A2.2-7 N-1: VAUXHALL 158S T2
2023 SUMMER PEAK (PRE-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



P1926 Solar Krafte Vauxhall

BC Import:-255.2 MW Sisk Import:-150.0 MW MATL Import:0.0 MW
MH Export: 86.0 MW

FIGURE A2.3-1-N-0: NORMAL OPERATION
2023 SUMMER LIGHT (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Blue - Vauxhall Vauxhall
Red - Vauxhall Vauxhall
Green - Vauxhall Vauxhall
Yellow - Vauxhall Vauxhall
Grey - Vauxhall Vauxhall

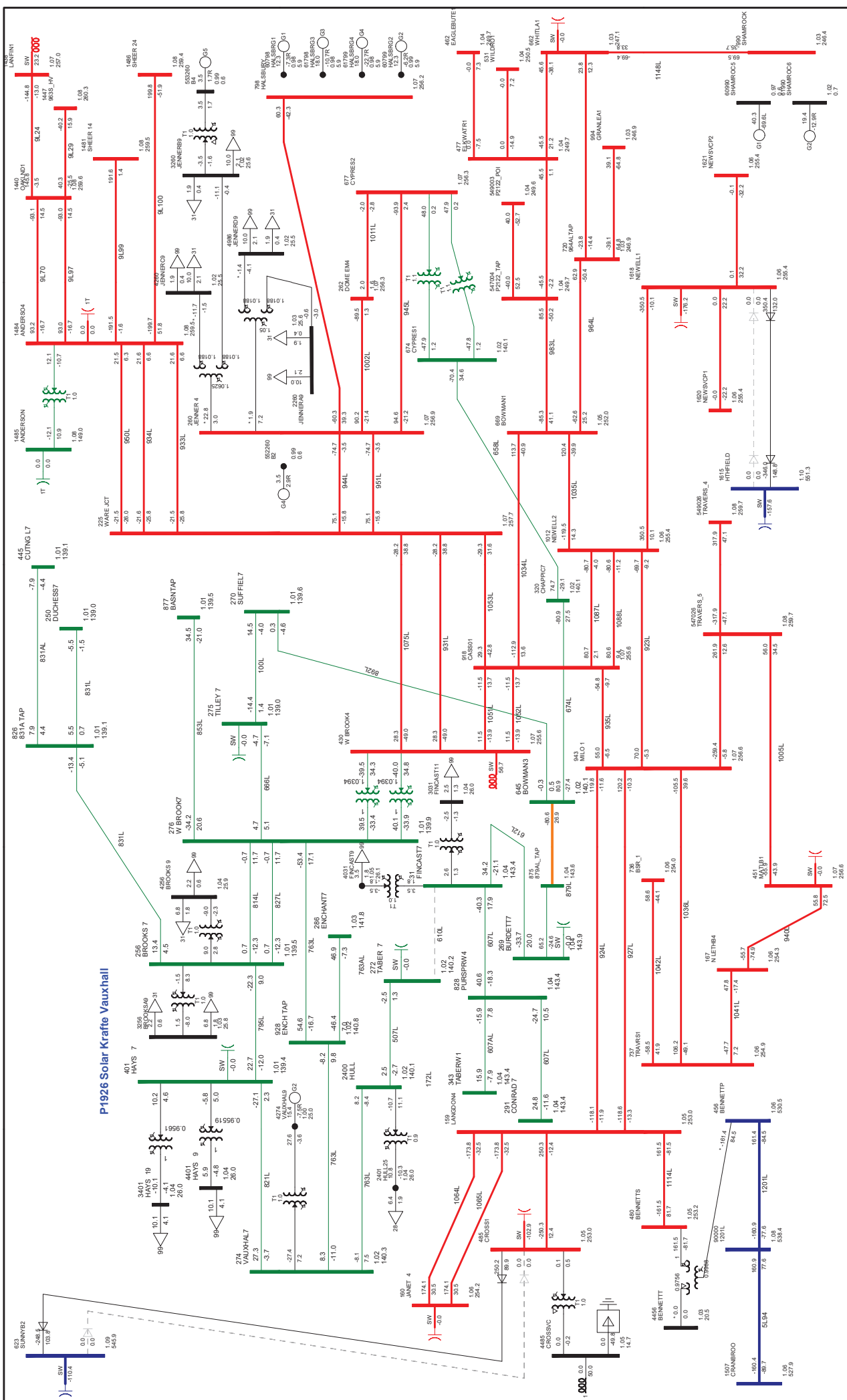
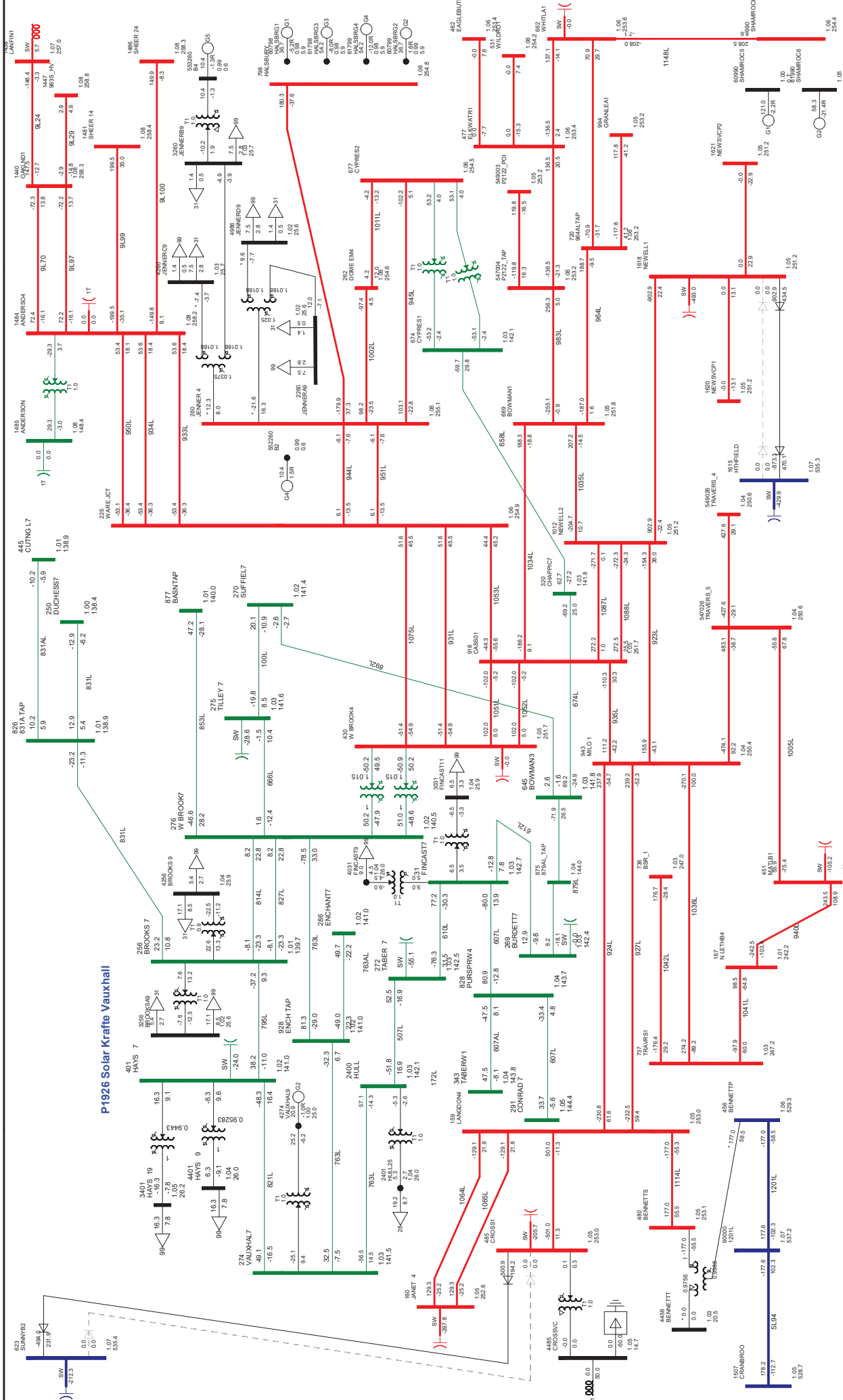


FIGURE A2.3-2 N-1: 610L (TABER 83S TO FINCASTLE 336S)
2023 SUMMER LIGHT (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022



P1926 Solar Krafte Vauxhall

BC Import: 140.8 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

FIGURE A2.4-1-N-0: NORMAL OPERATION
2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Blue = Vauxhall Vauxhall
Green = Vauxhall Vauxhall
Red = Vauxhall Vauxhall
Yellow = Vauxhall Vauxhall
Orange = Vauxhall Vauxhall
Purple = Vauxhall Vauxhall
Grey = Vauxhall Vauxhall
White = Vauxhall Vauxhall

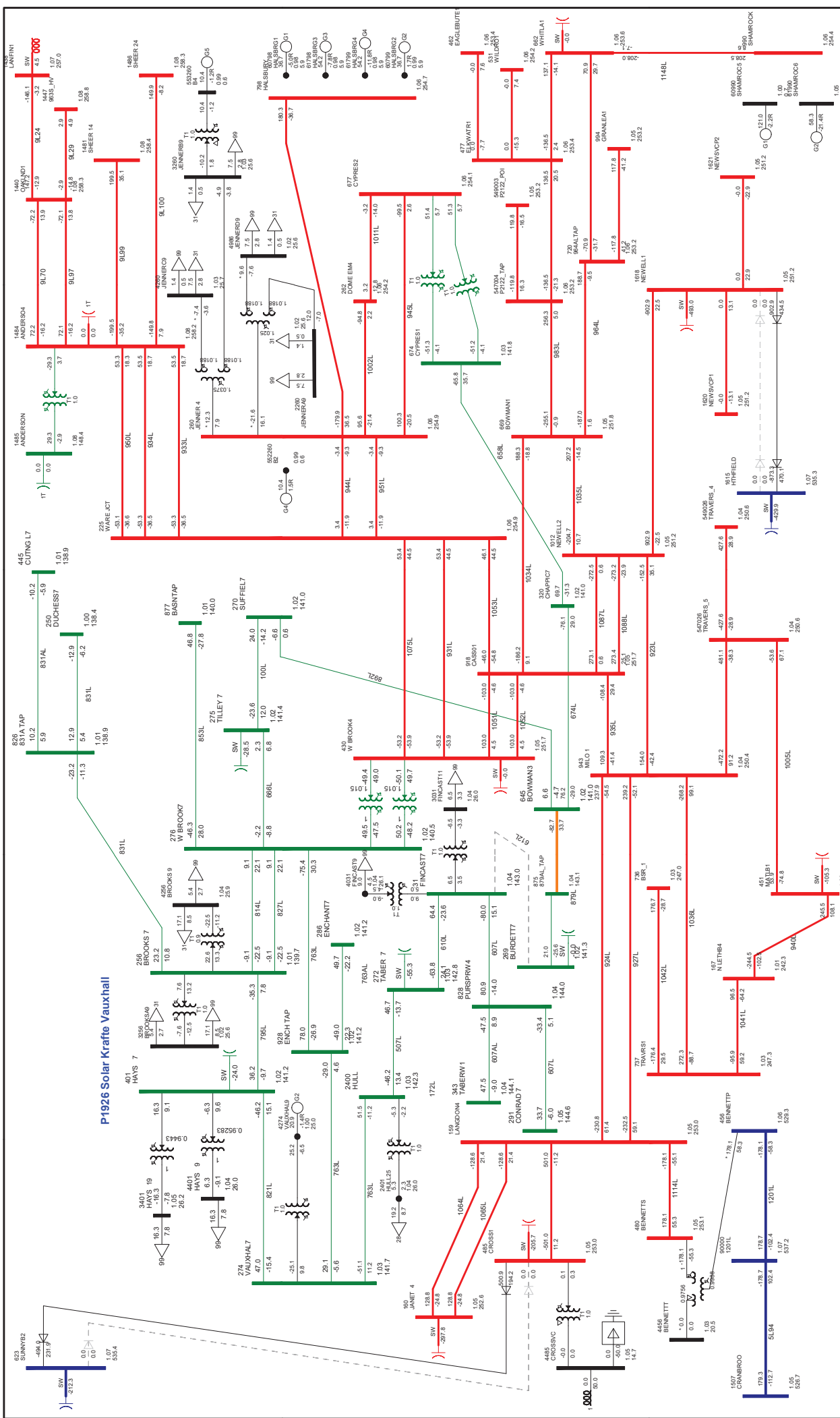


FIGURE A2.4-2 N-1: 612L (BURDETT 368S TO FINCASTLE 336S)
2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

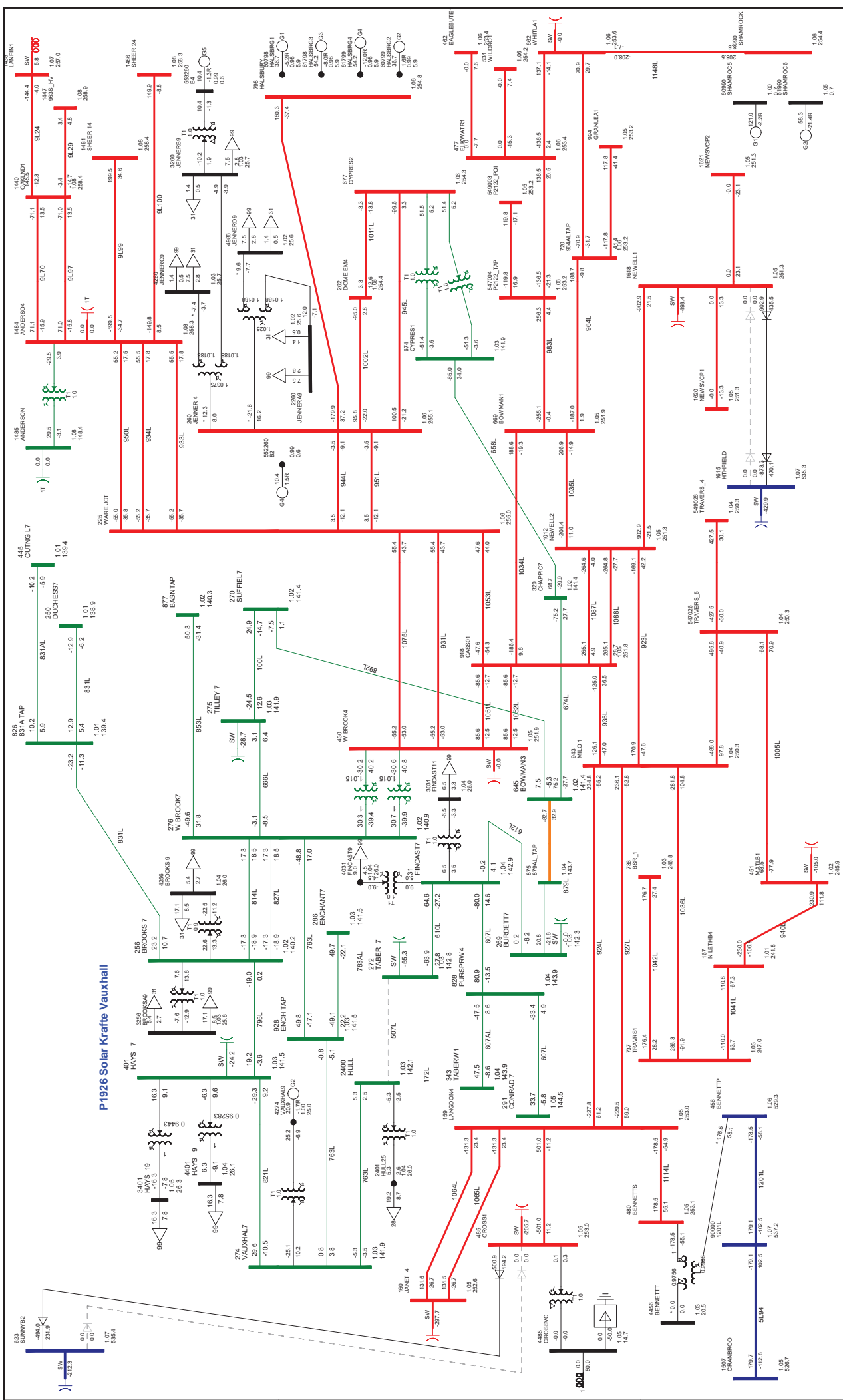


FIGURE A2.4-4 N-1: 507L (TABER 83S TO HULL 257S)
2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

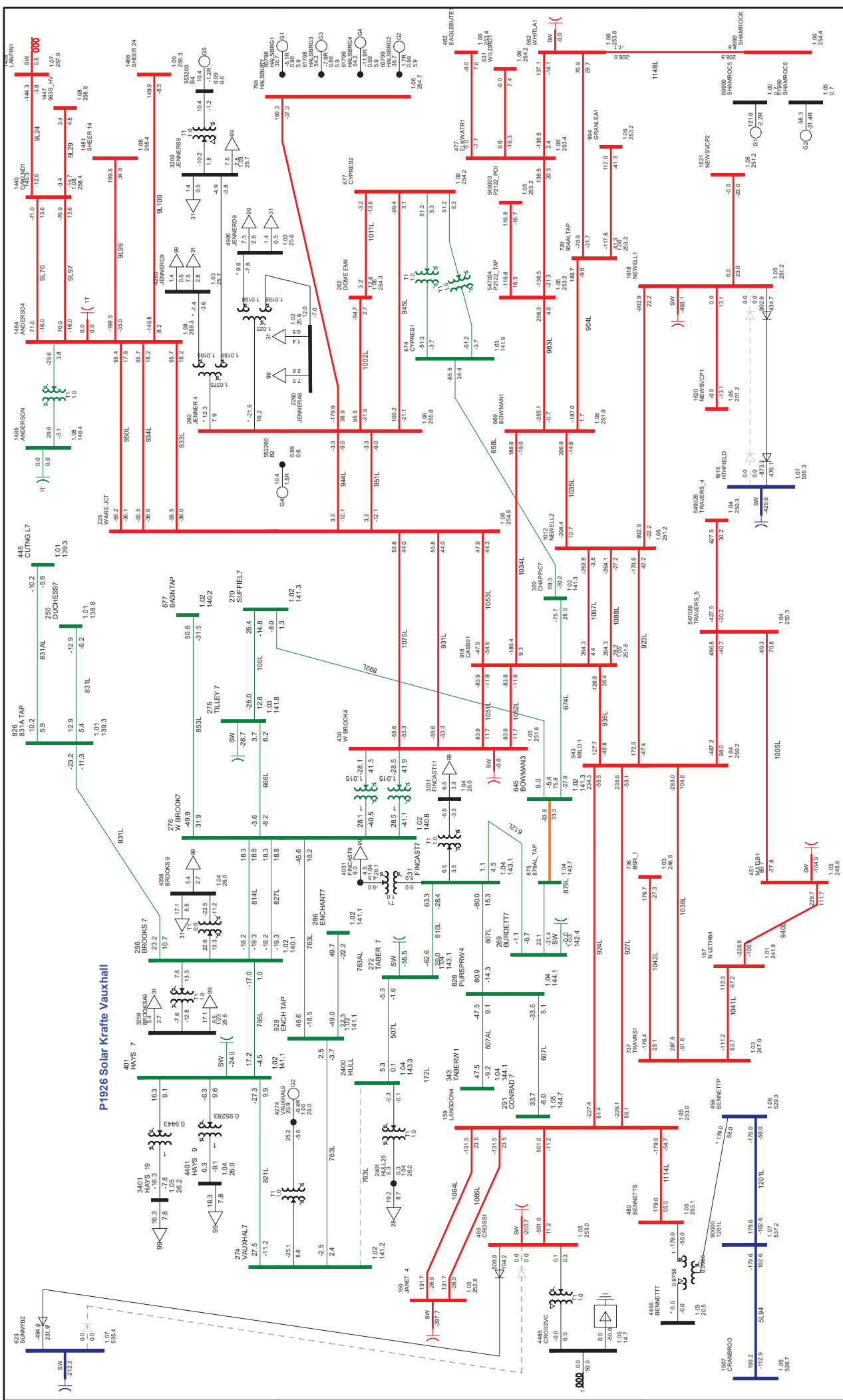
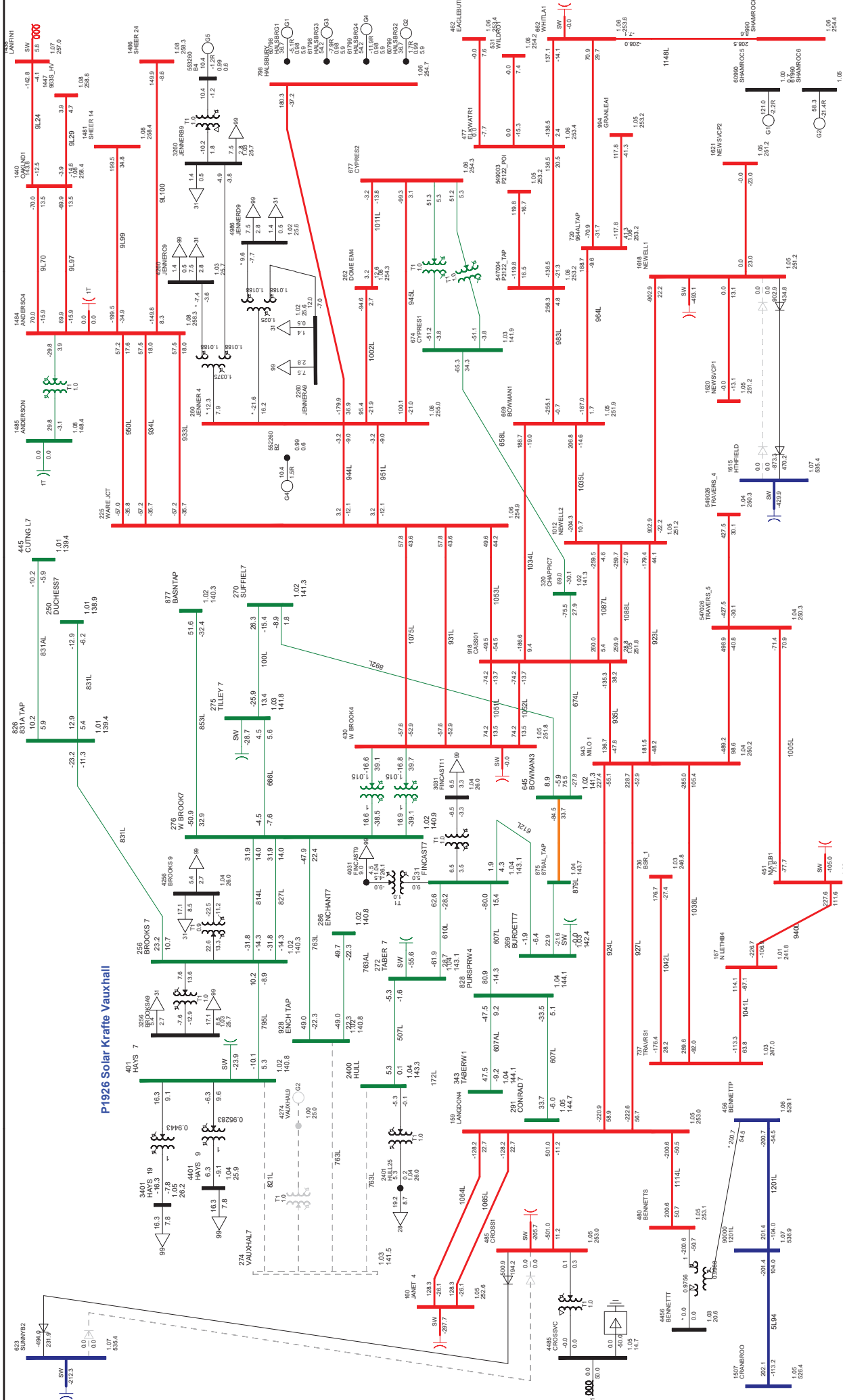


FIGURE A2.4-5 N-1: 763L (VAUXHALL 158S TO HULL 257S)
2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022



P1926 Solar Krafte Vauxhall

BC Import: 166.7 MW Ssk Import: 150.0 MW MATL Import: 308.5 MW
Mk Export: -20.9 MW

FIGURE A2.4-7 N-1: VAUXHALL 158S T2

2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Blue = Vauxhall Vauxhall
Green = Vauxhall Vauxhall
Red = Vauxhall Vauxhall
Yellow = Vauxhall Vauxhall
Orange = Vauxhall Vauxhall
Purple = Vauxhall Vauxhall
Grey = Vauxhall Vauxhall
White = Vauxhall Vauxhall

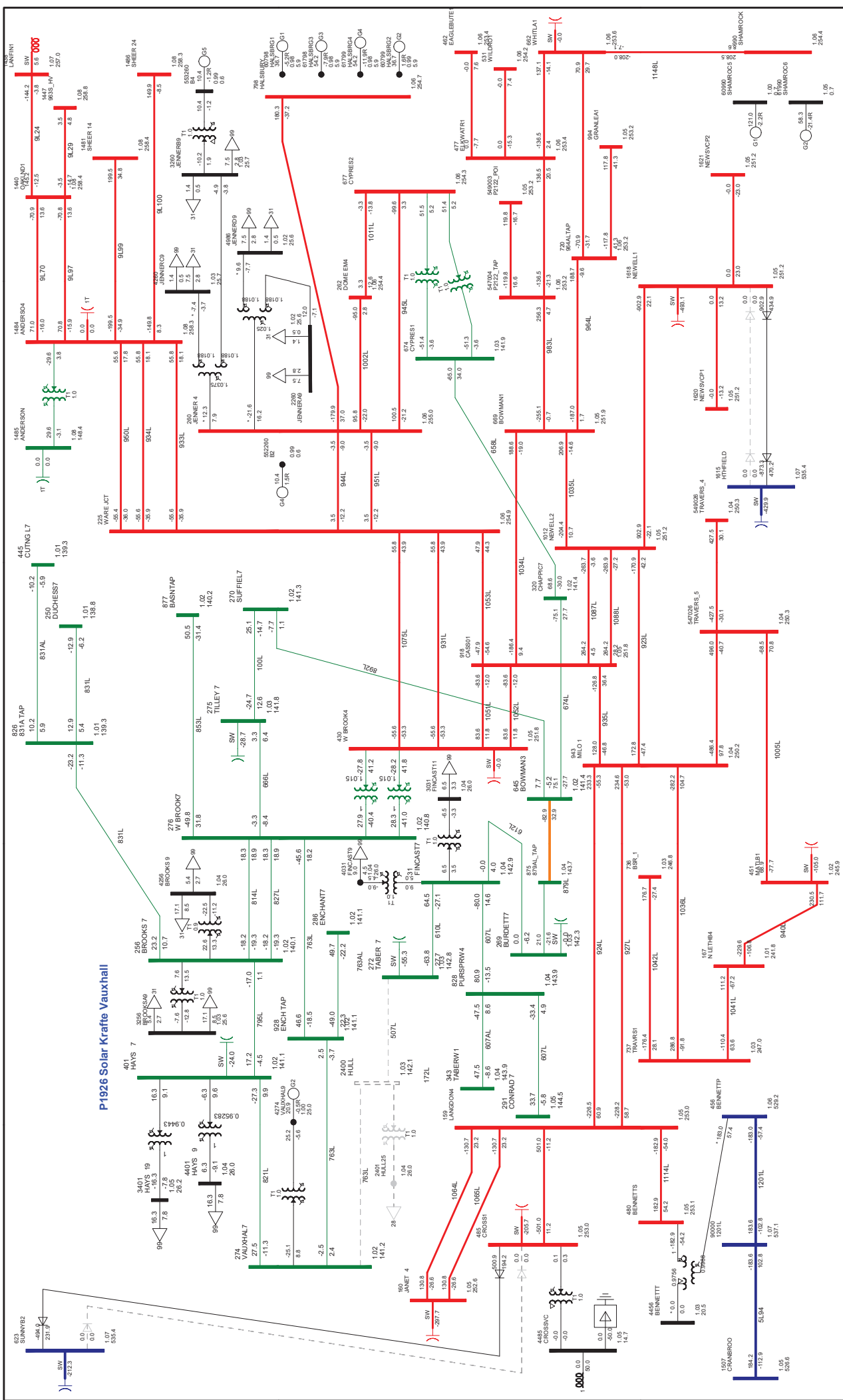


FIGURE A2.4-8 N-1: HULL 257S T1
2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

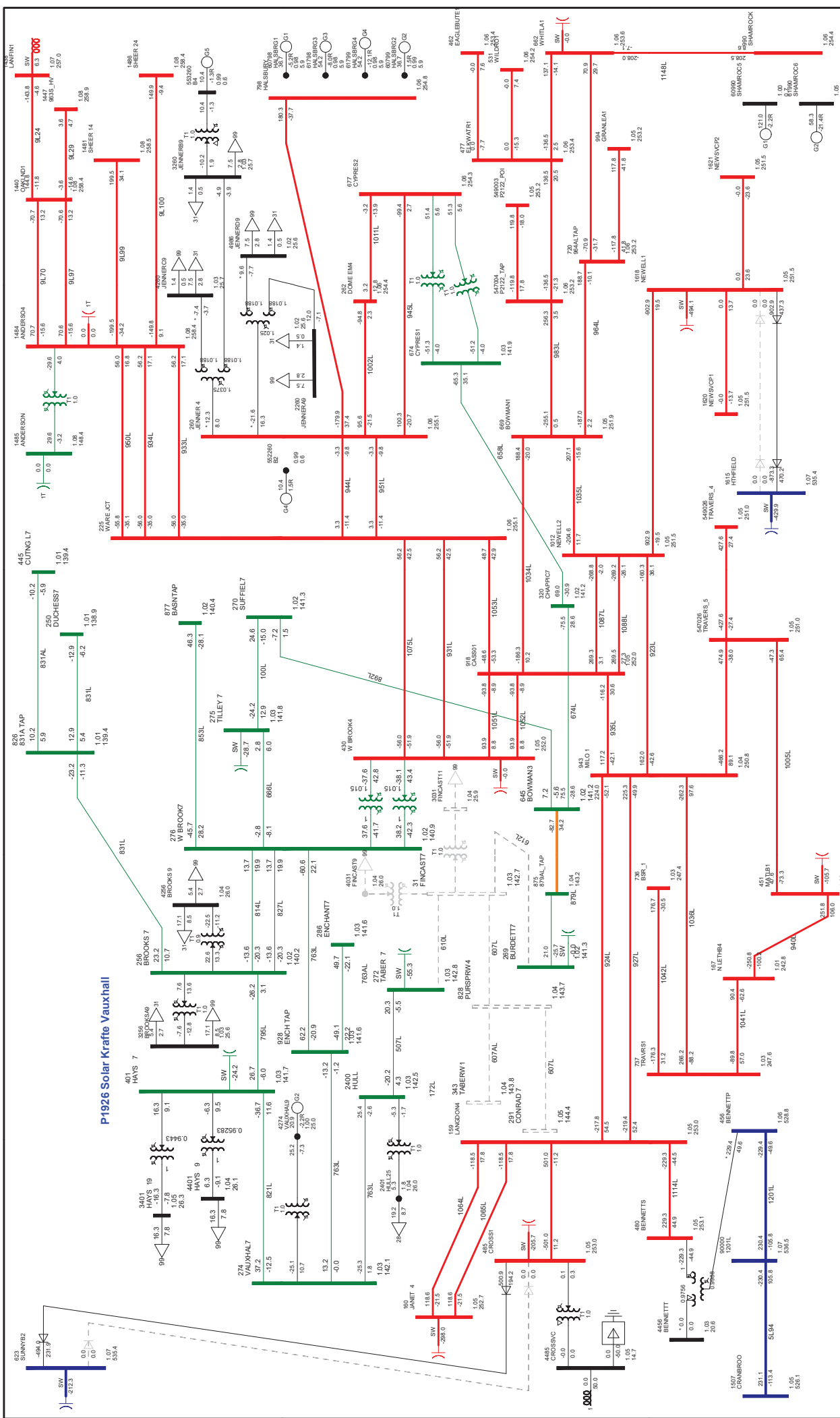
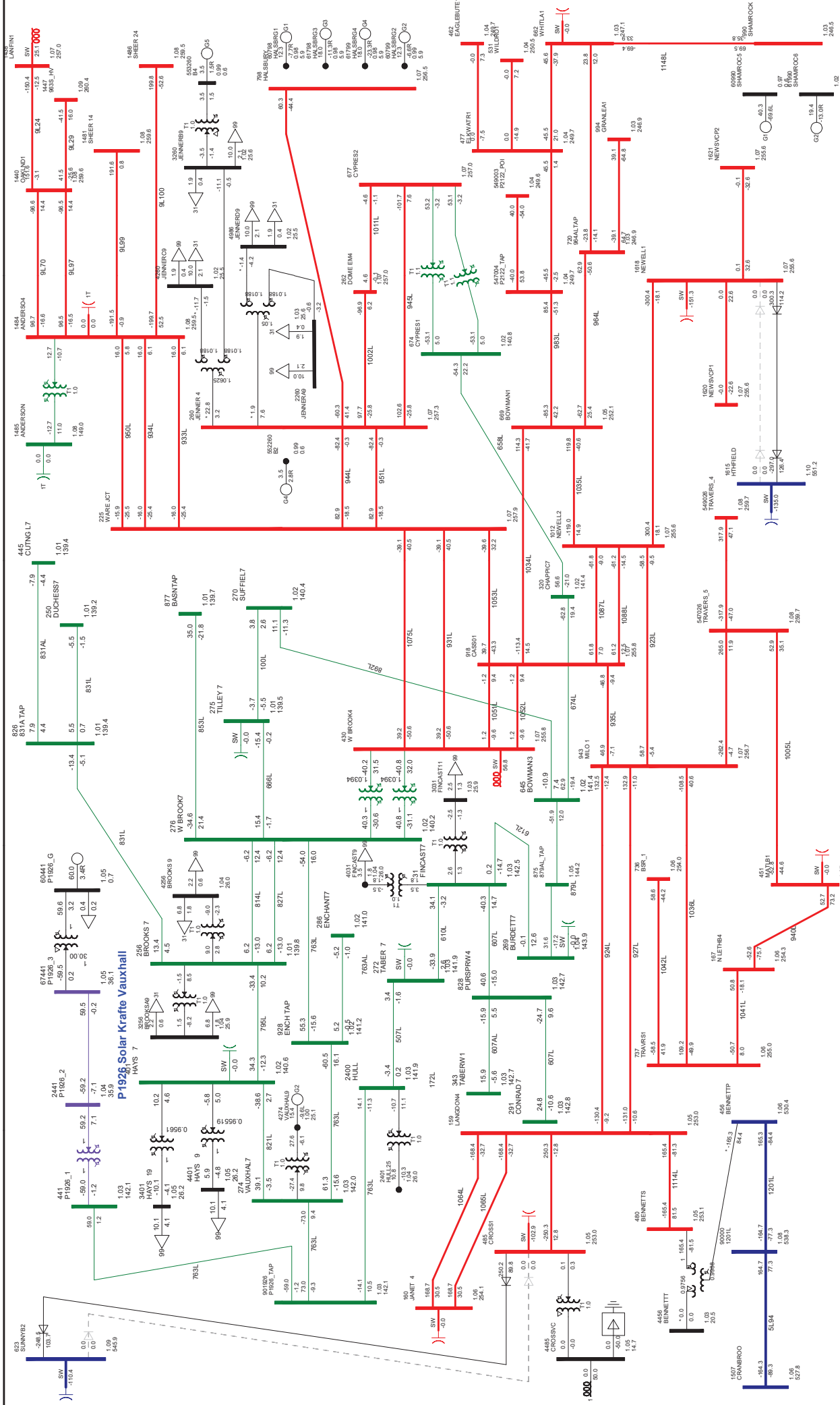


FIGURE A2.4-9 N-1: FINCASTLE 336S T1
2023 SUMMER PEAK (PRE-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Attachment A3

Post-Project Power Flow Diagrams

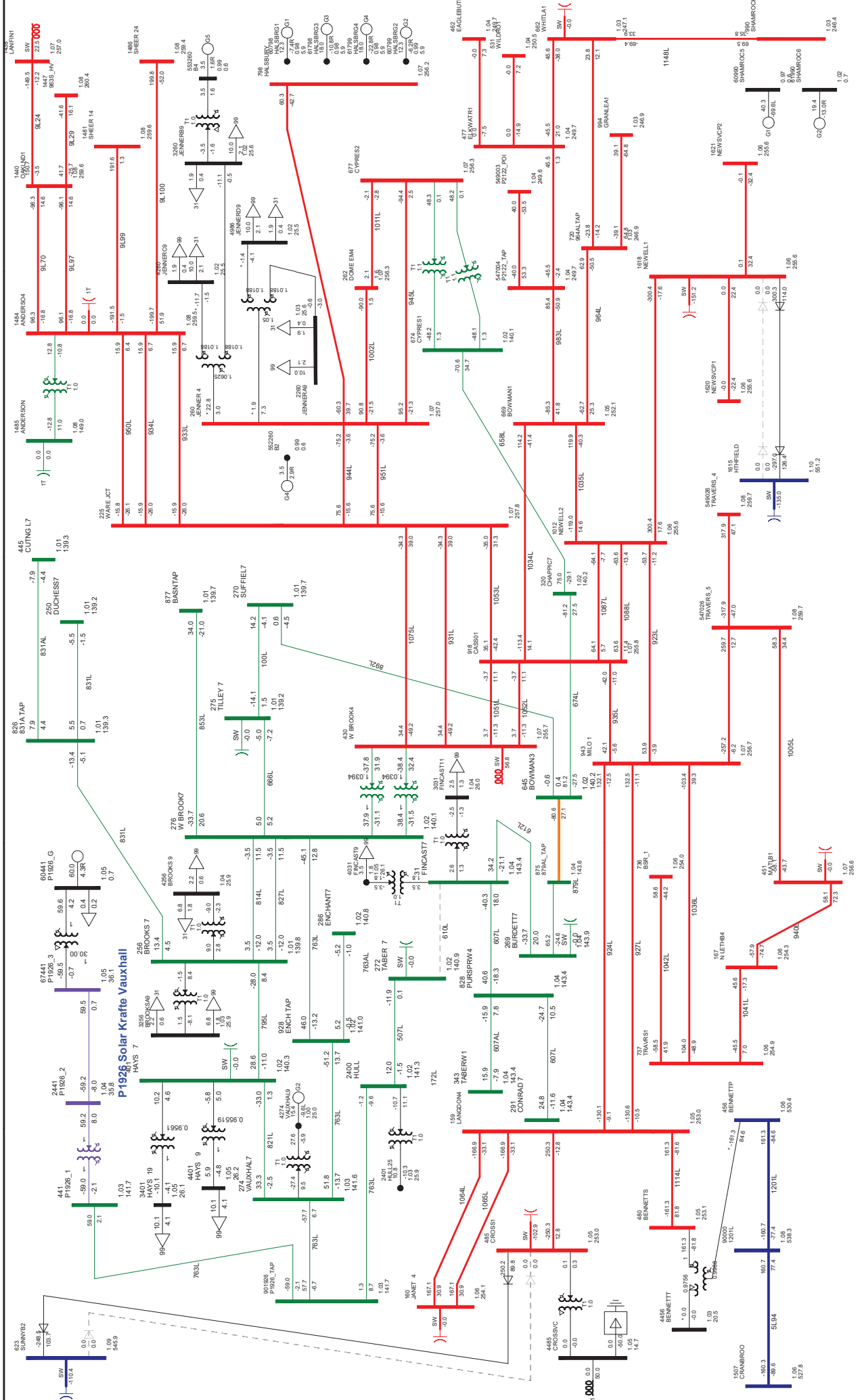


Blue = Voltage (kV)
Green = Power (MW)
Red = Distance (km)
Yellow = Current (A)
Purple = Frequency (Hz)
Orange = Temperature (°C)
Pink = Humidity (%)
Light Blue = Wind Speed (m/s)
Light Green = Rainfall (mm)
Light Orange = Solar Radiation (W/m²)
Light Pink = Air Quality (PM2.5)

FIGURE A3.1-1-N-0: NORMAL OPERATION
2023 SUMMER LIGHT (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 225.1 MW Sisk Import: 150.0 MW MATL Import: 0.0 MW
MH Export: 86.0 MW

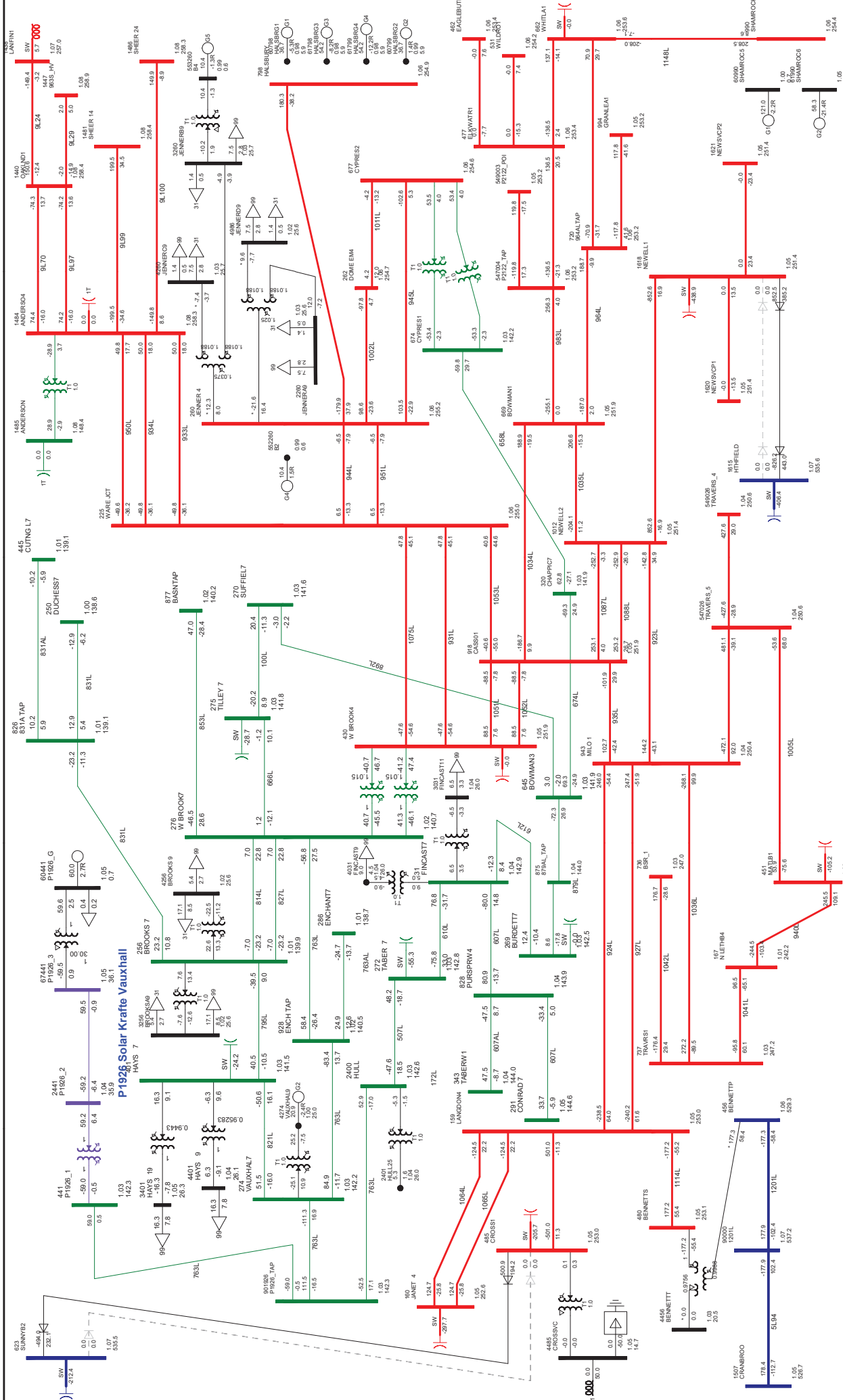


Blue = Voltage kV
Green = Impedance
Red = Loss
Black = Power
110kV 33kV 10kV 0.4kV
110kV 33kV 10kV 0.4kV
110kV 33kV 10kV 0.4kV

FIGURE A3.1-2 N-1: 610L (TABER 83S TO FINCASTLE 336S)
2023 SUMMER LIGHT (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 220.4 MW Sunk Import: 150.0 MW MATL Import: 0.0 MW
Mtl Export: 96.0 MW



Blue = Voltage kV
Green = Equipment
Red = Power Lines
Yellow = Grounding
Purple = Protection
Orange = Control
Pink = Communication
Light Blue = Other

FIGURE A3.2-1-N-0: NORMAL OPERATION
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 140.9 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

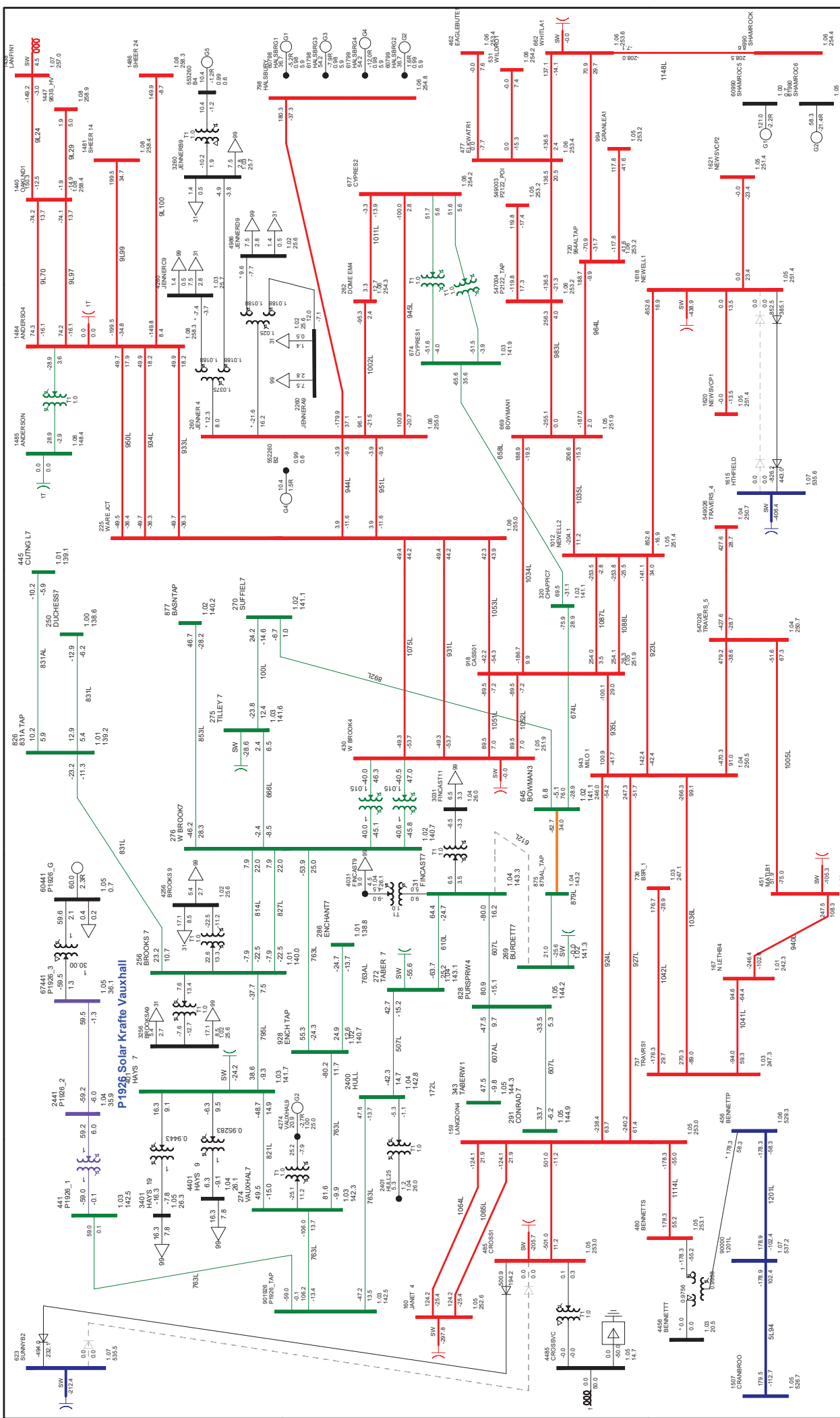
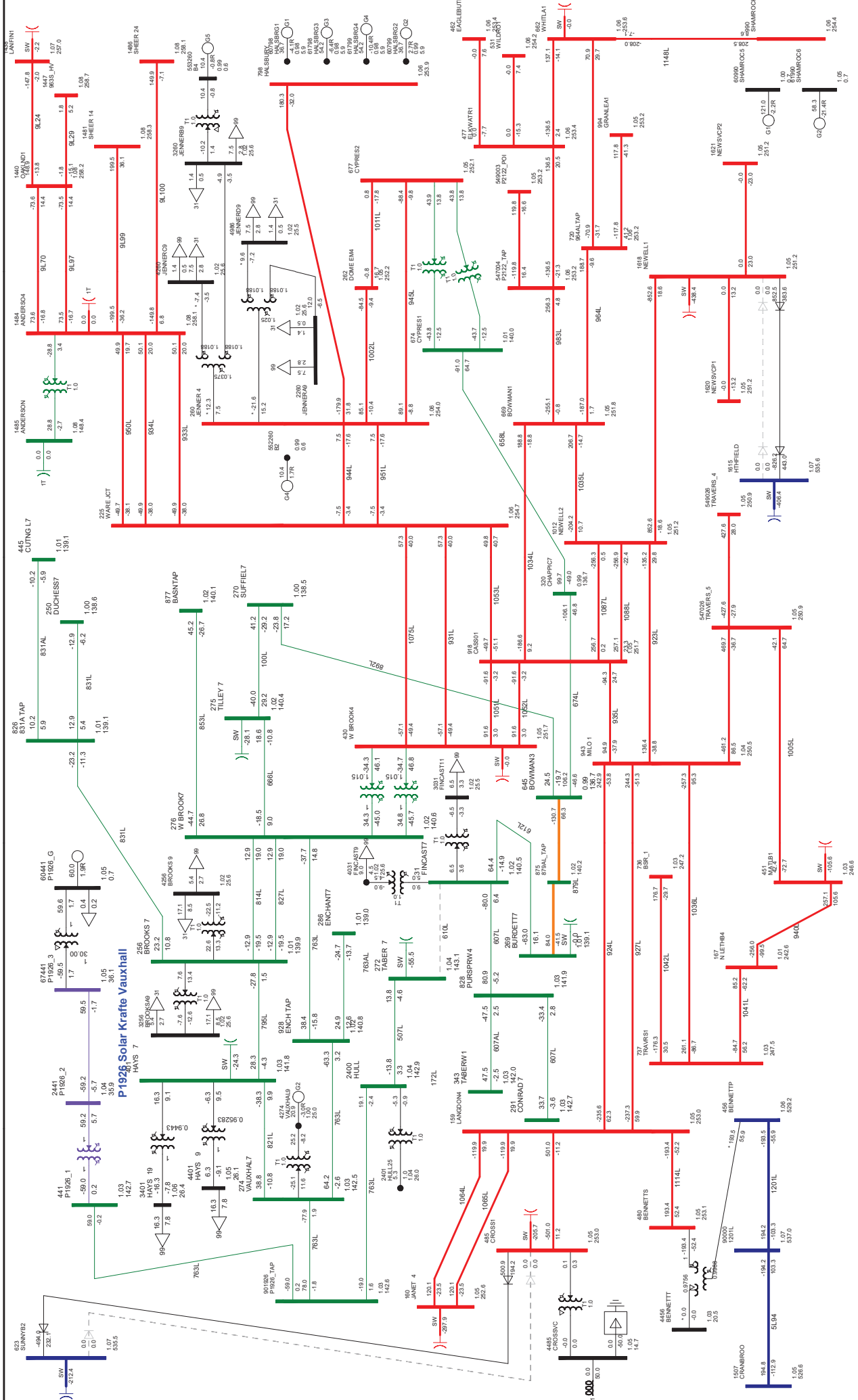


FIGURE A3.2.2 N-1: 612L BURDETT 366S TO FINCASTLE 336S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



Blue = Voltage kV
Green = Equipment
Red = Lines
Yellow = Transformers
Black = Other

FIGURE A3.2-3 N-1: 610L (TABER 83S TO FINCASTLE 336S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte VauxHall
BC Import: 159.8 MW Sask Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

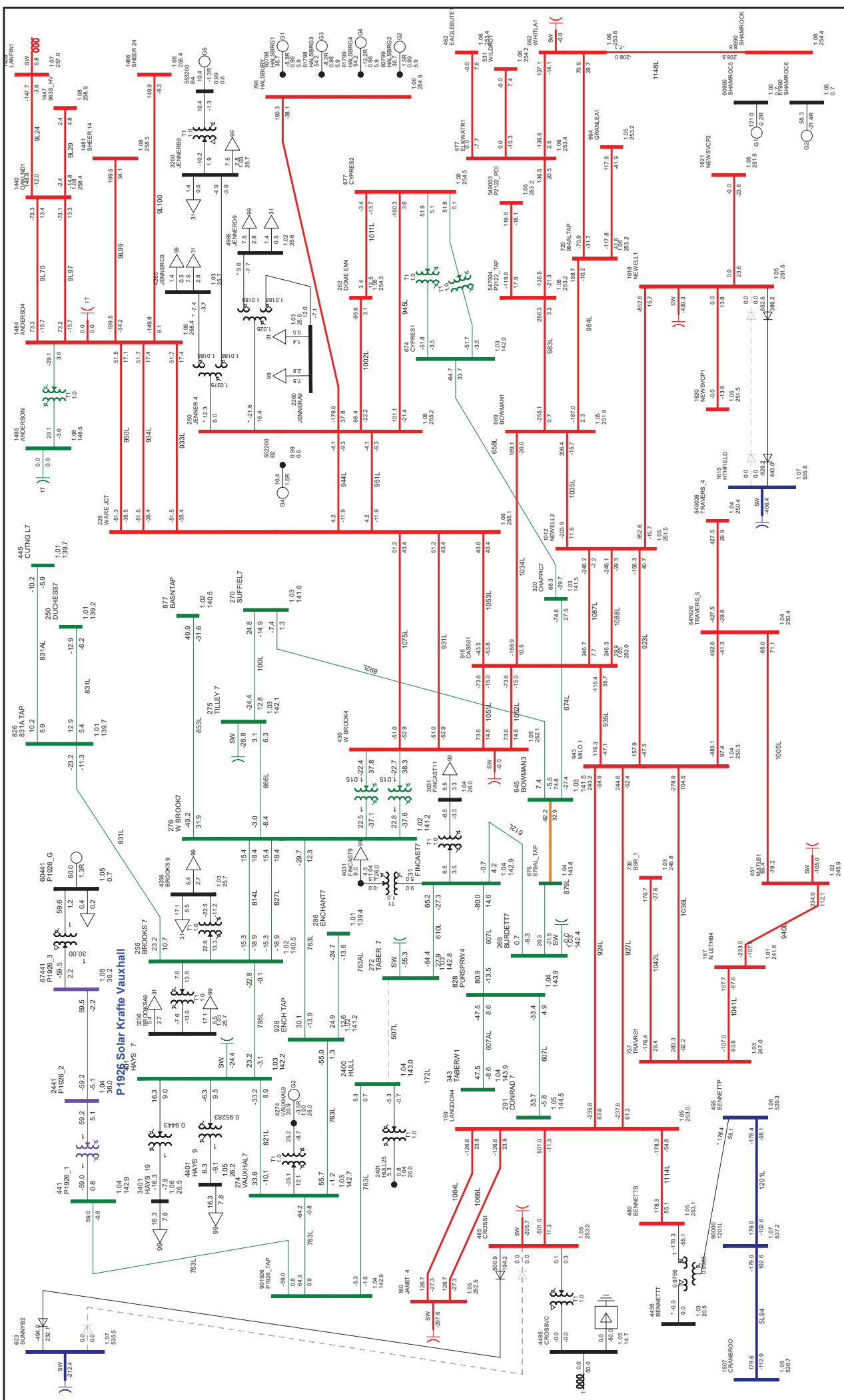
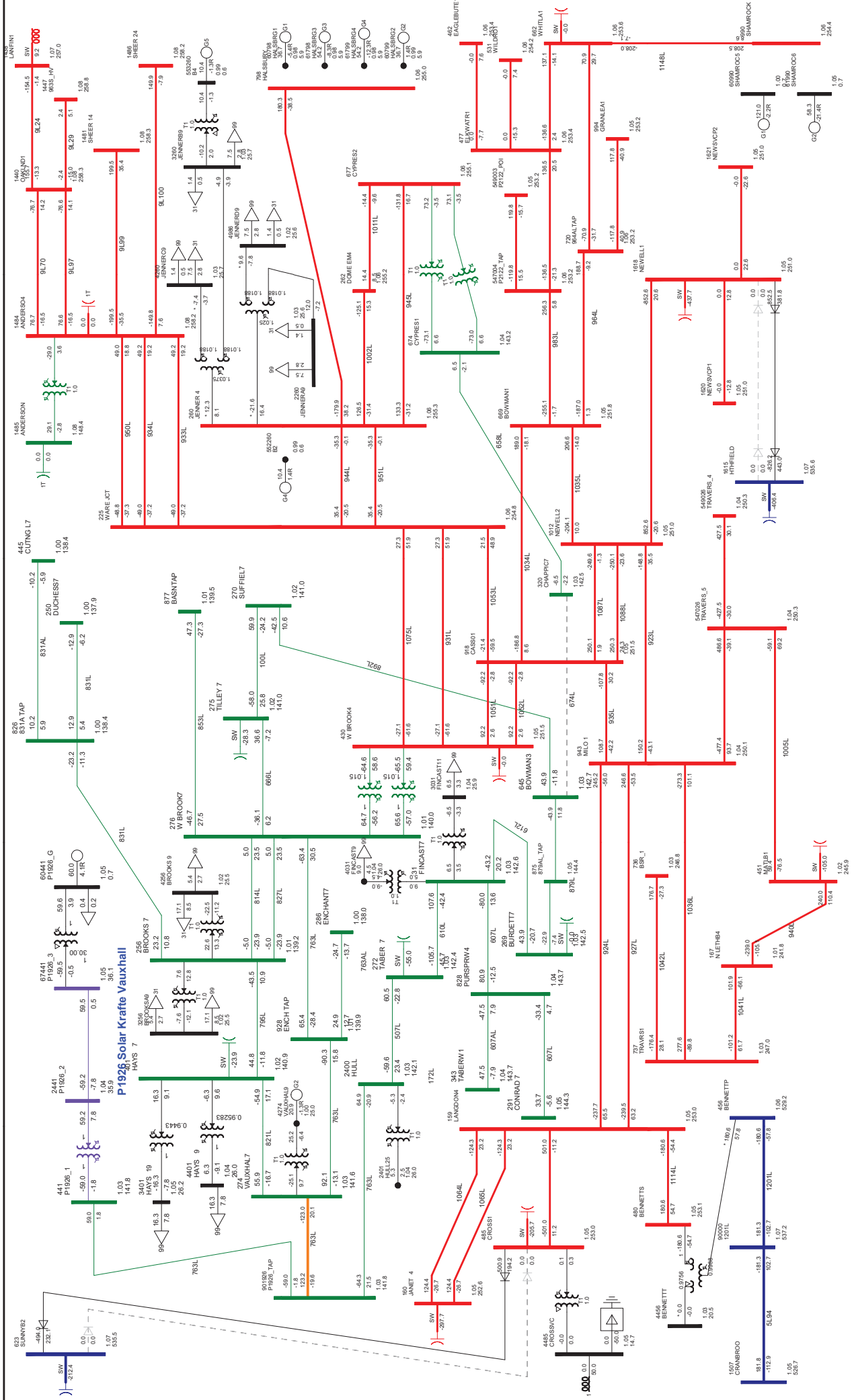


FIGURE A3.2-4 N-1: 507L (TABER 83S TO HULL 257S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



Blue = Voltage kV
Green = Power MW
Red = Power MW
Yellow = Power MW
Grey = Power MW
Black = Power MW

FIGURE A3.2-5 N-1: 674L (BOWWANTON 244S TO CHAPPIE LAKE 649S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 144.3 MW Sask Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

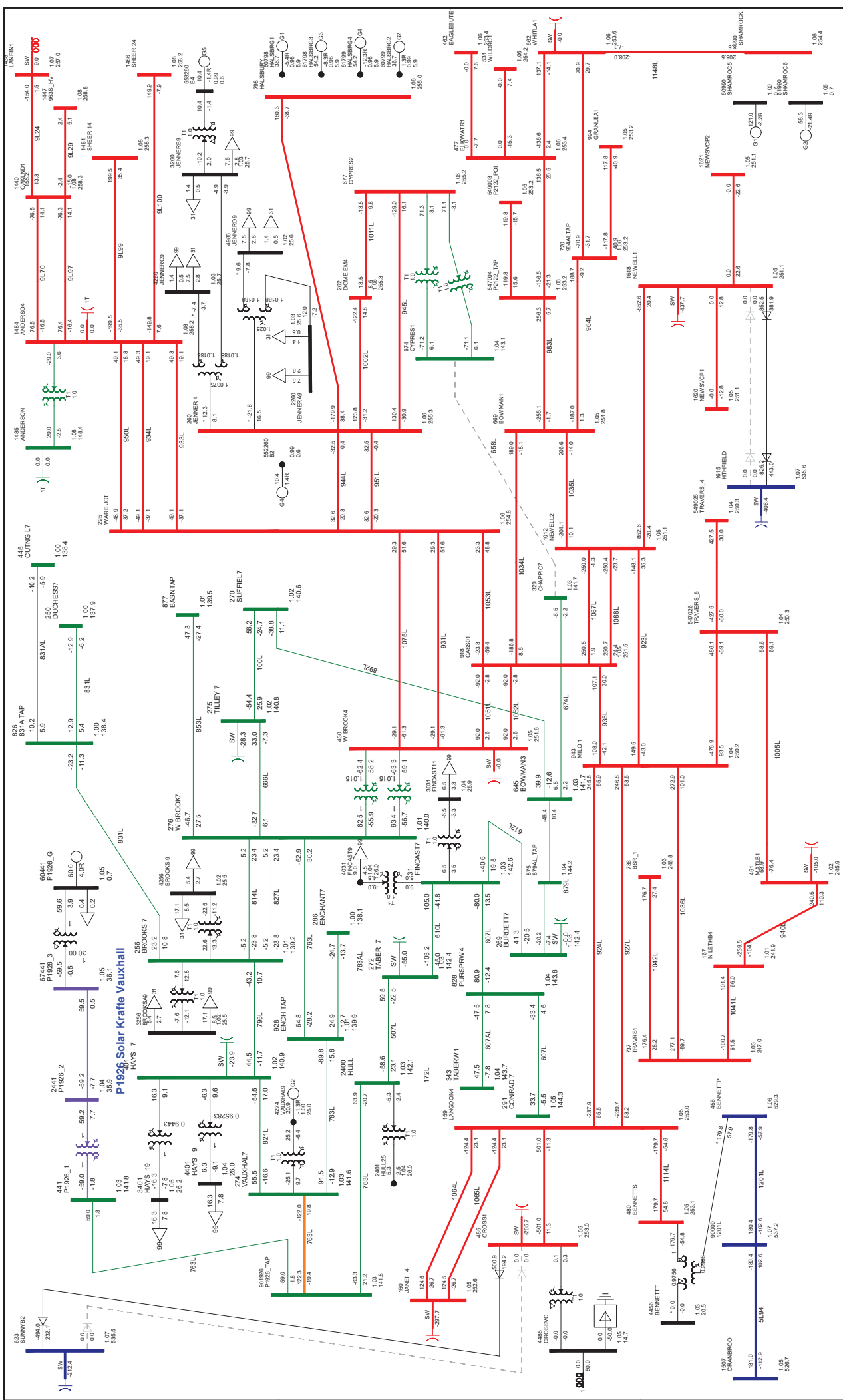


FIGURE A3.2-6 N-1: 658L (CHAPPIE LAKE 649S TO CYPRESS 562S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

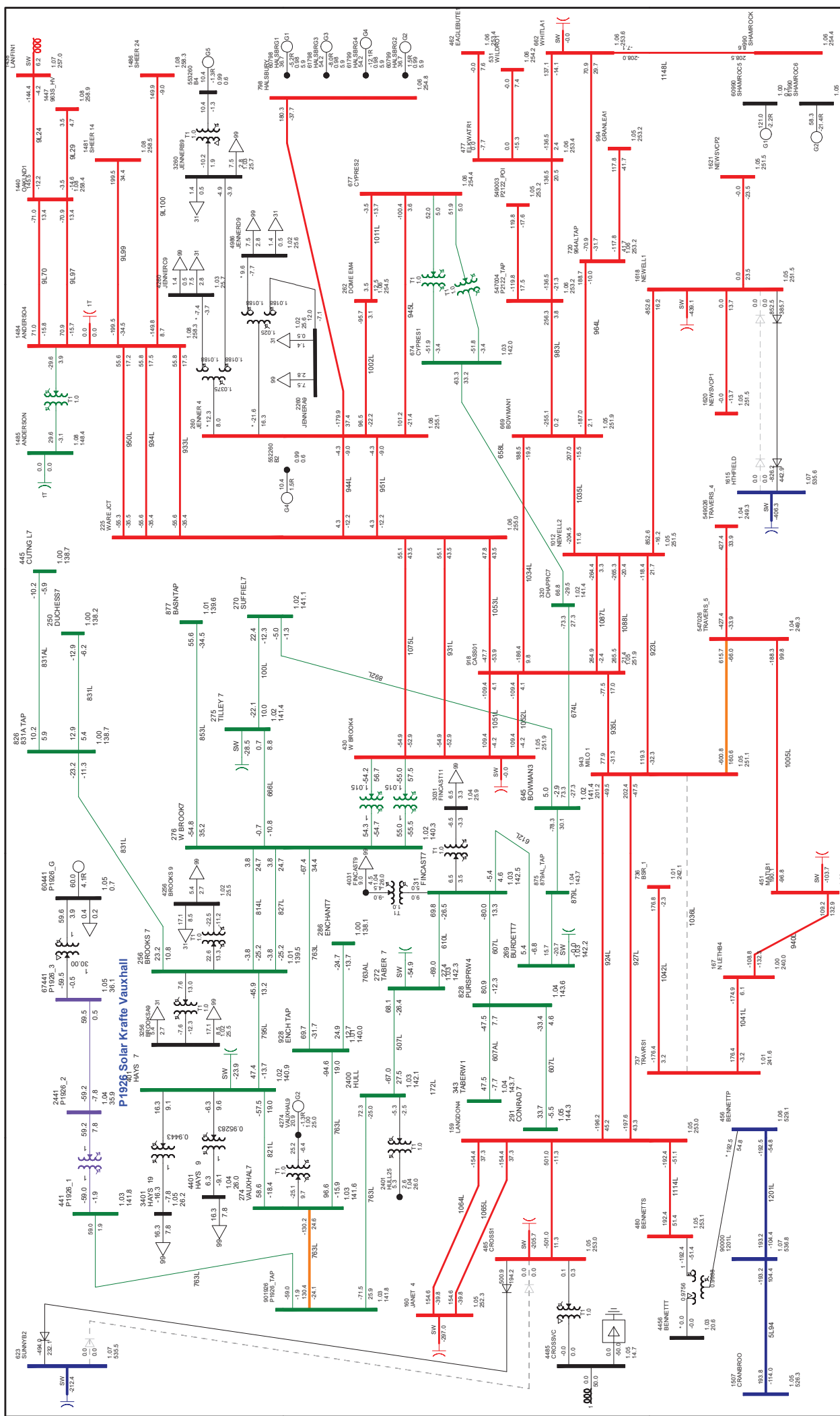
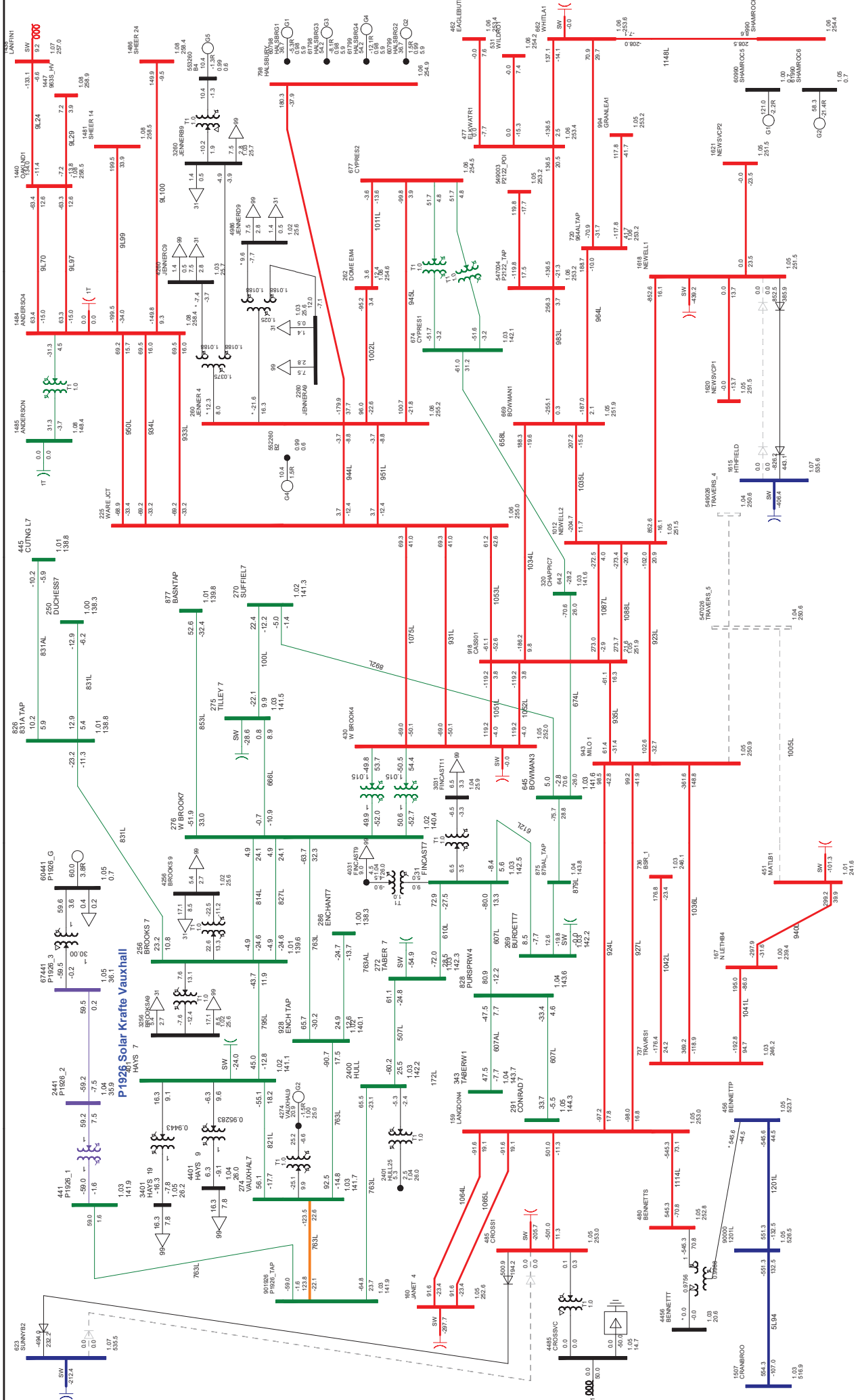


FIGURE A3.2.7 N-1: 1036L (MILO 356S TO TRAVERS 554S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



P1926 Solar Krafte Vauxhall
BC Import: 566.3 MW Sask Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

FIGURE A3.2-3 N-1: 1005L (MILO 356S TO PICTURE BUTTE 120S)
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

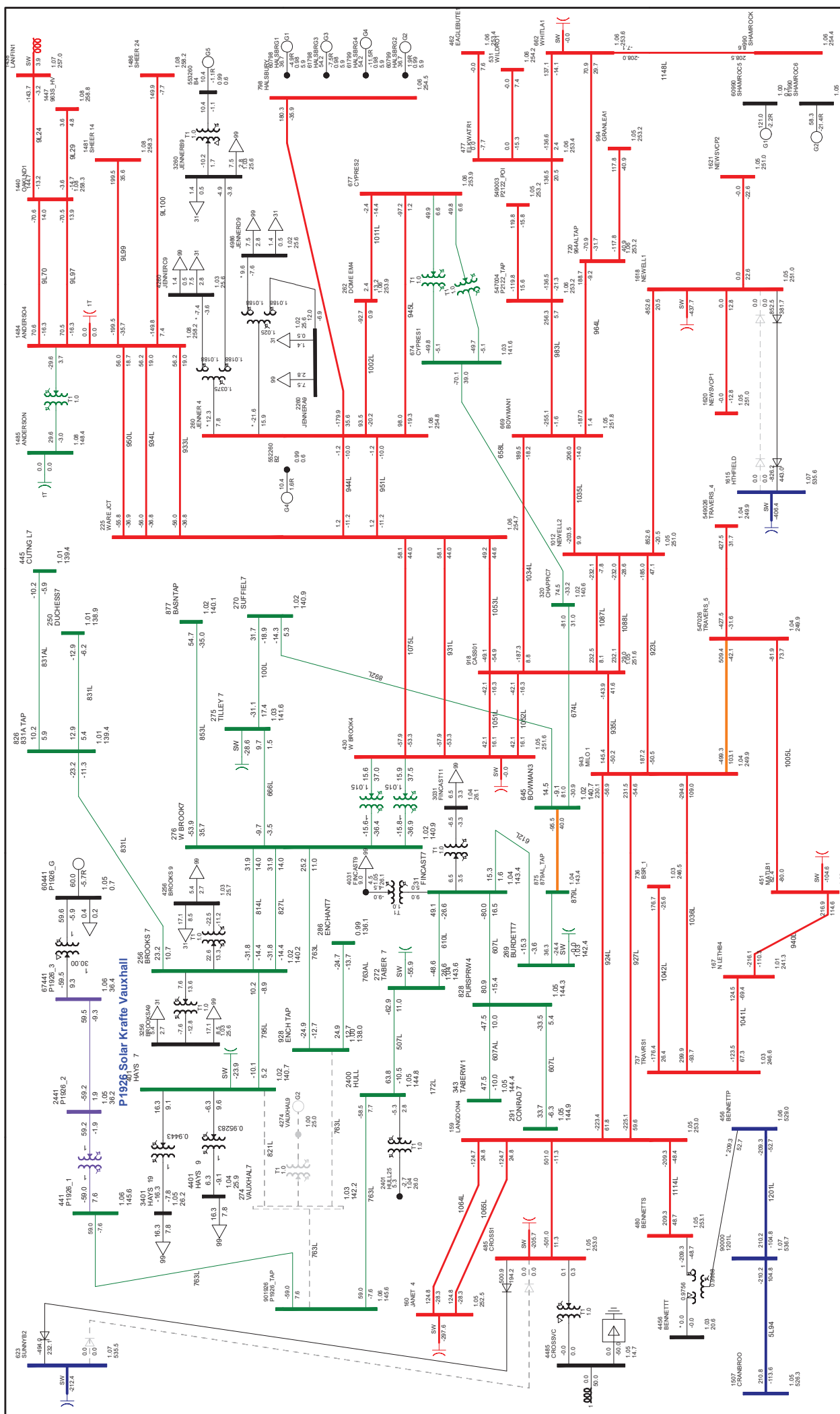
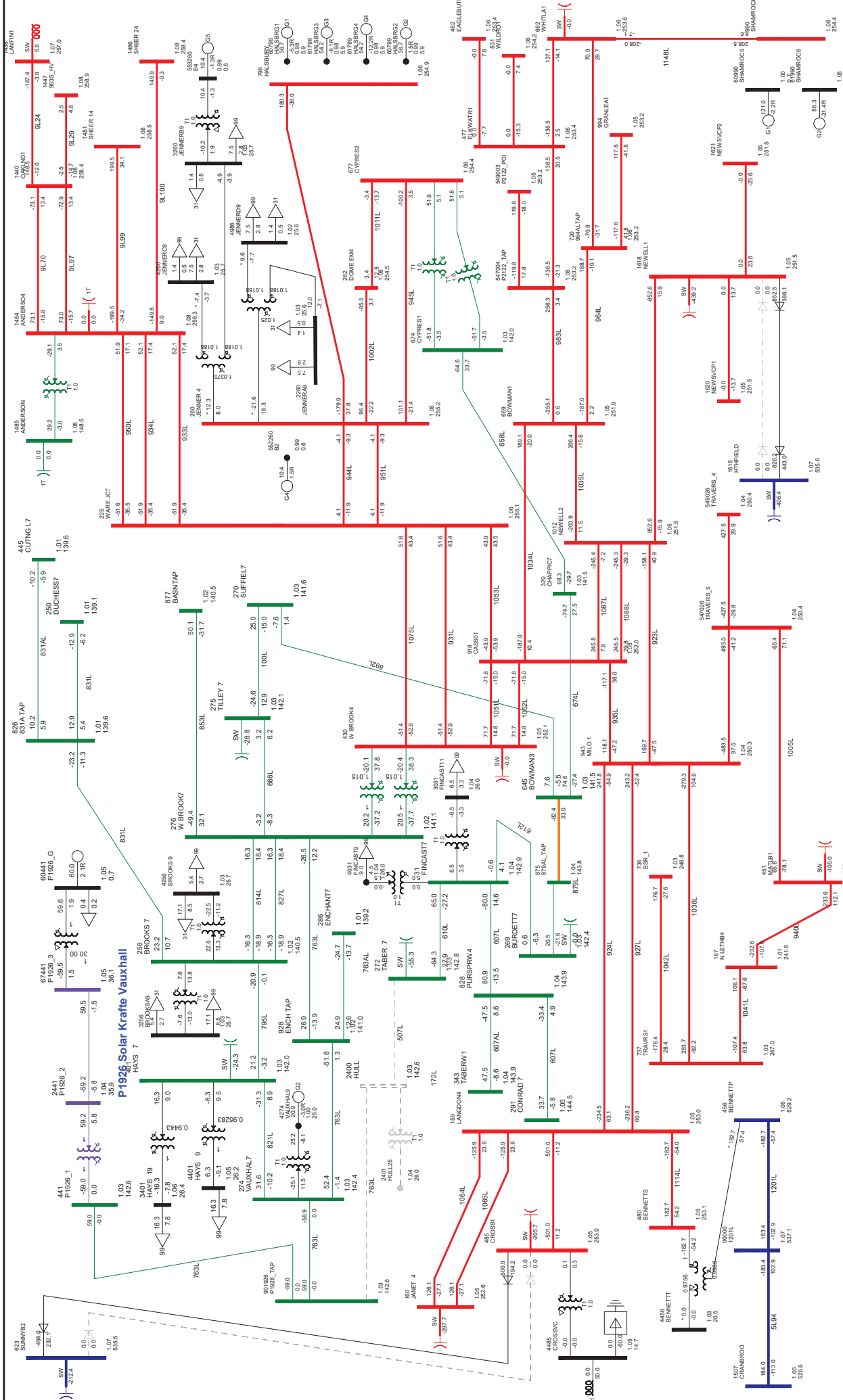


FIGURE A3.2-10 N-1: VAUXHALL 158S T2
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



Blue - Voltage kV
Green - Power MW
Red - Power MVA
Yellow - Power MVA
Grey - Power MVA
Black - Power MVA
White - Power MVA
Light Blue - Power MVA
Light Green - Power MVA
Light Yellow - Power MVA
Light Grey - Power MVA
Light White - Power MVA

FIGURE A32-11 N-1: HULL 257S T1
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

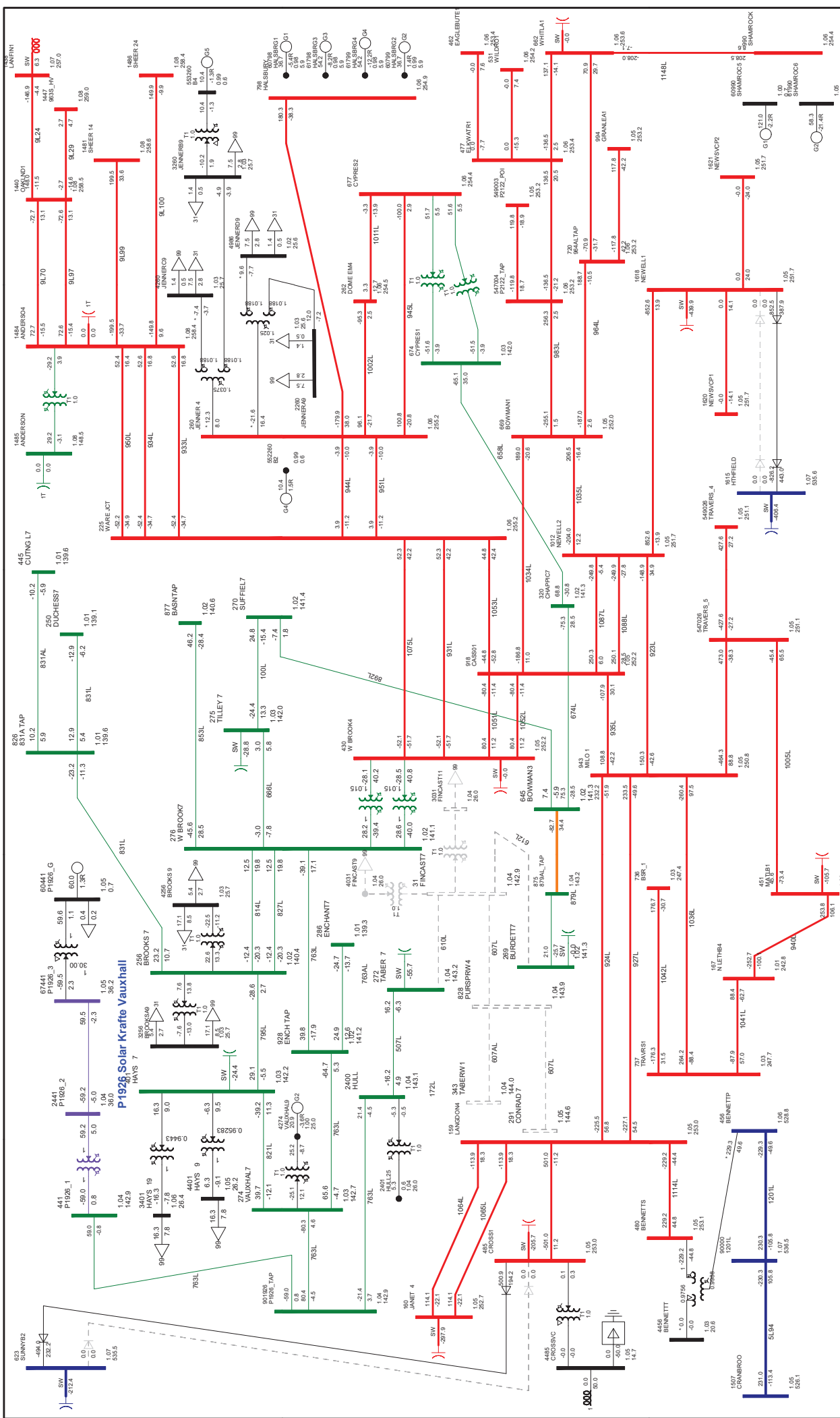
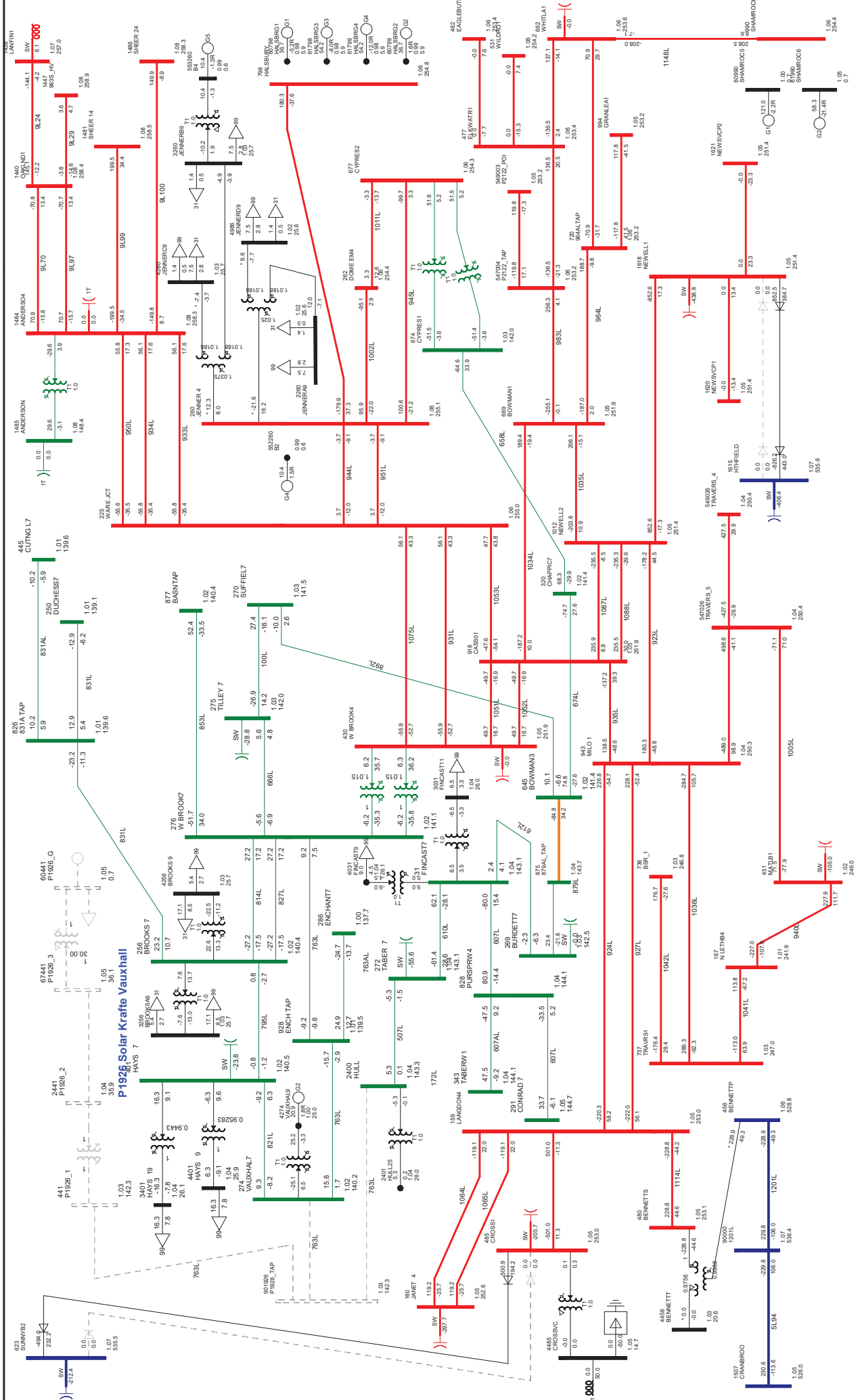


FIGURE A3.2-12 N-1: FINCASTLE 336S T1
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022



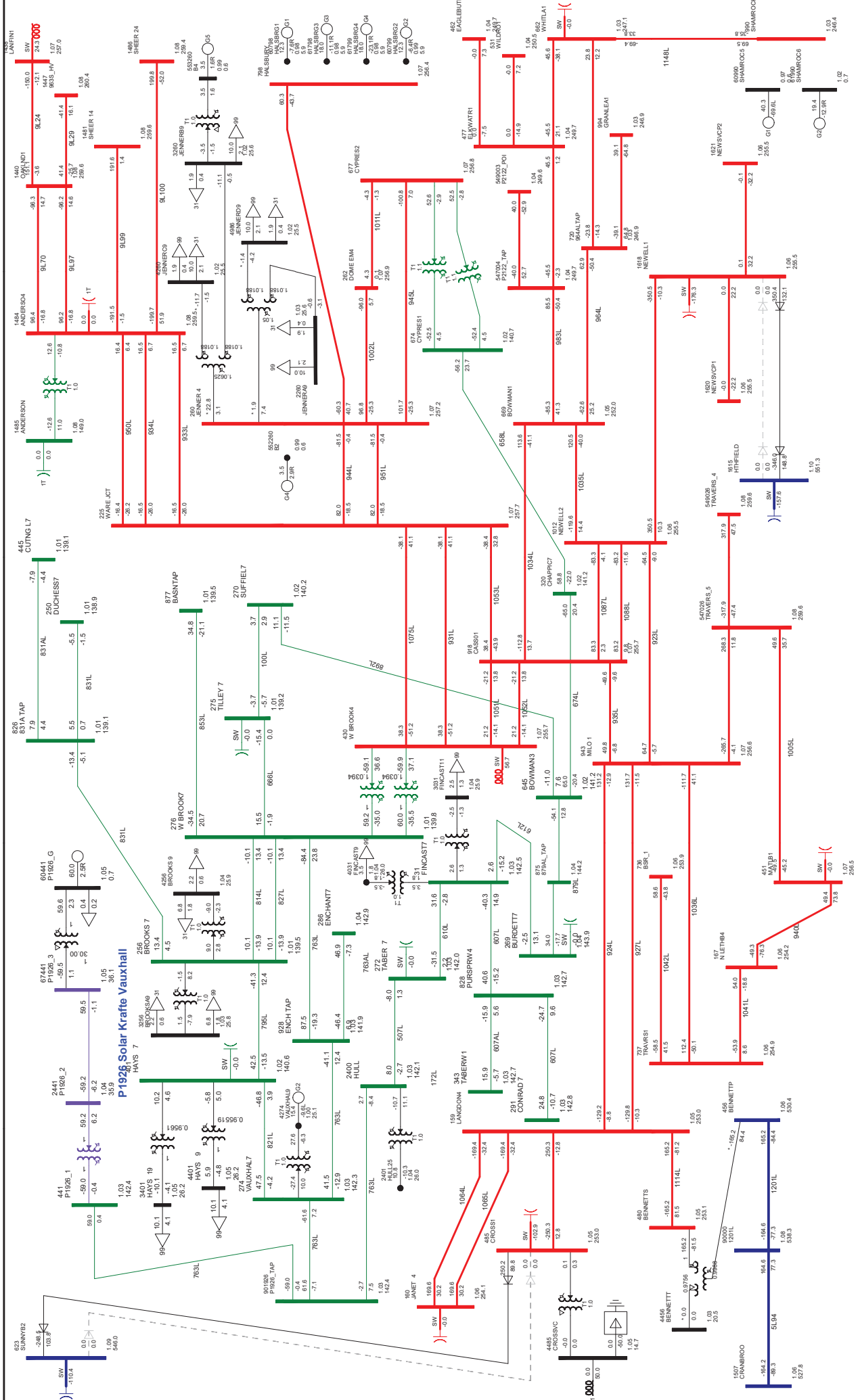
P1926 Solar Krafte VauxHall

BC Import: 198.2 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

FIGURE A3.2-13 N-1: 763L (VAUXHALL 158S TO HULL 257S)

2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

Blue = Vague Alpha
Green = Vague Beta
Yellow = Vague Gamma
Red = Vague Delta
Purple = Vague Epsilon
Orange = Vague Zeta
Pink = Vague Eta
Brown = Vague Theta
Grey = Vague Iota
Black = Vague Kappa

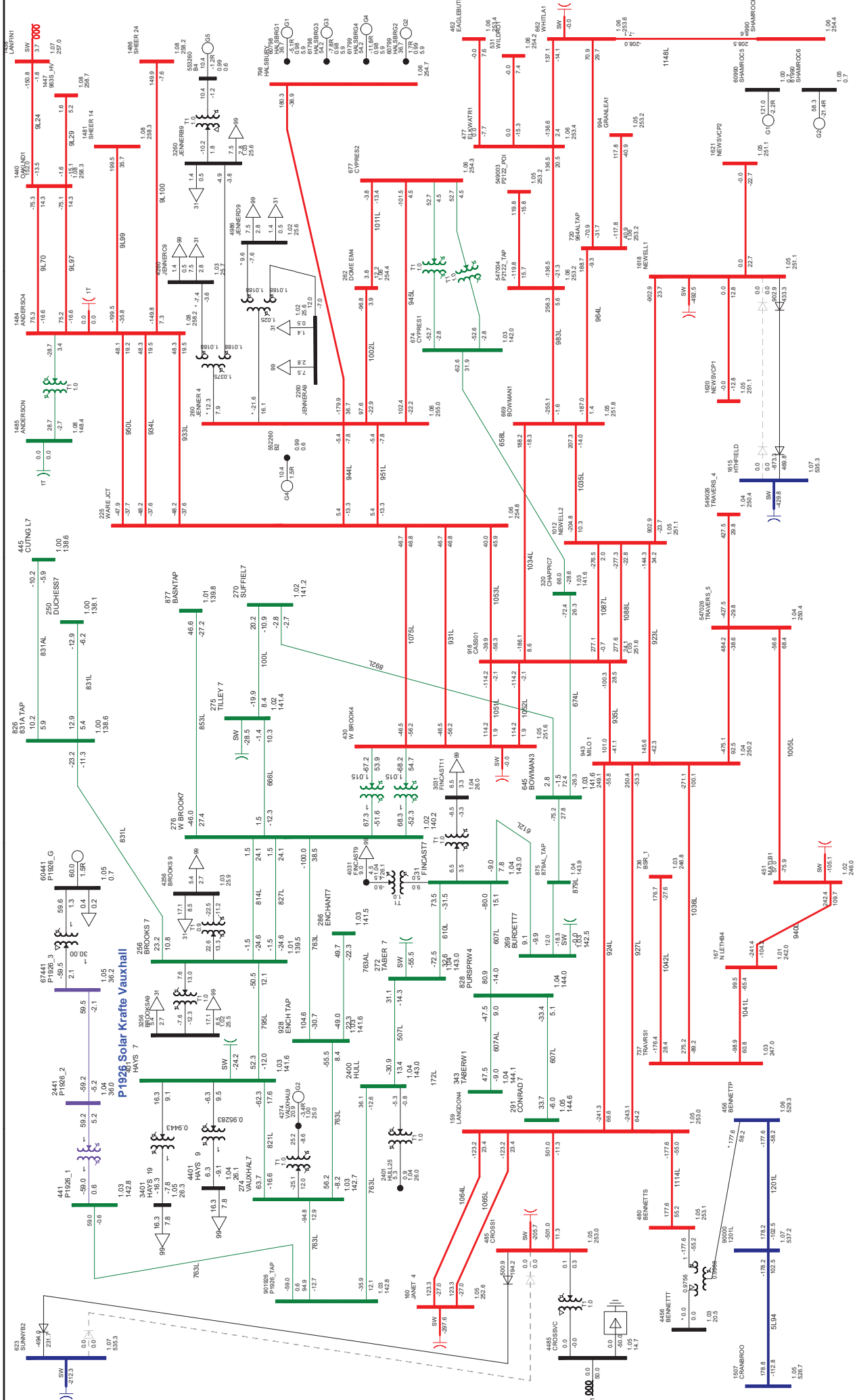


P1926 Solar Krafte Vauxhall

BC Import:-225.1 MW Ssak Import:-150.0 MW MATL Import:-0.0 MW
MH Export: 86.0 MW

FIGURE A3.3-1-N-0: NORMAL OPERATION
2023 SUMMER LIGHT (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Blue - Vantage Alpha
Green - Vantage Alpha
Red - Vantage Alpha
Yellow - Vantage Alpha
Orange - Vantage Alpha
Purple - Vantage Alpha
Pink - Vantage Alpha
Brown - Vantage Alpha
Grey - Vantage Alpha
White - Vantage Alpha



Blue = Voltage (kV)
Green = Power (MW)
Red = Power (MW)
Yellow = Power (MW)
Grey = Power (MW)

FIGURE A3.4-1-N-0: NORMAL OPERATION
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 140.9 MW Sask Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

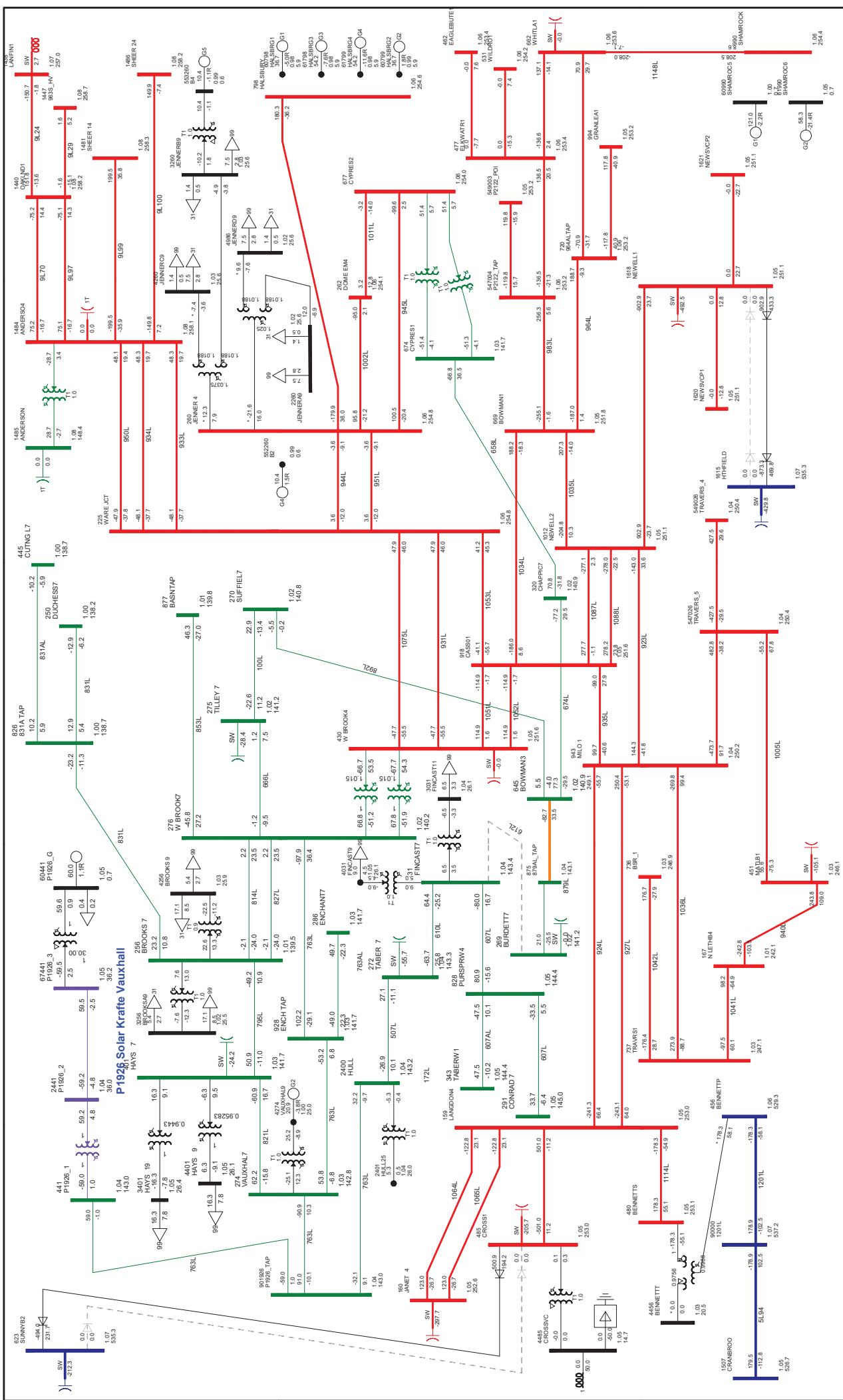


FIGURE A3.4-2 N-1: 612L (BURDETT 368S TO FINCASTLE 336S)
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

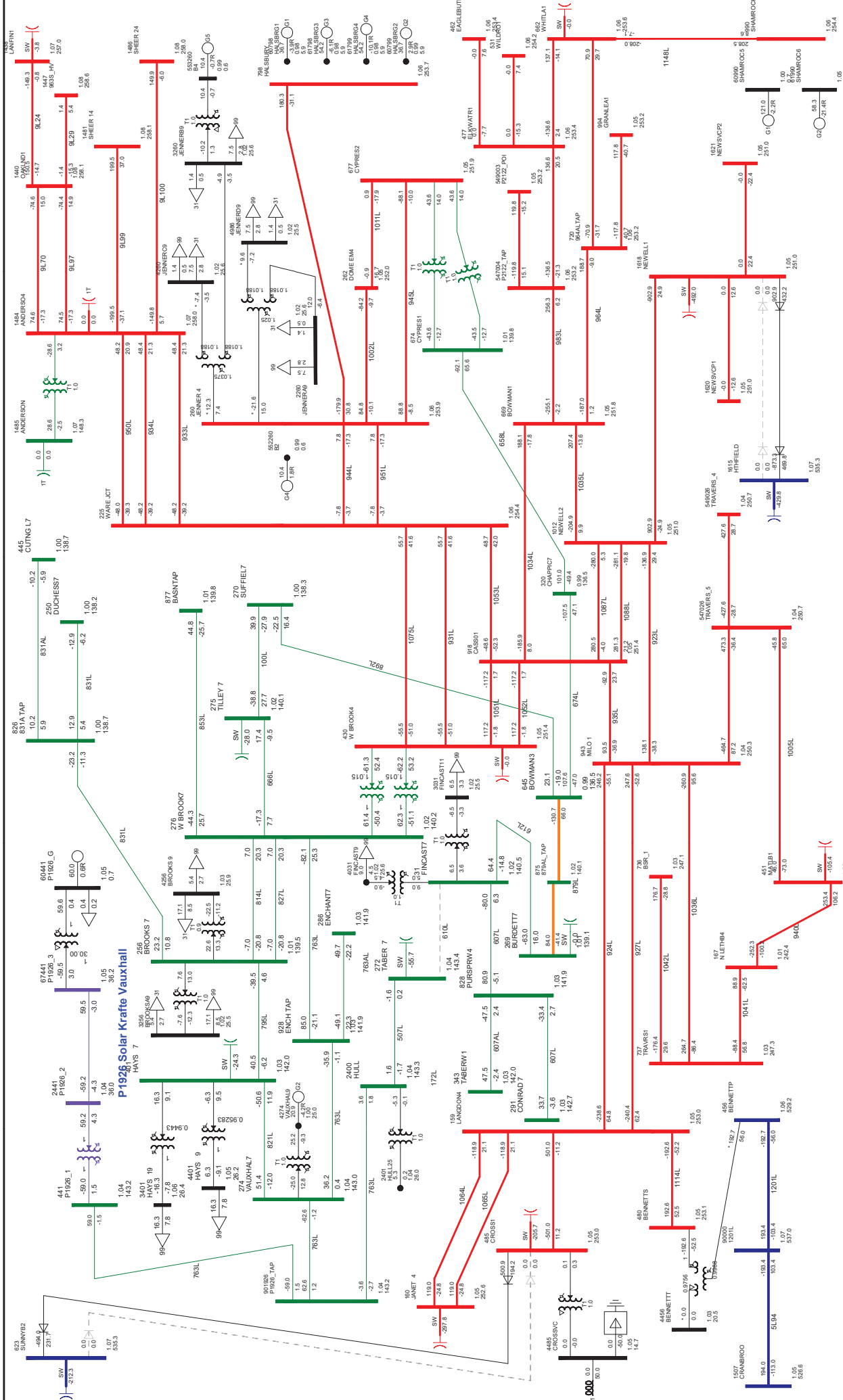


FIGURE A3.4-3 N-1: 610L (TABER 83S TO FINCASTLE 336S)
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

BC Import: 158.5 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

Blue: Vantage View
Green: Enchant Ders
Red: Sisk
Yellow: MATL
Grey: Other

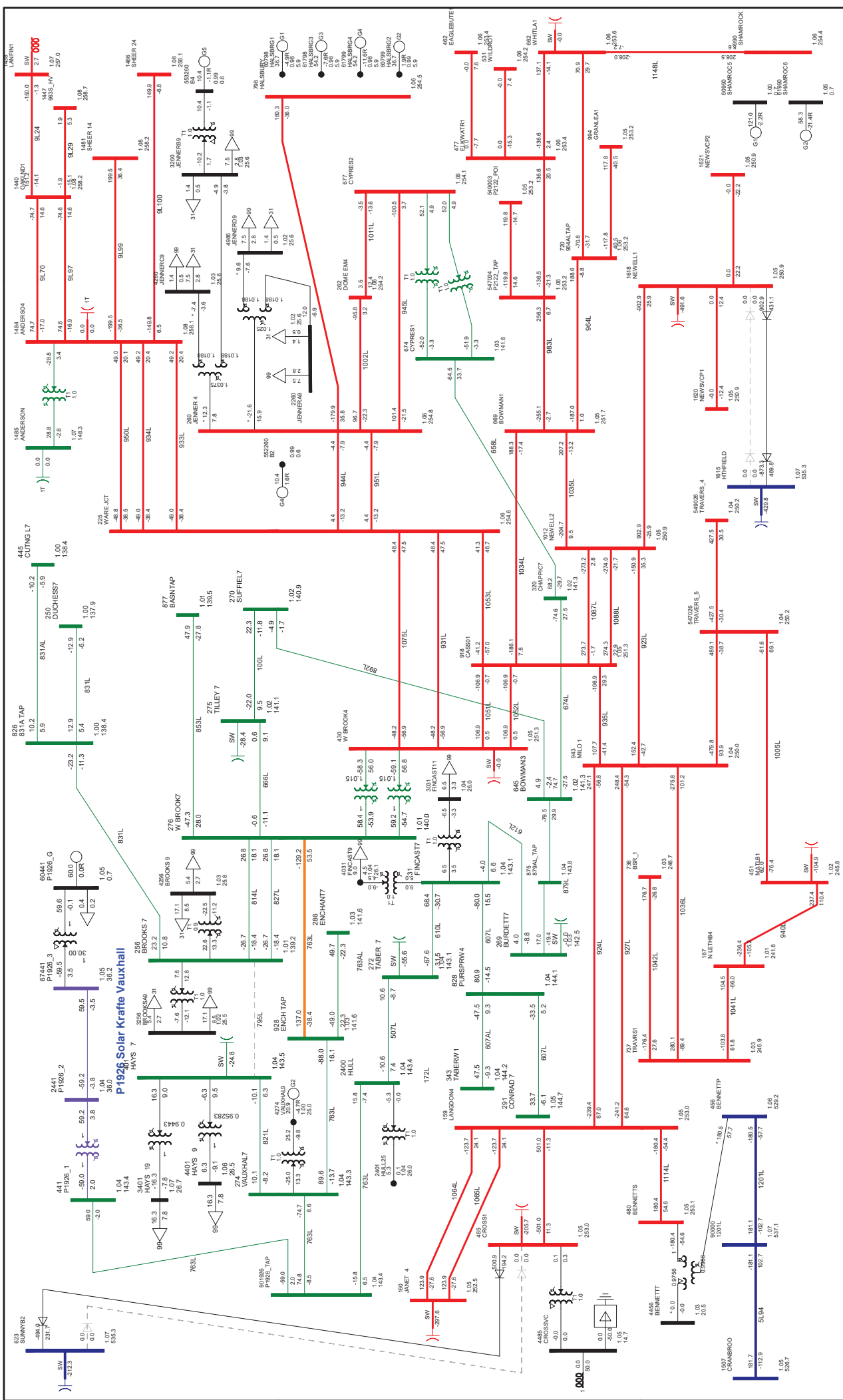
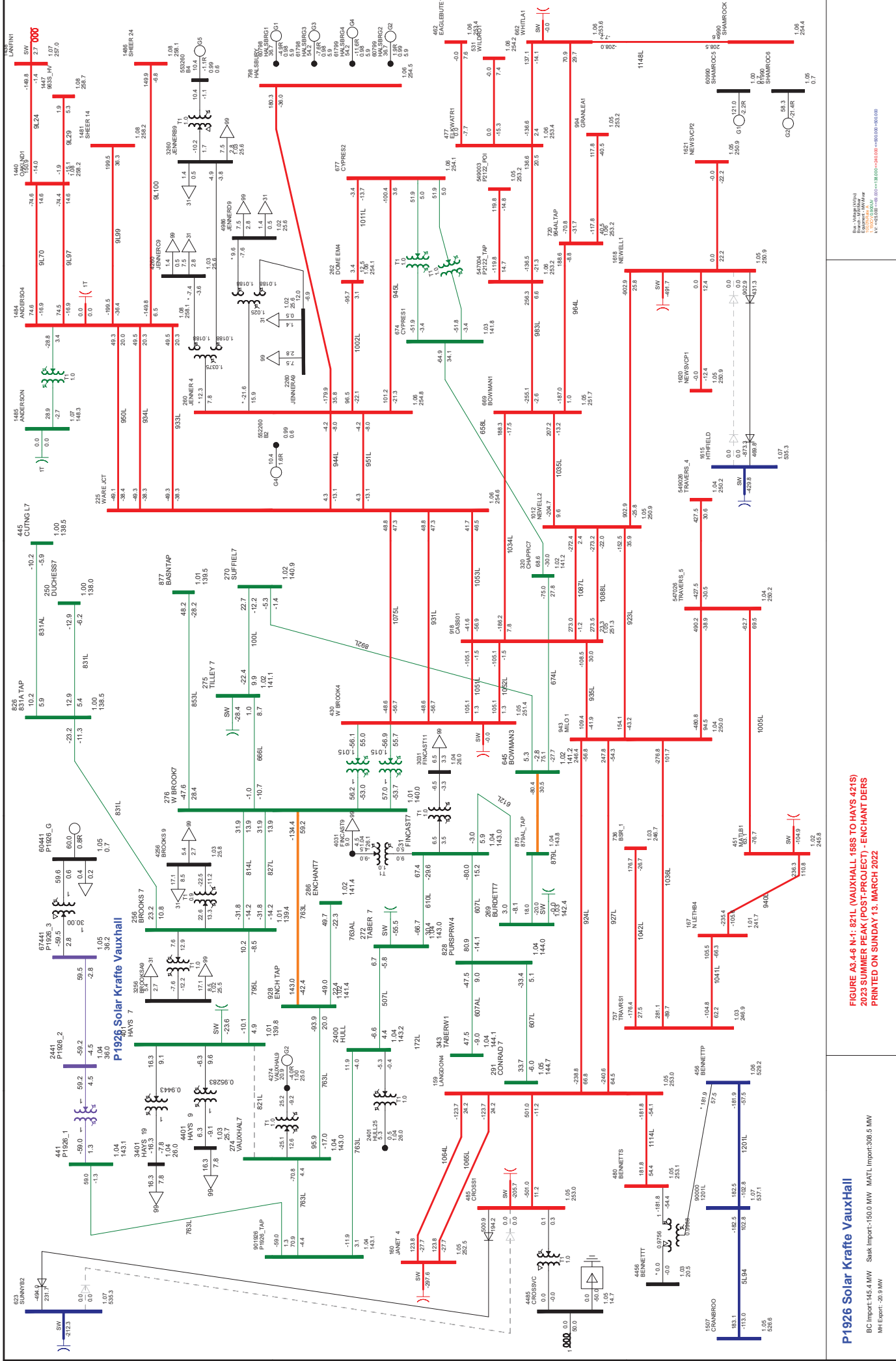
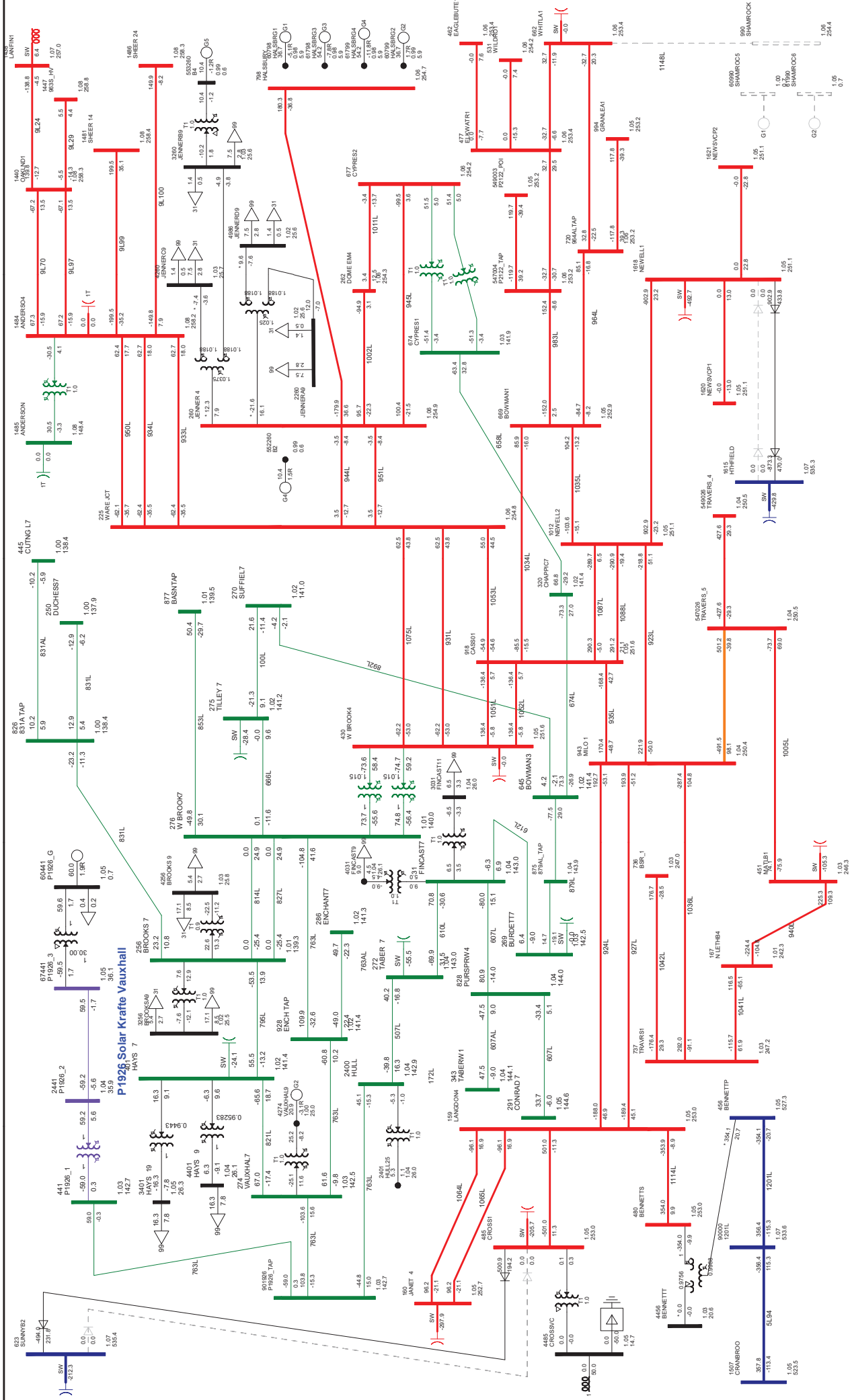


FIGURE A3.4-4 N-1: 795L (BROOKS 121S TO HAYS 421S)
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022





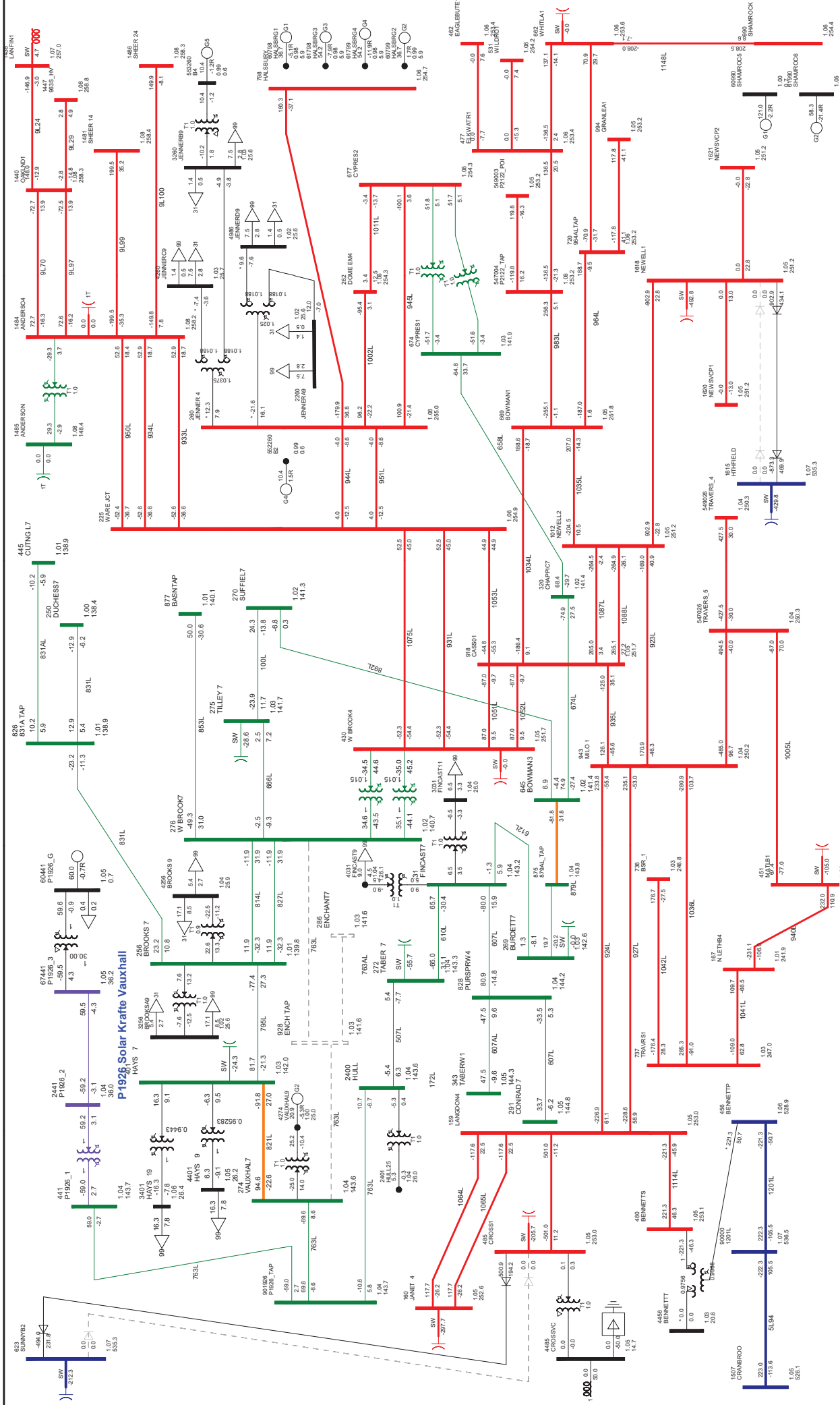
P1926 Solar Krafte Vauxhall

BC Import: 340.0 MW SHK Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

FIGURE A3.4.7 N-1: 1148L (WHITLA 251S TO SHAMROCK 1018S)

2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Blue: Vauxhall Vauxhall
Green: Vauxhall Vauxhall
Yellow: Vauxhall Vauxhall
Red: Vauxhall Vauxhall
Black: Vauxhall Vauxhall



Blue = Voltage kV
Green = Power MW
Red = Power MVA
Yellow = Power MVA
Grey = Power MVA
Black = Power MVA
White = Power MVA
Light Blue = Power MVA
Light Green = Power MVA
Light Red = Power MVA
Light Yellow = Power MVA
Light Grey = Power MVA
Light White = Power MVA

FIGURE A3.4.9 N-1: 763L (VAUXHALL 158S TO WEST BROOKS 28S)
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

BC Import: 189.8 MW Sisk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW

P1926 Solar Krafte Vauxhall

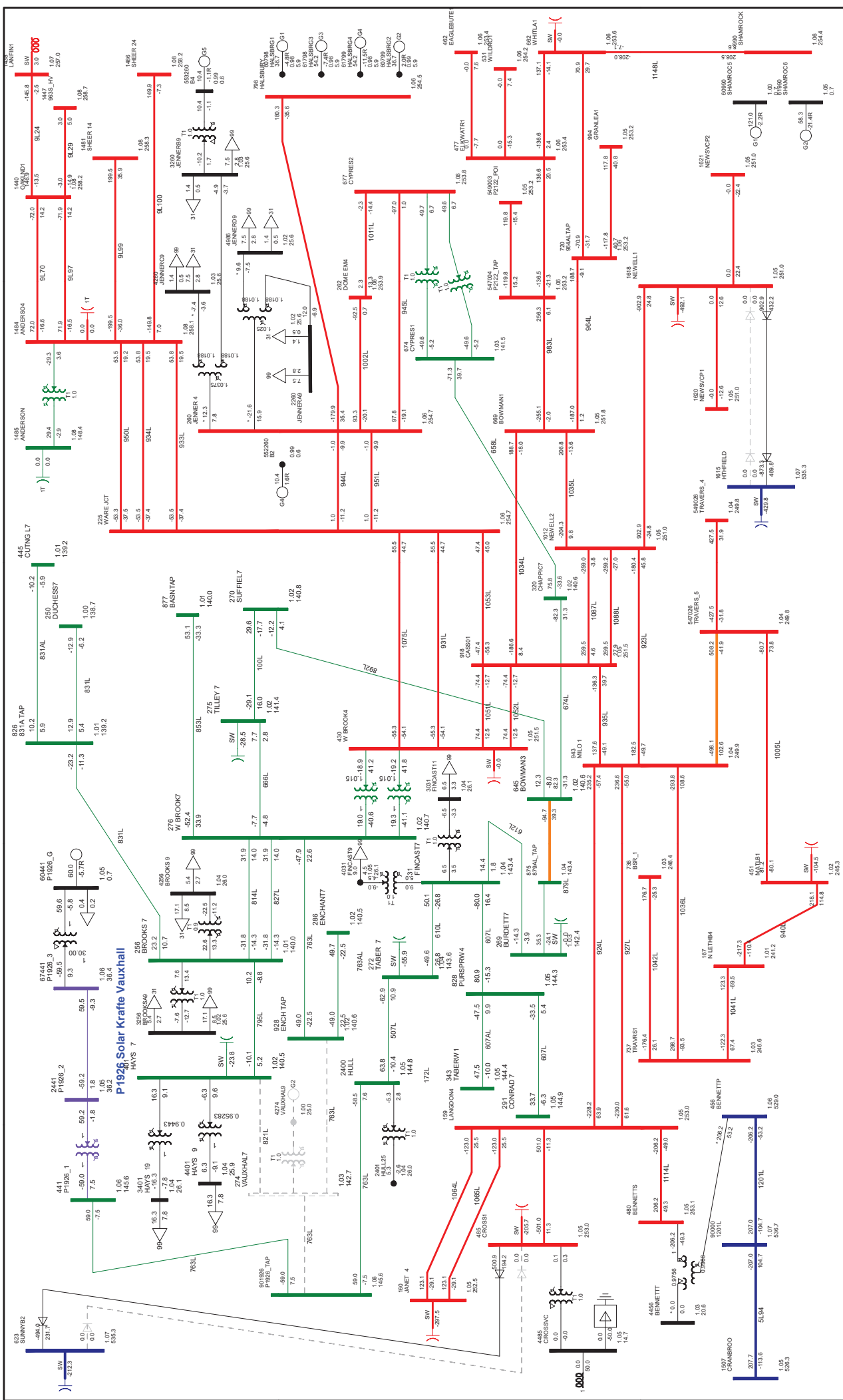
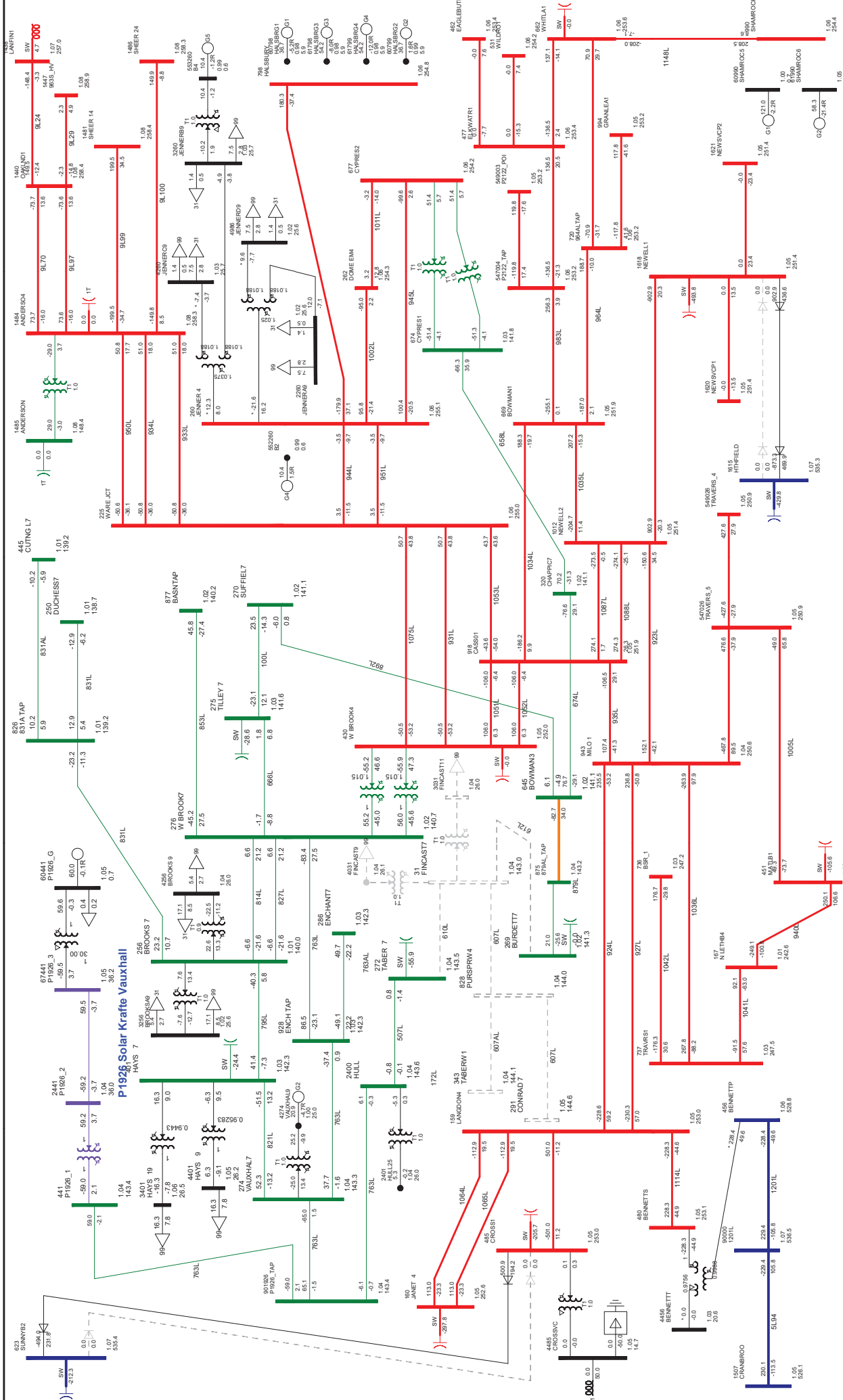


FIGURE A3.4-10 N-1: VAUXHALL 158S T2
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

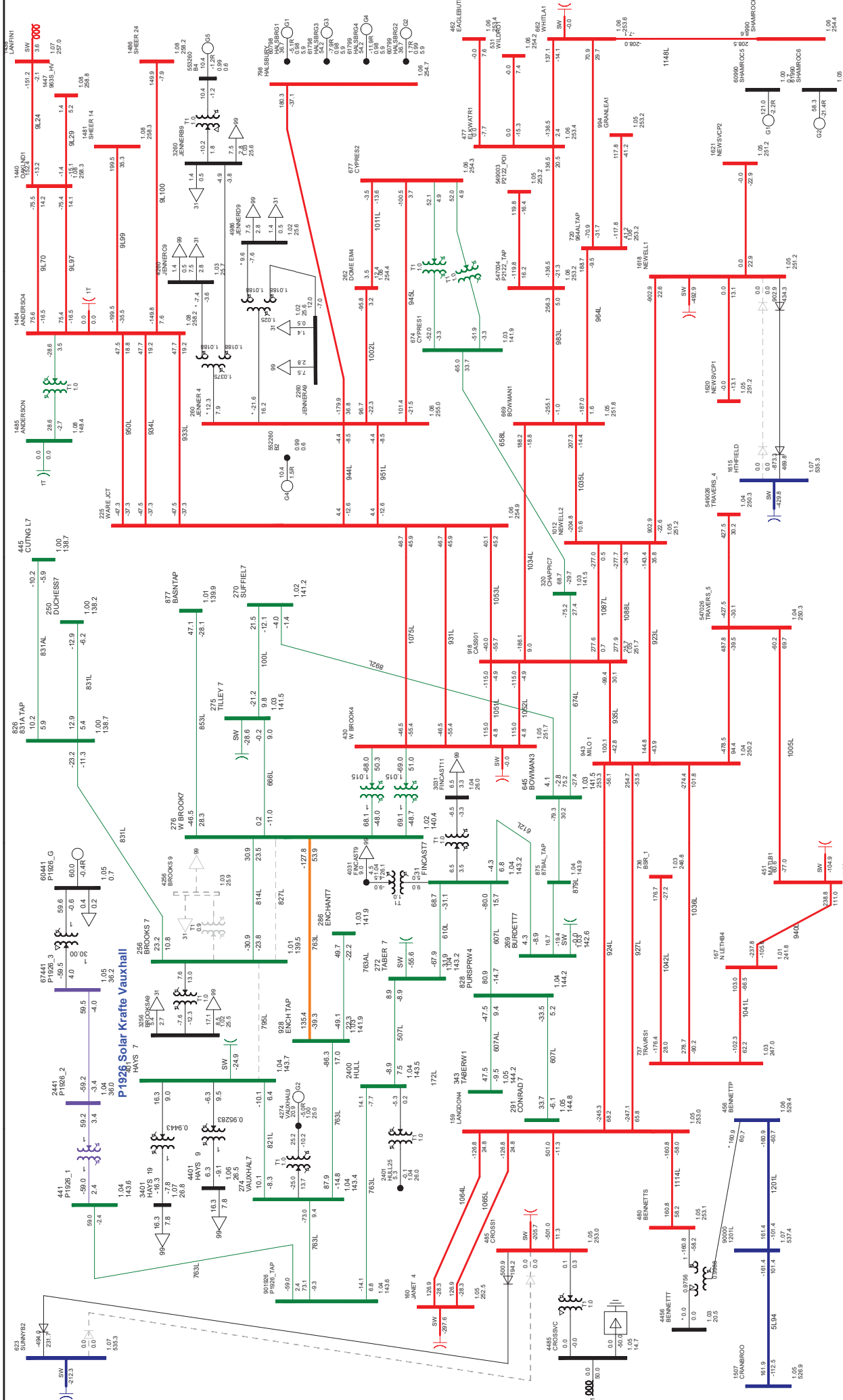


Blue - Vauxhall Vauxhall
Green - 110kV
Red - 33kV
Yellow - 10kV
Orange - 0.4kV

FIGURE A3.4-13 N-1: FINCASTLE 336S T1
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 198.7 MW Ssk Import: 150.0 MW MATL Import: 308.5 MW
MH Export: -20.9 MW



Blue - Voltage kV
Green - Breaker
Red - Reactor
Yellow - Capacitor
Purple - Fuse
Orange - Isolator
Pink - Surge Arrester
Light Blue - Grounding
Dark Blue - Other

FIGURE A3.4-14 N-1: BROOKS 121S T2
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

P1926 Solar Krafte Vauxhall

BC Import: 121.9 MW Ssk Import: 150.0 MW MATL Import: 308.5 MW
Mk Export: -20.9 MW

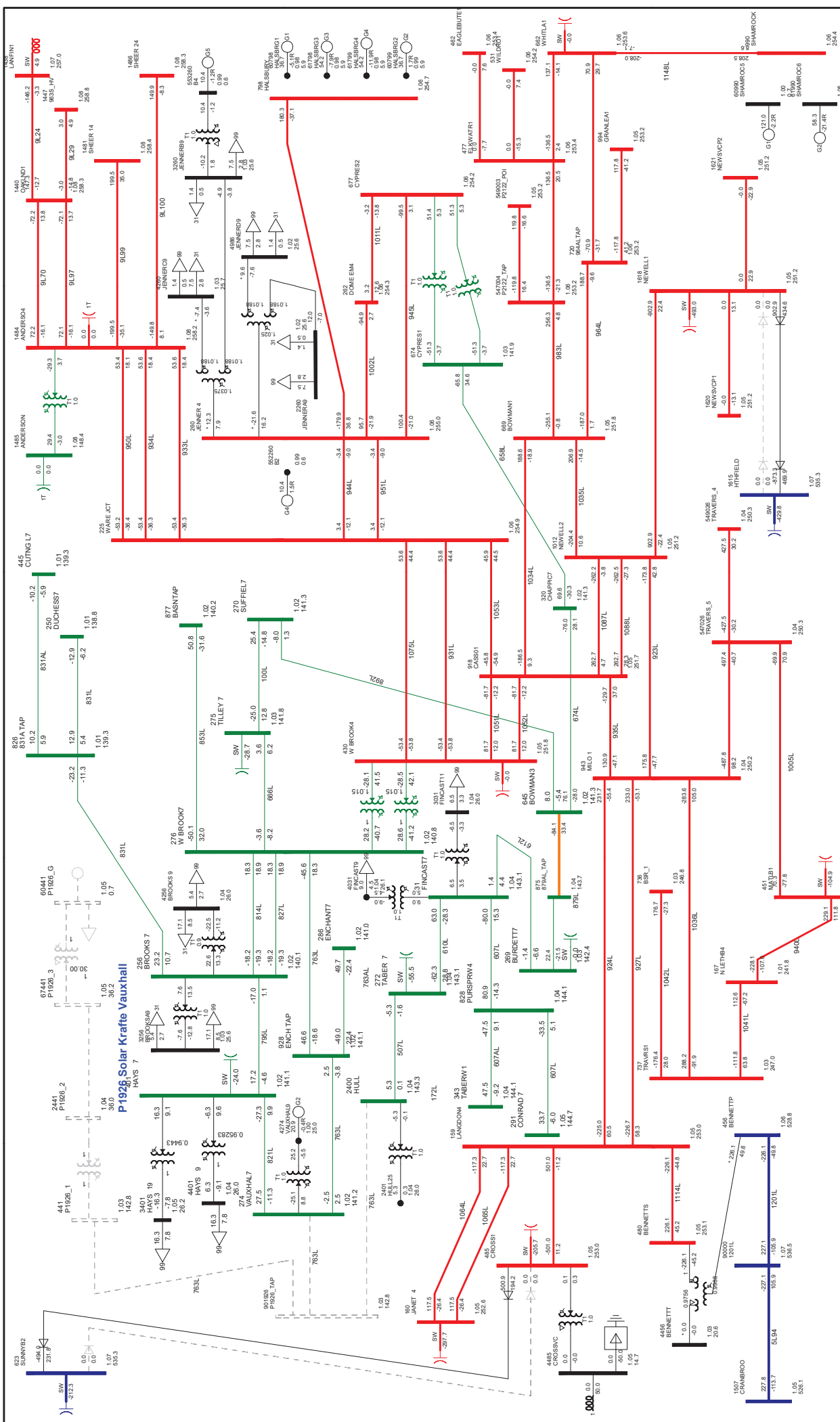


FIGURE A3.4-15 N-1: 763L (VAUXHALL 158S TO HULL 257S)
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

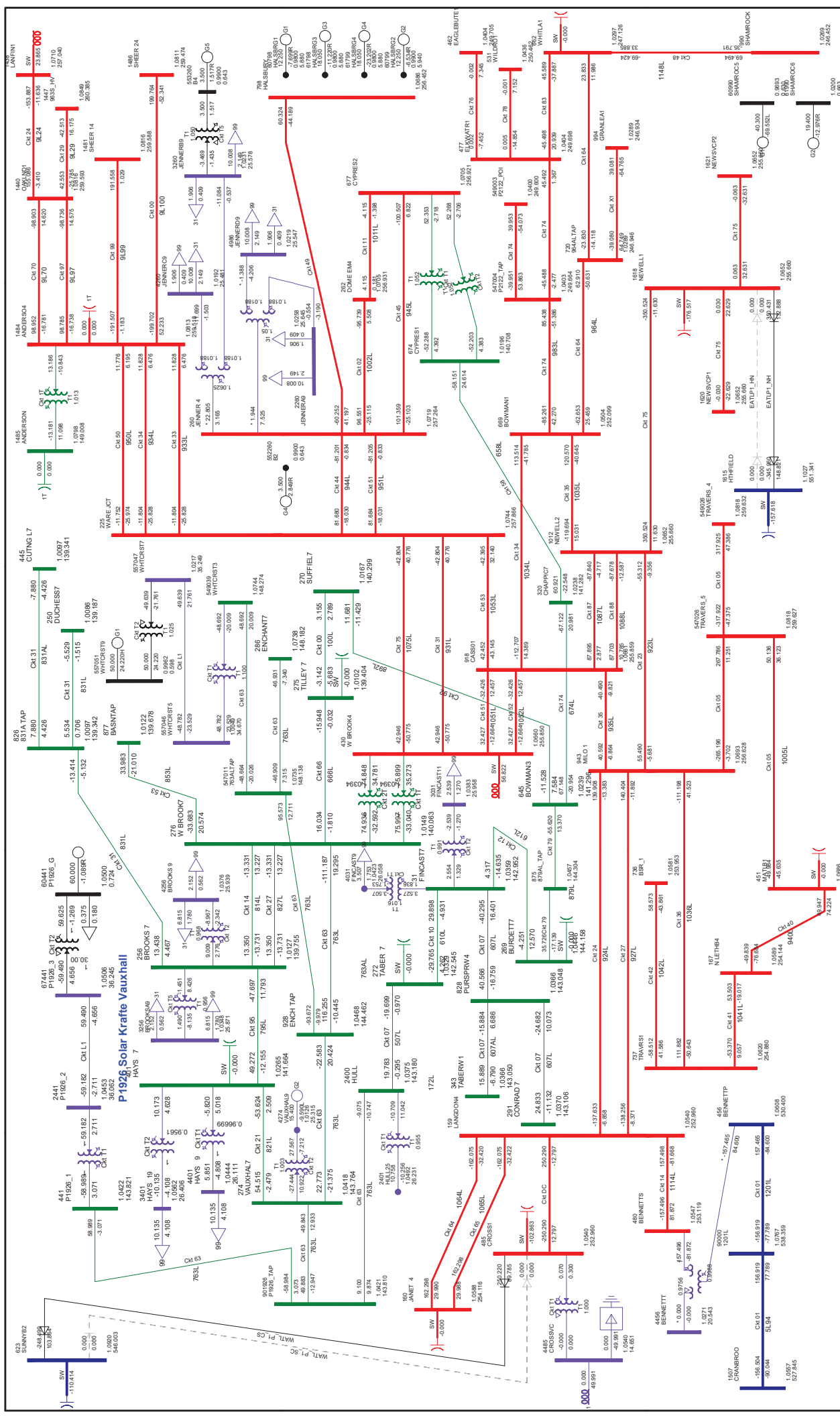
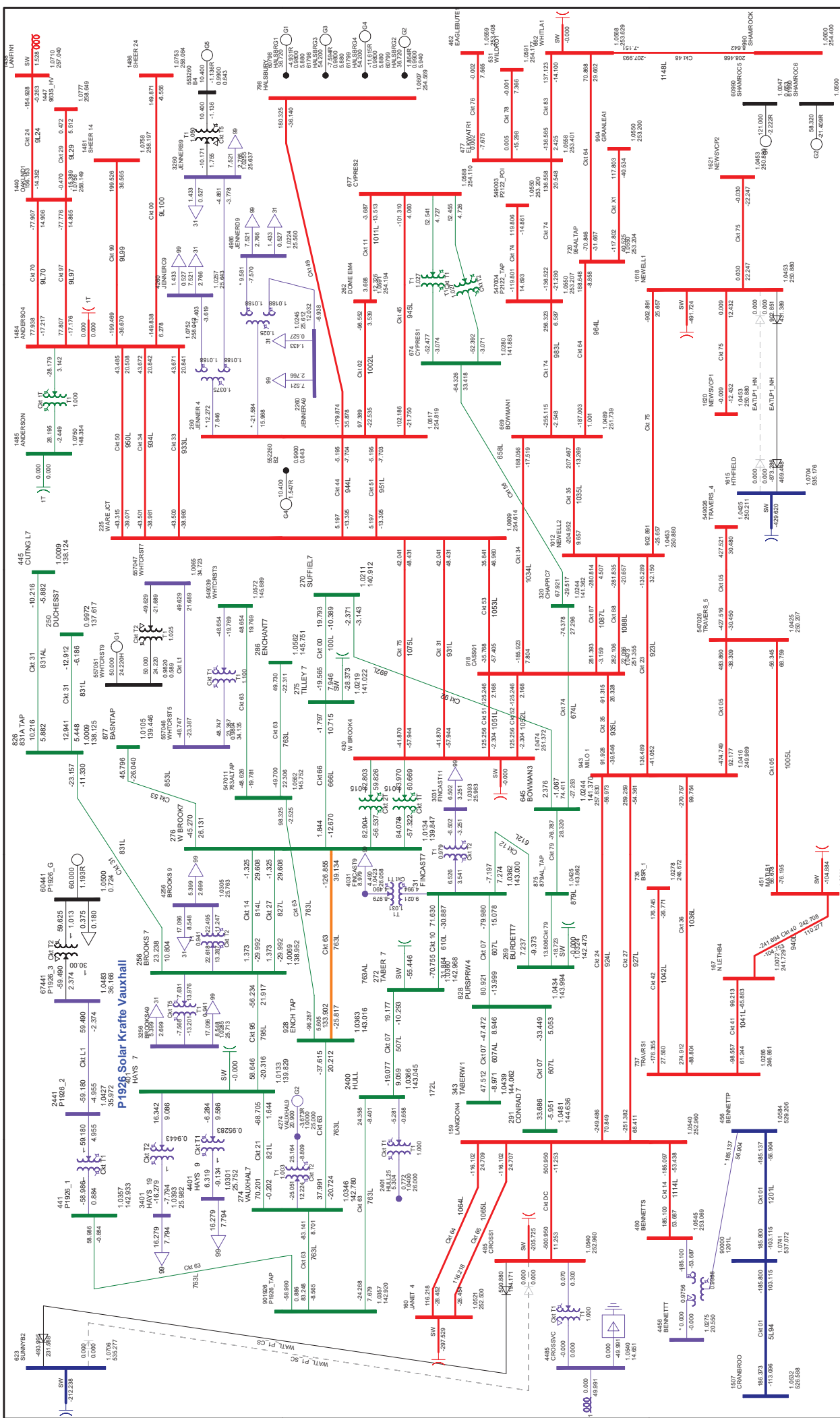


FIGURE A3.5-1-N-0: NORMAL OPERATION
2023 SUMMER LIGHT (POST-PROJECT) - P2348
PRINTED ON WEDNESDAY 06. JULY 2022



P1926 Solar Krafte VauxHall

BC Import:148,934 MW Sask Import:-150,000 MMATL Import:308,496 MW
 MA Export:-20,967 MW

FIGURE A2.6.1 N.O. NORMAL OPERATION

FIGURE A3.3-1-N-0. NORMAL OPERATION
2023 SUMMER PEAK (POST-PROJECT) - P2348
PRINTED ON WEDNESDAY 06. JULY 2022

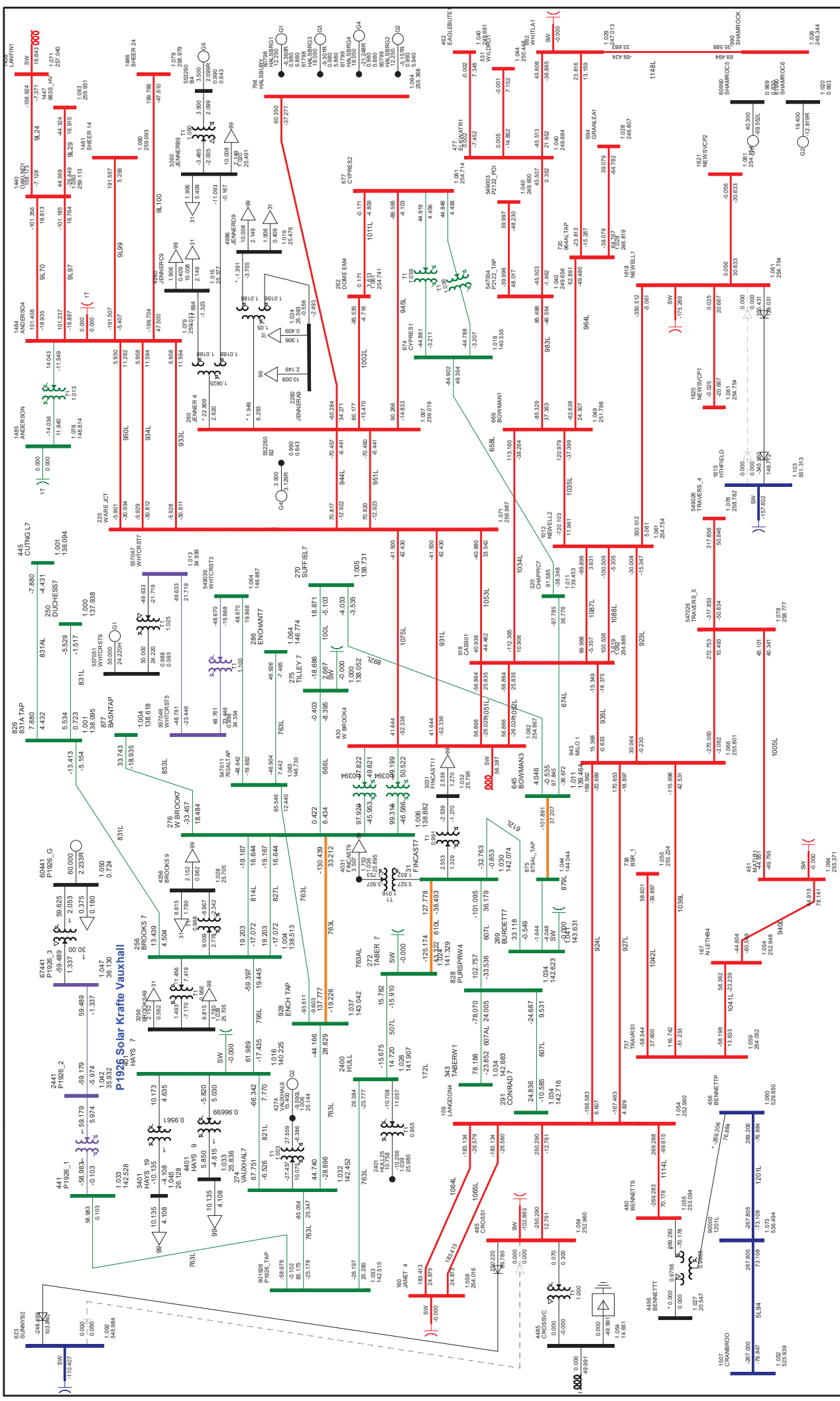


FIGURE A3.7-1-N-0: NORMAL OPERATION
2023 SUMMER LIGHT (POST-PROJECT) - HIGH TABER AND P2122 (SCENARIO 12)
PRINTED ON SUNDAY 23. APRIL 2023

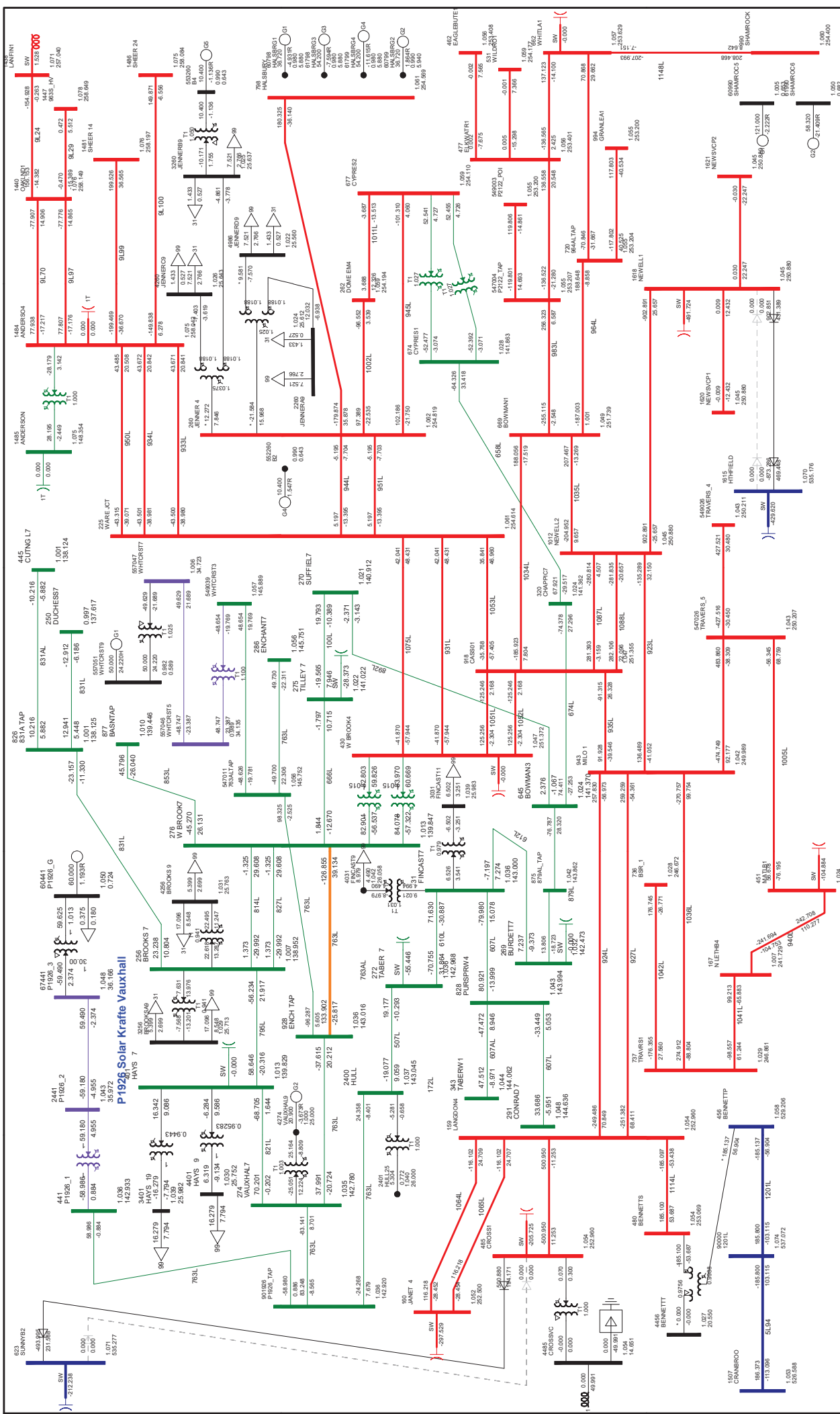


FIGURE A3.8-1-N-0: NORMAL OPERATION
2023 SUMMER PEAK (POST-PROJECT) - HIGH TABER AND P2122 (SCENARIO 13)
PRINTED ON SUNDAY 23. APRIL 2023

P1926 Solar Krafte VauxHall

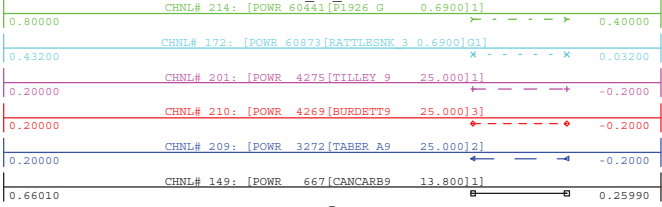
Attachment A4

Post-Project Transient Stability Diagrams

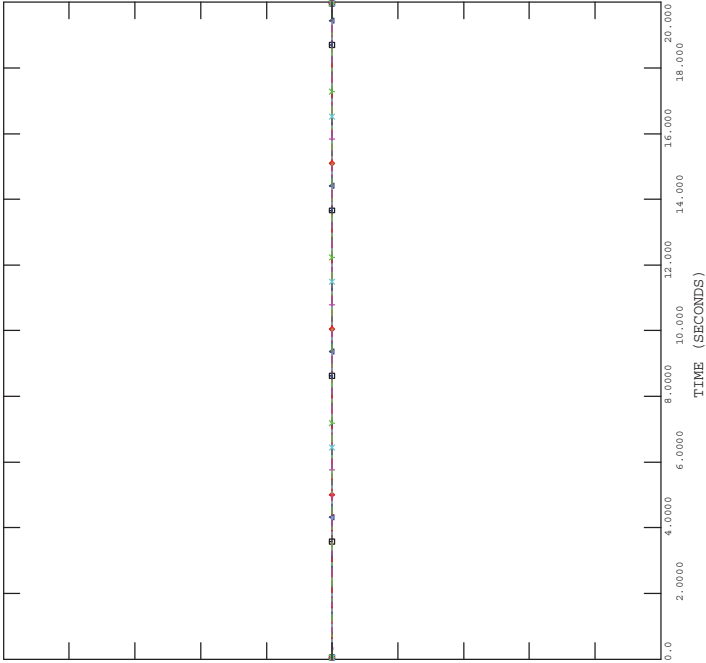


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3 SL_nofault.out

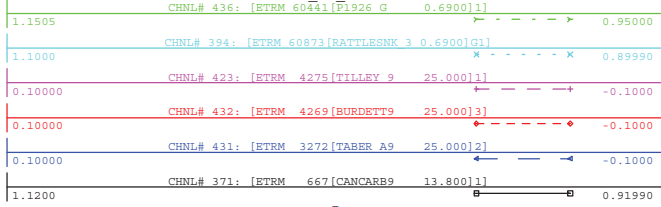


SUN, MAR 13 2022 23:50
ACTIVE POWER

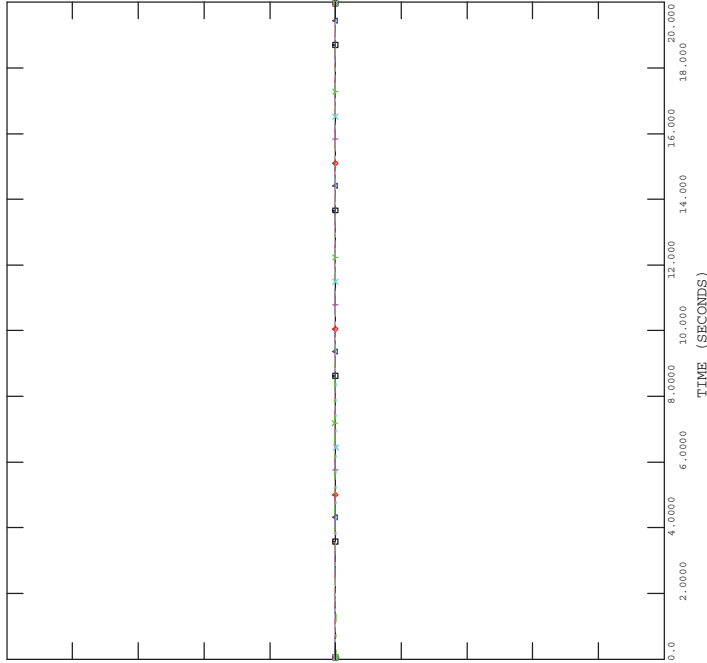


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

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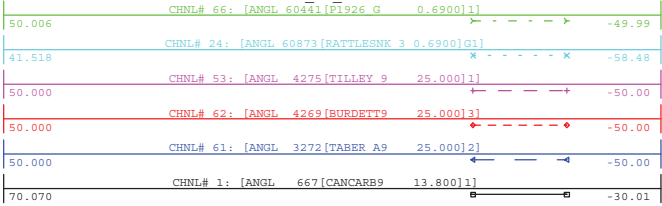


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE

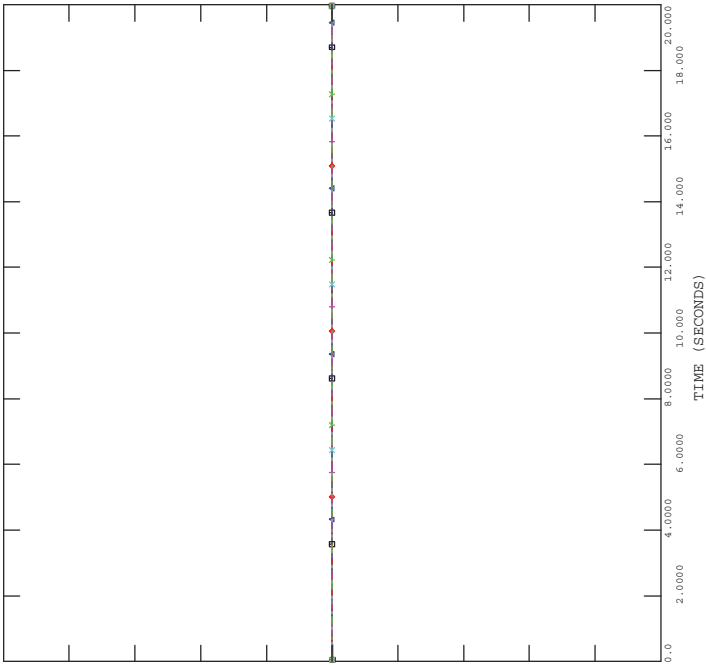


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3 SL_nofault.out

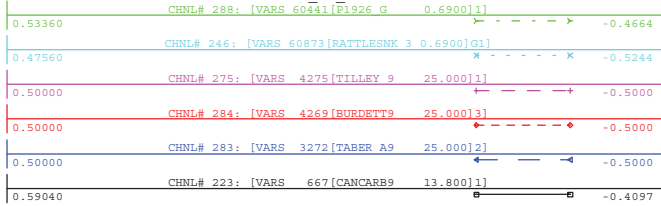


SUN, MAR 13 2022 23:50
ROTOR ANGLE

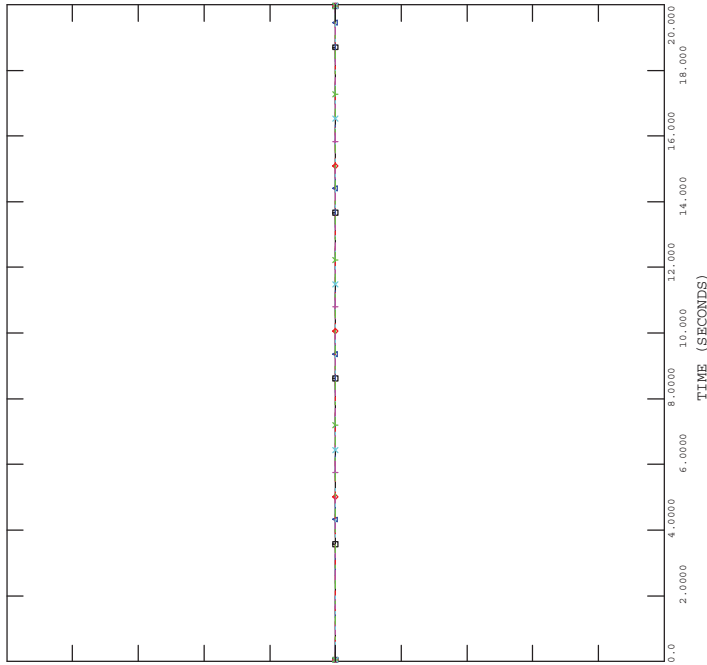


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3 SL_nofault.out



SUN, MAR 13 2022 23:50
REACTIVE POWER

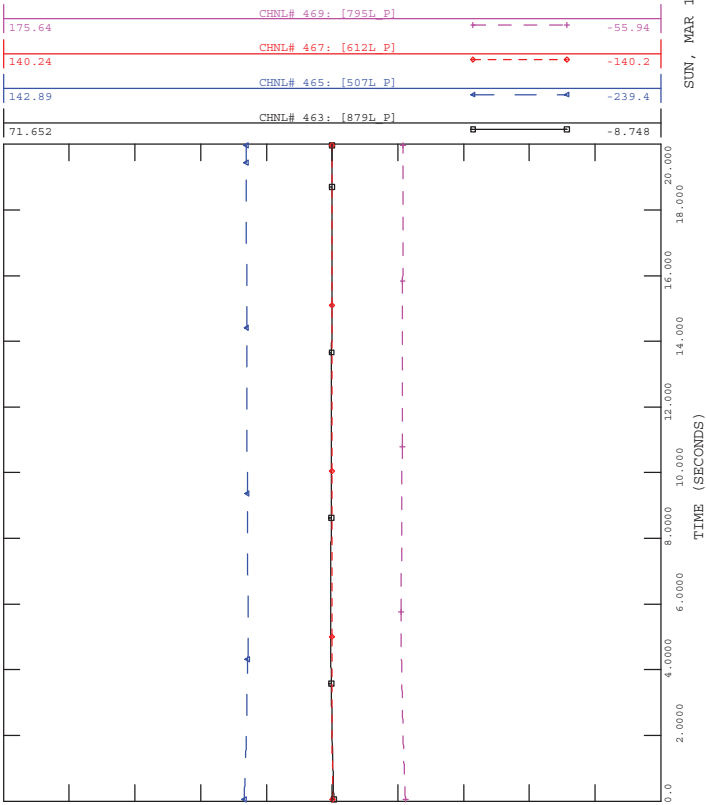




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3_SL_nofault.out

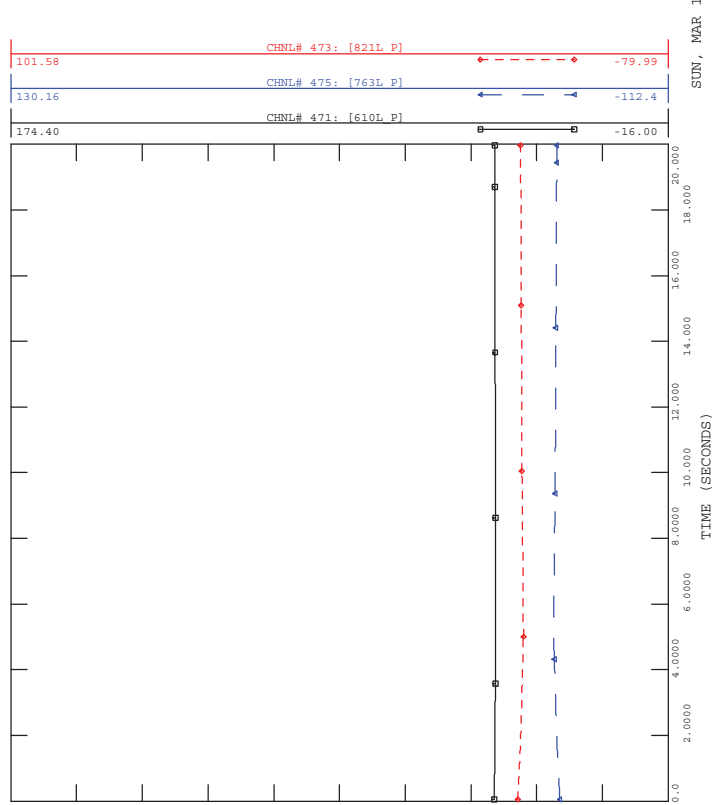
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

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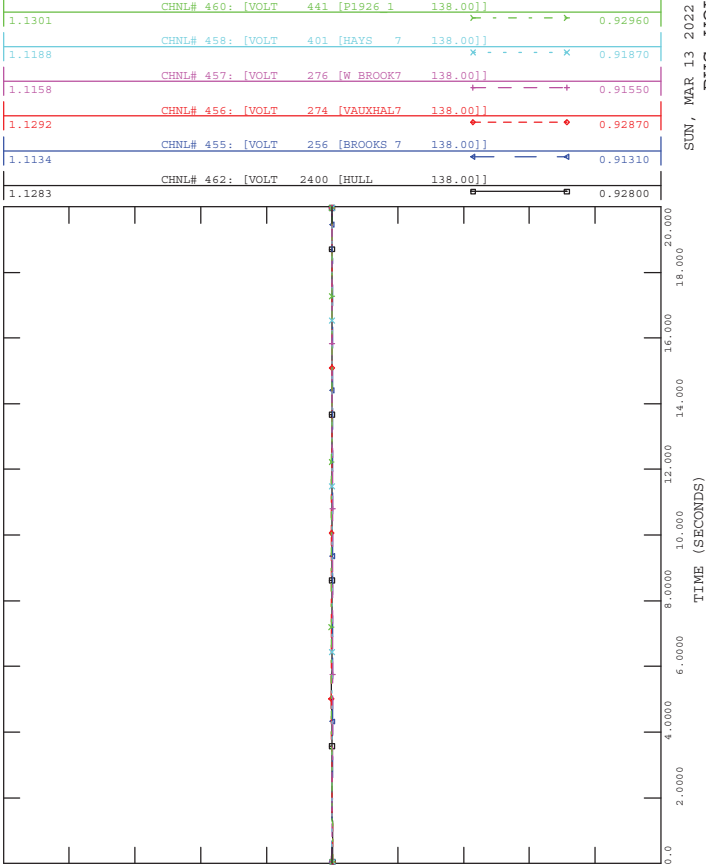
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3_SL_nofault.out

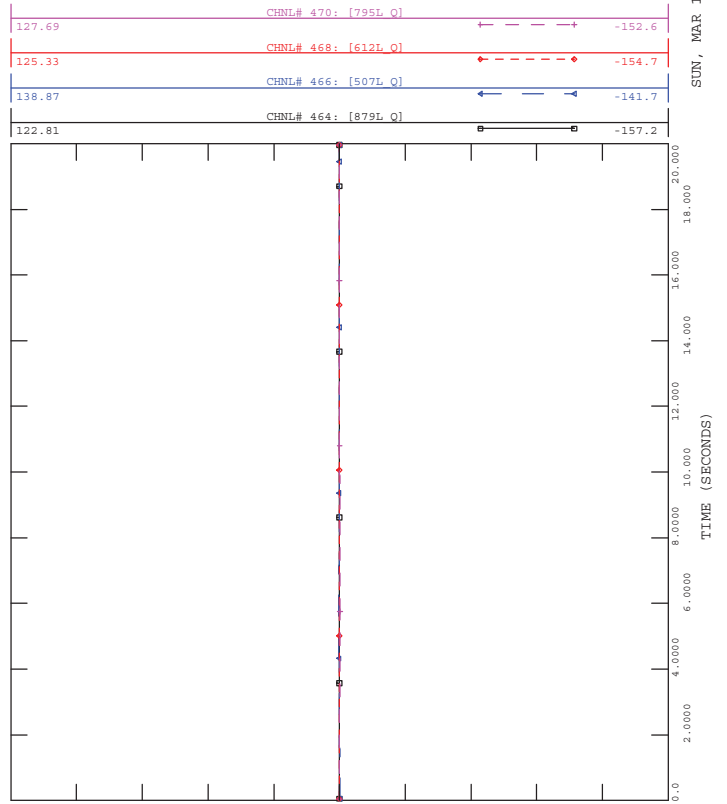
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3_SL_nofault.out

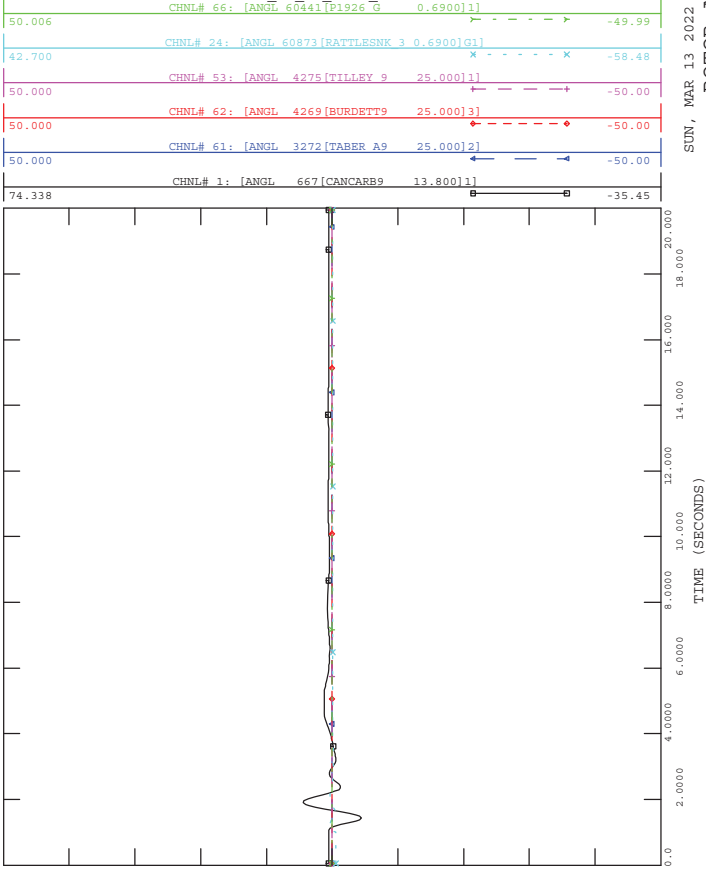
SUN, MAR 13 2022 23:50
BRANCH Q





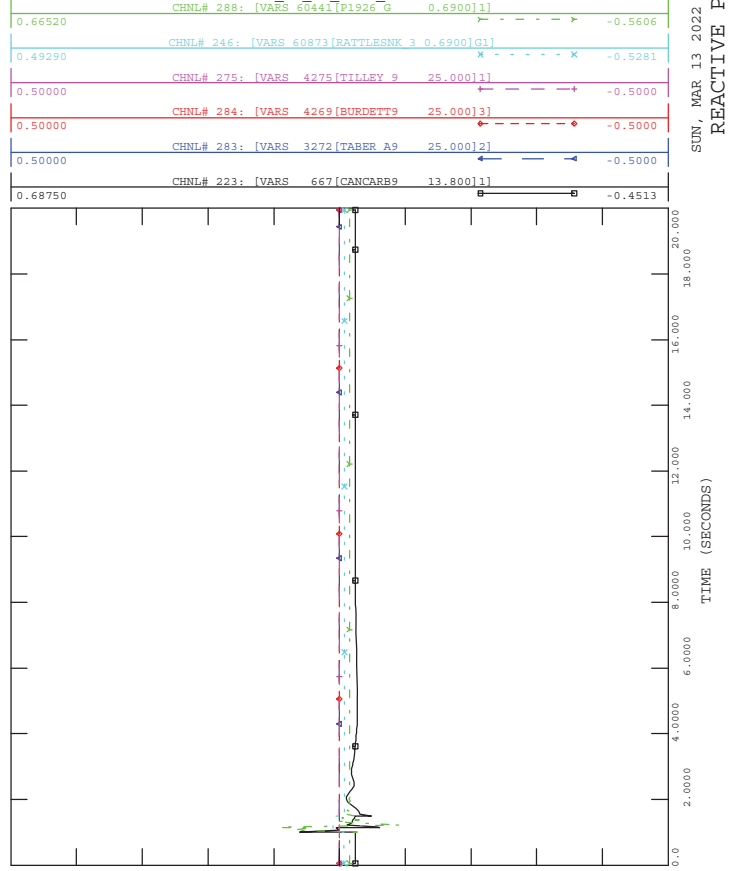
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]



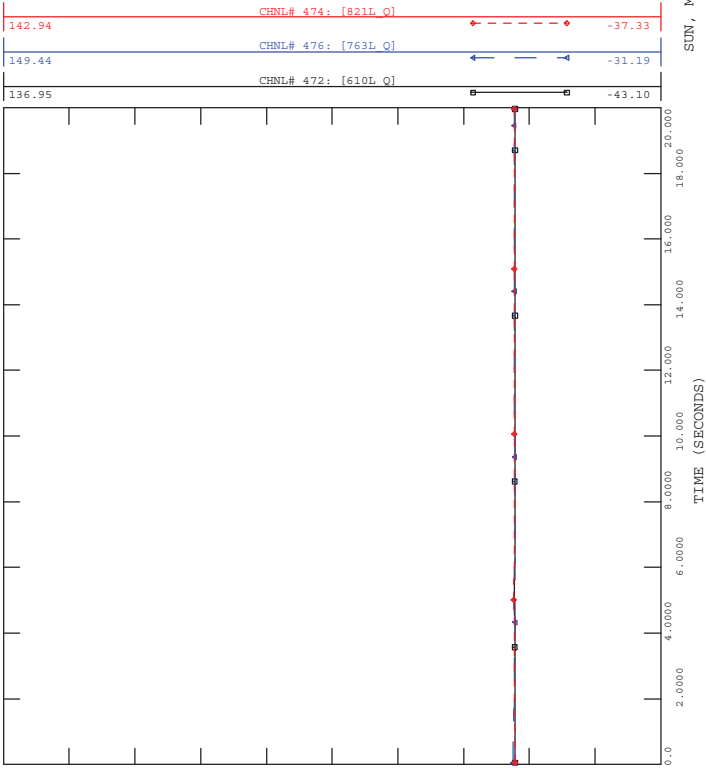
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CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



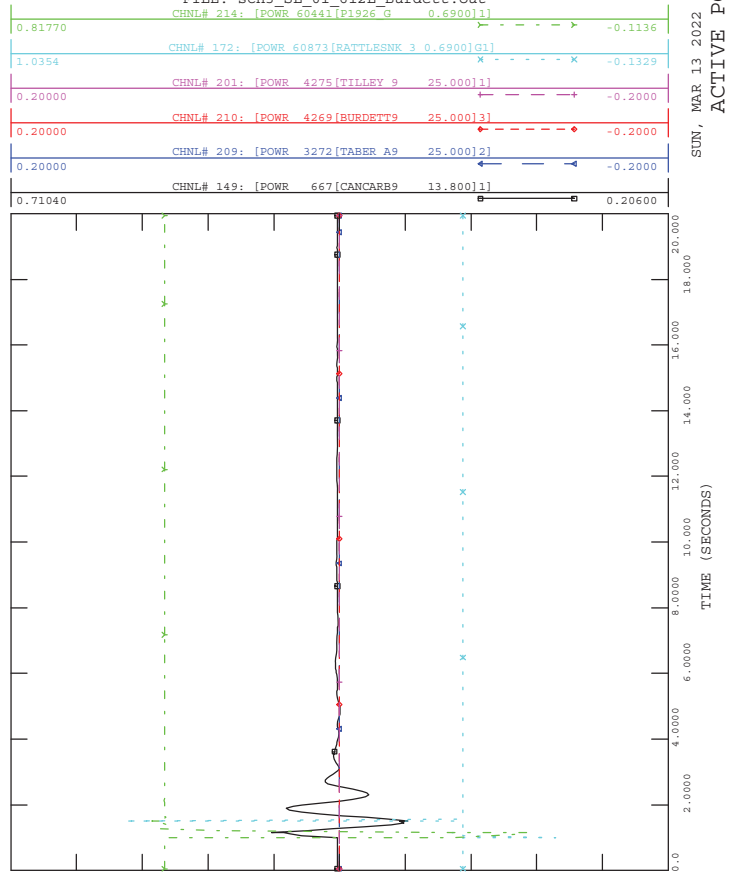
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_NOFAULT

FILE: scn3_SL_nofault.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

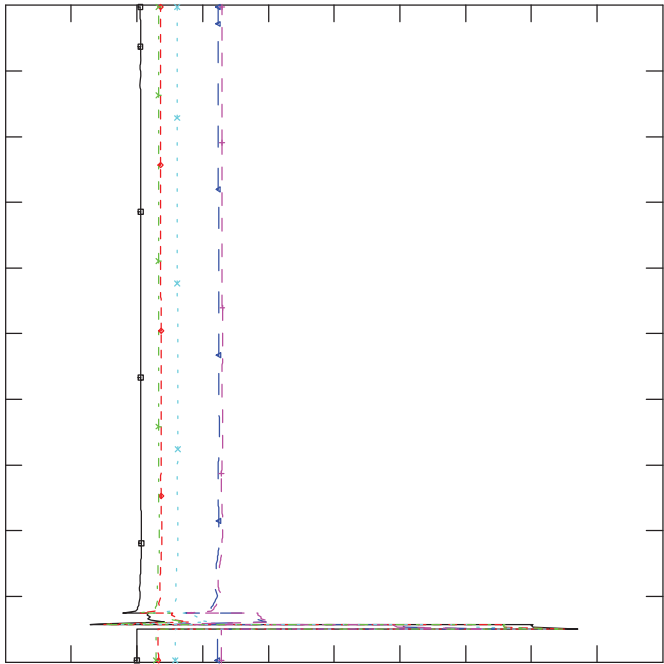




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

1.1857	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.50370
1.1689	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.58710
1.1403	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.76120
1.1848	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.51360
1.1399	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.74780
1.1830	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.40900



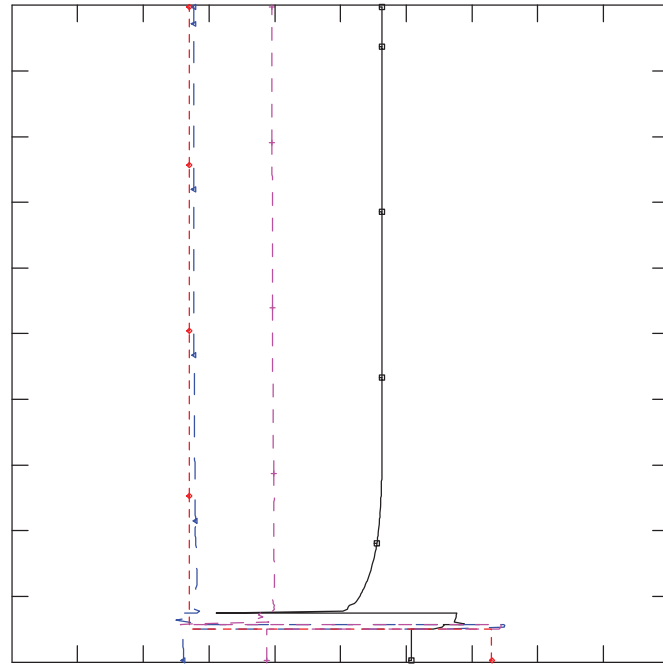
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

48.242	CHNL# 470: [795L Q]	-107.9
40.000	CHNL# 468: [612L Q]	-108.2
53.907	CHNL# 466: [507L Q]	-159.2
60.933	CHNL# 464: [879L Q]	-67.60



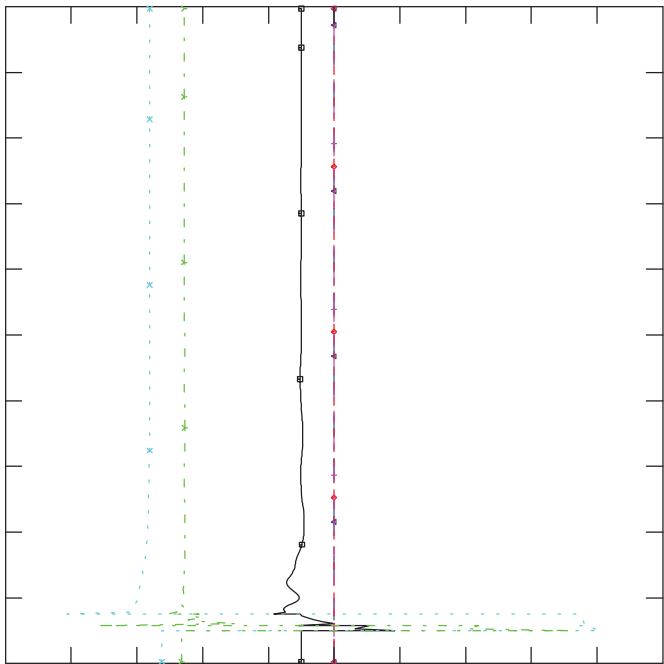
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

1.2452	CHNL# 436: [ETRM 60441[P1926 Q 0.6900]]	0.51770
1.2531	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.18930
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1303	CHNL# 371: [ETRM 667[CANCARB9 13.800]]	0.88500



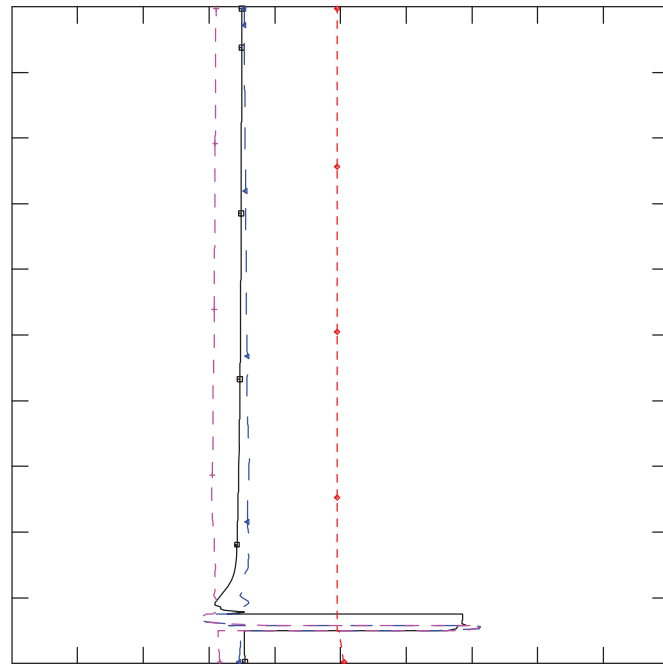
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

78.279	CHNL# 469: [795L P]	-61.49
40.000	CHNL# 467: [612L P]	-40.85
50.991	CHNL# 465: [507L P]	-88.31
77.181	CHNL# 463: [879L P]	-52.43



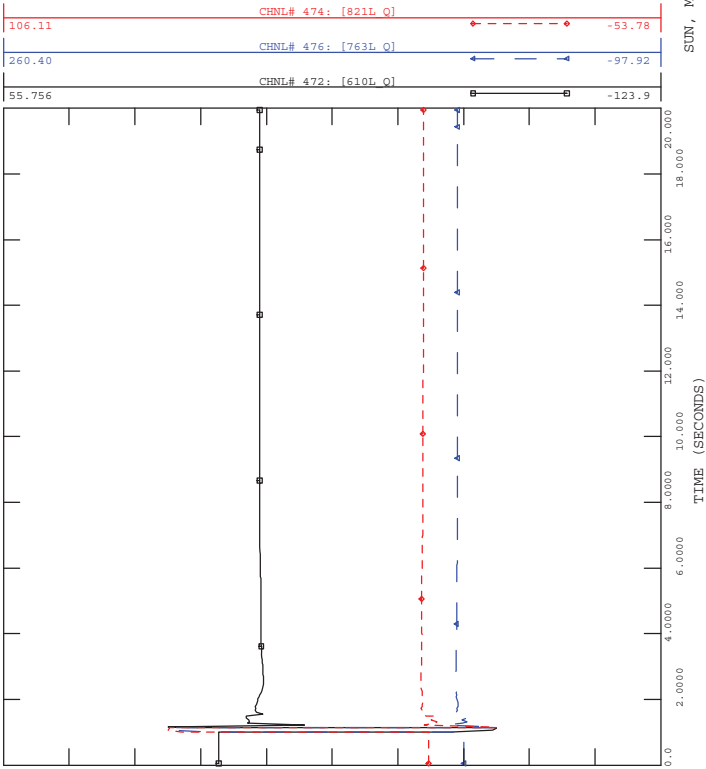
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

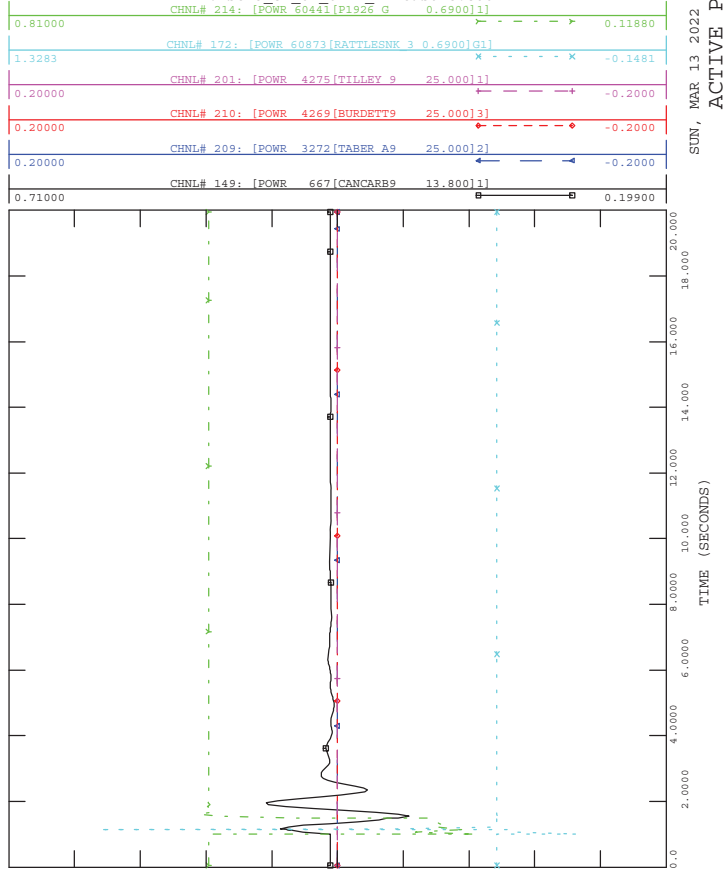
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out

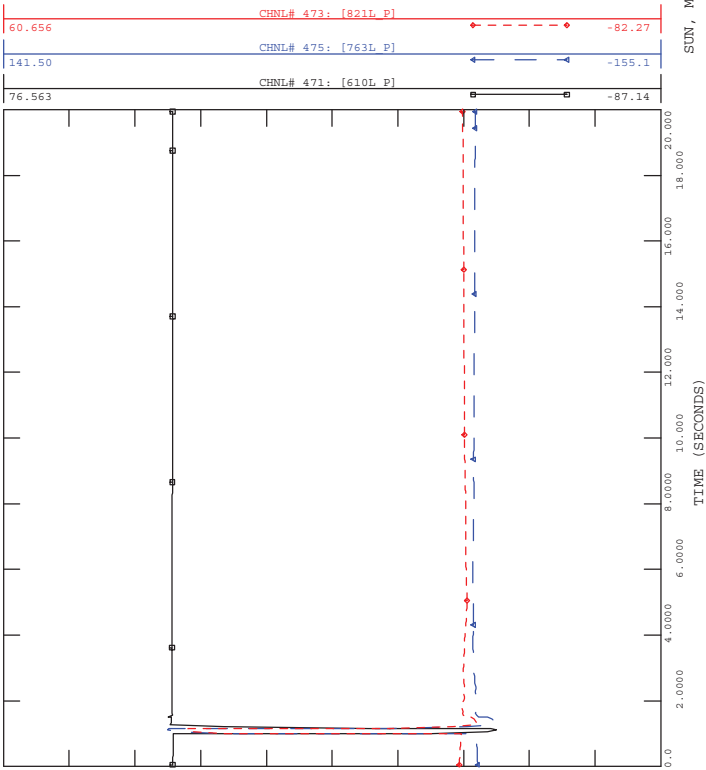
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_01_612L_BURDETT

FILE: scn3_SL_01_612L_Burdett.out

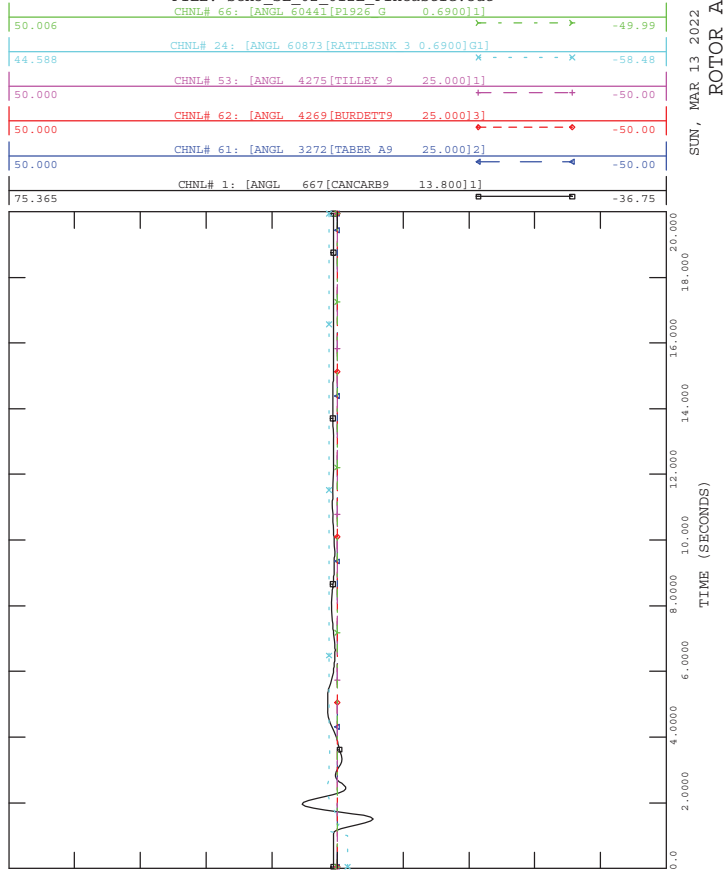
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out

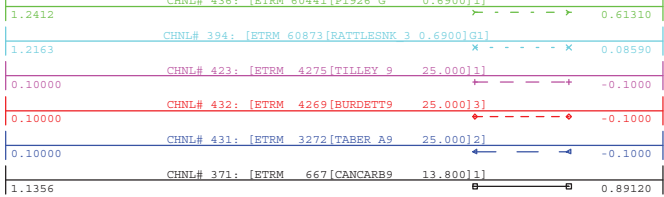
SUN, MAR 13 2022 23:50
ROTOR ANGLE





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out
CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]

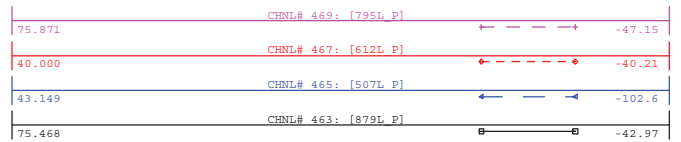


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out

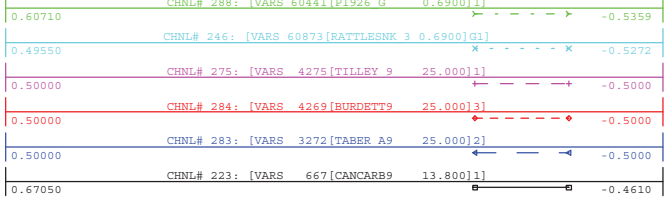


SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

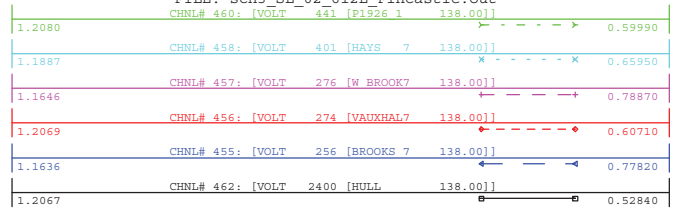


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out



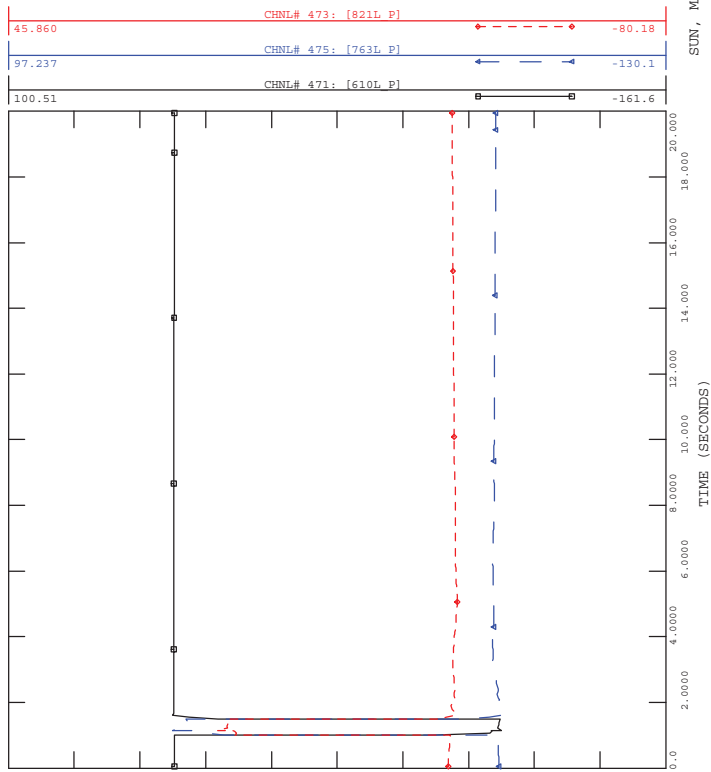
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_02_612L_FINCATTLE

FILE: scn3_SL_02_612L_Fincastle.out

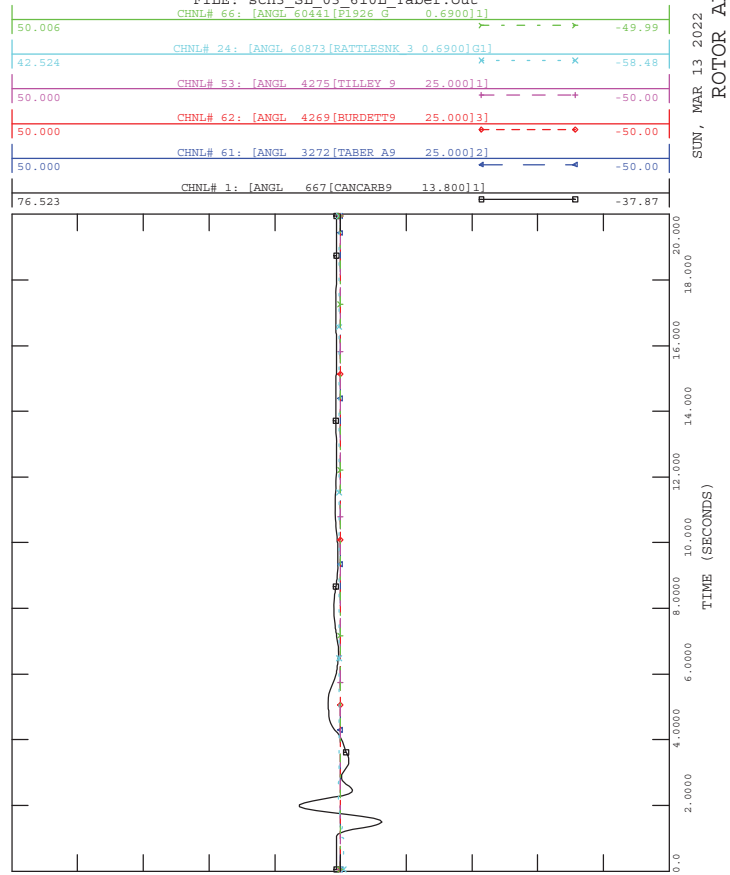
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_03_610L_TABER

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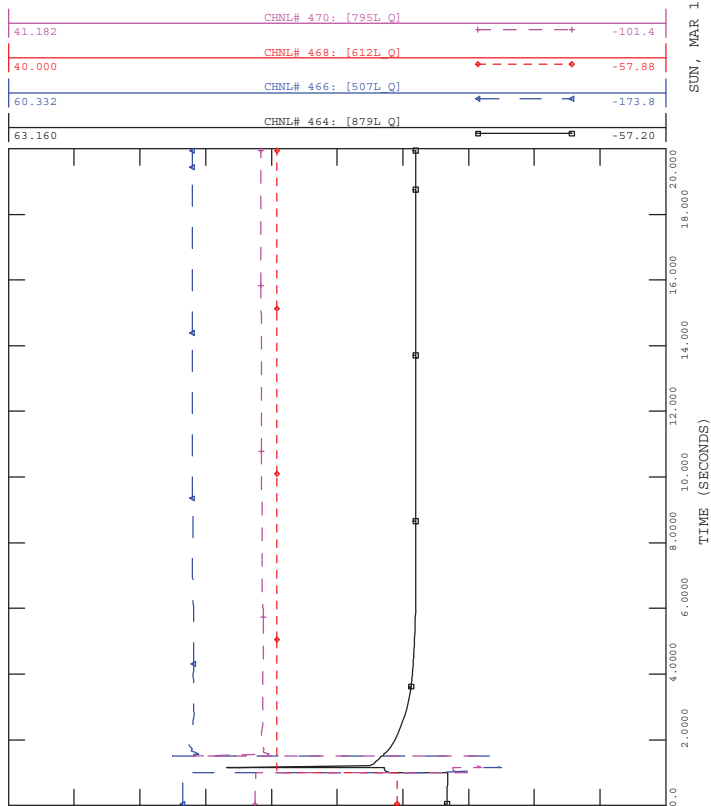
SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn3_SL_02_612L_Fincastle.out

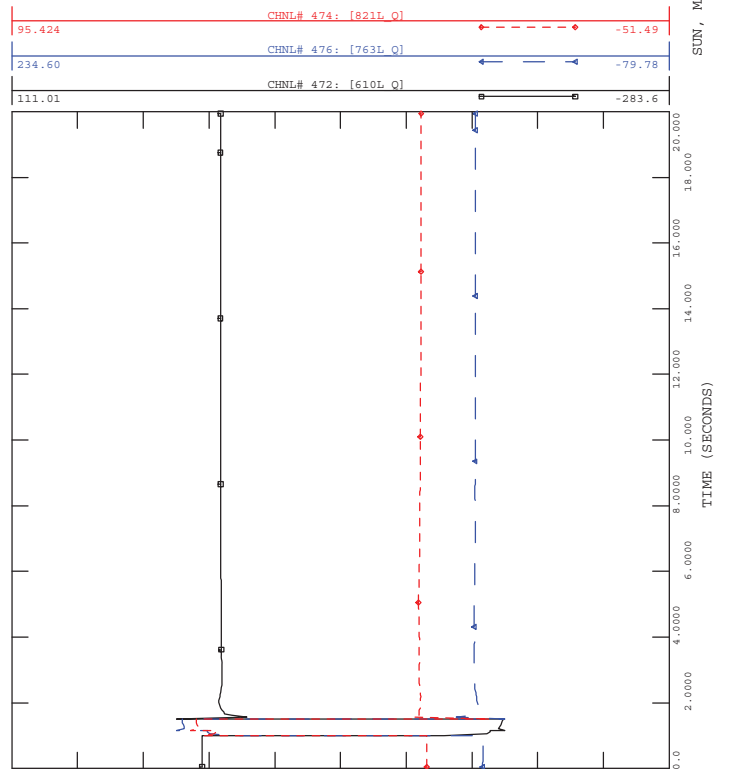
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn3_SL_02_612L_Fincastle.out

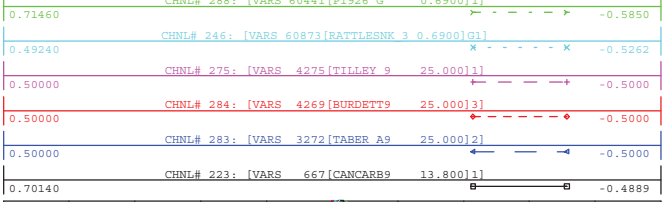
SUN, MAR 13 2022 23:50
BRANCH Q



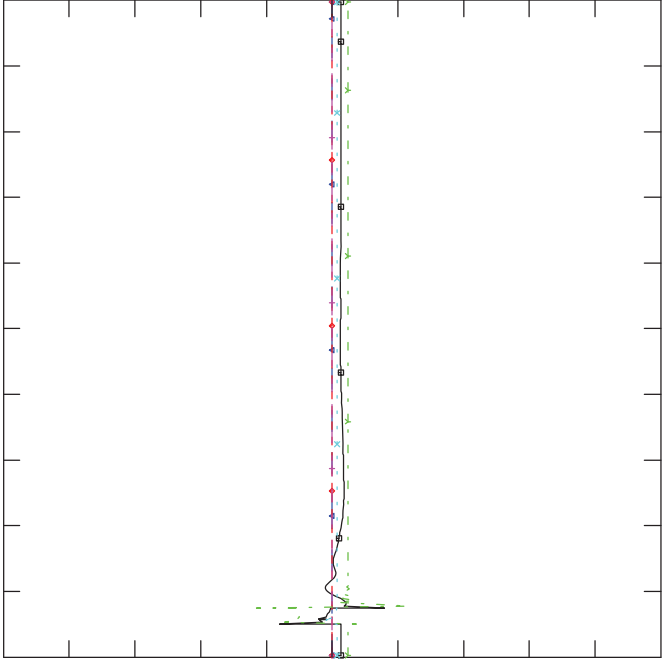


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_03_610L_TABER

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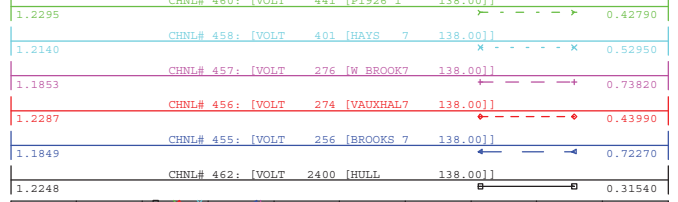


SUN, MAR 13 2022 23:50
REACTIVE POWER

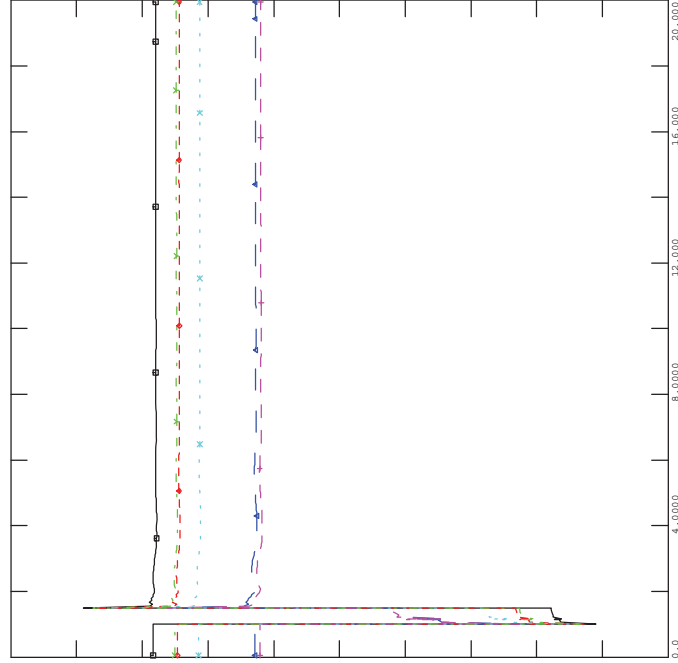


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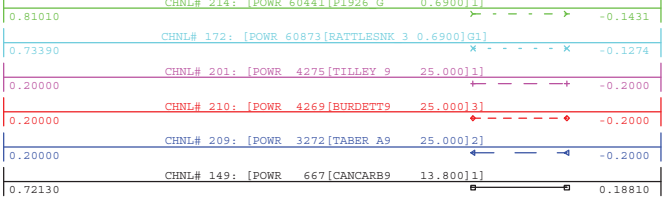


SUN, MAR 13 2022 23:50
BUS VOLTAGE

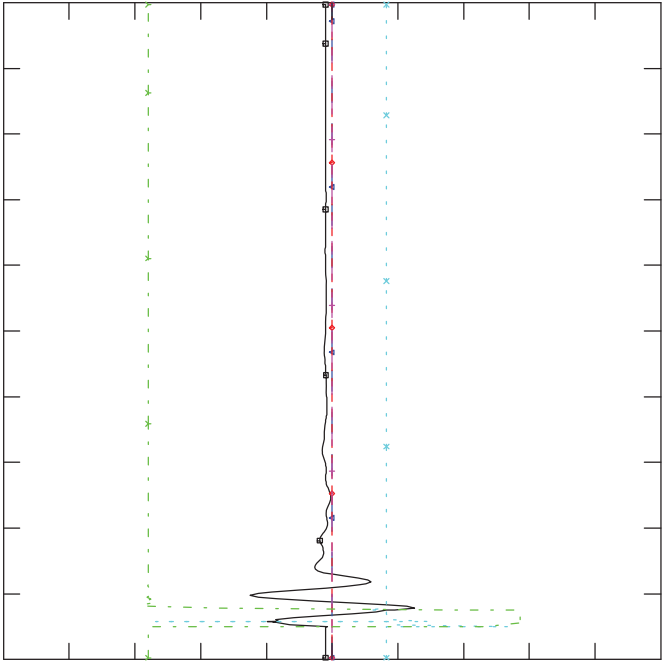


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CONTINGENCY -SCN3_SL_03_610L_TABER

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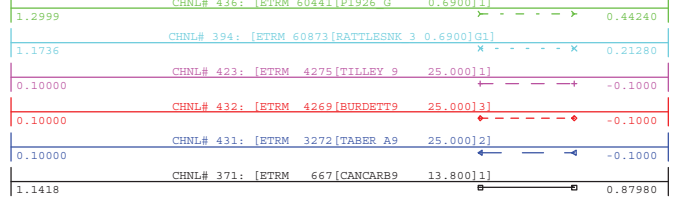


SUN, MAR 13 2022 23:50
ACTIVE POWER

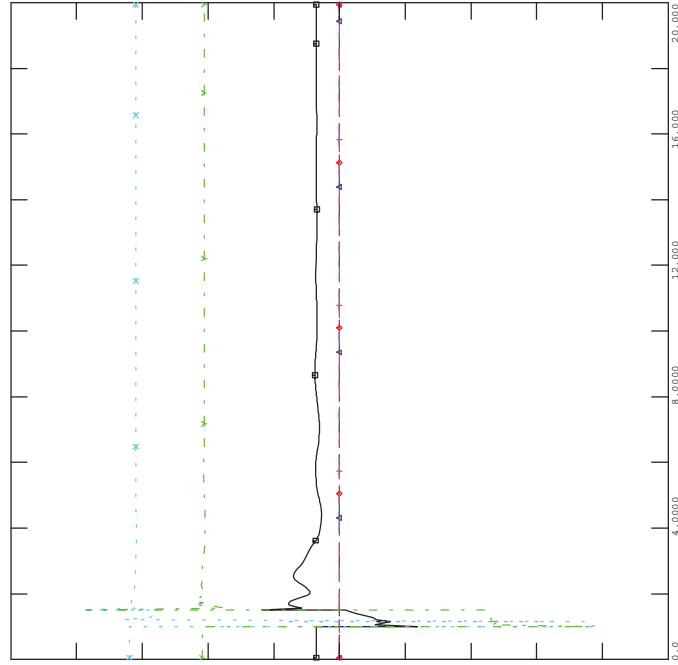


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_03_610L_TABER

FILE: scn3_SL_03_610L_Taber.out



SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE

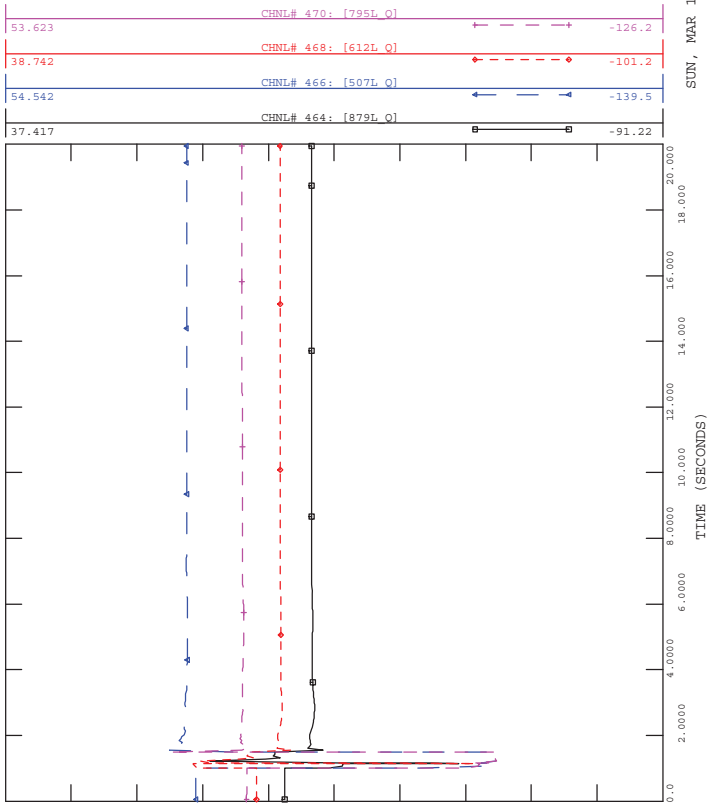




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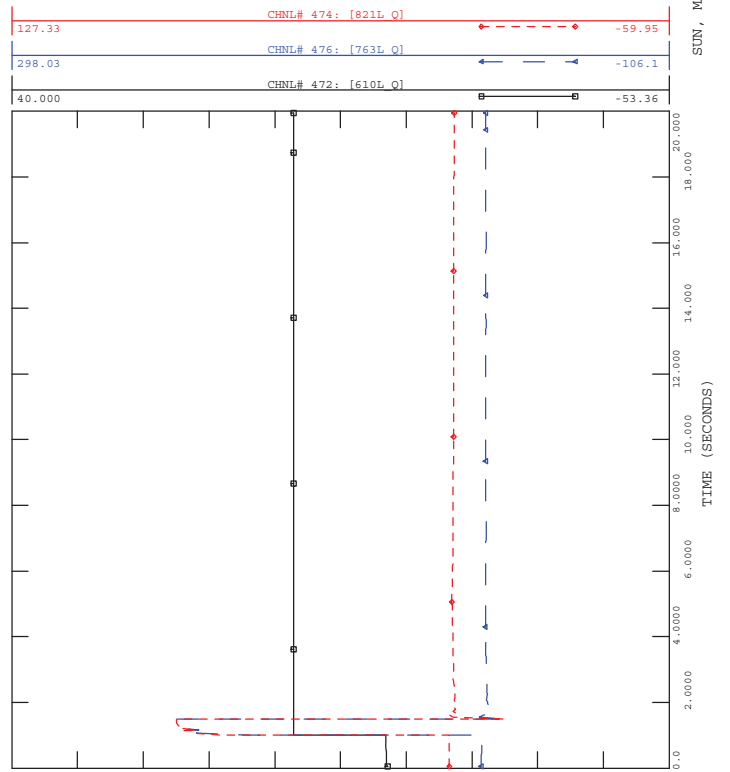
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_03_610L_TABER

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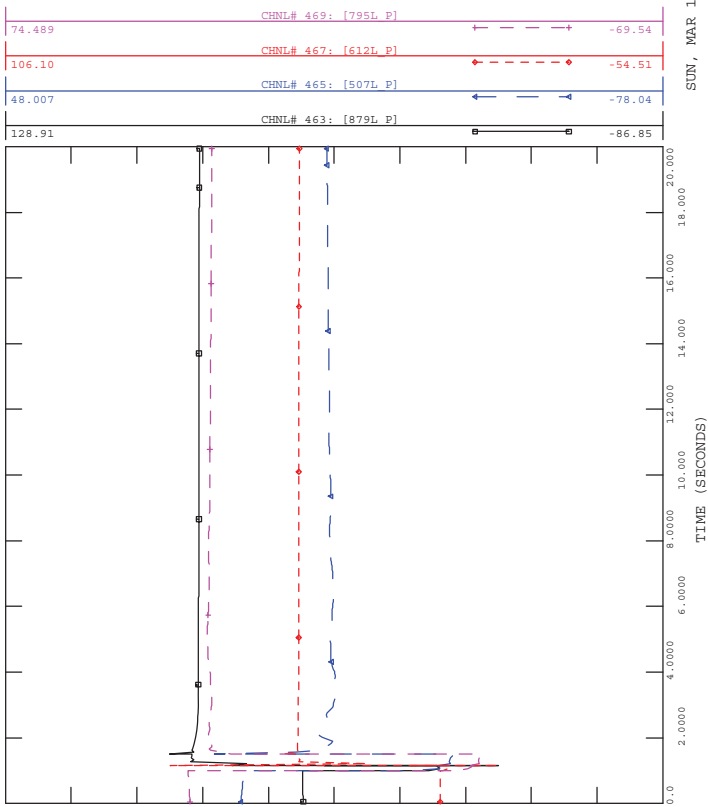
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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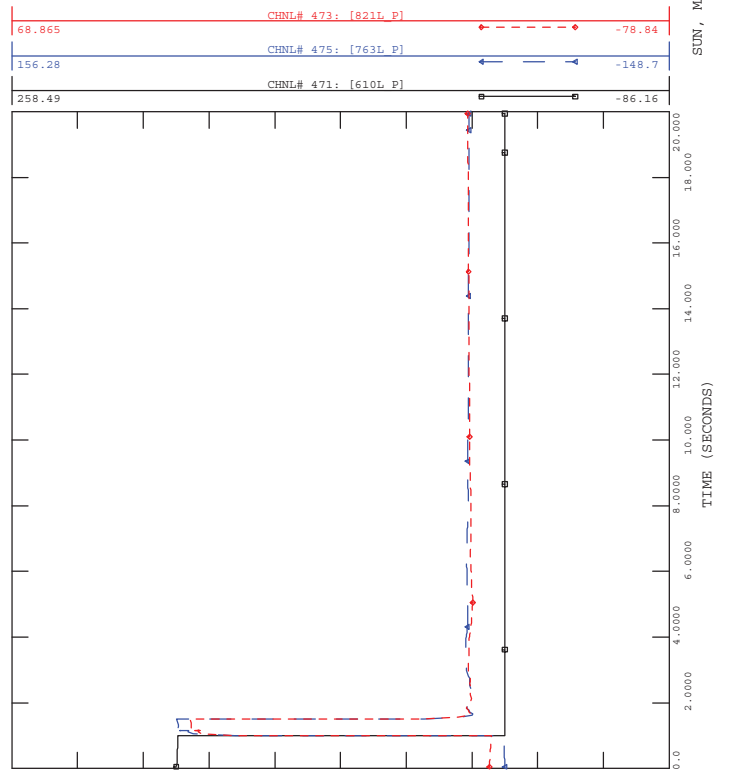
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_03_610L_TABER

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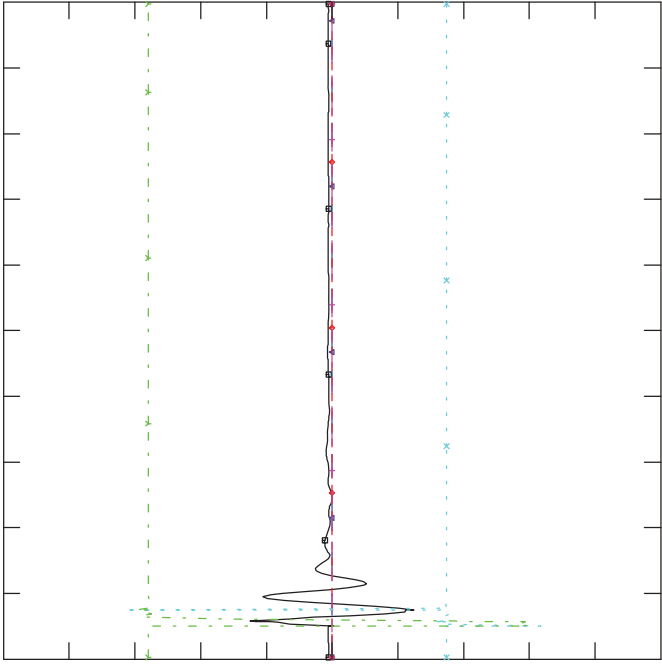
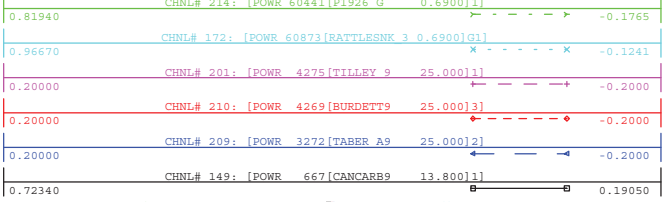
SUN, MAR 13 2022 23:50
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

FILE: scn3 SL 04 610L Fincastle.out

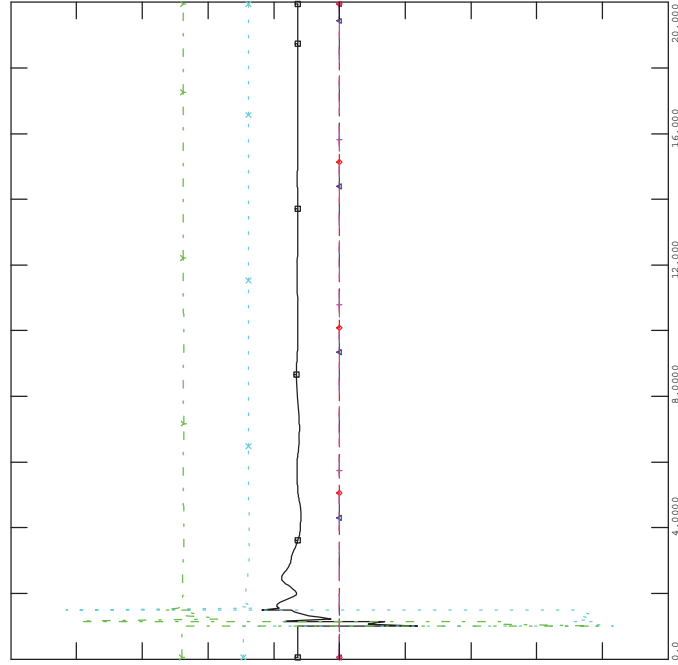
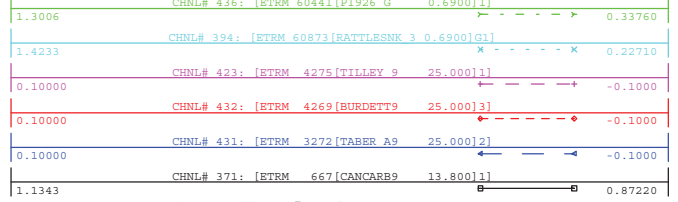


SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

FILE: scn3 SL 04 610L Fincastle.out

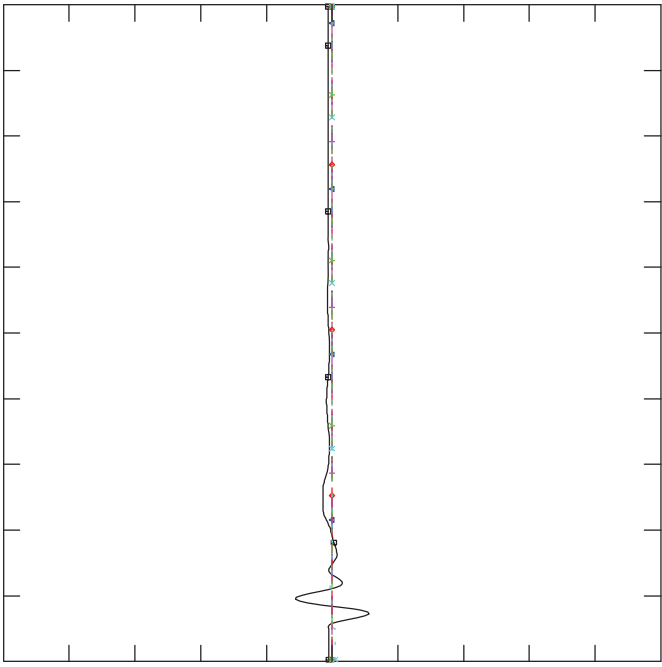
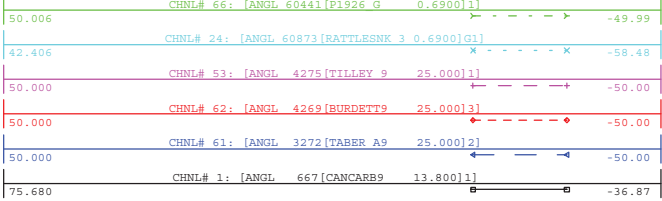


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

FILE: scn3 SL 04 610L Fincastle.out

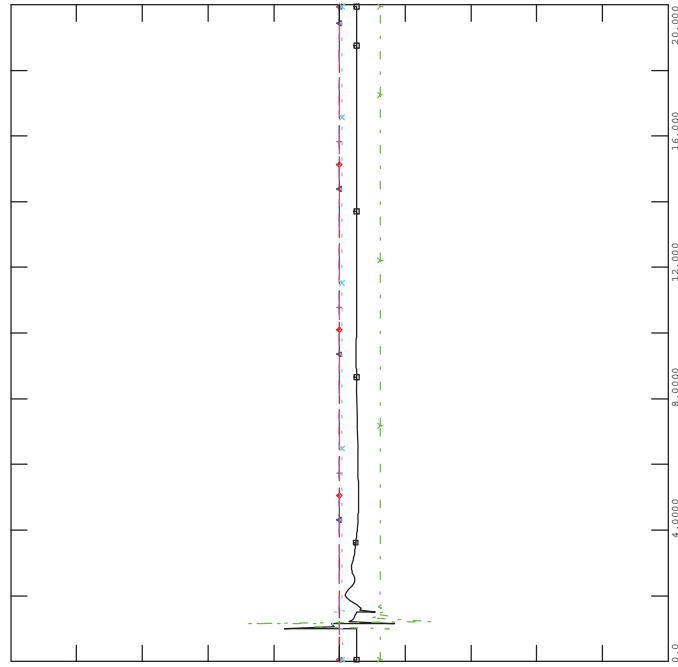
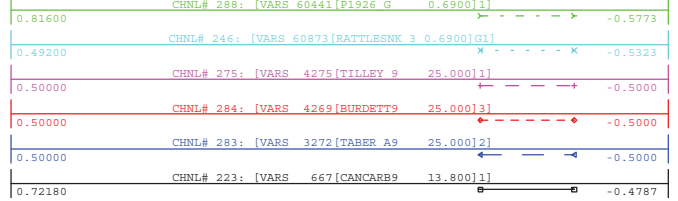


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

FILE: scn3 SL 04 610L Fincastle.out



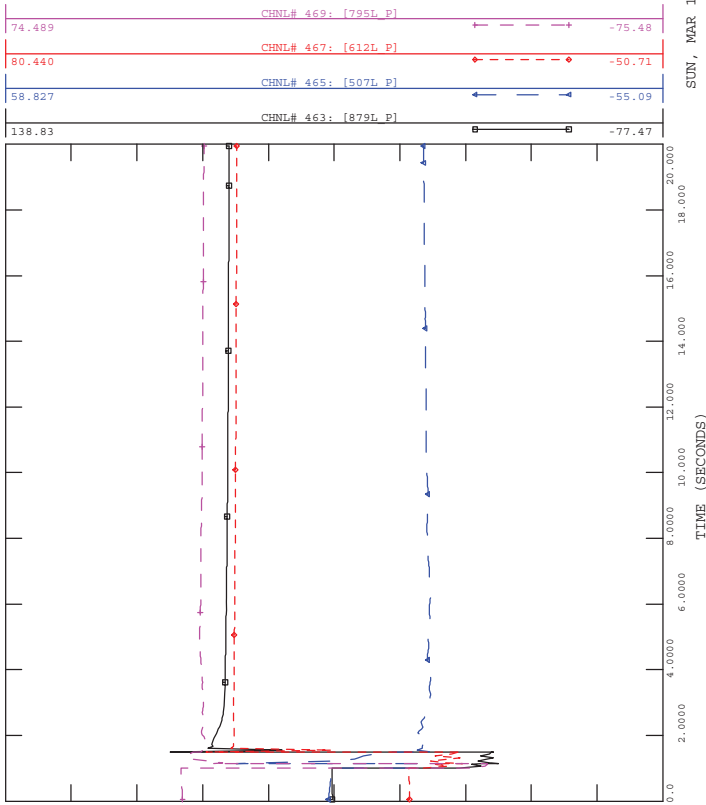
SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
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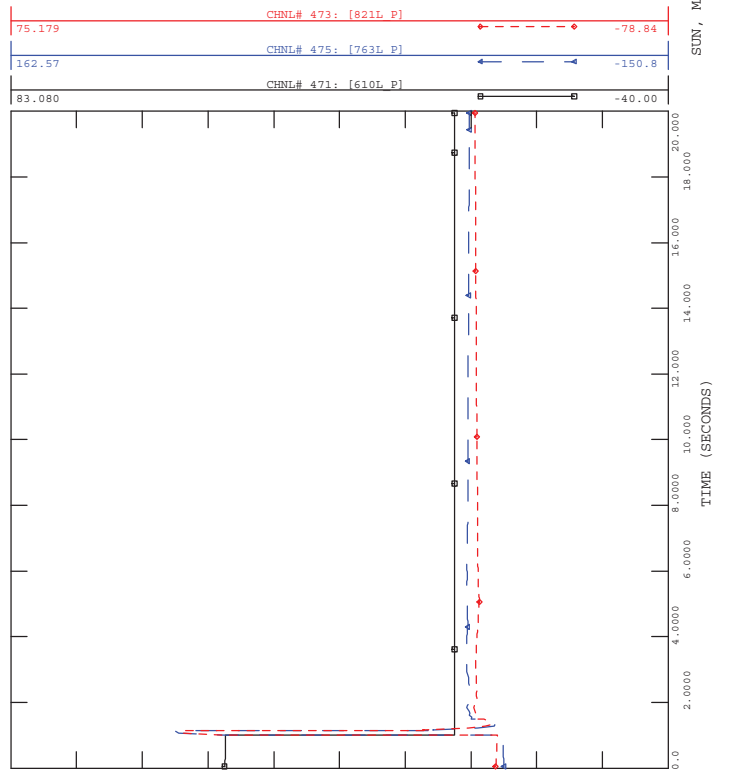
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

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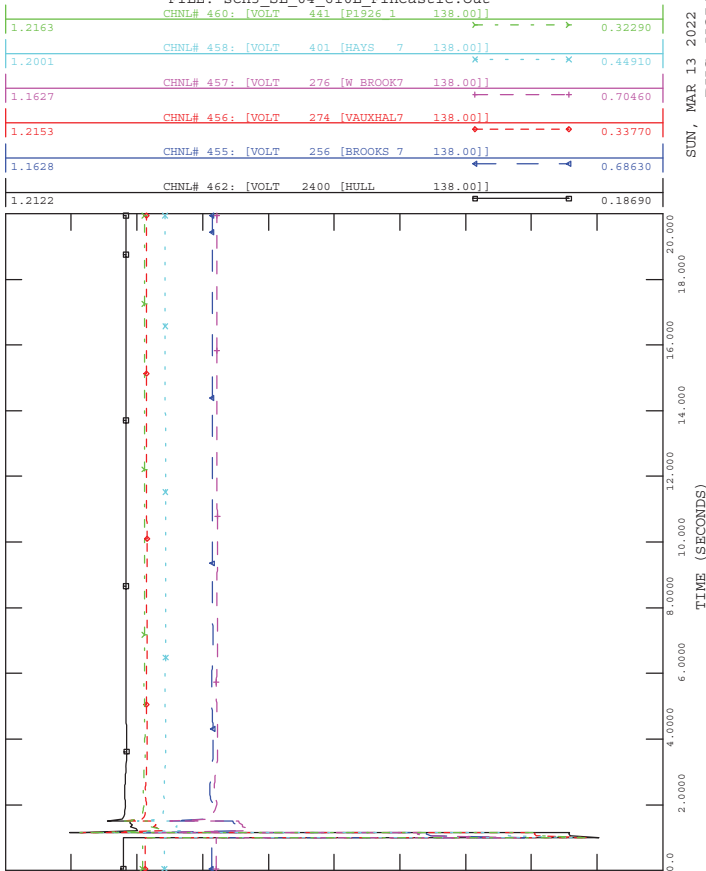
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

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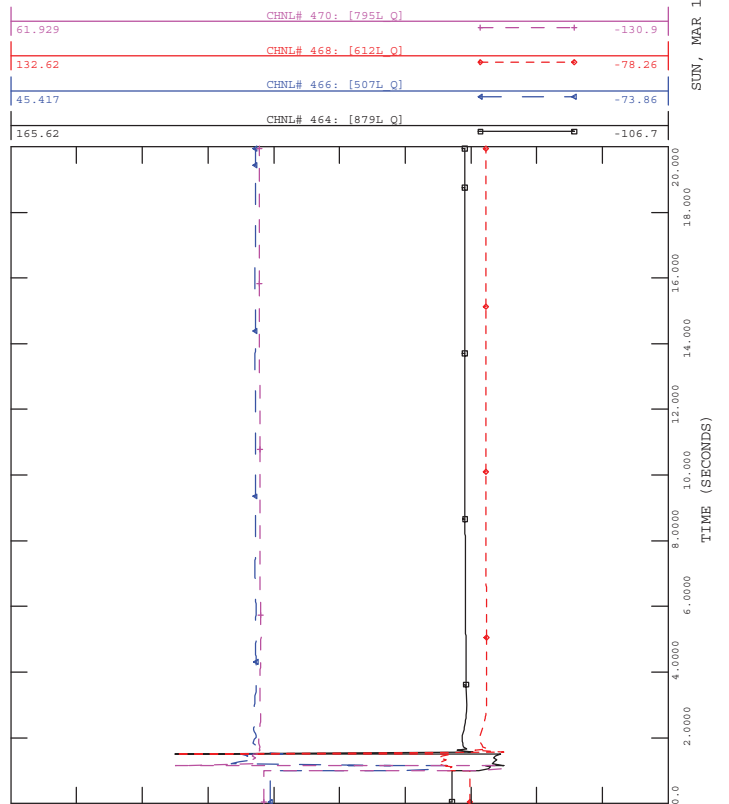
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

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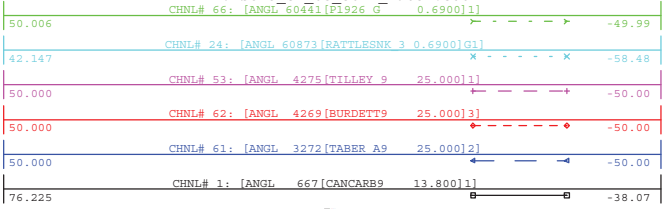
SUN, MAR 13 2022 23:50
BRANCH Q



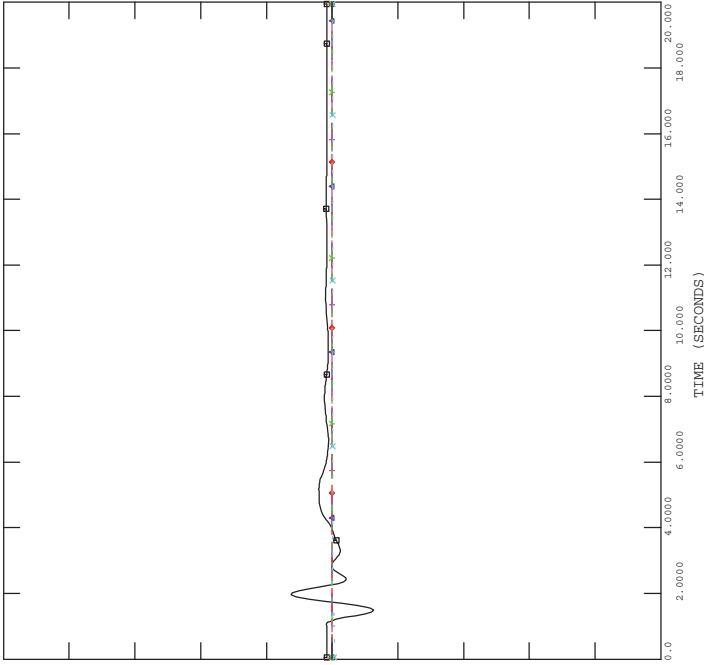


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

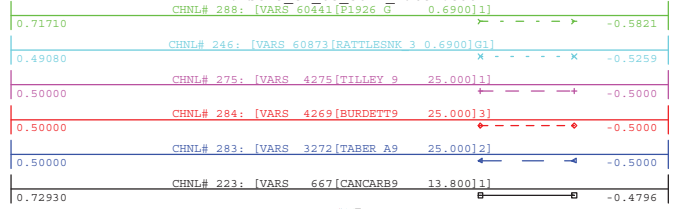


SUN, MAR 13 2022 23:50
ROTOR ANGLE

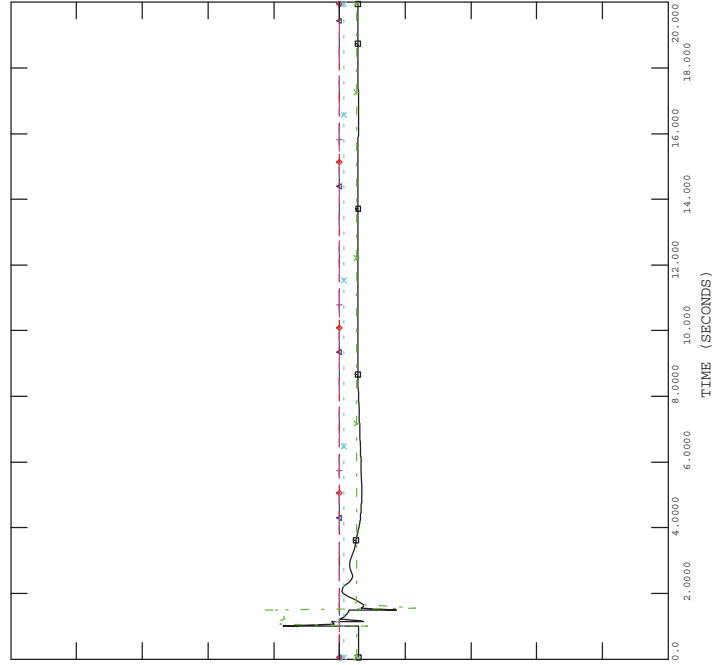


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

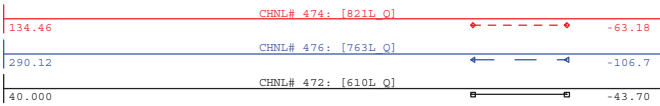


SUN, MAR 13 2022 23:50
REACTIVE POWER

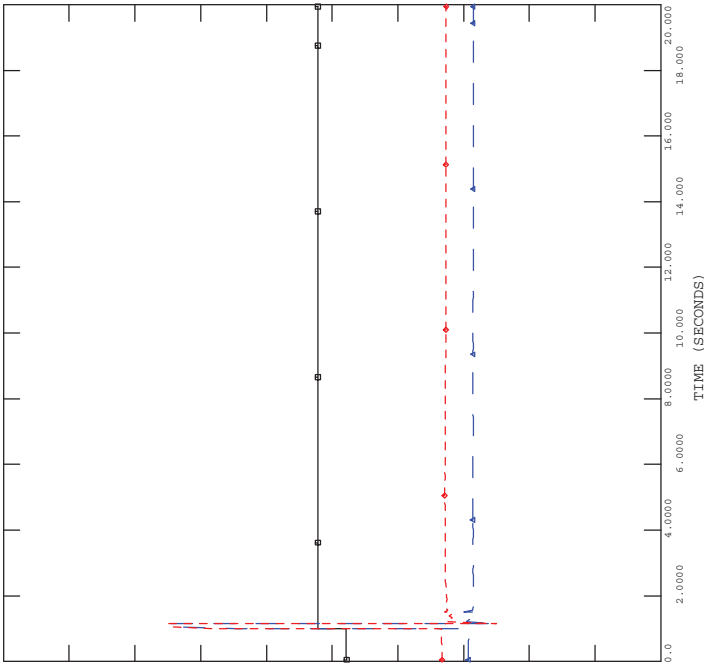


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_04_610L_FINCATTLE

FILE: scn3_SL_04_610L_Fincastle.out

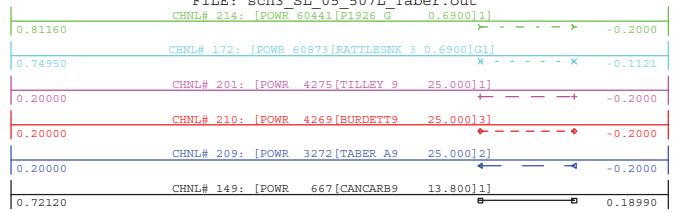


SUN, MAR 13 2022 23:50
BRANCH Q

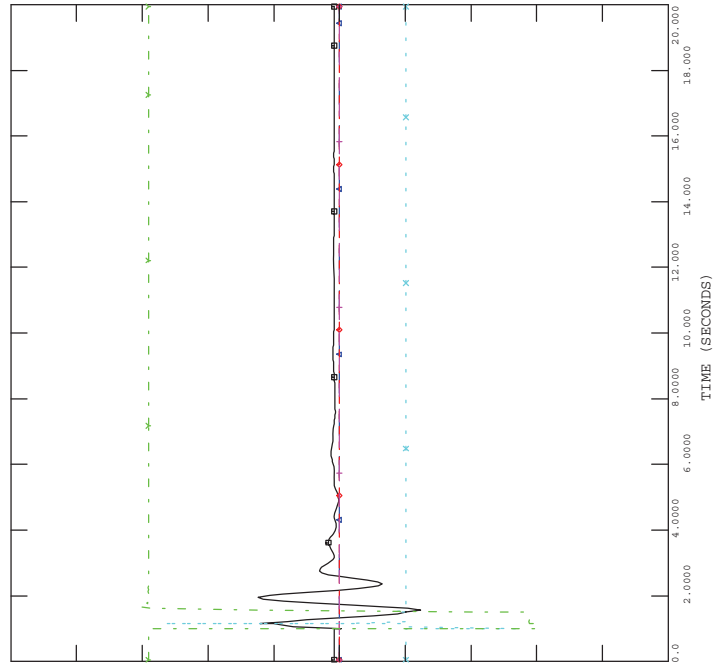


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out



SUN, MAR 13 2022 23:50
ACTIVE POWER

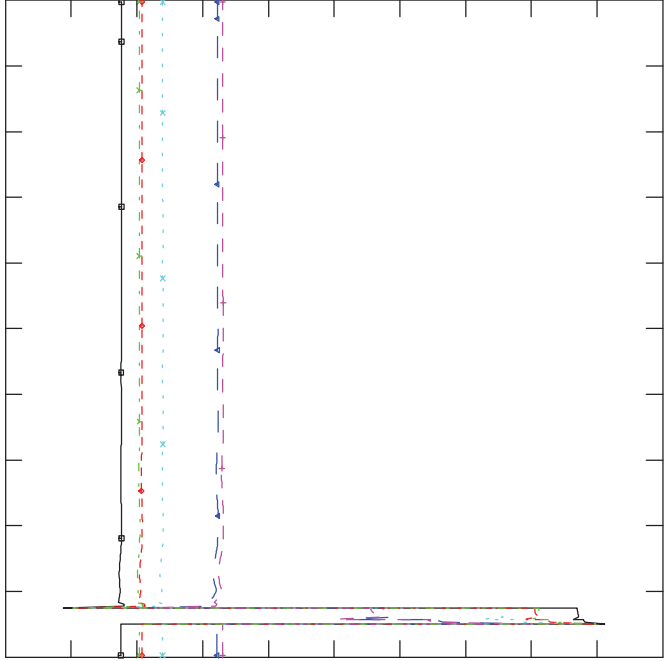




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out

1.2291	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.25080
1.2143	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.39630
1.1770	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.68860
1.2281	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.26780
1.1773	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.66790
1.2268	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.09560



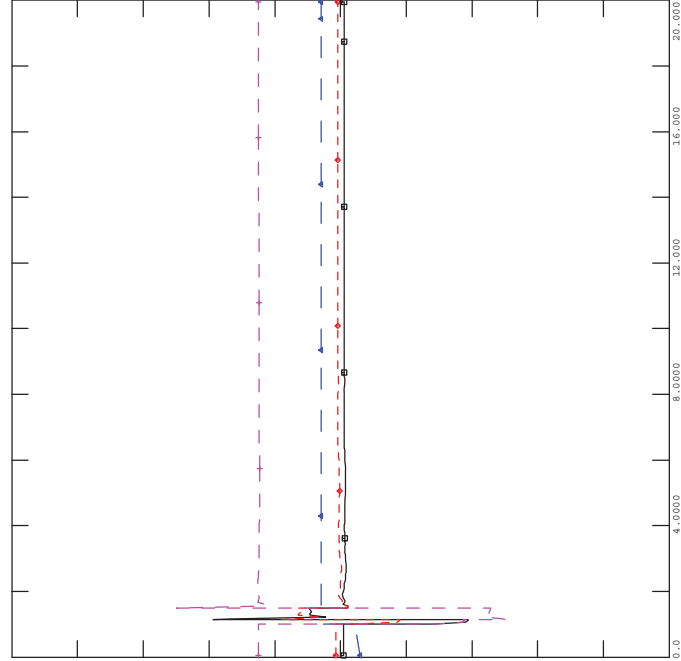
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out

76.866	CHNL# 470: [795L Q]	-161.0
33.454	CHNL# 468: [612L Q]	-64.18
40.000	CHNL# 466: [507L Q]	-45.07
48.812	CHNL# 464: [879L Q]	-82.02



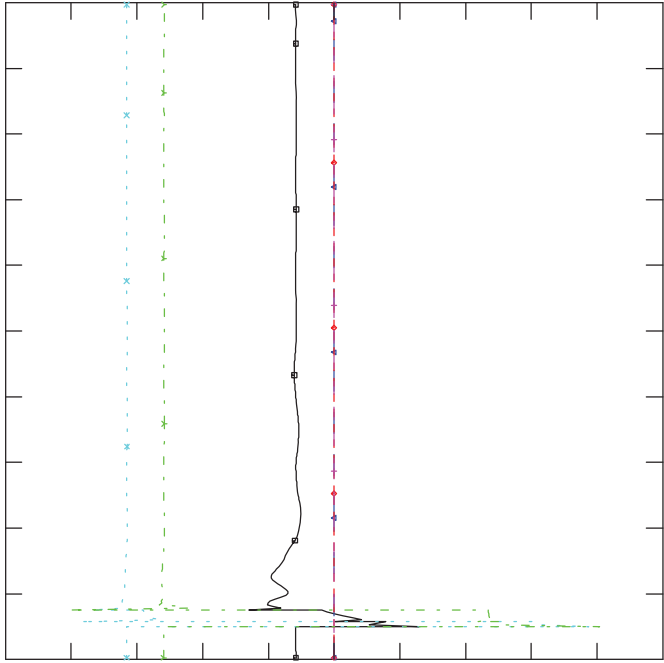
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out

1.2995	CHNL# 436: [ETRM 60441[P1926 G 0.6900]]	0.26490
1.1628	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.27880
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1392	CHNL# 371: [ETRM 667[CANCARB9 13.800]]	0.86940



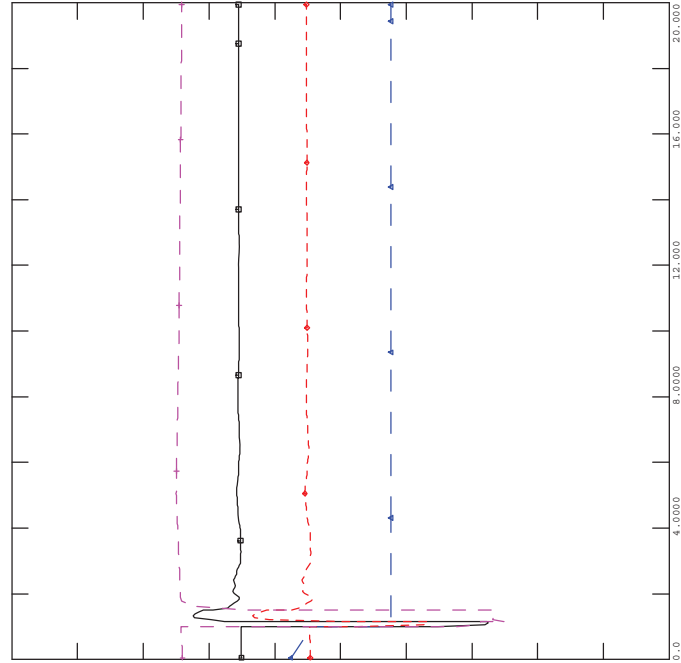
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out

76.716	CHNL# 469: [795L P]	-87.45
49.419	CHNL# 467: [612L P]	-59.78
54.465	CHNL# 465: [507L P]	-40.00
81.925	CHNL# 463: [879L P]	-63.12



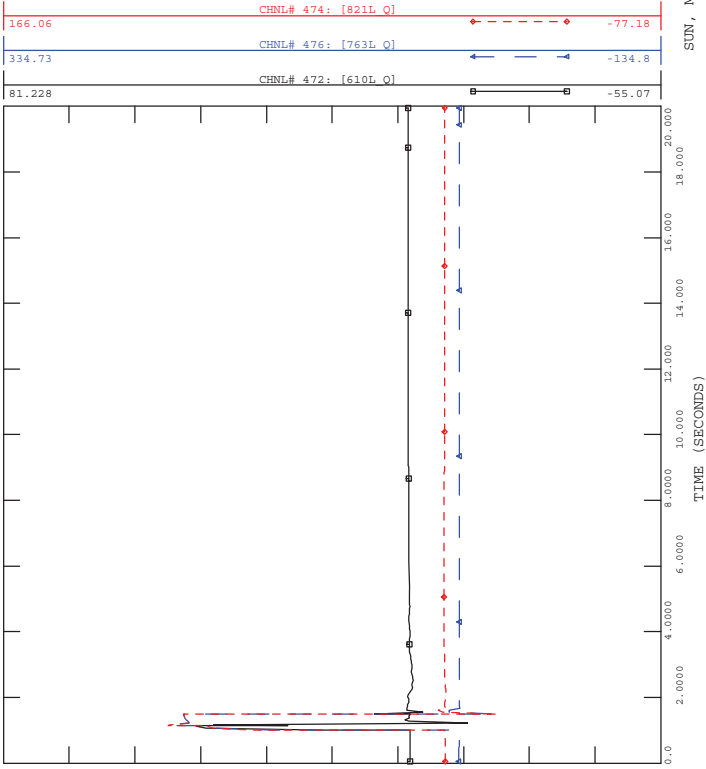
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out

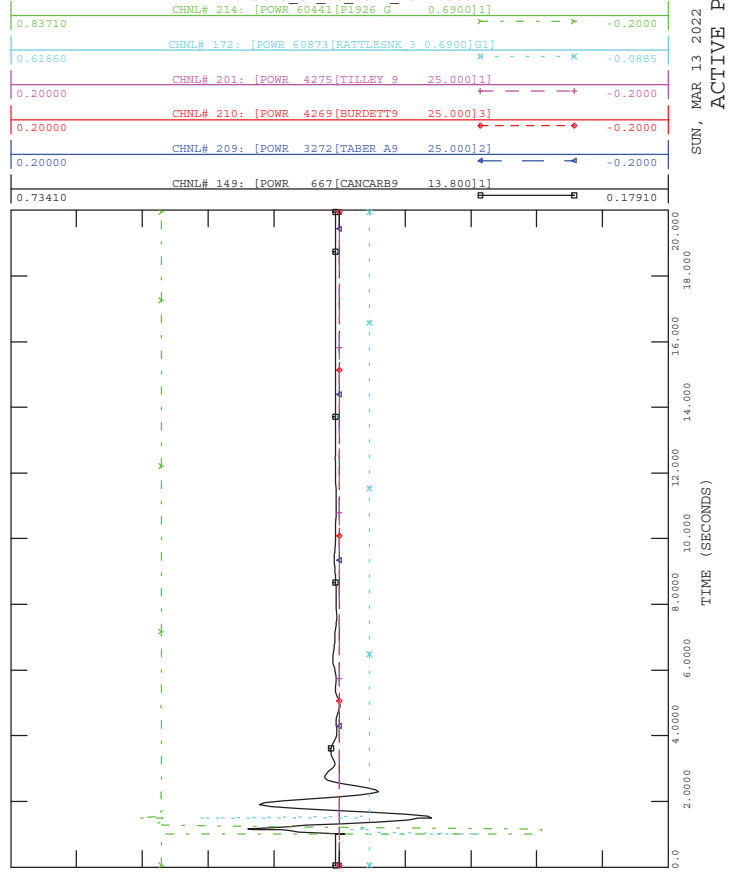
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

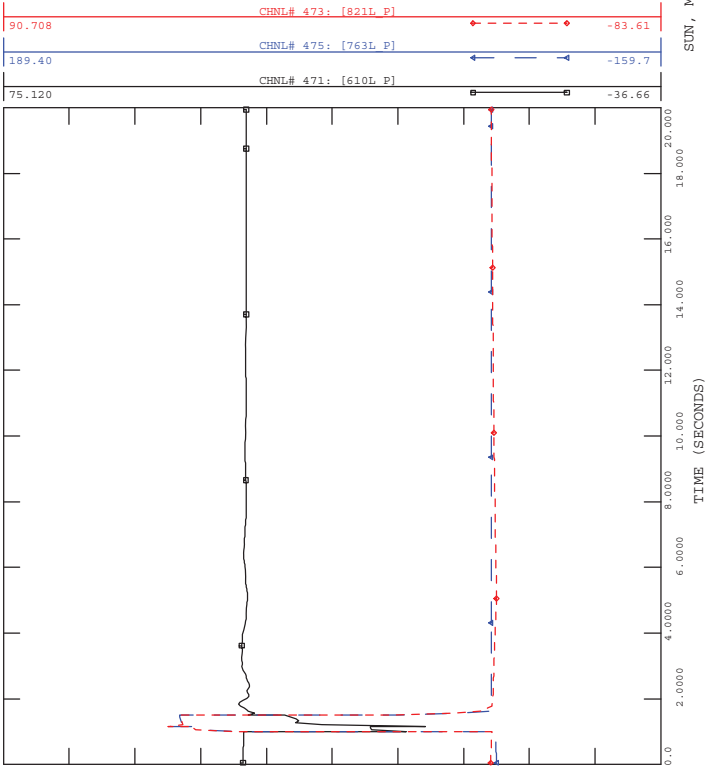
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_05_507L_TABER

FILE: scn3_SL_05_507L_Taber.out

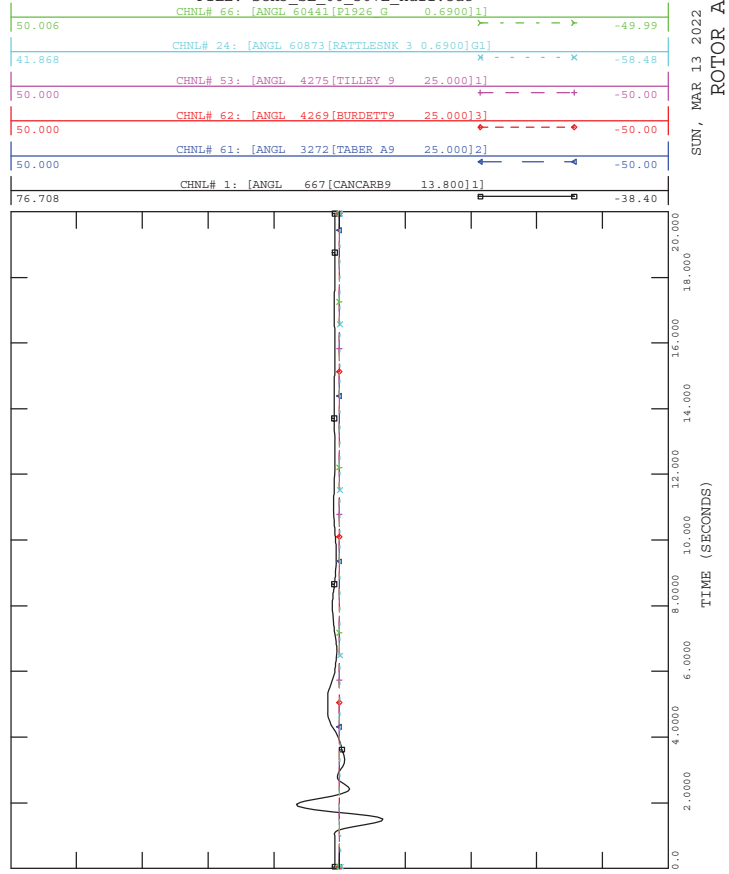
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

SUN, MAR 13 2022 23:50
ROTOR ANGLE

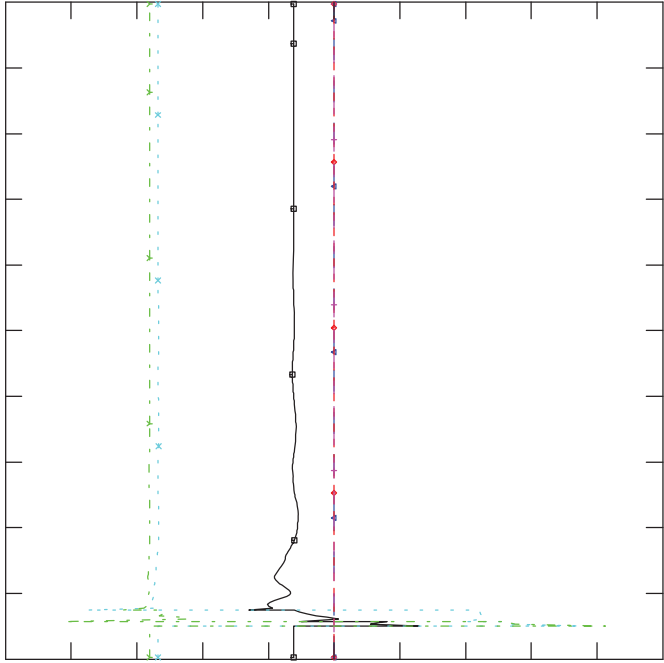




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

1.3005	CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]	0.15850
1.1870	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.38040
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1383	CHNL# 371: [ETRM 667[CANCARB9 13.800]1]	0.86840



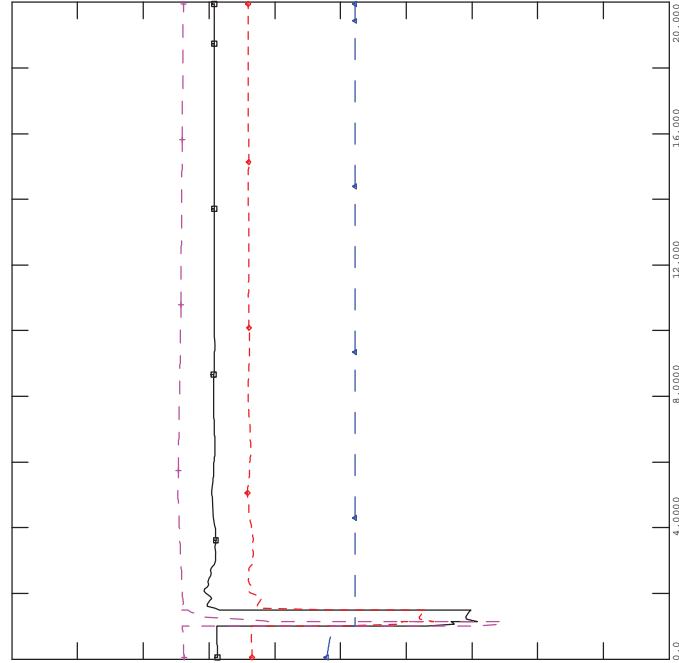
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

75.573	CHNL# 469: [795L P]	-82.83
40.606	CHNL# 467: [612L P]	-71.02
43.616	CHNL# 465: [507L P]	-40.00
74.061	CHNL# 463: [879L P]	-62.86



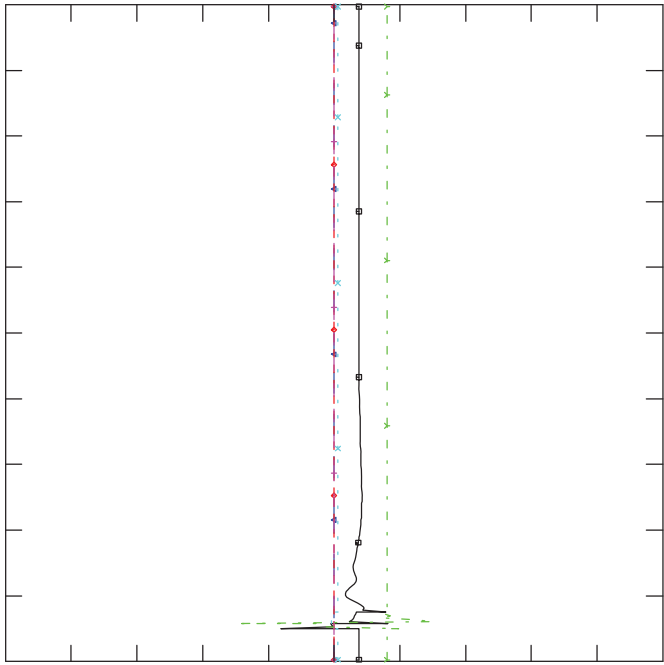
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

0.86400	CHNL# 288: [VARS 60441[P1926 G 0.6900]1]	-0.5664
0.48830	CHNL# 246: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5265
0.50000	CHNL# 275: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 284: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 283: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.73230	CHNL# 223: [VARS 667[CANCARB9 13.800]1]	-0.4612



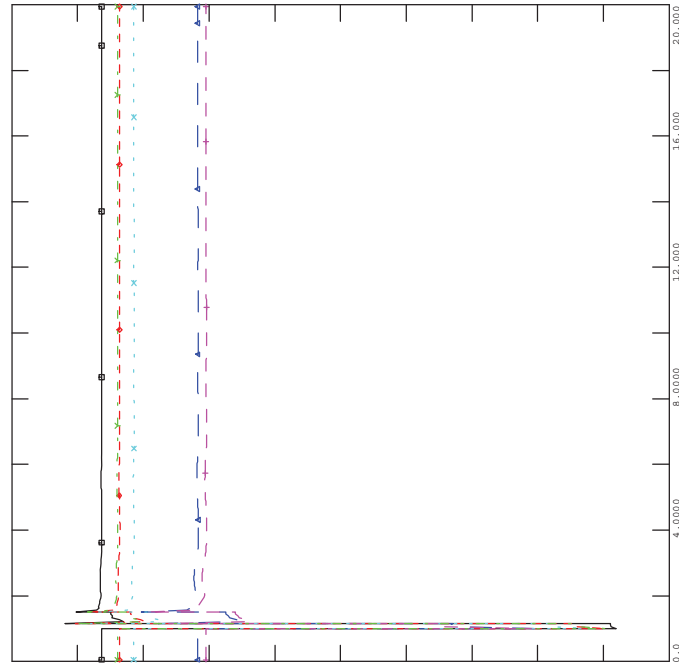
SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

1.1991	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.14580
1.1774	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.32220
1.1591	CHNL# 457: [VOLT 276 [W BROOK7 138.00]]	0.67350
1.1979	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.16630
1.1569	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.64900
1.1969	CHNL# 462: [VOLT 2400 [HULL 138.00]]	-0.0411



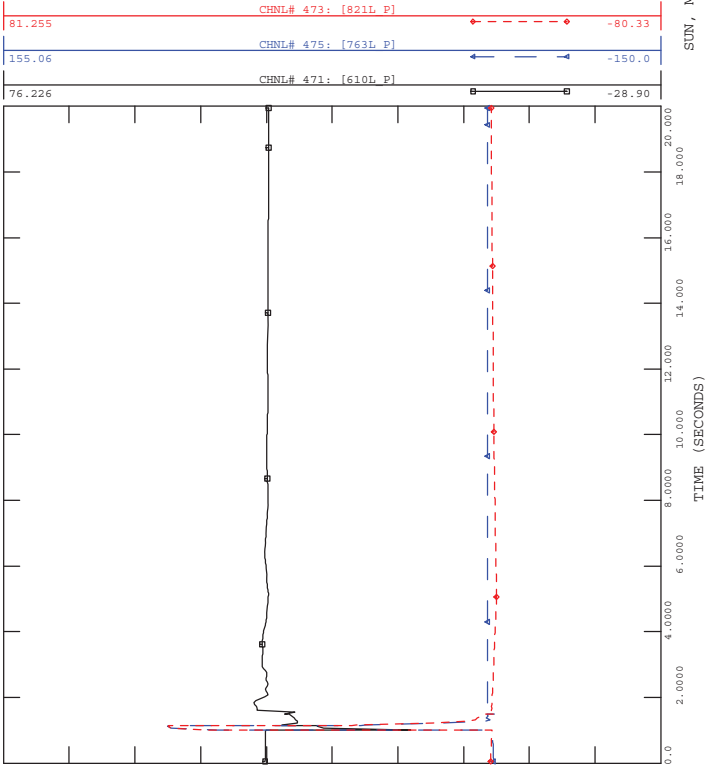
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_06_507L_HULL

FILE: scn3_SL_06_507L_Hull.out

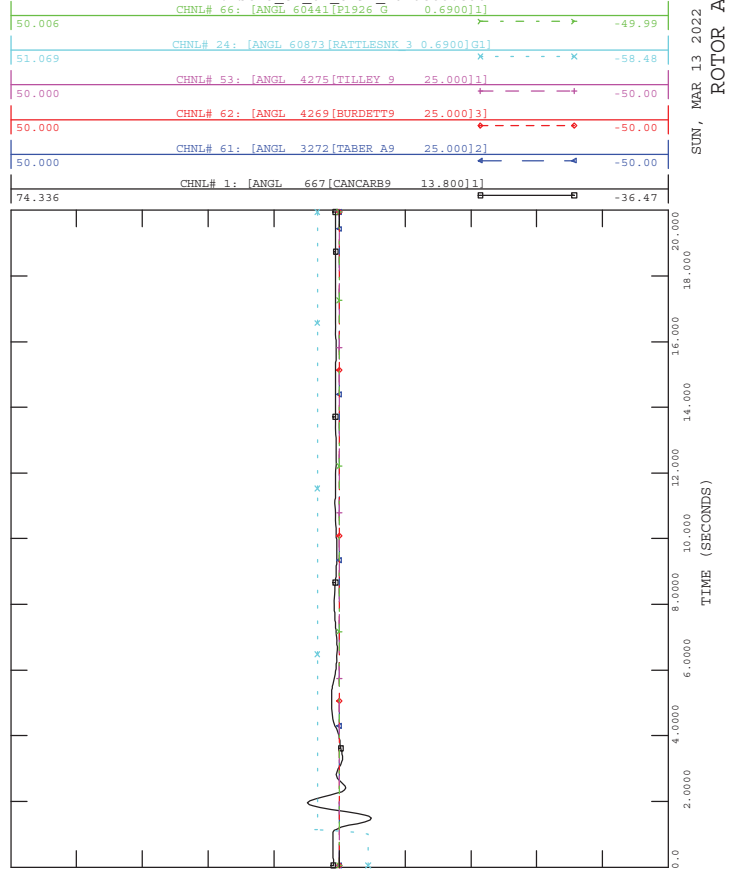
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

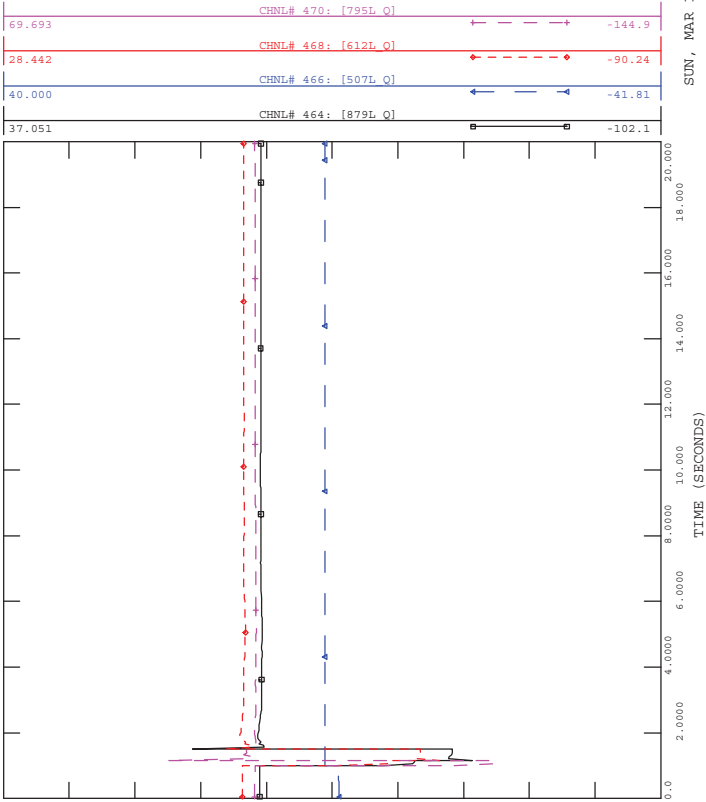
SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn3_SL_06_507L_Hull.out

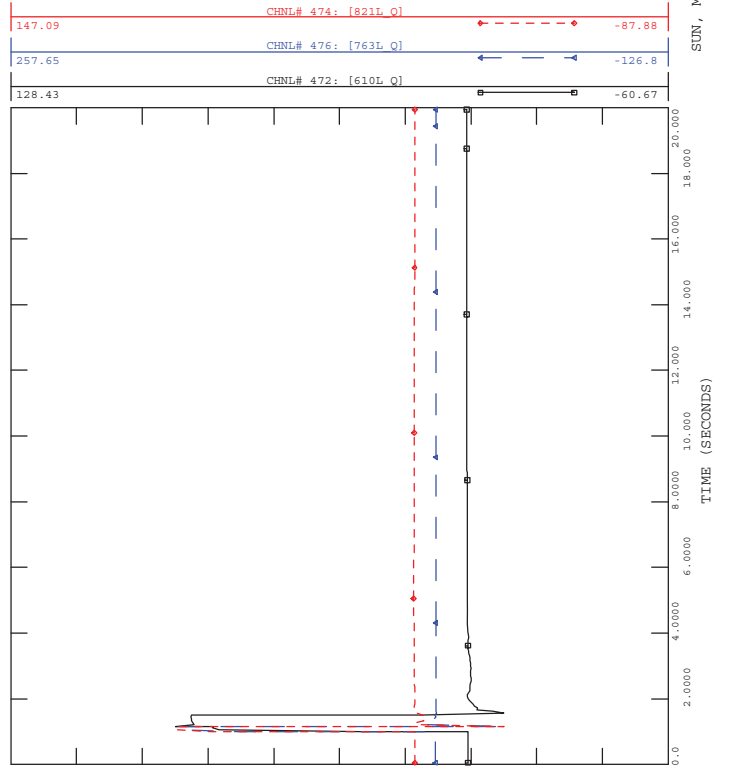
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn3_SL_06_507L_Hull.out

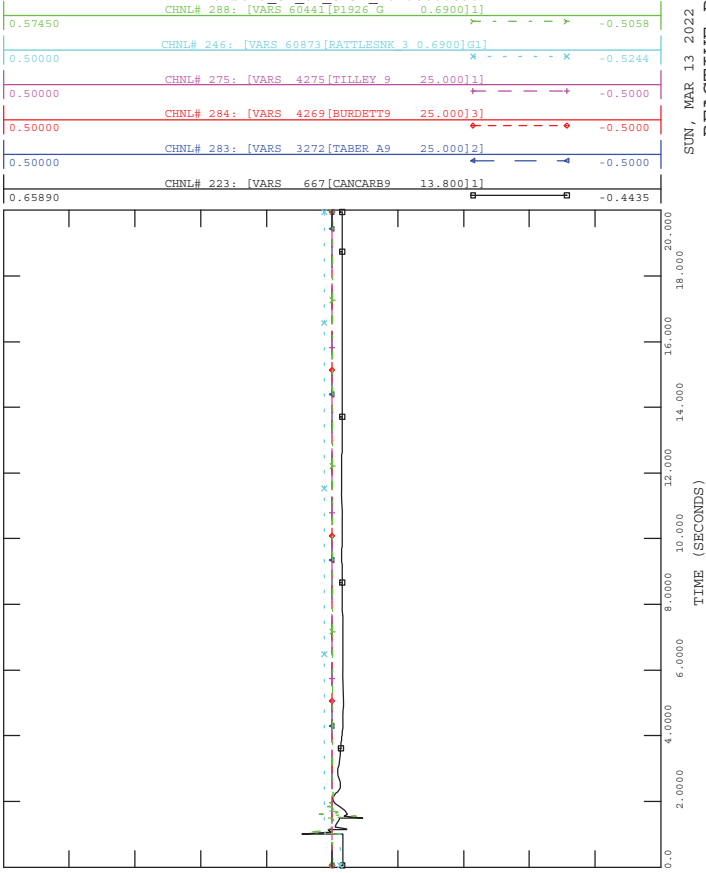
SUN, MAR 13 2022 23:50
BRANCH Q





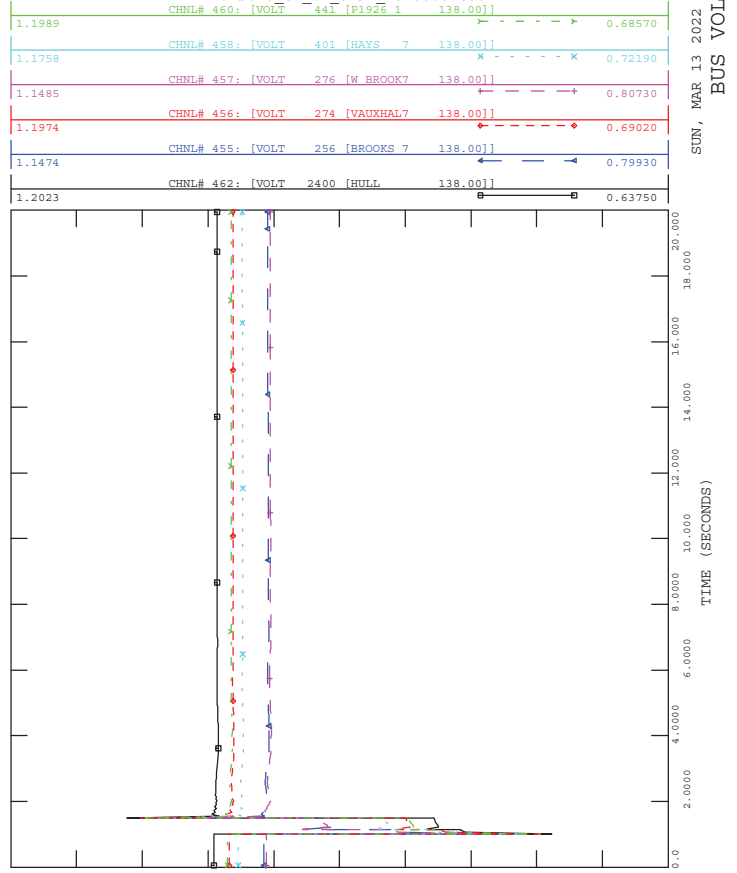
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



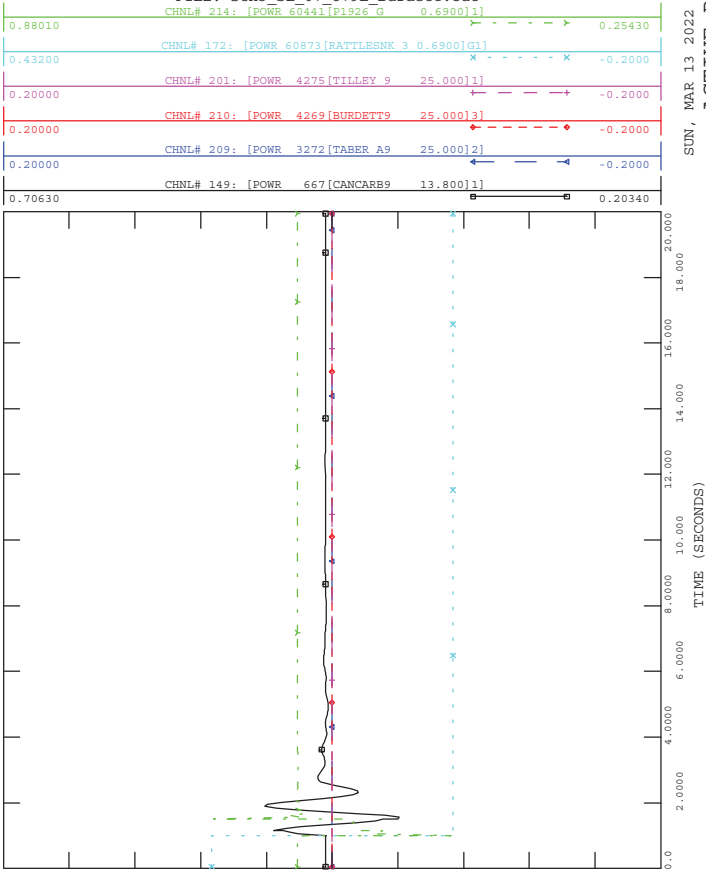
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CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out
CHNL# 460: [VOLT 441 [P1926 1 138.00]]



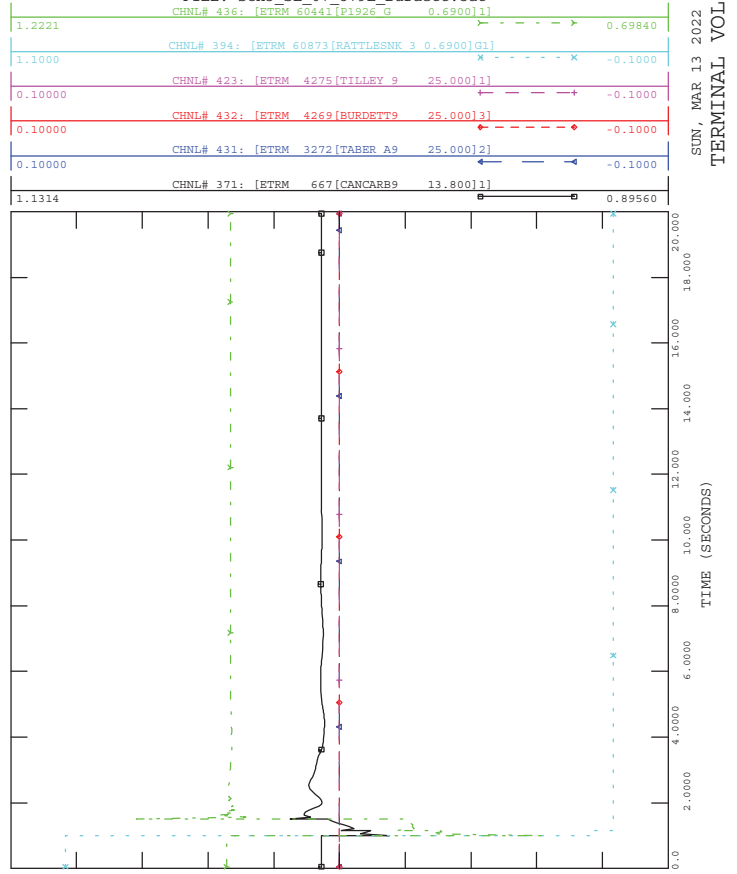
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out
CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]

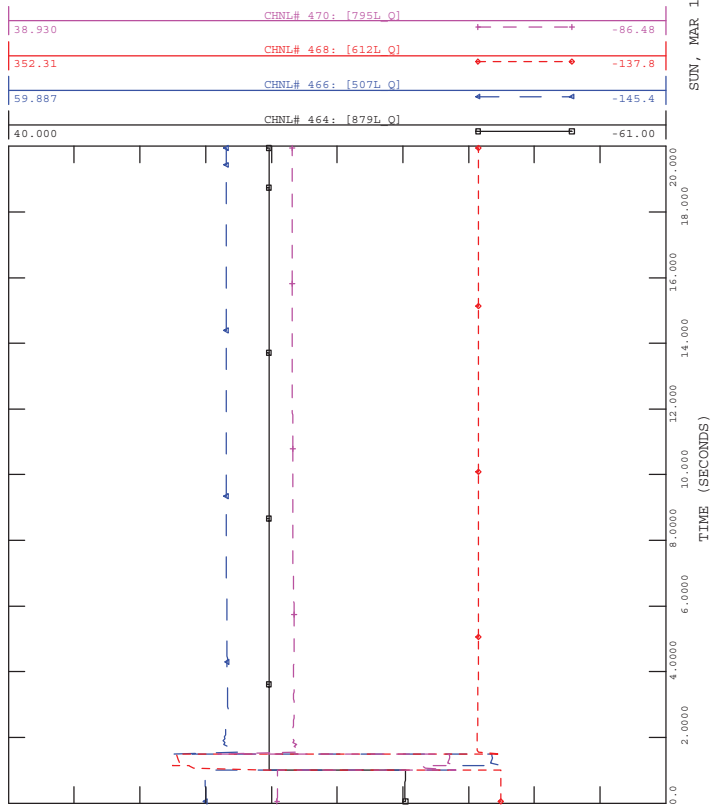




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CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out

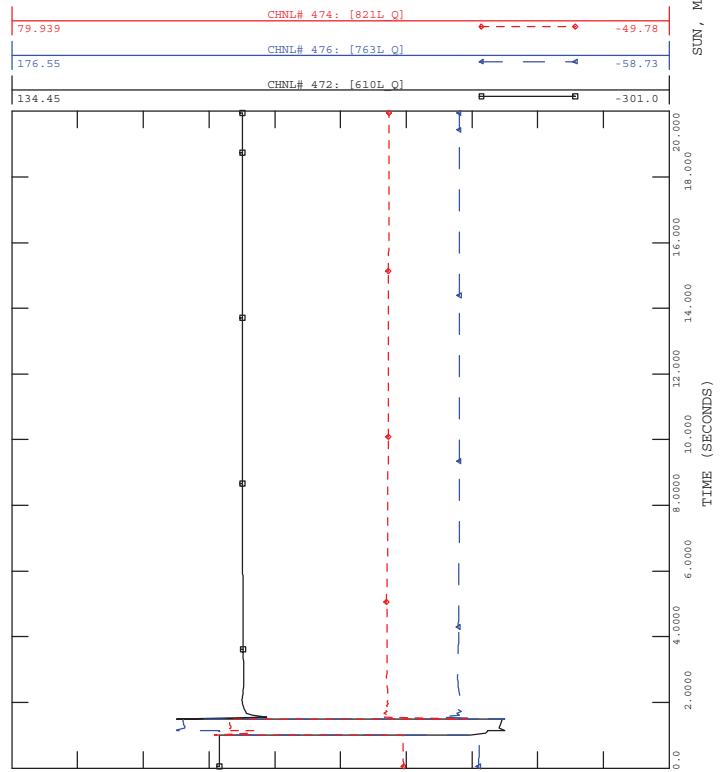
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out

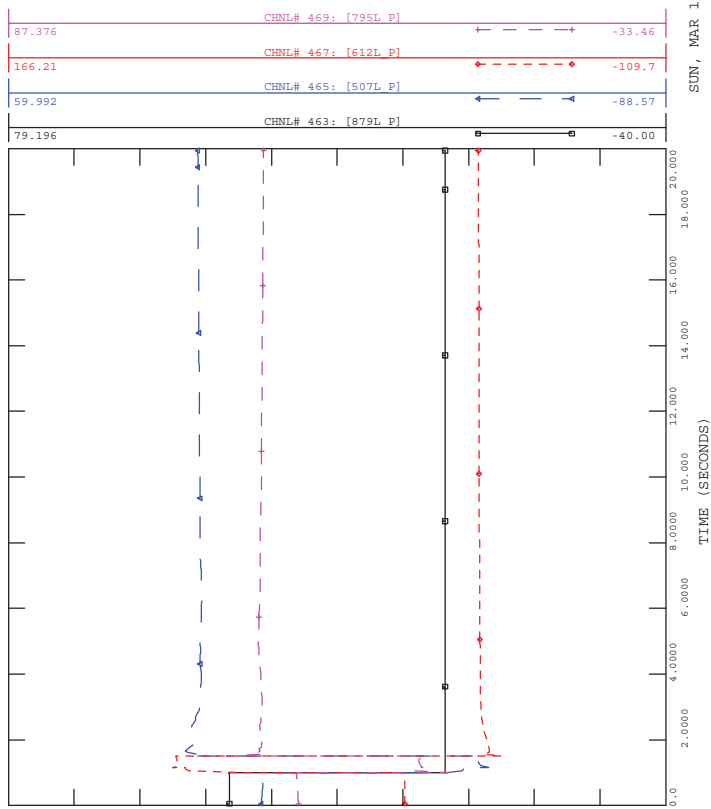
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out

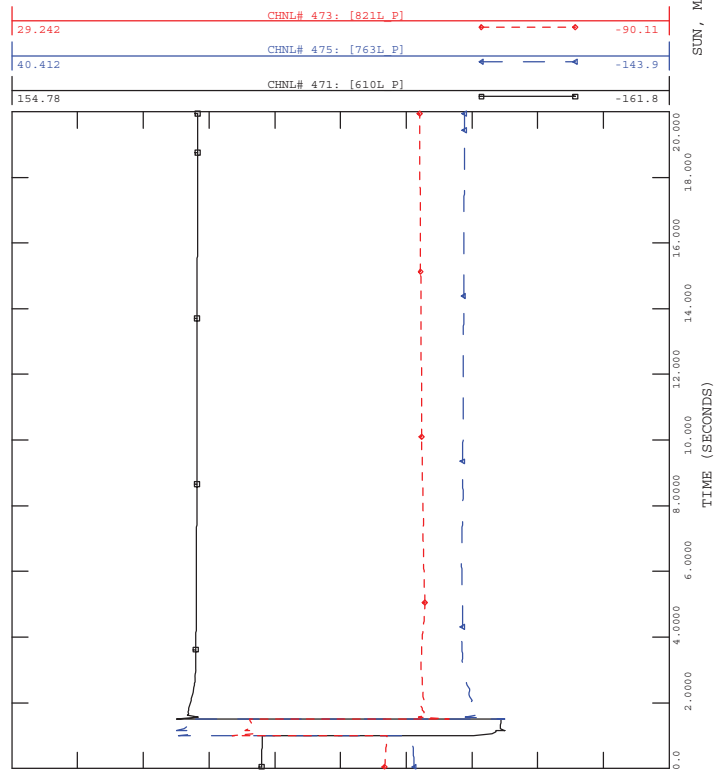
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_07_879L_BURDETT

FILE: scn3_SL_07_879L_Burdett.out

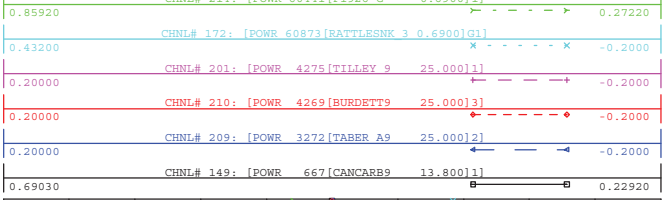
SUN, MAR 13 2022 23:50
BRANCH P



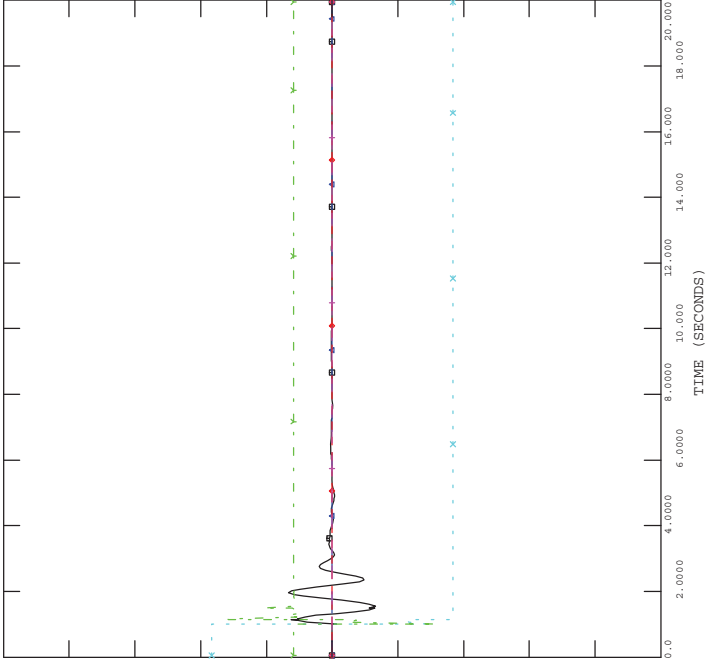


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3 SL_08_879L_Bowmantion.out

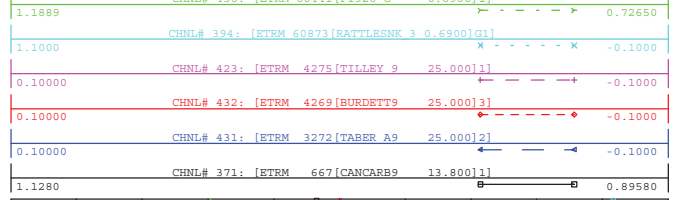


SUN, MAR 13 2022 23:50
ACTIVE POWER

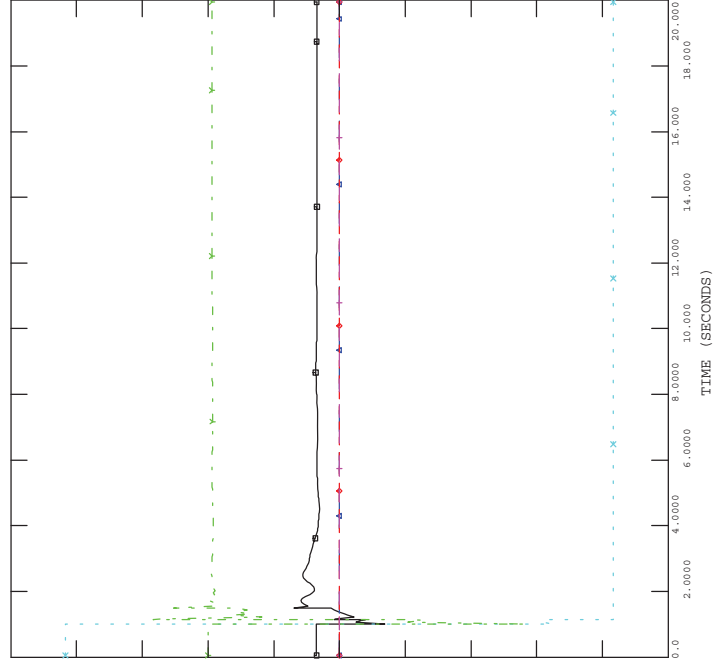


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3 SL_08_879L_Bowmantion.out

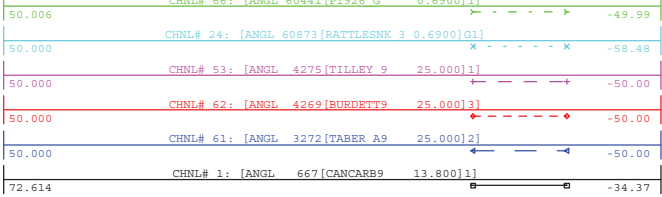


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE

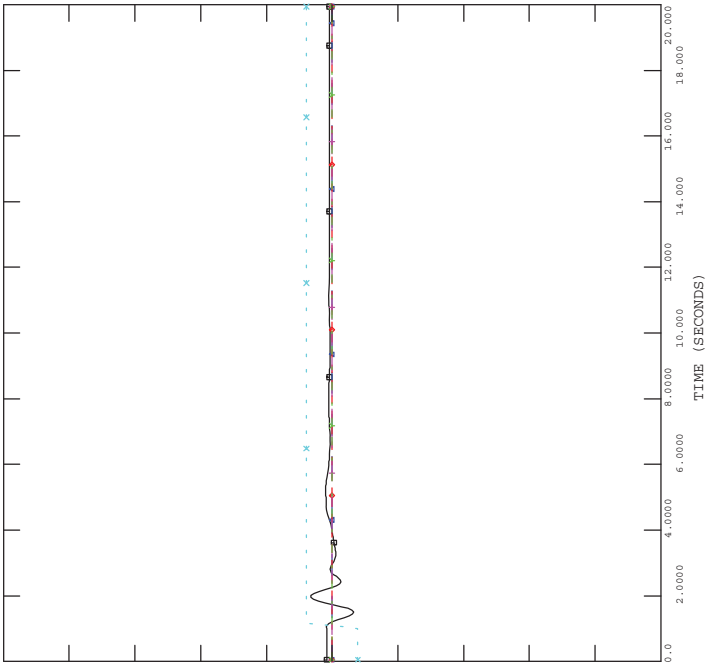


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CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3 SL_08_879L_Bowmantion.out

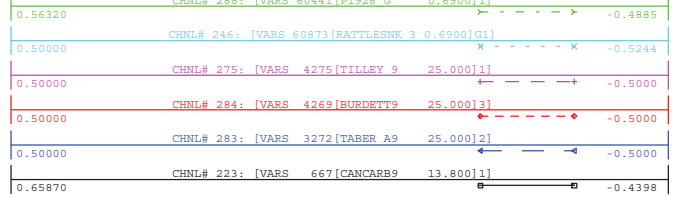


SUN, MAR 13 2022 23:50
ROTOR ANGLE

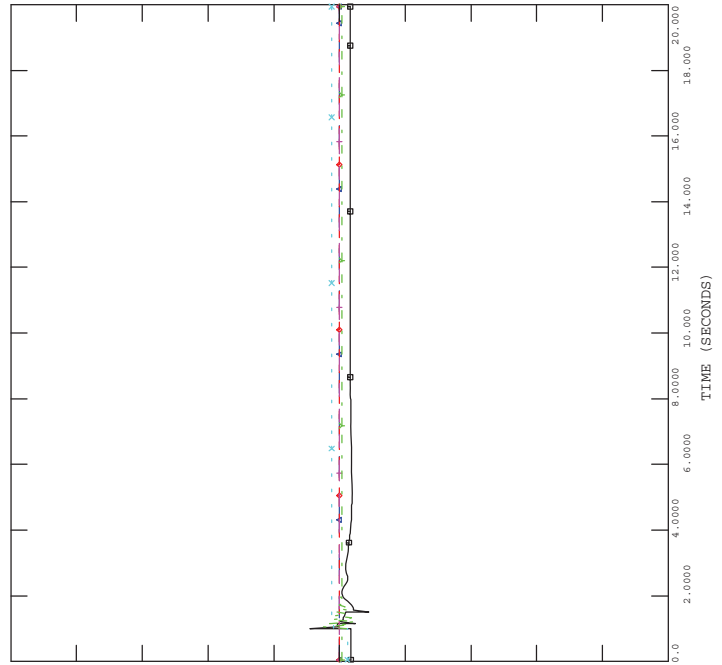


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3 SL_08_879L_Bowmantion.out



SUN, MAR 13 2022 23:50
REACTIVE POWER

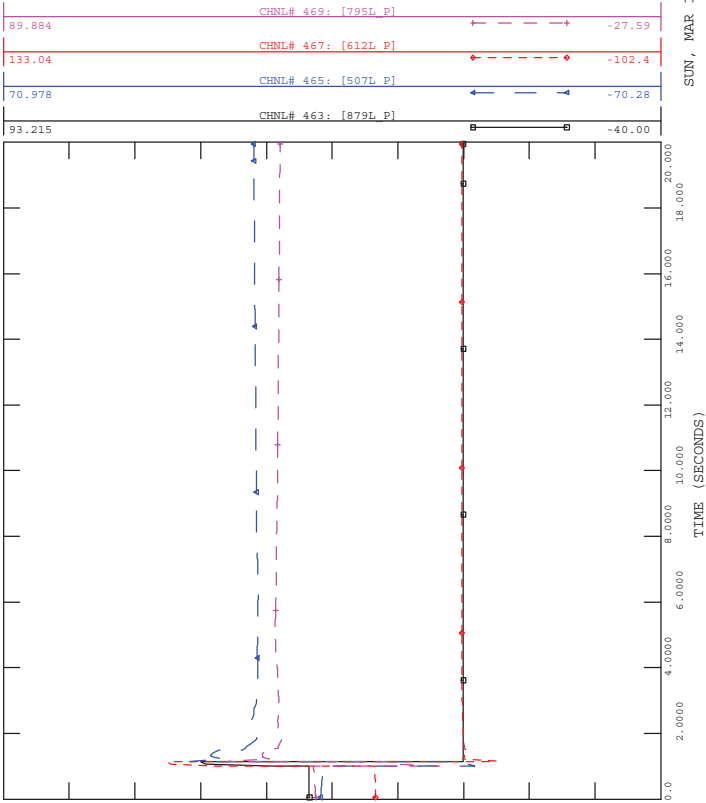




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3_SL_08_879L_Bowmantion.out

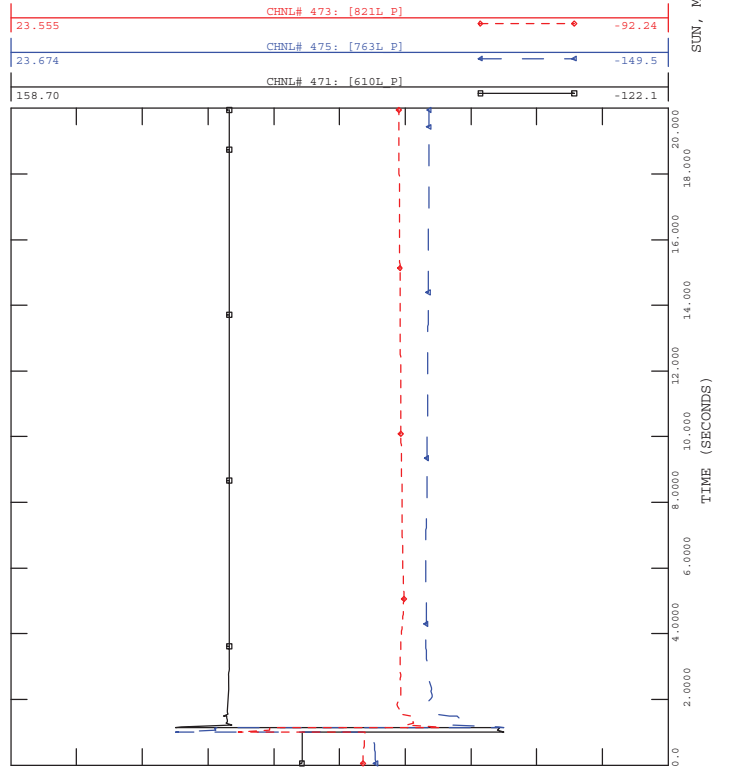
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

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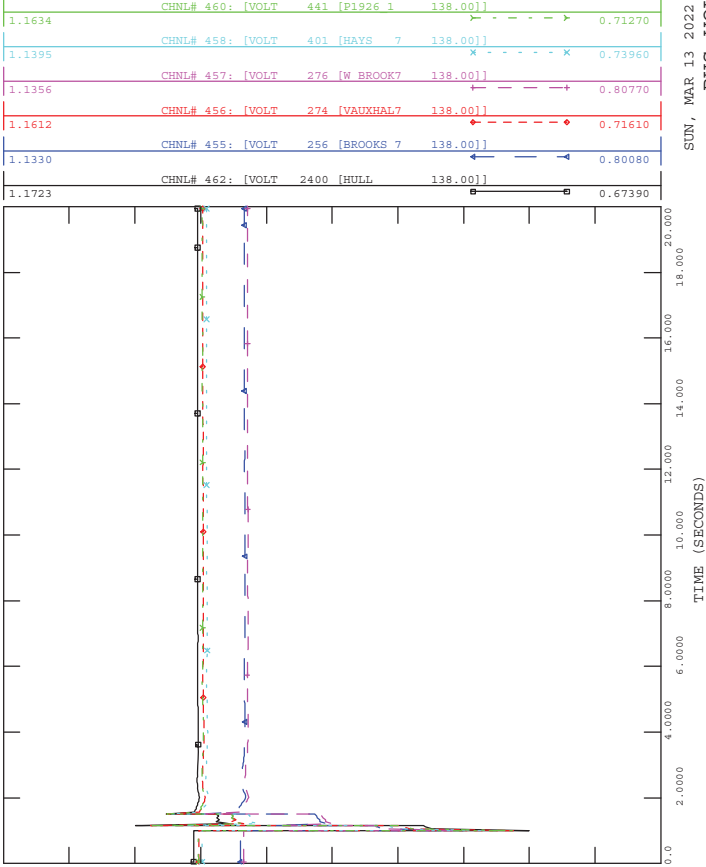
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BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

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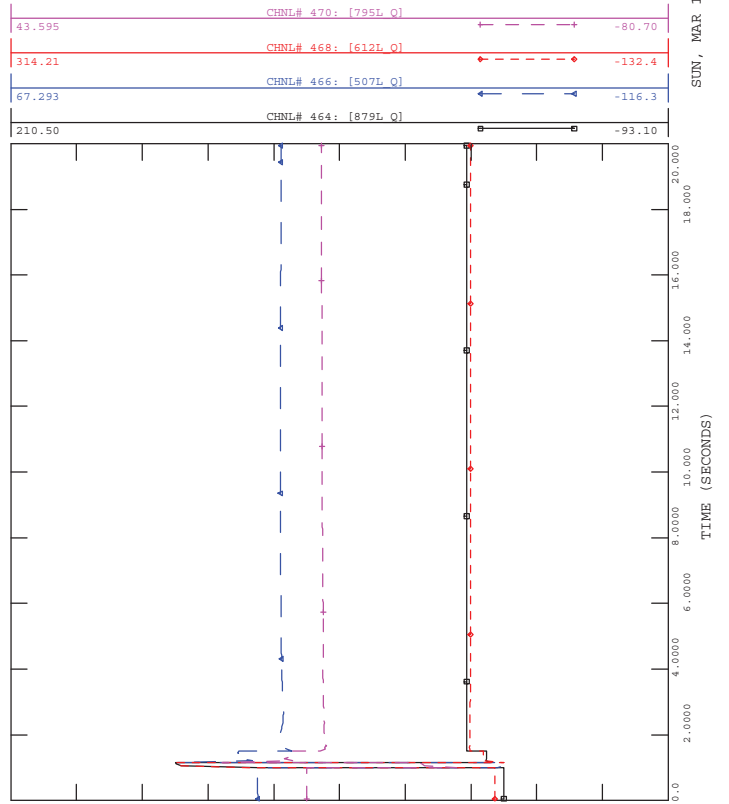
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3_SL_08_879L_Bowmantion.out

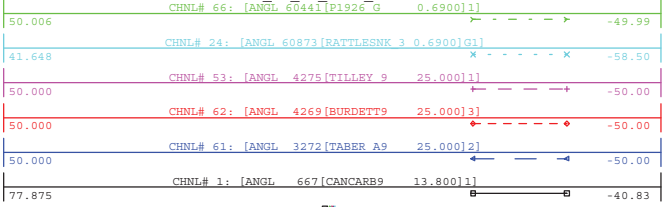
SUN, MAR 13 2022 23:50
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

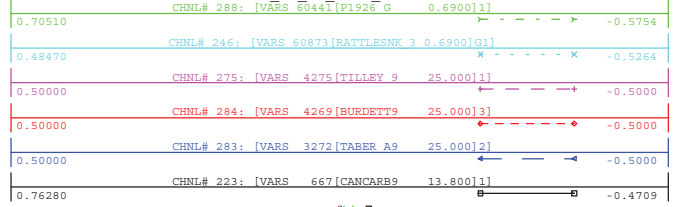


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

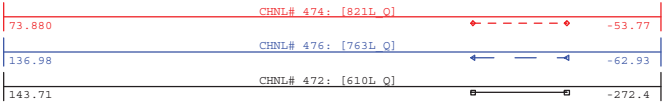


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_08_879L_BOWMANTON

FILE: scn3_SL_08_879L_Bowmantan.out

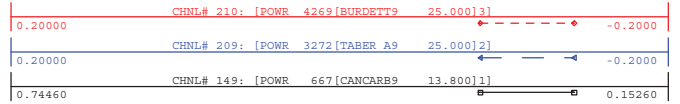


SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



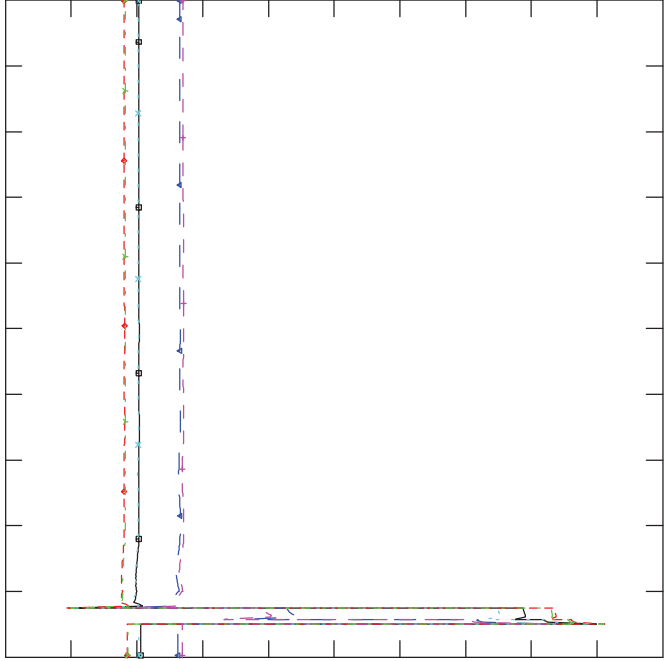
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out

1.2371	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.12520
1.2115	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.25990
1.1707	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.59500
1.2367	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.11220
1.1706	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.57150
1.2323	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.24030



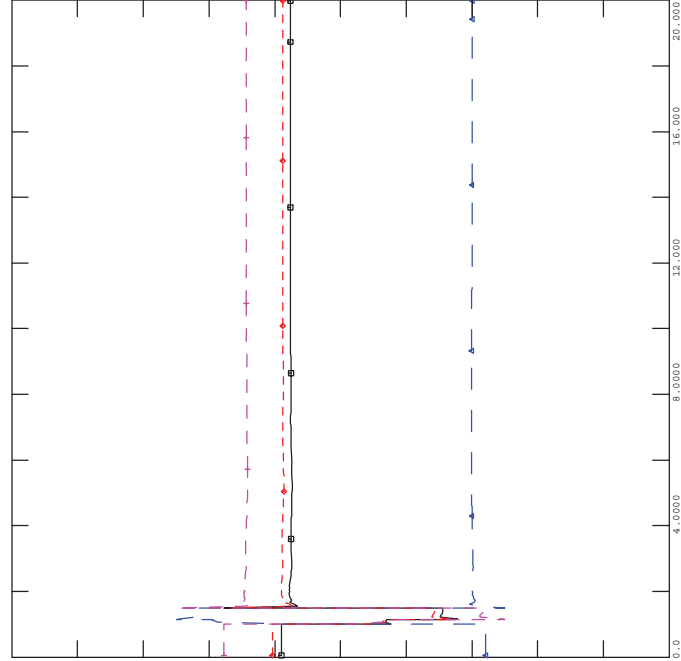
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out

75.555	CHNL# 470: [795L Q]	-196.8
32.986	CHNL# 468: [612L Q]	-87.27
368.53	CHNL# 466: [507L Q]	-145.0
33.696	CHNL# 464: [879L Q]	-90.37



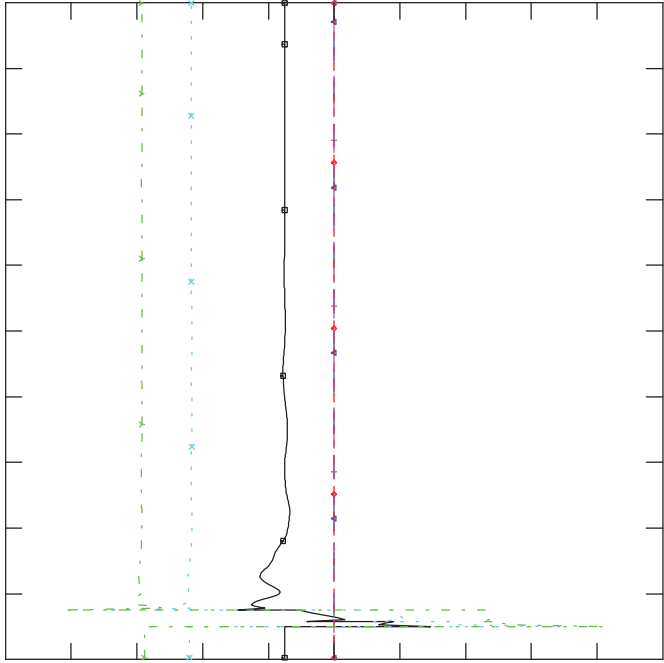
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out

1.2944	CHNL# 436: [ETRM 6044[P1926 G 0.6900]]	0.13770
1.1837	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.52680
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1402	CHNL# 371: [ETRM 667[CANCARB9 13.800]1]	0.85710



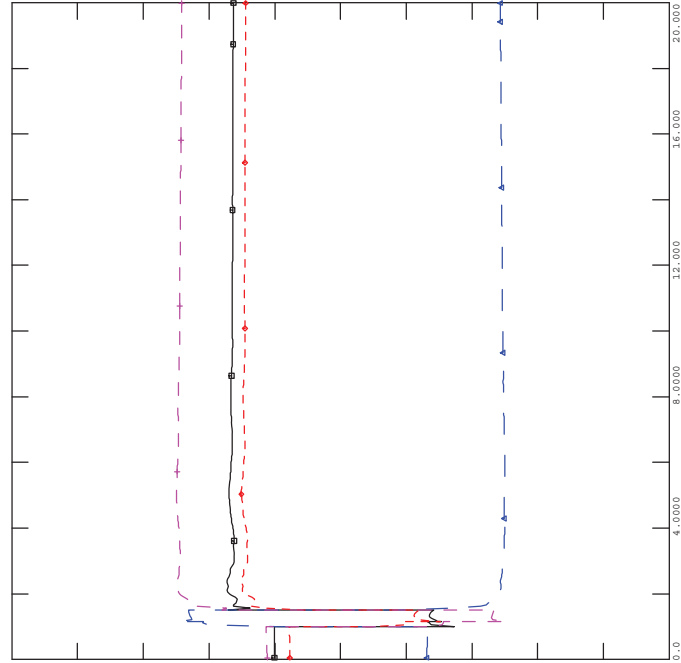
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out

124.40	CHNL# 469: [795L P]	-108.1
48.384	CHNL# 467: [612L P]	-66.38
189.08	CHNL# 465: [507L P]	-106.0
80.101	CHNL# 463: [879L P]	-42.06



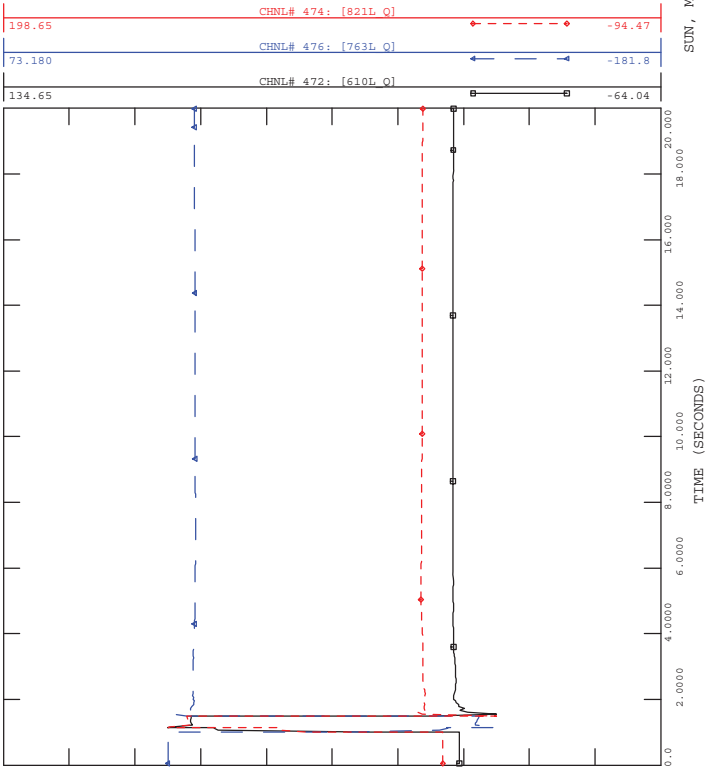
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out

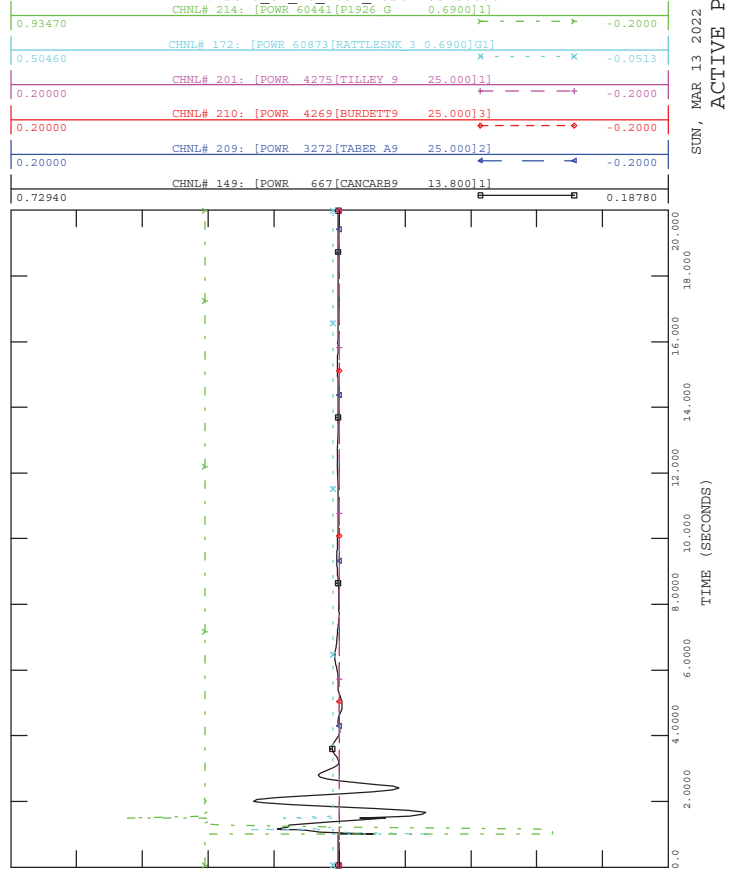
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

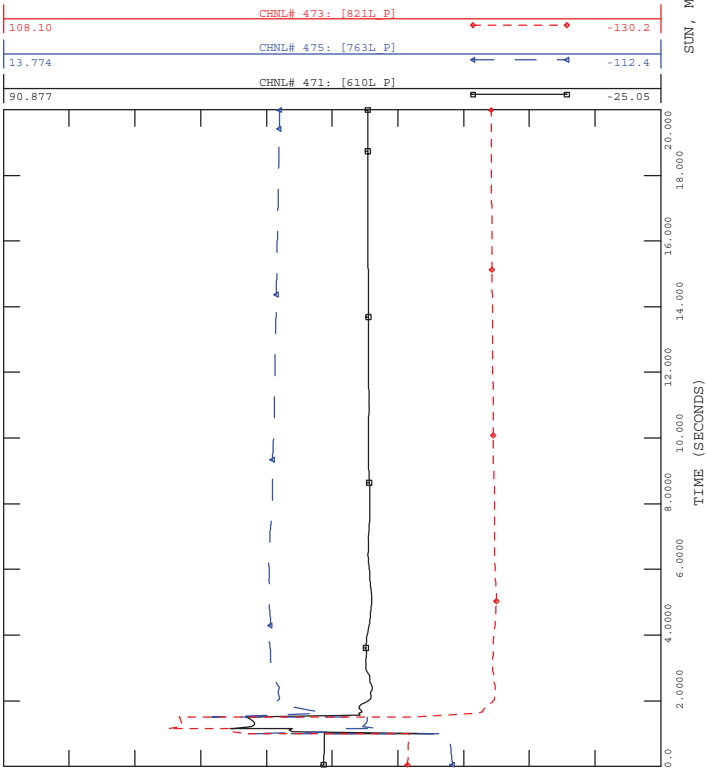
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_09_763L_VAUXHALL

FILE: scn3_SL_09_763L_Vauxhall.out

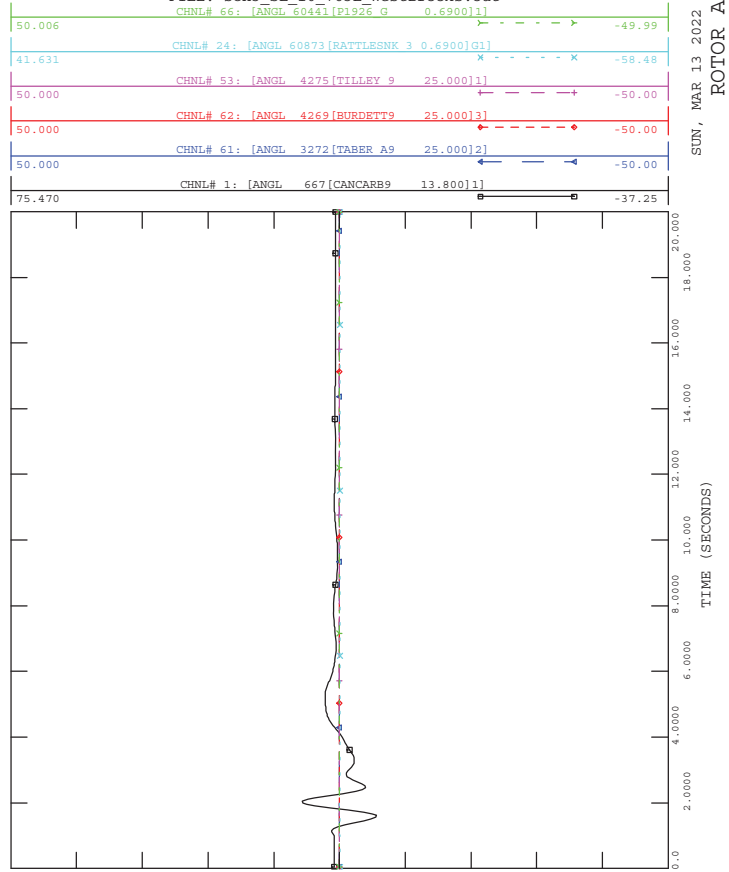
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

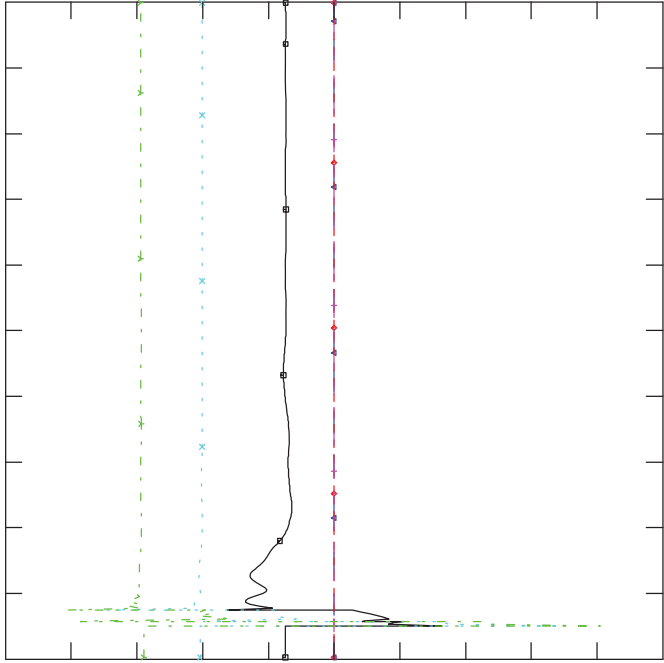
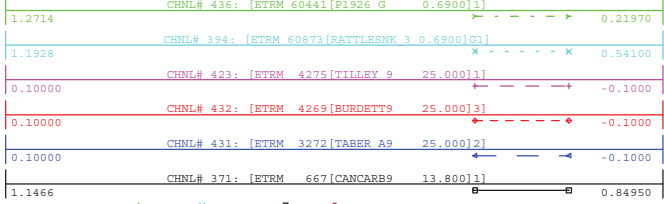
SUN, MAR 13 2022 23:50
ROTOR ANGLE





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

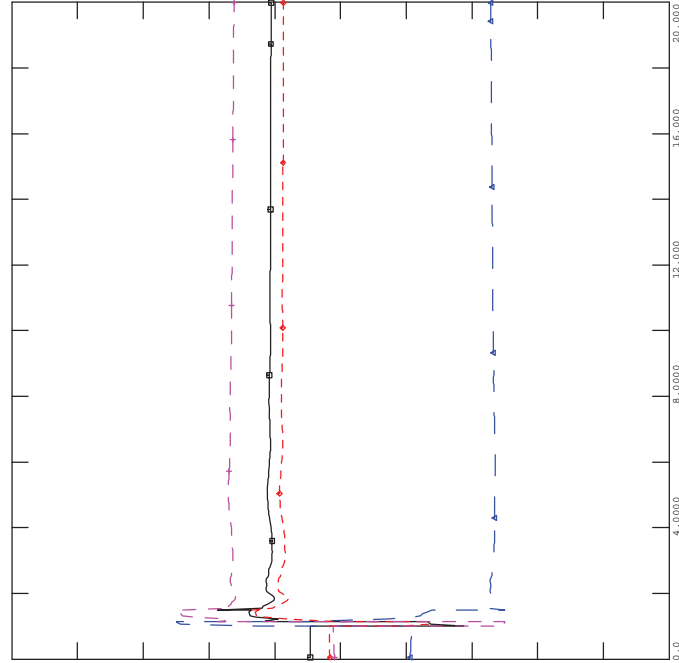
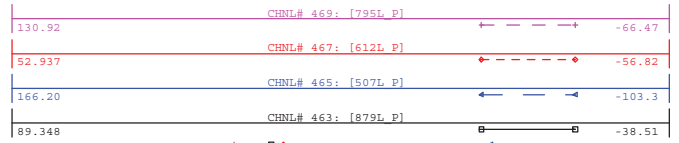


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

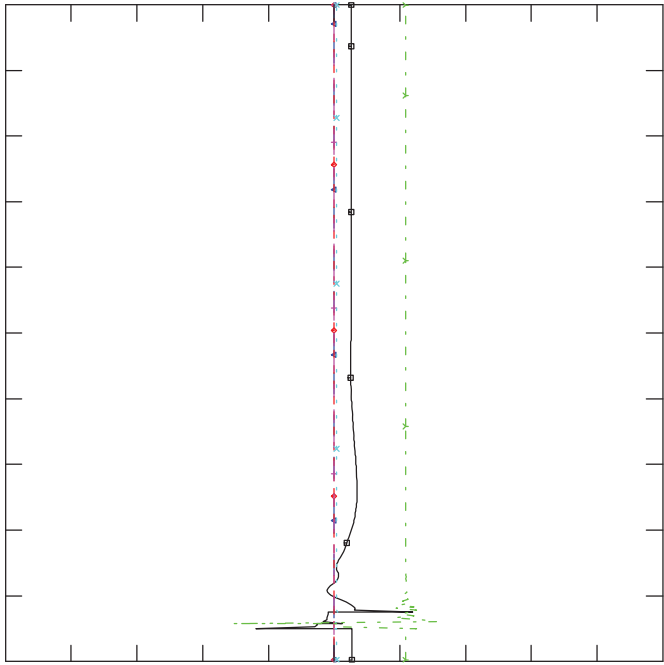
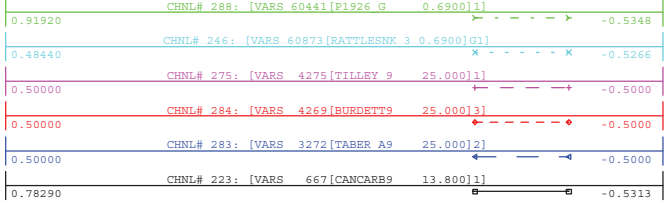


SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

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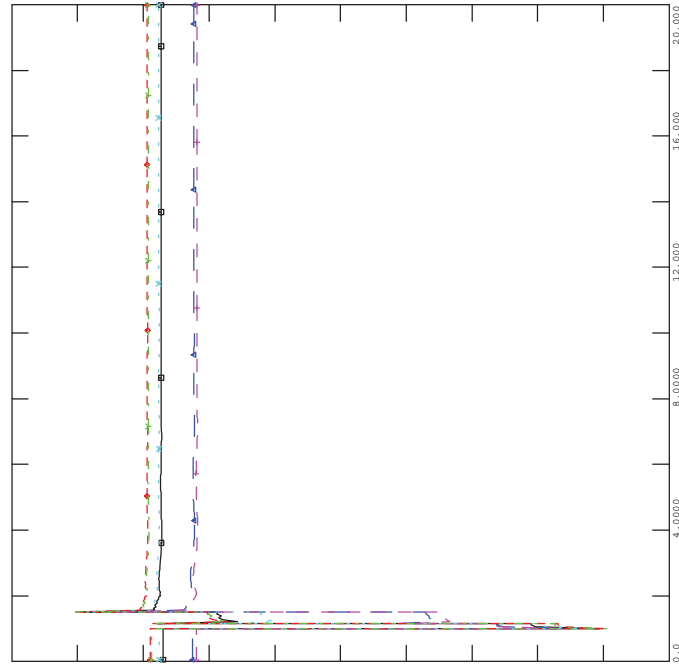
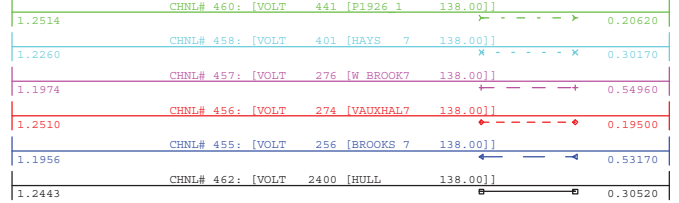


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out



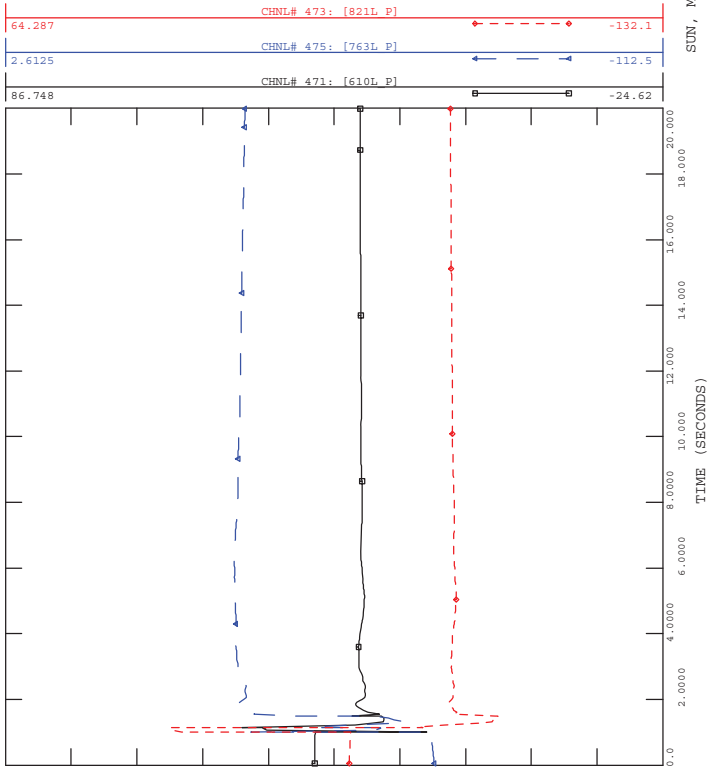
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

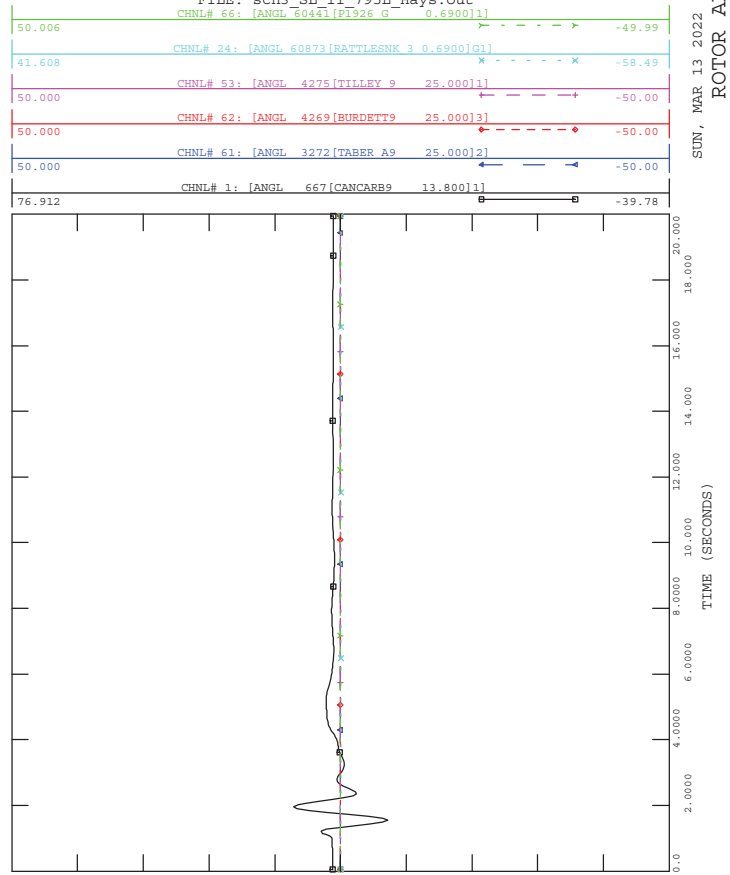
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

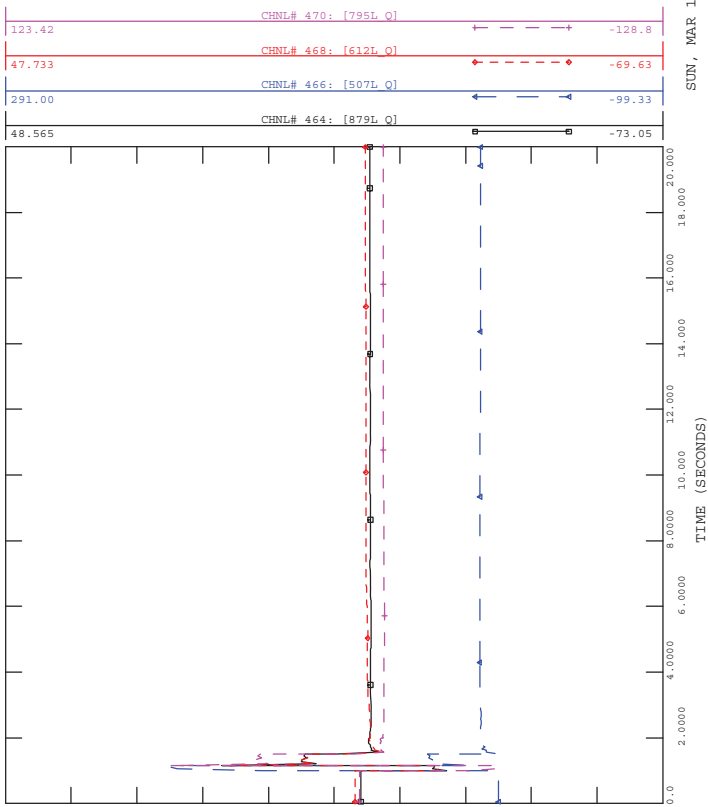
SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

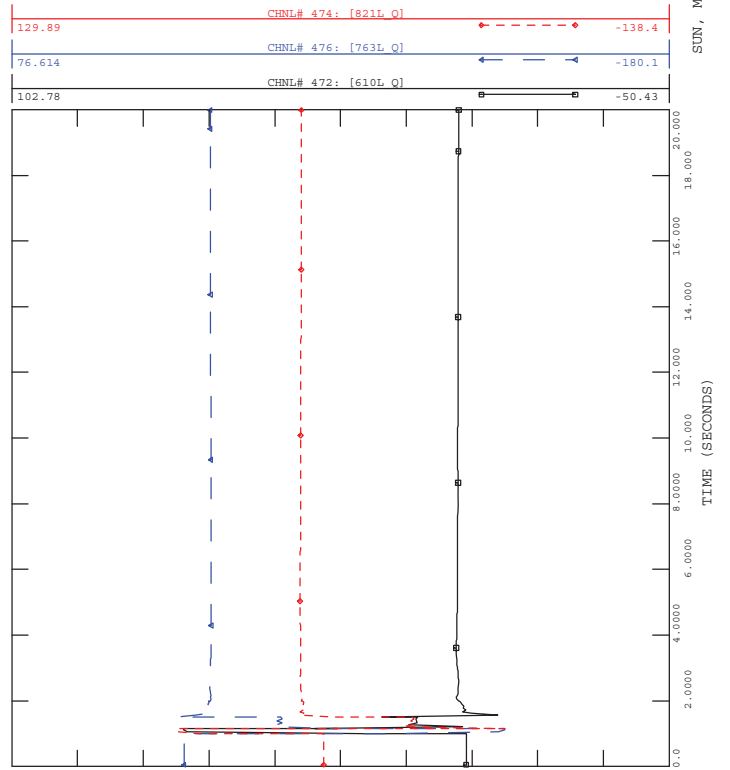
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_10_763L_WESTBROOKS

FILE: scn3_SL_10_763L_WestBrooks.out

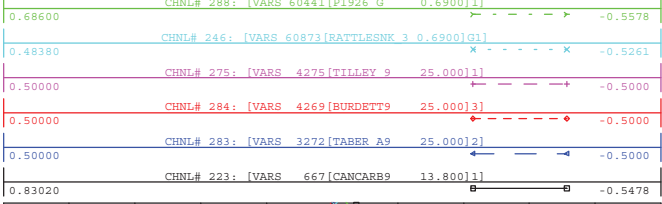
SUN, MAR 13 2022 23:50
BRANCH Q



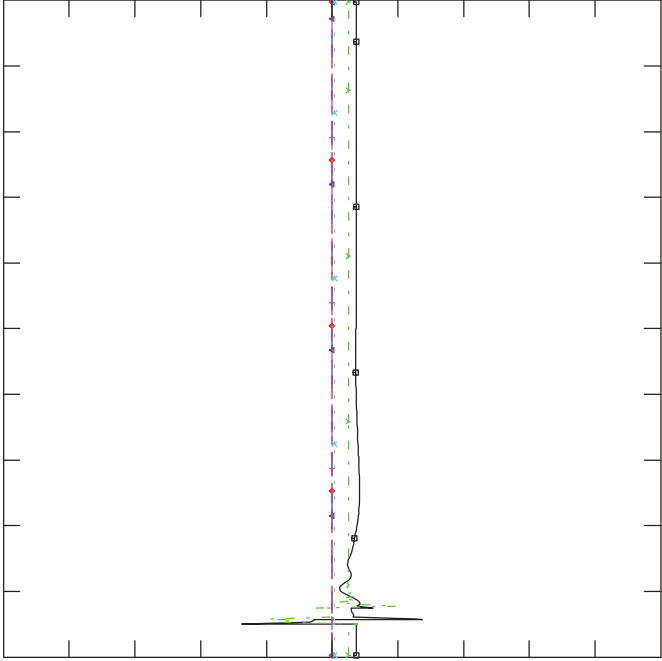


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out

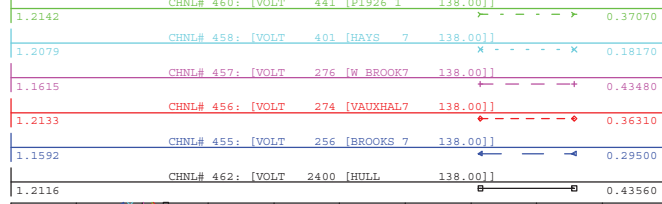


SUN, MAR 13 2022 23:50
REACTIVE POWER

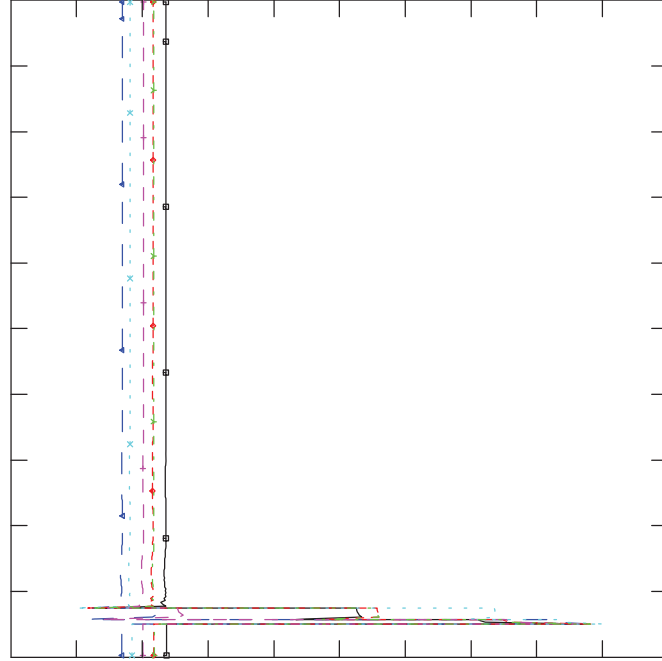


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out

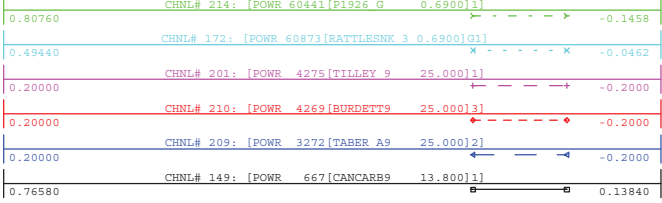


SUN, MAR 13 2022 23:50
BUS VOLTAGE

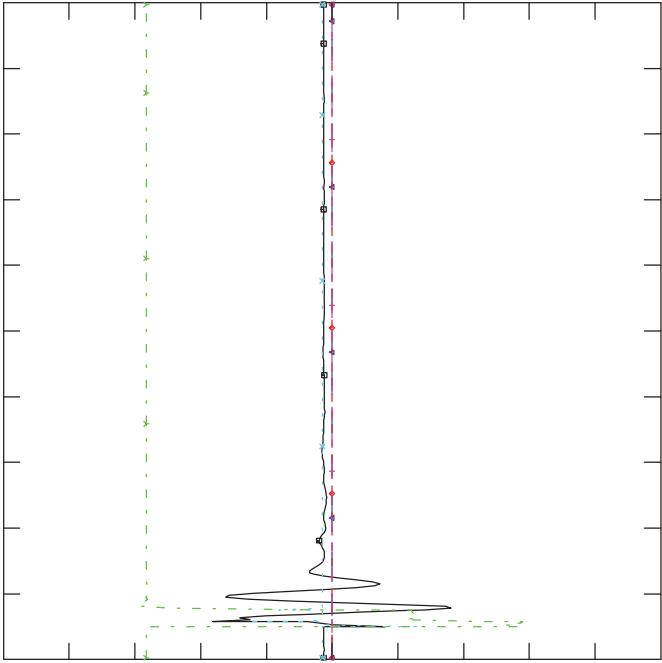


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out

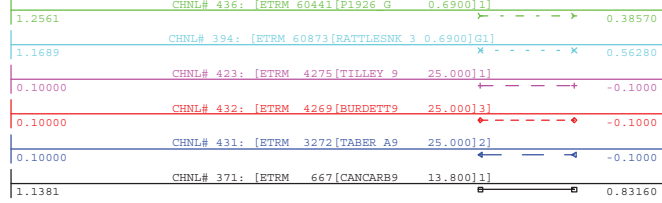


SUN, MAR 13 2022 23:50
ACTIVE POWER

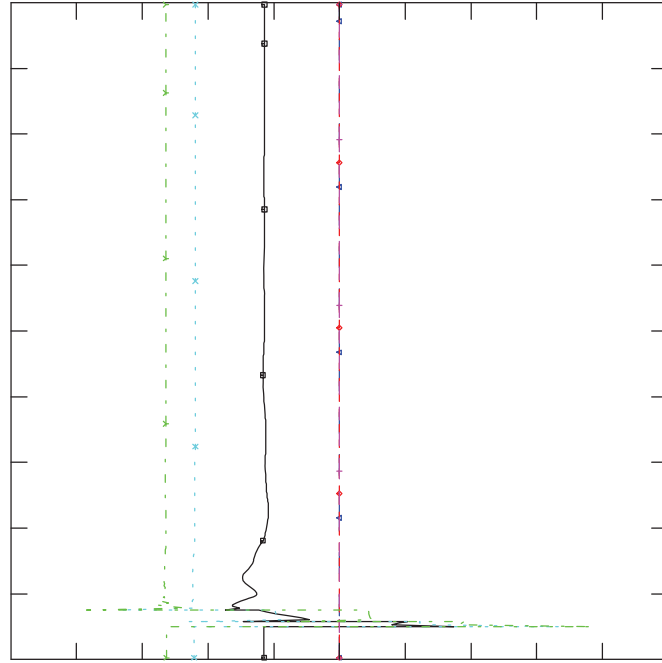


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out



SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE

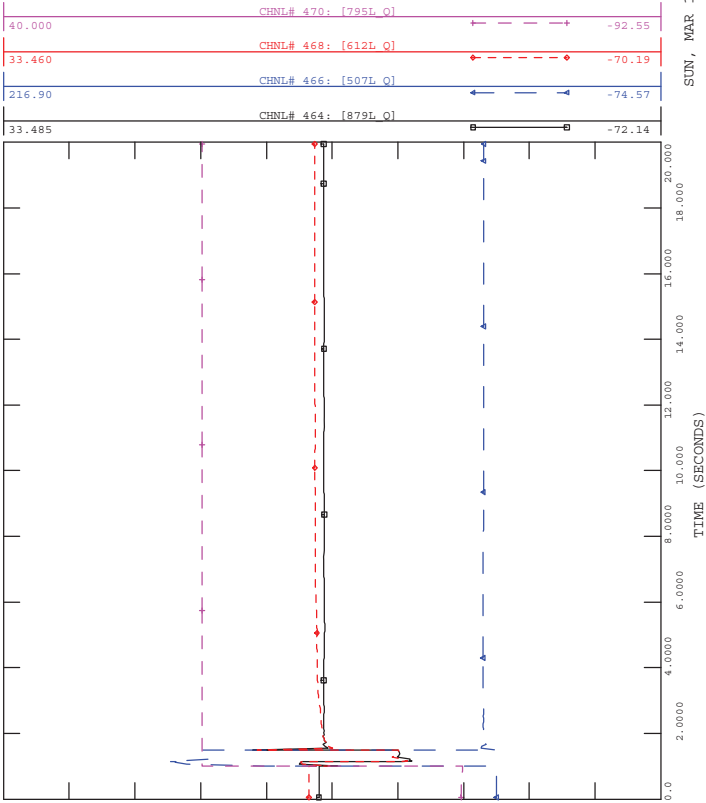




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

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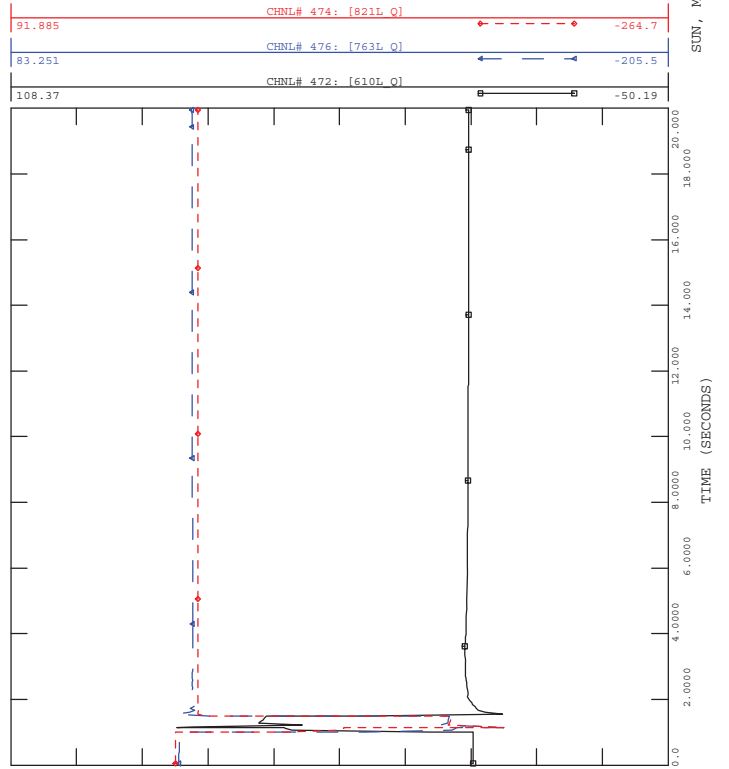
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out

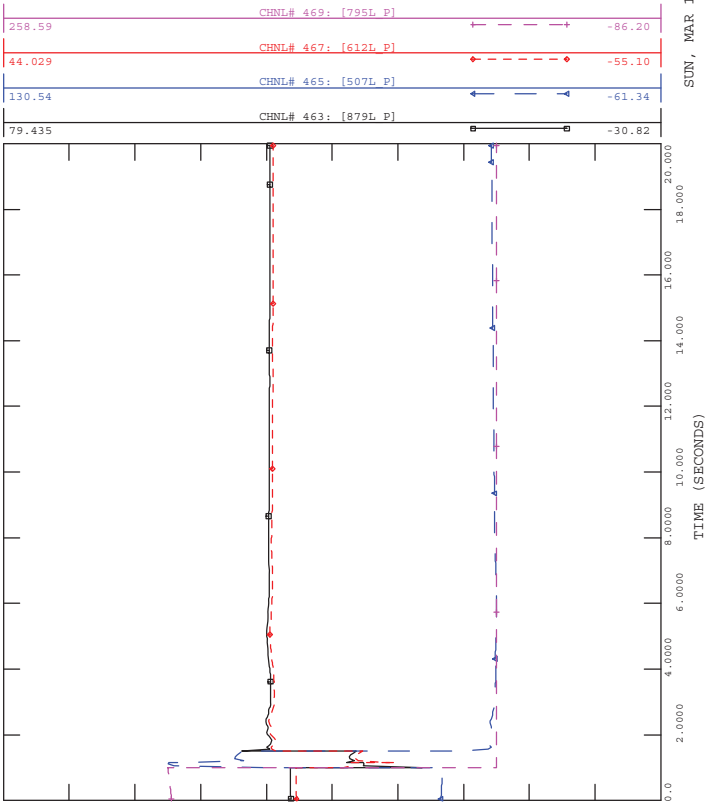
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

FILE: scn3_SL_11_795L_Hays.out

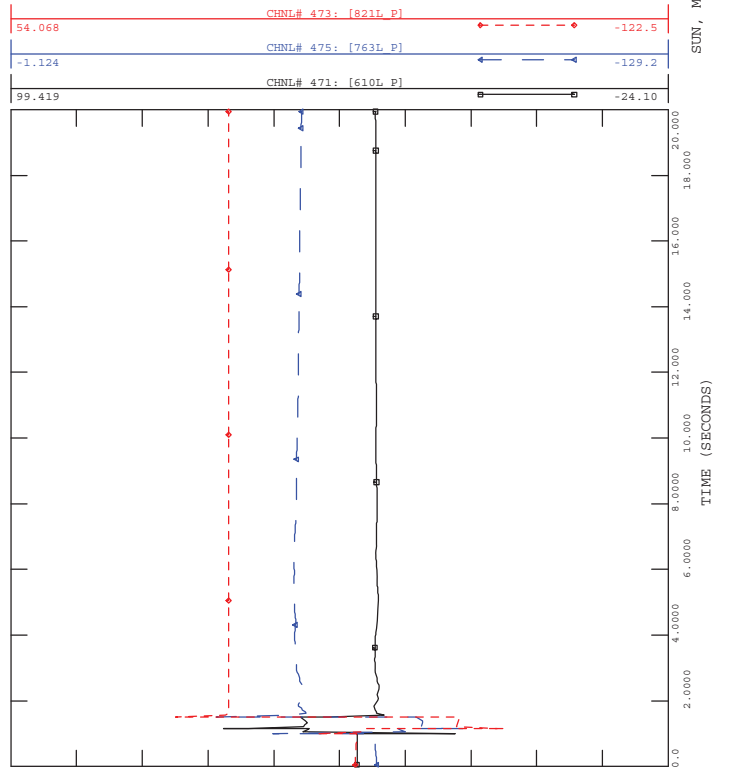
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_11_795L_HAYS

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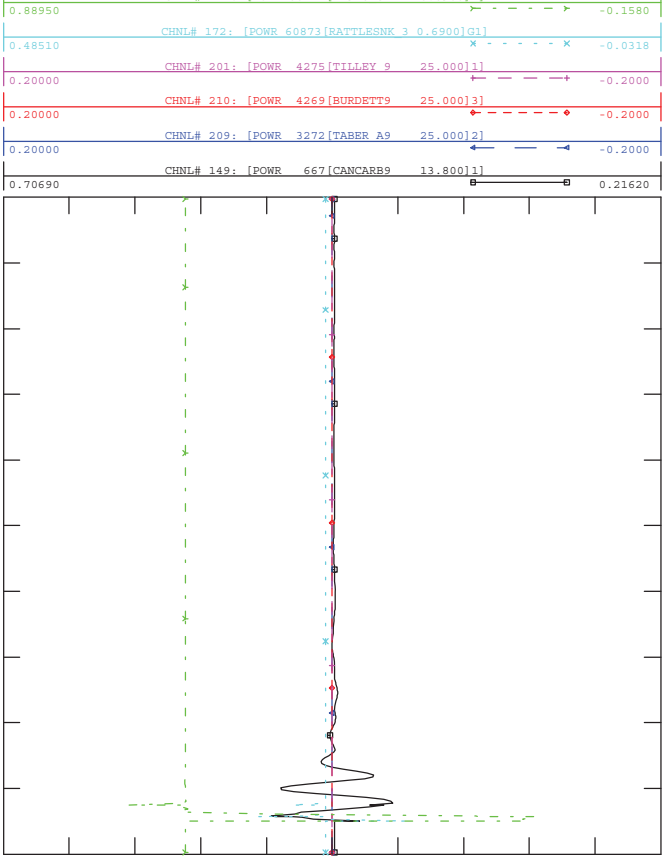
SUN, MAR 13 2022 23:50
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]

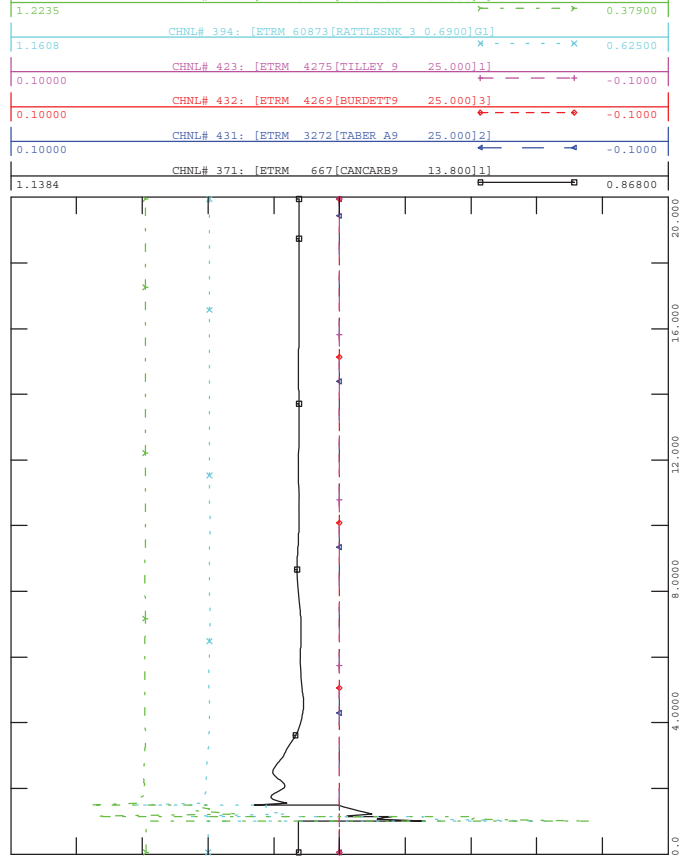


SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out
CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]

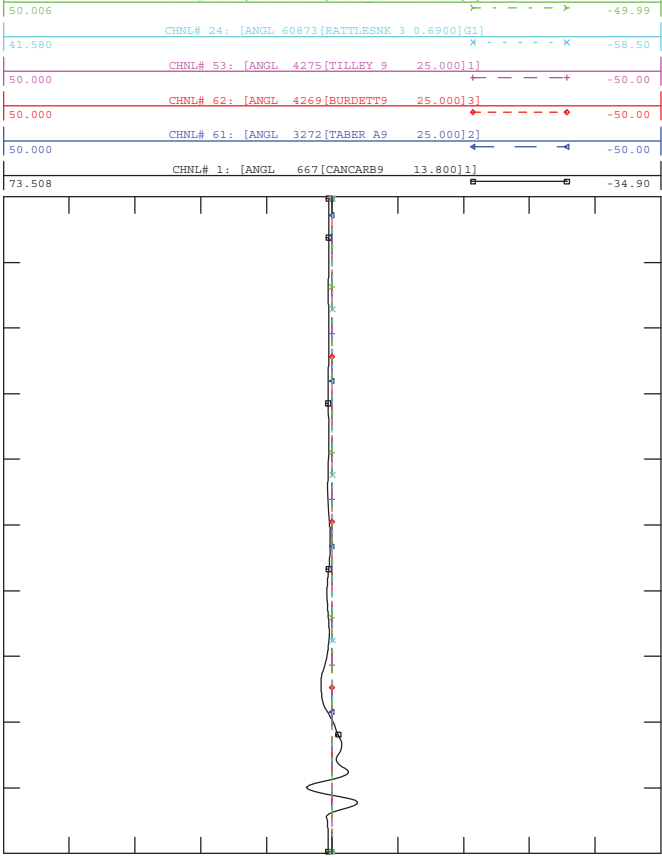


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

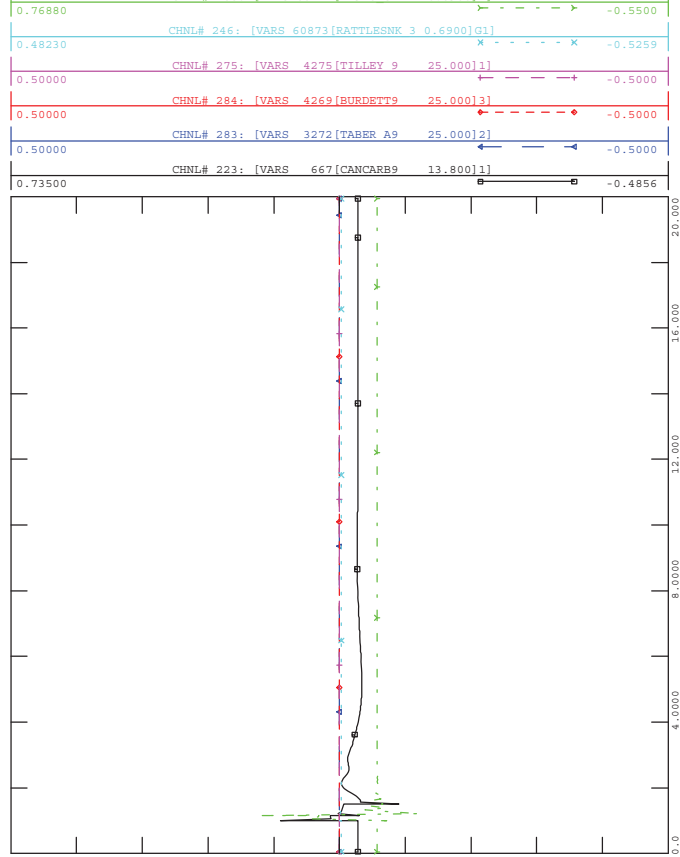


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



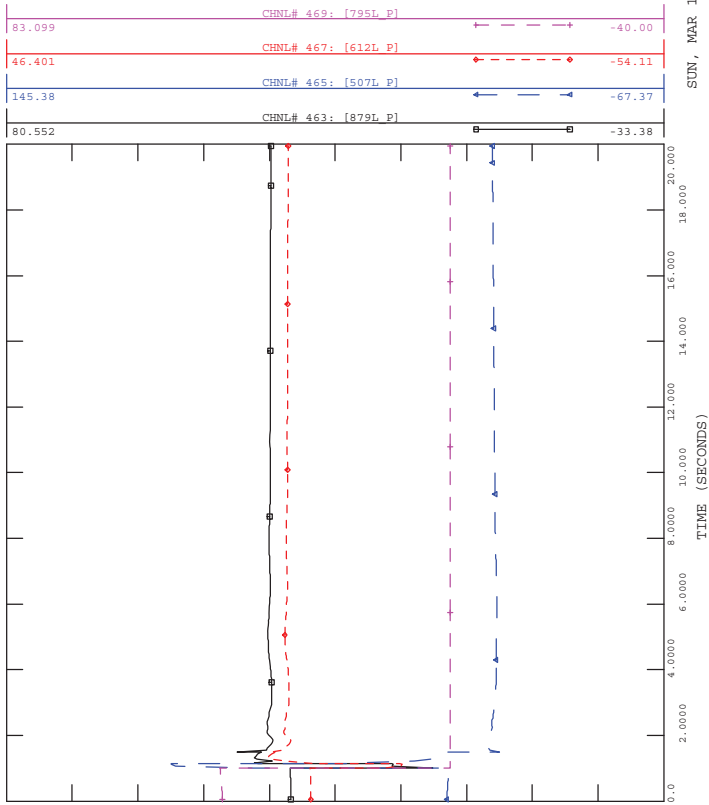
SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out

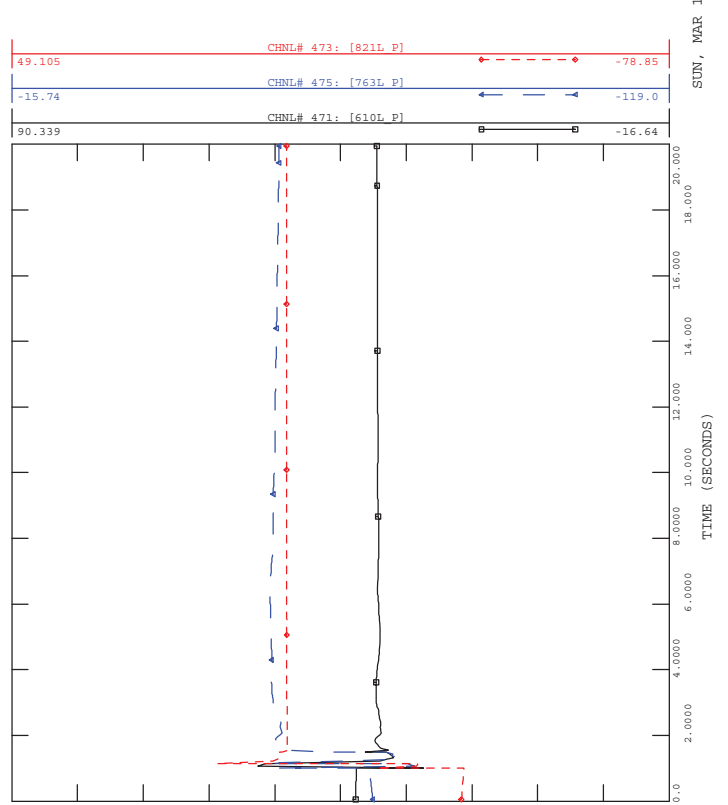
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out

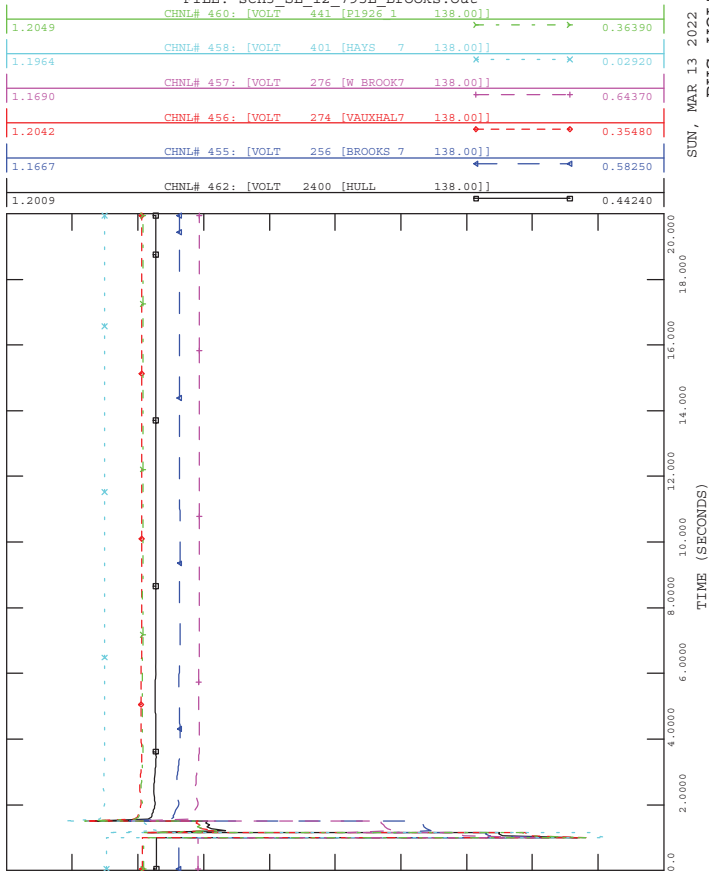
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

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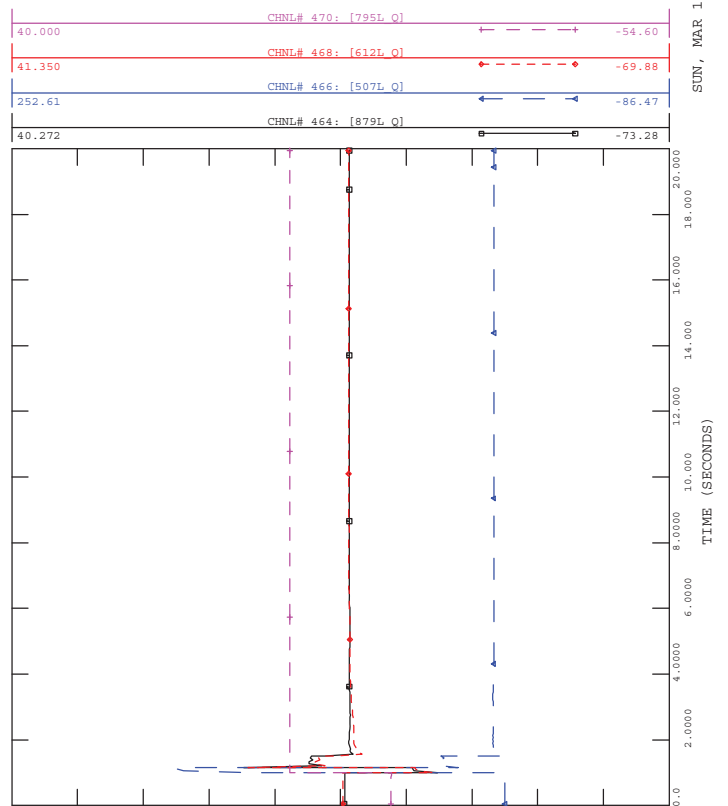
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

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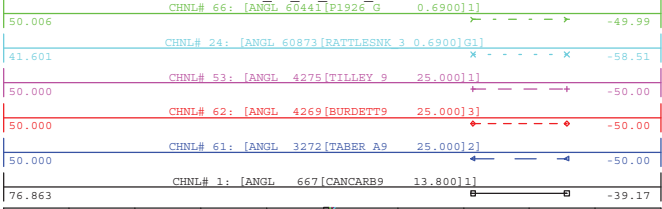
SUN, MAR 13 2022 23:50
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

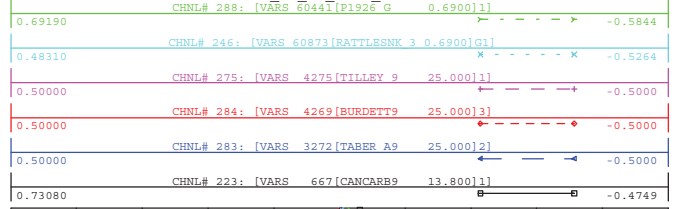


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

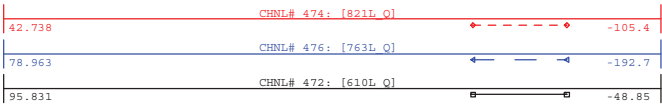


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_12_795L_BROOKS

FILE: scn3_SL_12_795L_Brooks.out

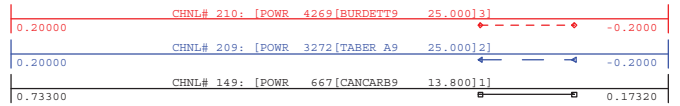


SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



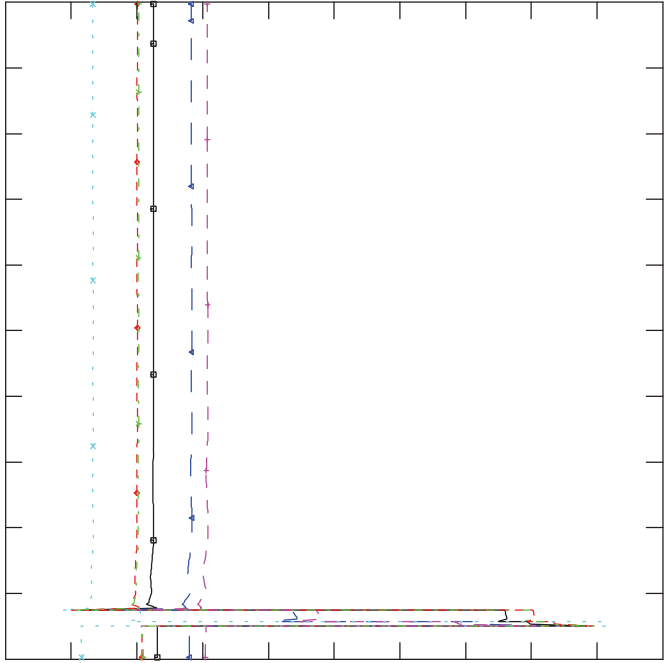
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out

1.2348	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.25410
1.1567	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	-0.0363
1.1731	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.65650
1.2342	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.24300
1.1701	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.60970
1.2309	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.35160



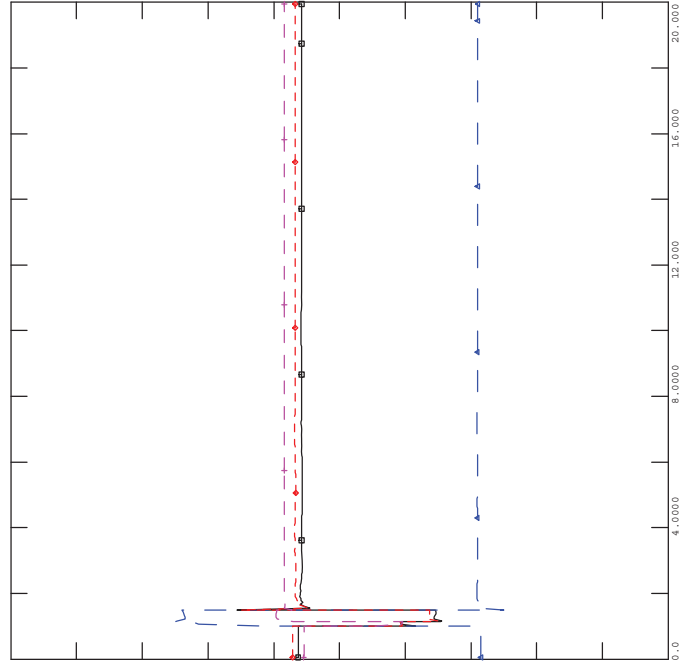
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out

31.870	CHNL# 470: [795L Q]	-67.26
34.275	CHNL# 468: [612L Q]	-79.94
319.89	CHNL# 466: [507L Q]	-130.0
33.560	CHNL# 464: [879L Q]	-82.59



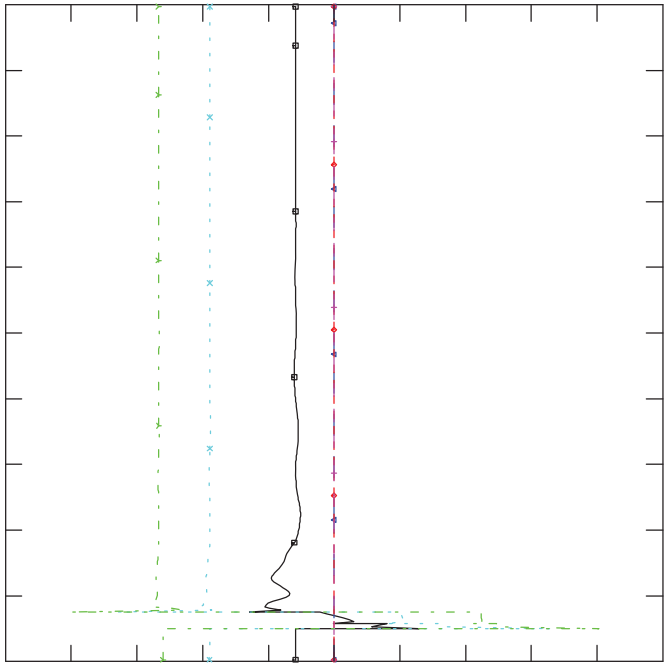
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out

1.2969	CHNL# 436: [ETRM 60441[P1926 G 0.6900]]	0.26820
1.1840	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.59110
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1390	CHNL# 371: [ETRM 667[CANCARB9 13.800]1]	0.86930



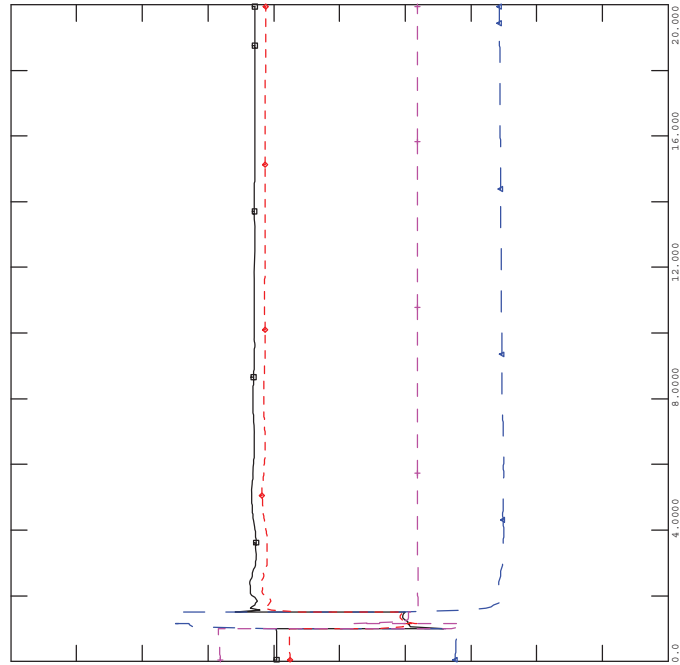
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out

74.490	CHNL# 469: [795L P]	-52.29
44.464	CHNL# 467: [612L P]	-60.66
167.81	CHNL# 465: [507L P]	-76.24
78.664	CHNL# 463: [879L P]	-38.49



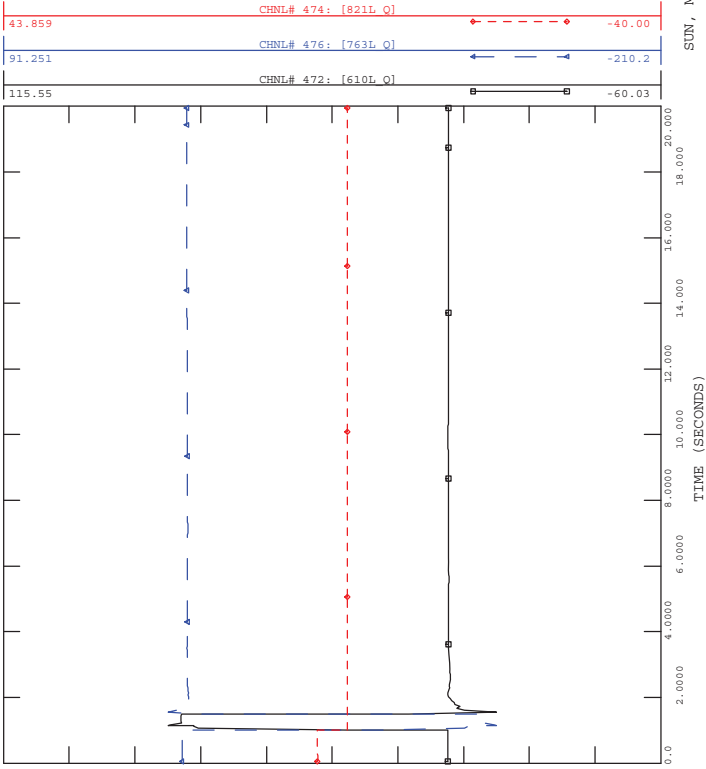
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out

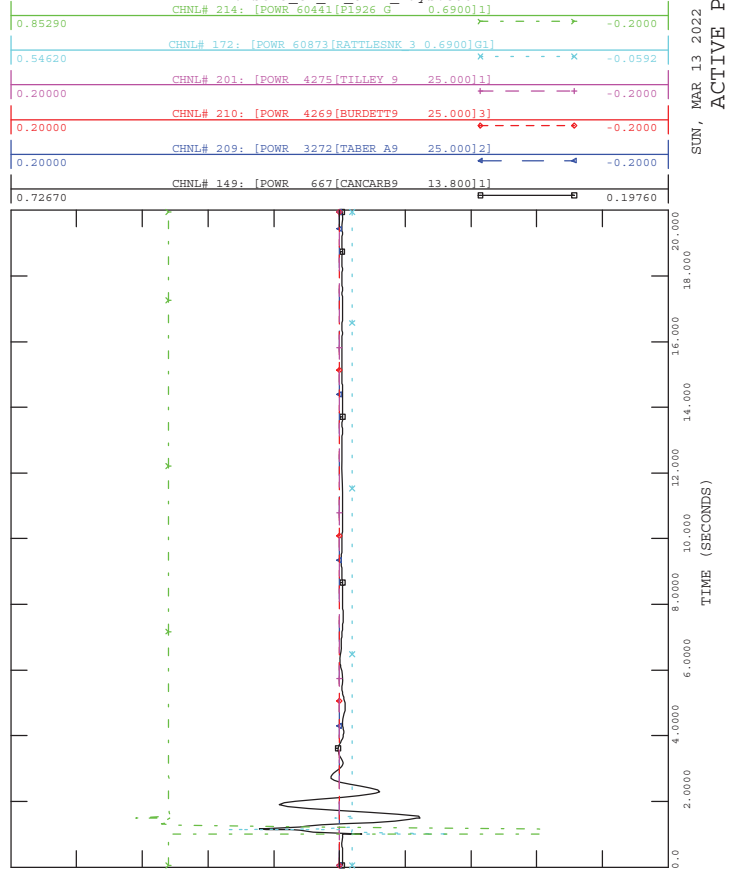
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

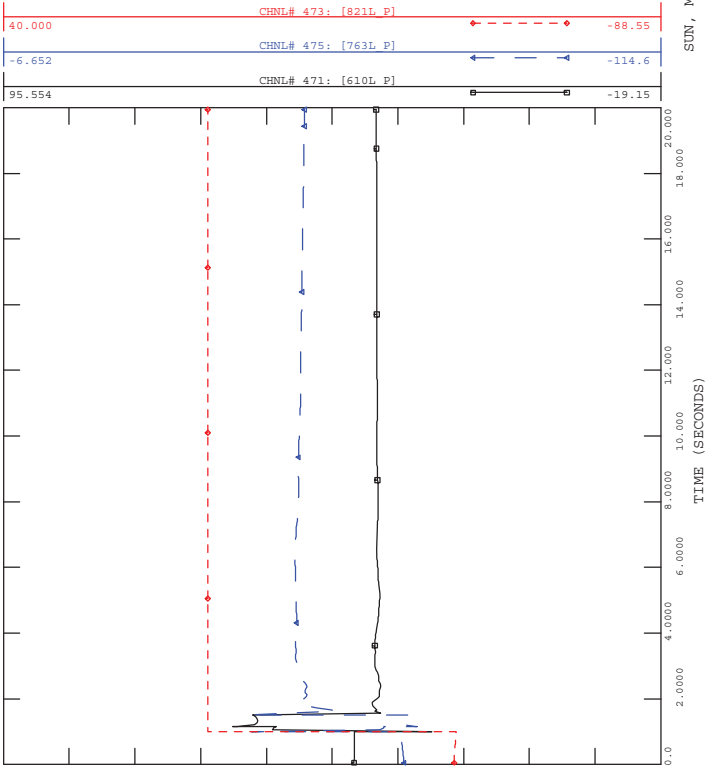
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_13_821L_VAUXHALL

FILE: scn3_SL_13_821L_Vauxhall.out

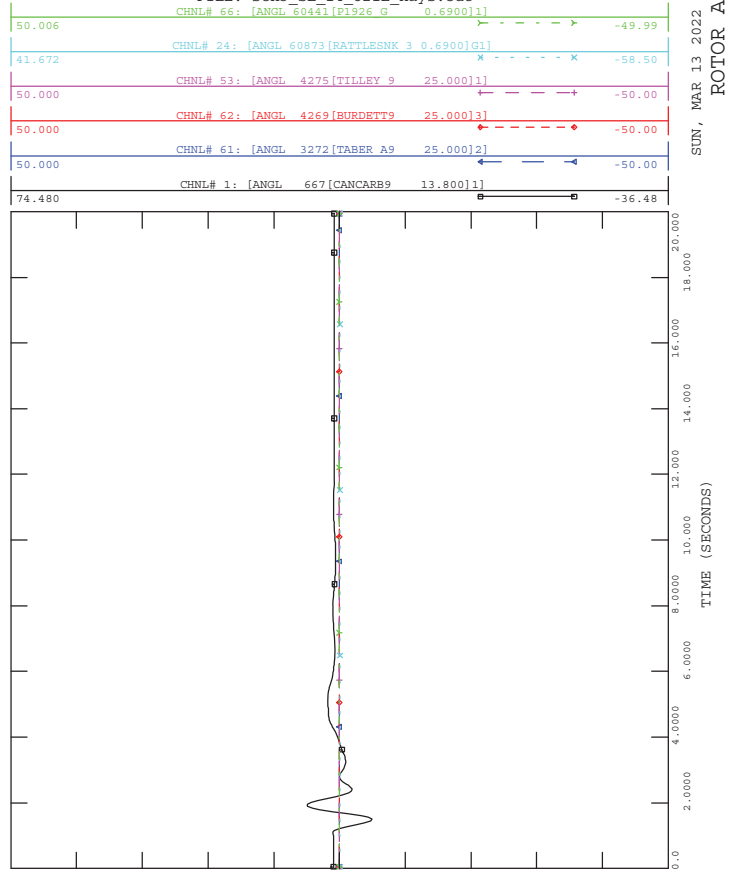
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

SUN, MAR 13 2022 23:50
ROTOR ANGLE

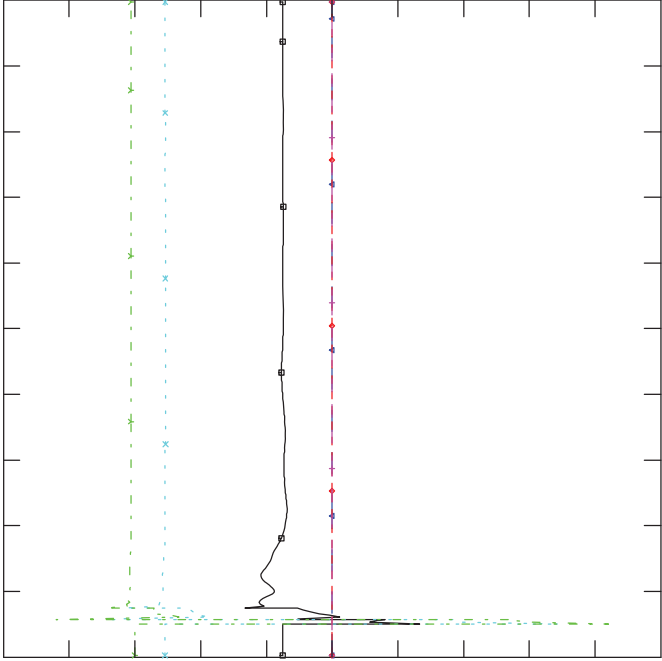




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

1.3002	CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]	0.04740
1.1606	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.50690
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1359	CHNL# 371: [ETRM 667[CANCARB9 13.800]1]	0.86320



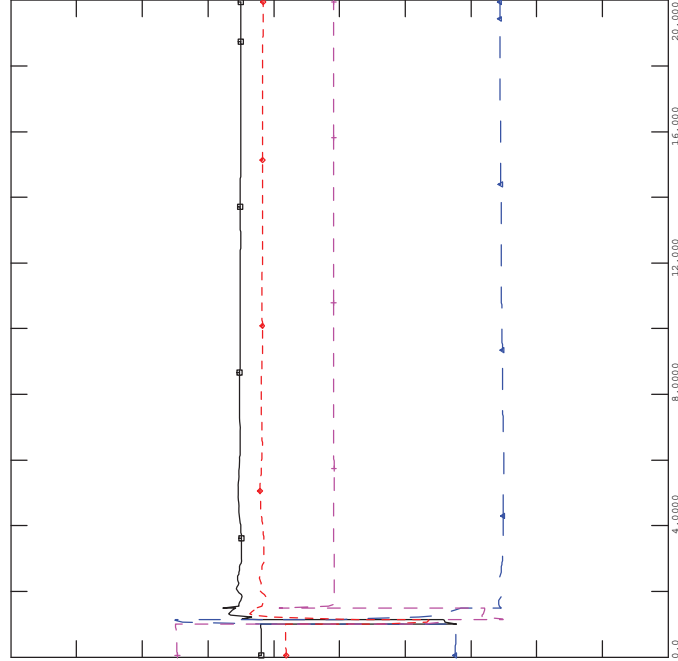
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

74.490	CHNL# 469: [795L P]	-85.11
45.883	CHNL# 467: [612L P]	-64.09
165.44	CHNL# 465: [507L P]	-75.23
78.548	CHNL# 463: [879L P]	-45.51



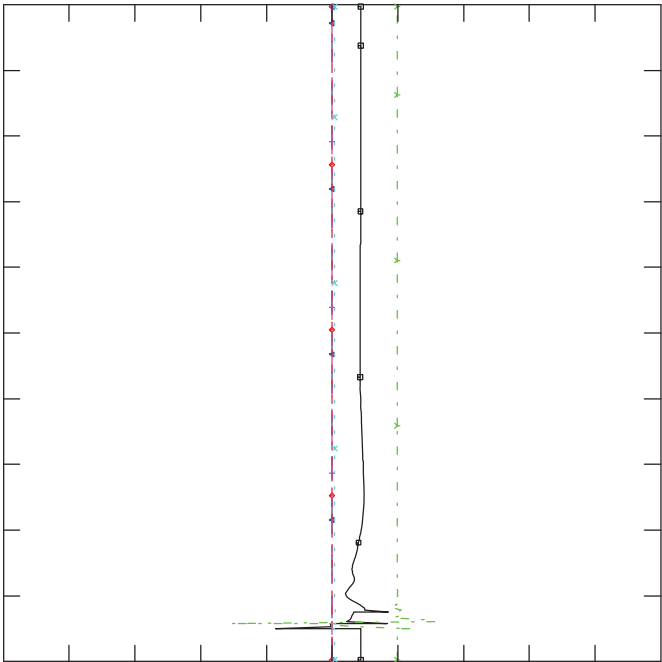
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

0.90820	CHNL# 288: [VARS 60441[P1926 G 0.6900]1]	-0.5511
0.48520	CHNL# 246: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5259
0.50000	CHNL# 275: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 284: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 283: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.74660	CHNL# 223: [VARS 667[CANCARB9 13.800]1]	-0.4603



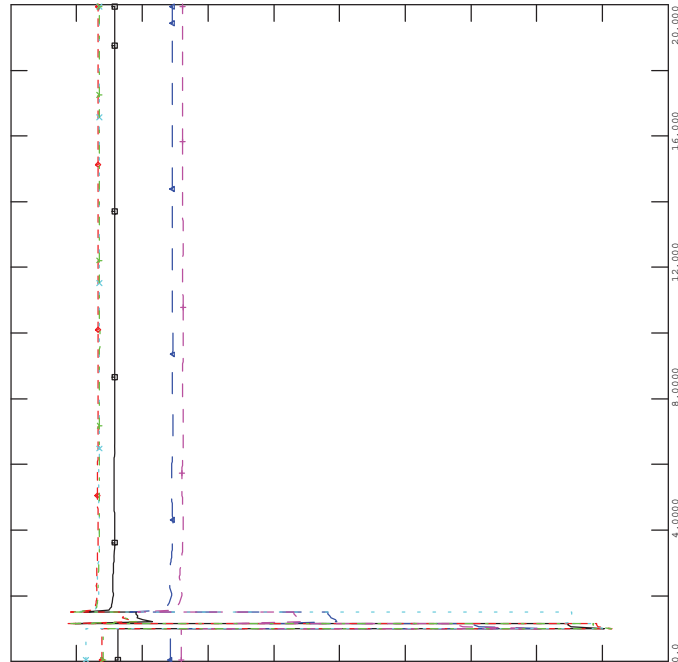
SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

1.1925	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.03610
1.1381	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.09480
1.1501	CHNL# 457: [VOLT 276 [W BROOK7 138.00]]	0.63160
1.1906	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.02130
1.1472	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.59510
1.1949	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.16800

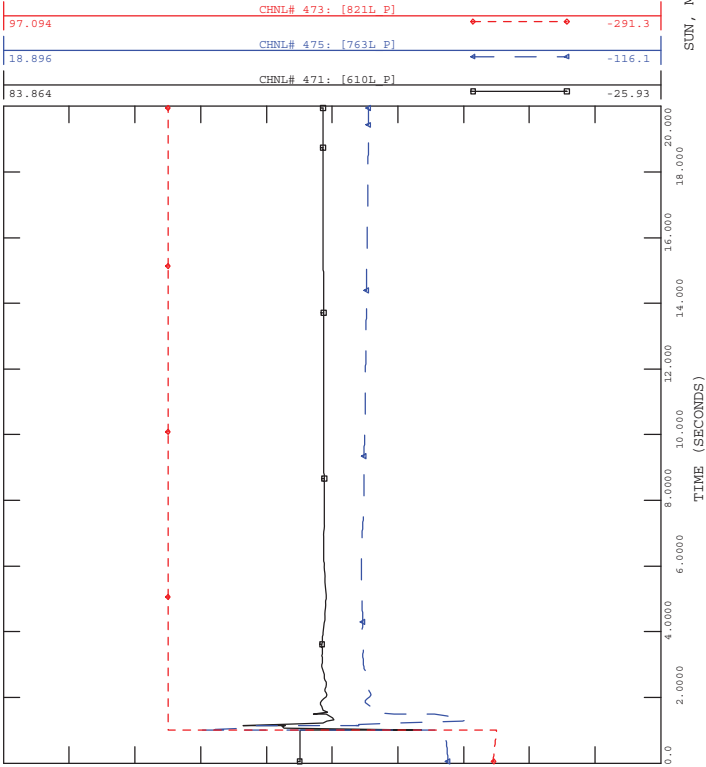


SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

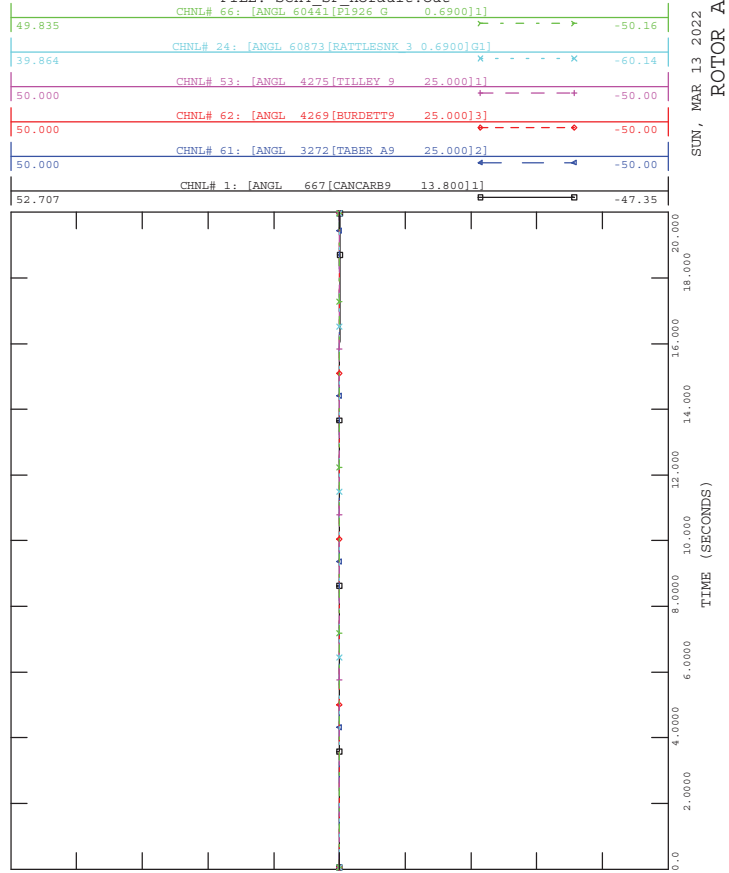


SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

FILE: Scn4_SP_nofault.out

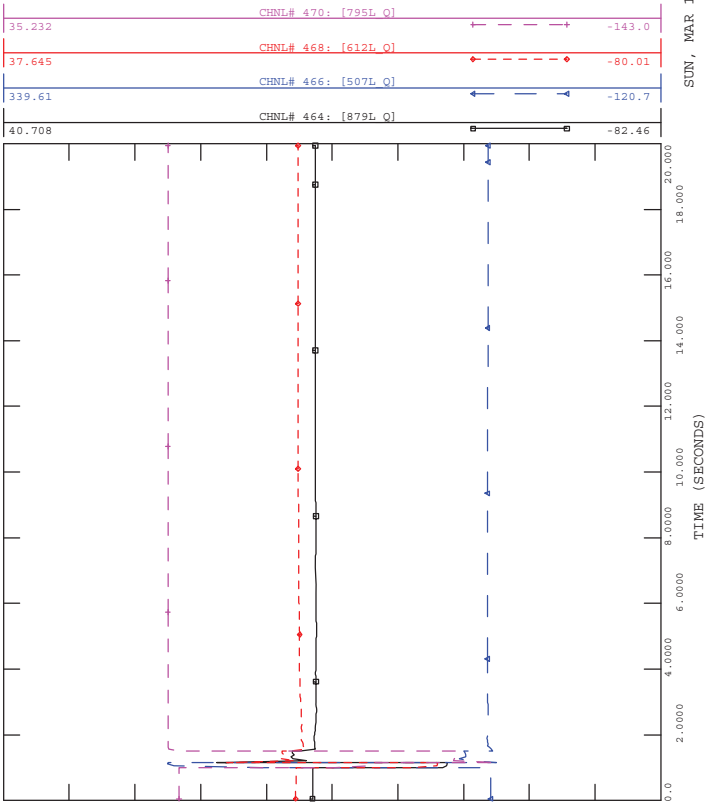


SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

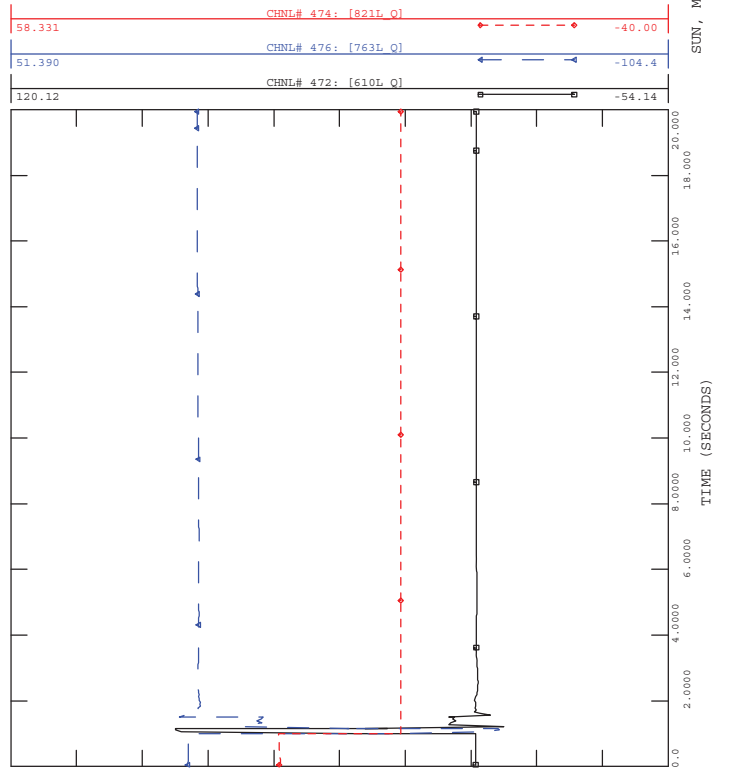


SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN3_SL_14_821L_HAYS

FILE: scn3_SL_14_821L_Hays.out

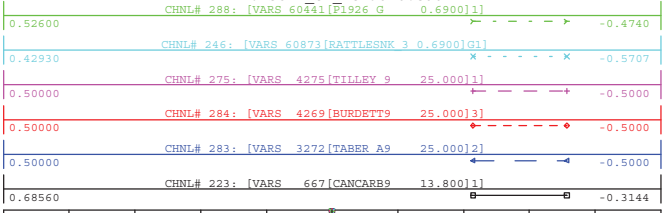


SUN, MAR 13 2022 23:50
BRANCH Q

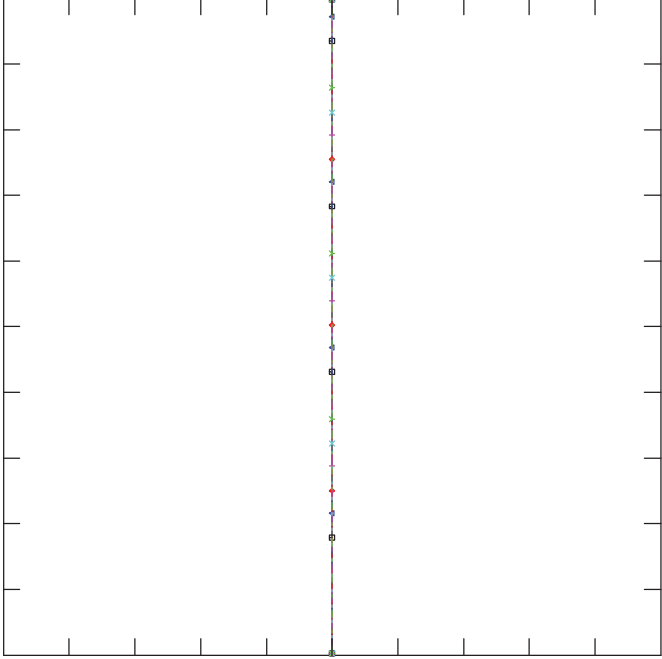


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CONTINGENCY -SCN4_SP_NOFAULT

FILE: Scn4_SP_nofault.out

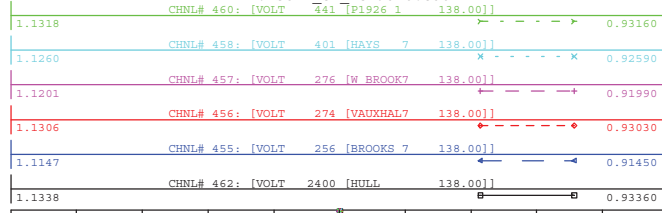


SUN, MAR 13 2022 23:50
REACTIVE POWER

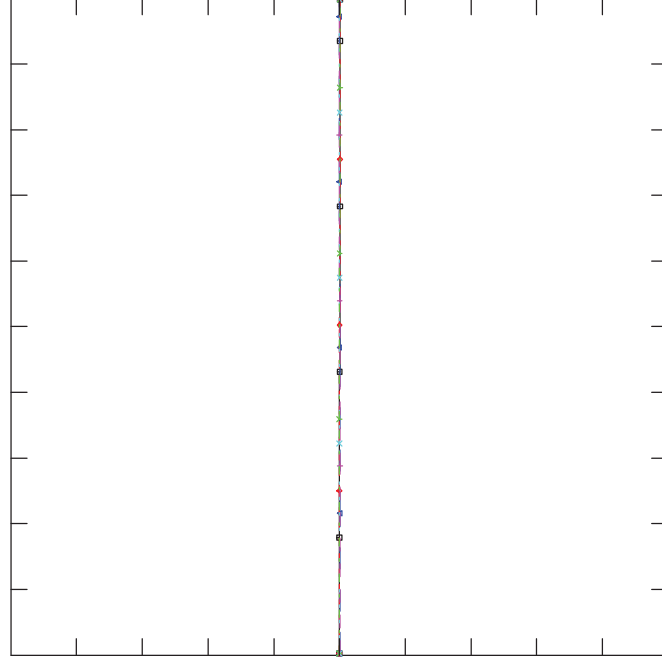


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

FILE: Scn4_SP_nofault.out

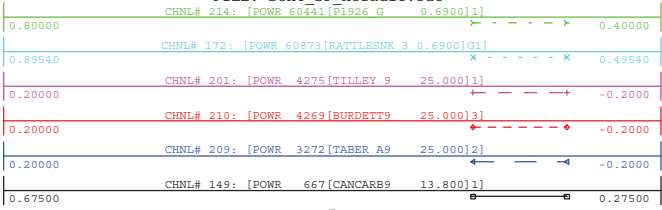


SUN, MAR 13 2022 23:50
BUS VOLTAGE

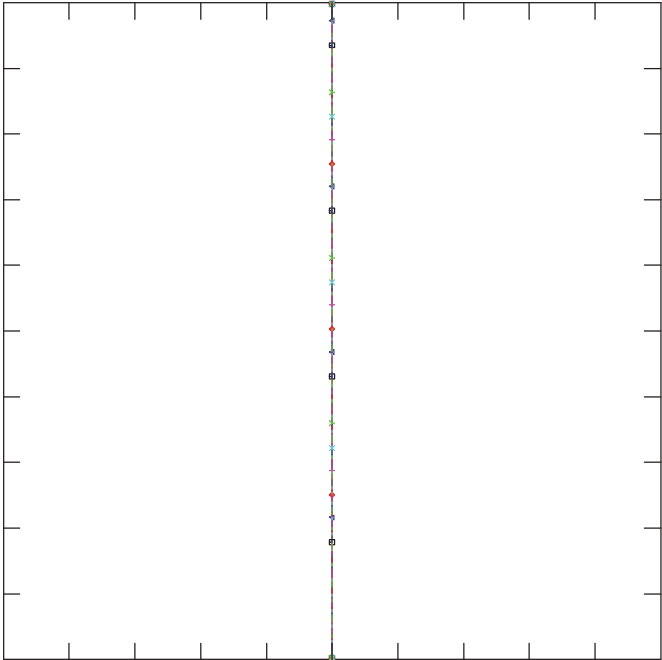


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

FILE: Scn4_SP_nofault.out

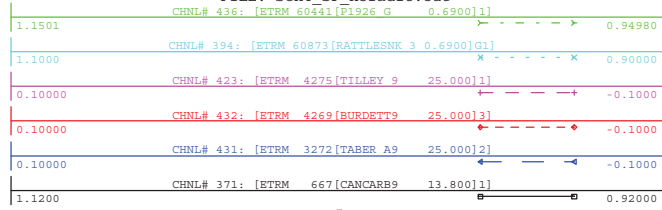


SUN, MAR 13 2022 23:50
ACTIVE POWER

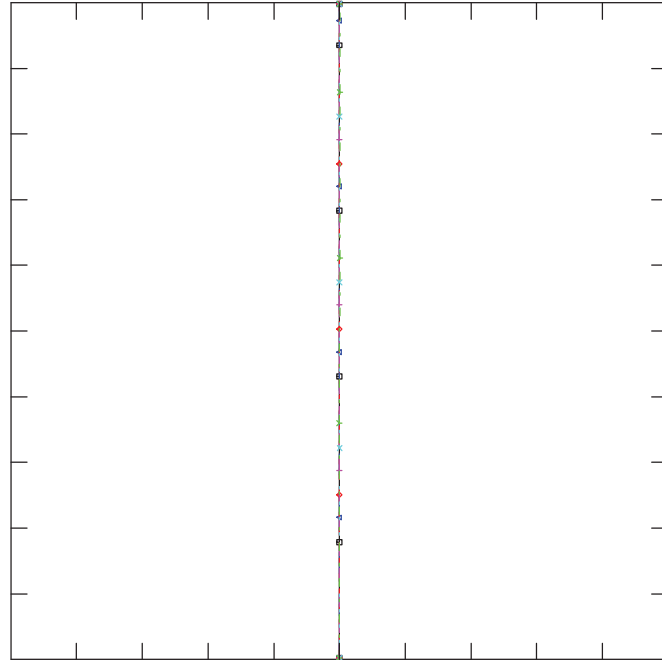


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

FILE: Scn4_SP_nofault.out



SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE

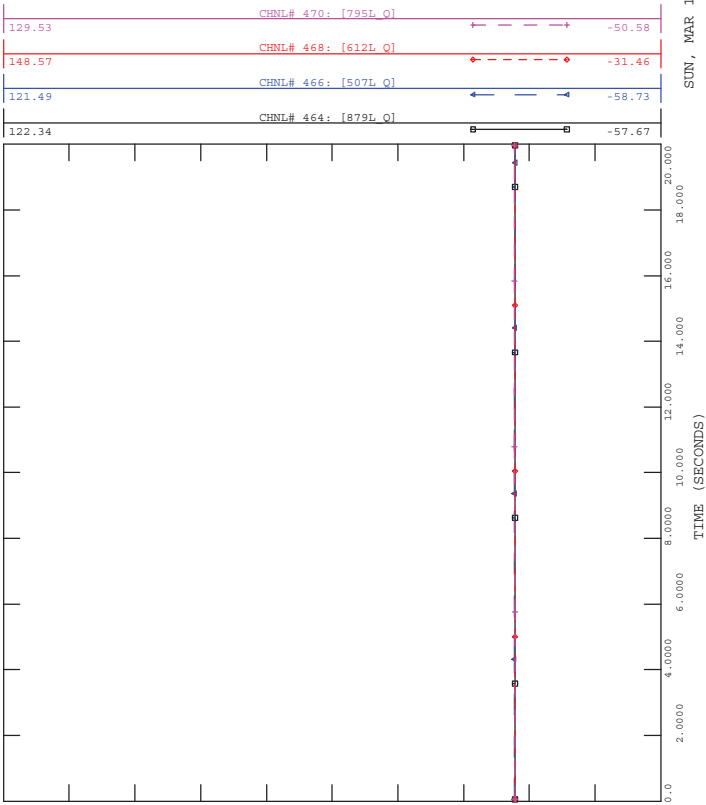




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

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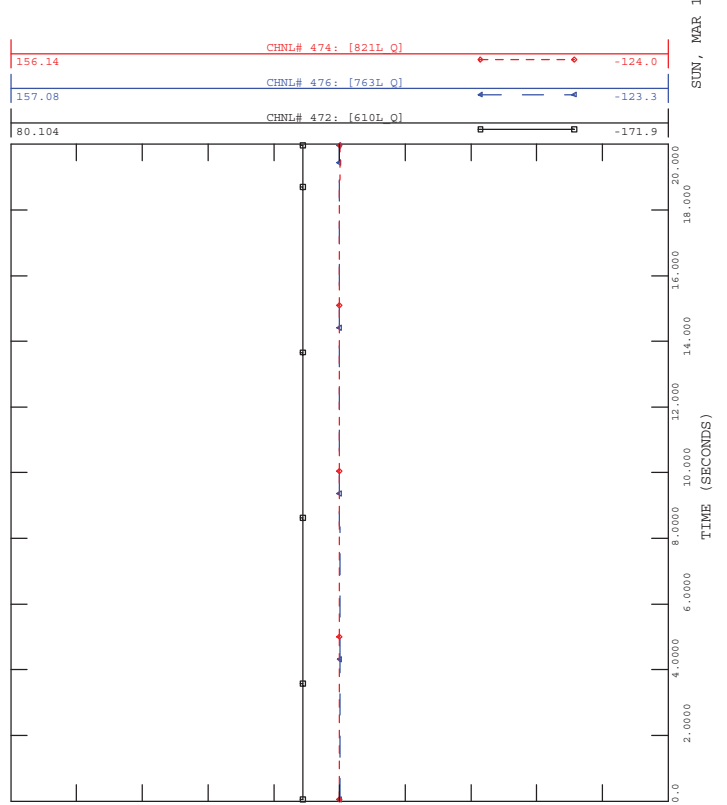
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

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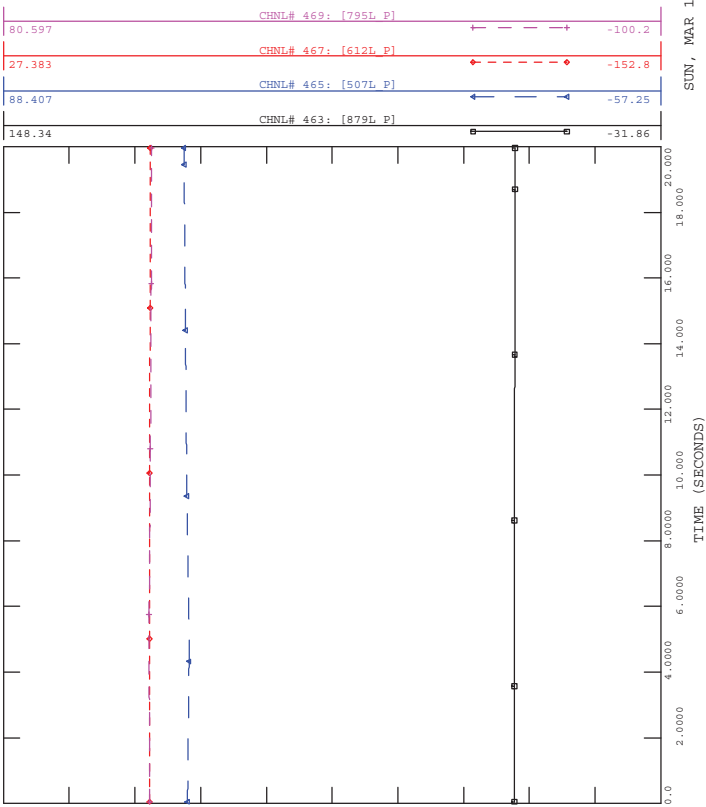
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

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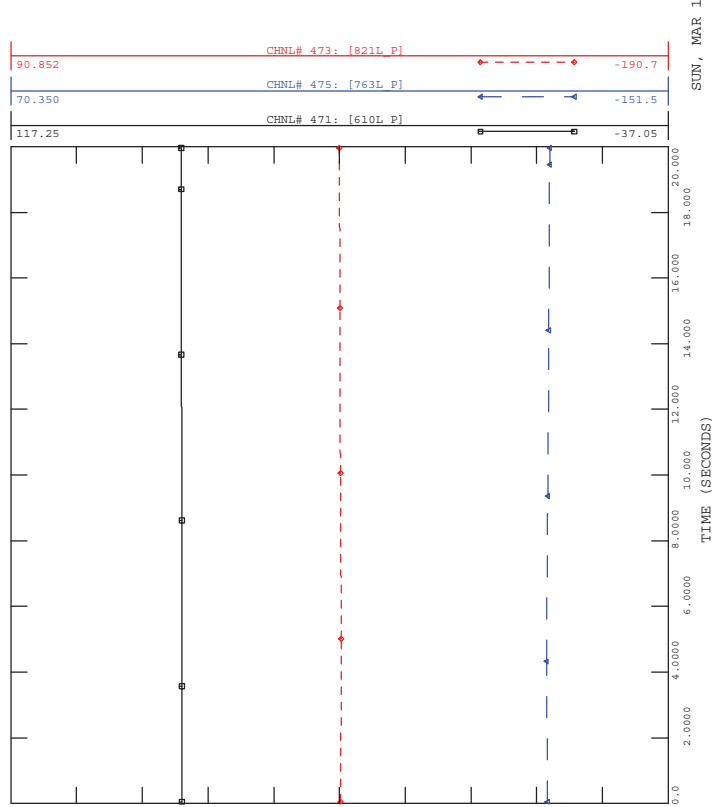
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_NOFAULT

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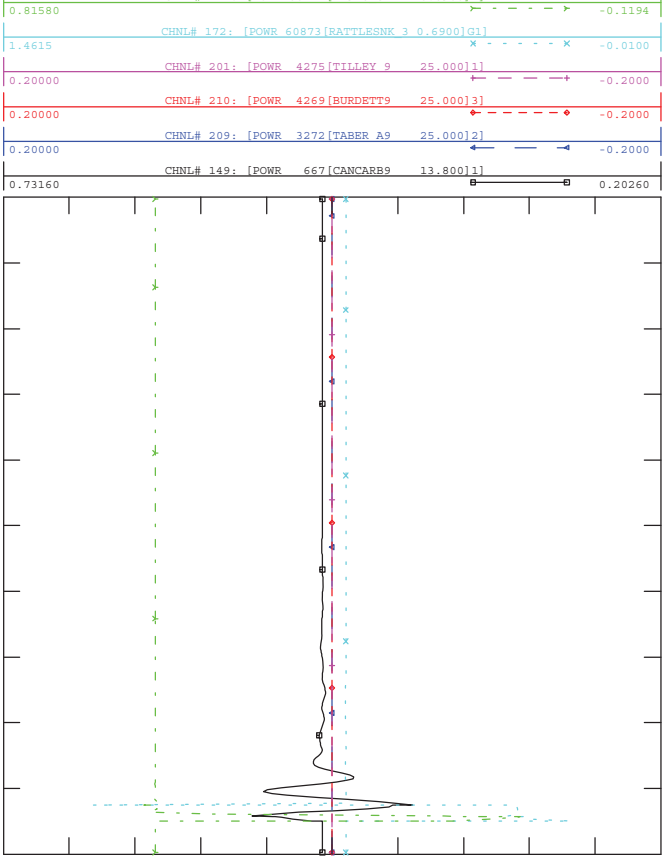
SUN, MAR 13 2022 23:50
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

FILE: scn4_SP_01_612L_Burdett.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]

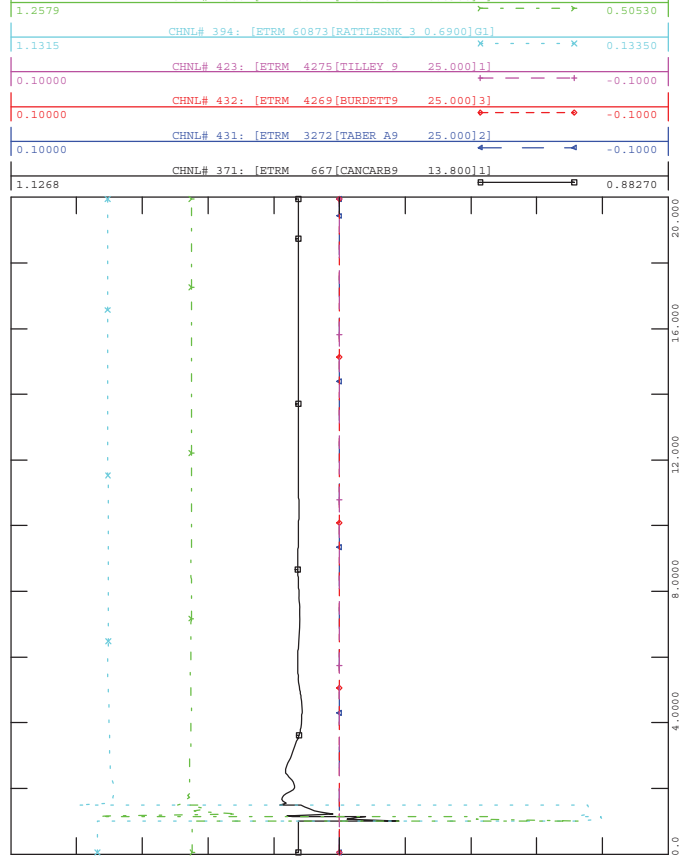


SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

FILE: scn4_SP_01_612L_Burdett.out
CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]

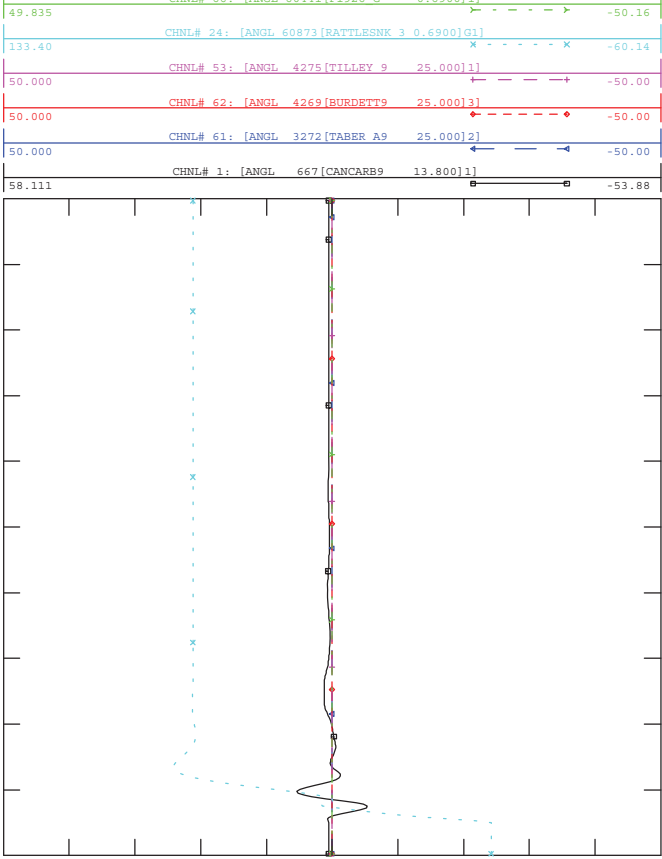


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

FILE: scn4_SP_01_612L_Burdett.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

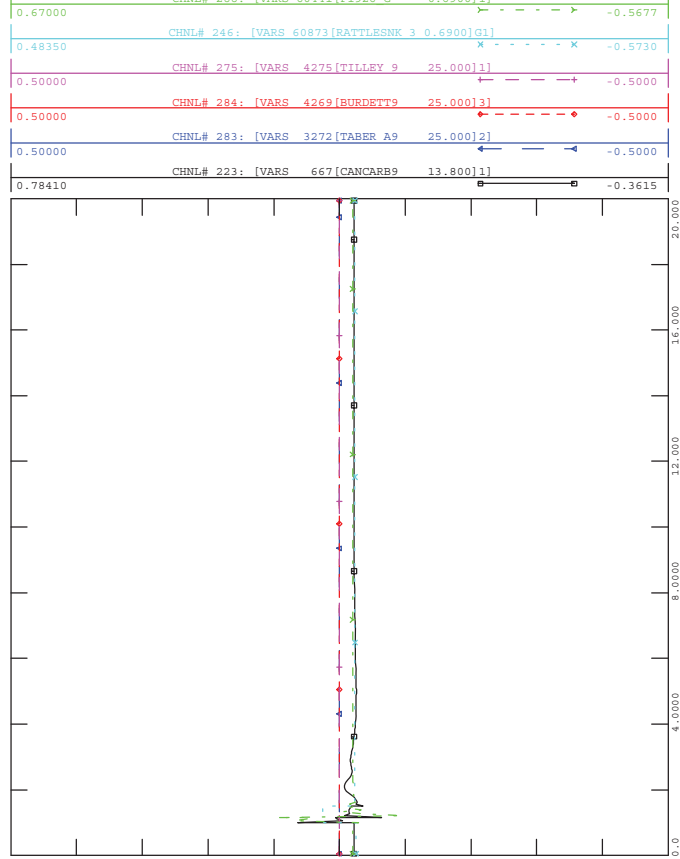


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

FILE: scn4_SP_01_612L_Burdett.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



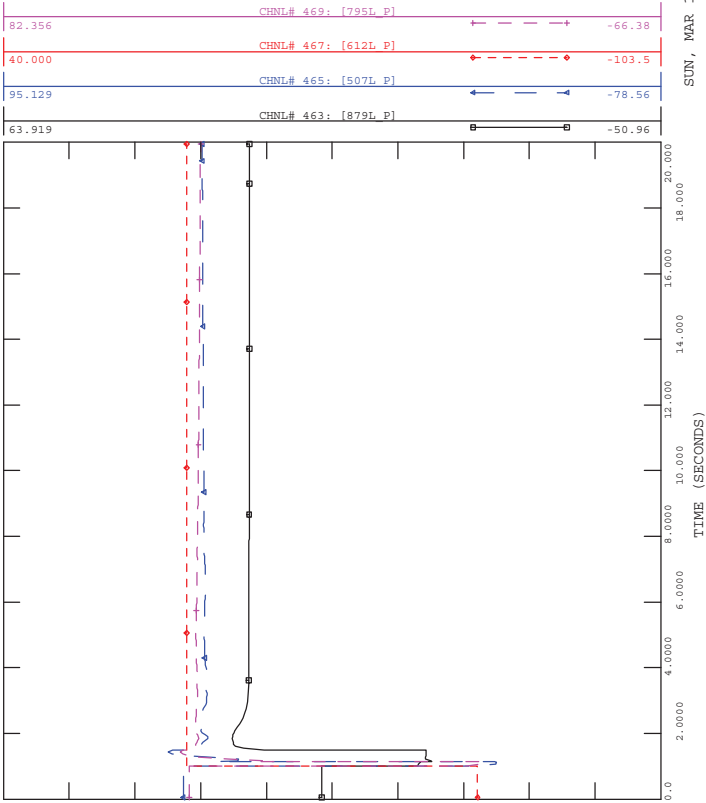
SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

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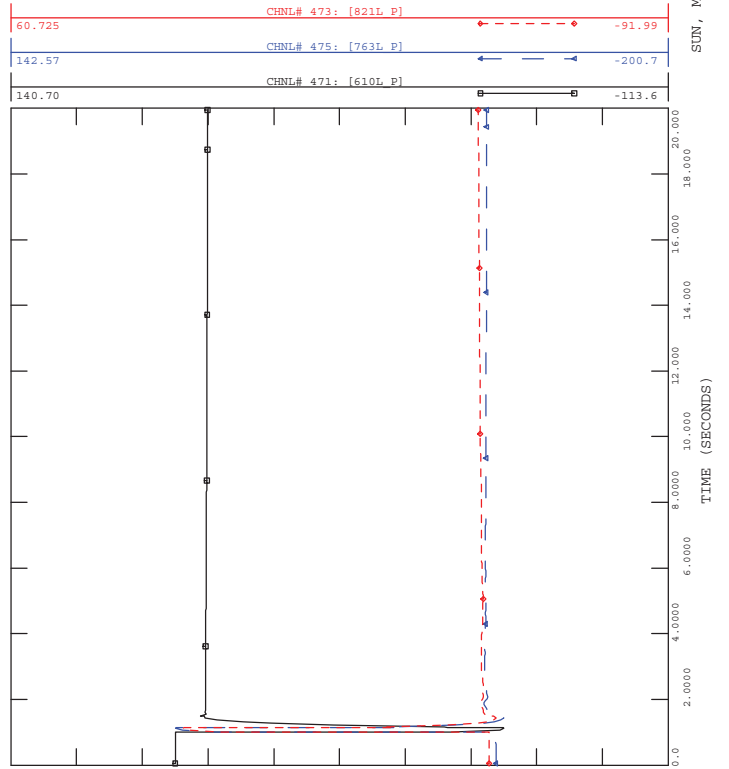
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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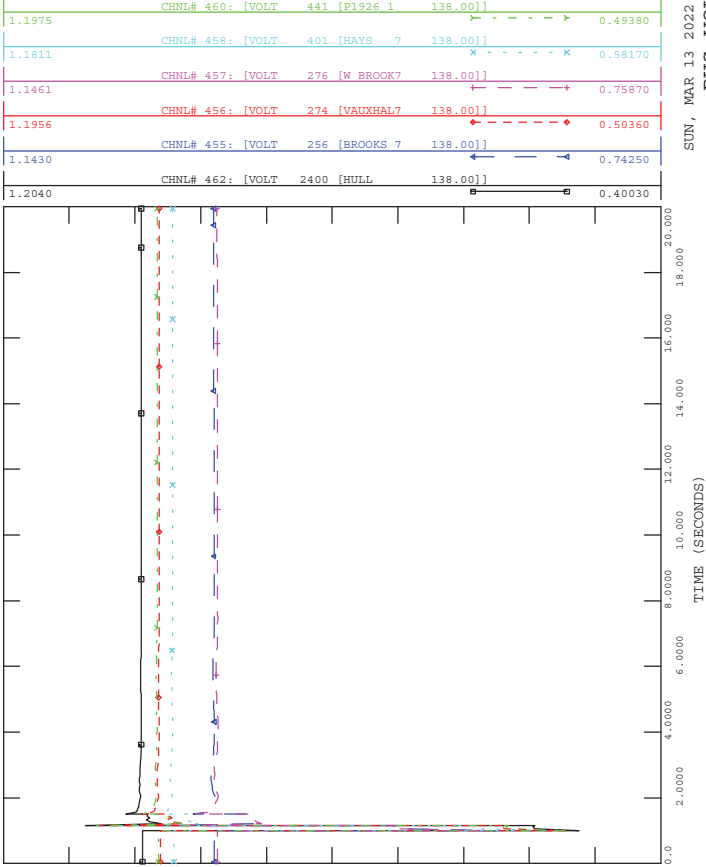
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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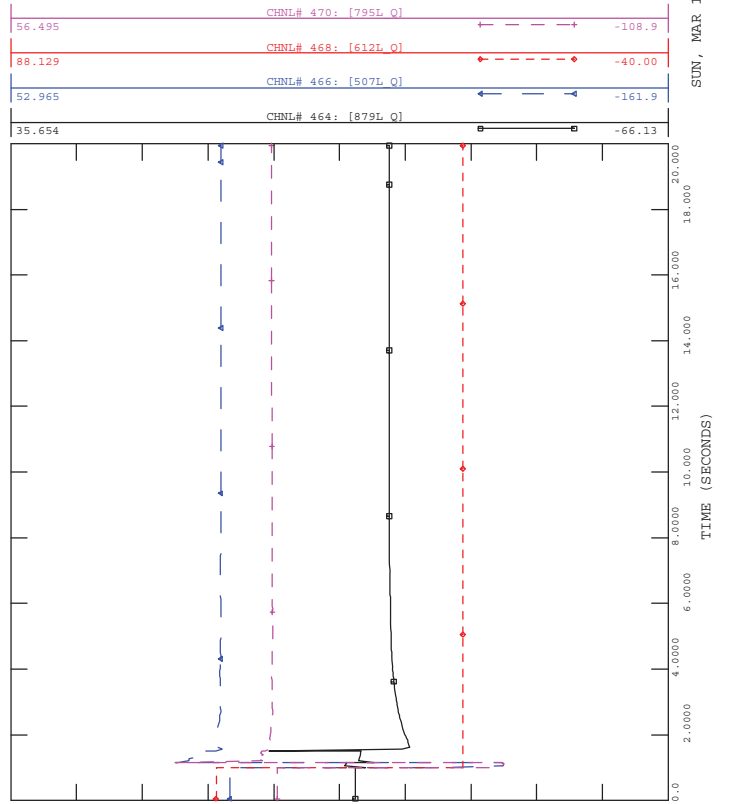
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

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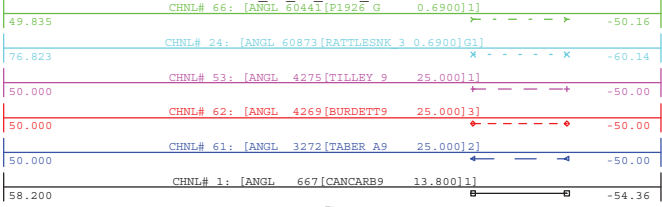
SUN, MAR 13 2022 23:50
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

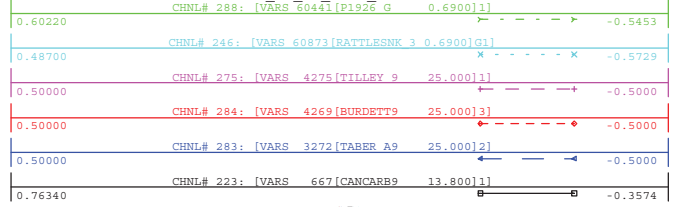


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

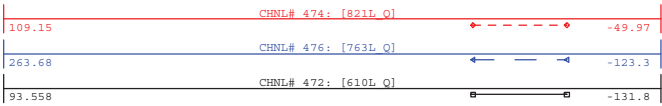


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_01_612L_BURDETT

FILE: scn4_SP_01_612L_Burdett.out

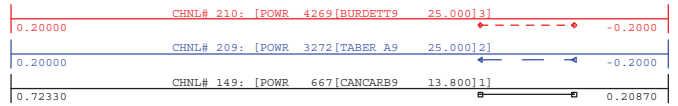


SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



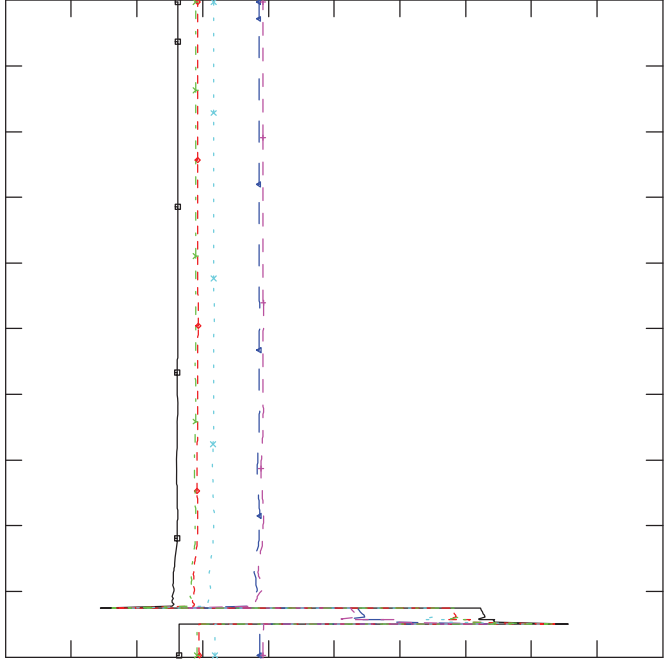
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out

1.2113	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.59490
1.1974	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.65990
1.1673	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.79150
1.2096	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.60200
1.1636	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.77800
1.2166	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.52410



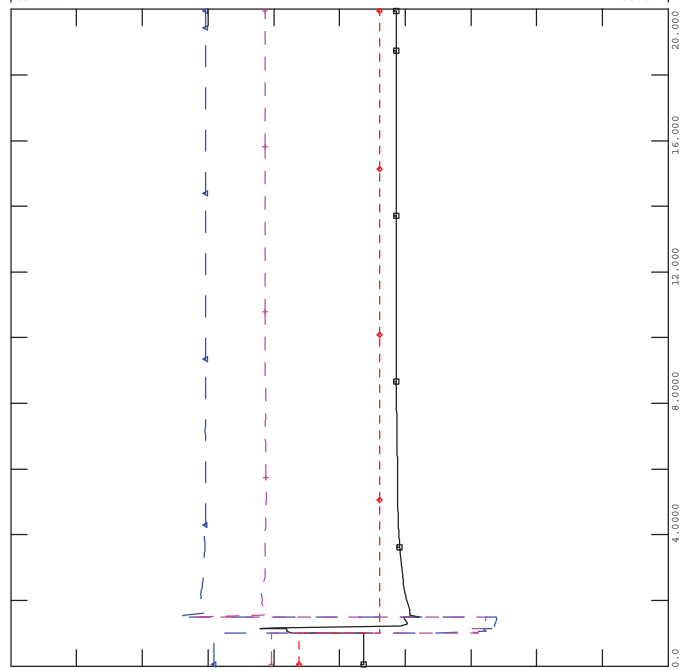
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out

47.129	CHNL# 470: [795L Q]	-98.47
51.208	CHNL# 468: [612L Q]	-40.00
52.830	CHNL# 466: [507L Q]	-178.4
39.026	CHNL# 464: [879L Q]	-66.58



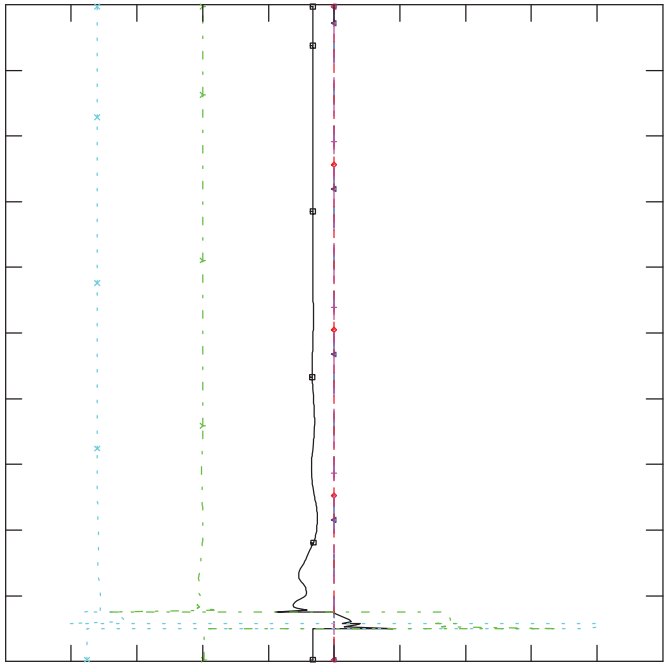
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out

1.2426	CHNL# 436: [ETRM 60441 [P1926 G 0.6900]]	0.60520
1.1301	CHNL# 394: [ETRM 60873 [RATTLESNK 3 0.6900]]	0.08350
0.10000	CHNL# 423: [ETRM 4275 [TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 432: [ETRM 4269 [BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 431: [ETRM 3272 [TABER A9 25.000]]	-0.1000
1.1337	CHNL# 371: [ETRM 667 [CANCARB9 13.800]]	0.89060



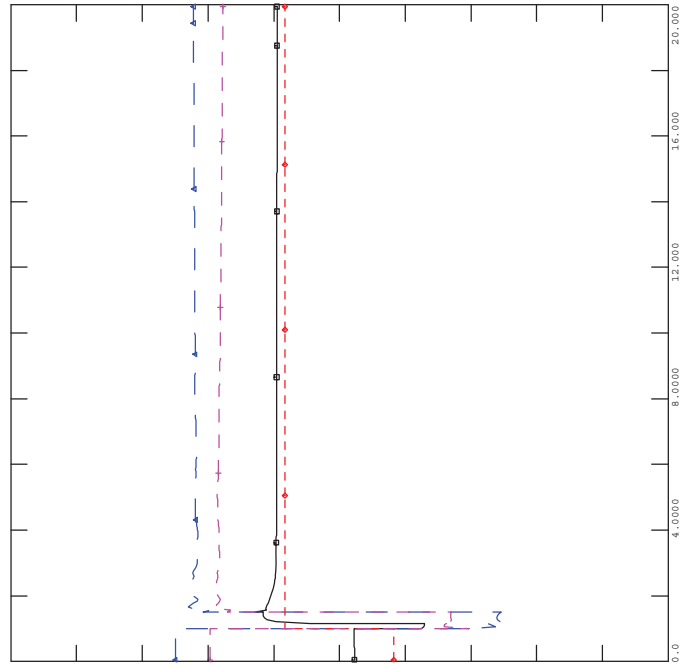
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_02_612L_FINCATTLE

FILE: scn4_SP_02_612L_Fincastle.out

80.382	CHNL# 469: [795L P]	-51.75
40.000	CHNL# 467: [612L P]	-55.87
92.474	CHNL# 465: [507L P]	-86.91
64.633	CHNL# 463: [879L P]	-43.20



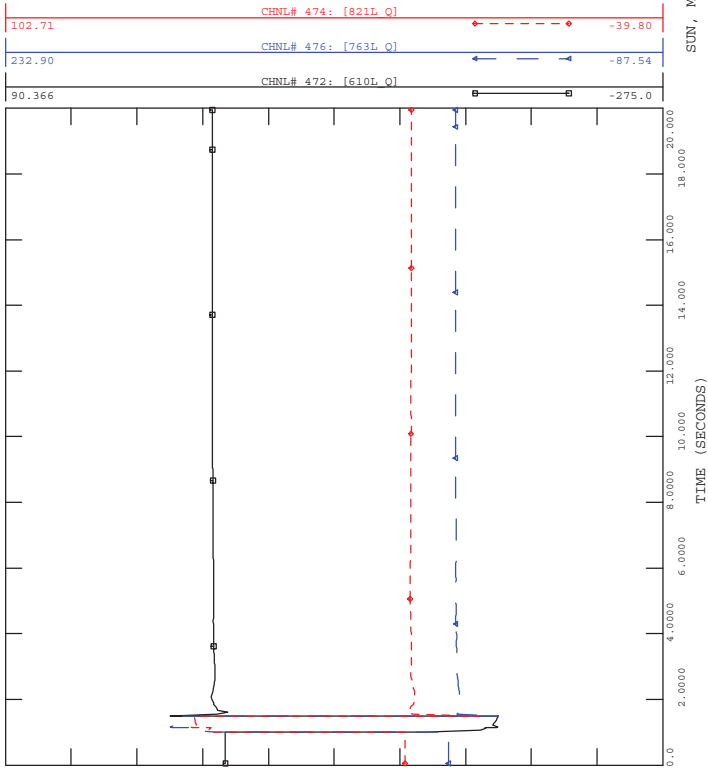
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BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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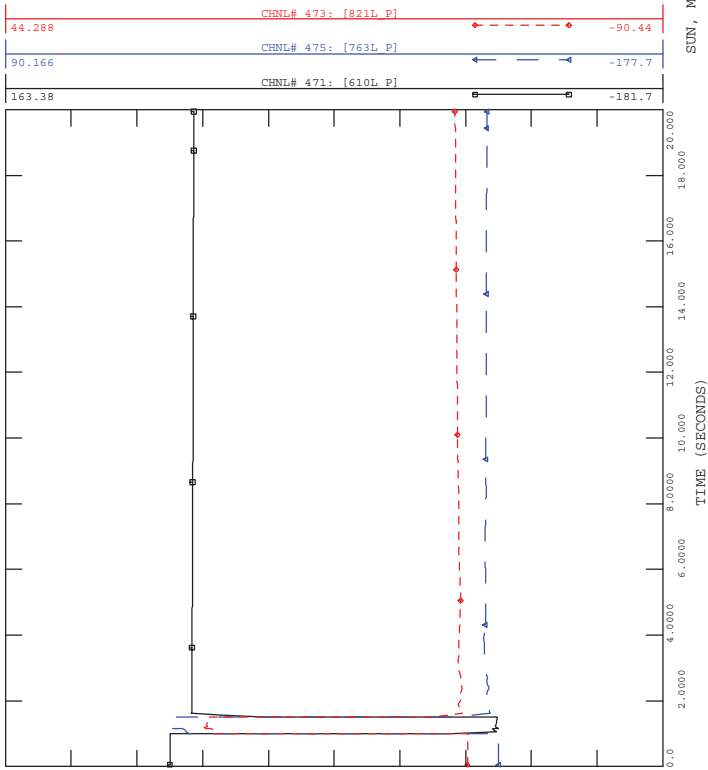
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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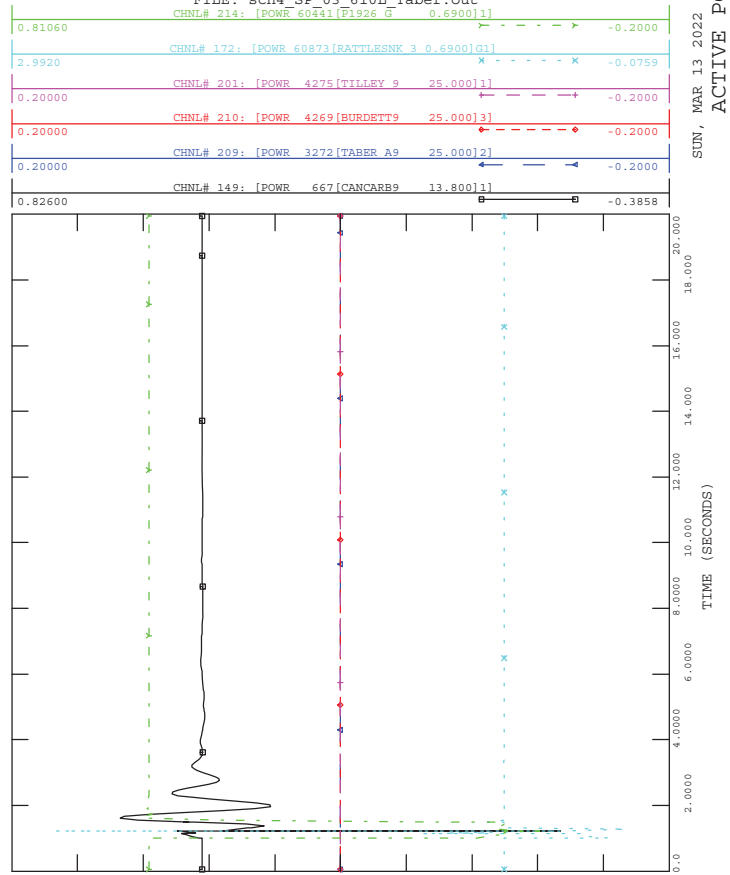
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

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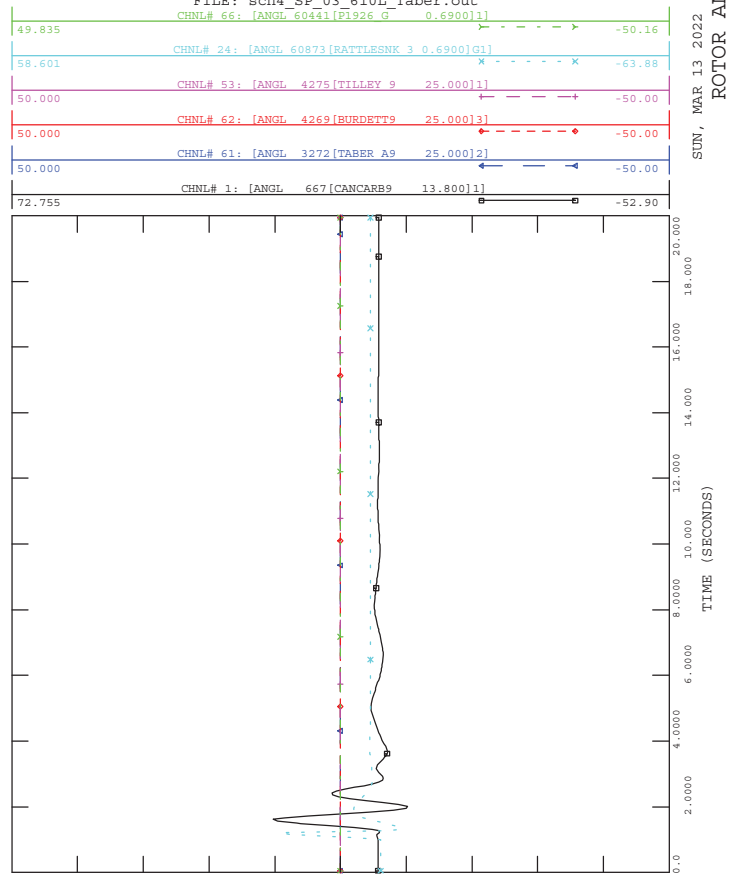
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

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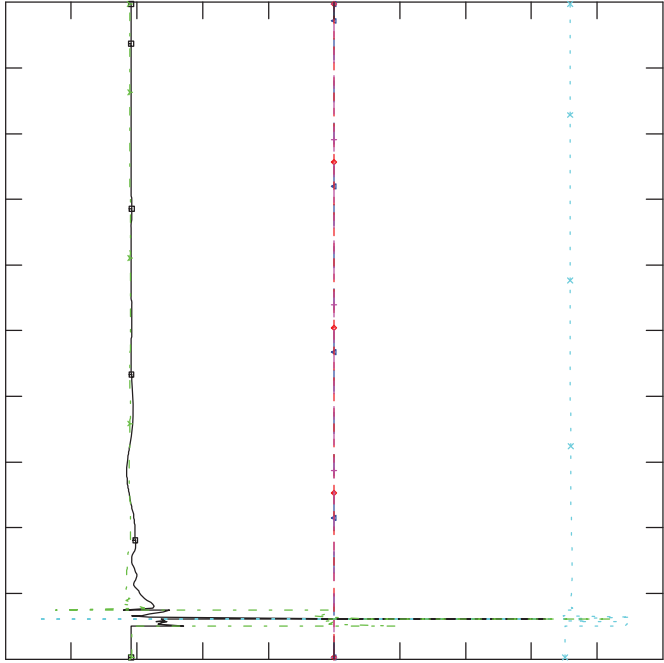
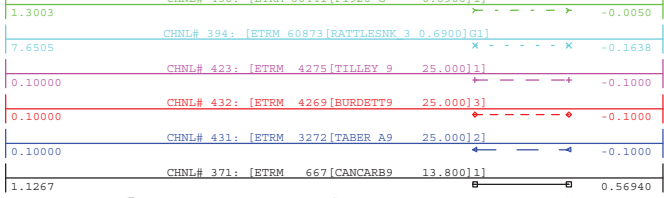
SUN, MAR 13 2022 23:50
ROTOR ANGLE





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

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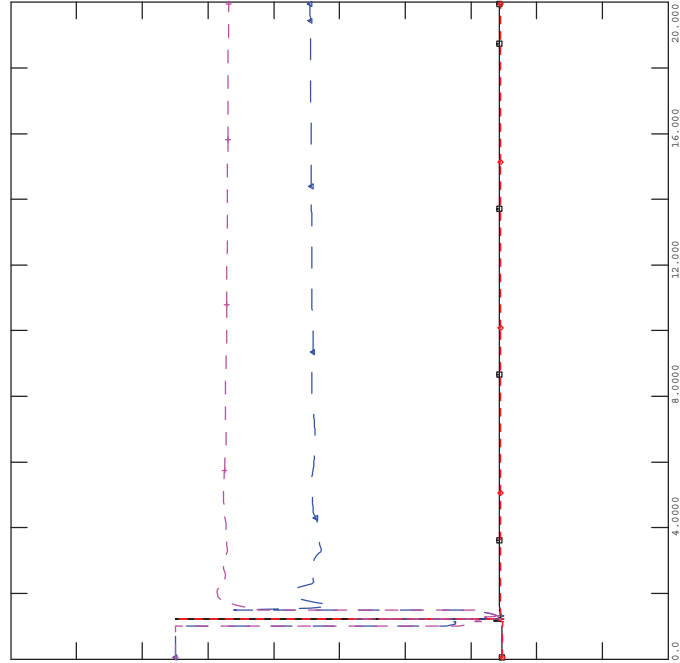
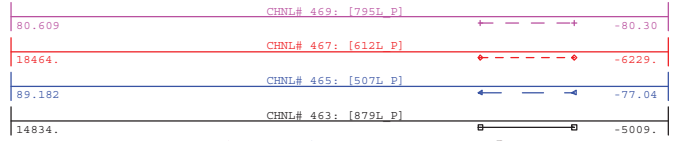


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

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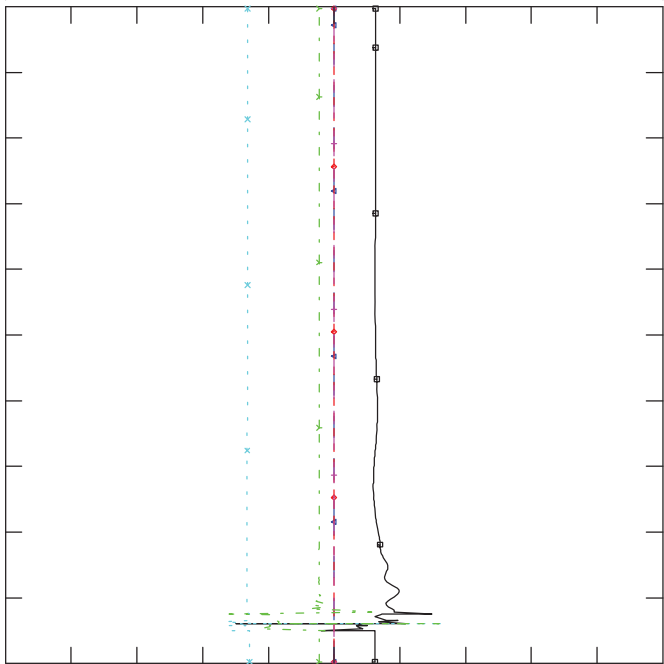
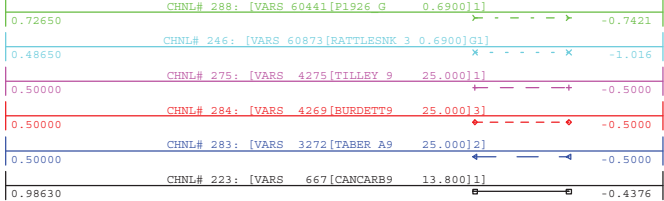


SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

FILE: scn4_SP_03_610L_Taber.out

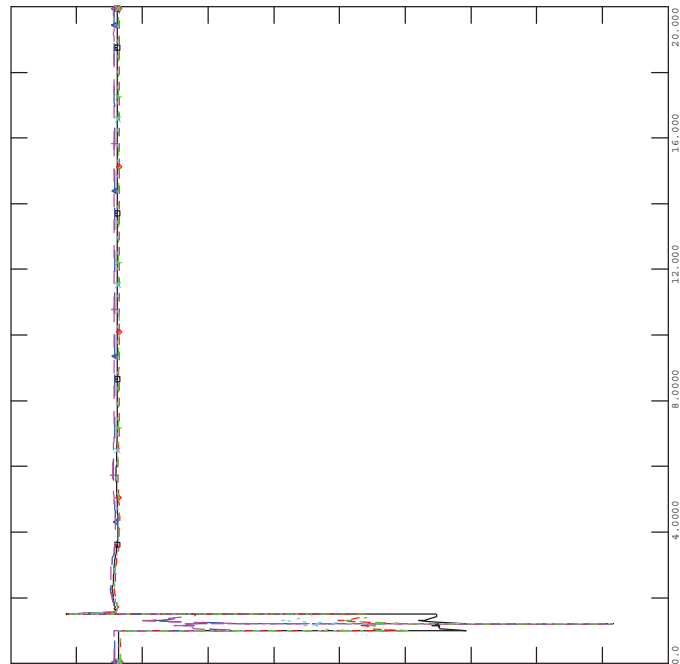
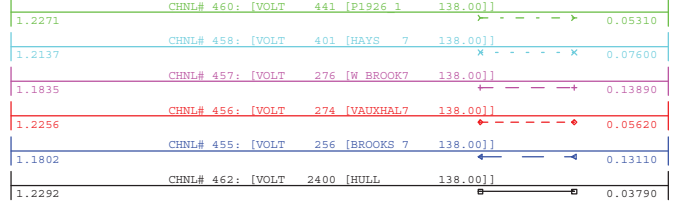


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn4_SP_03_610L_Taber.out



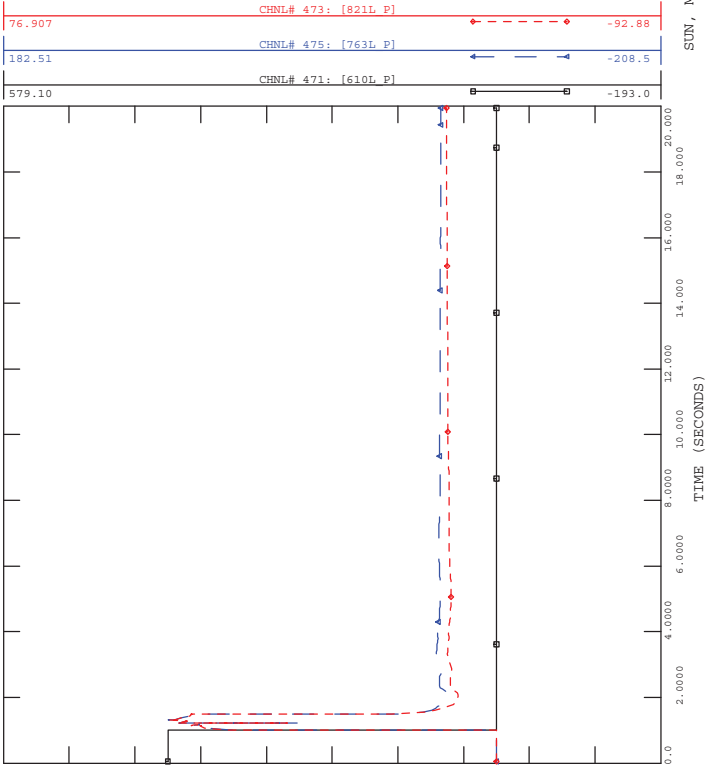
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

FILE: scn4_SP_03_610L_Taber.out

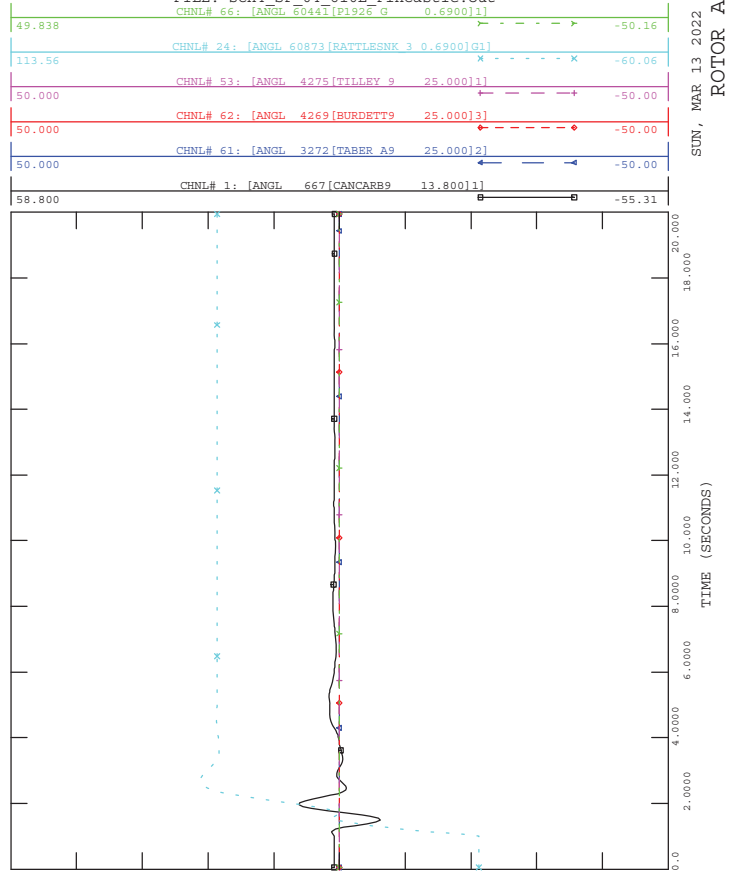
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

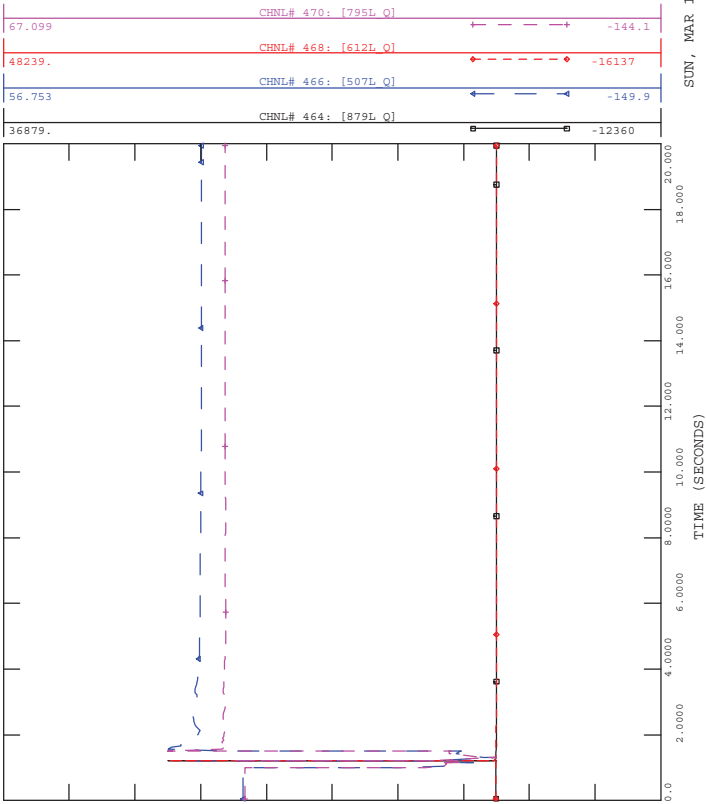
SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

FILE: scn4_SP_03_610L_Taber.out

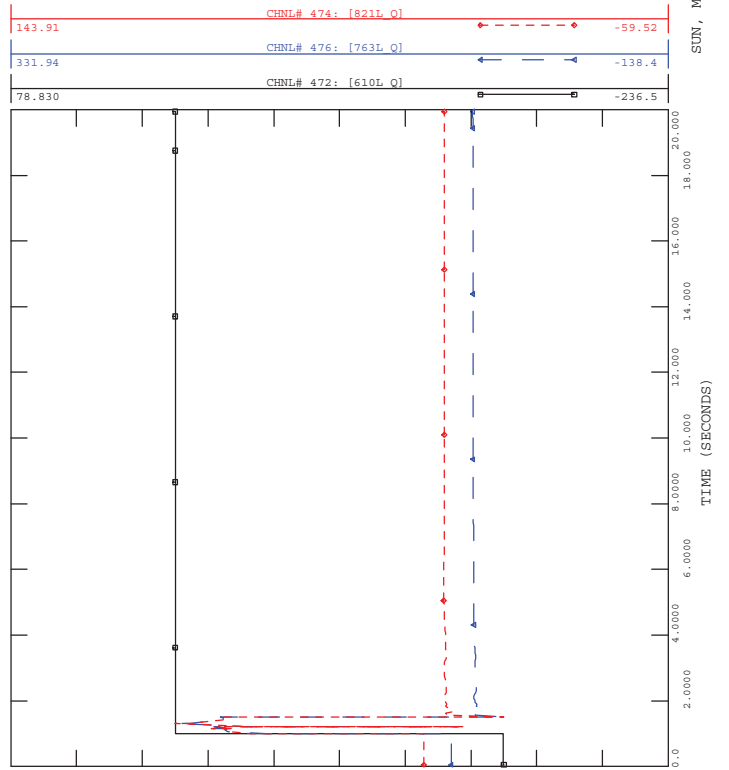
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_03_610L_TABER

FILE: scn4_SP_03_610L_Taber.out

SUN, MAR 13 2022 23:50
BRANCH Q

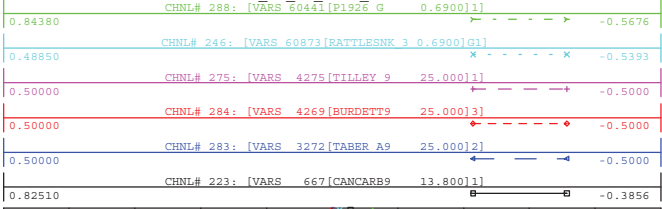




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



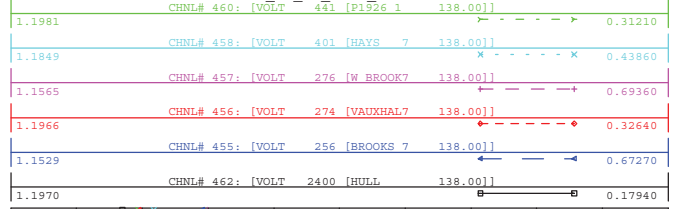
SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

CHNL# 460: [VOLT 441 [P1926 1 138.00]]



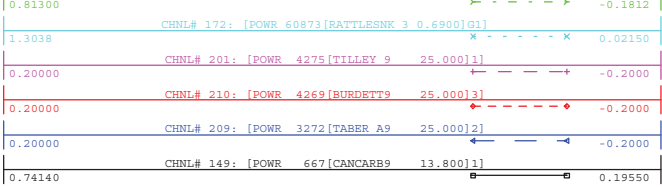
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



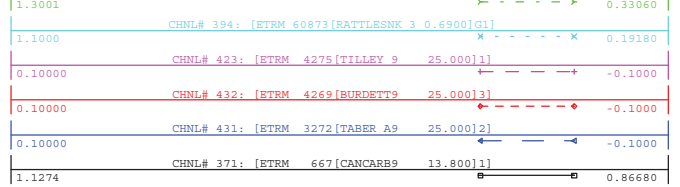
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]



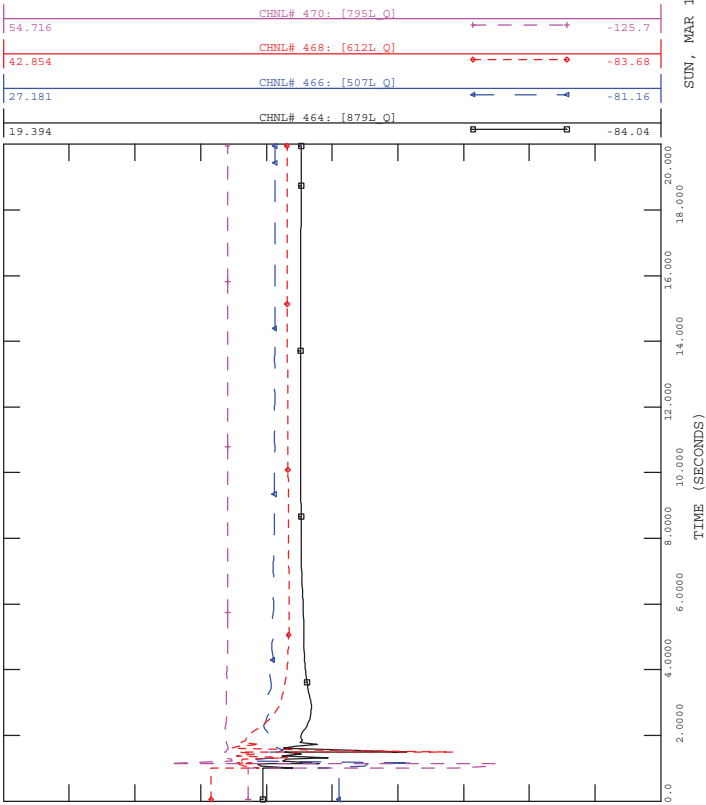
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

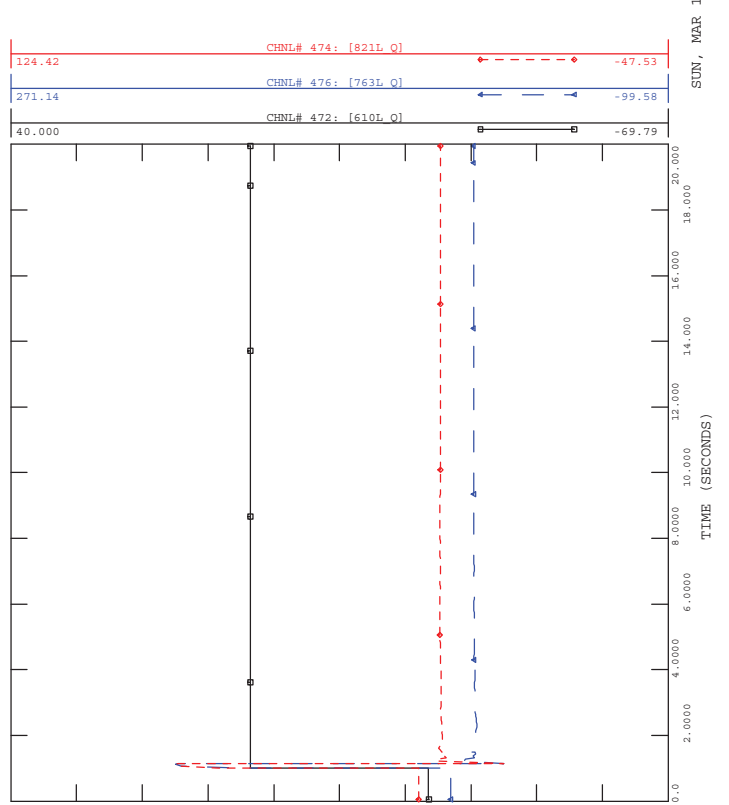
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

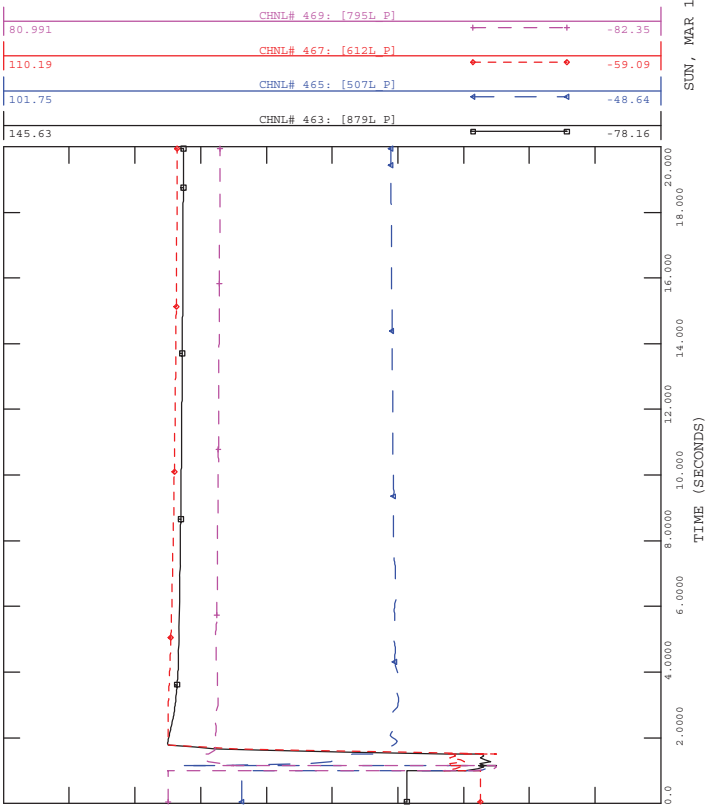
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

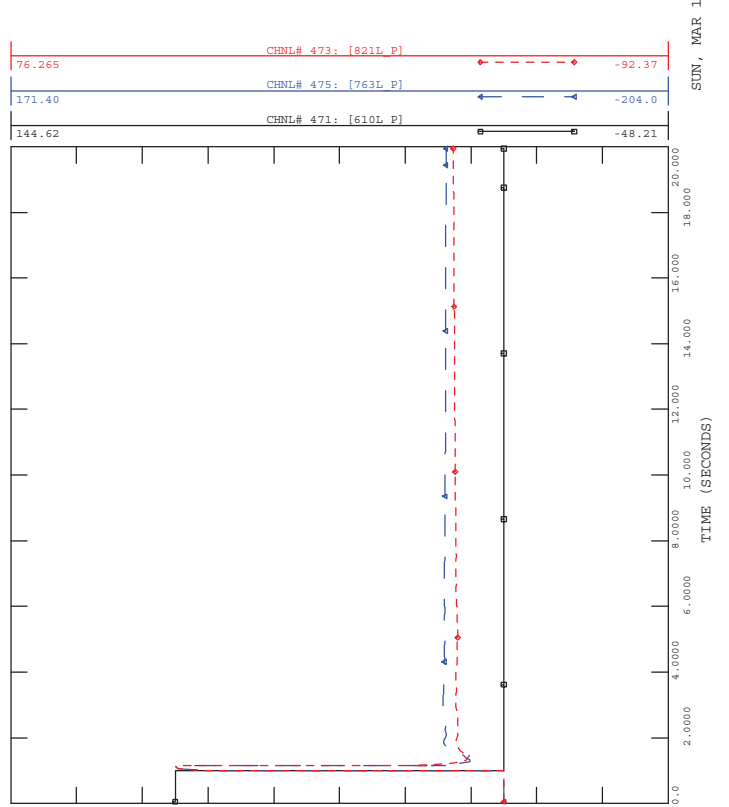
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_04_610L_FINCATTLE

FILE: scn4_SP_04_610L_Fincastle.out

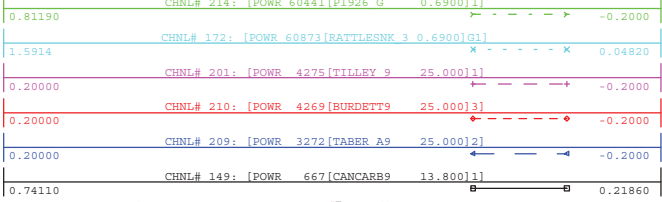
SUN, MAR 13 2022 23:50
BRANCH P



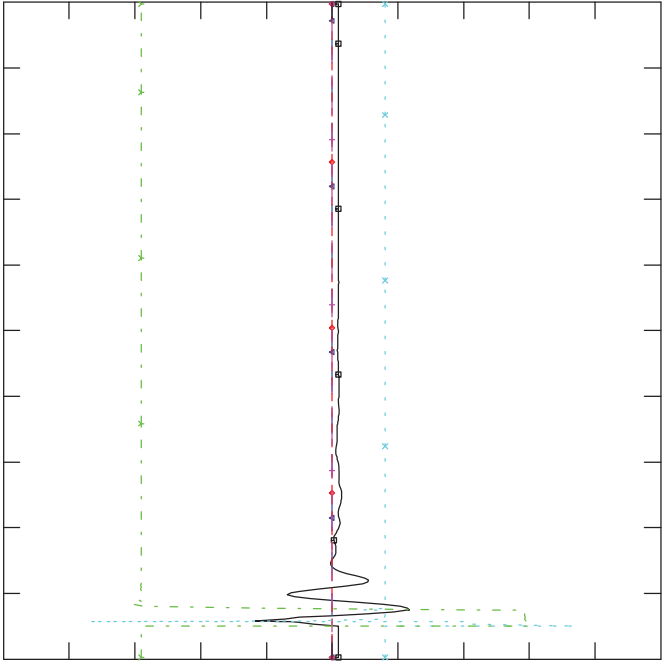


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

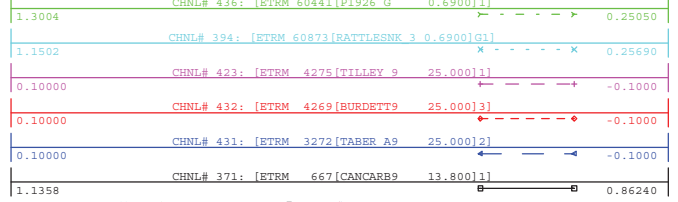


SUN, MAR 13 2022 23:50
ACTIVE POWER

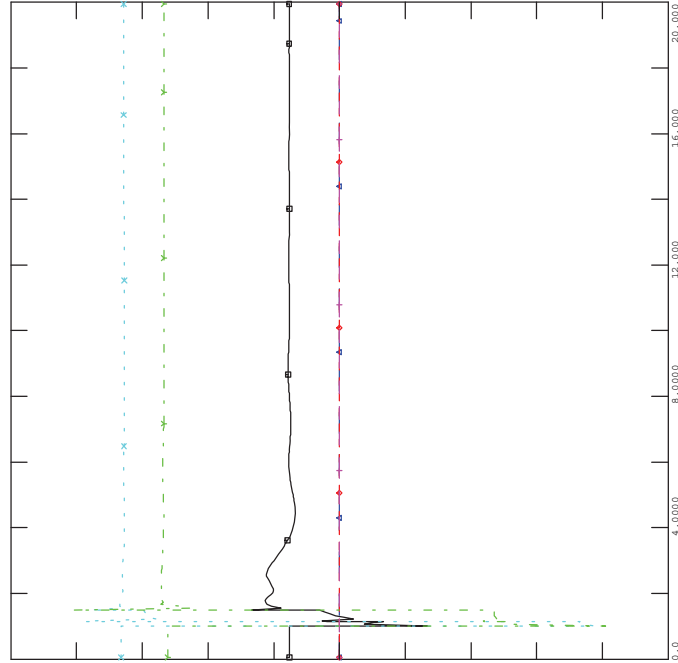


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

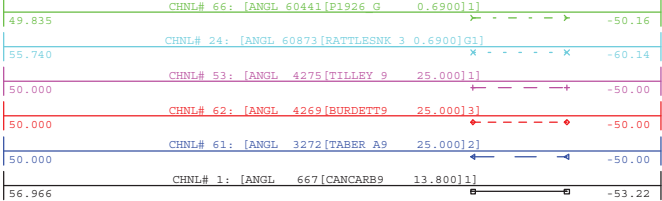


SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE

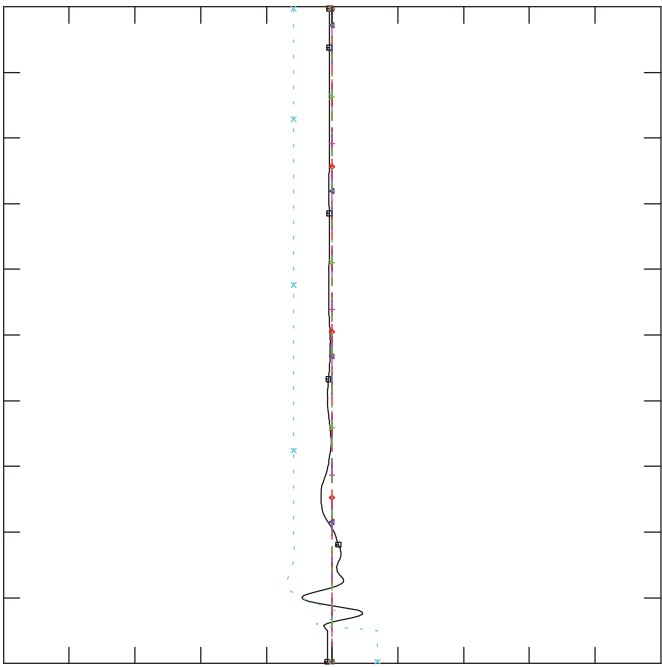


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

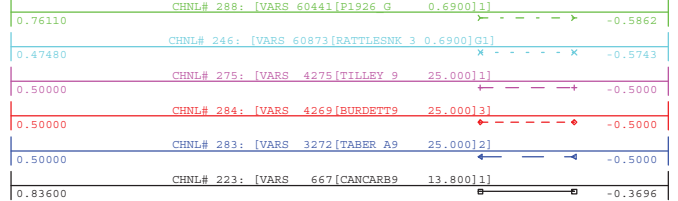


SUN, MAR 13 2022 23:50
ROTOR ANGLE

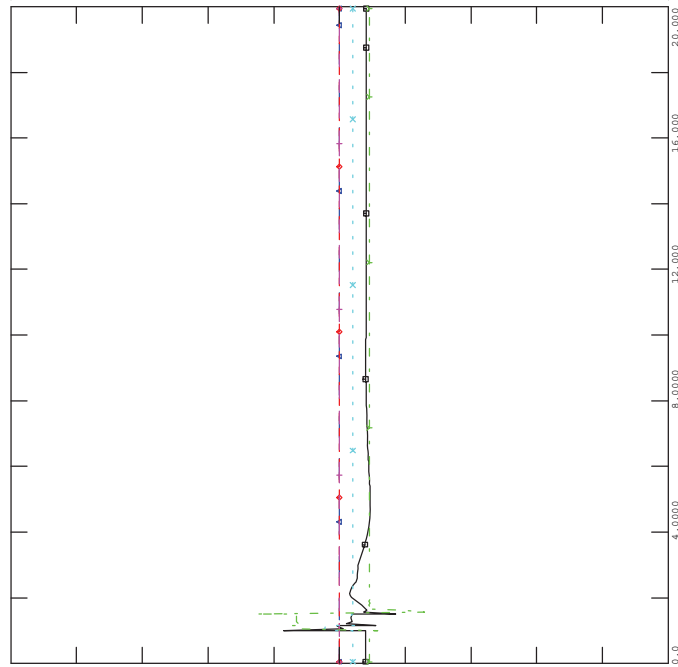


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out



SUN, MAR 13 2022 23:50
REACTIVE POWER

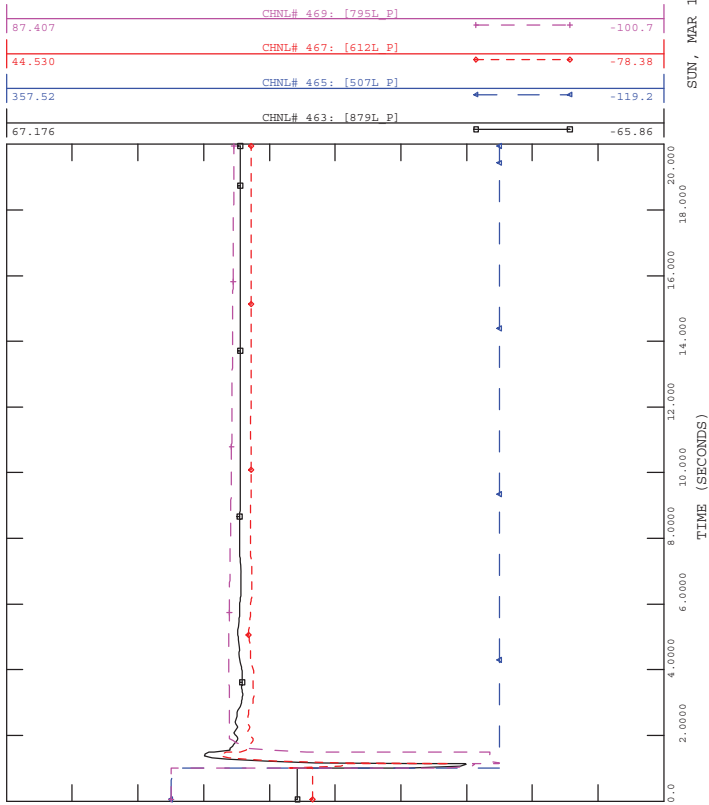




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

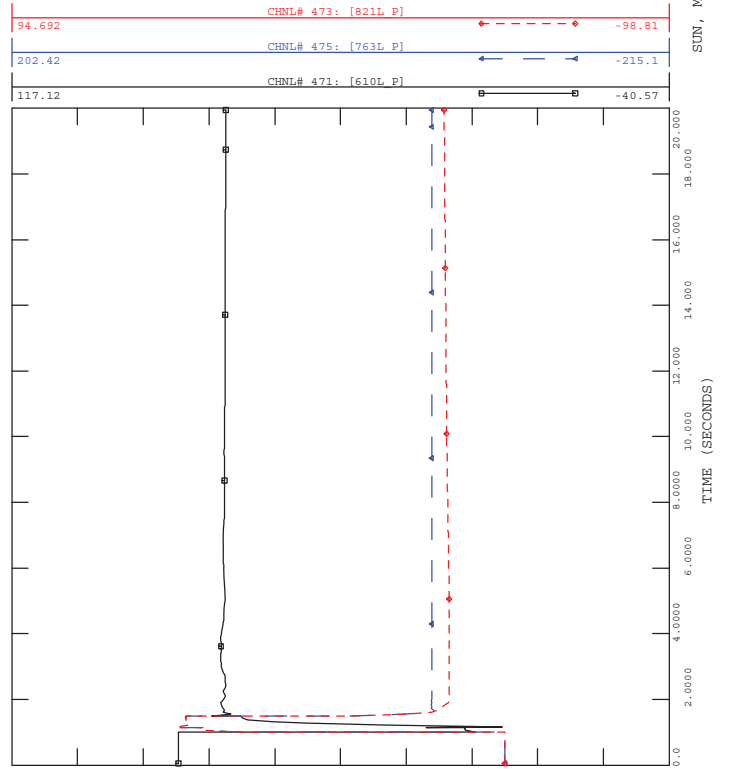
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

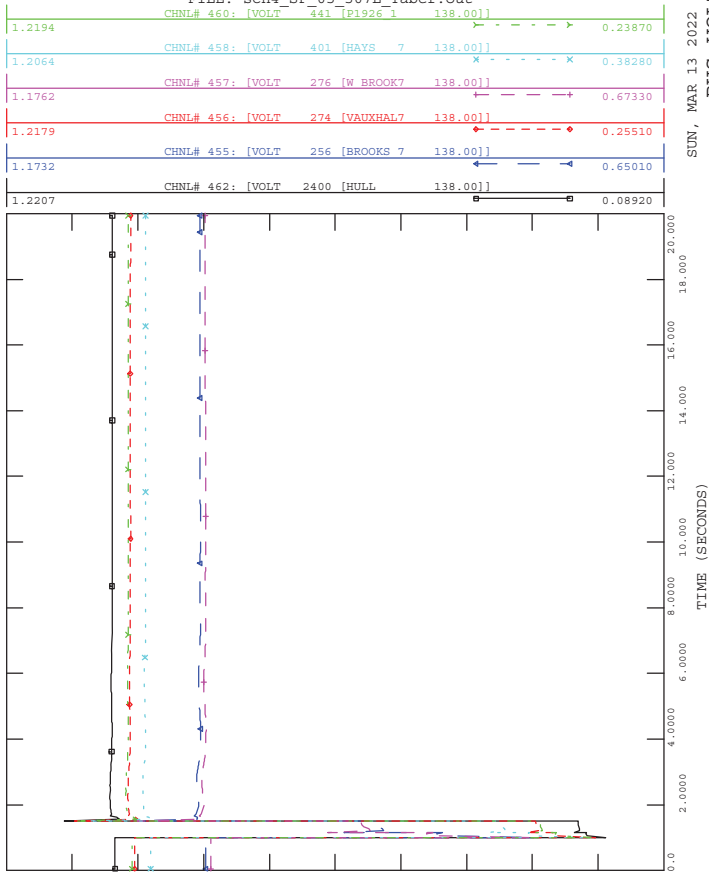
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

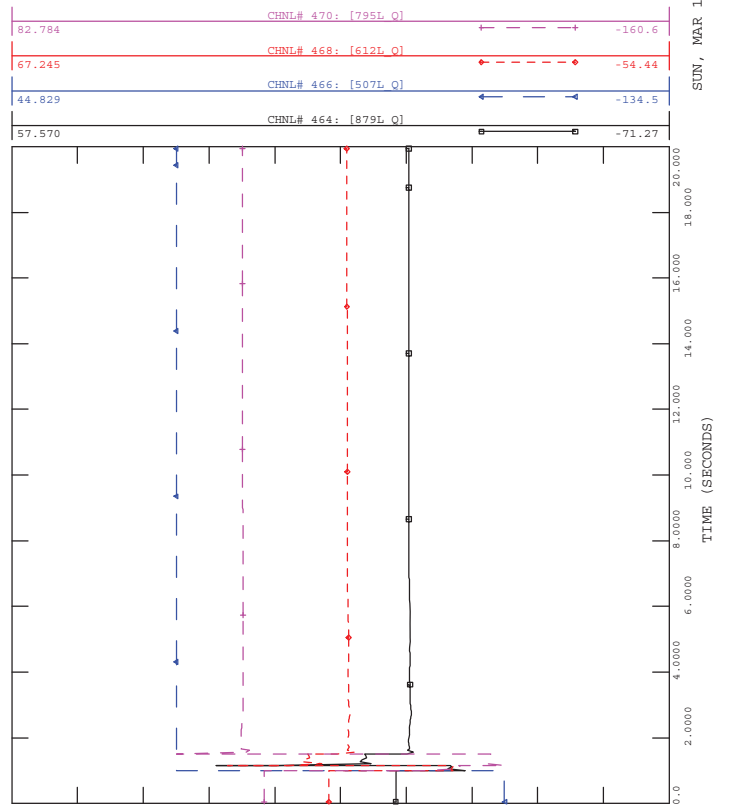
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

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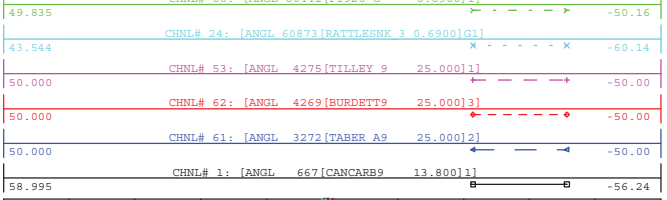
SUN, MAR 13 2022 23:50
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

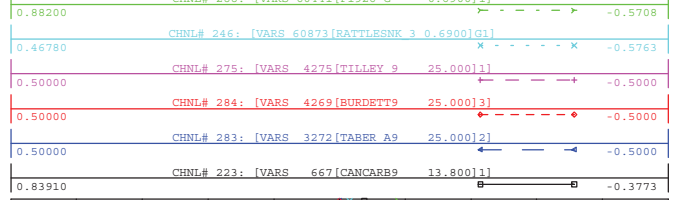


SUN, MAR 13 2022 23:50
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

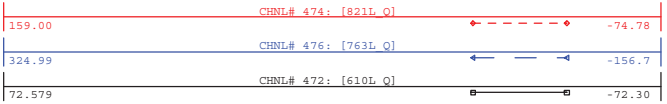


SUN, MAR 13 2022 23:50
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_05_507L_TABER

FILE: scn4_SP_05_507L_Taber.out

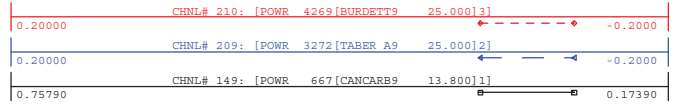


SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



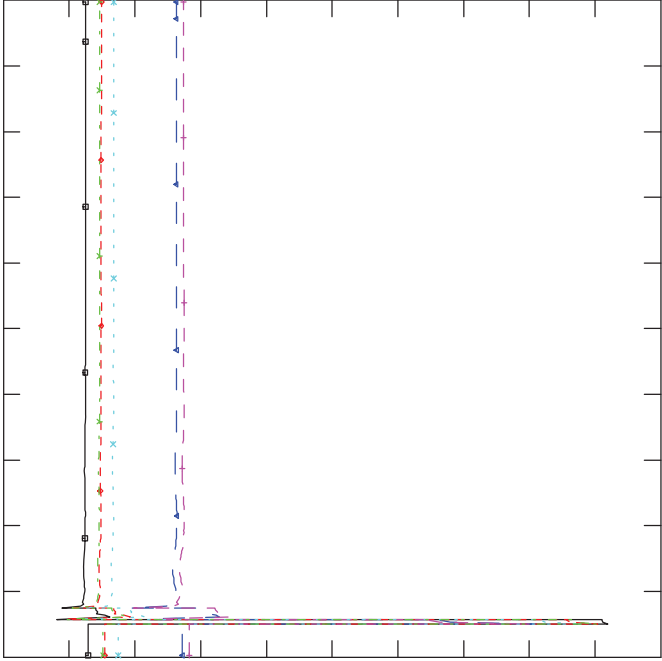
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out

1.1917	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.13720
1.1774	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.31040
1.1622	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.65820
1.1899	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.15710
1.1576	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.63140
1.1929	CHNL# 462: [VOLT 2400 [HULL 138.00]]	-0.0431



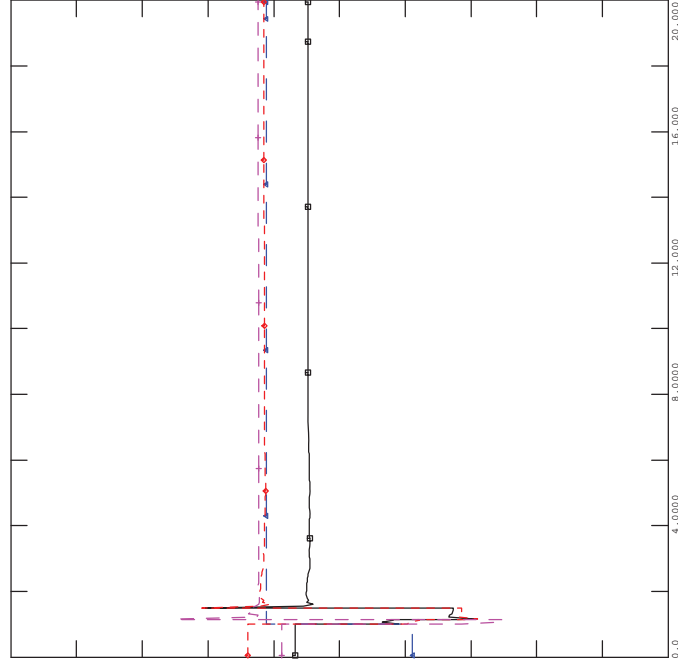
SUN, MAR 13 2022 23:50
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out

82.009	CHNL# 470: [795L Q]	-142.7
58.317	CHNL# 468: [612L Q]	-79.64
40.000	CHNL# 466: [507L Q]	-62.96
40.891	CHNL# 464: [879L Q]	-94.42



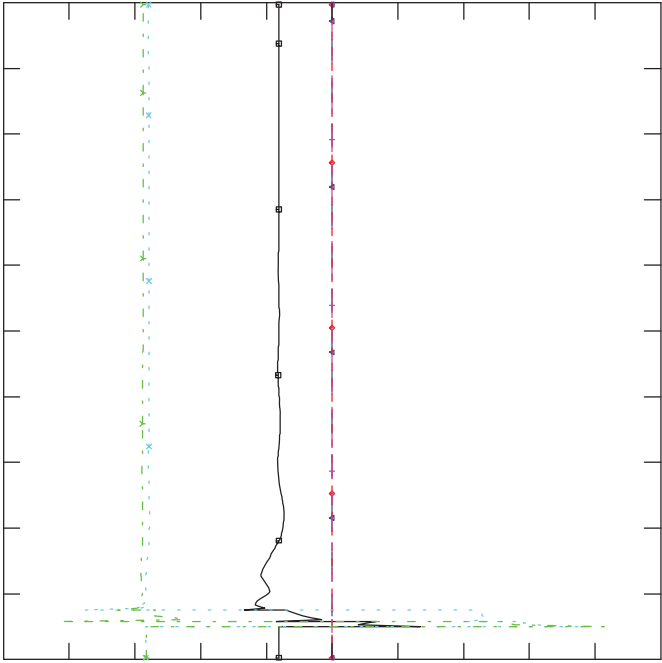
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out

1.3006	CHNL# 436: [ETRM 60441[P1926 G 0.6900]]	0.14770
1.1782	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.35550
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1344	CHNL# 371: [ETRM 667[CANCARB9 13.800]]	0.86130



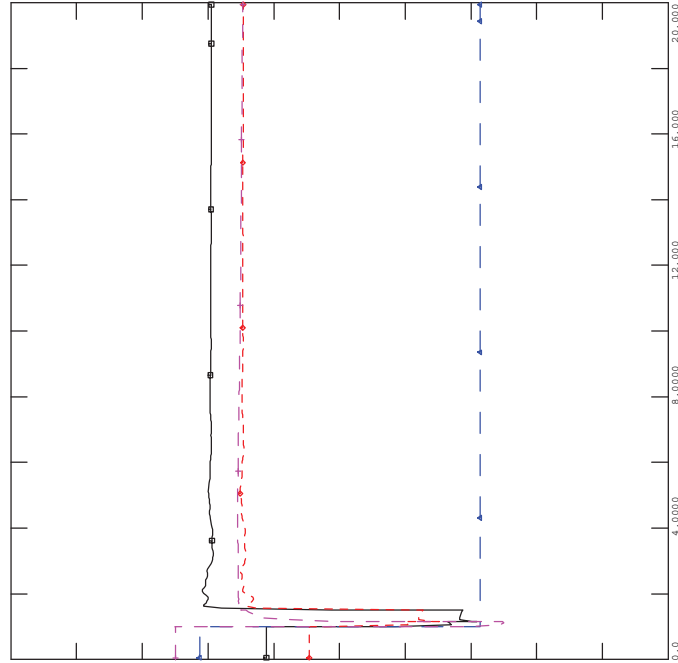
SUN, MAR 13 2022 23:50
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out

84.478	CHNL# 469: [795L P]	-91.91
39.374	CHNL# 467: [612L P]	-75.39
99.583	CHNL# 465: [507L P]	-40.00
61.742	CHNL# 463: [879L P]	-75.73



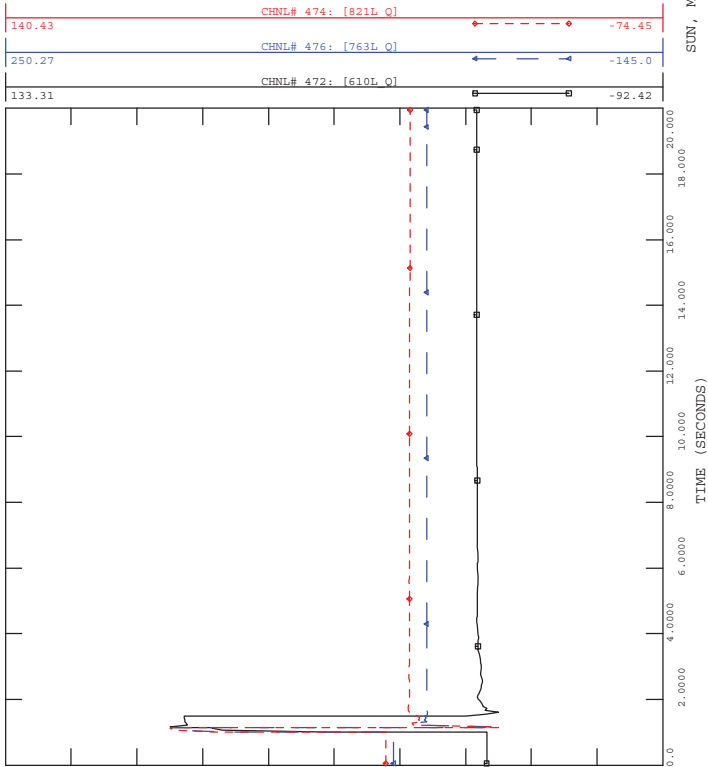
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out

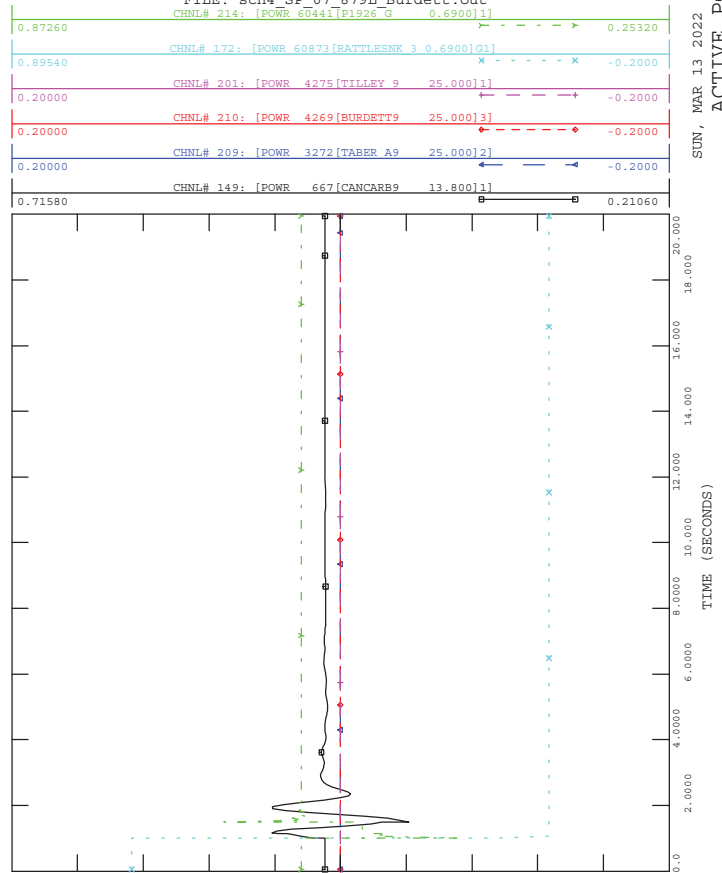
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out

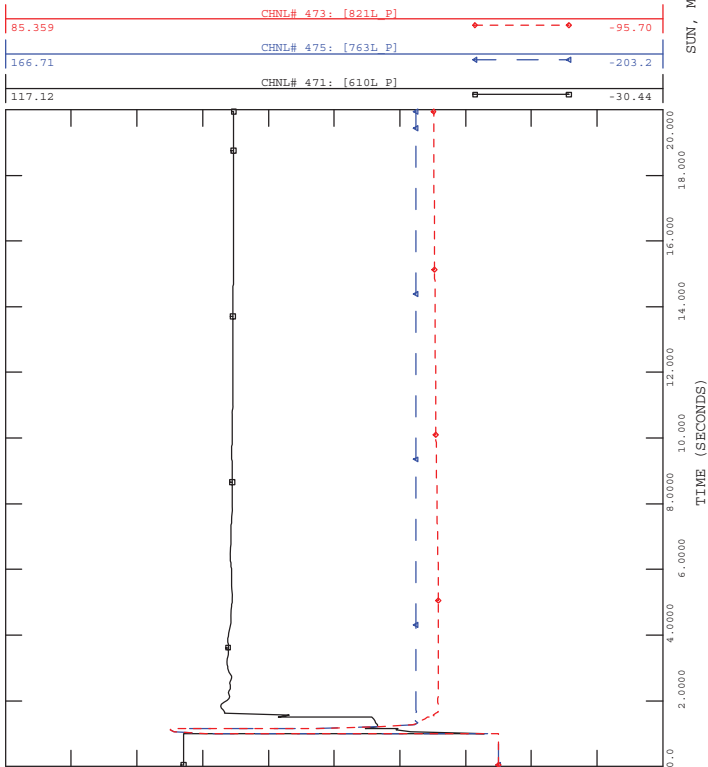
SUN, MAR 13 2022 23:50
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_06_507L_HULL

FILE: scn4_SP_06_507L_Hull.out

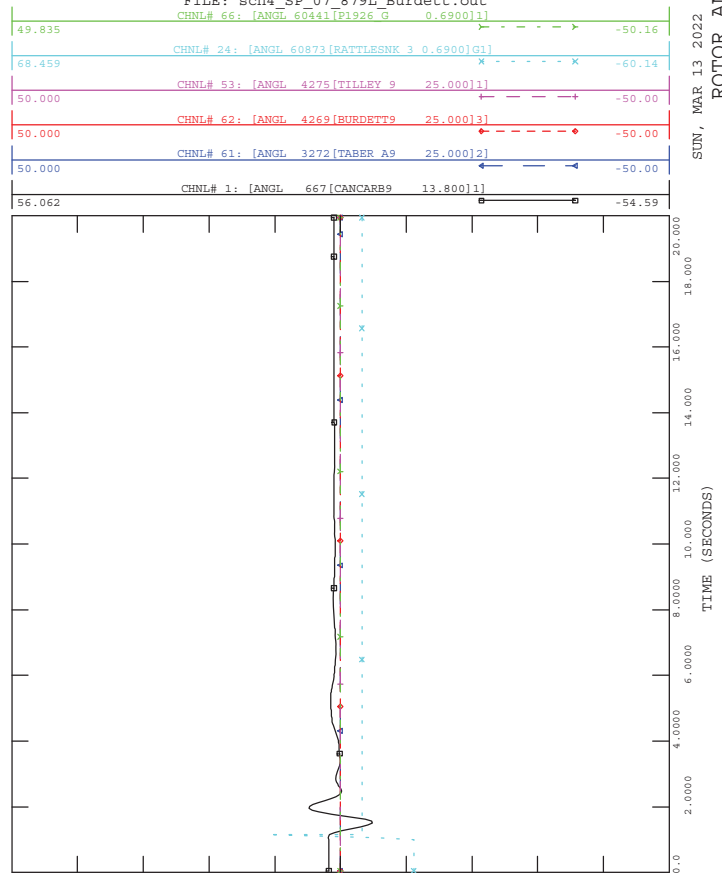
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out

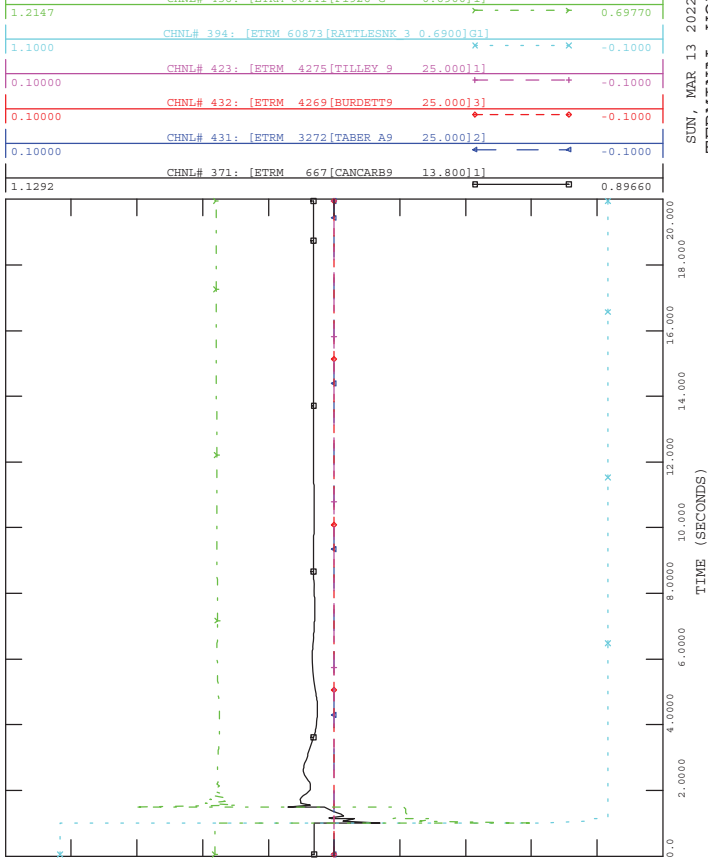
SUN, MAR 13 2022 23:50
ROTOR ANGLE





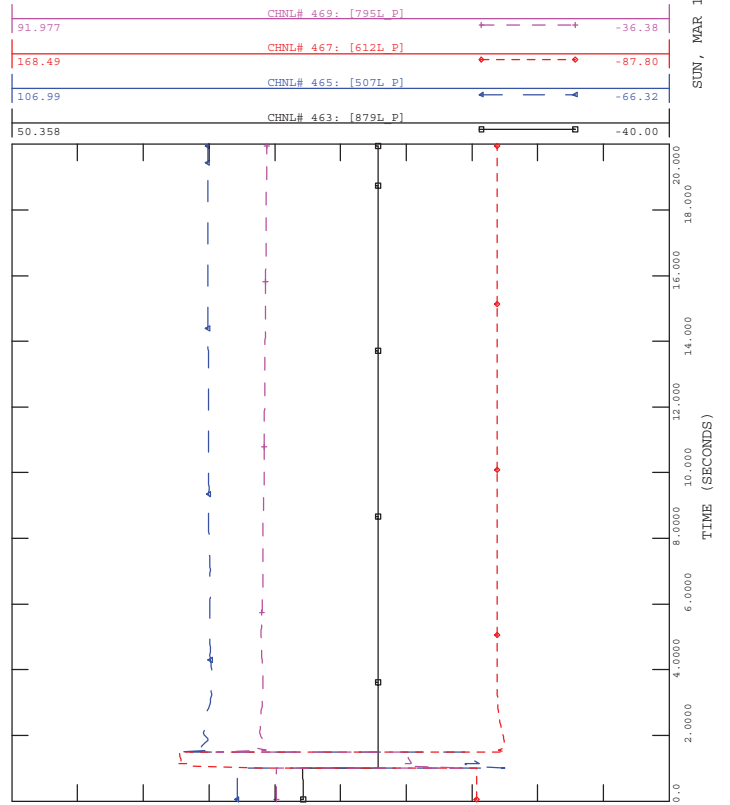
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CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out
CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]



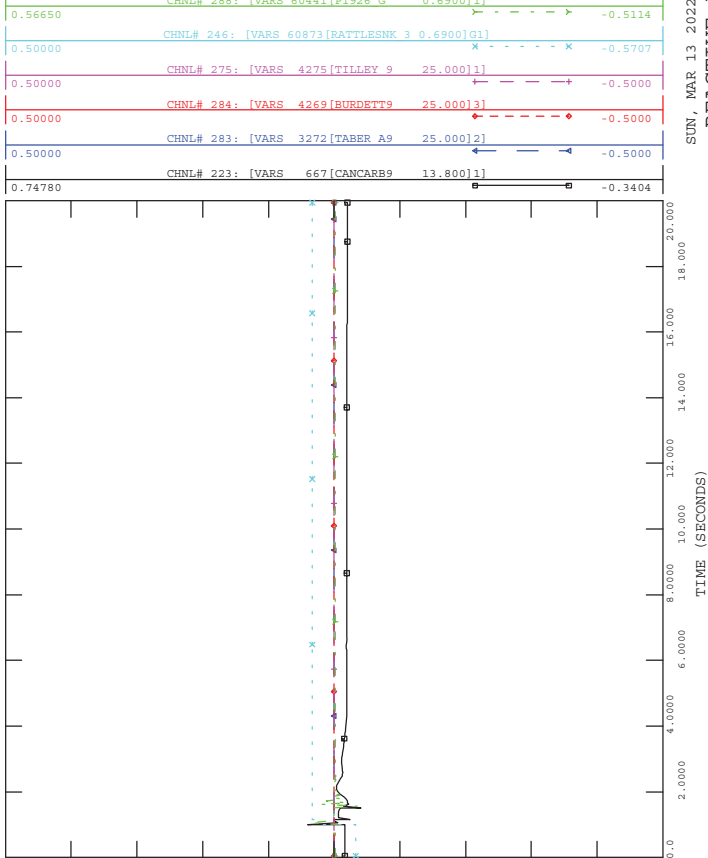
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CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out



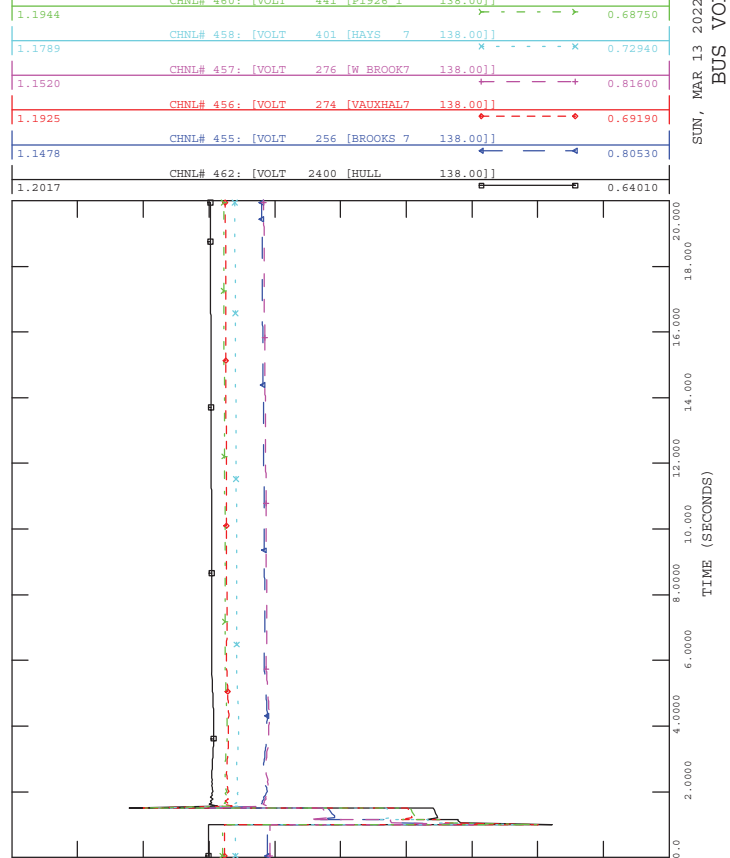
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out
CHNL# 460: [VOLT 441 [P1926 1 138.00]]

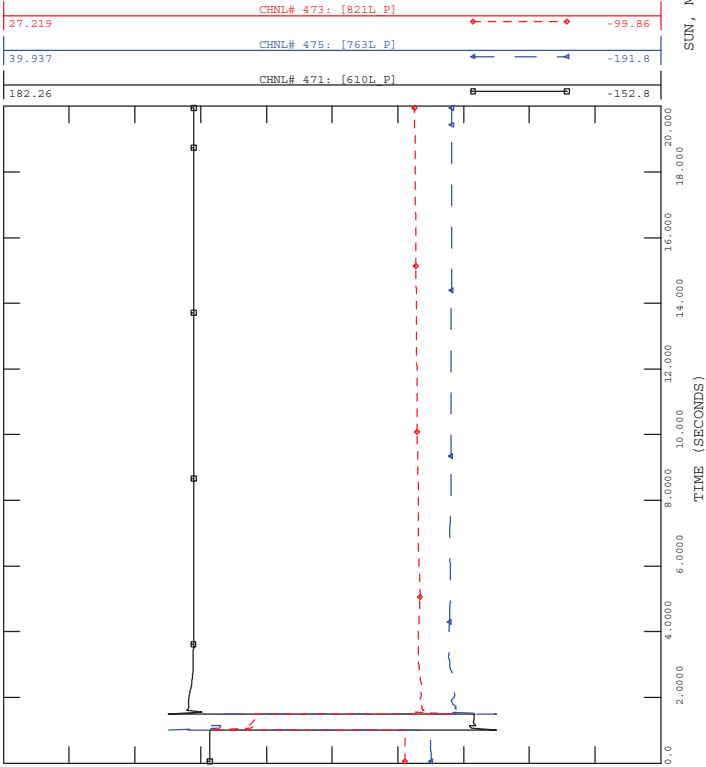




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out

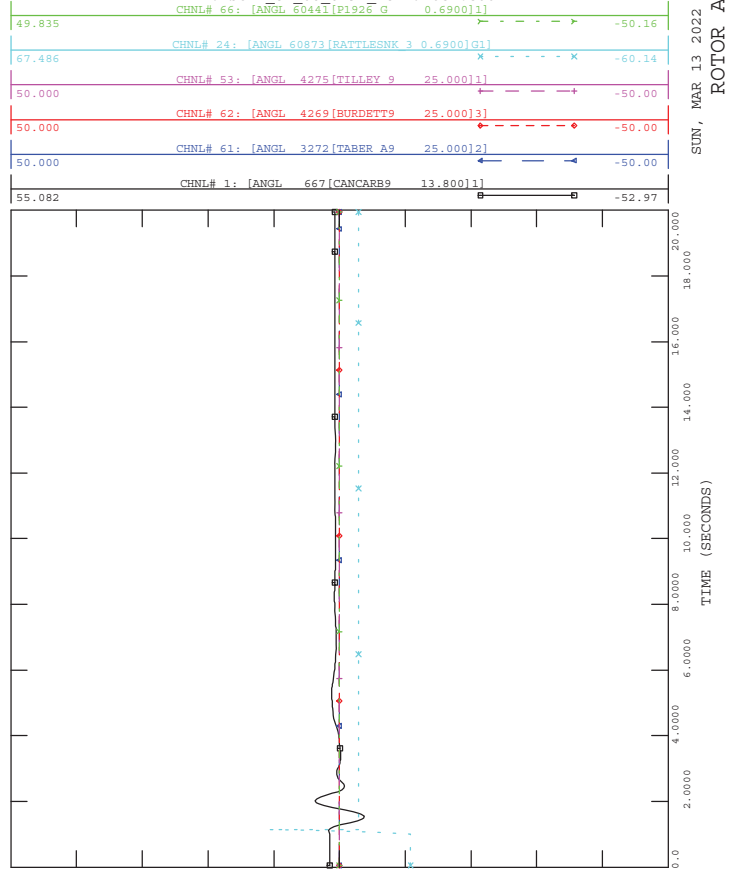
SUN, MAR 13 2022 23:50
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out

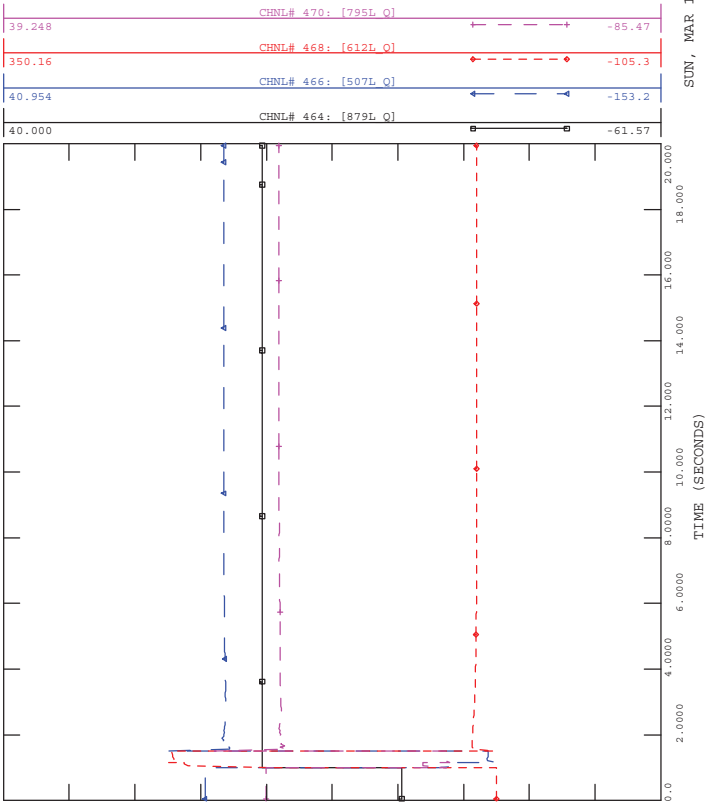
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out

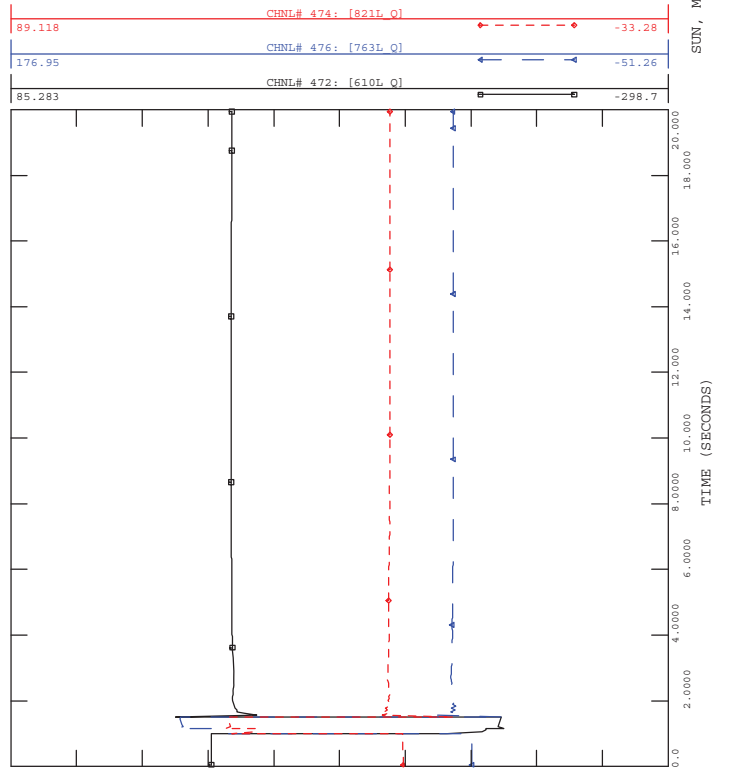
SUN, MAR 13 2022 23:50
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_07_879L_BURDETT

FILE: scn4_SP_07_879L_Burdett.out

SUN, MAR 13 2022 23:50
BRANCH Q

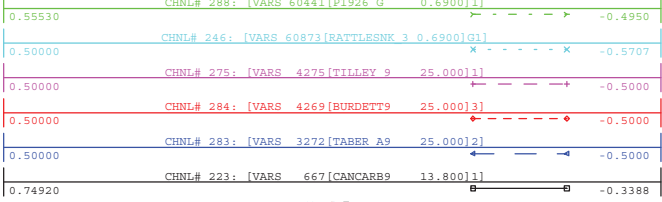




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out

CHNL# 288: [VARS 60441[P1926 G 0.6900]1]



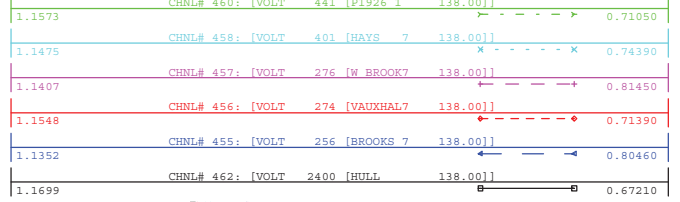
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out

CHNL# 460: [VOLT 441 [P1926 1 138.00]]



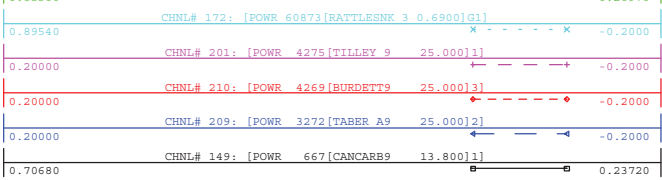
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out

CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



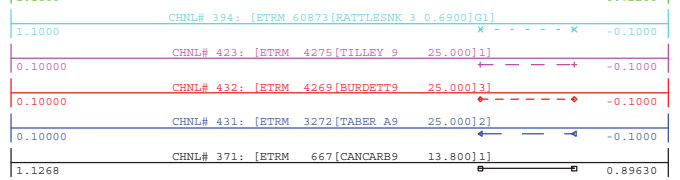
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out

CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]

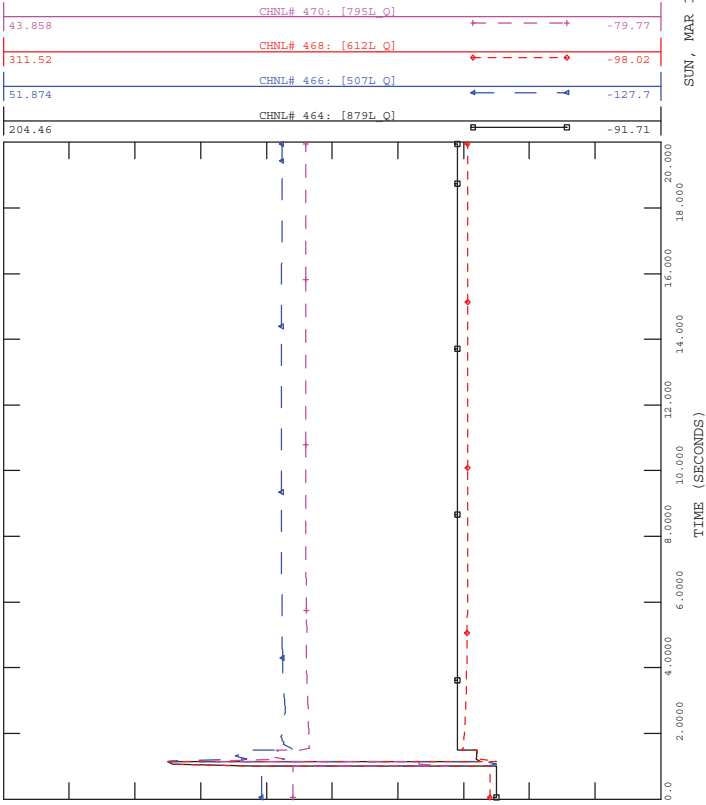


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



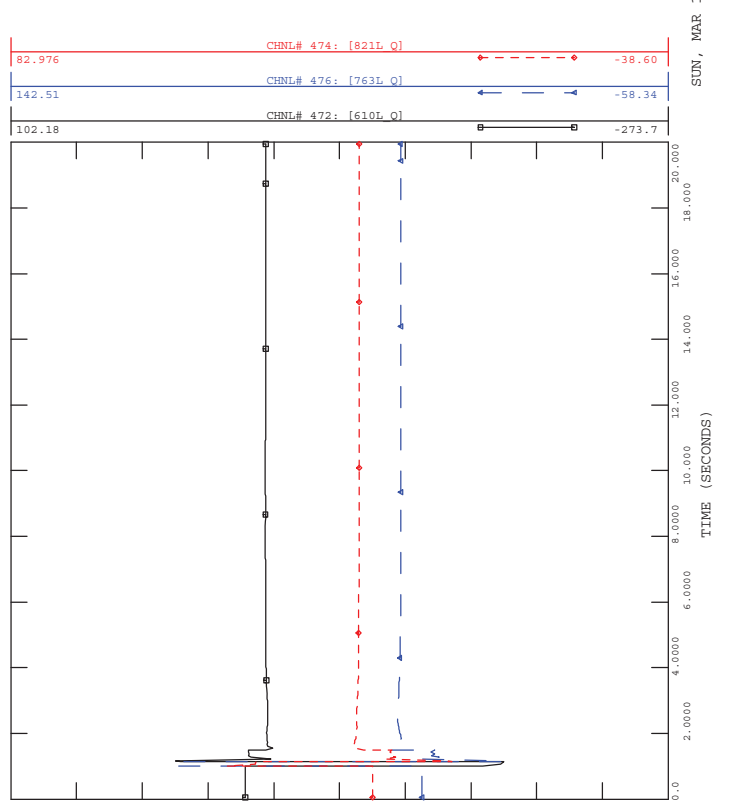
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out



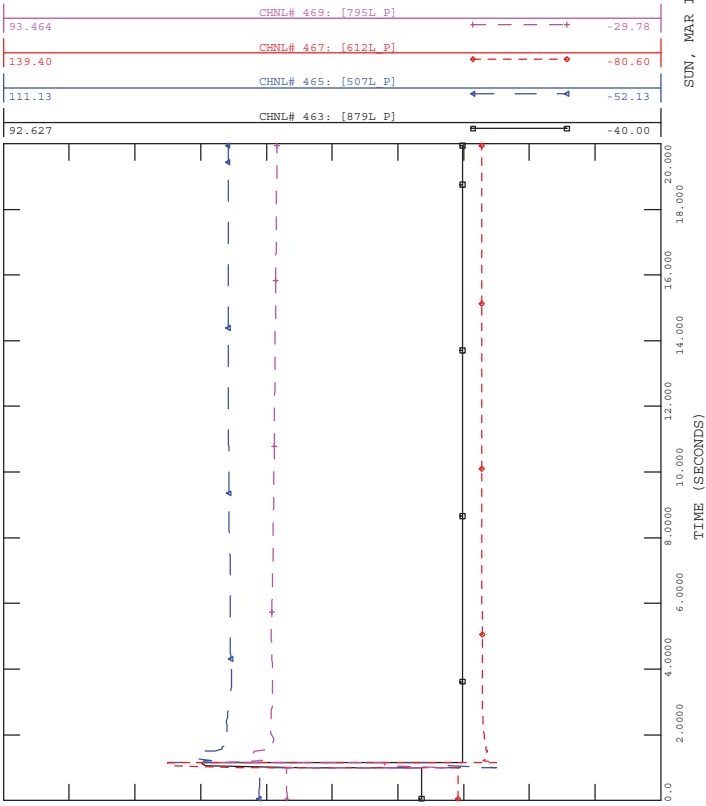
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CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out



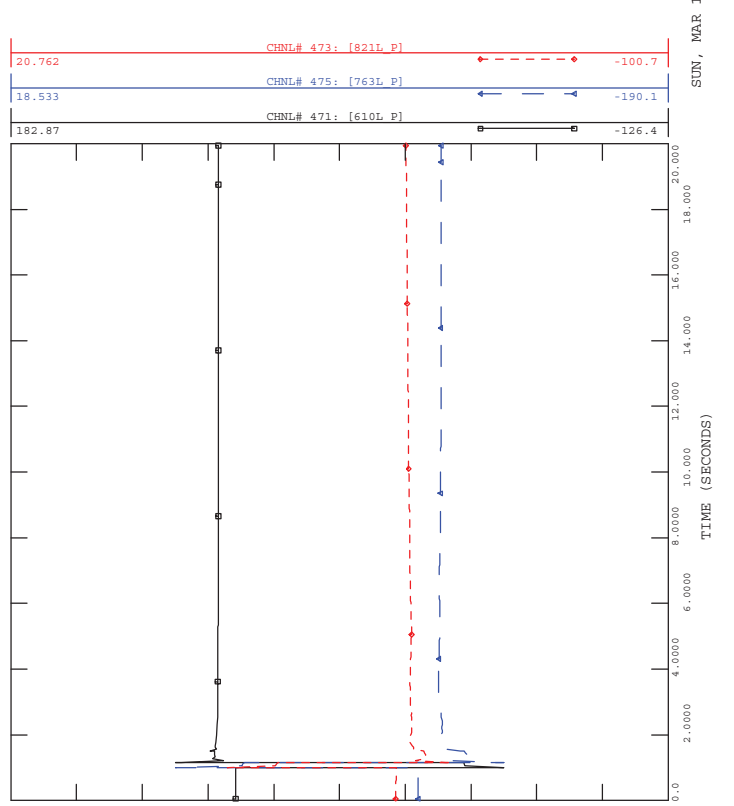
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

FILE: scn4_SP_08_879L_Bowmanton.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_08_879L_BOWMANTON

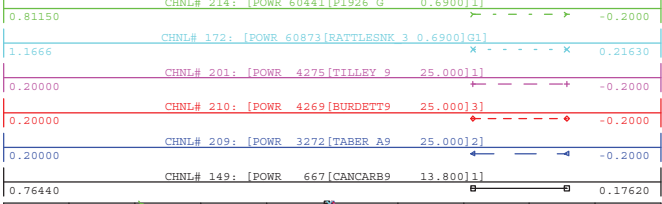
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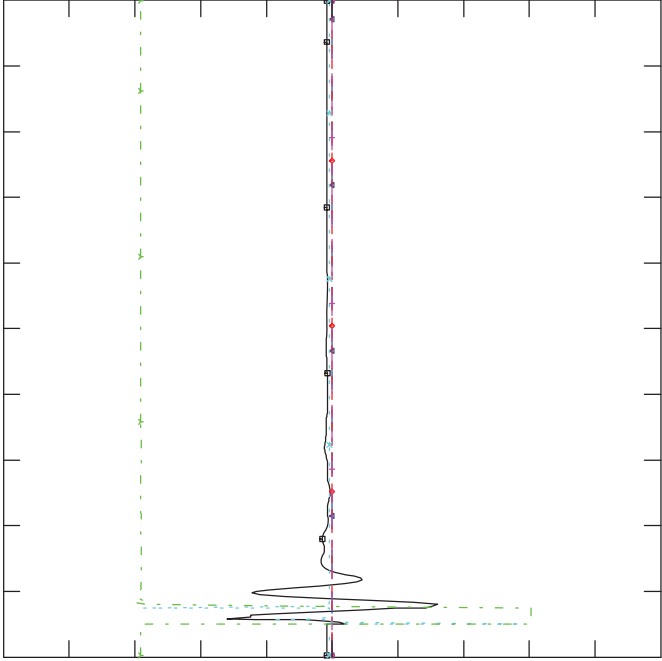


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out

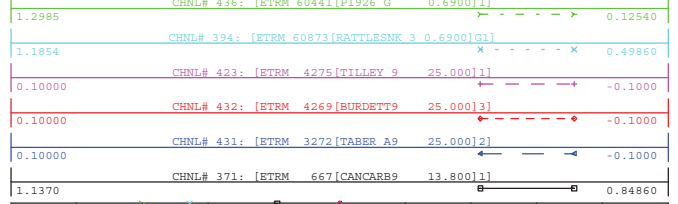


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ACTIVE POWER

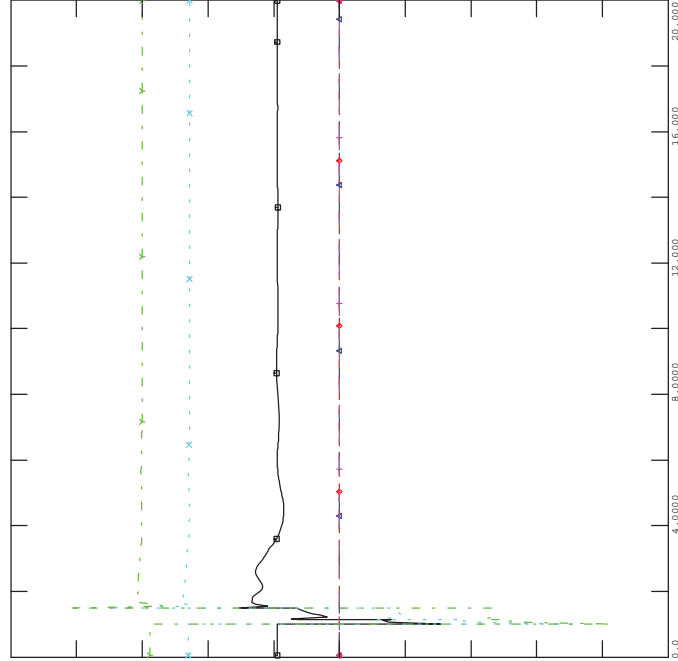


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out

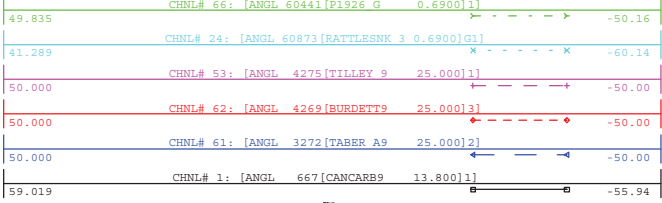


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TERMINAL VOLTAGE

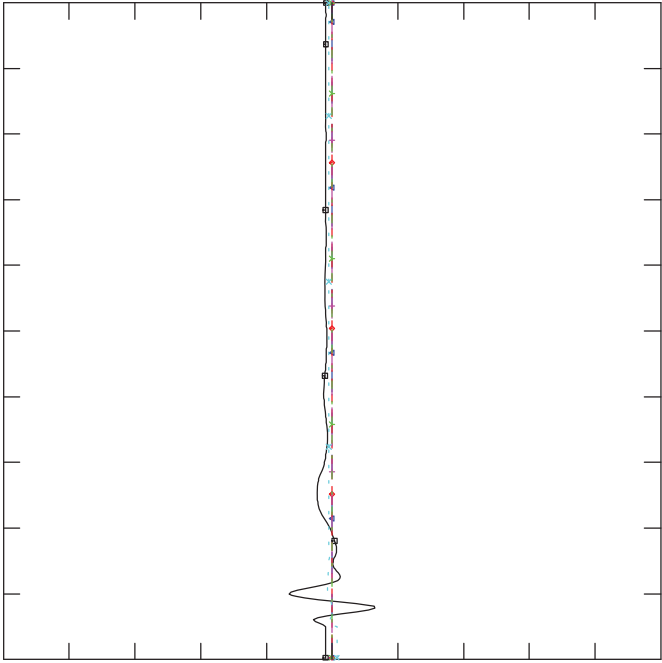


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out

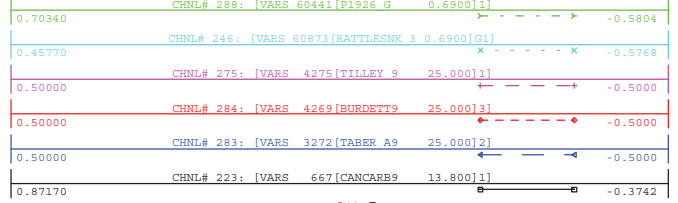


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ROTOR ANGLE

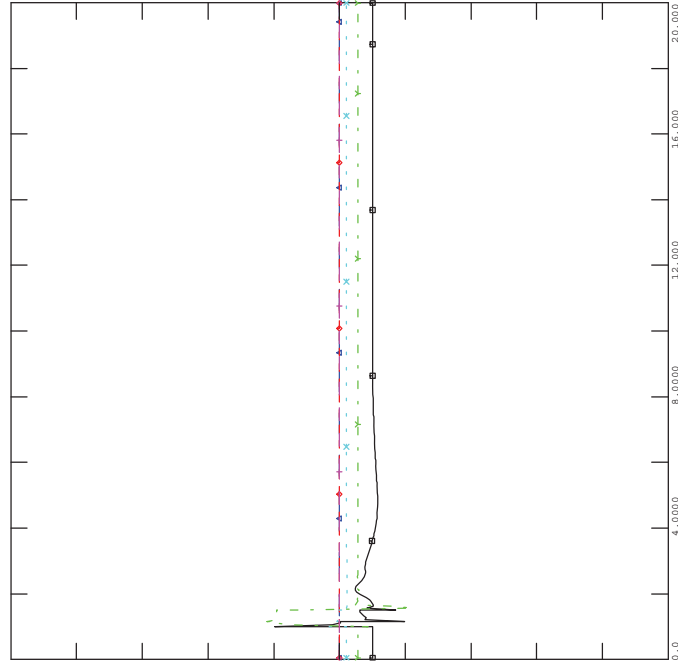


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out



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REACTIVE POWER

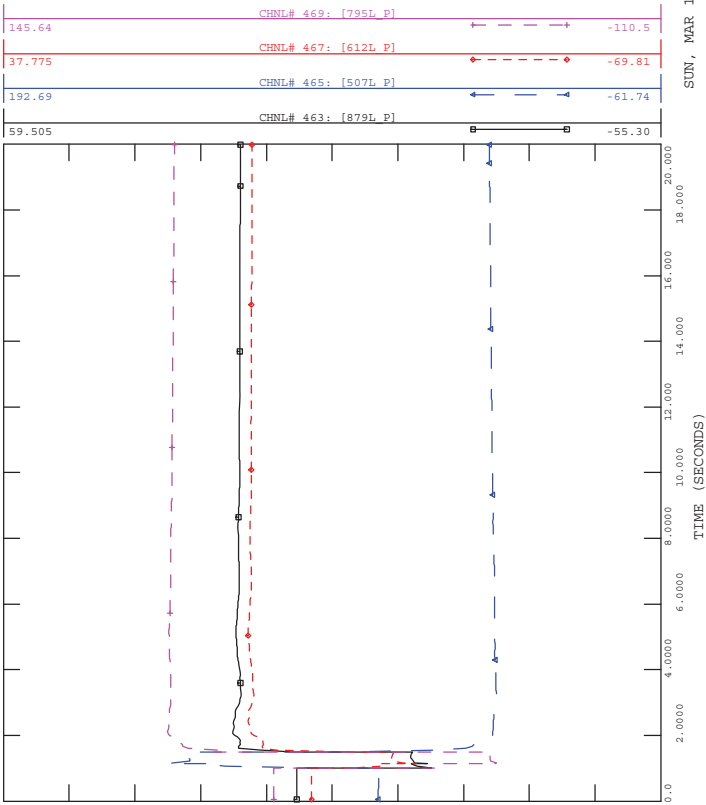




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CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out

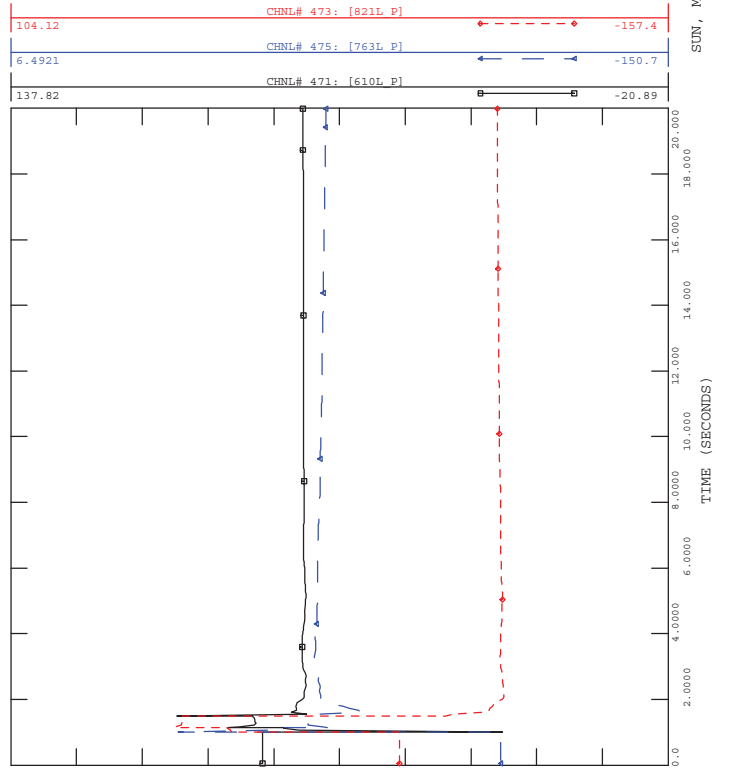
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out

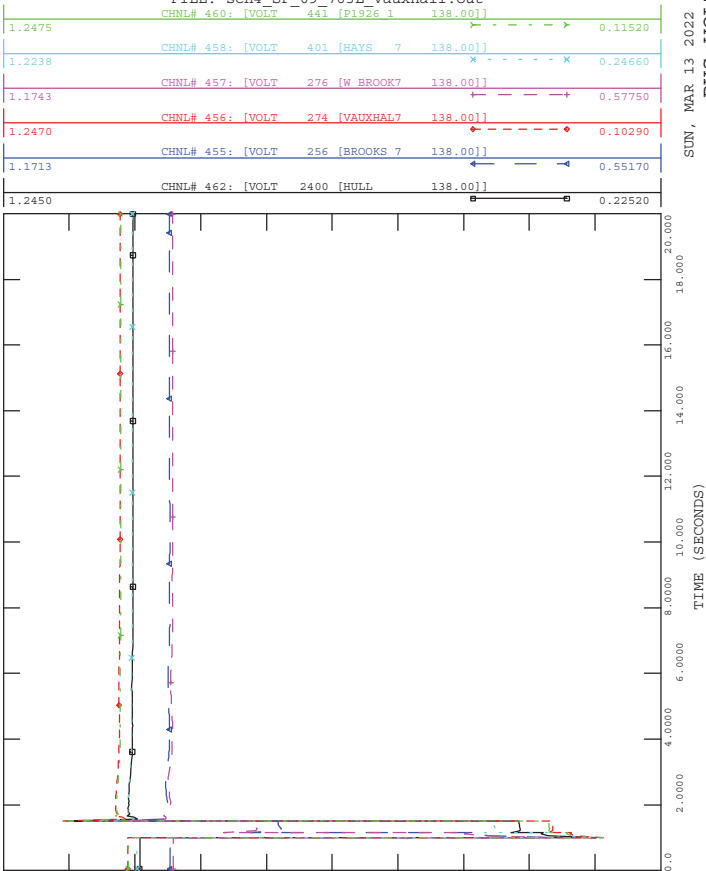
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BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

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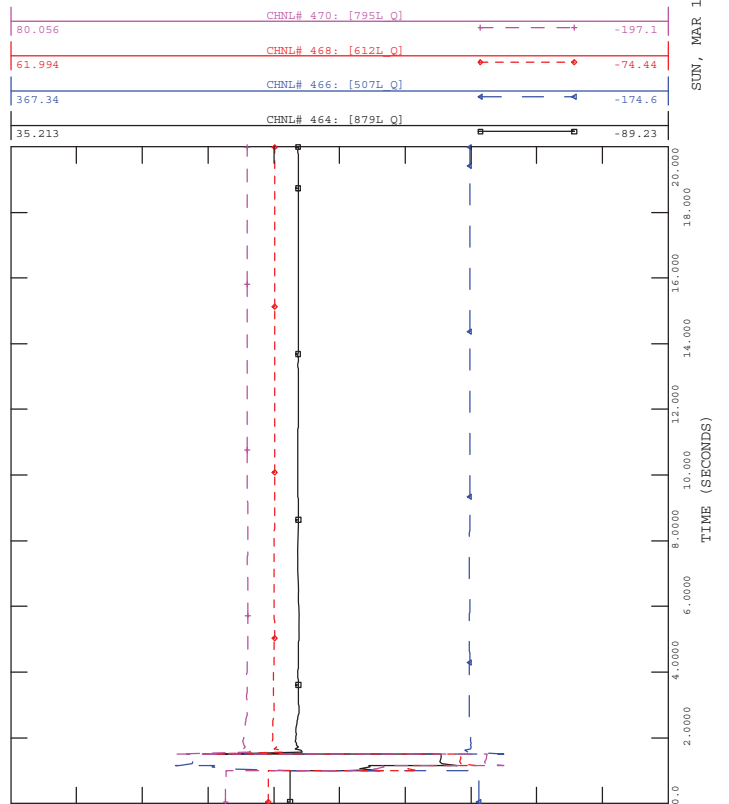
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out

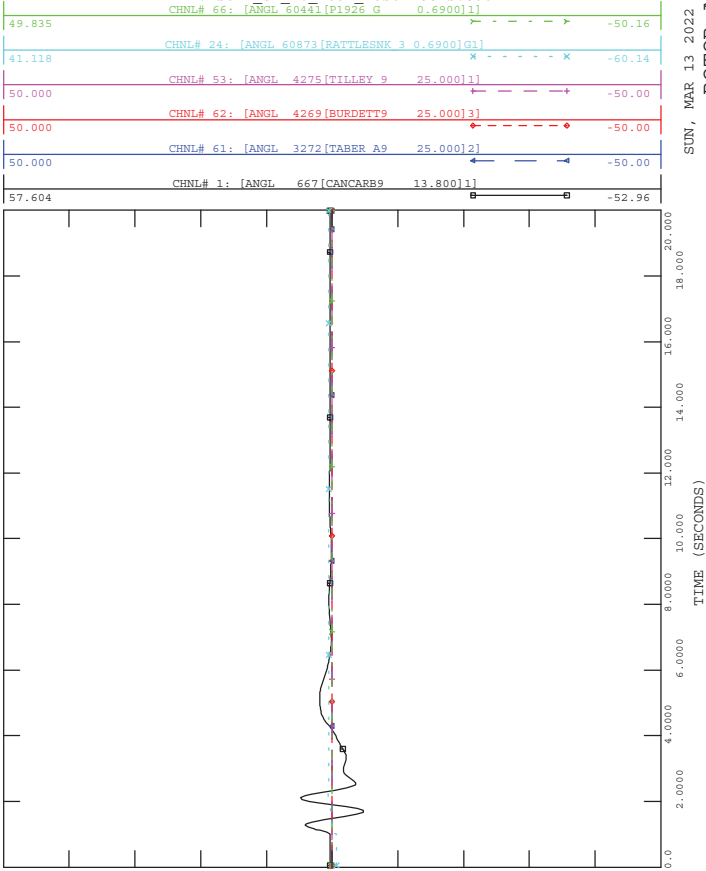
SUN, MAR 13 2022 23:51
BRANCH Q





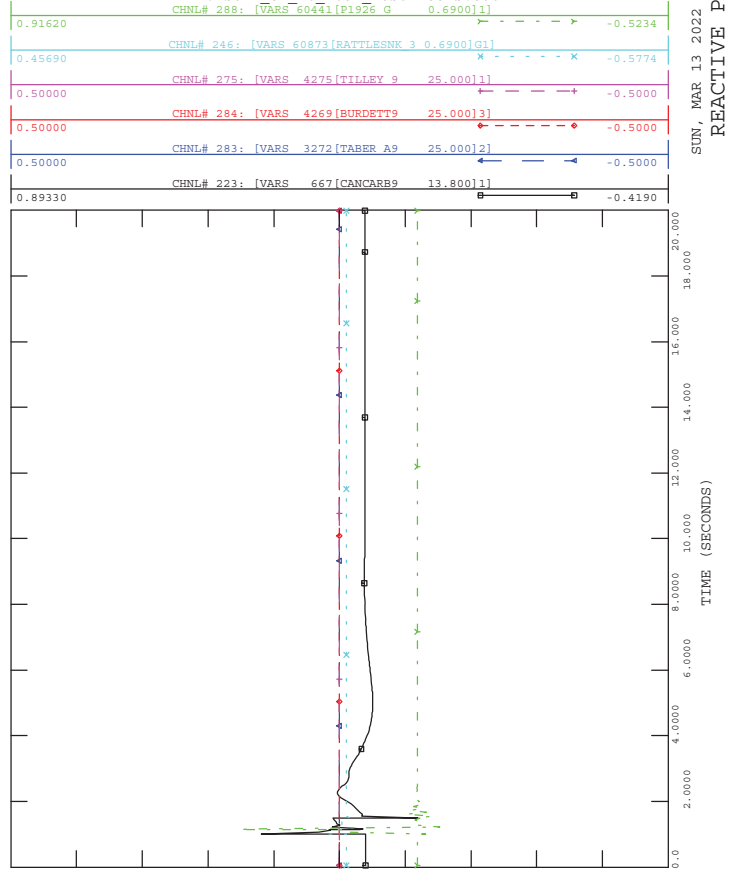
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out



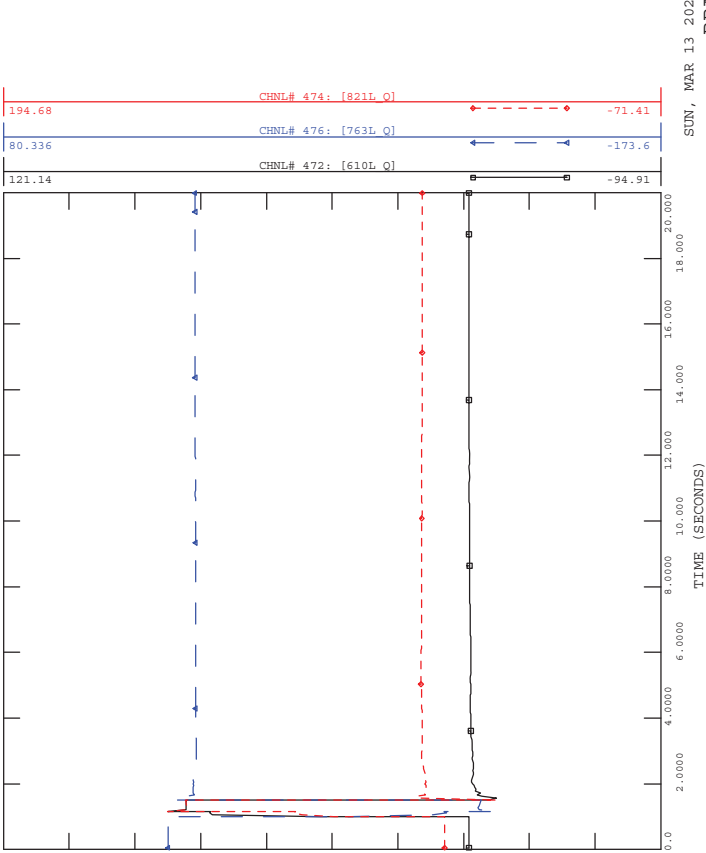
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CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out



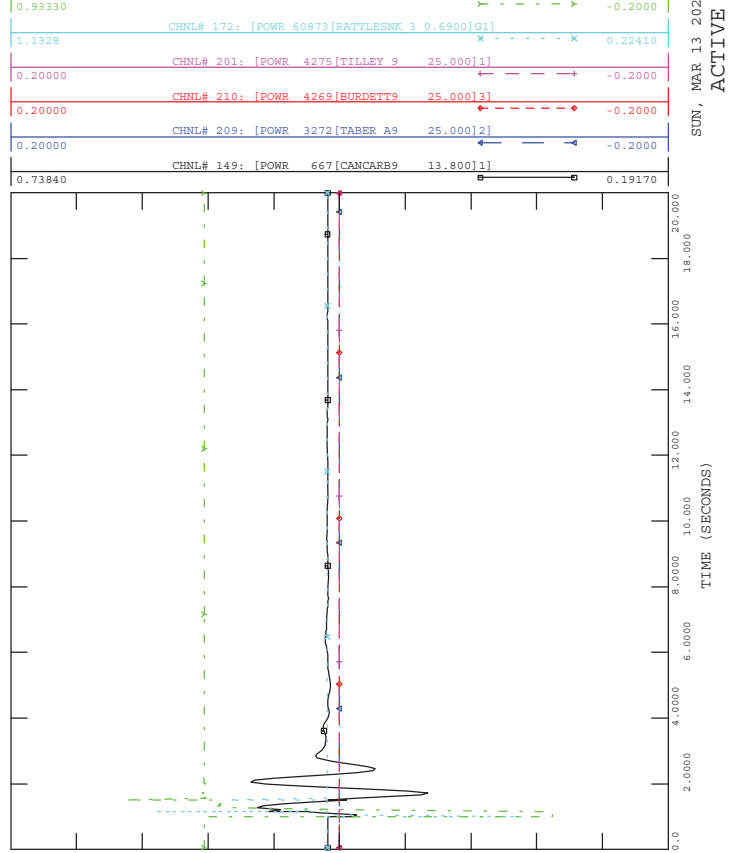
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_09_763L_VAUXHALL

FILE: scn4_SP_09_763L_Vauxhall.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

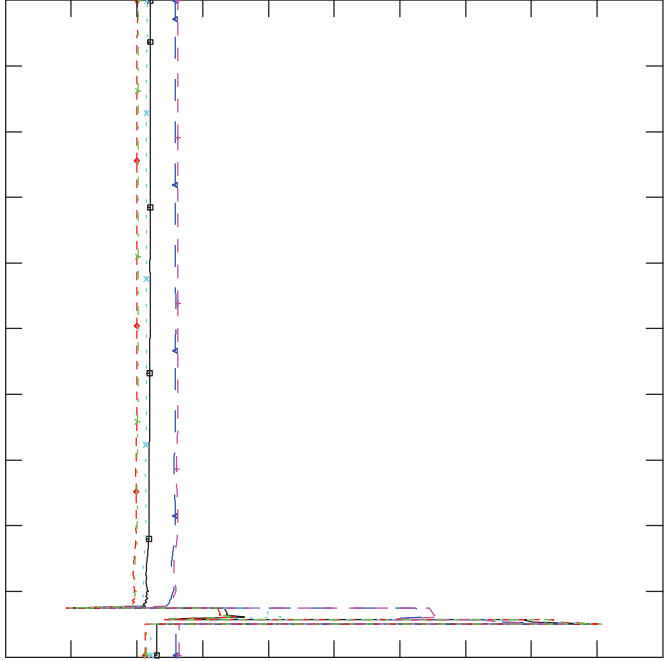




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

1.2613	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.19040
1.2370	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.28380
1.1955	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.52960
1.2605	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.17980
1.1910	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.50930
1.2579	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.28520



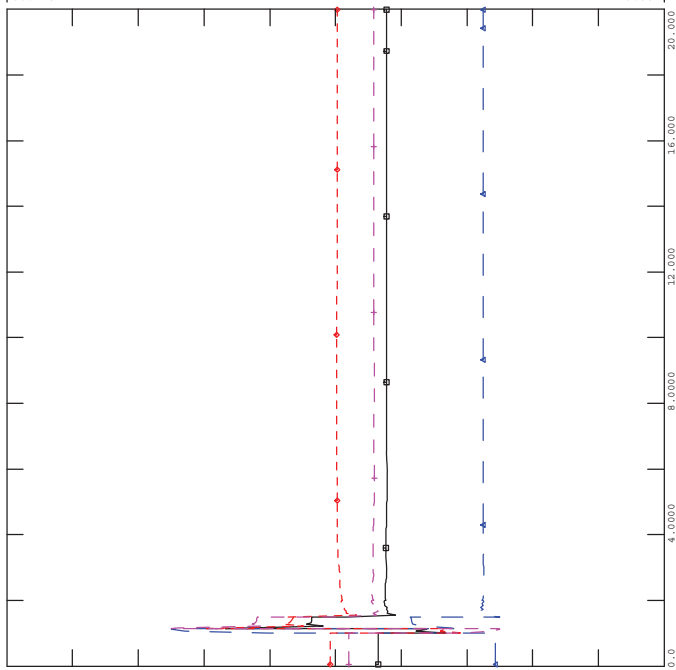
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

111.44	CHNL# 470: [795L Q]	-123.2
73.270	CHNL# 468: [612L Q]	-58.23
284.01	CHNL# 466: [507L Q]	-123.0
50.443	CHNL# 464: [879L Q]	-70.05



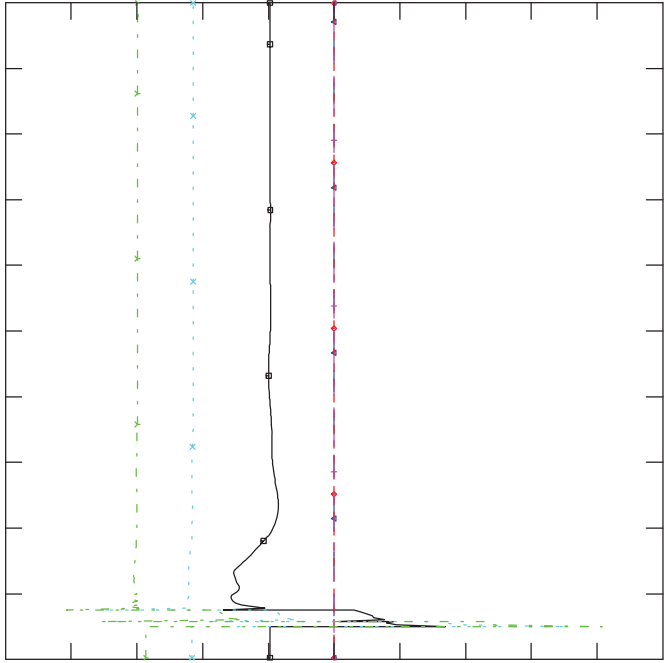
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

1.2809	CHNL# 436: [ETRM 60441[P1926 0 0.6900]]	0.20160
1.1939	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.50980
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1415	CHNL# 371: [ETRM 667[CANCARB9 13.800]]	0.83970



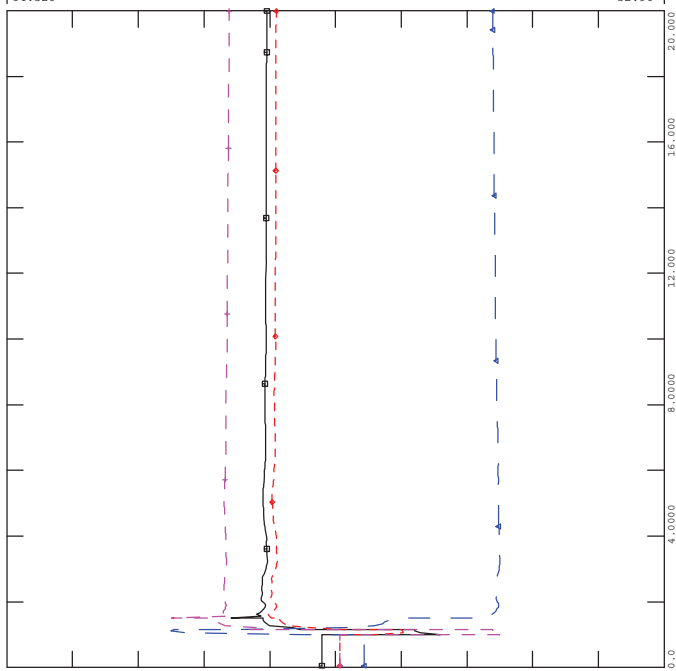
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

156.89	CHNL# 469: [795L P]	-73.32
38.330	CHNL# 467: [612L P]	-62.35
166.84	CHNL# 465: [507L P]	-52.53
64.520	CHNL# 463: [879L P]	-52.90



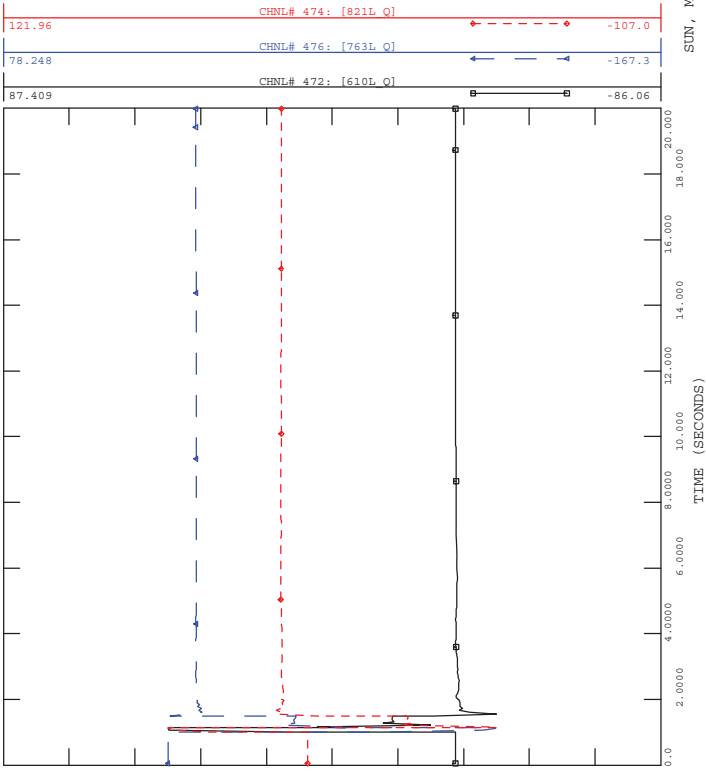
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

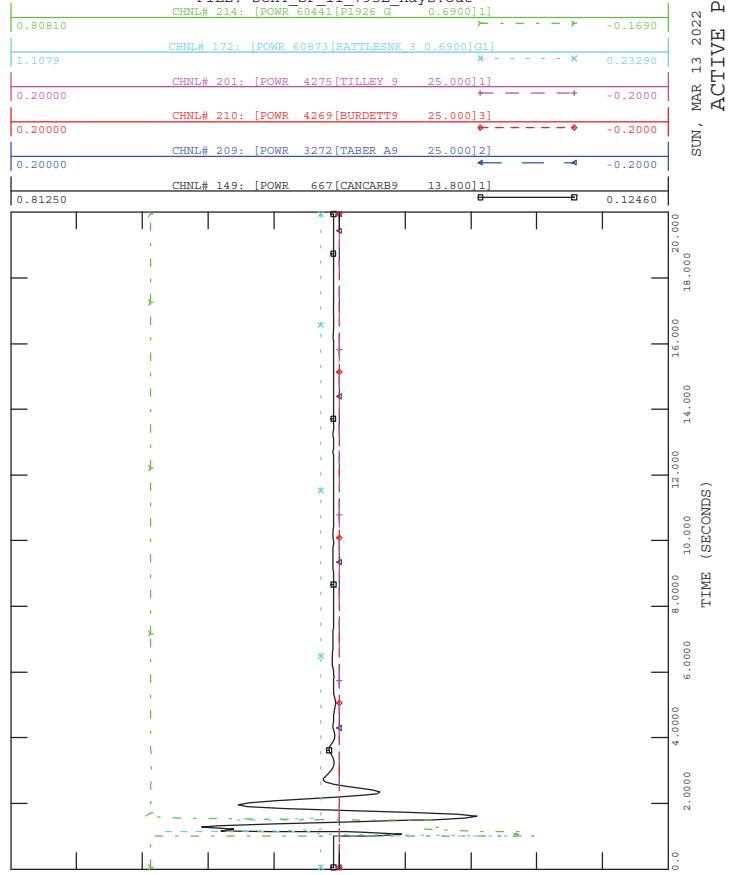
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

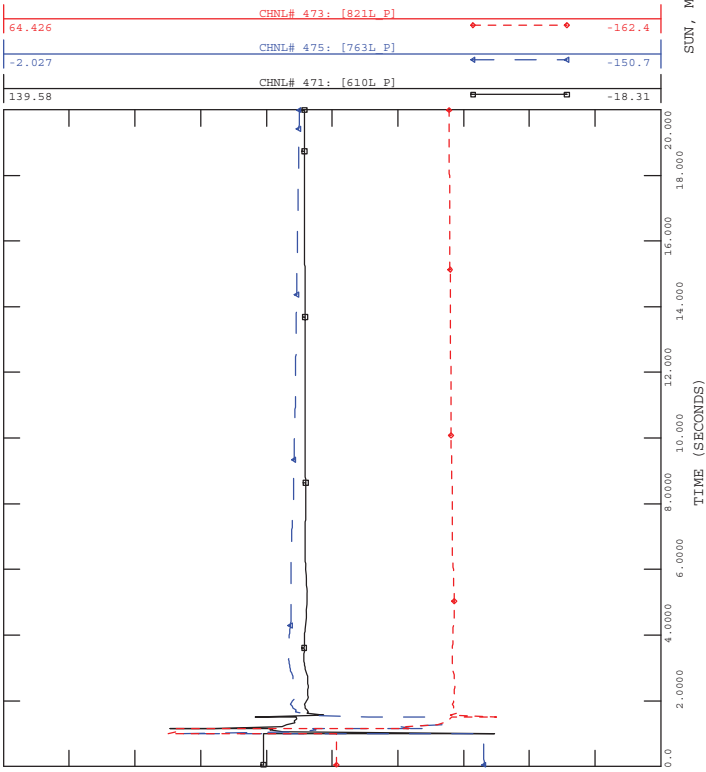
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_10_763L_WESTBROOKS

FILE: scn4_SP_10_763L_WestBrooks.out

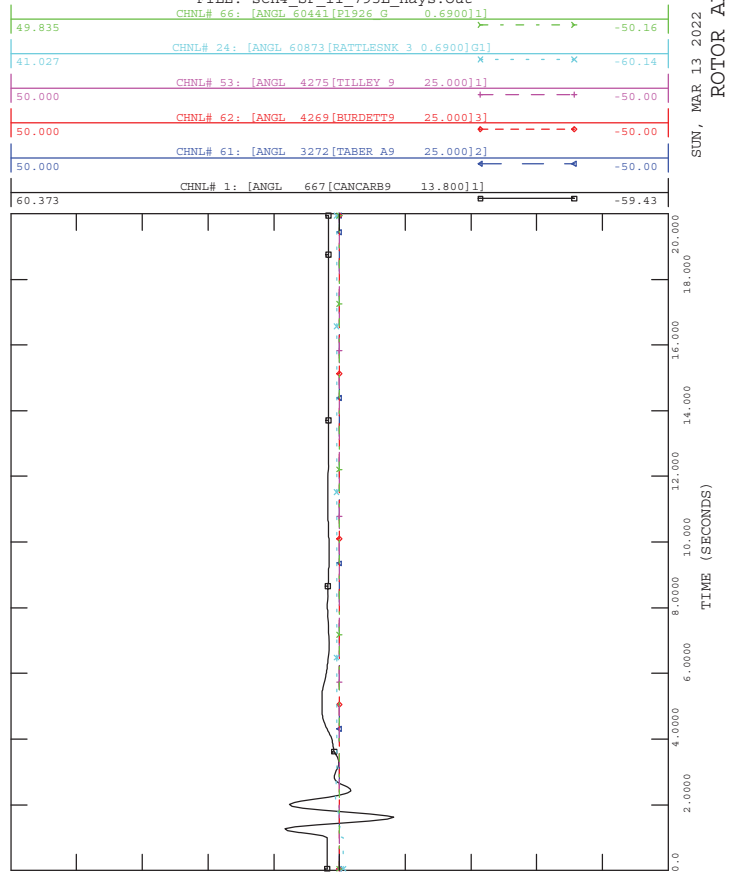
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

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ROTOR ANGLE

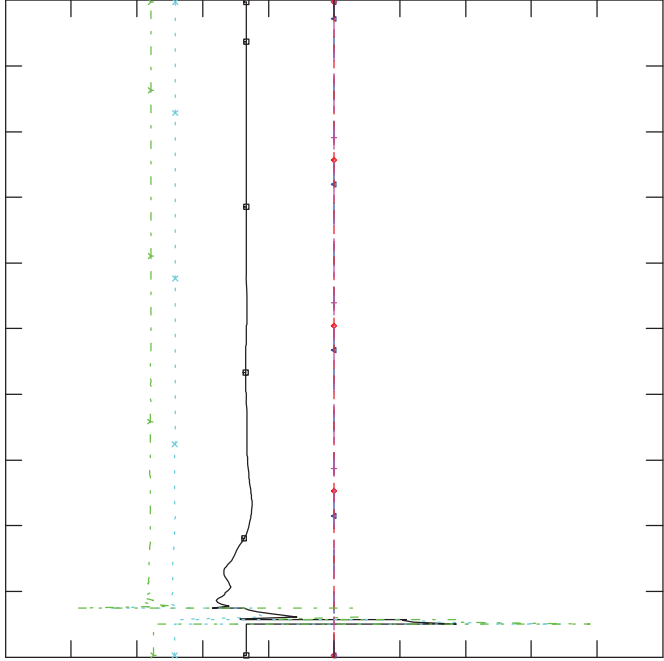




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

1.2537	CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]	0.34850
1.1654	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.52250
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1366	CHNL# 371: [ETRM 667[CANCARB9 13.800]1]	0.81840



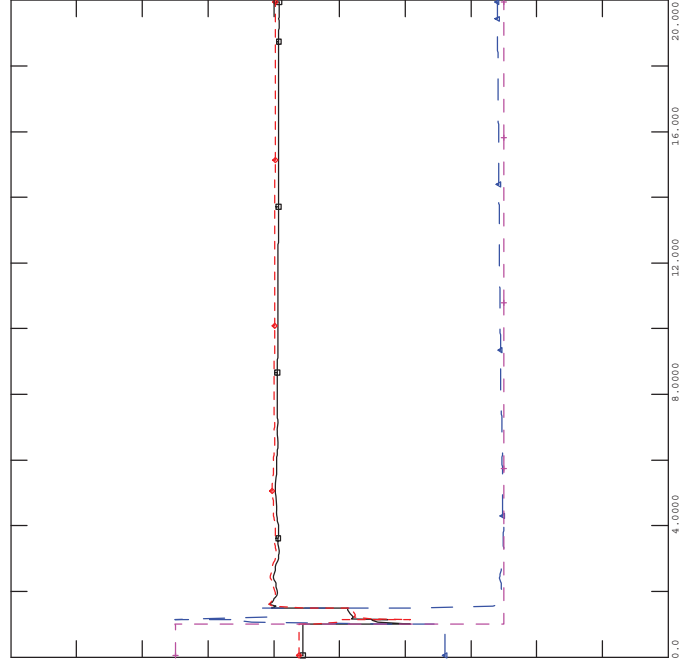
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

302.78	CHNL# 469: [795L P]	-100.9
32.022	CHNL# 467: [612L P]	-69.94
170.73	CHNL# 465: [507L P]	-15.69
53.531	CHNL# 463: [879L P]	-48.41



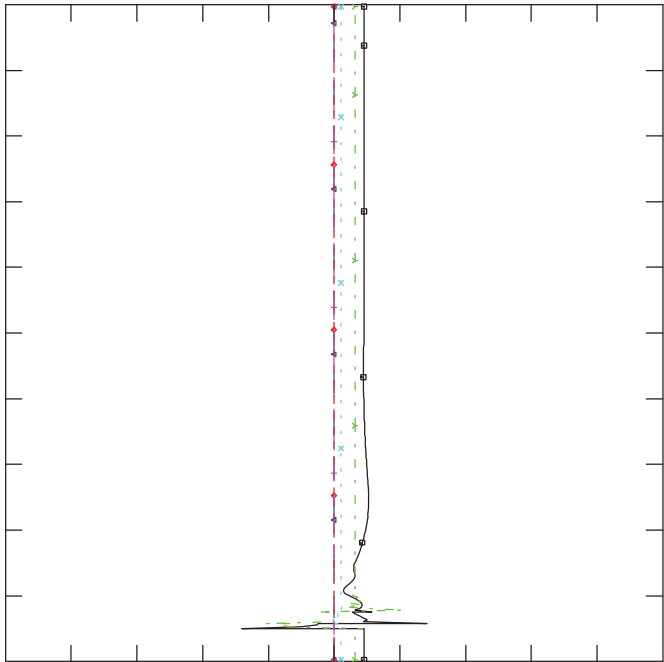
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

0.69810	CHNL# 288: [VARS 60441[P1926 G 0.6900]1]	-0.5657
0.45600	CHNL# 246: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5754
0.50000	CHNL# 275: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 284: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 283: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.94430	CHNL# 223: [VARS 667[CANCARB9 13.800]1]	-0.4462



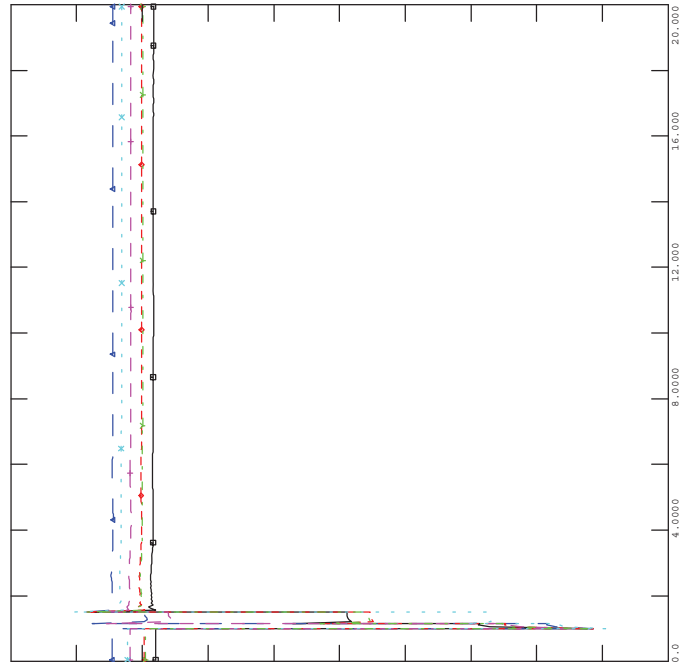
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

1.2109	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.33570
1.2131	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.15970
1.1551	CHNL# 457: [VOLT 276 [W BROOK7 138.00]]	0.41000
1.2096	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.32840
1.1494	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.27480
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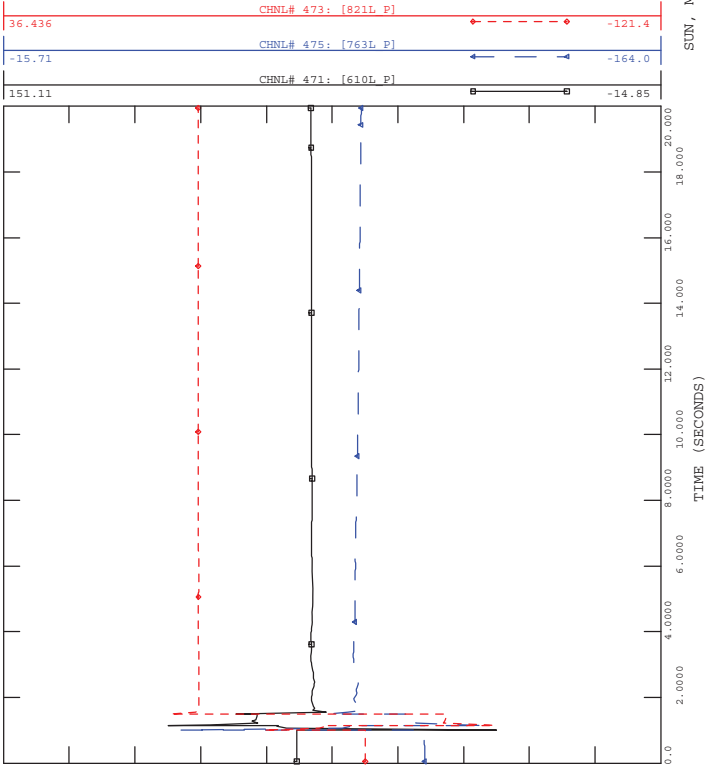


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

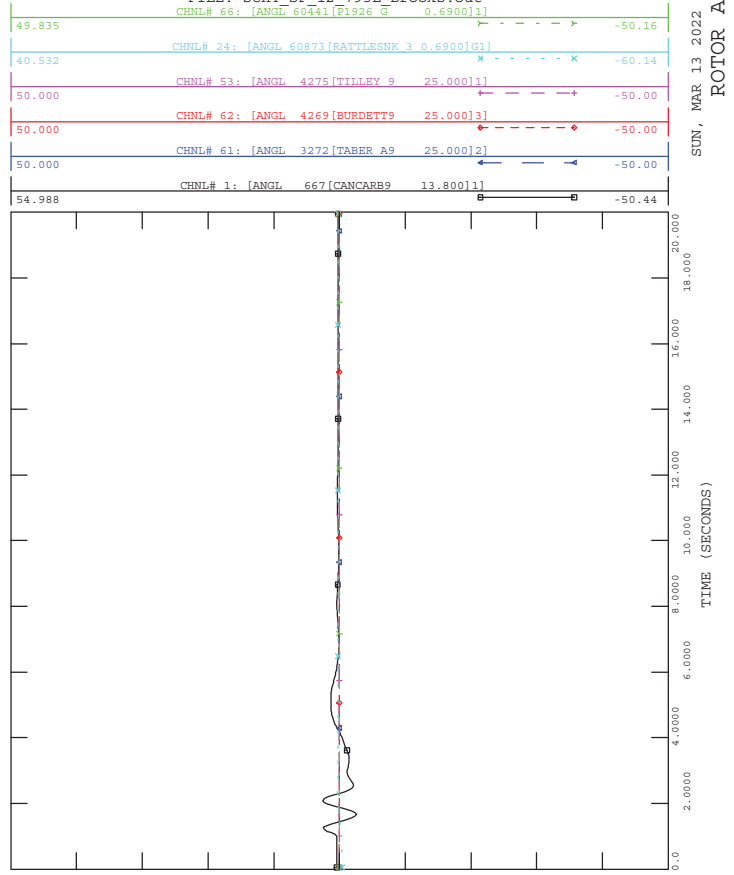


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out

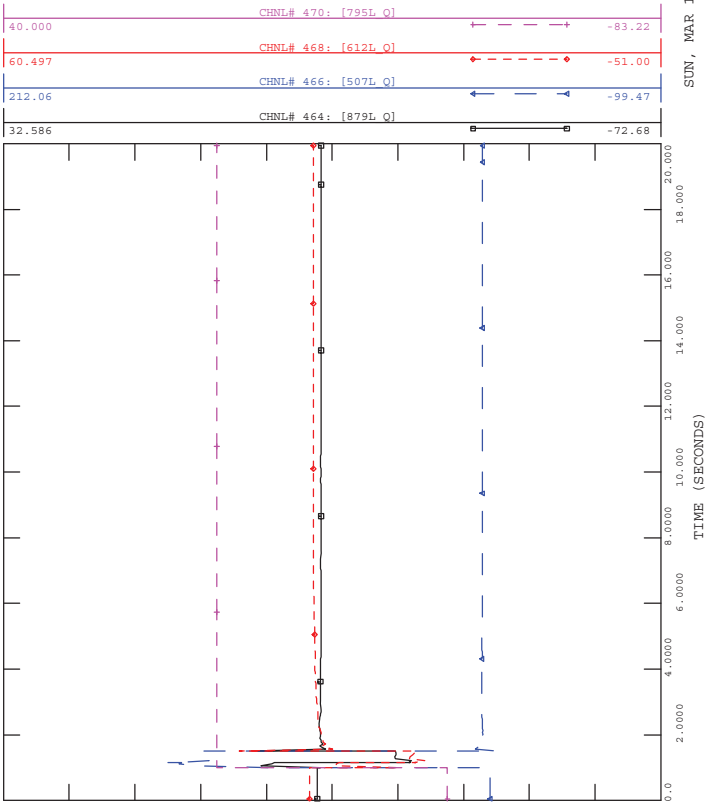


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

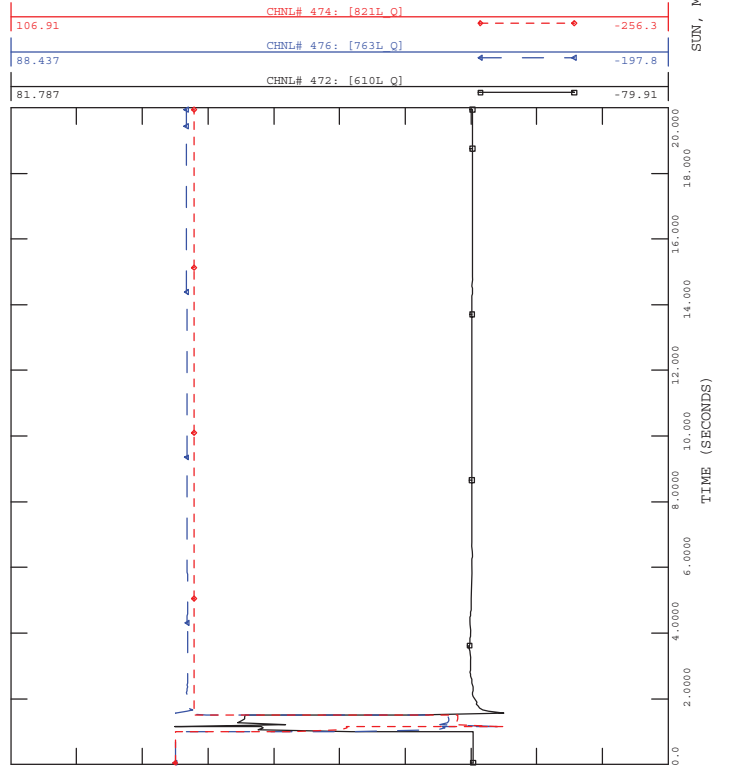


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_11_795L_HAYS

FILE: scn4_SP_11_795L_Hays.out

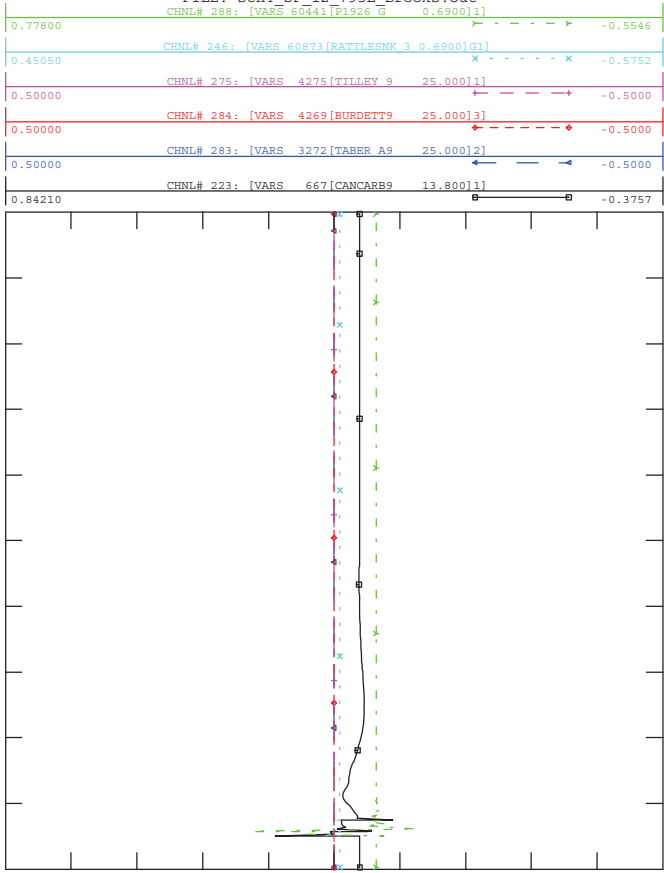


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

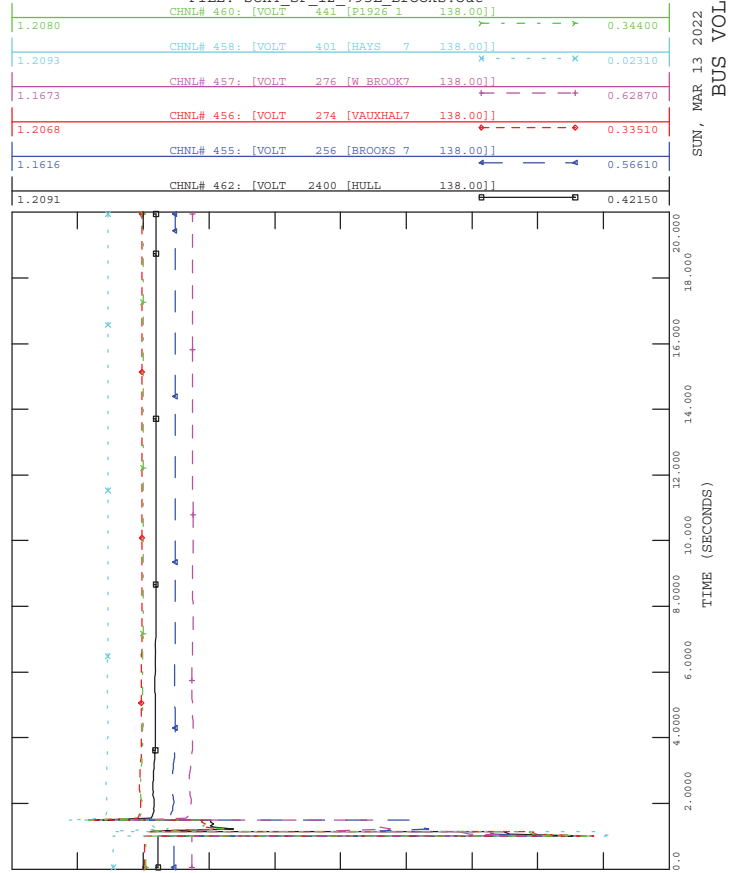


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out
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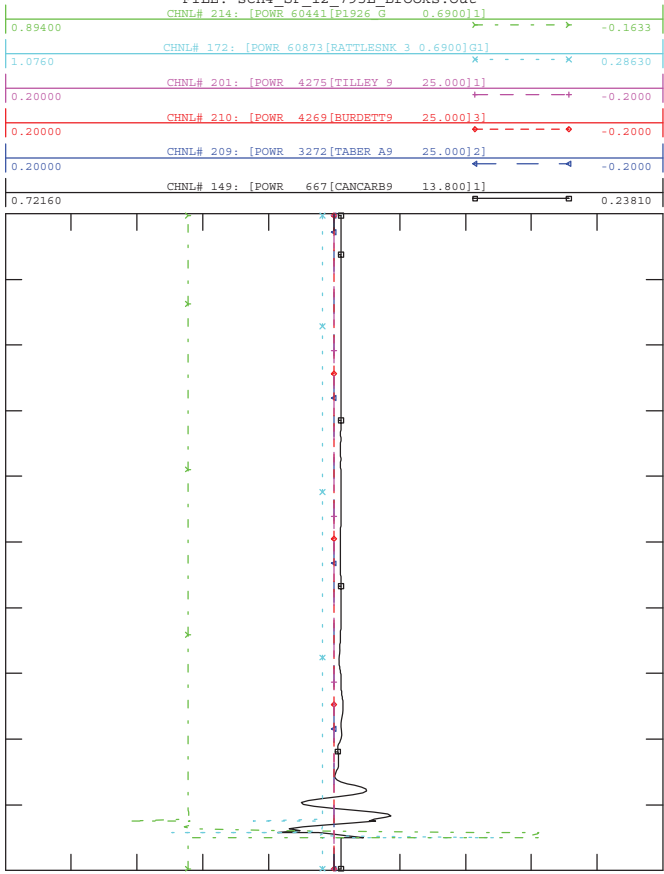


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]

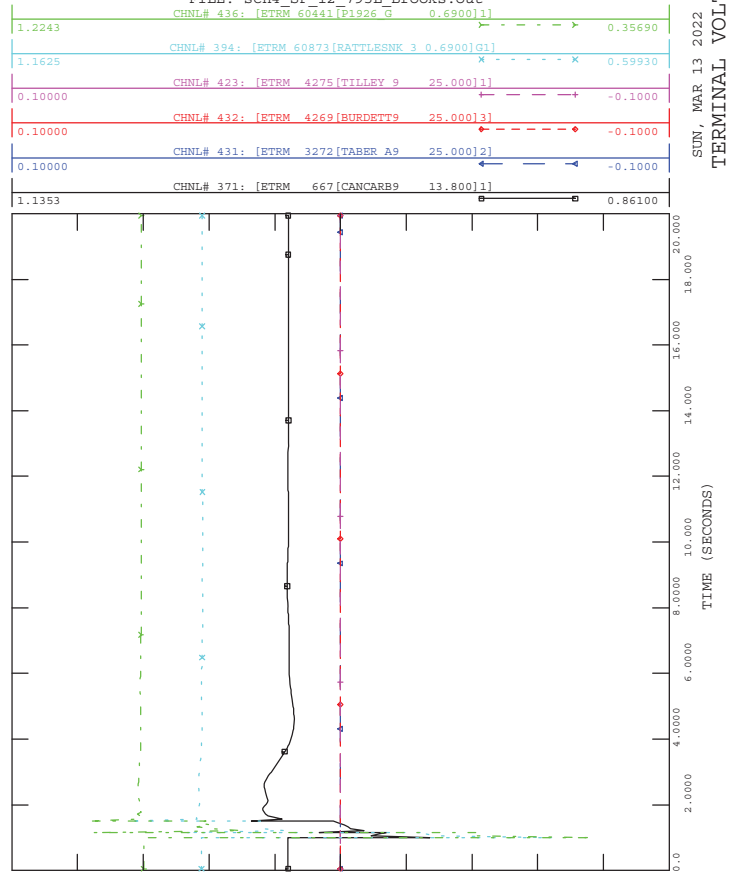


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out
CHNL# 436: [ETRM 60441[P1926 G 0.6900]1]



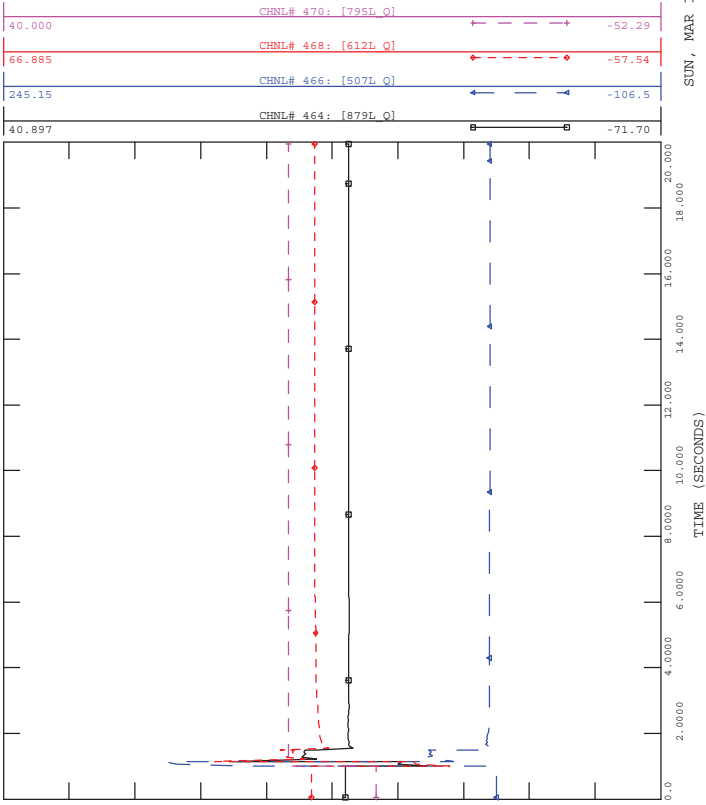
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out

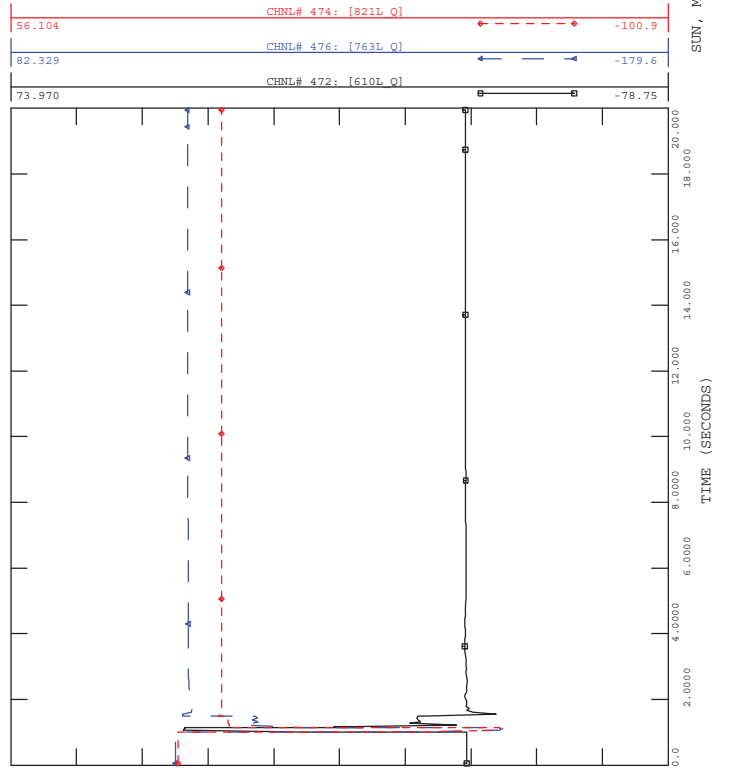
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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out

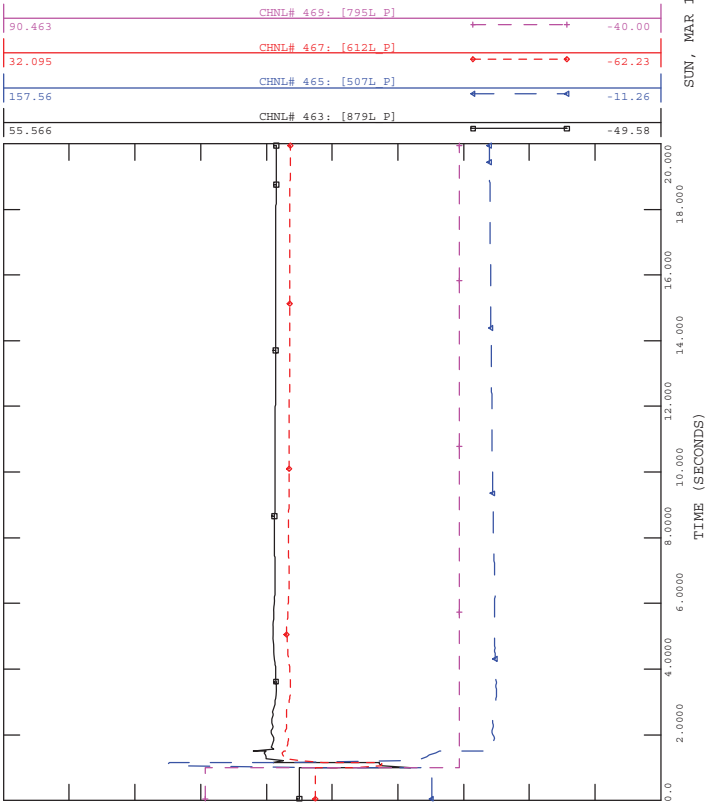
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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out

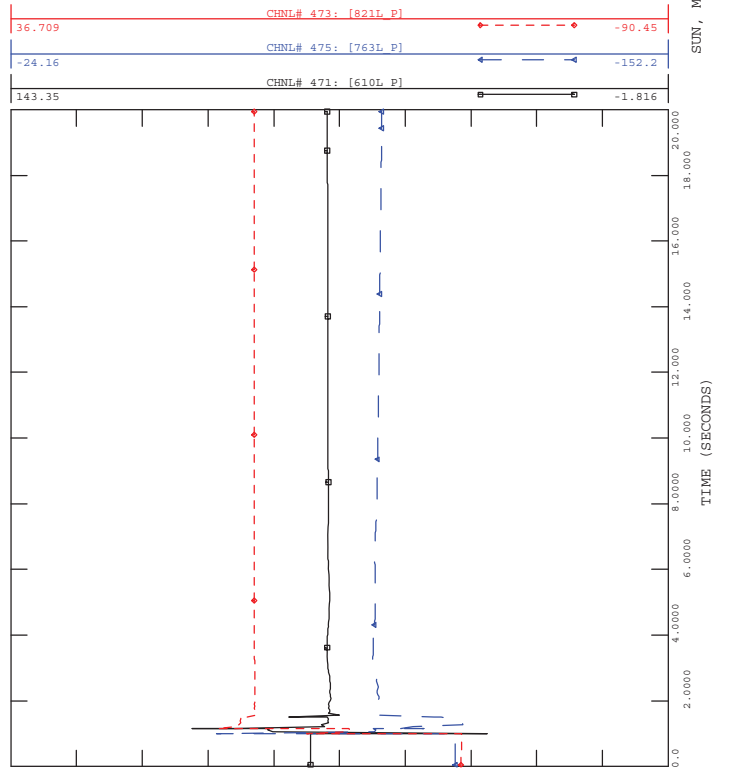
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_12_795L_BROOKS

FILE: scn4_SP_12_795L_Brooks.out

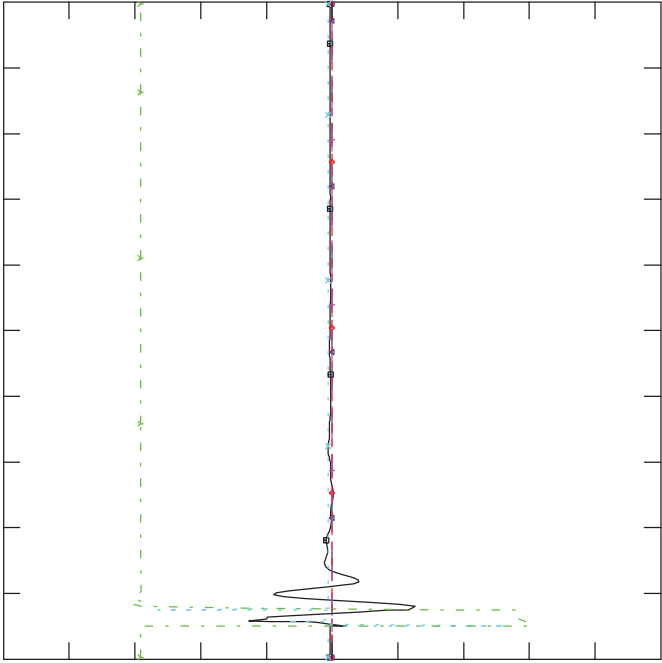
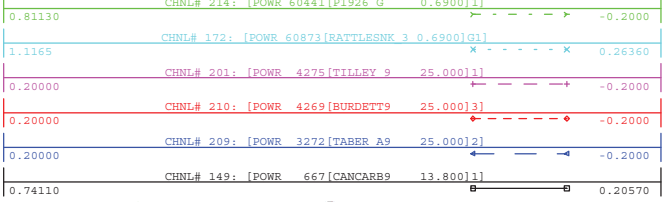
SUN, MAR 13 2022 23:51
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

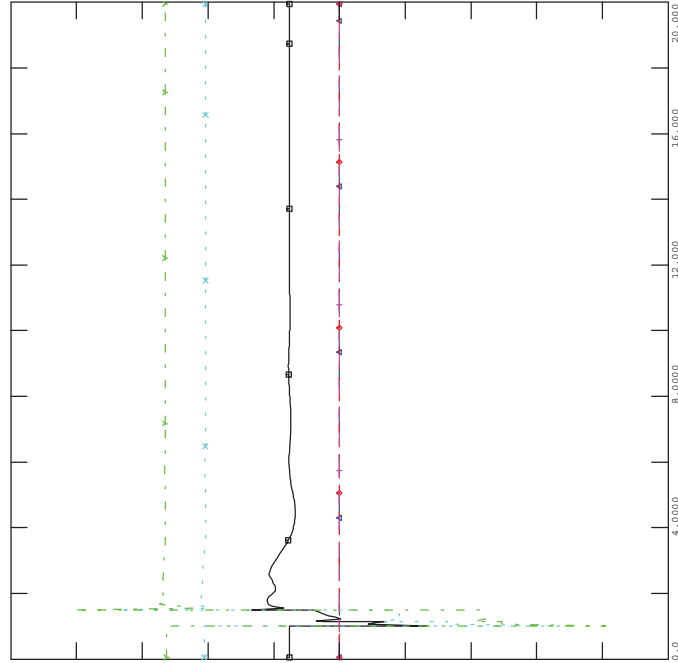
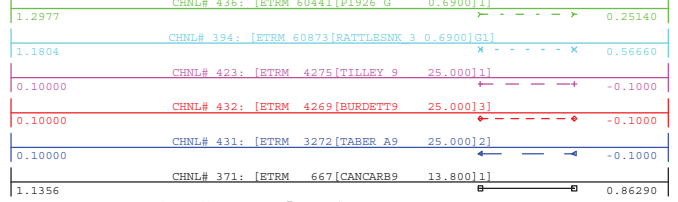


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

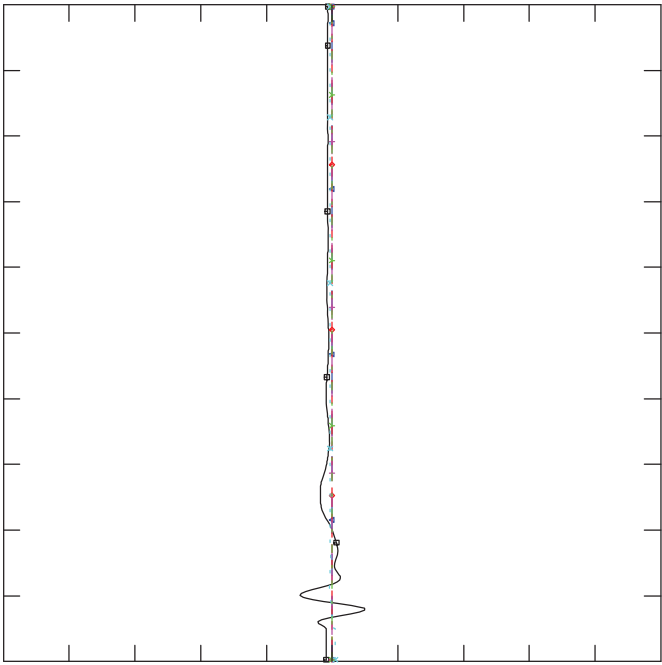
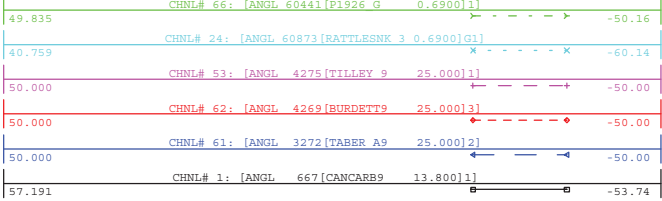


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

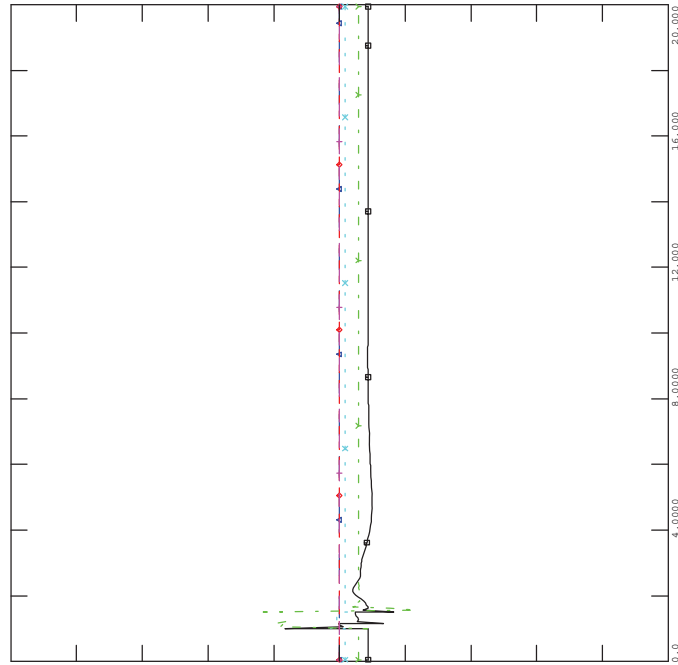
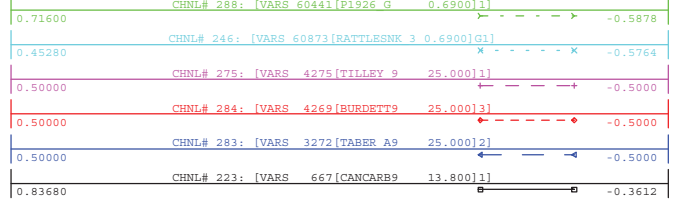


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out



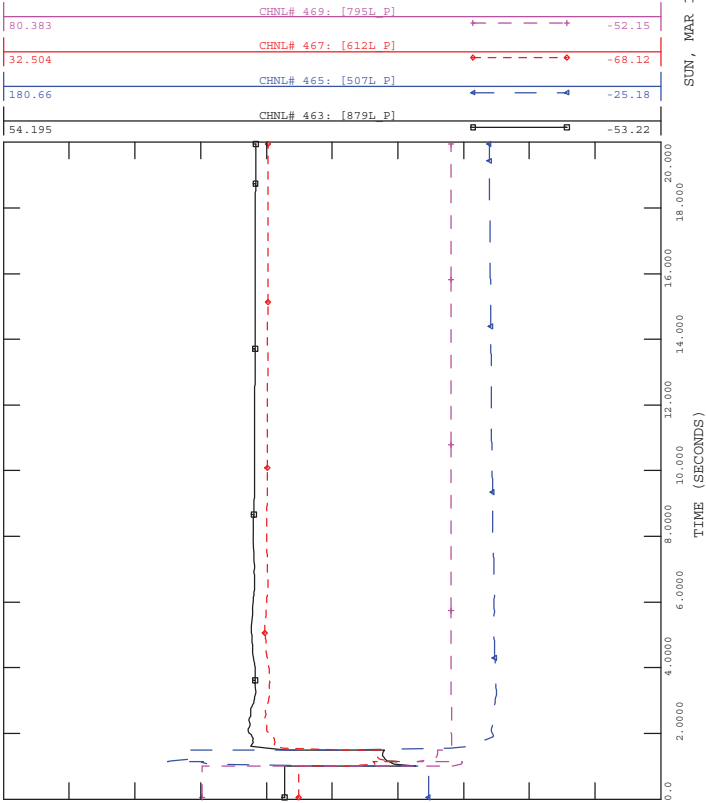
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

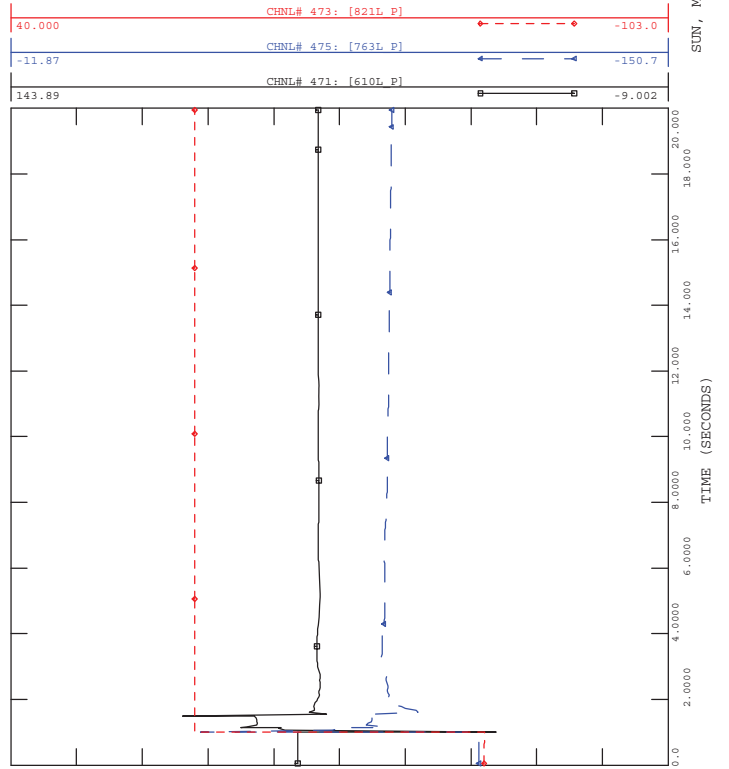
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

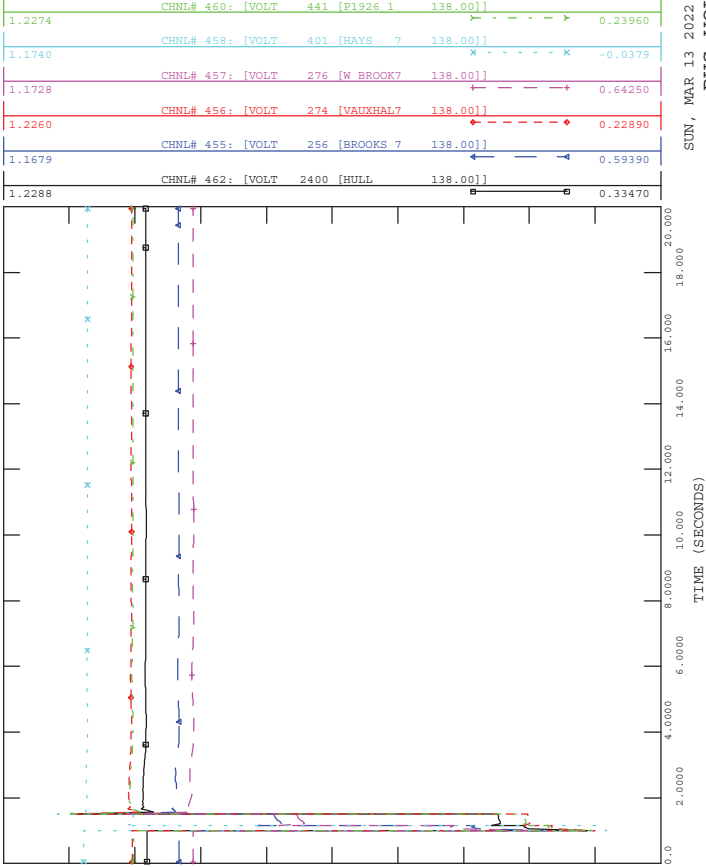
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

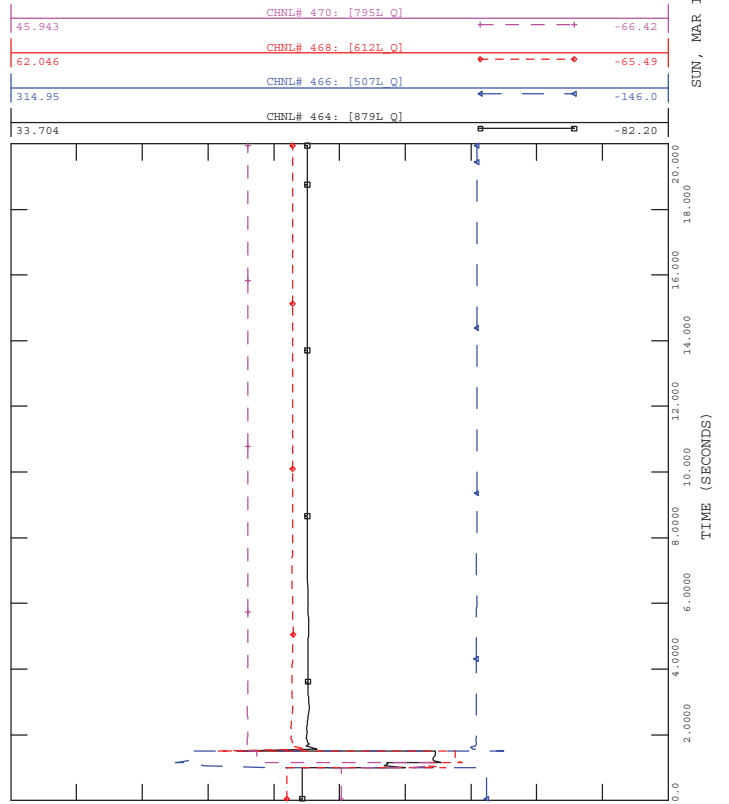
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

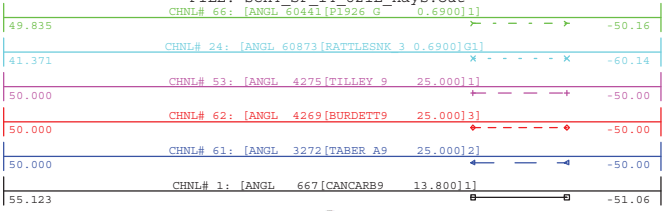
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

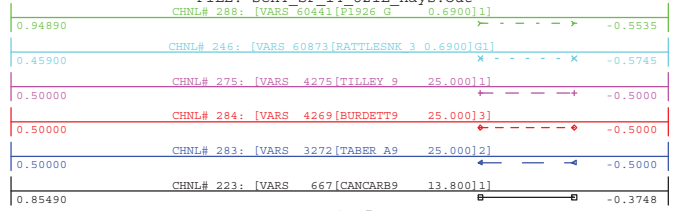


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out
CHNL# 288: [VARS 60441[P1926 G 0.6900]1]

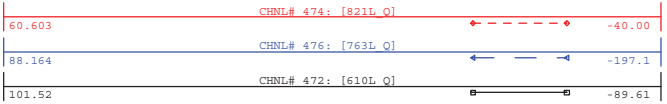


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_13_821L_VAUXHALL

FILE: scn4_SP_13_821L_Vauxhall.out

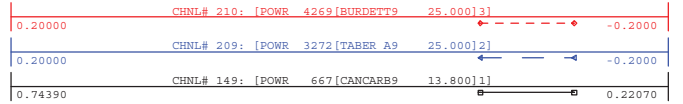


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out
CHNL# 214: [POWR 60441[P1926 G 0.6900]1]



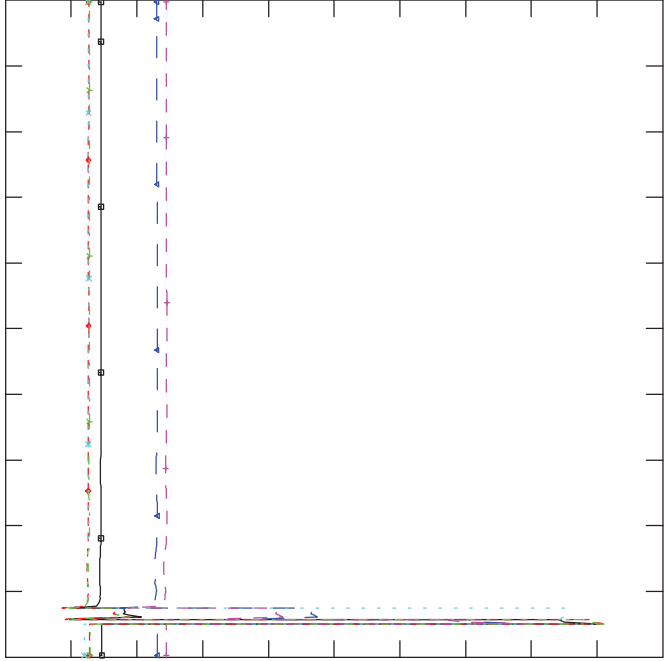
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out

1.1802	CHNL# 460: [VOLT 441 [P1926 1 138.00]]	0.02990
1.1538	CHNL# 458: [VOLT 401 [HAYS 7 138.00]]	0.08870
1.1510	CHNL# 457: [VOLT 276 [W.BROOK7 138.00]]	0.61500
1.1790	CHNL# 456: [VOLT 274 [VAUXHAL7 138.00]]	0.01580
1.1463	CHNL# 455: [VOLT 256 [BROOKS 7 138.00]]	0.57660
1.1847	CHNL# 462: [VOLT 2400 [HULL 138.00]]	0.15580



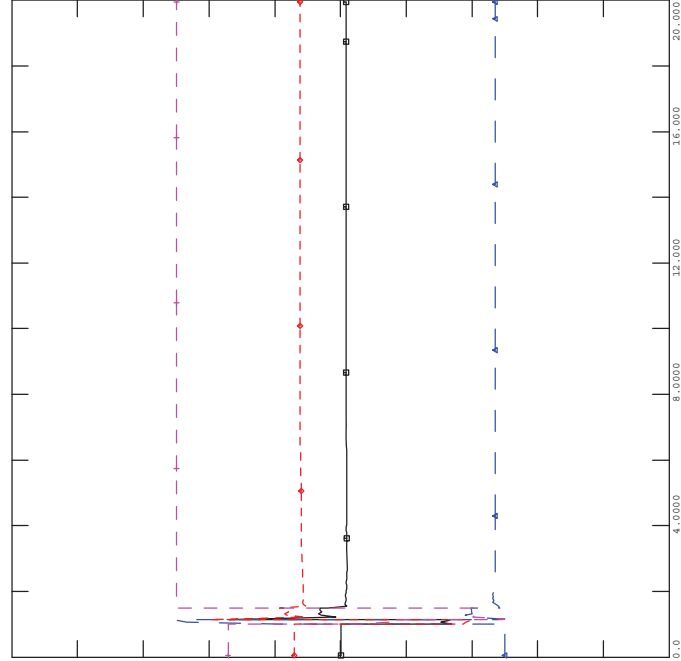
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out

56.250	CHNL# 470: [795L Q]	-146.8
65.559	CHNL# 468: [612L Q]	-67.14
330.45	CHNL# 466: [507L Q]	-134.9
42.954	CHNL# 464: [879L Q]	-78.07



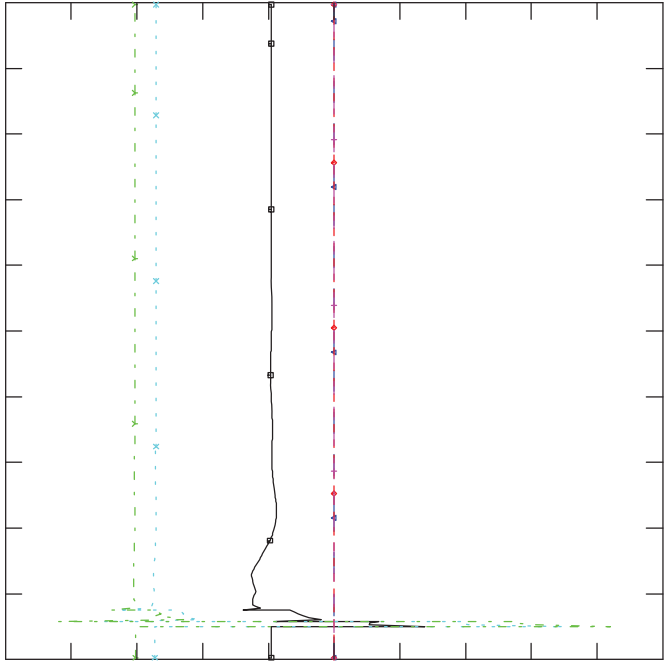
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out

1.2998	CHNL# 436: [ETRM 60441[P1926 G 0.6900]]	0.03900
1.1527	CHNL# 394: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.47980
0.10000	CHNL# 423: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 432: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 431: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1318	CHNL# 371: [ETRM 667[CANCARB9 13.800]]	0.85540



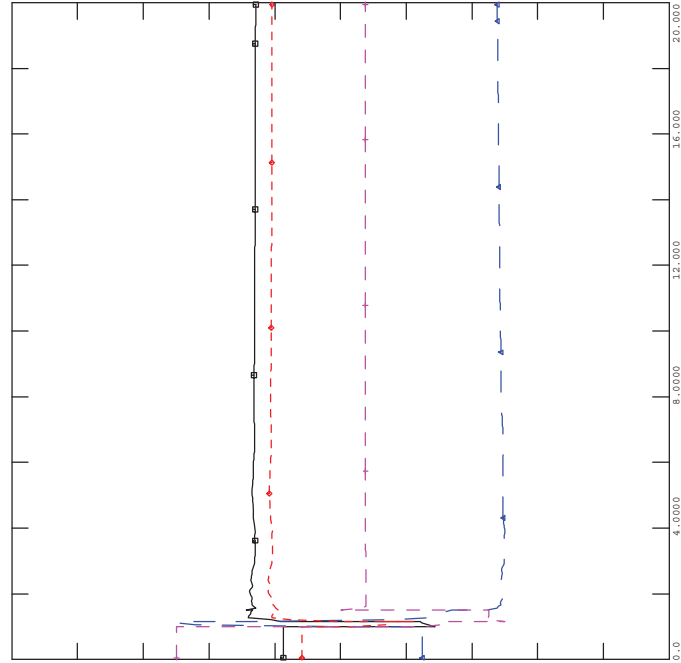
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out

83.982	CHNL# 469: [795L P]	-90.41
32.631	CHNL# 467: [612L P]	-70.01
151.77	CHNL# 465: [507L P]	-15.03
54.629	CHNL# 463: [879L P]	-57.68

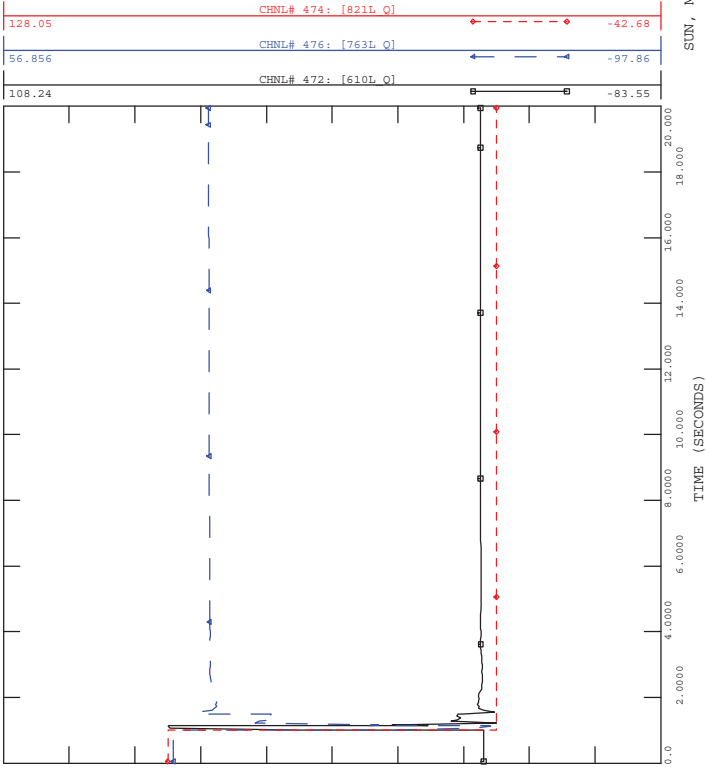


SUN, MAR 13 2022 23:51
BRANCH P



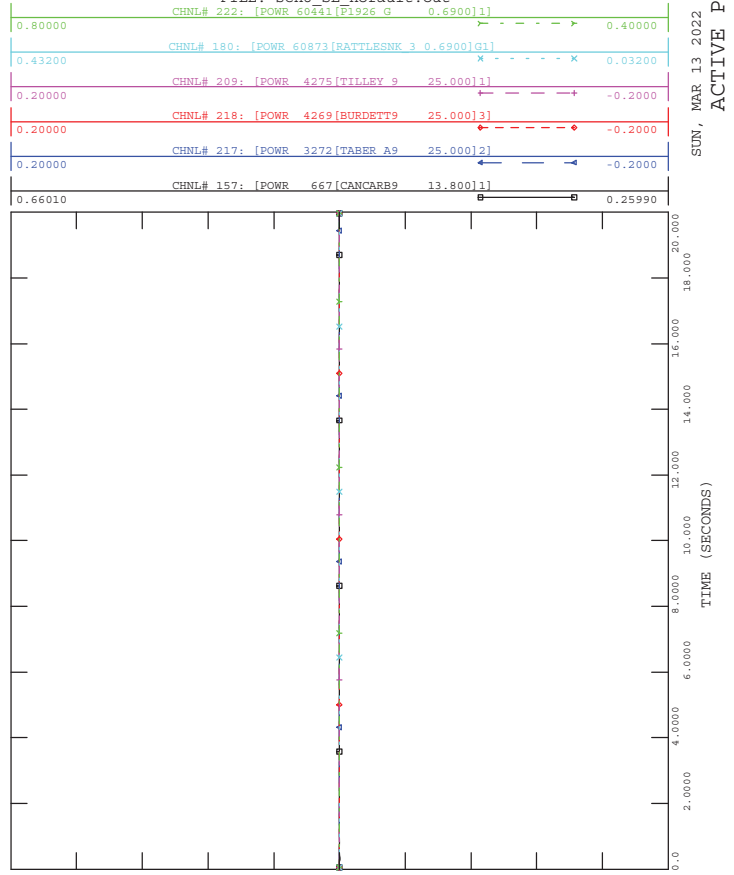
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out



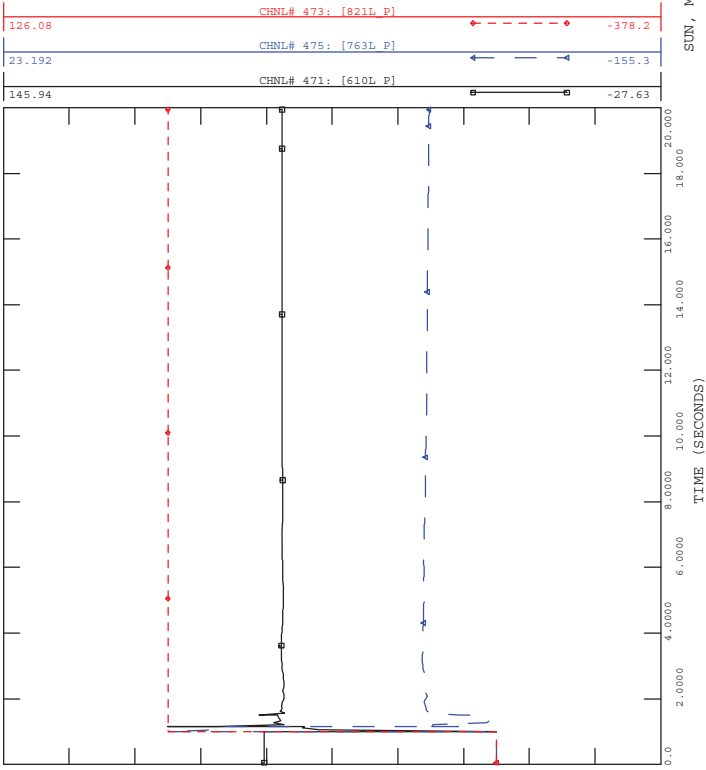
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CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8_SL_nofault.out



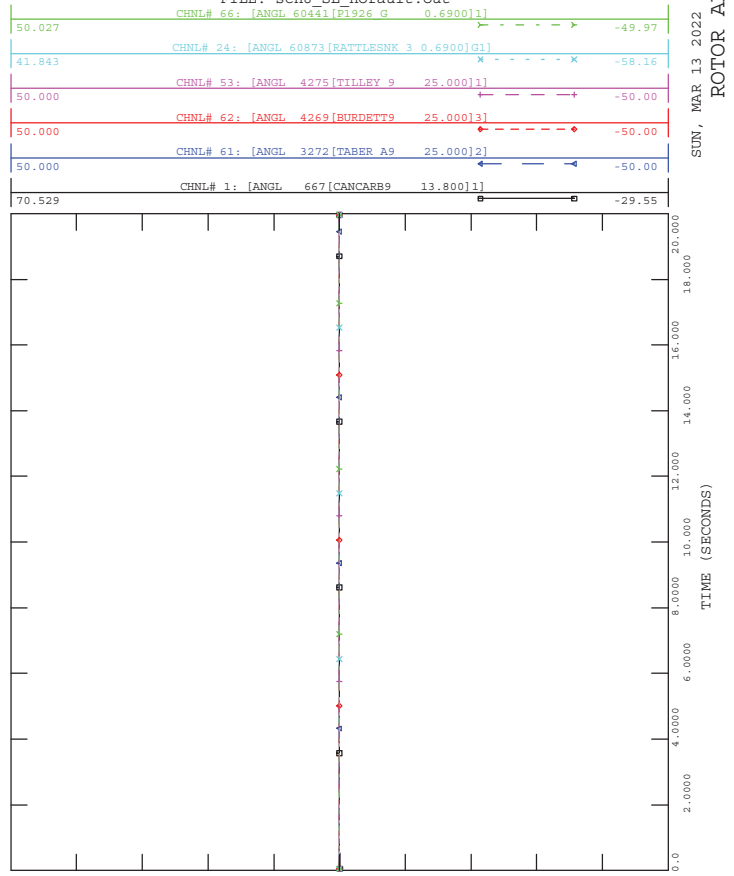
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CONTINGENCY -SCN4_SP_14_821L_HAYS

FILE: scn4_SP_14_821L_Hays.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_NOFAULT

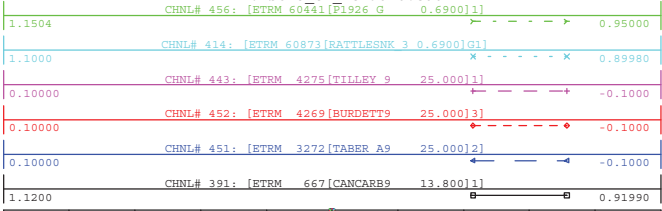
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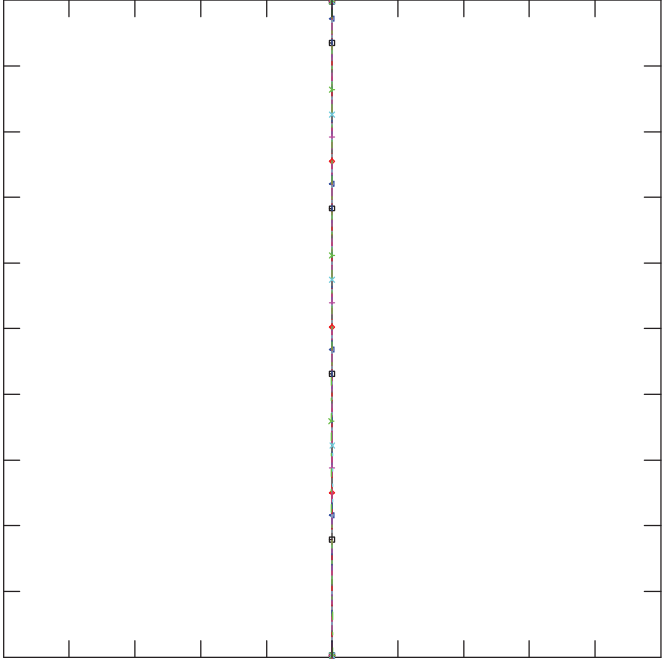


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CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8 SL_nofault.out

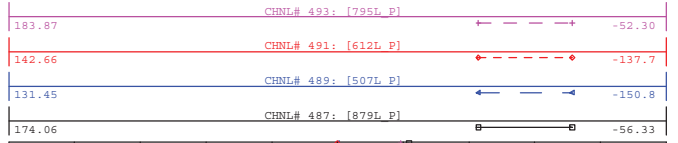


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TERMINAL VOLTAGE

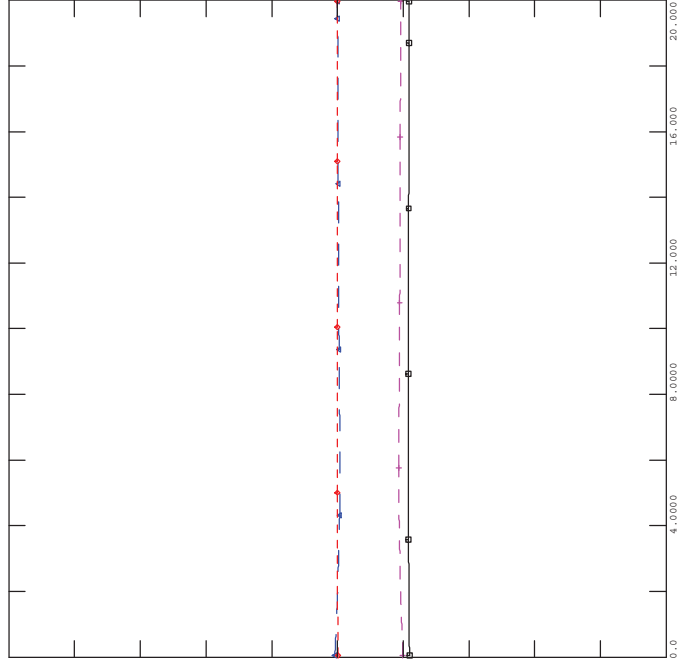


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CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8 SL_nofault.out

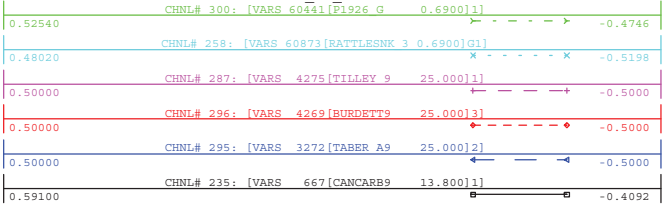


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BRANCH P

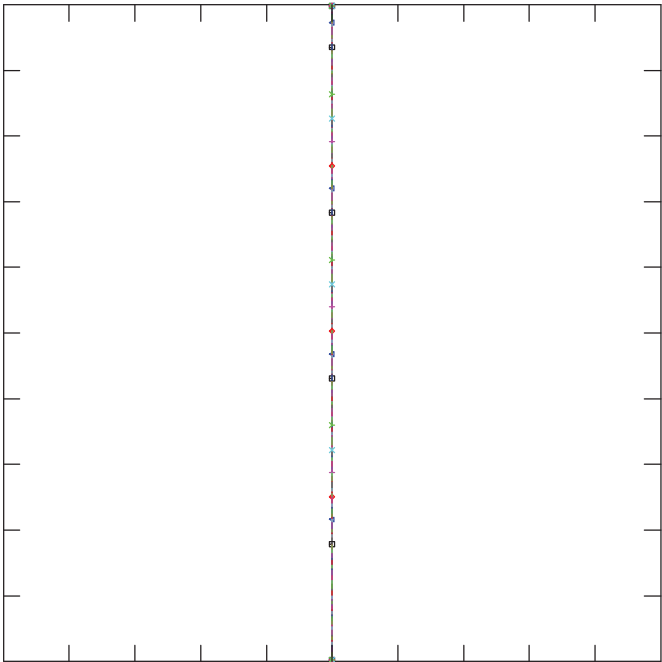


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CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8 SL_nofault.out

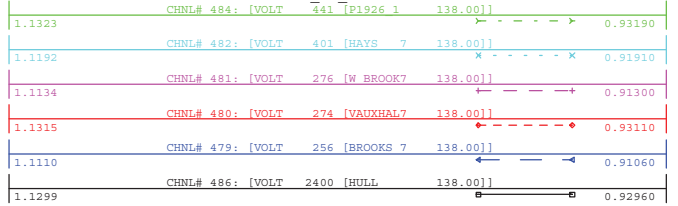


SUN, MAR 13 2022 23:51
REACTIVE POWER

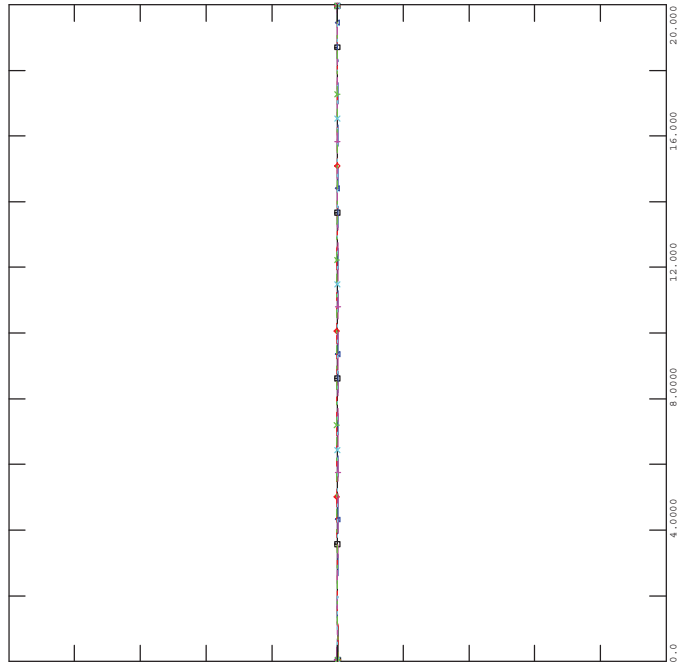


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8 SL_nofault.out



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BUS VOLTAGE

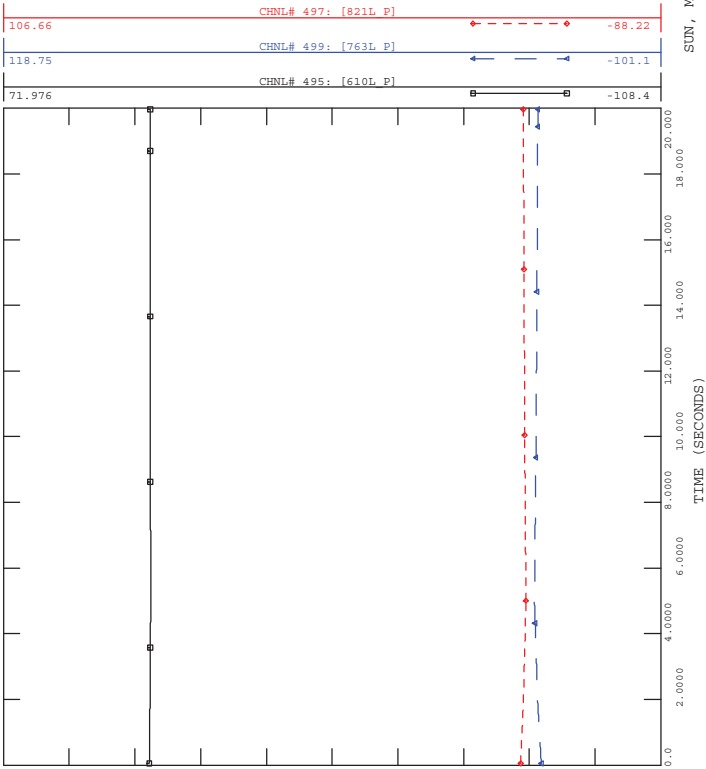




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8_SL_nofault.out

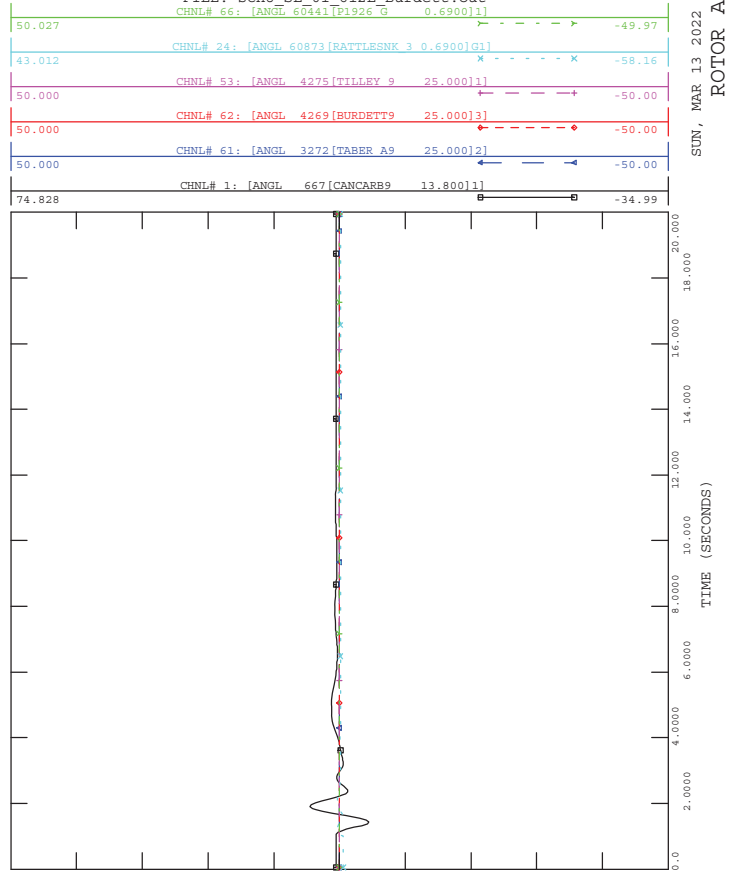
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out

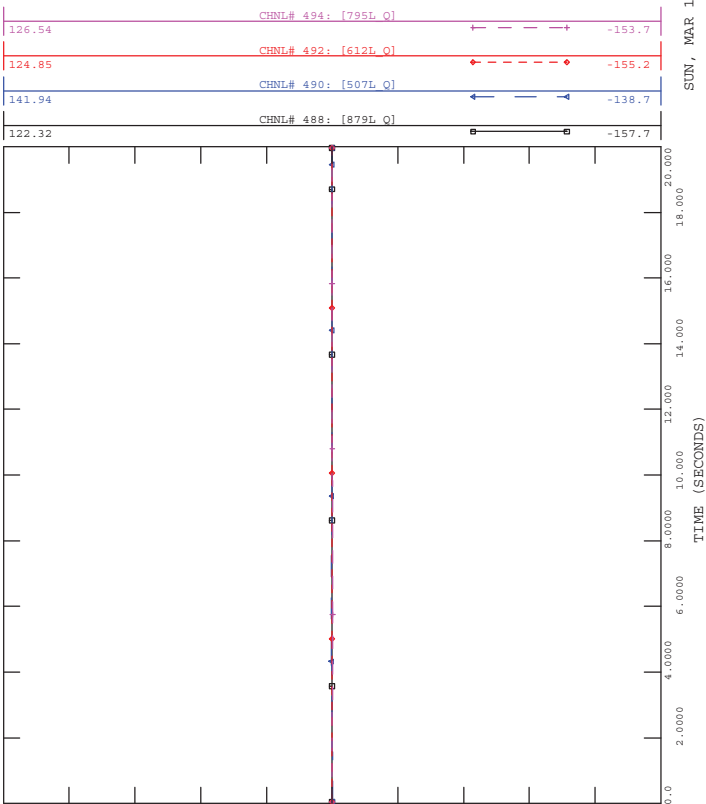
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8_SL_nofault.out

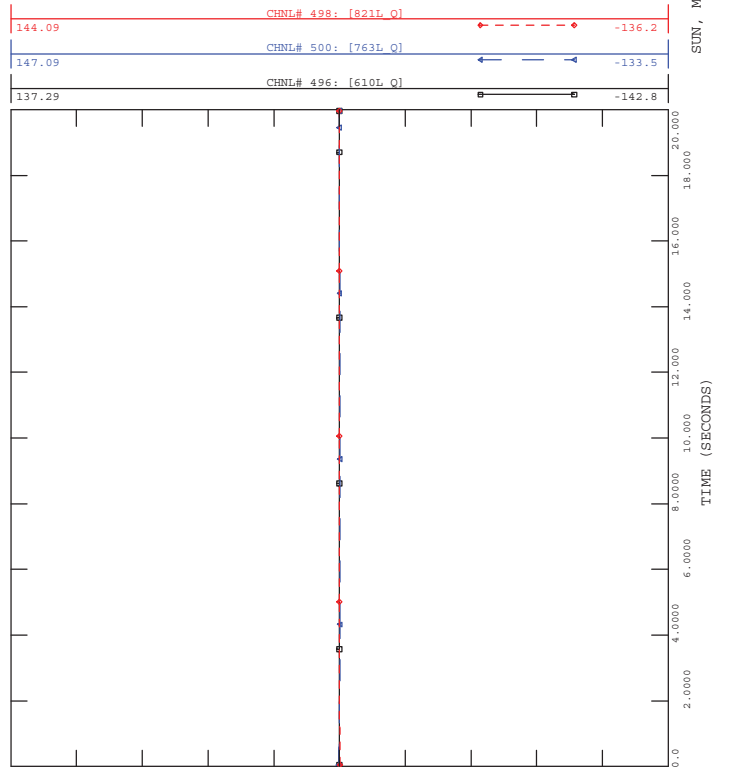
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_NOFAULT

FILE: scn8_SL_nofault.out

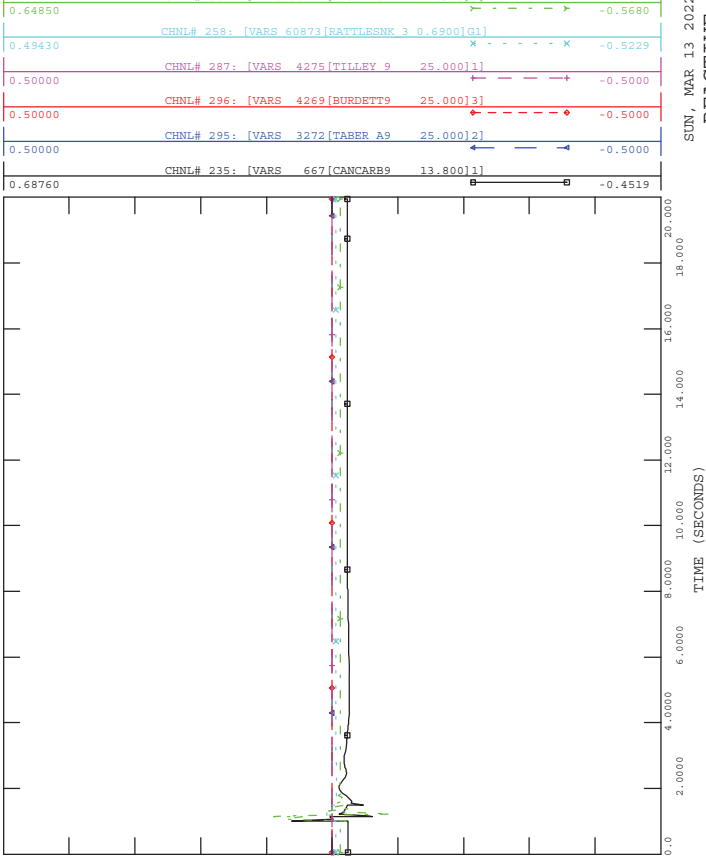
SUN, MAR 13 2022 23:51
BRANCH Q





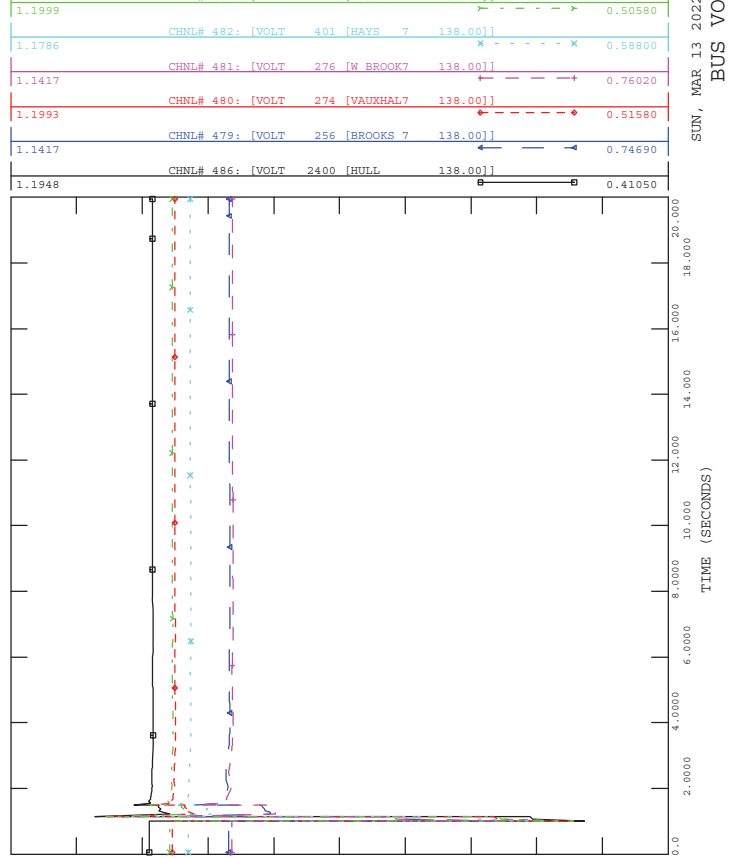
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CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]



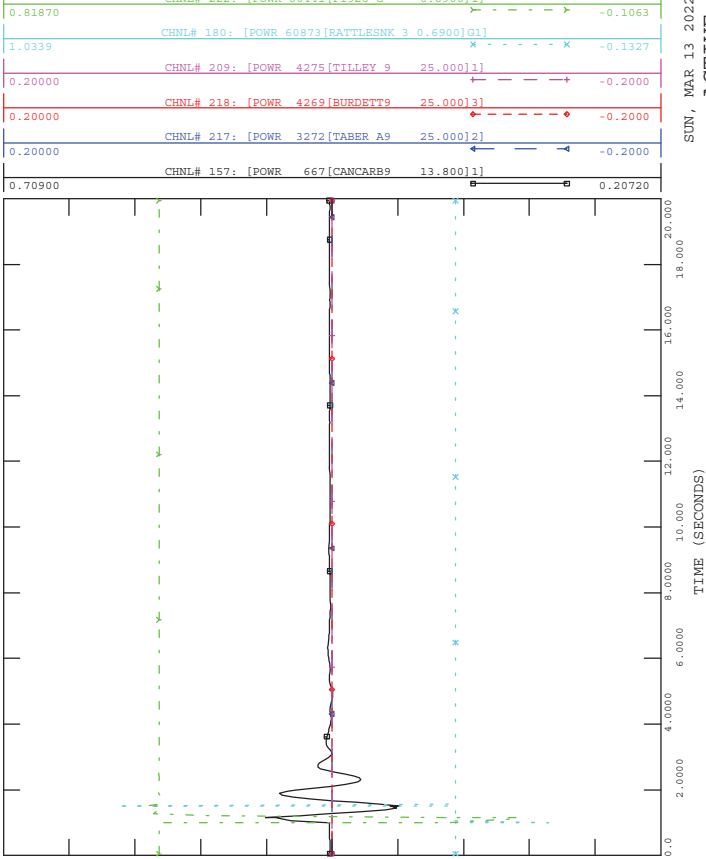
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out
CHNL# 484: [VOLT 441 [P1926 1 138.00]]



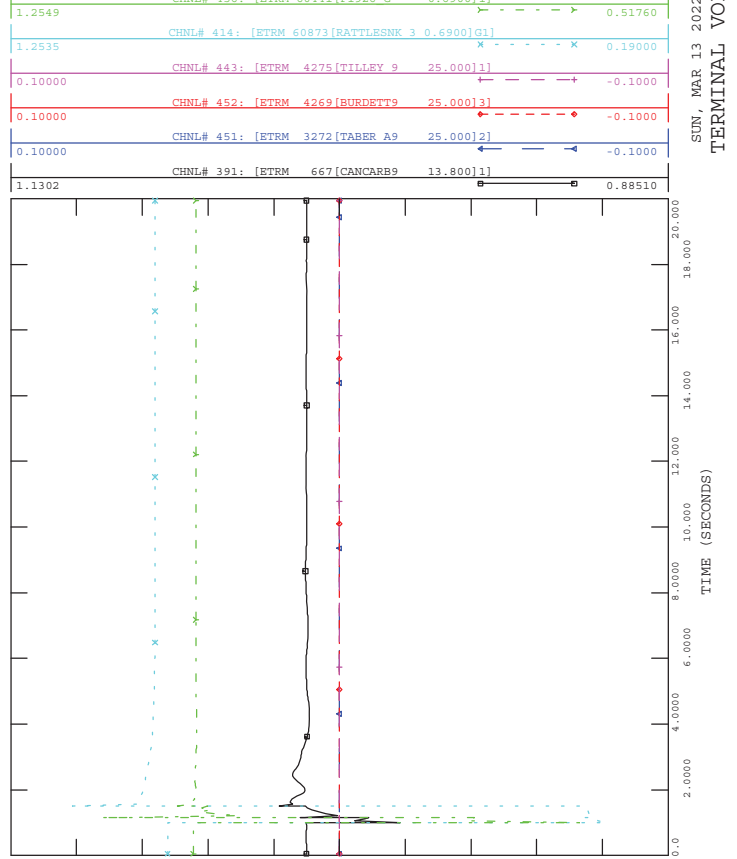
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]

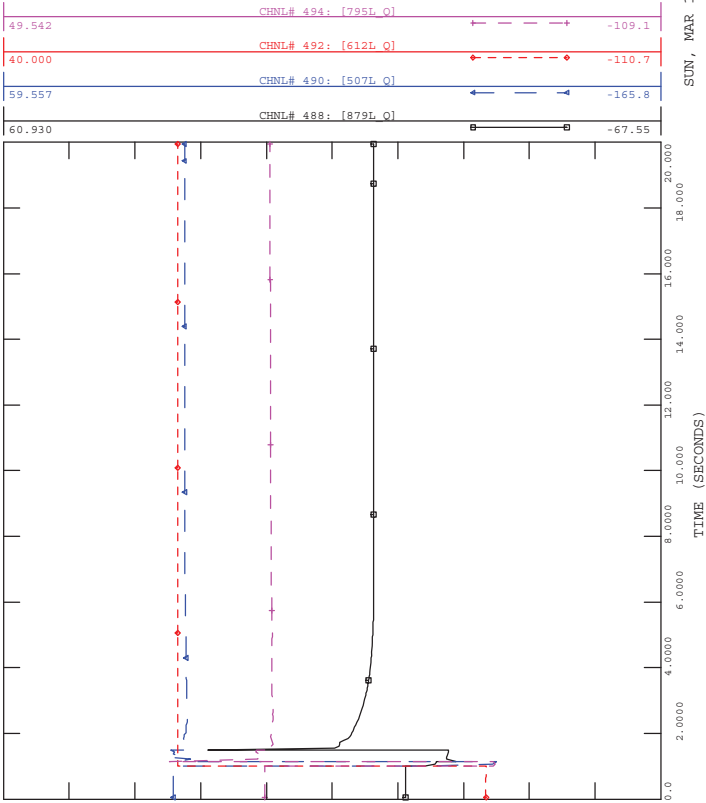




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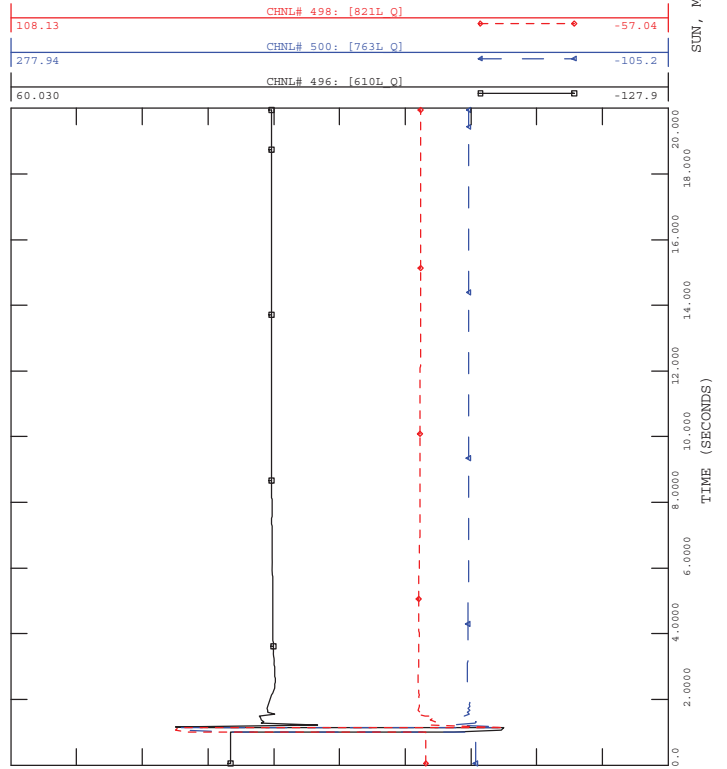
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out

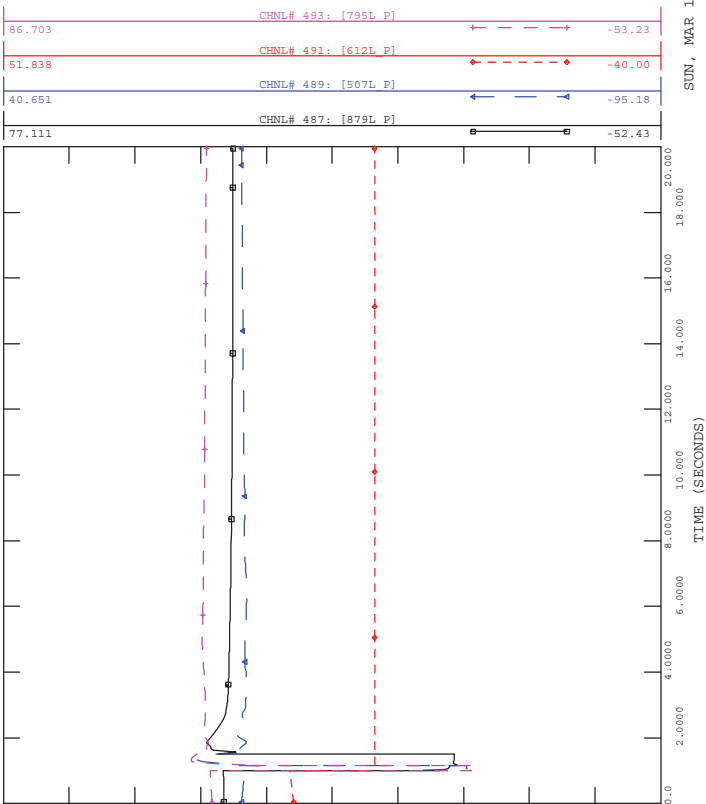
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out

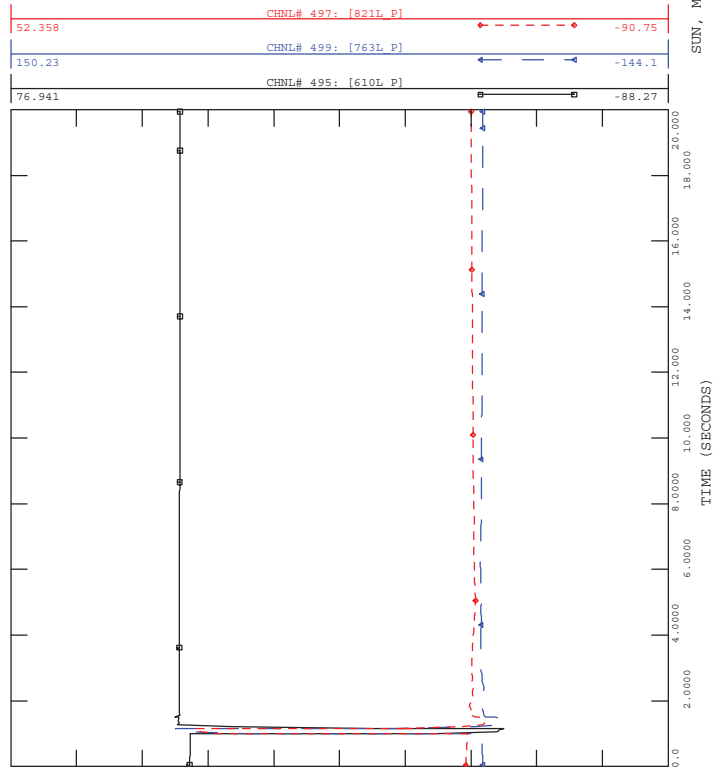
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_01_612L_BURDETT

FILE: scn8_SL_01_612L_Burdett.out

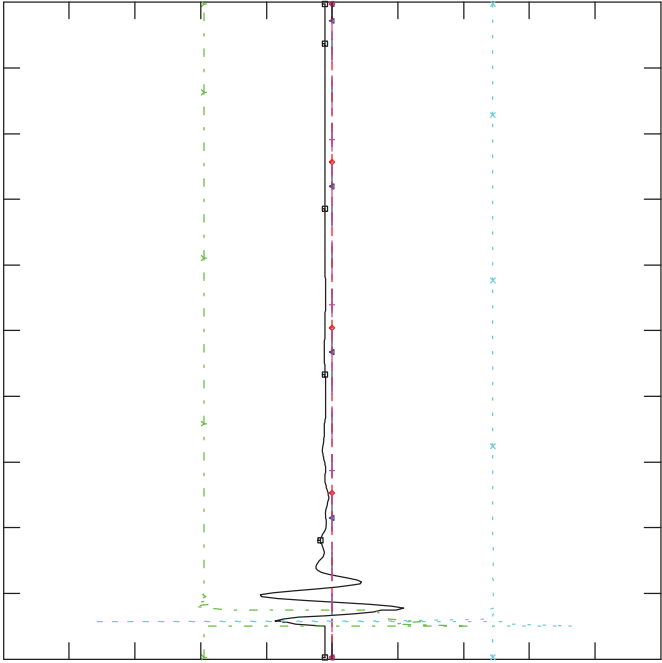
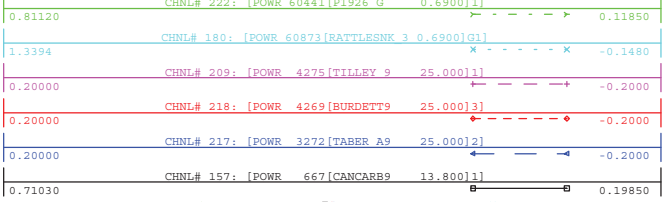
SUN, MAR 13 2022 23:51
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8 SL 02 612L Fincastle.out

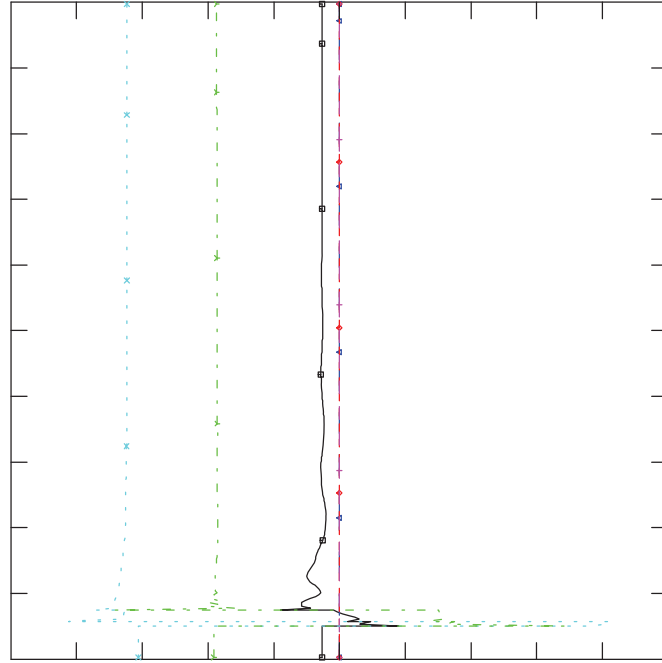
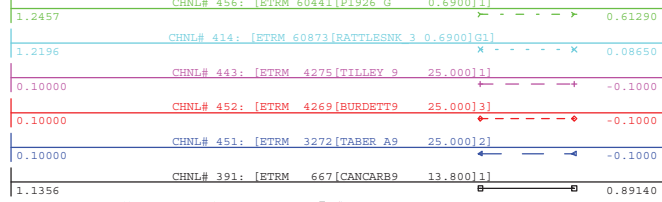


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8 SL 02 612L Fincastle.out

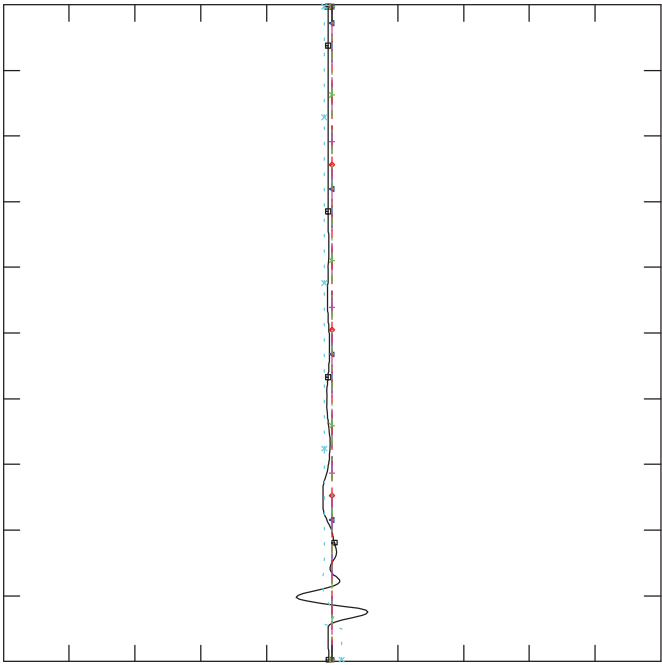
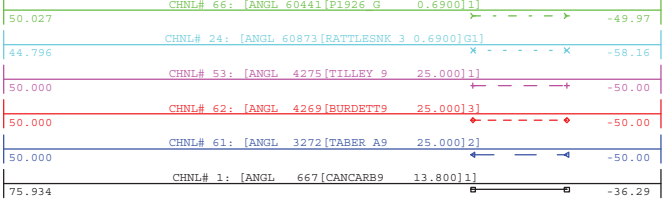


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8 SL 02 612L Fincastle.out

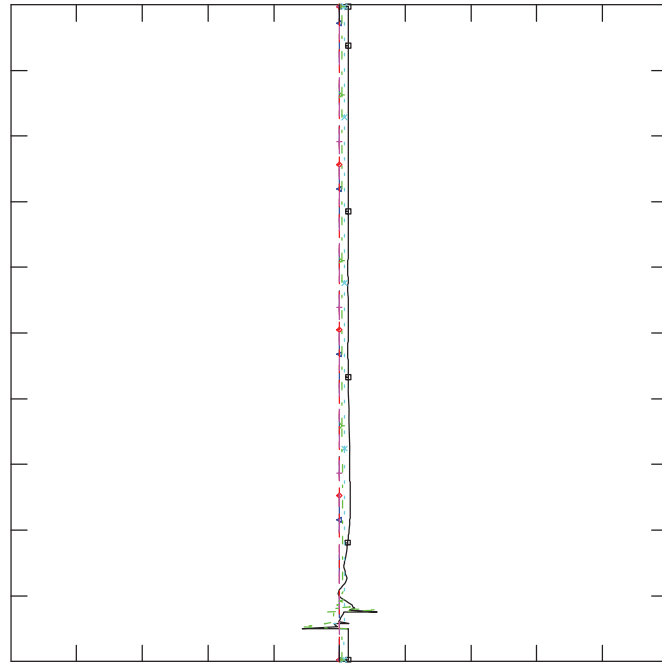
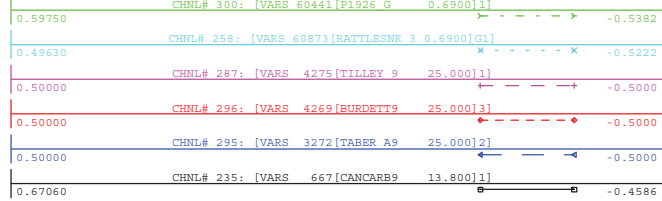


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8 SL 02 612L Fincastle.out



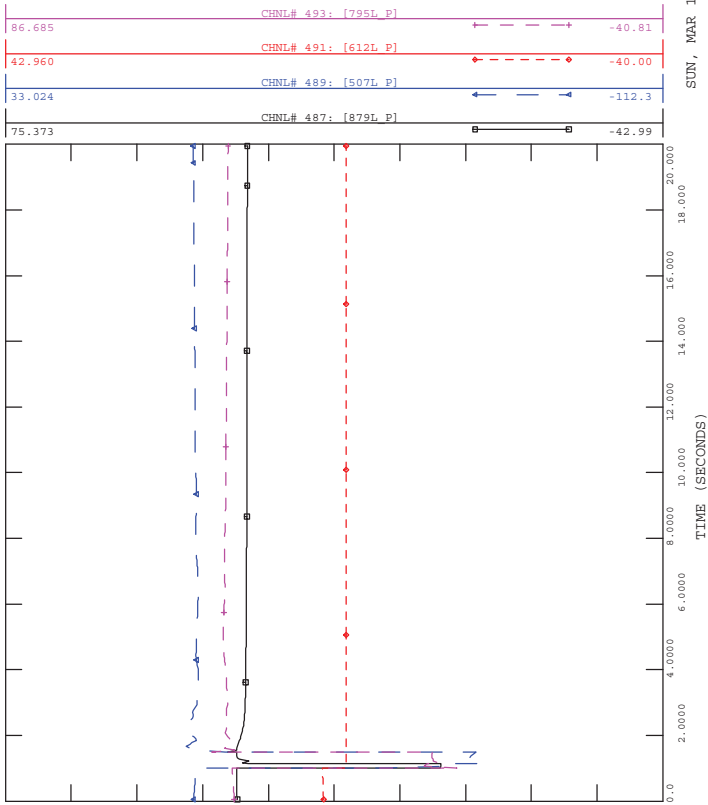
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8_SL_02_612L_Fincastle.out

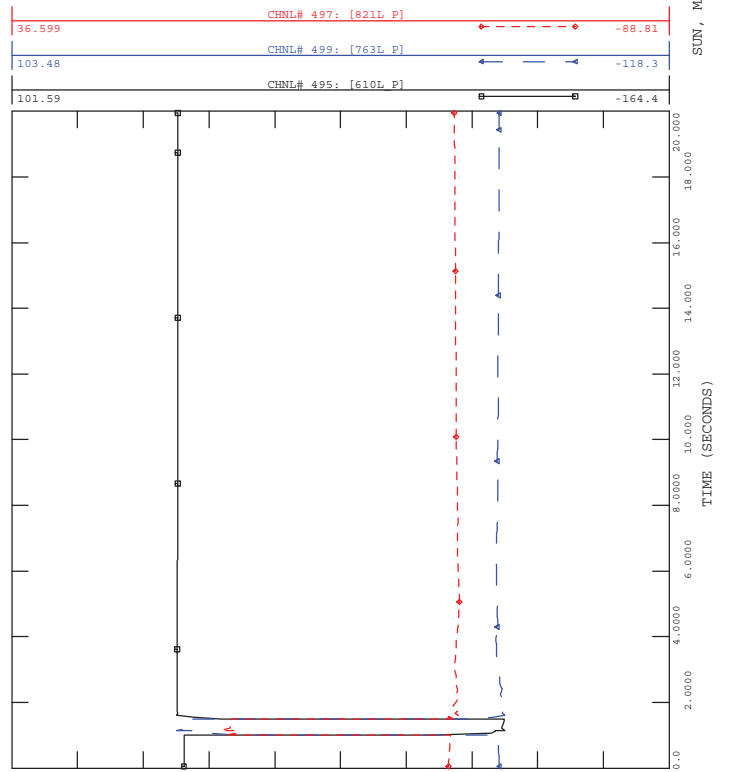
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8_SL_02_612L_Fincastle.out

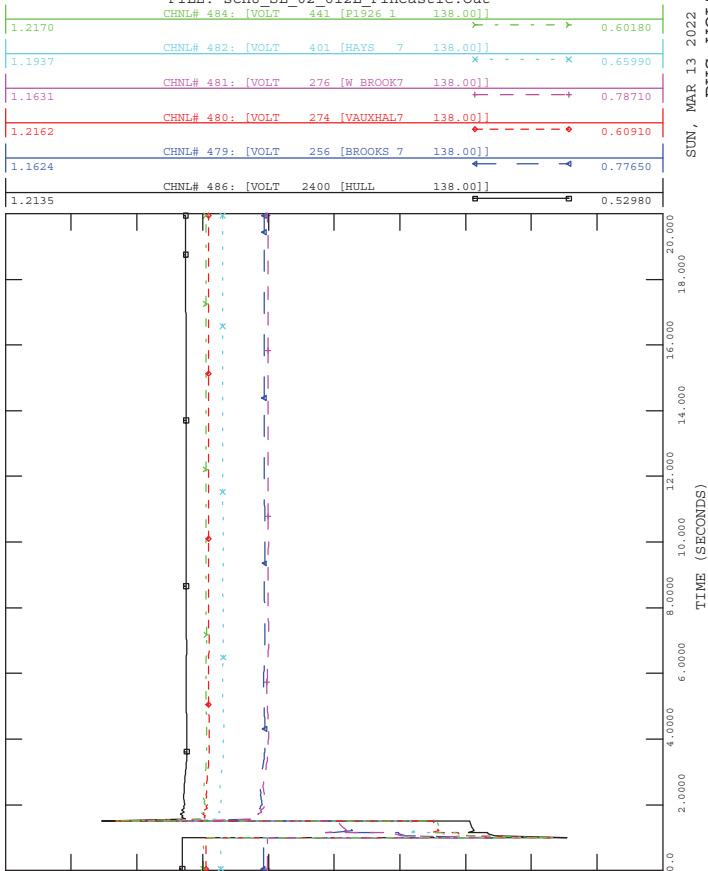
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8_SL_02_612L_Fincastle.out

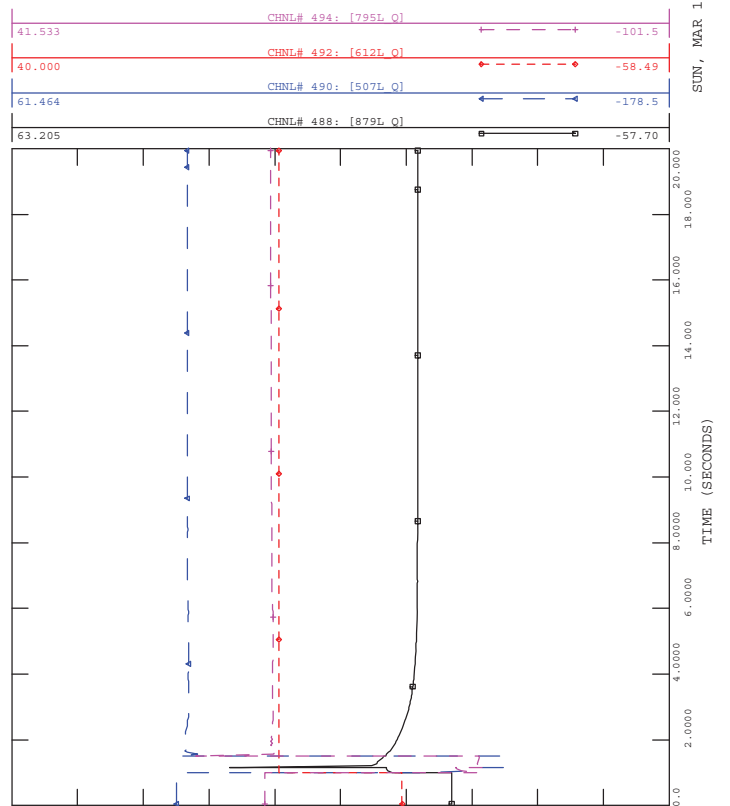
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_FINCATTLE

FILE: scn8_SL_02_612L_Fincastle.out

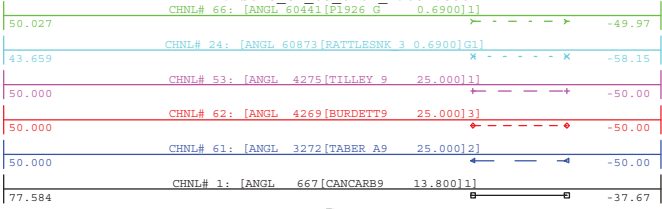
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

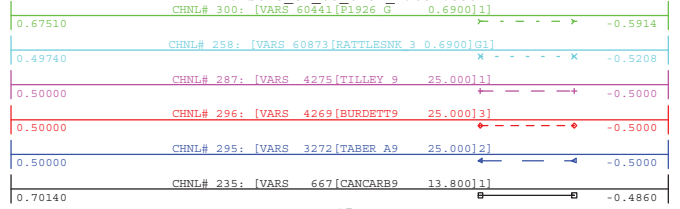


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

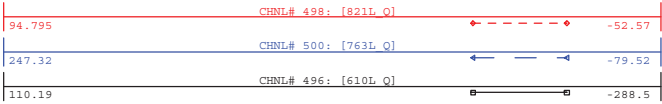


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_02_612L_Fincastle

FILE: scn8_SL_02_612L_Fincastle.out

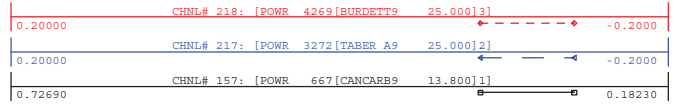


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]



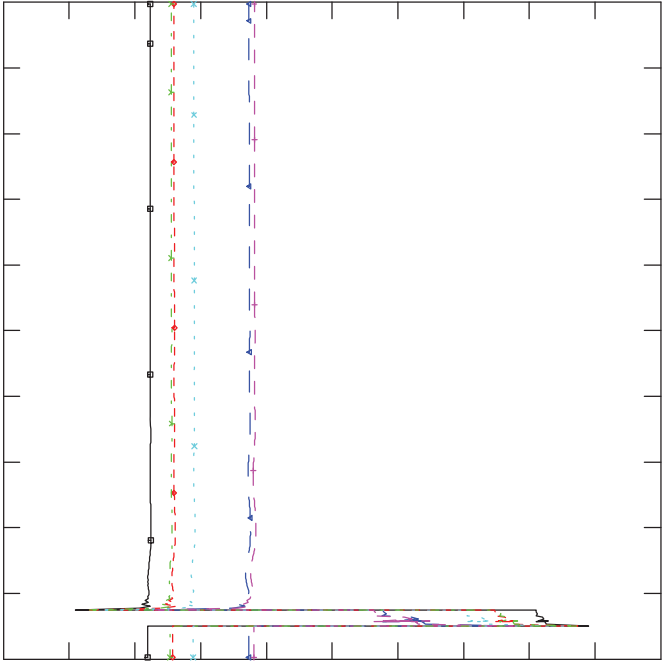
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out

1.2360	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.43000
1.2171	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.53070
1.1829	CHNL# 481: [VOLT 276 [W.BROOK7 138.00]]	0.73770
1.2355	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.44200
1.1827	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.72230
1.2301	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.31690



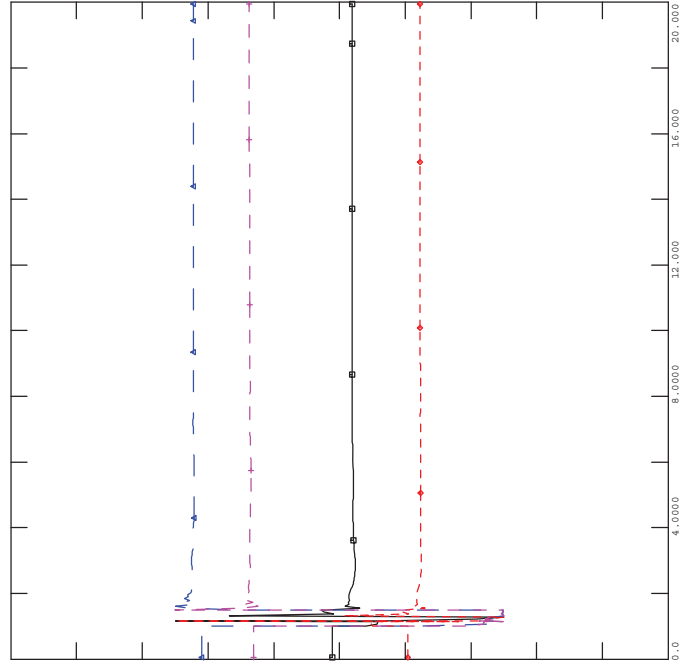
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out

53.468	CHNL# 494: [795L Q]	-127.9
133.11	CHNL# 492: [612L Q]	-112.6
62.088	CHNL# 490: [507L Q]	-147.3
60.746	CHNL# 488: [879L Q]	-99.76



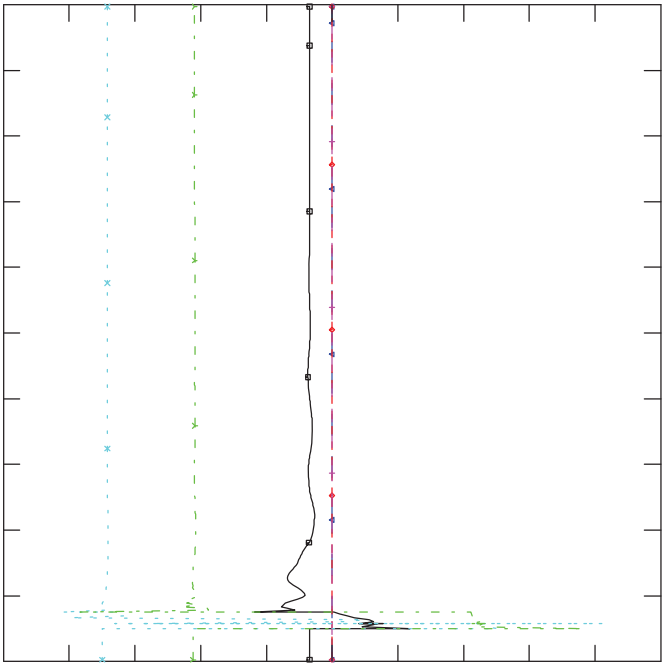
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out

1.2967	CHNL# 456: [ETRM 60441[P1926 G 0.6900]]	0.44220
1.1709	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.03350
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1420	CHNL# 391: [ETRM 667[CANCARB9 13.800]]	0.87990



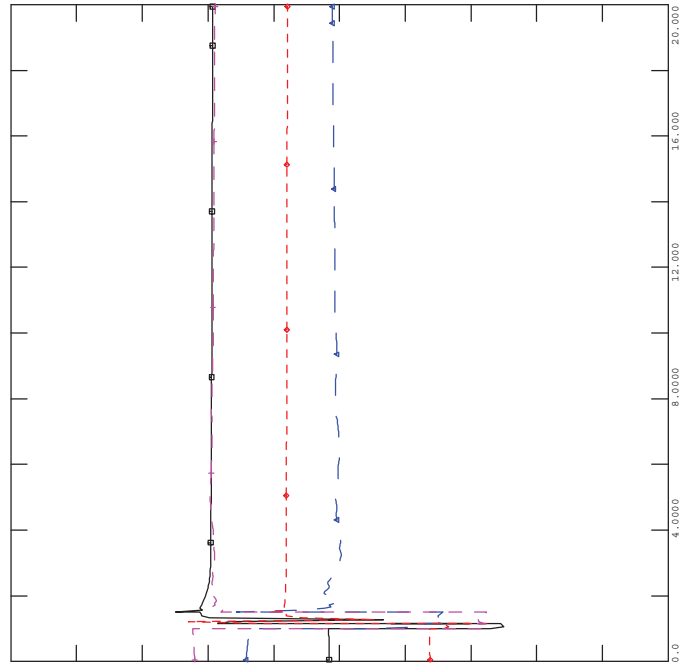
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out

82.731	CHNL# 493: [795L P]	-61.80
96.649	CHNL# 491: [612L P]	-51.38
33.179	CHNL# 489: [507L P]	-83.52
120.08	CHNL# 487: [879L P]	-58.40



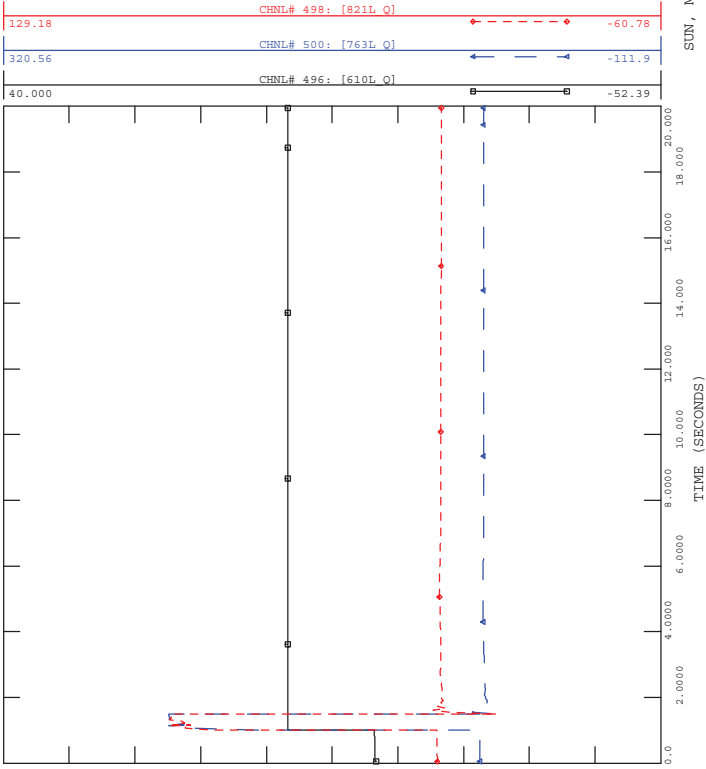
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

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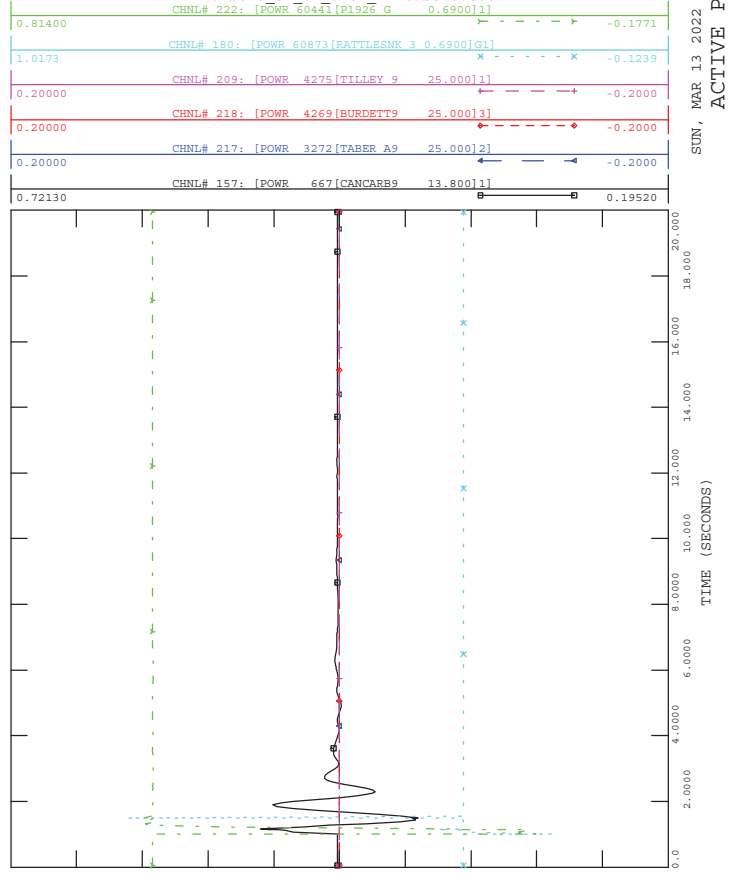
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

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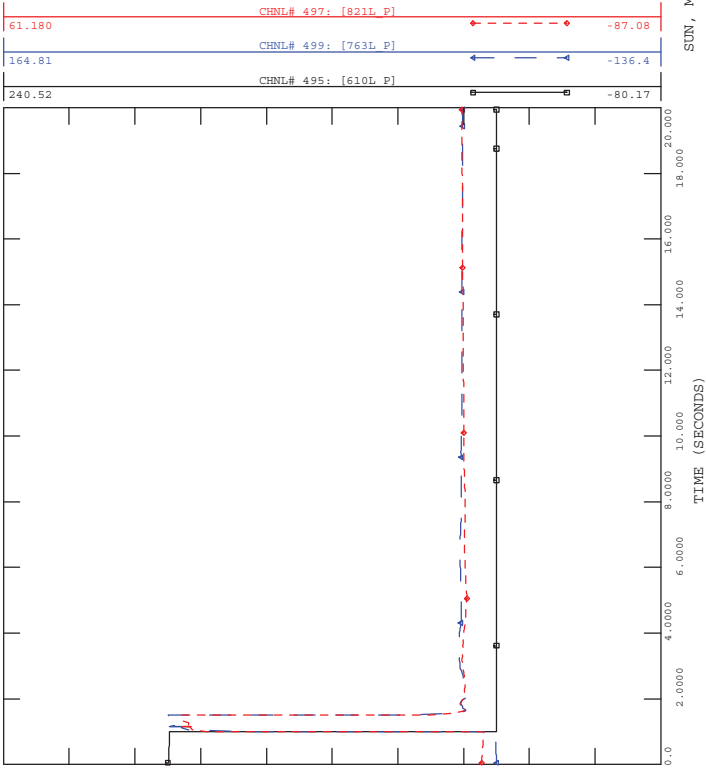
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_03_610L_TABER

FILE: scn8_SL_03_610L_Taber.out

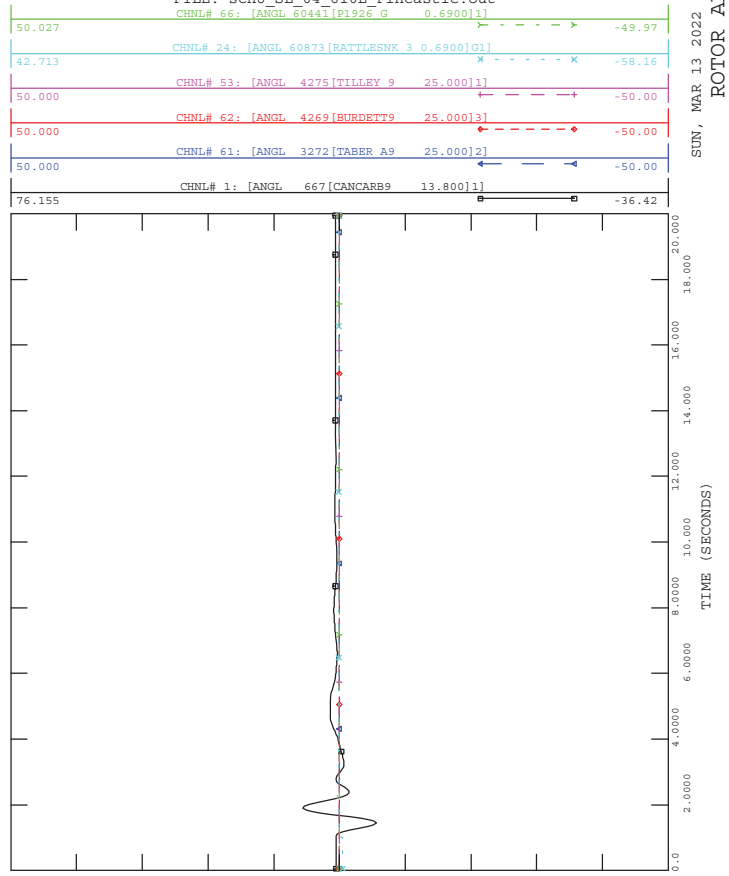
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

FILE: scn8_SL_04_610L_Fincastle.out

SUN, MAR 13 2022 23:51
ROTOR ANGLE

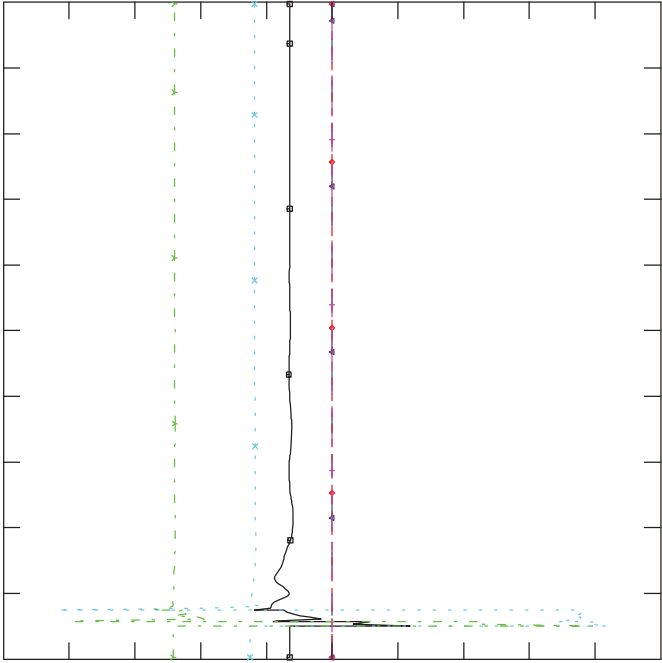




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

FILE: scn8_SL_04_610L_Fincastle.out

1.2986	CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]	0.33680
1.4637	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.22810
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1341	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.87210



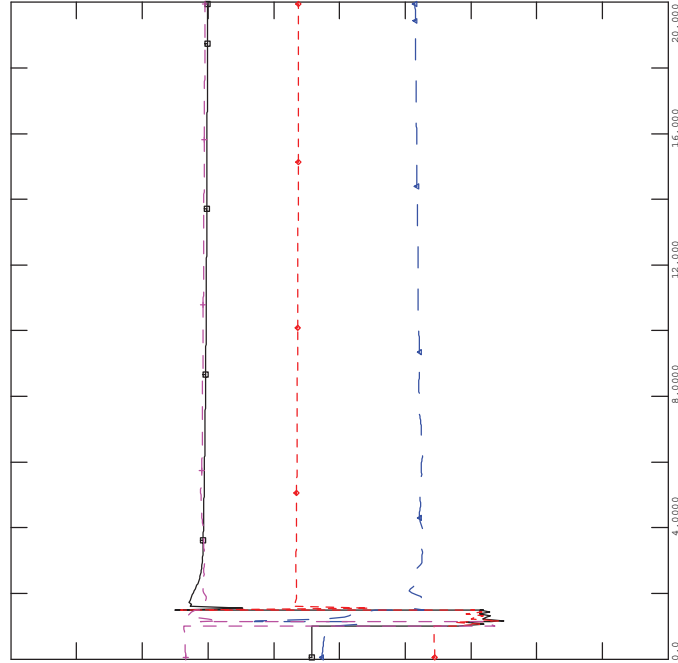
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

FILE: scn8_SL_04_610L_Fincastle.out

82.727	CHNL# 493: [795L P]	-69.18
102.16	CHNL# 491: [612L P]	-52.83
42.512	CHNL# 489: [507L P]	-65.45
124.79	CHNL# 487: [879L P]	-74.12



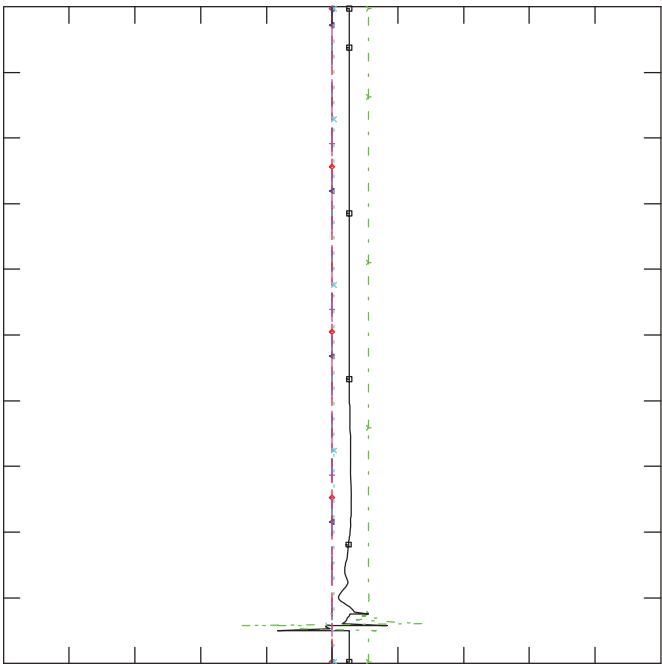
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

FILE: scn8_SL_04_610L_Fincastle.out

0.79020	CHNL# 300: [VARS 60441[P1926 G 0.6900]1]	-0.5863
0.49350	CHNL# 258: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5270
0.50000	CHNL# 287: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 296: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 295: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.72210	CHNL# 235: [VARS 667[CANCARB9 13.800]1]	-0.4777



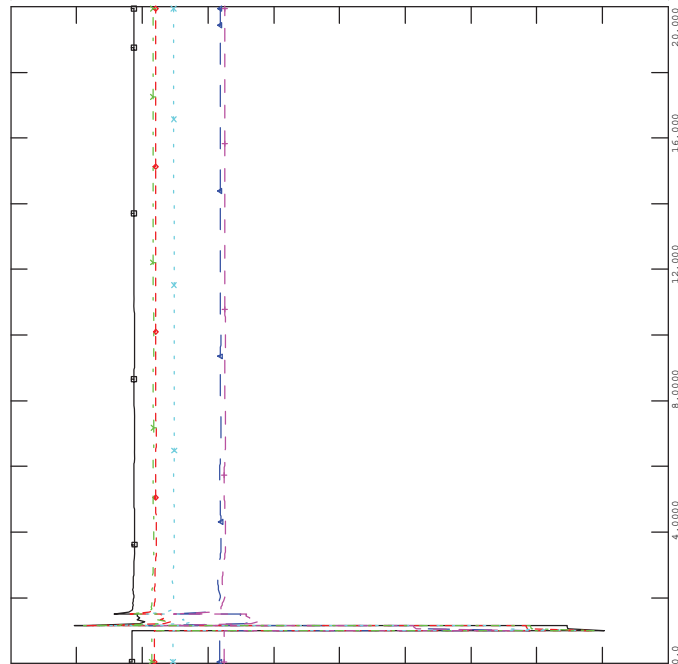
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

FILE: scn8_SL_04_610L_Fincastle.out

1.2254	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.32440
1.2055	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.45010
1.1619	CHNL# 481: [VOLT 276 [W BROOK7 138.00]]	0.70440
1.2247	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.33930
1.1623	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.68610
1.2198	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.18790



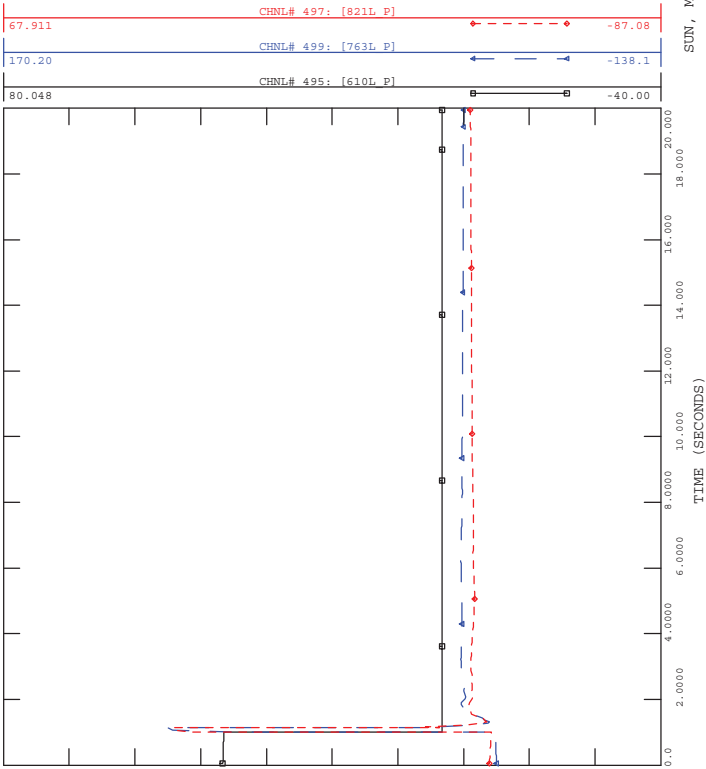
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

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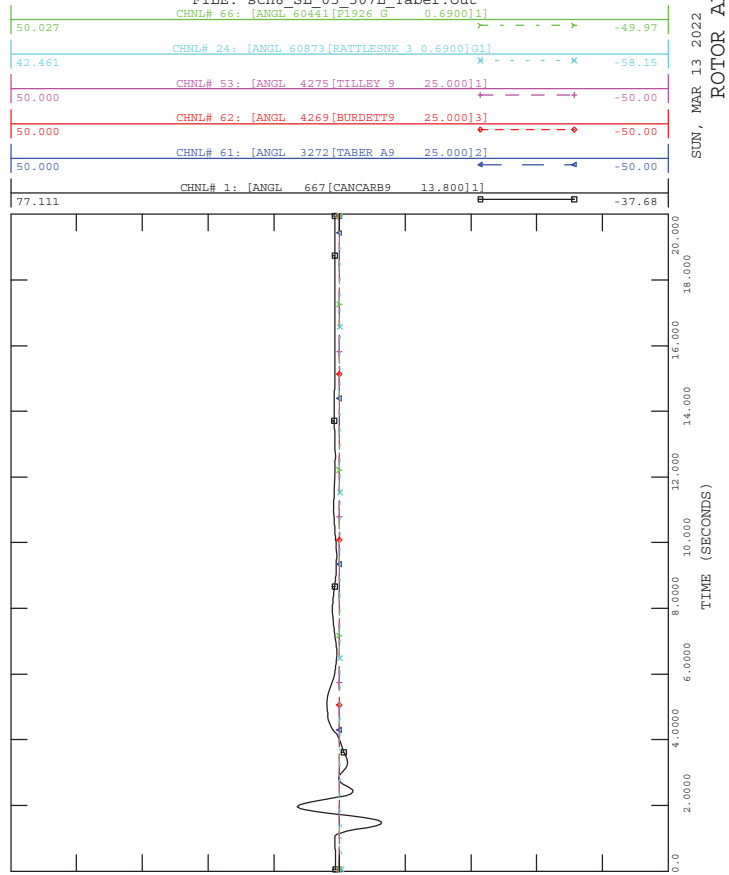
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_05_507L_TABER

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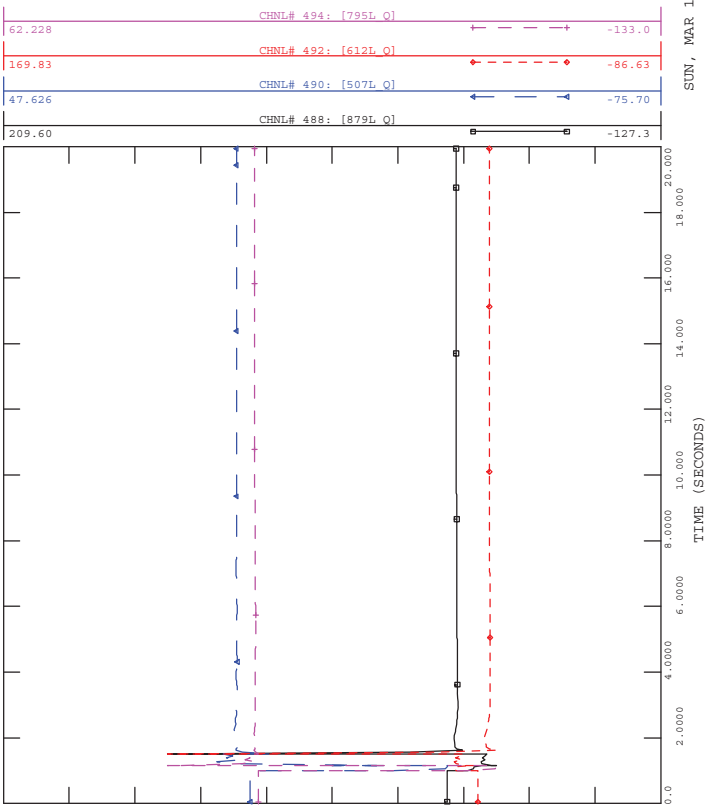
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_04_610L_FINCATTLE

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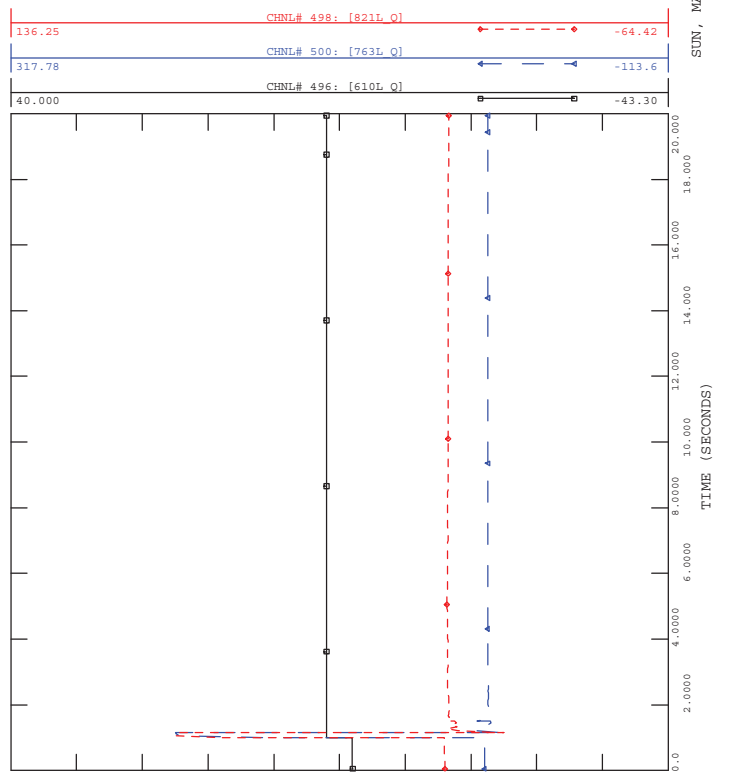
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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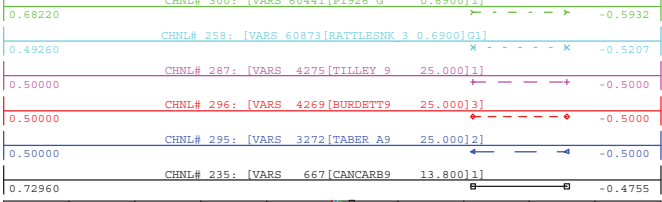
SUN, MAR 13 2022 23:51
BRANCH Q



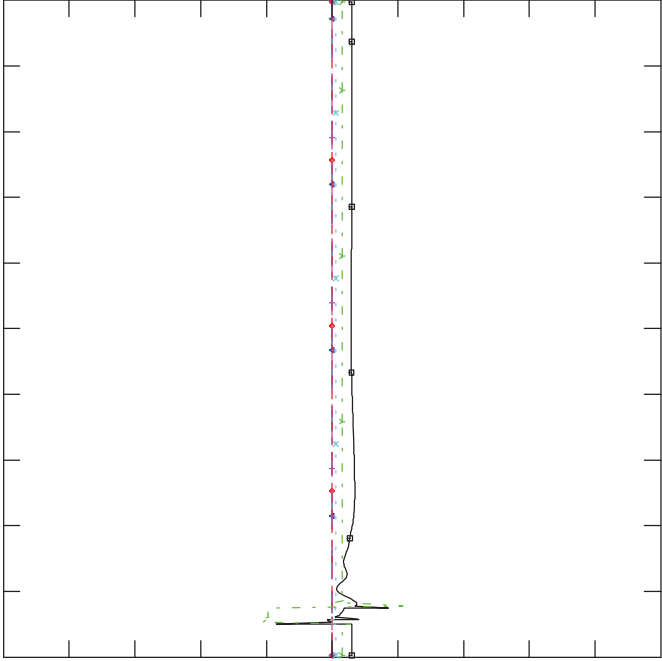


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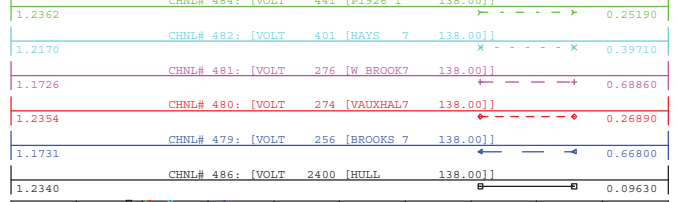


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REACTIVE POWER

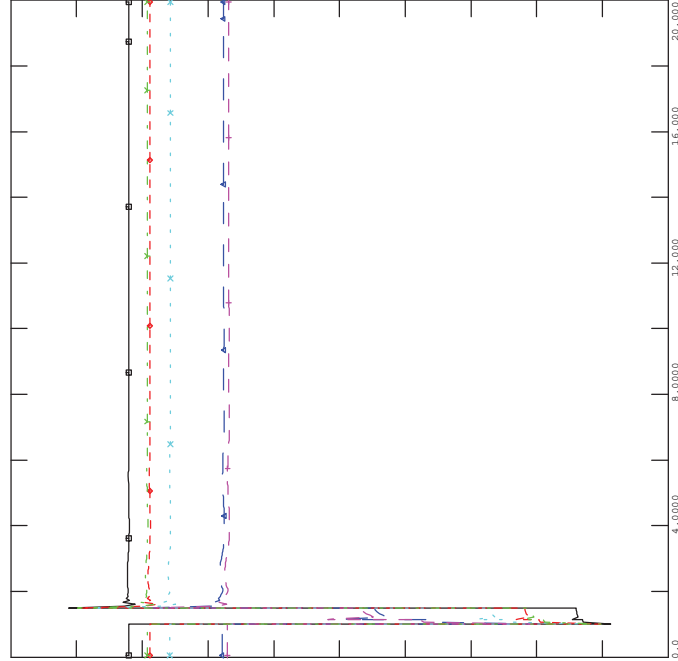


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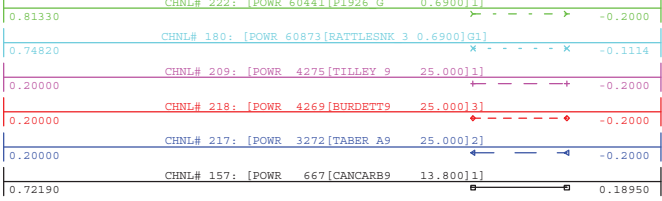


SUN, MAR 13 2022 23:51
BUS VOLTAGE

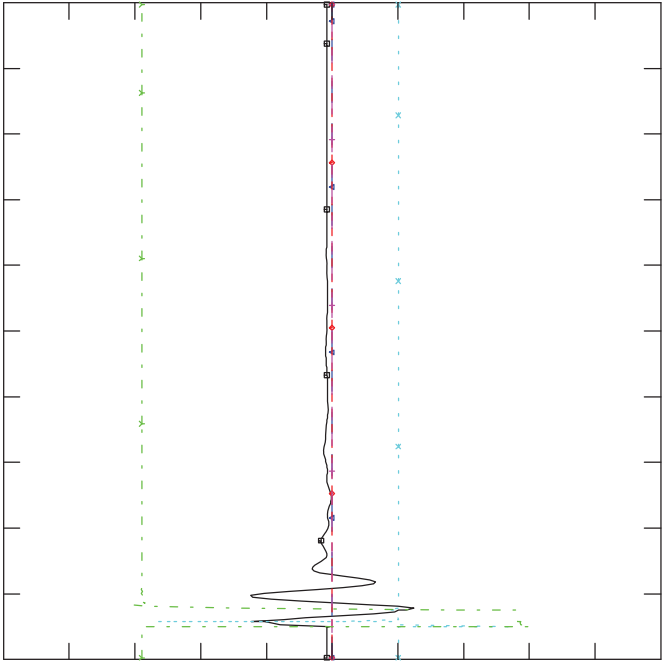


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FILE: scn8 SL 05 507L Taber.out

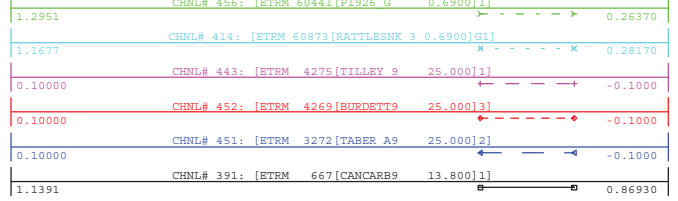


SUN, MAR 13 2022 23:51
ACTIVE POWER

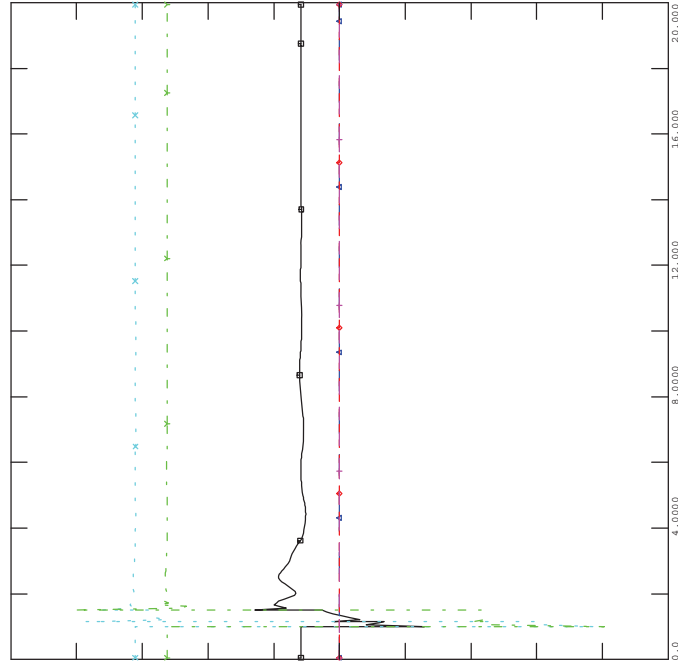


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_05_507L_TABER

FILE: scn8 SL 05 507L Taber.out



SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE

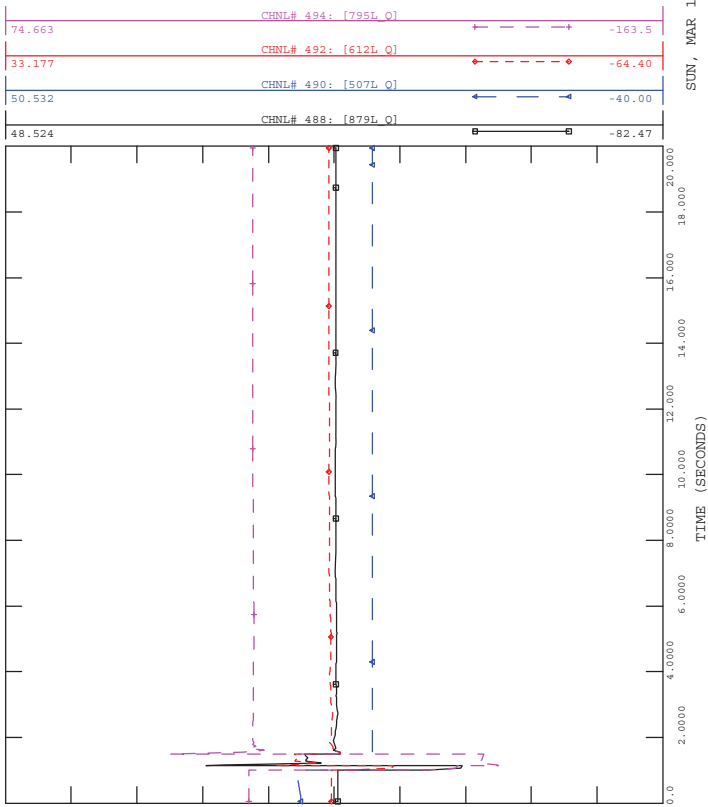




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CONTINGENCY -SCN8_SL_05_507L_TABER

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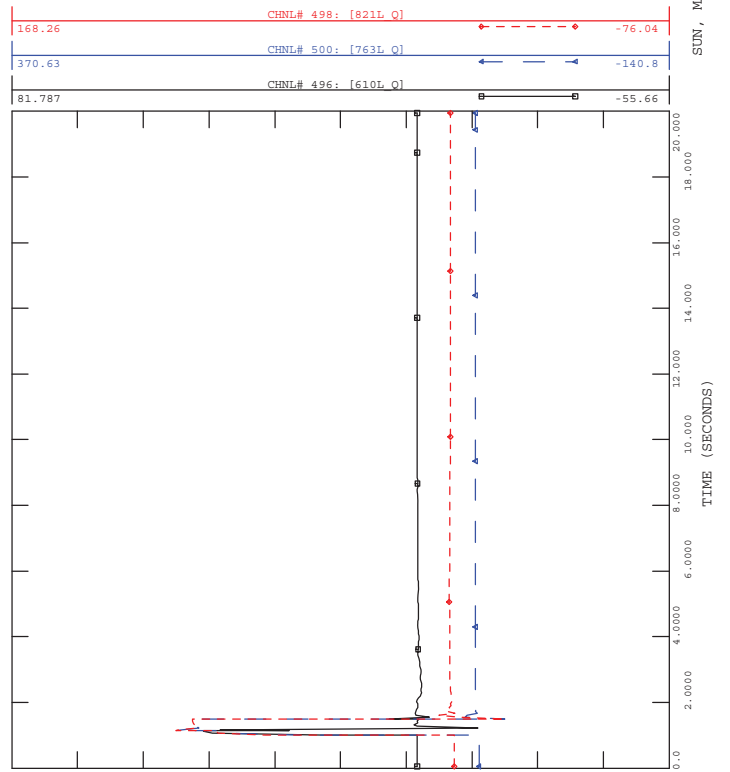
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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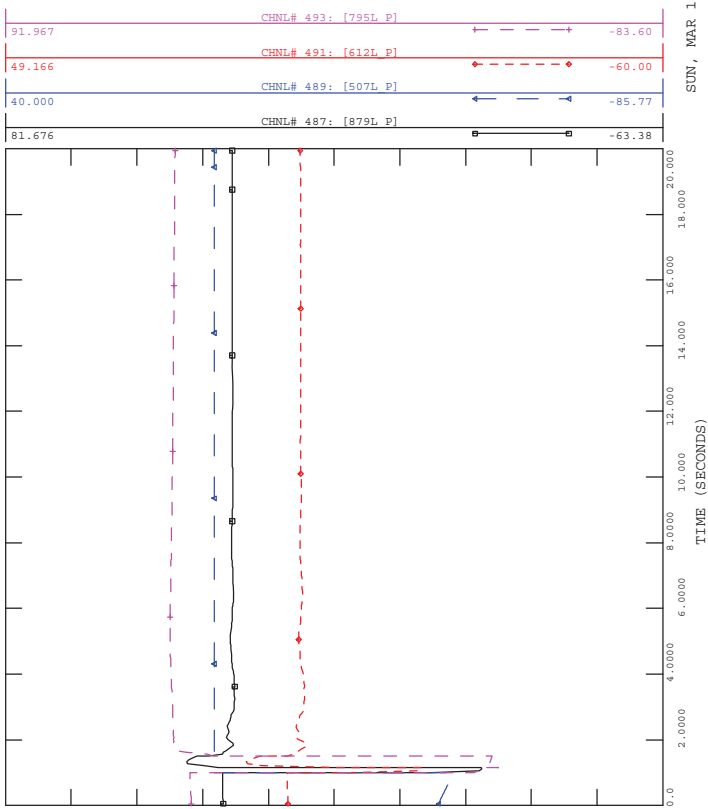
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_05_507L_TABER

FILE: scn8_SL_05_507L_Taber.out

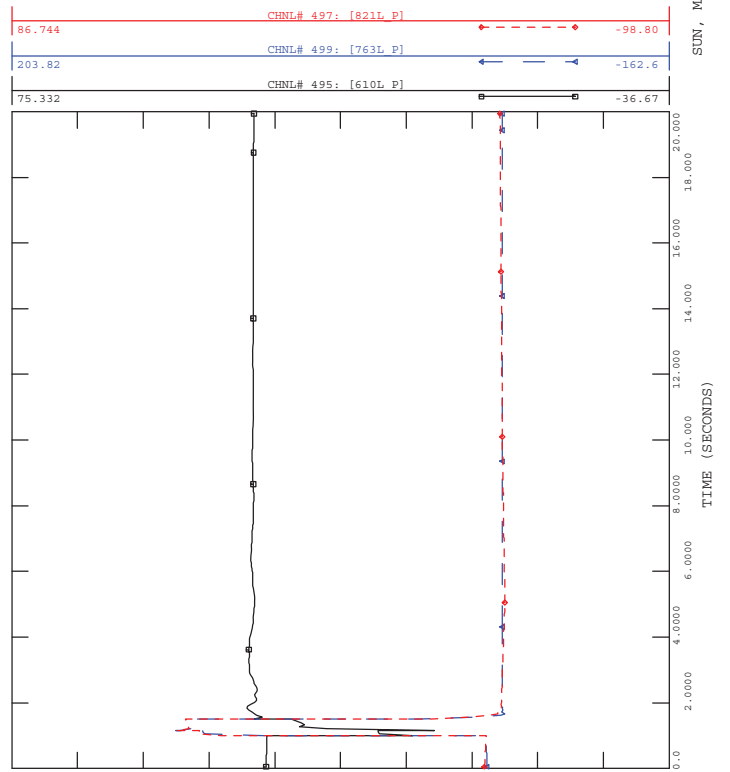
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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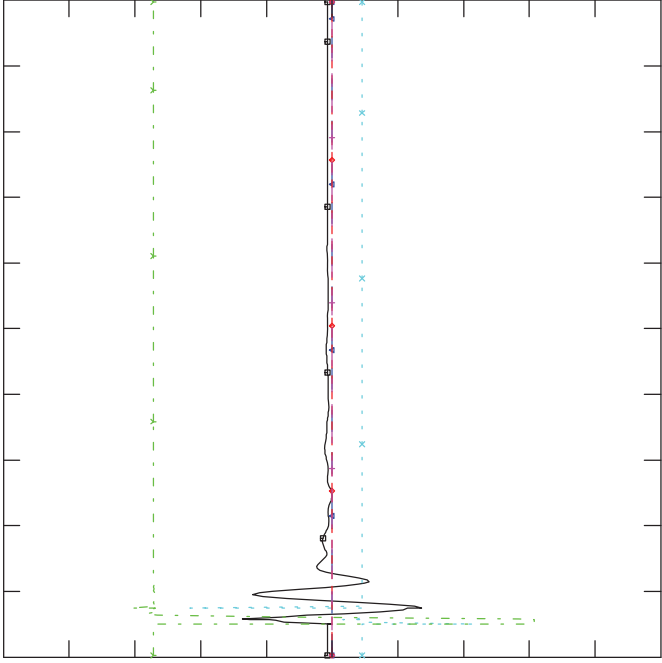
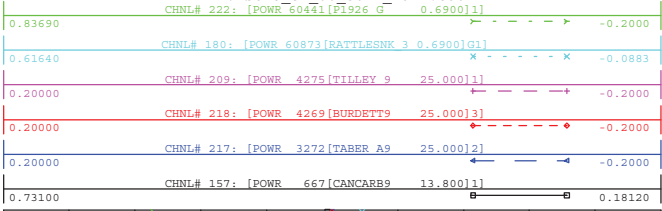
SUN, MAR 13 2022 23:51
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

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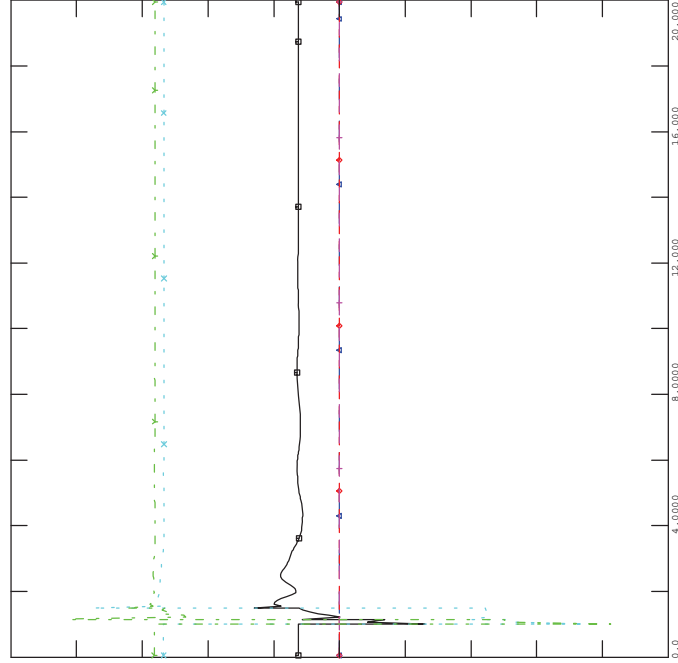
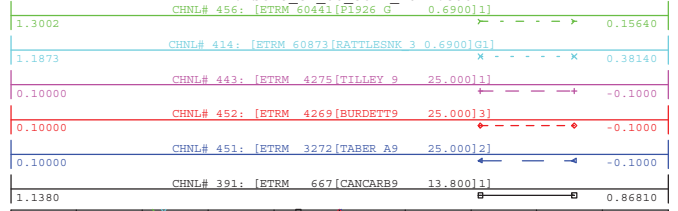


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

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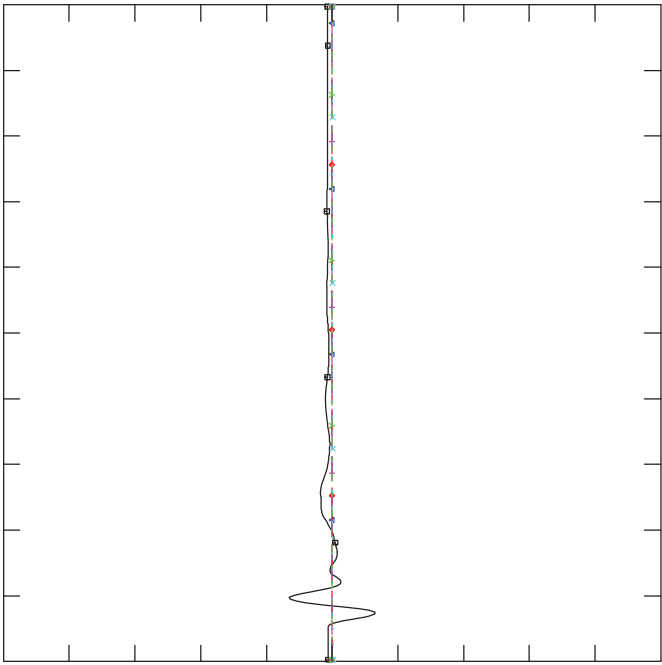
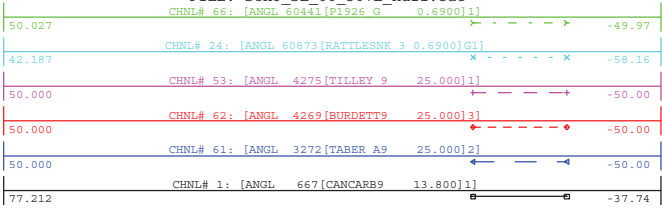


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

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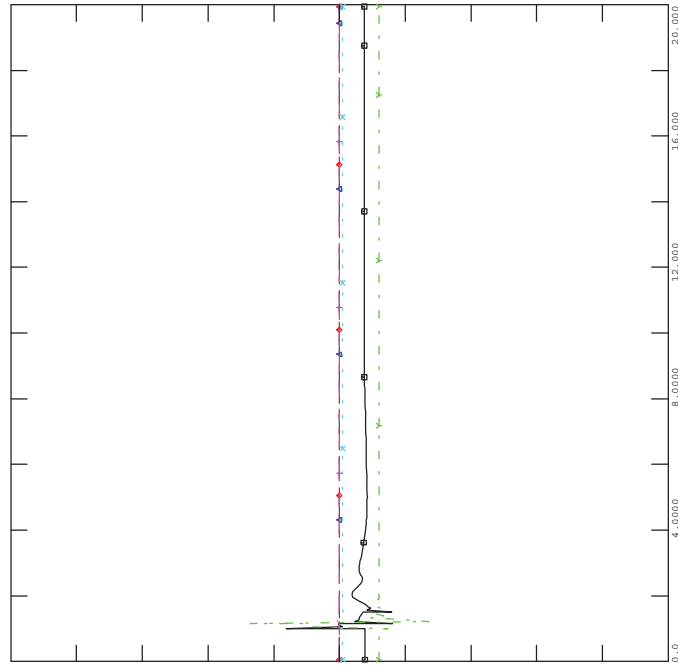
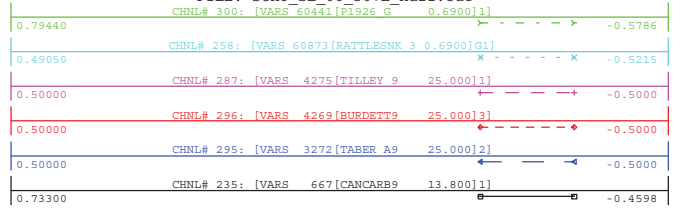


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

FILE: scn8_SL_06_507L_Hull.out



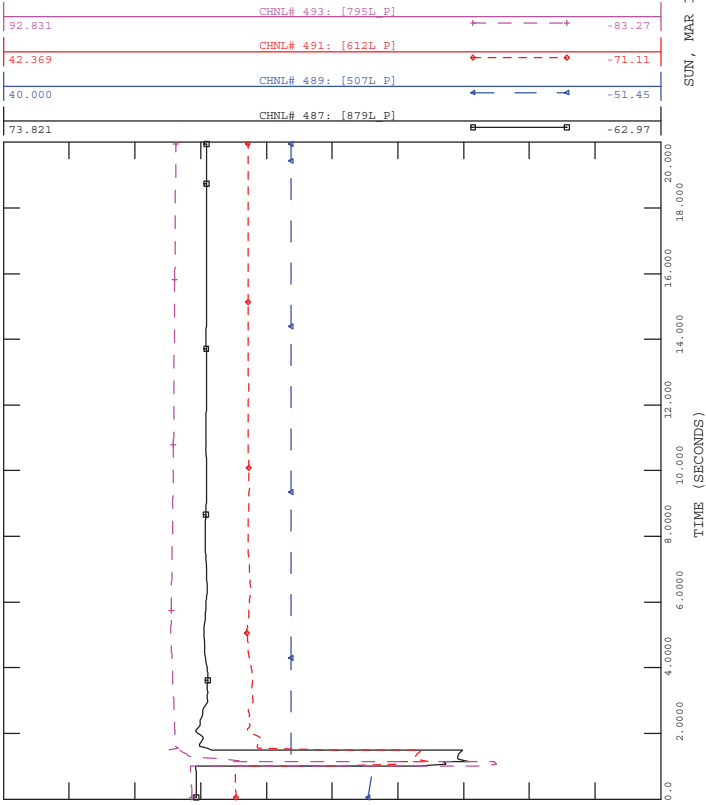
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

FILE: scn8_SL_06_507L_Hull.out

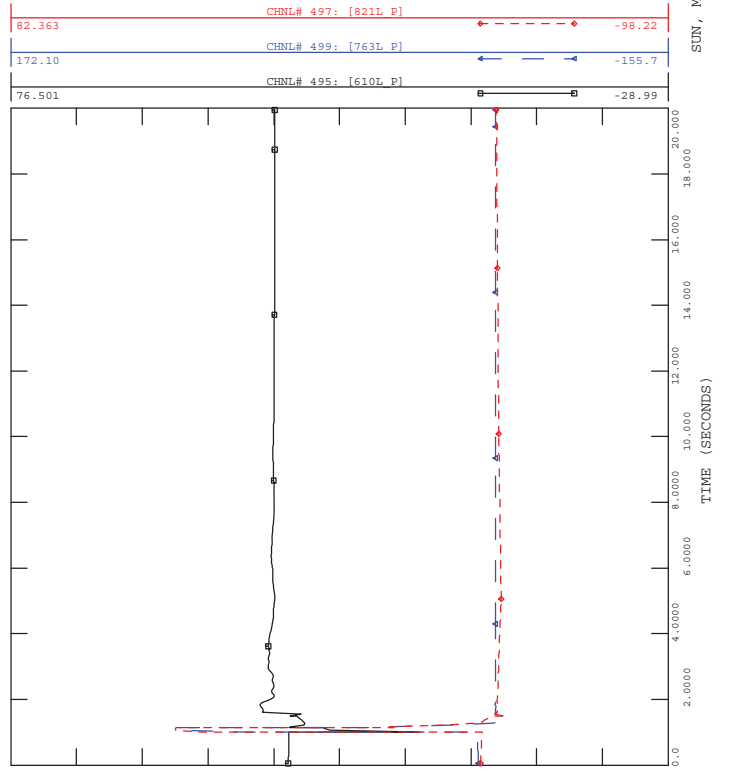
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

FILE: scn8_SL_06_507L_Hull.out

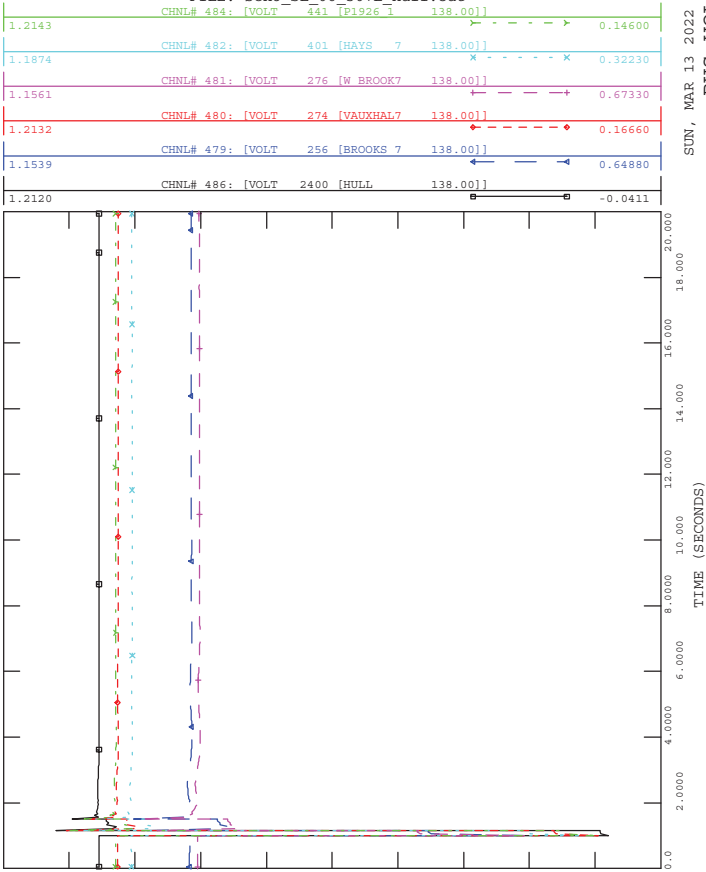
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

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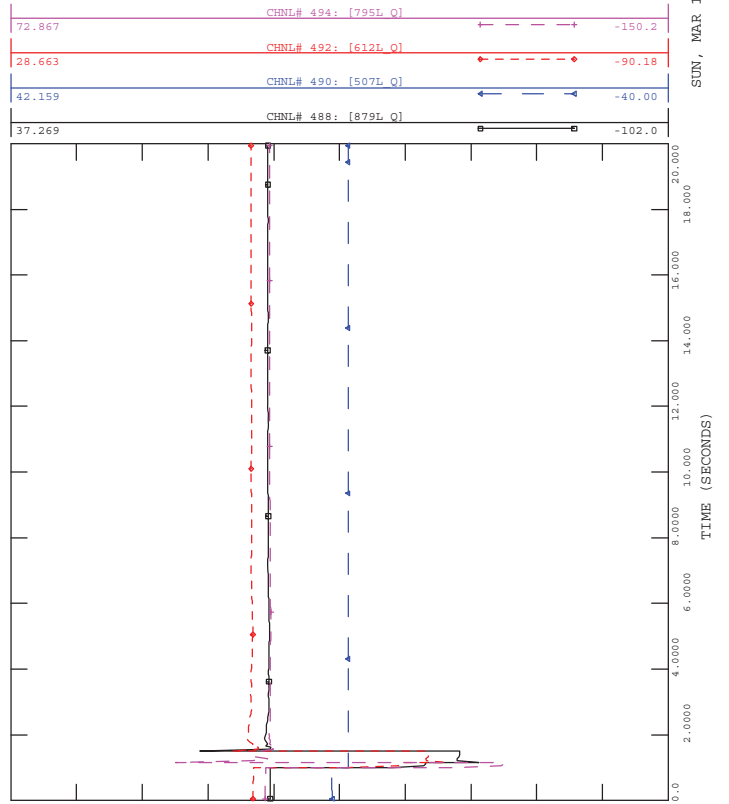
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

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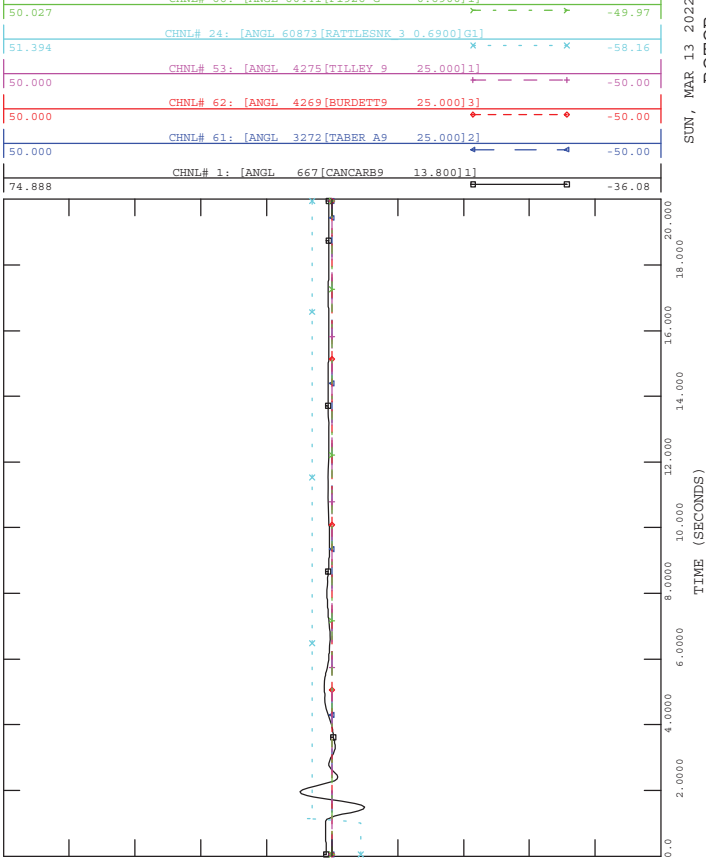
SUN, MAR 13 2022 23:51
BRANCH Q





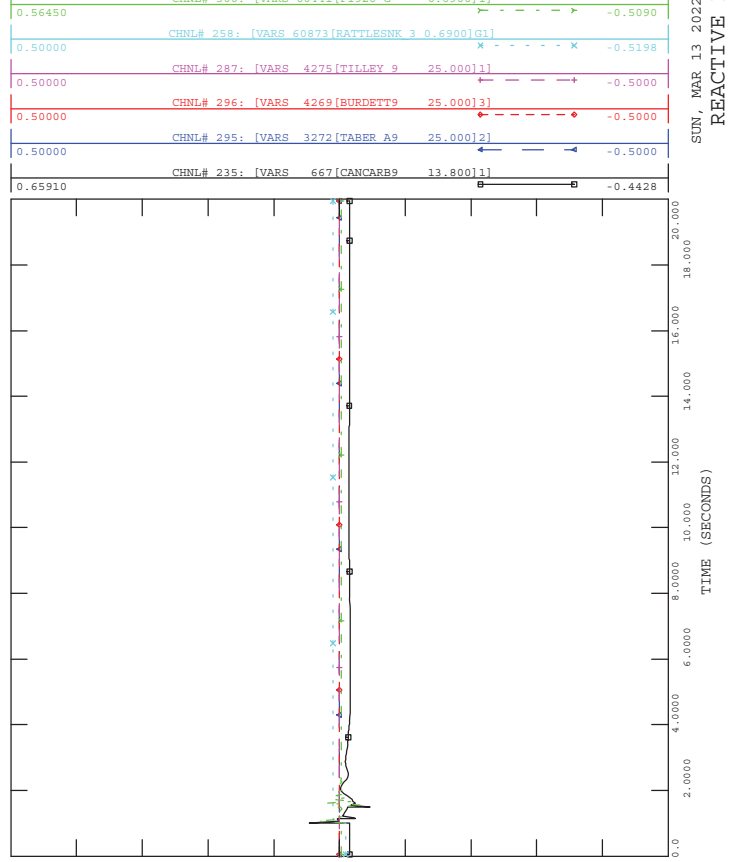
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

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CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]



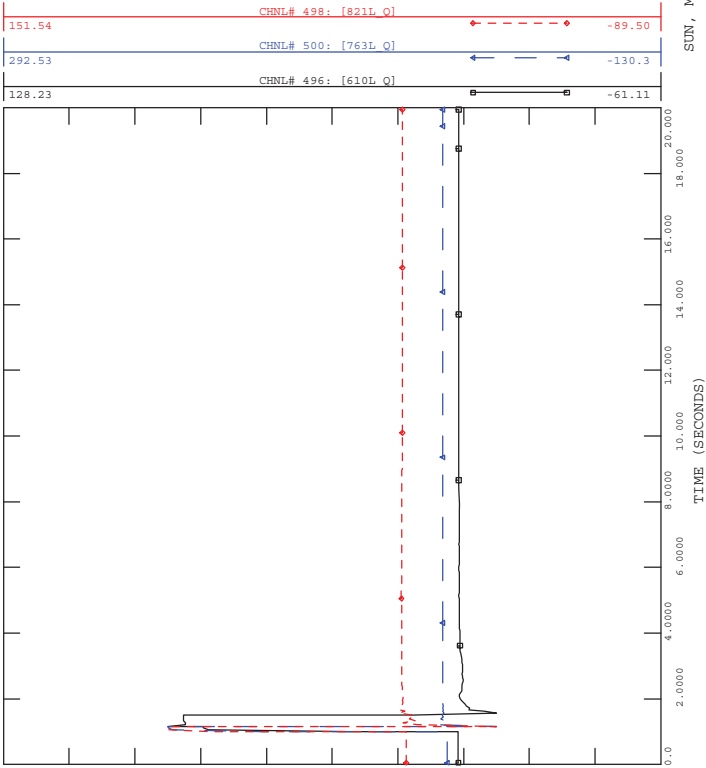
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]



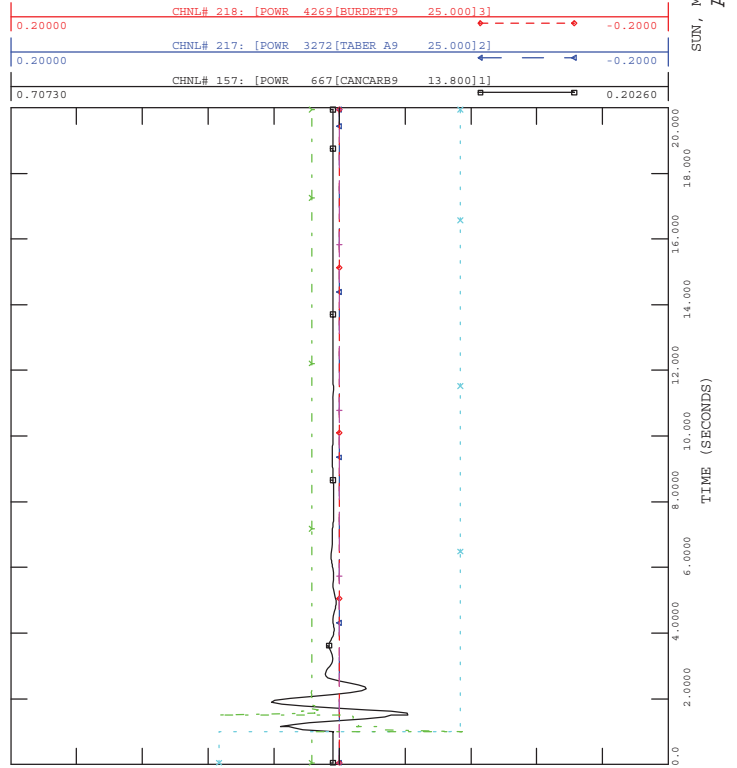
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_06_507L_HULL

FILE: scn8_SL_06_507L_Hull.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

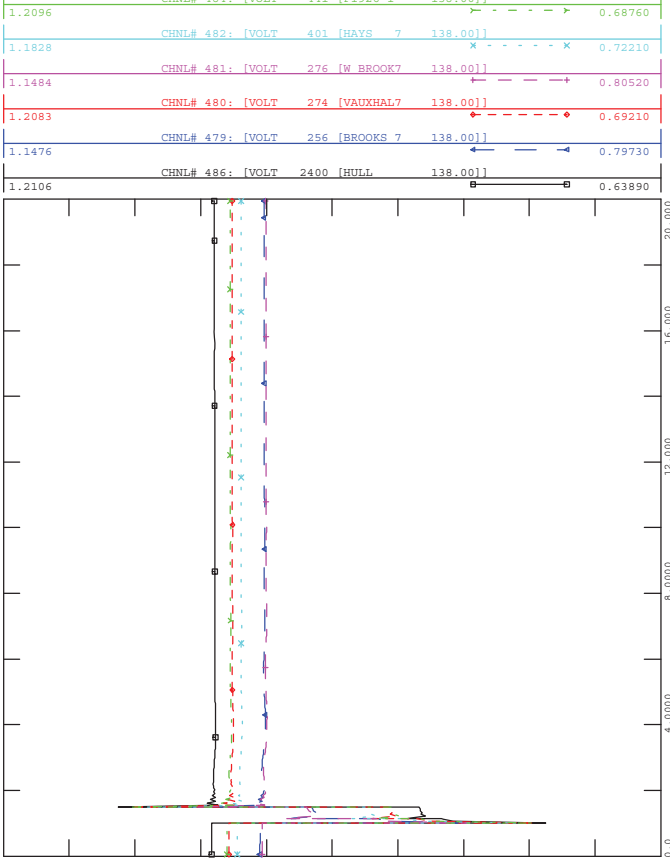
FILE: scn8_SL_07_879L_Burdett.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out
CHNL# 484: [VOLT 441 [P1926 1 138.00]]

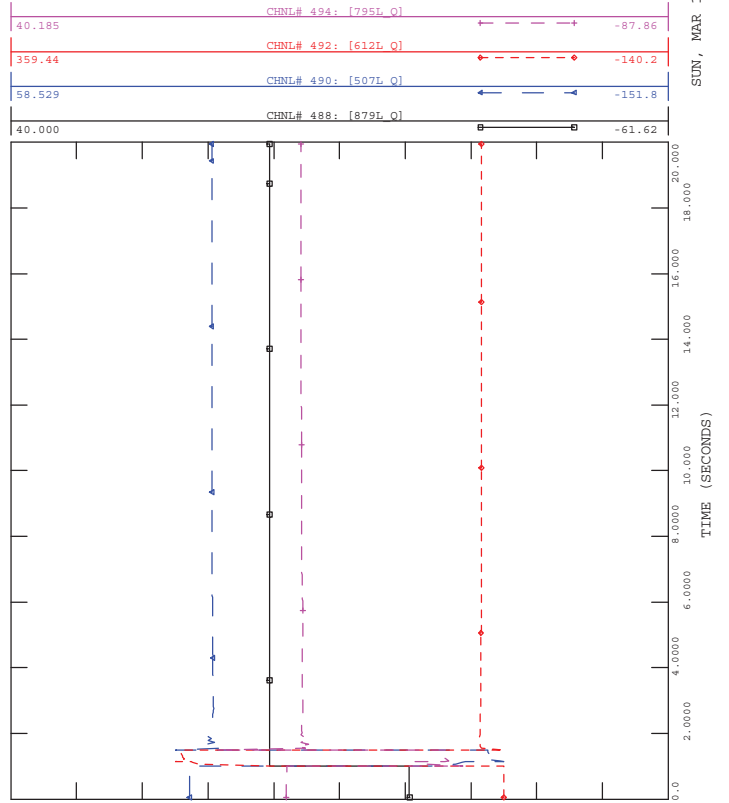


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out

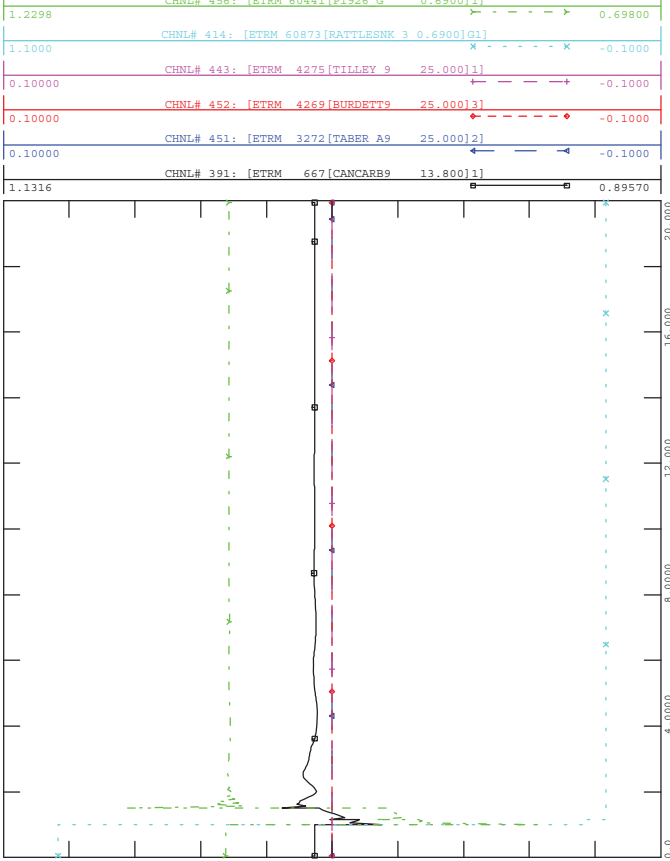


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out
CHNL# 456: [ETRM 60441[P1926 0 0.6900]]

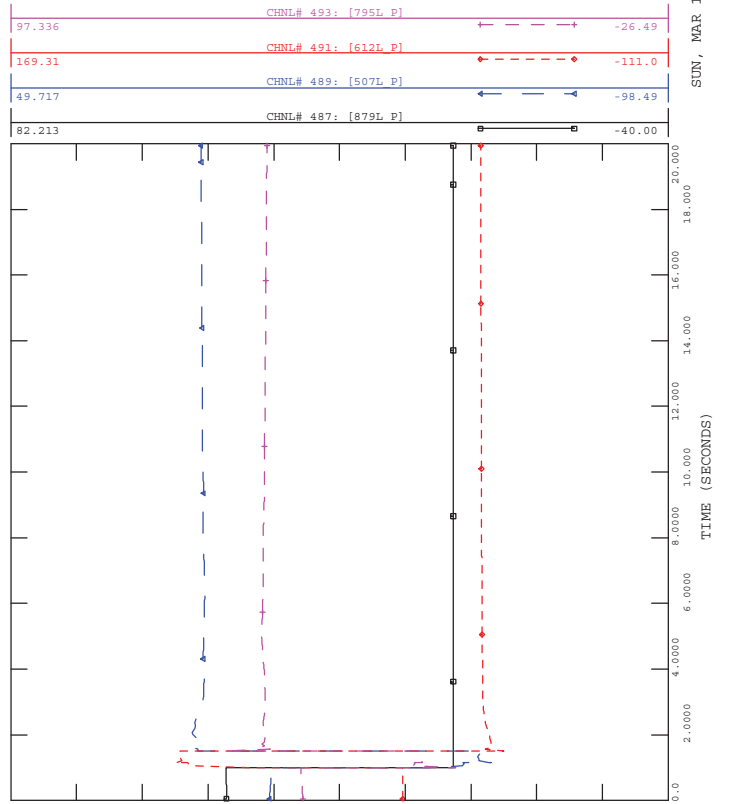


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out



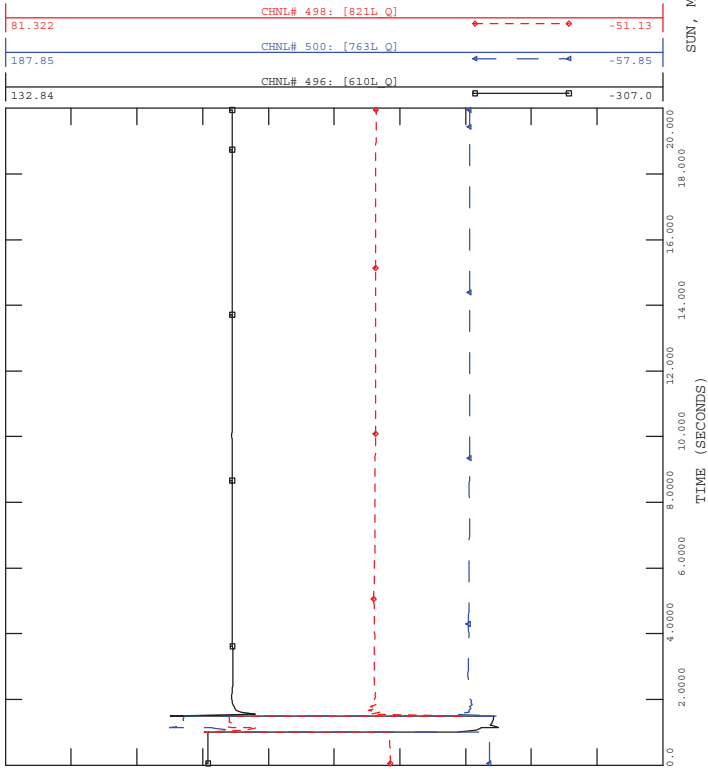
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out

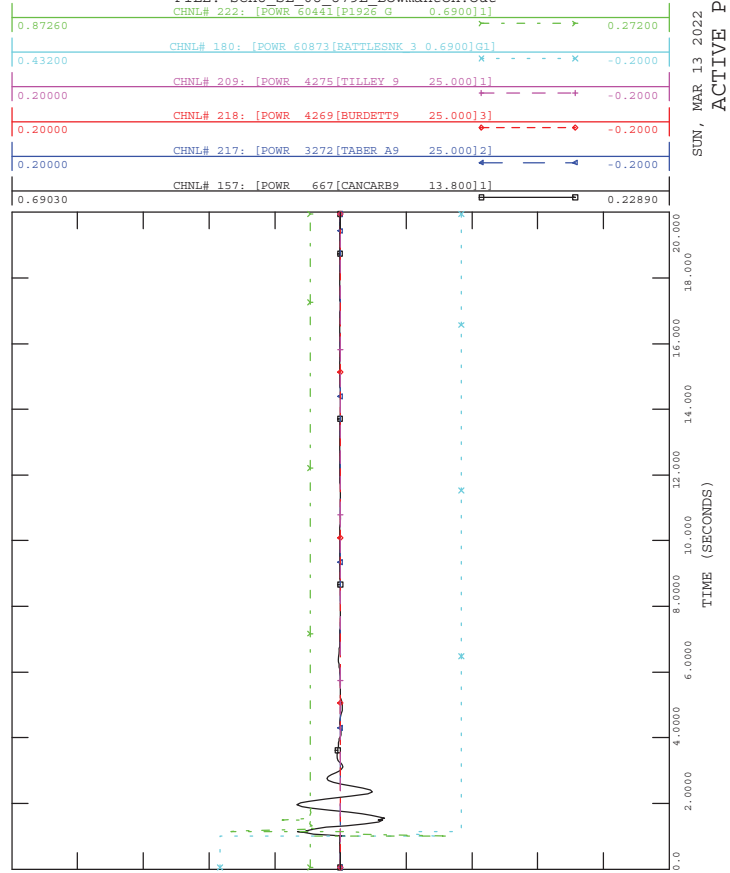
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmanton.out

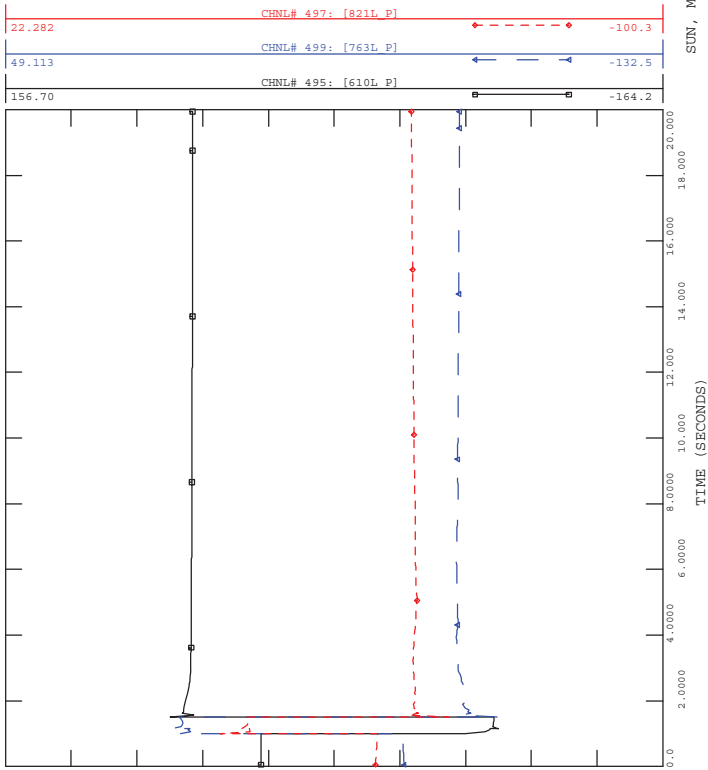
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_07_879L_BURDETT

FILE: scn8_SL_07_879L_Burdett.out

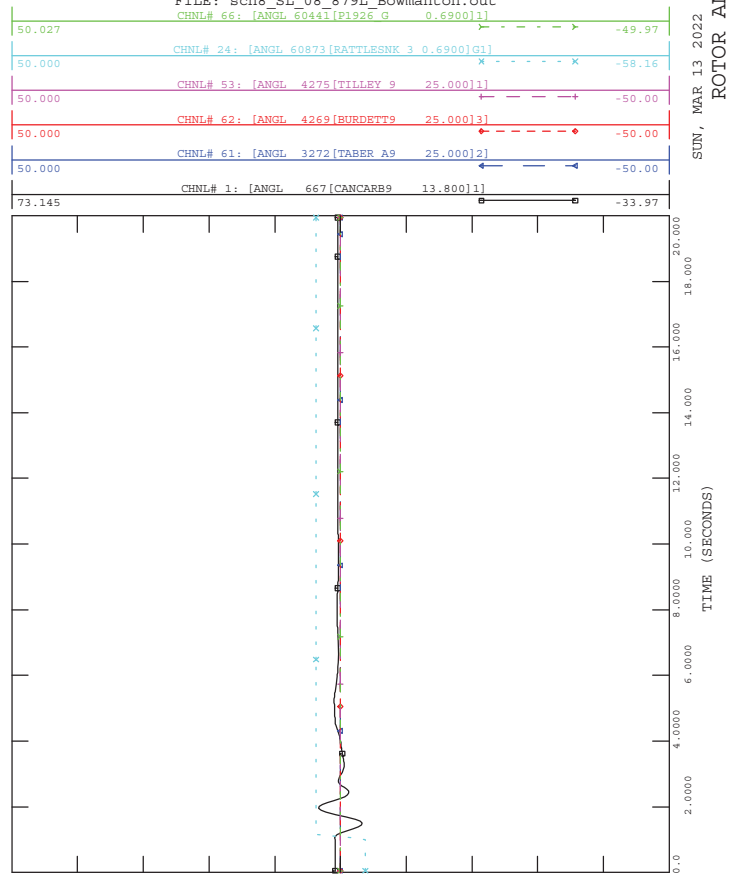
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmanton.out

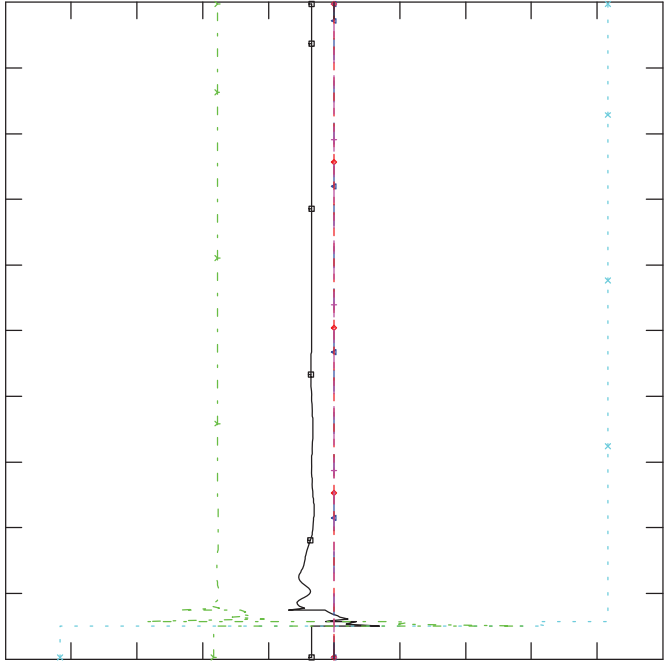
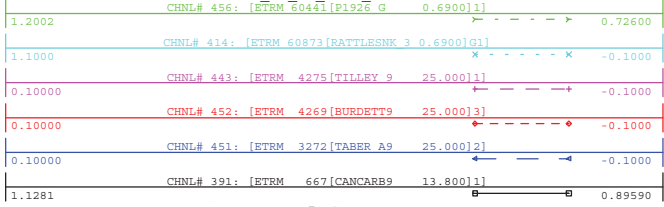
SUN, MAR 13 2022 23:51
ROTOR ANGLE





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmantan.out

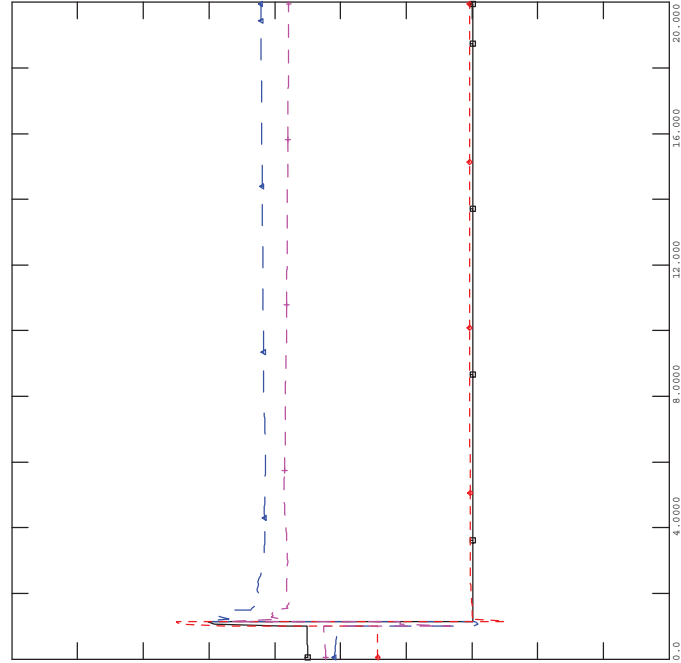
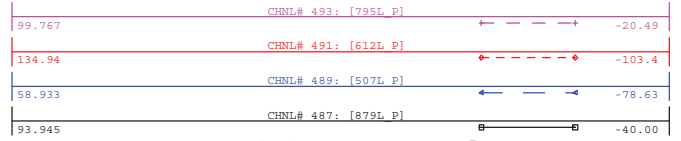


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmantan.out

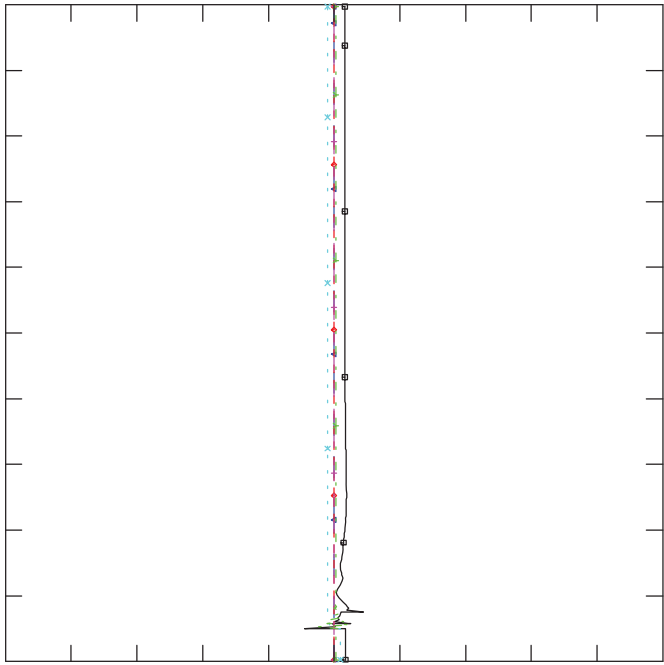
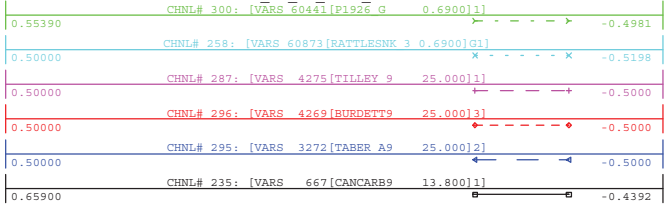


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmantan.out

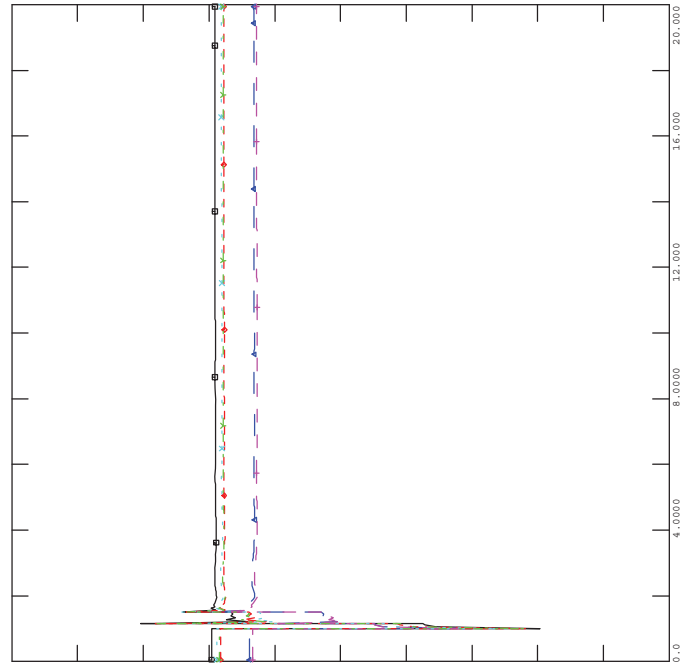
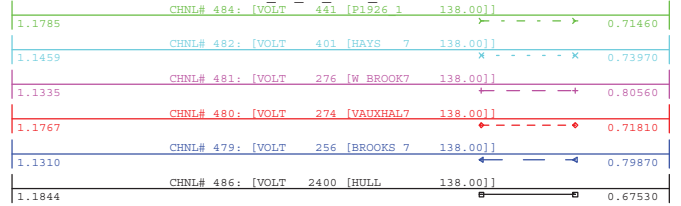


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmantan.out



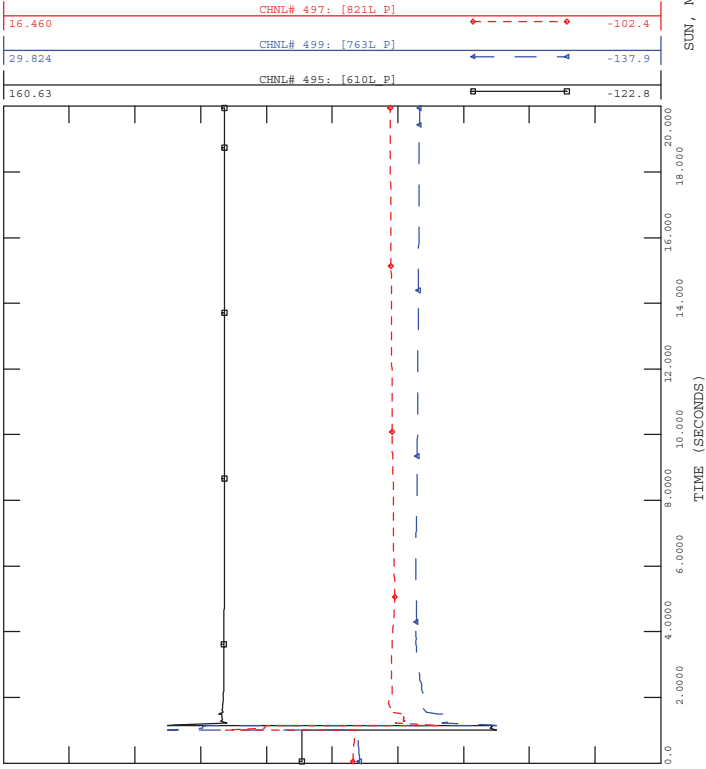
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmanton.out

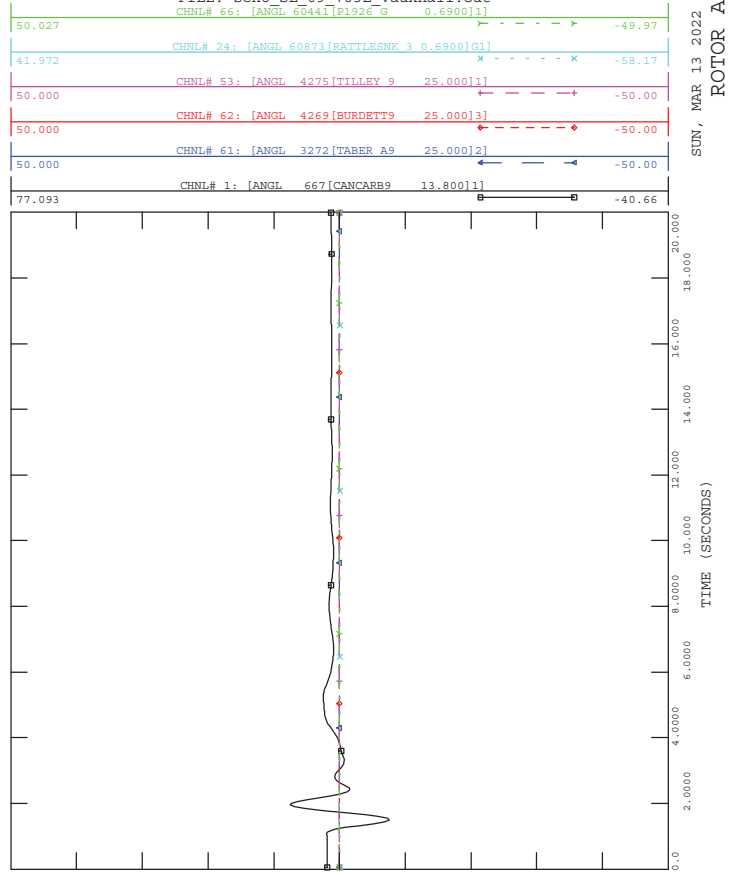
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out

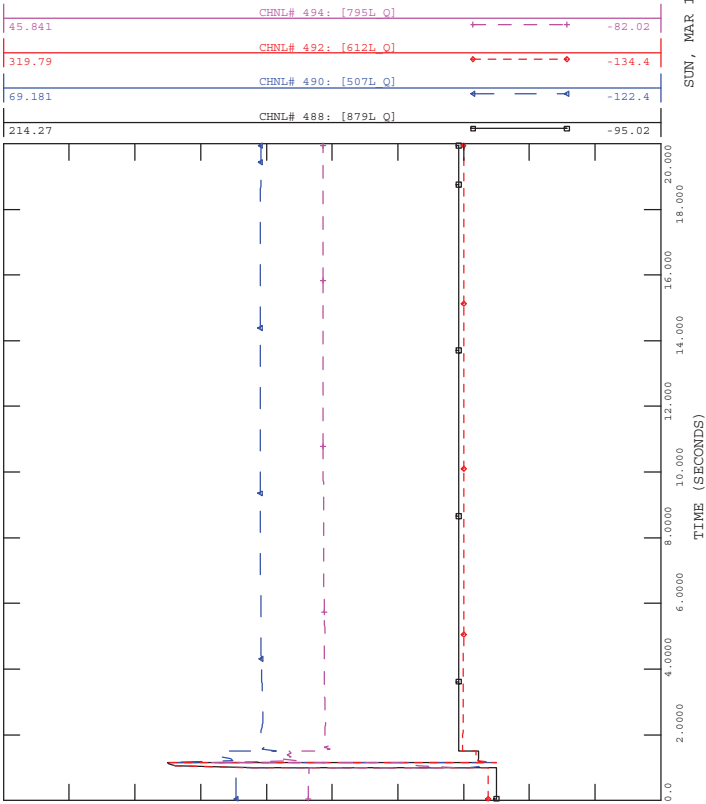
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

FILE: scn8_SL_08_879L_Bowmanton.out

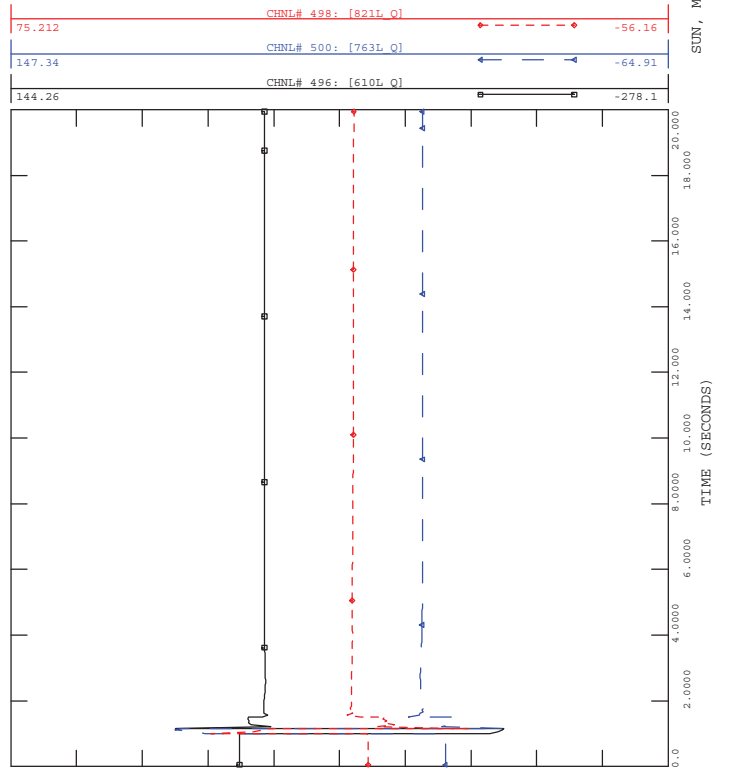
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_08_879L_BOWMANTON

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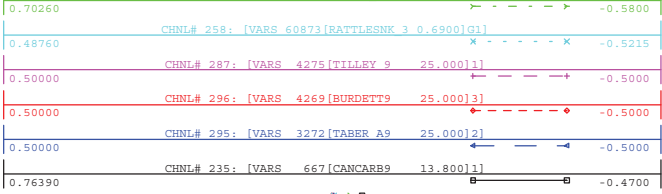
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

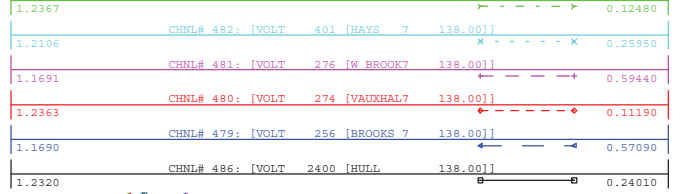


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out
CHNL# 484: [VOLT 441 [P1926 1 138.00]]

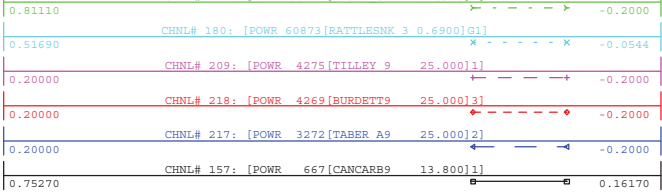


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]

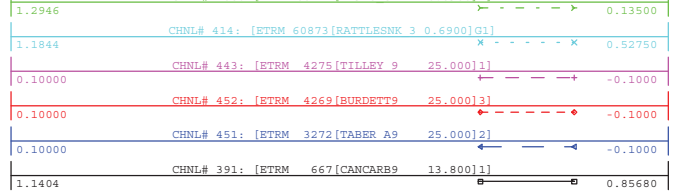


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]



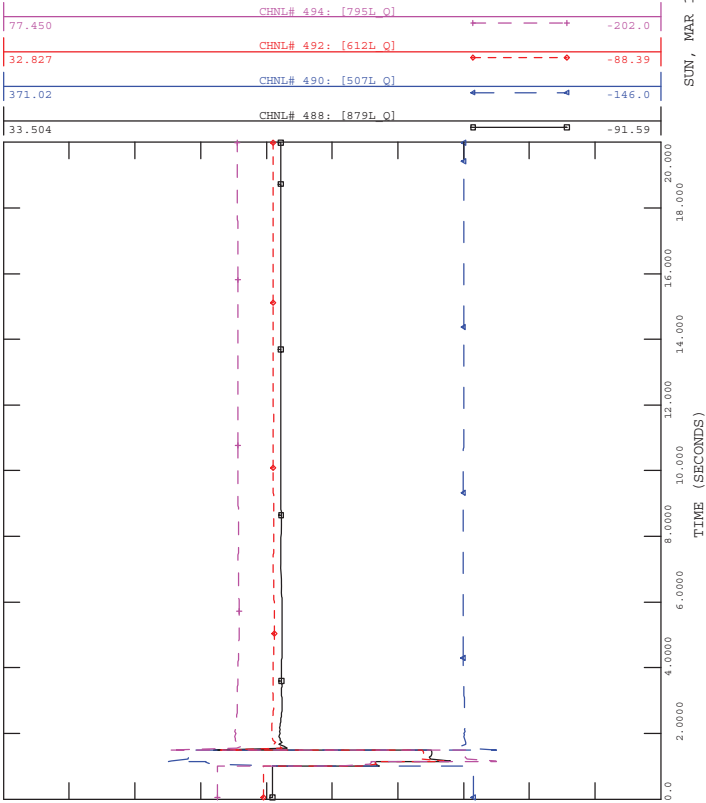
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out

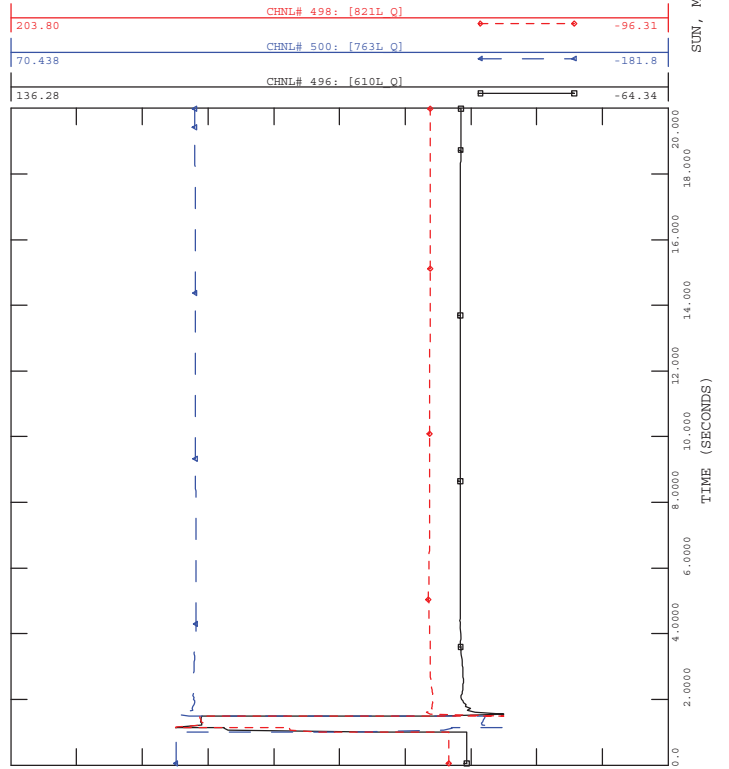
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

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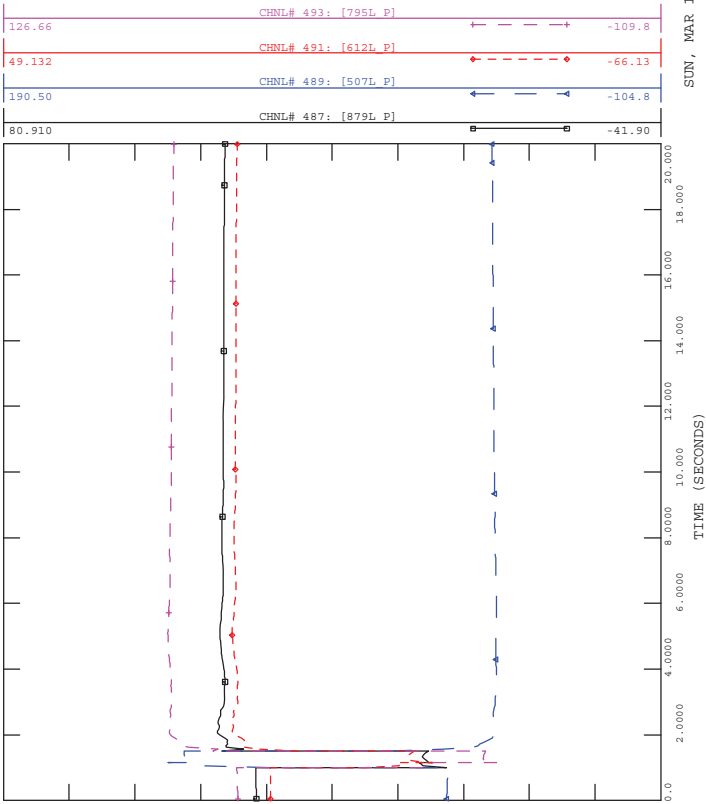
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

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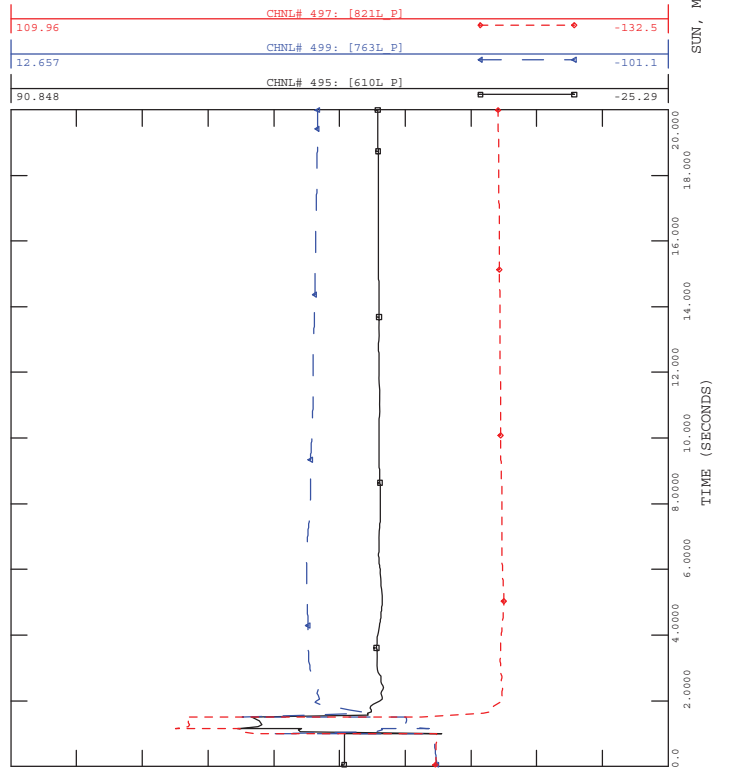
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_09_763L_VAUXHALL

FILE: scn8_SL_09_763L_Vauxhall.out

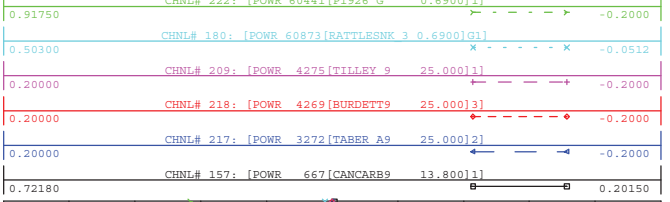
SUN, MAR 13 2022 23:51
BRANCH P



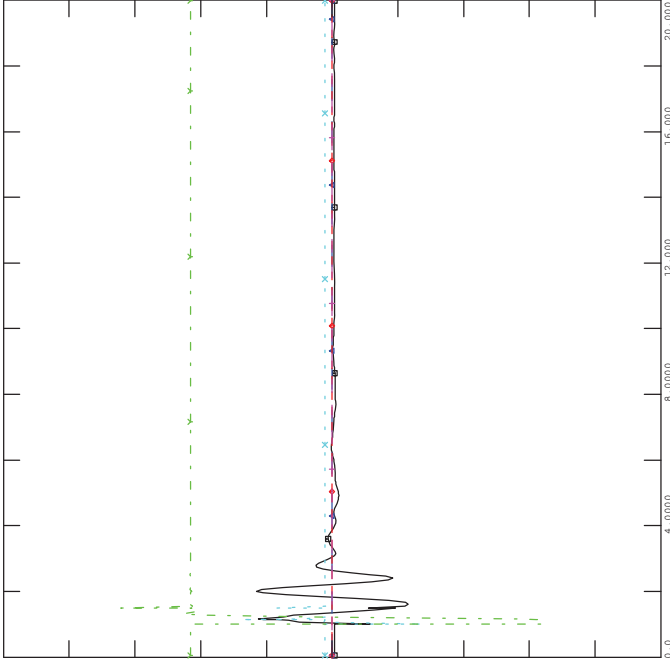


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

FILE: scn8_SL_10_763L_WestBrooks.out

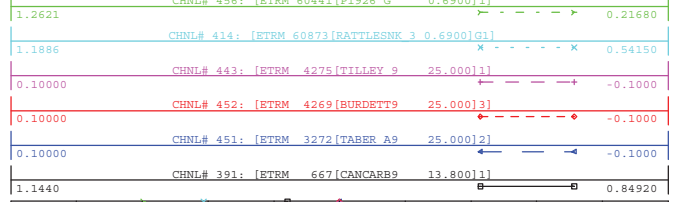


SUN, MAR 13 2022 23:51
ACTIVE POWER

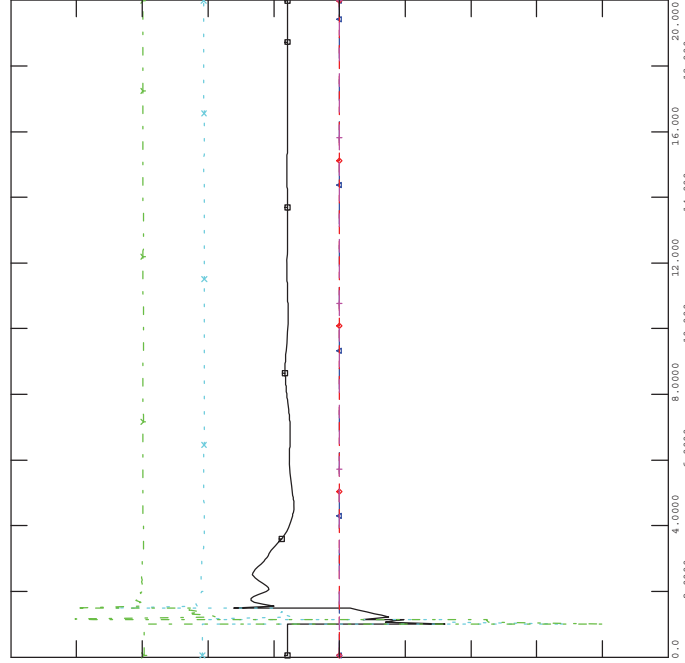


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

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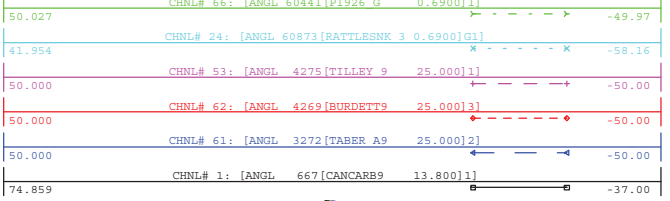


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE

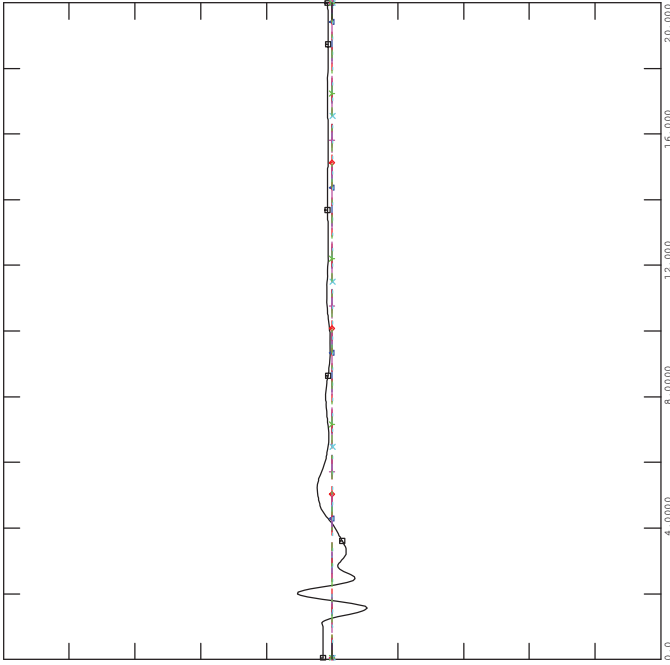


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

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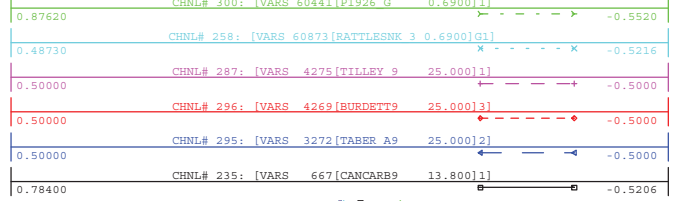


SUN, MAR 13 2022 23:51
ROTOR ANGLE

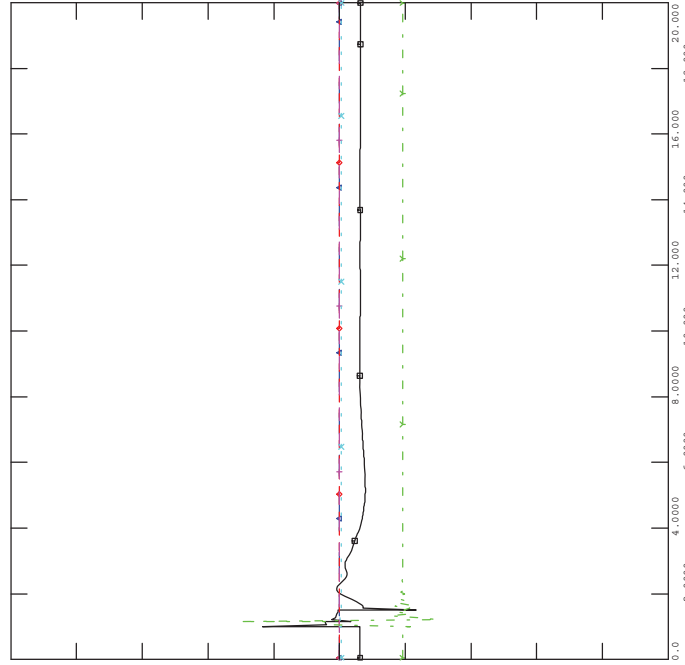


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

FILE: scn8_SL_10_763L_WestBrooks.out



SUN, MAR 13 2022 23:51
REACTIVE POWER

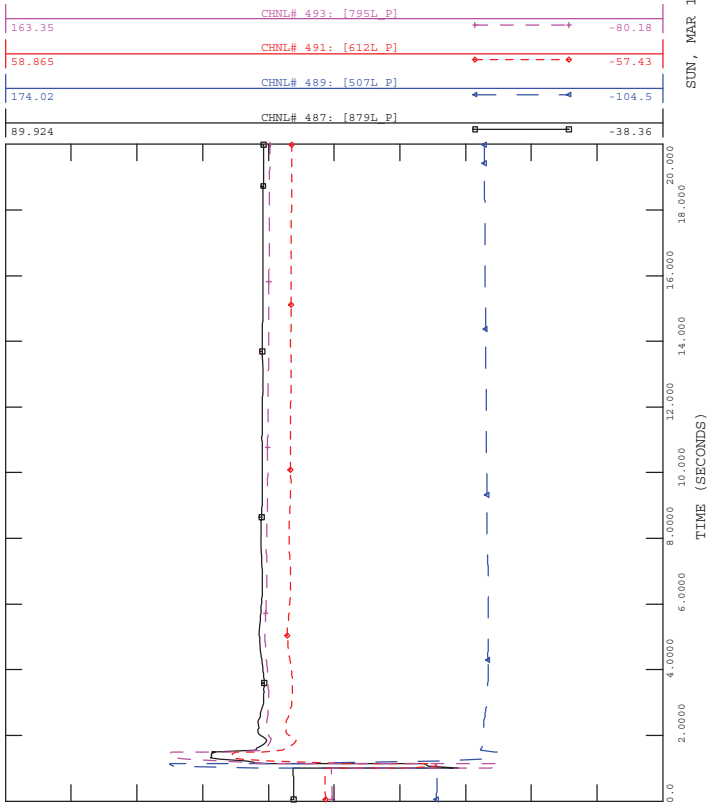




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

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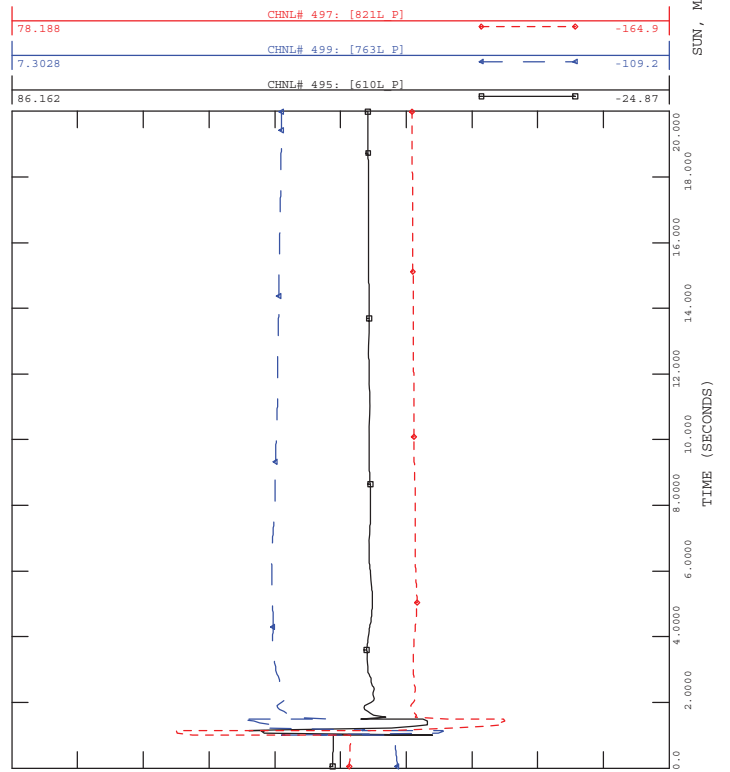
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

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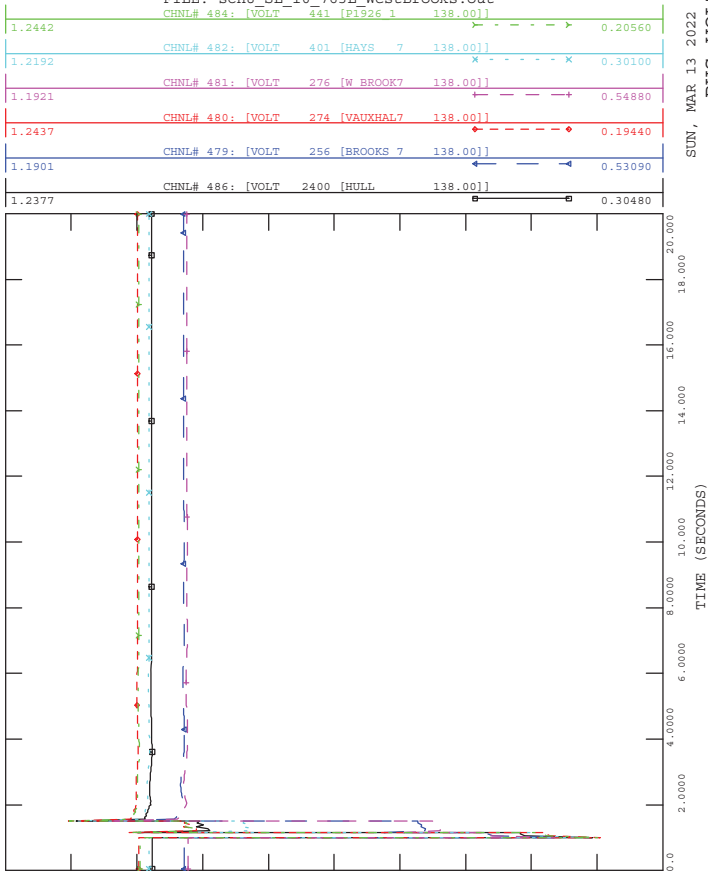
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

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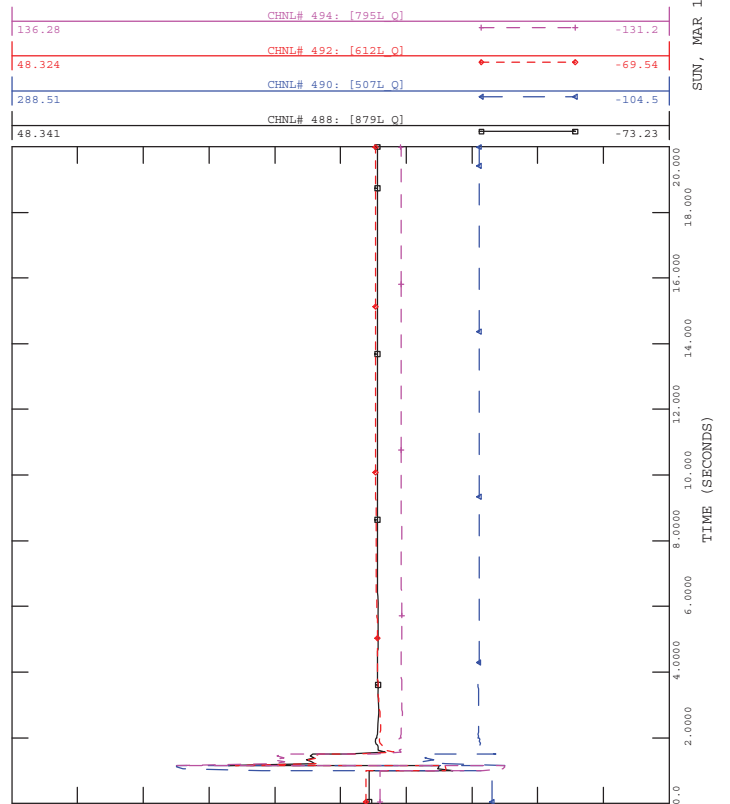
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

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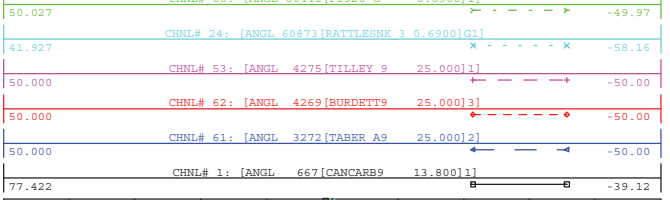
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

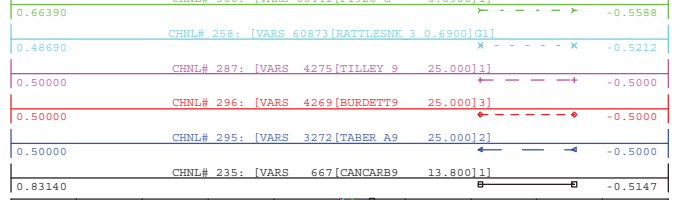


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out
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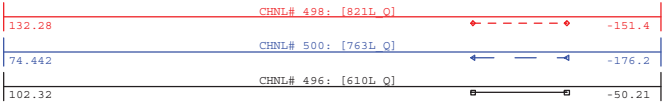


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_10_763L_WESTBROOKS

FILE: scn8_SL_10_763L_WestBrooks.out

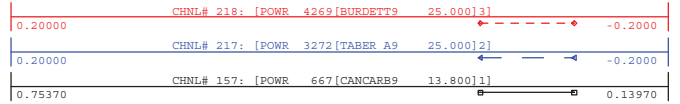


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]



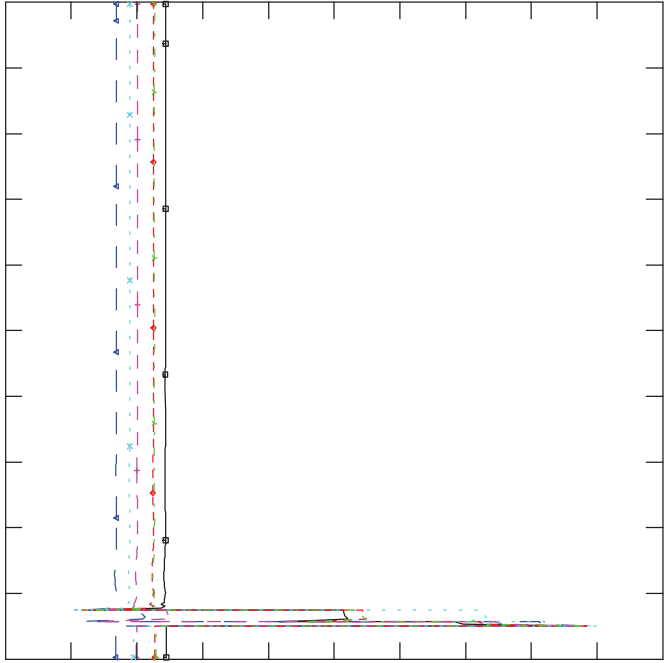
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out

1.2278	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.37150
1.2218	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.18220
1.1576	CHNL# 481: [VOLT 276 [W.BROOK7 138.00]]	0.43400
1.2273	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.36390
1.1554	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.29440
1.2218	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.43630



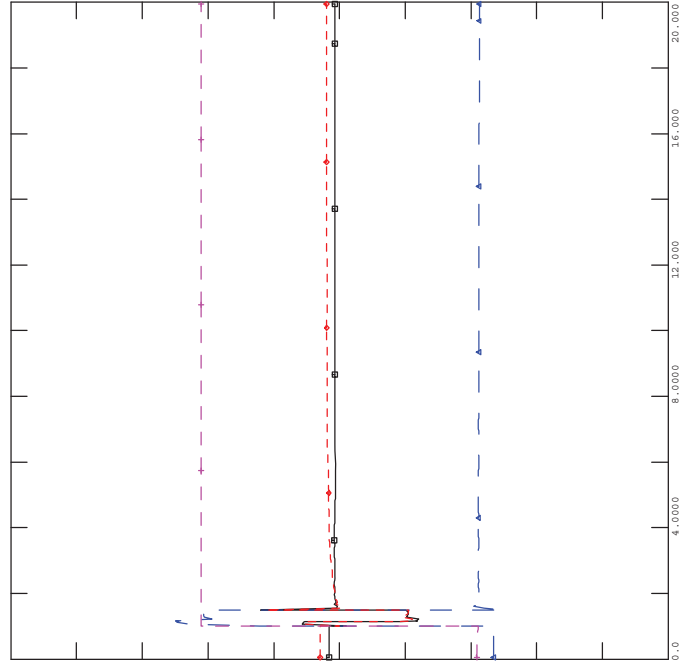
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out

40.000	CHNL# 494: [795L Q]	-98.28
33.290	CHNL# 492: [612L Q]	-69.76
209.69	CHNL# 490: [507L Q]	-73.93
33.280	CHNL# 488: [879L Q]	-71.98



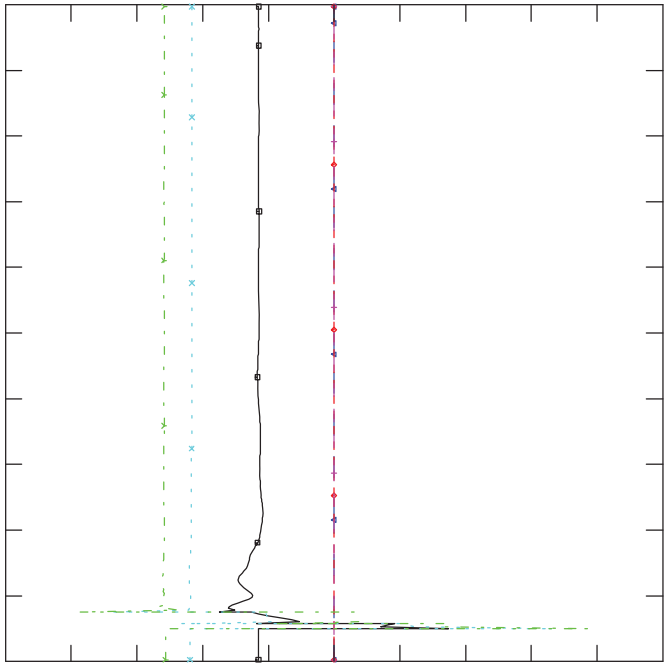
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out

1.2642	CHNL# 456: [ETRM 60441[P1926 G 0.6900]]	0.38410
1.1706	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.56350
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1382	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.83130



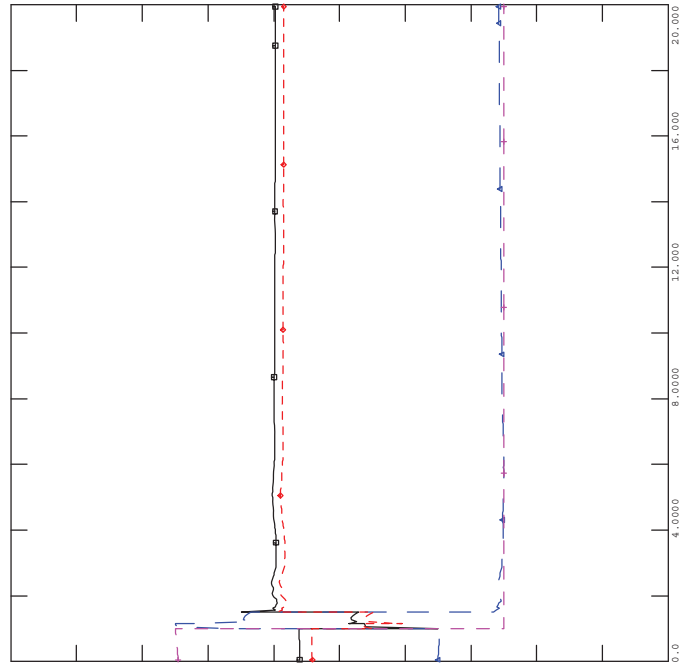
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out

320.37	CHNL# 493: [795L P]	-106.8
47.524	CHNL# 491: [612L P]	-51.21
116.47	CHNL# 489: [507L P]	-76.01
83.847	CHNL# 487: [879L P]	-30.33

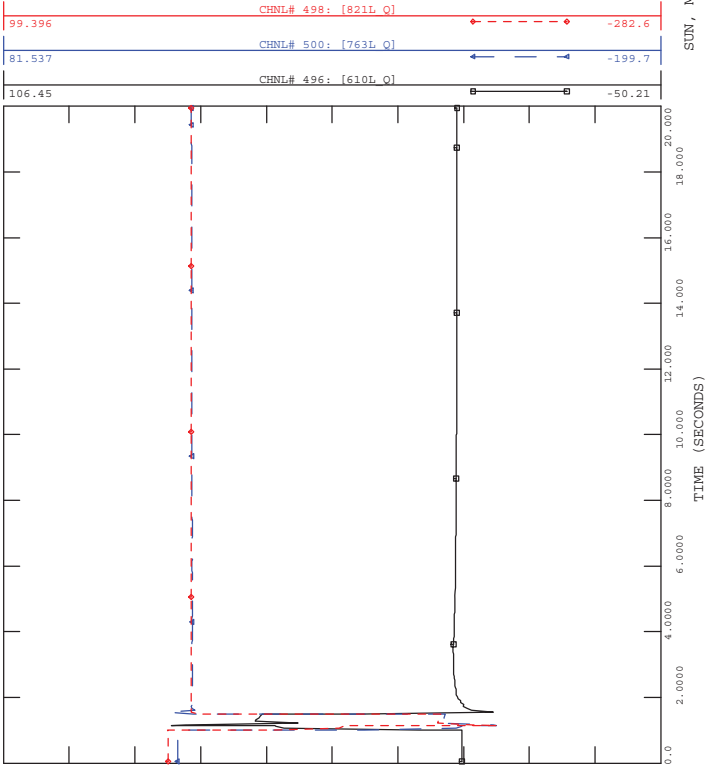


SUN, MAR 13 2022 23:51
BRANCH P



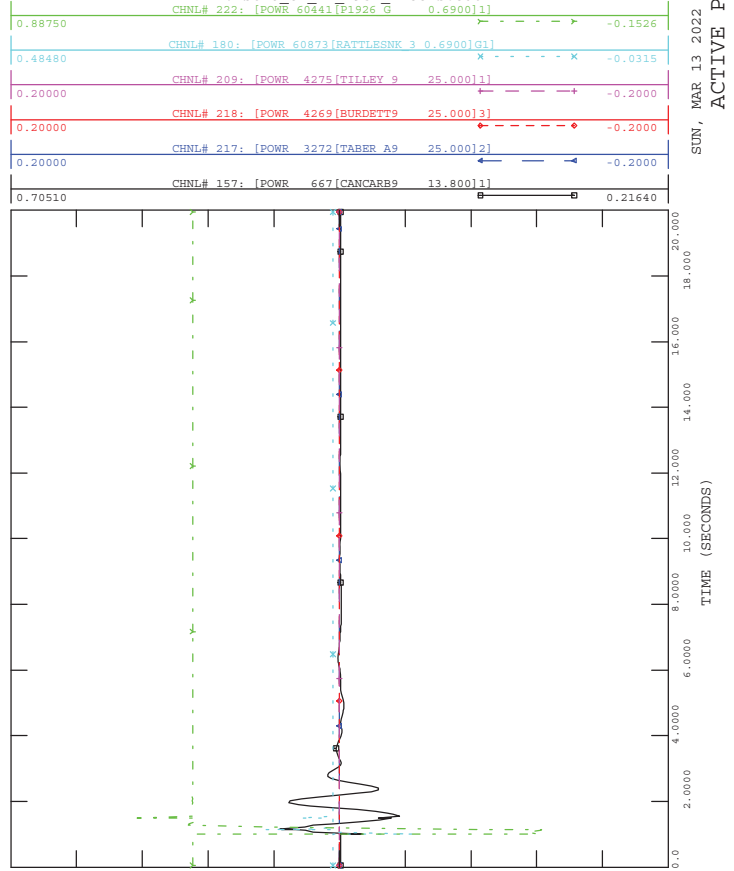
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out



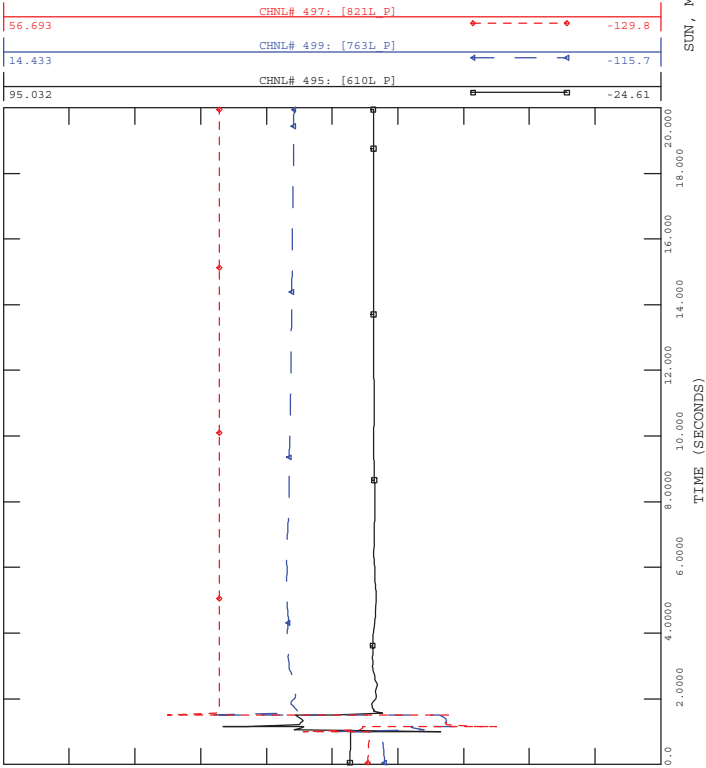
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out



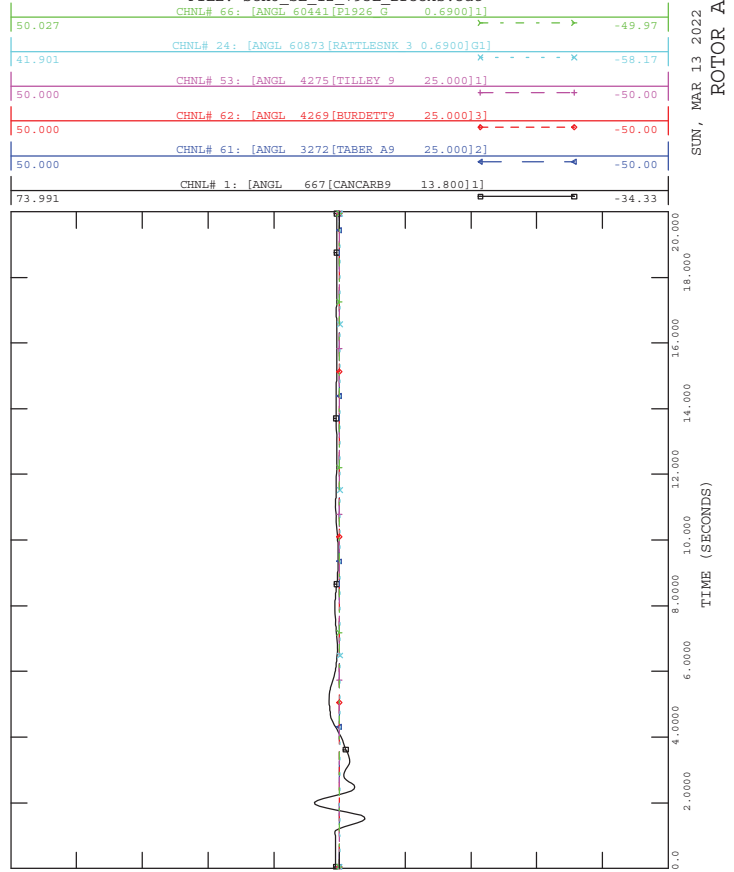
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_11_795L_HAYS

FILE: scn8_SL_11_795L_Hays.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

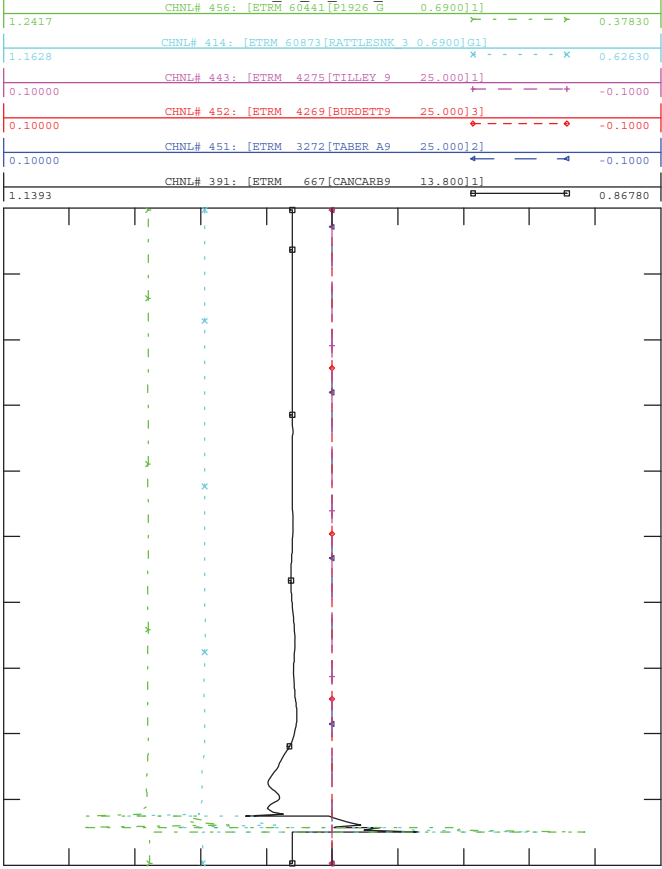
FILE: scn8_SL_12_795L_Brooks.out





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]

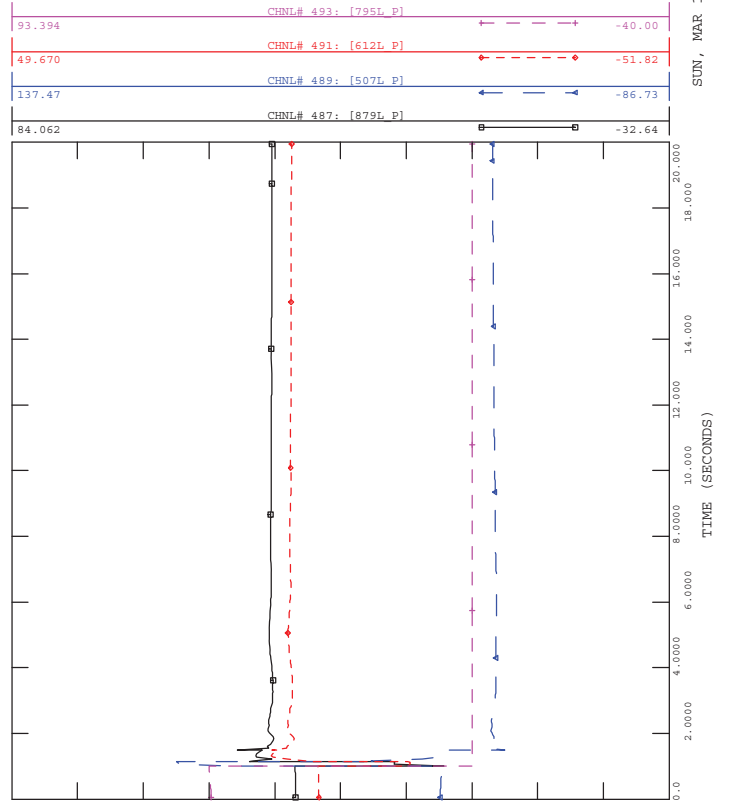


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out

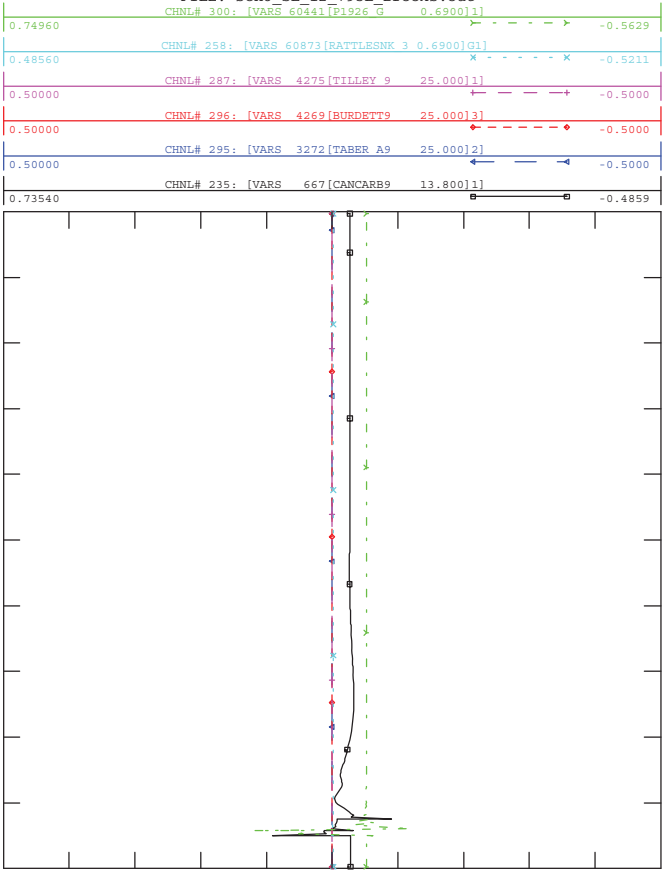


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

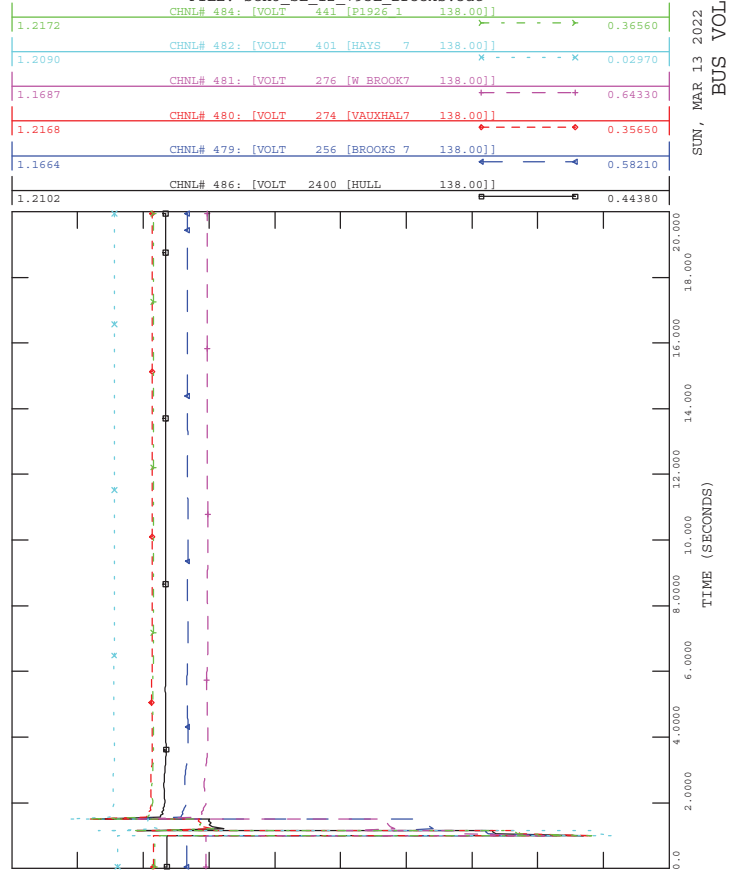


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out



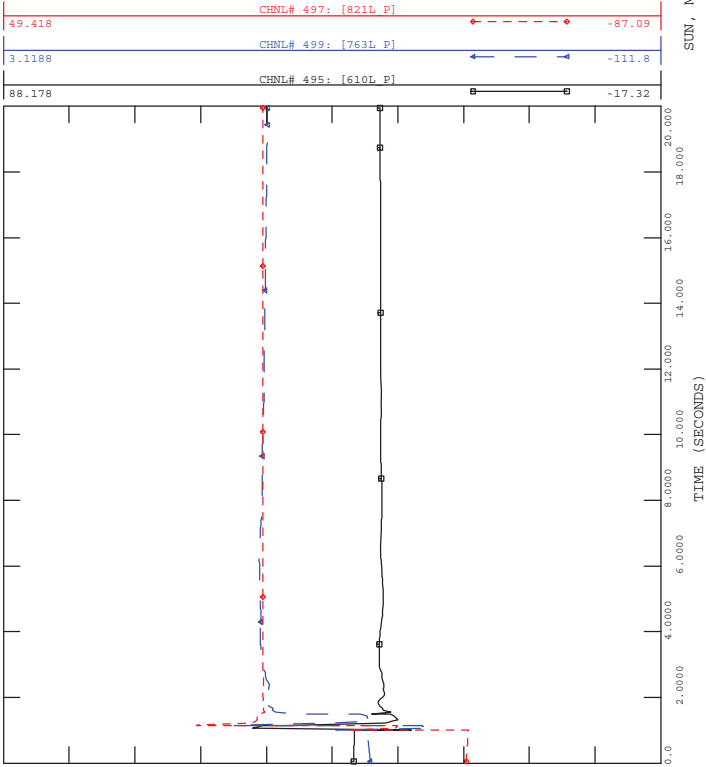
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out

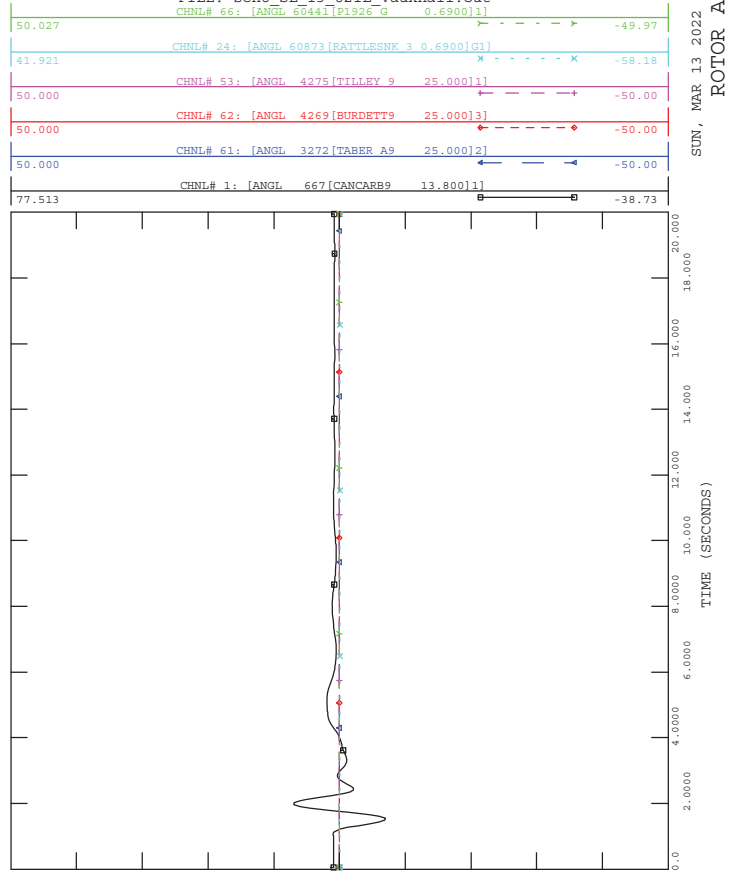
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out

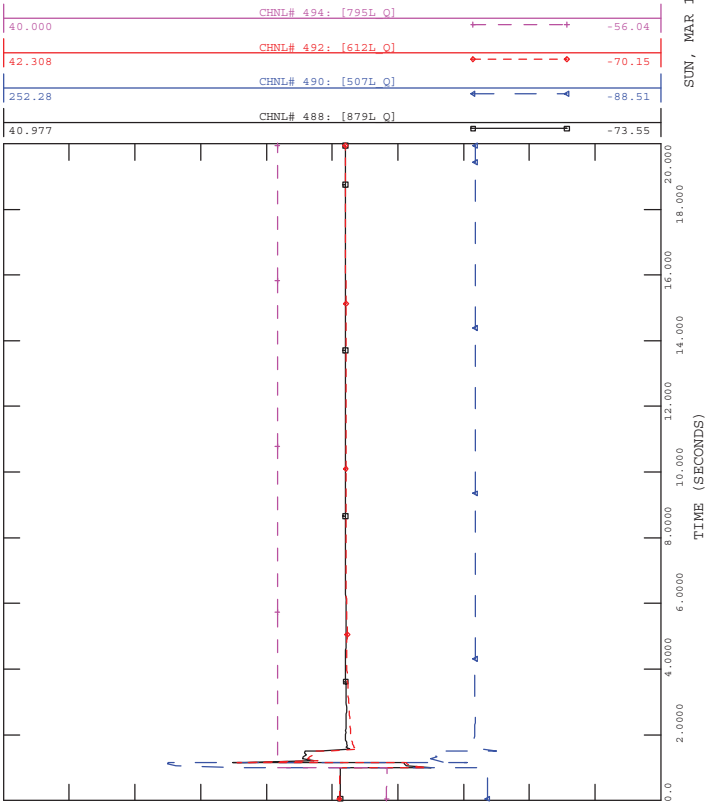
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out

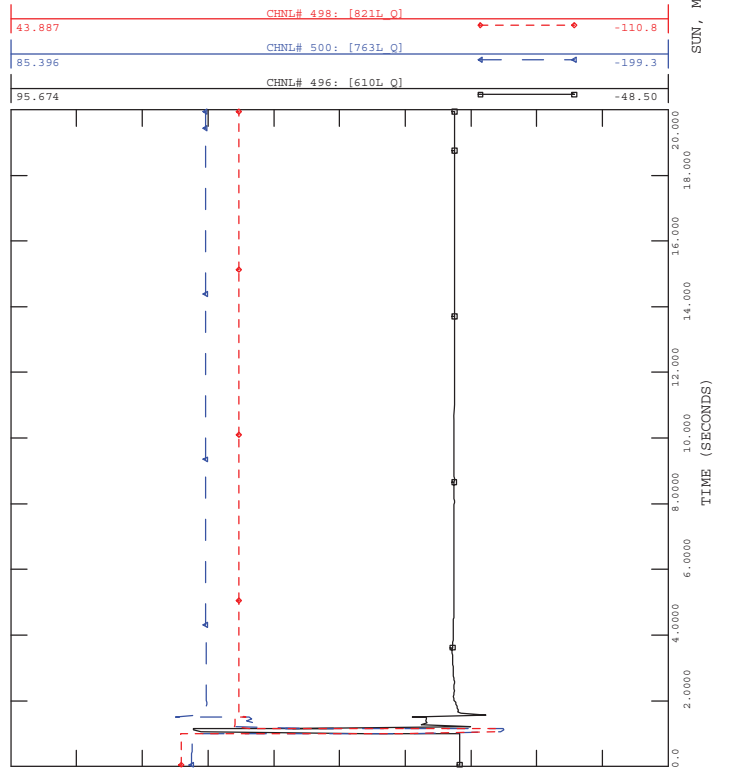
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_12_795L_BROOKS

FILE: scn8_SL_12_795L_Brooks.out

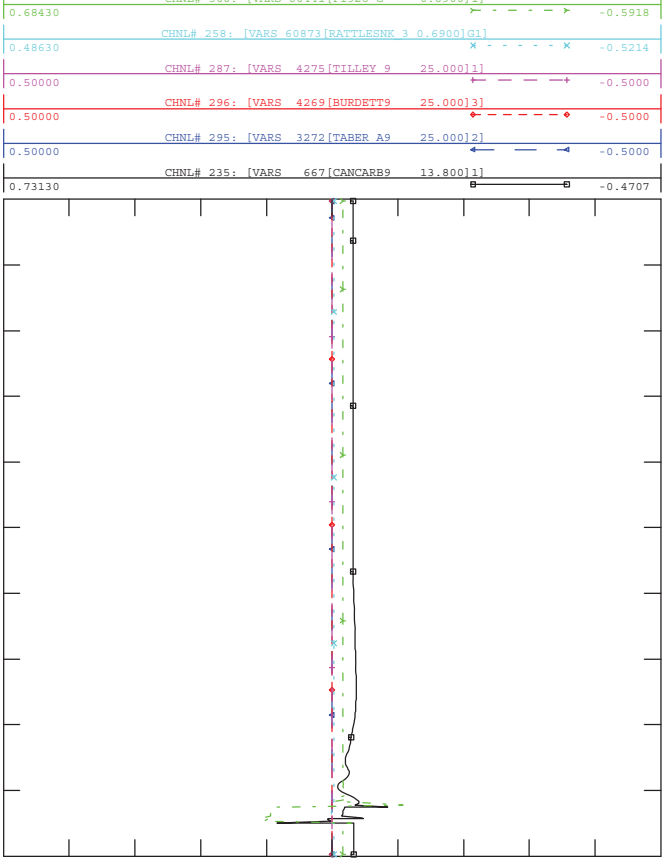
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

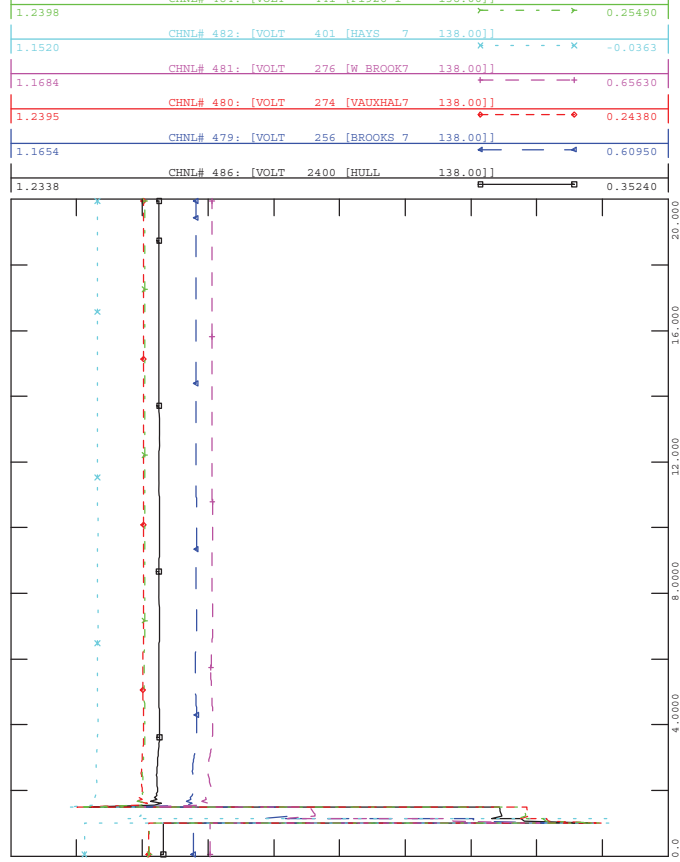


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out
CHNL# 484: [VOLT 441 [P1926 1 138.00]]

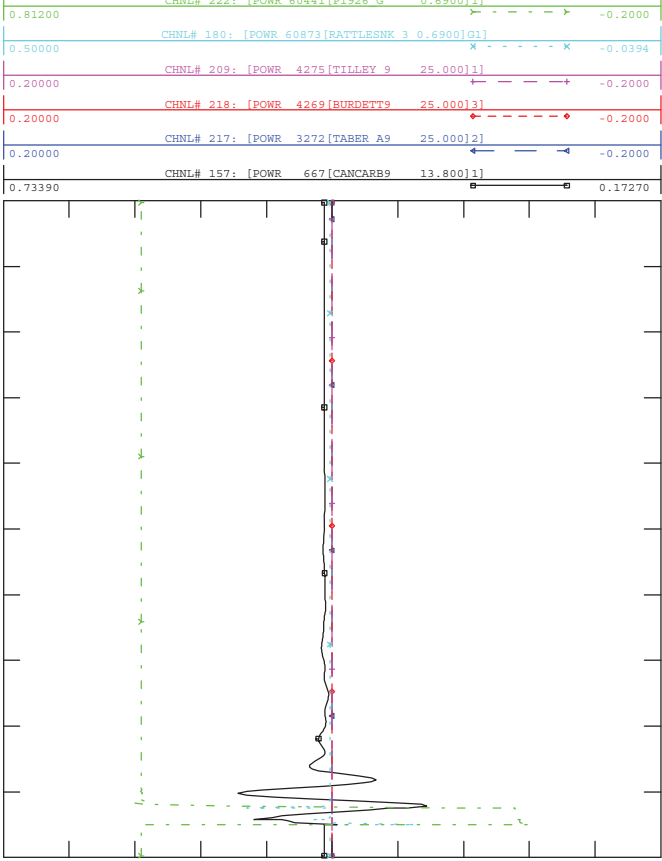


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]

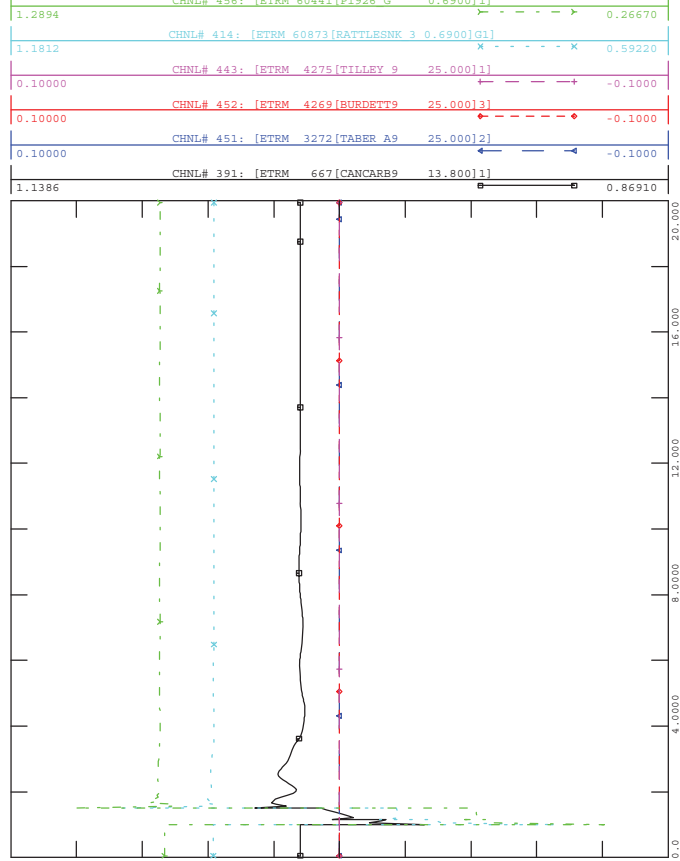


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]



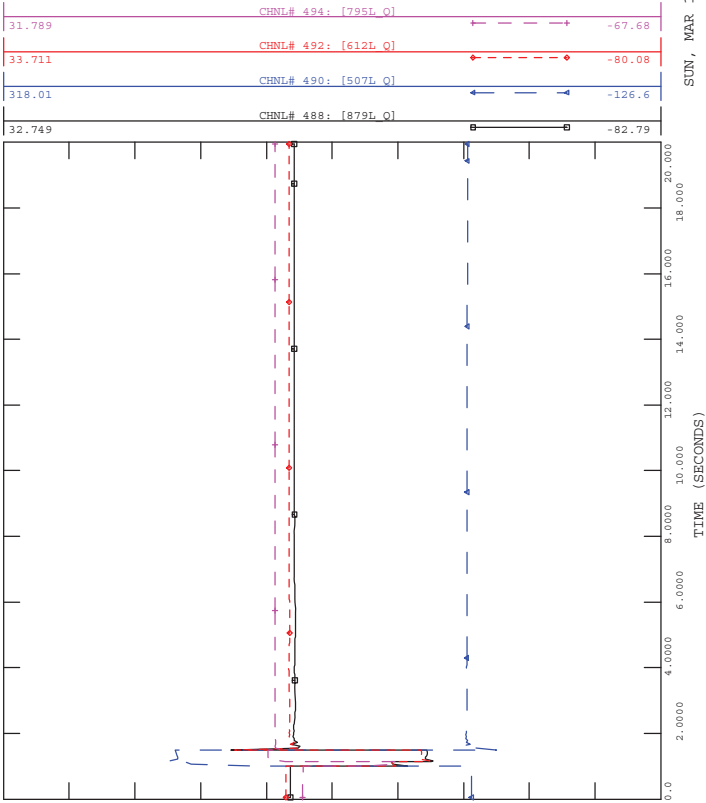
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out

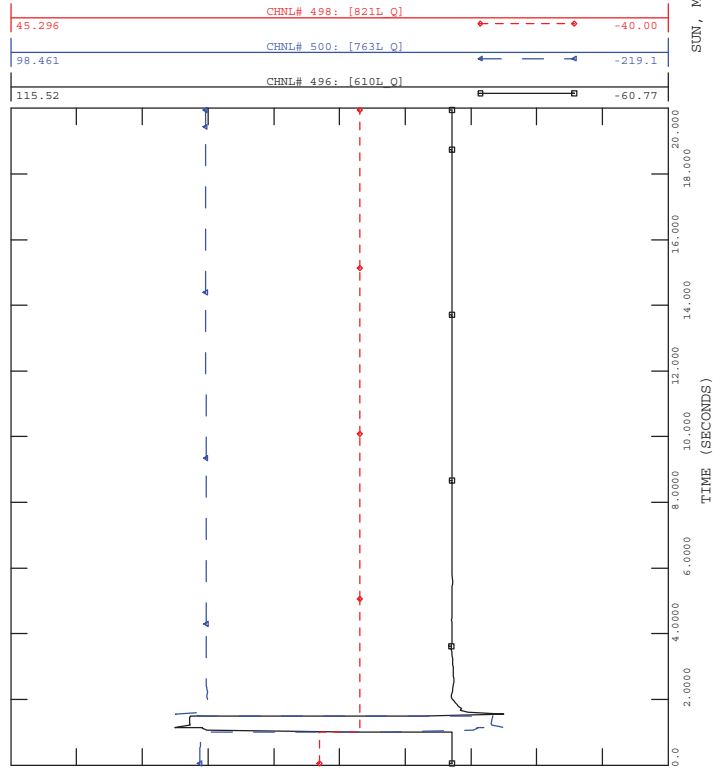
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out

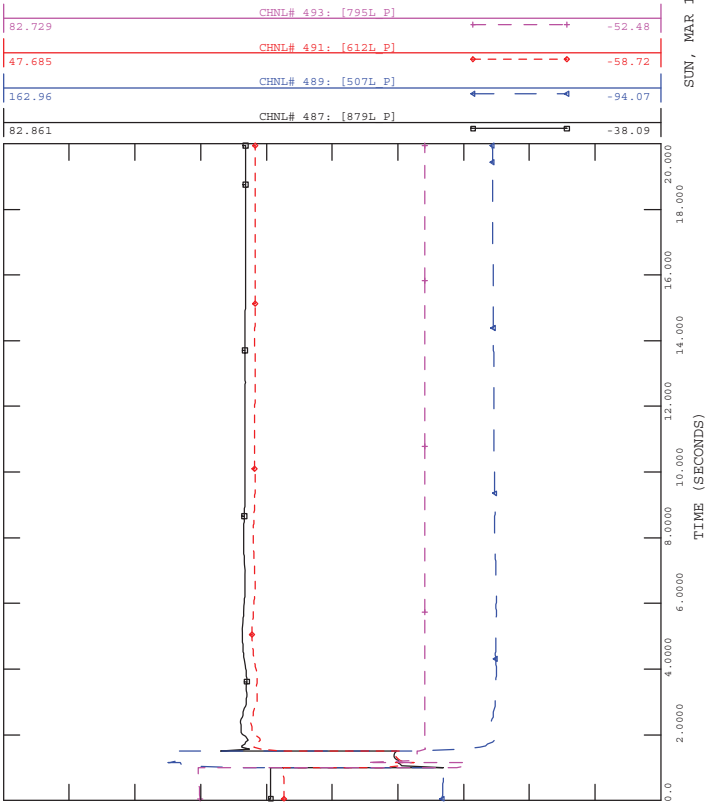
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out

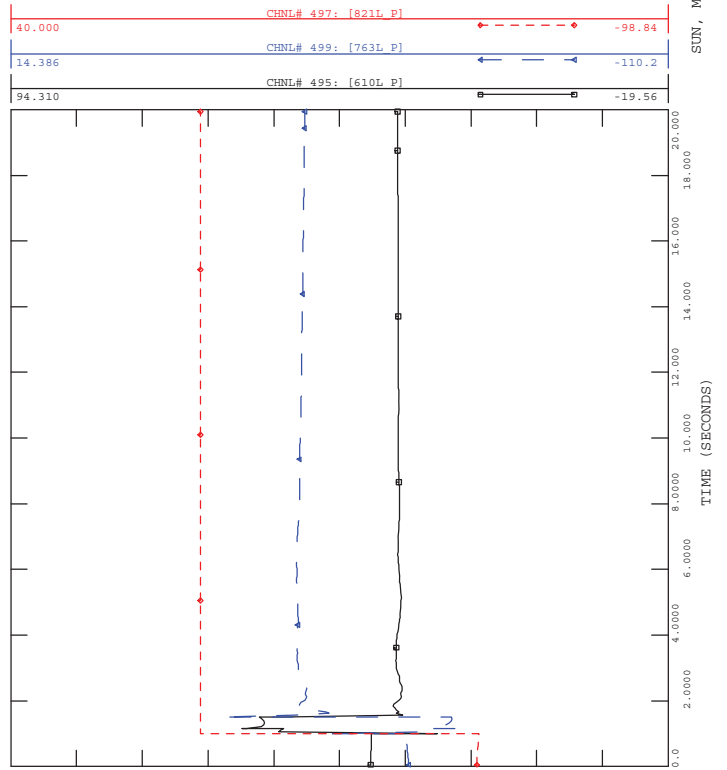
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_13_821L_VAUXHALL

FILE: scn8_SL_13_821L_Vauxhall.out

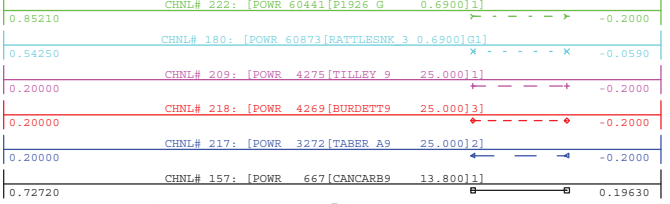
SUN, MAR 13 2022 23:51
BRANCH P



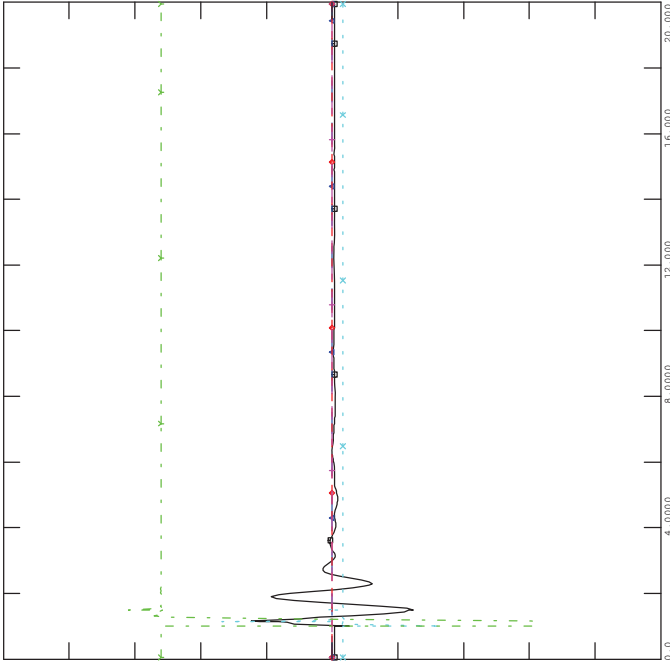


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_14_821L_HAYS

FILE: scn8_SL_14_821L_Hays.out

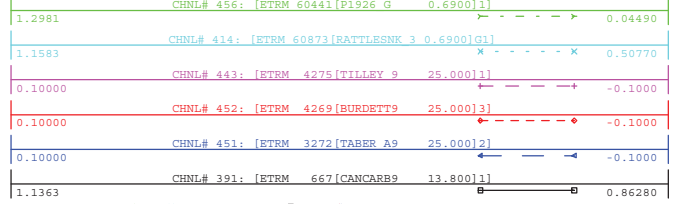


SUN, MAR 13 2022 23:51
ACTIVE POWER

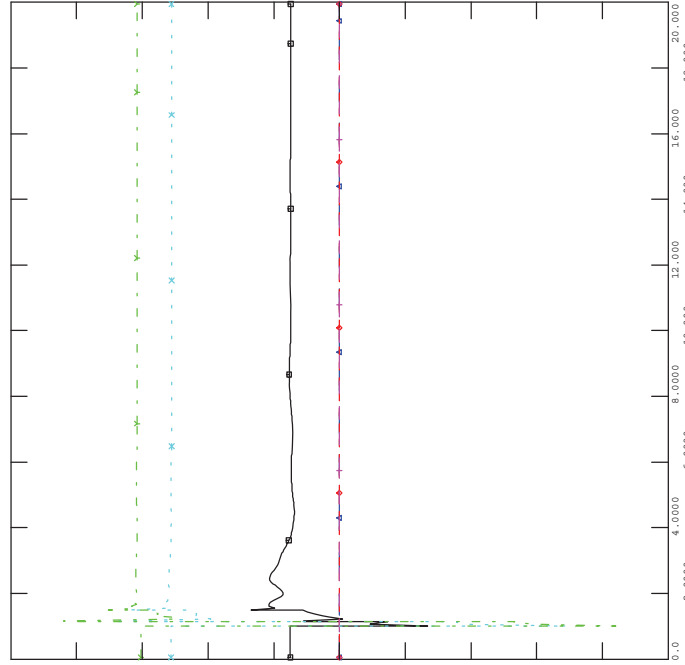


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_14_821L_HAYS

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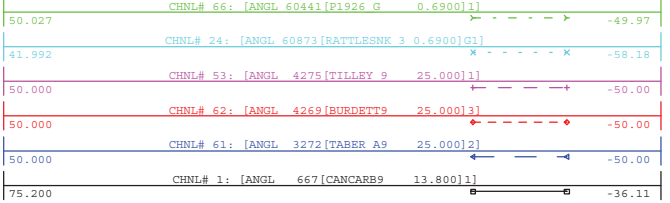


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE

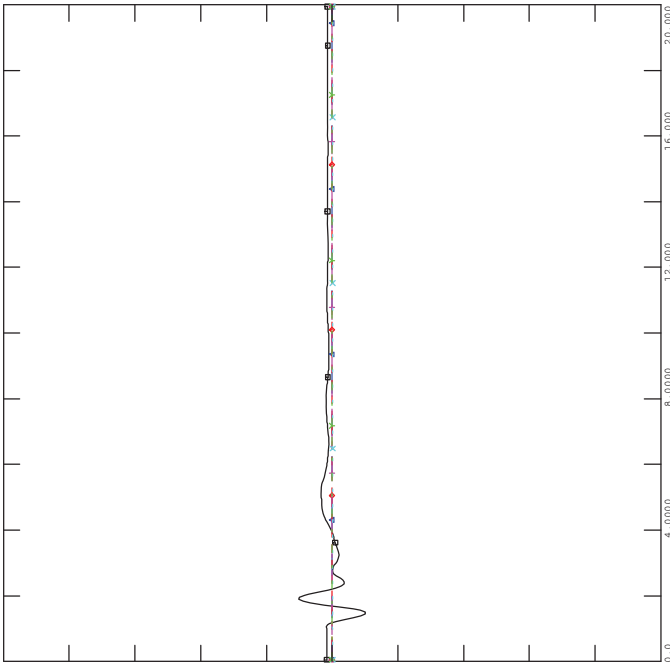


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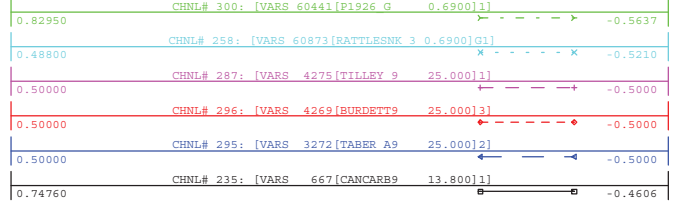


SUN, MAR 13 2022 23:51
ROTOR ANGLE

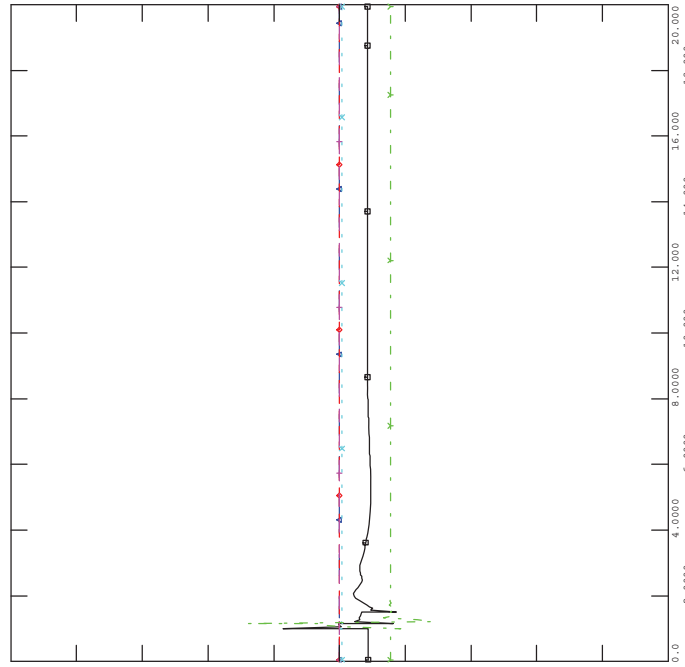


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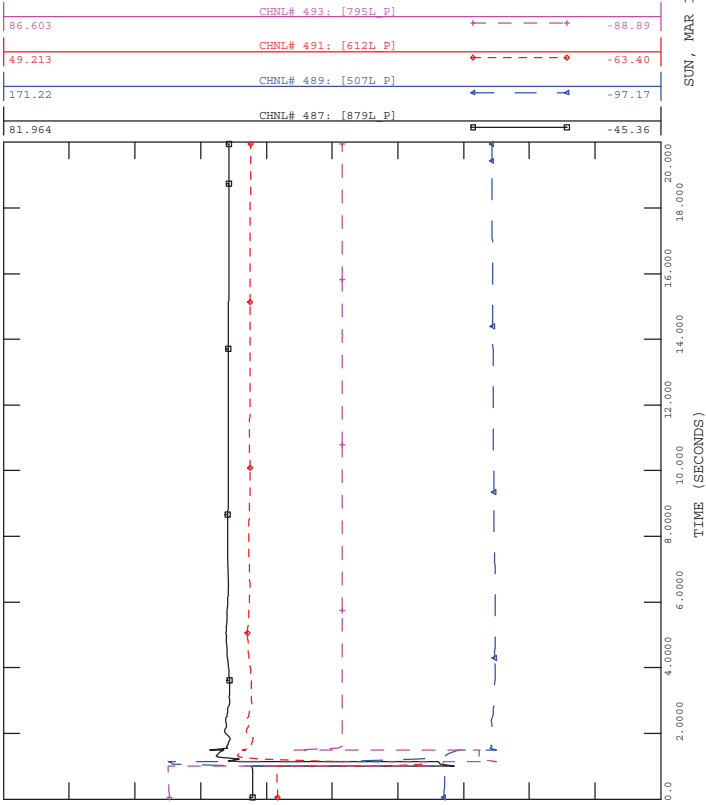
SUN, MAR 13 2022 23:51
REACTIVE POWER





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_14_821L_HAYS

FILE: scn8_SL_14_821L_Hays.out

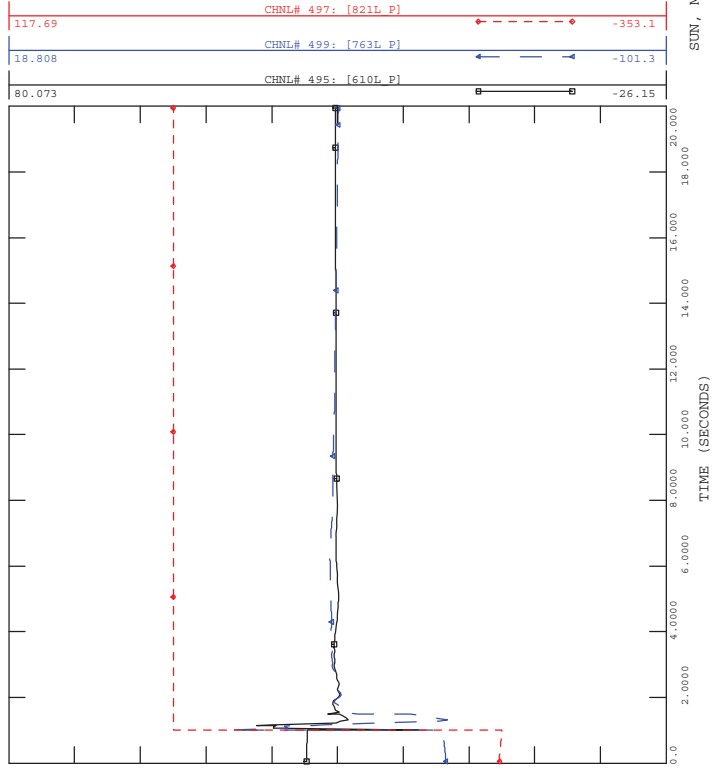


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_14_821L_HAYS

FILE: scn8_SL_14_821L_Hays.out

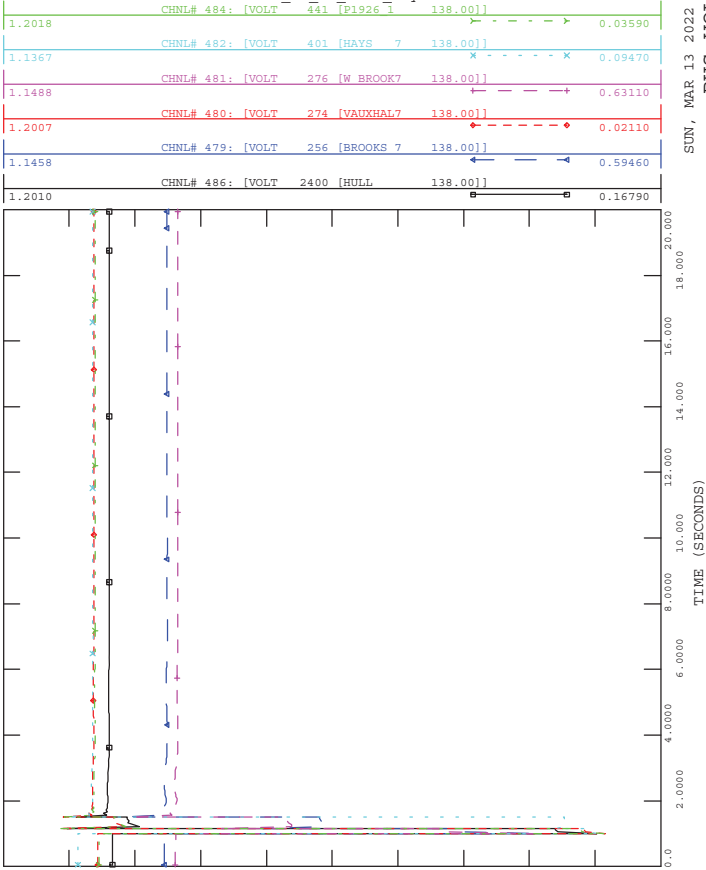


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_14_821L_HAYS

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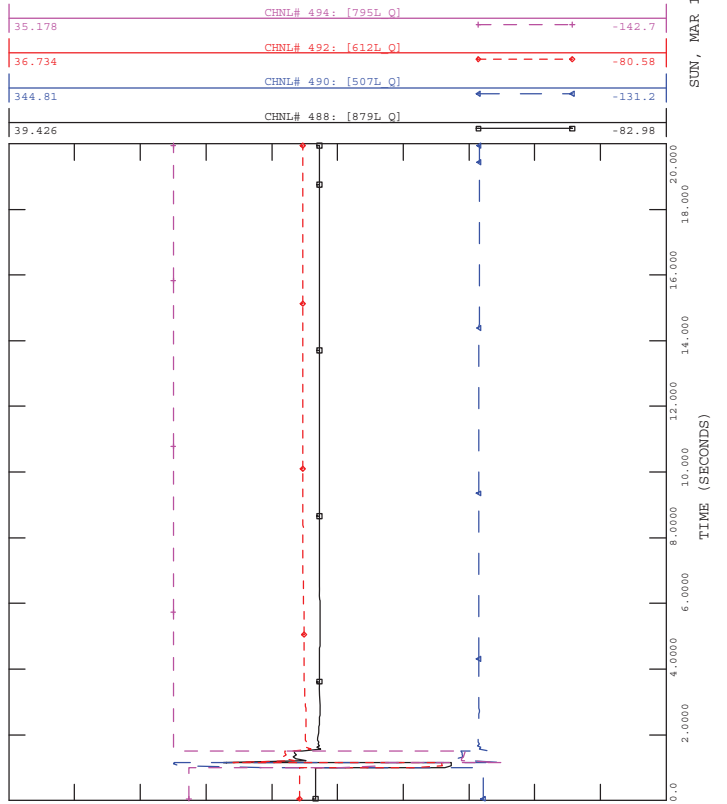


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN8_SL_14_821L_HAYS

FILE: scn8_SL_14_821L_Hays.out

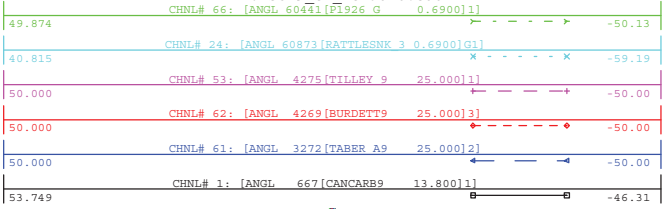


SUN, MAR 13 2022 23:51
BRANCH Q

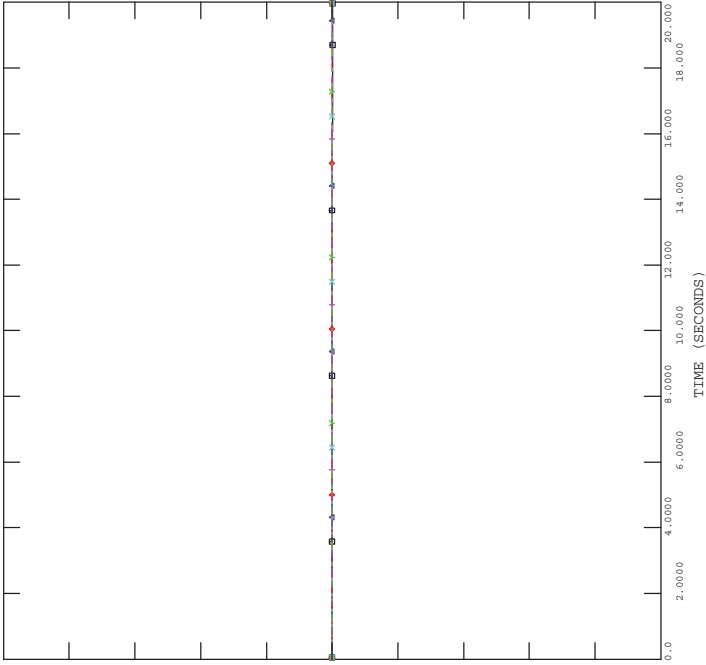


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CONTINGENCY -SCN9_SP_NOFAULT

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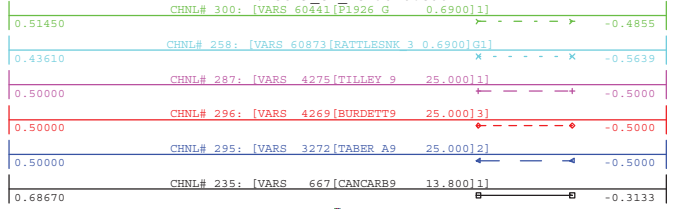


SUN, MAR 13 2022 23:51
ROTOR ANGLE

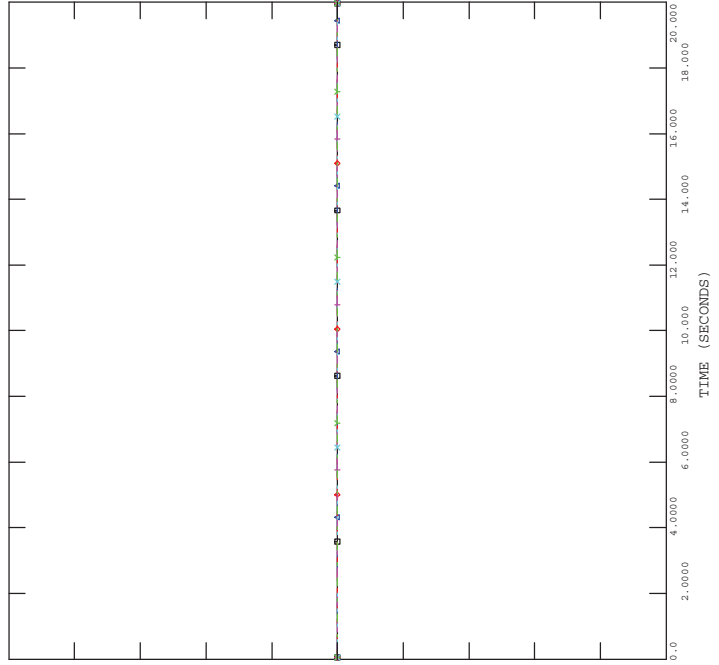


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

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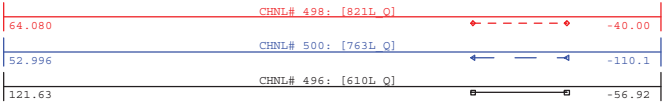


SUN, MAR 13 2022 23:51
REACTIVE POWER

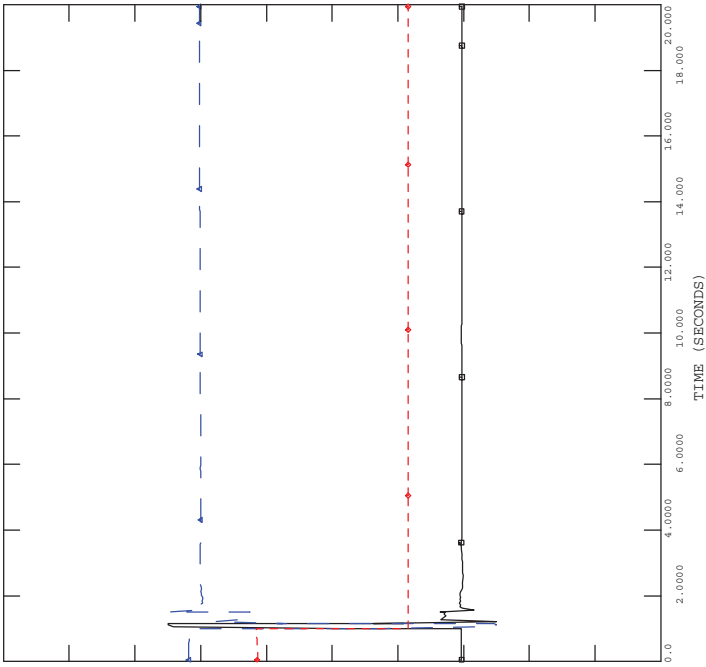


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CONTINGENCY -SCN8_SL_14_821L_HAYS

FILE: scn8_SL_14_821L_Hays.out

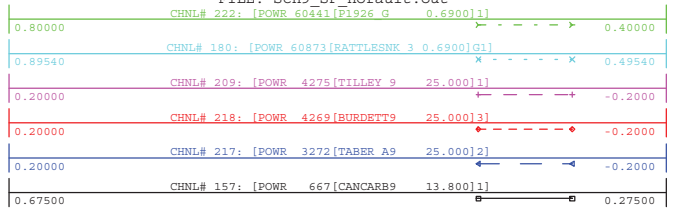


SUN, MAR 13 2022 23:51
BRANCH Q

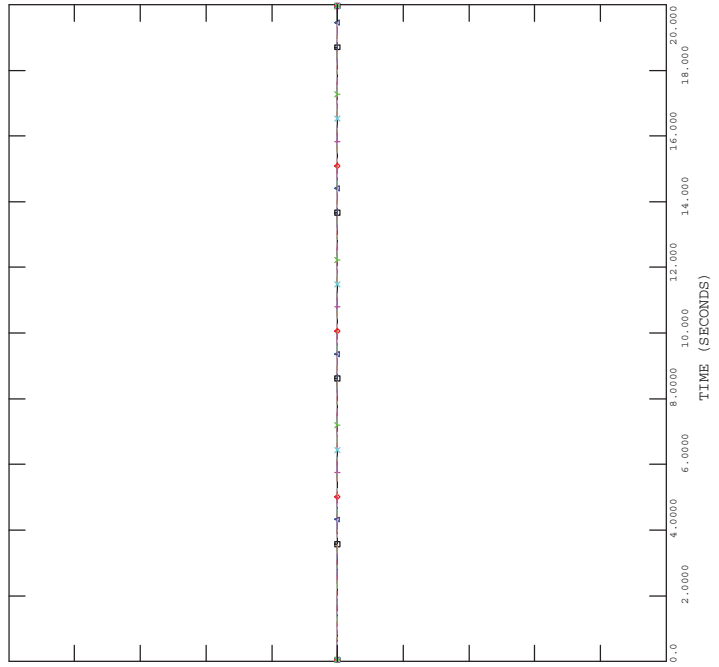


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9 SP_nofault.out



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ACTIVE POWER





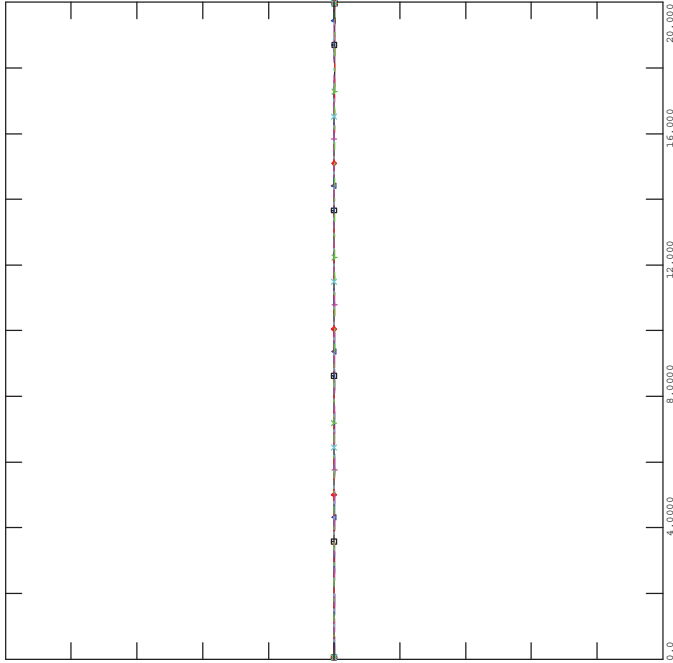
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9_SP_nofault.out

1.1351	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.93490
1.1263	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.92620
1.1163	CHNL# 481: [VOLT 276 [W.BROOK7 138.00]]	0.91610
1.1339	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.93370
1.1109	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.91060
1.1361	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.93600

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BUS VOLTAGE

TIME (SECONDS)



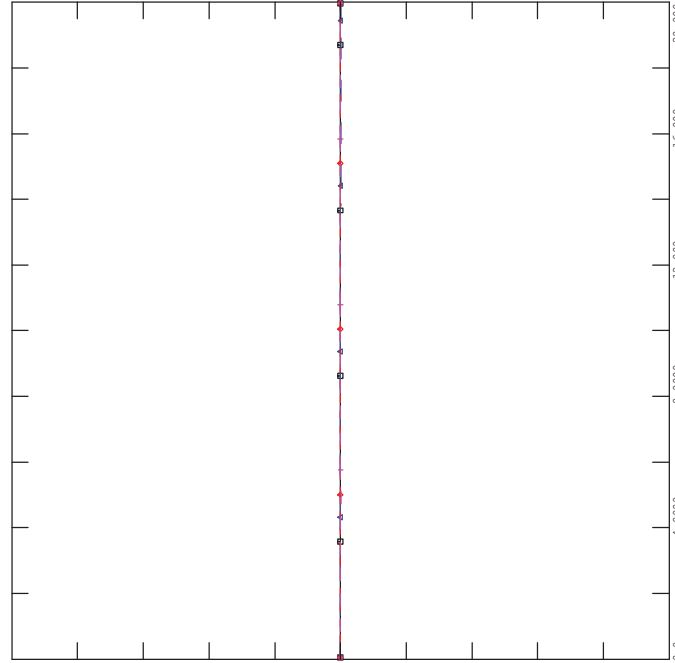
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CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9_SP_nofault.out

128.09	CHNL# 494: [795L Q]	-152.0
147.98	CHNL# 492: [612L Q]	-132.1
125.97	CHNL# 490: [507L Q]	-154.3
121.83	CHNL# 488: [879L Q]	-158.2

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BRANCH Q

TIME (SECONDS)



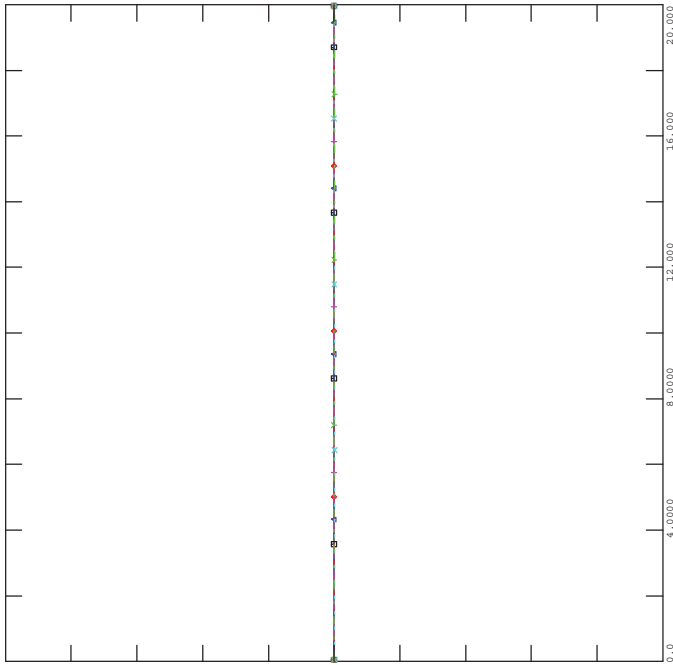
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9_SP_nofault.out

1.1501	CHNL# 456: [ETRM 60441[P1926 Q 0.6900]]	0.94980
1.1001	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.90000
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1200	CHNL# 391: [ETRM 667[CANCARB9 13.800]]	0.92000

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TERMINAL VOLTAGE

TIME (SECONDS)



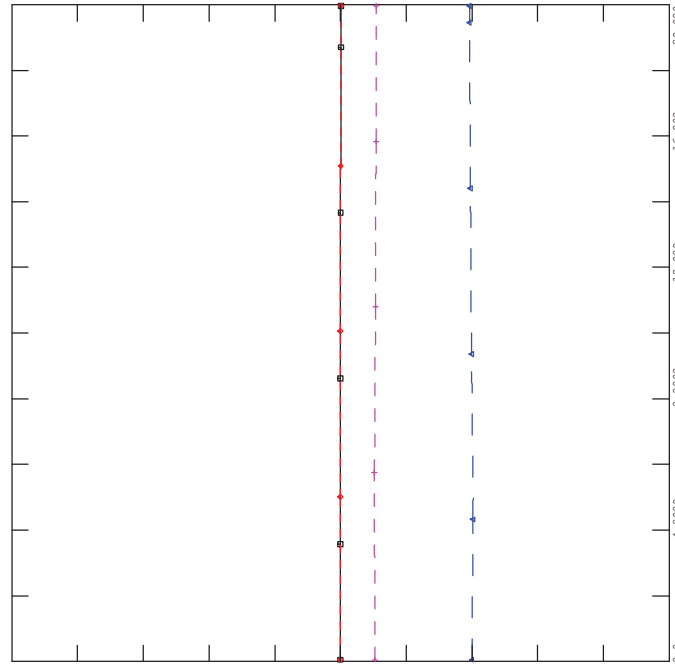
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9_SP_nofault.out

192.35	CHNL# 493: [795L P]	-61.55
130.67	CHNL# 491: [612L P]	-149.5
171.29	CHNL# 489: [507L P]	-29.87
151.66	CHNL# 487: [879L P]	-128.5

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BRANCH P

TIME (SECONDS)

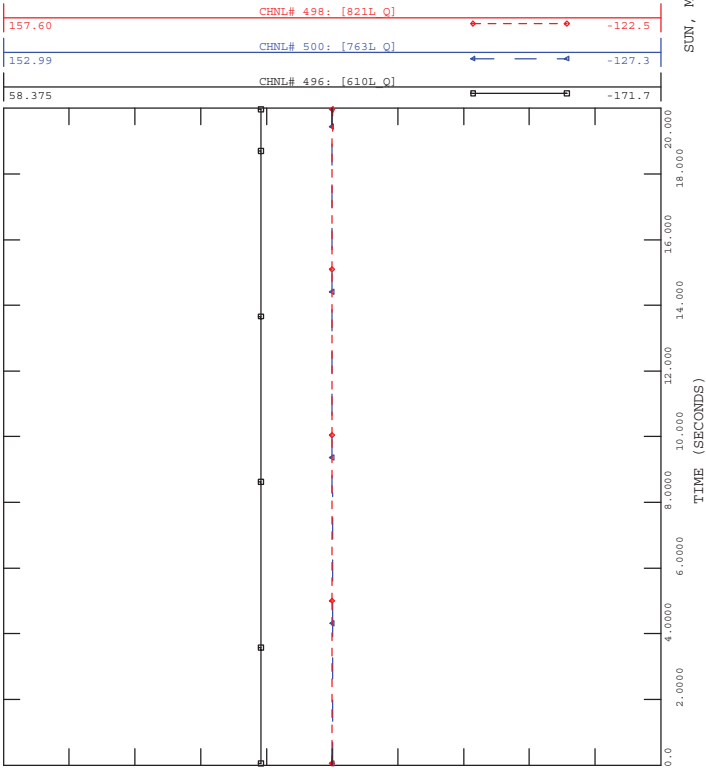




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9_SP_nofault.out

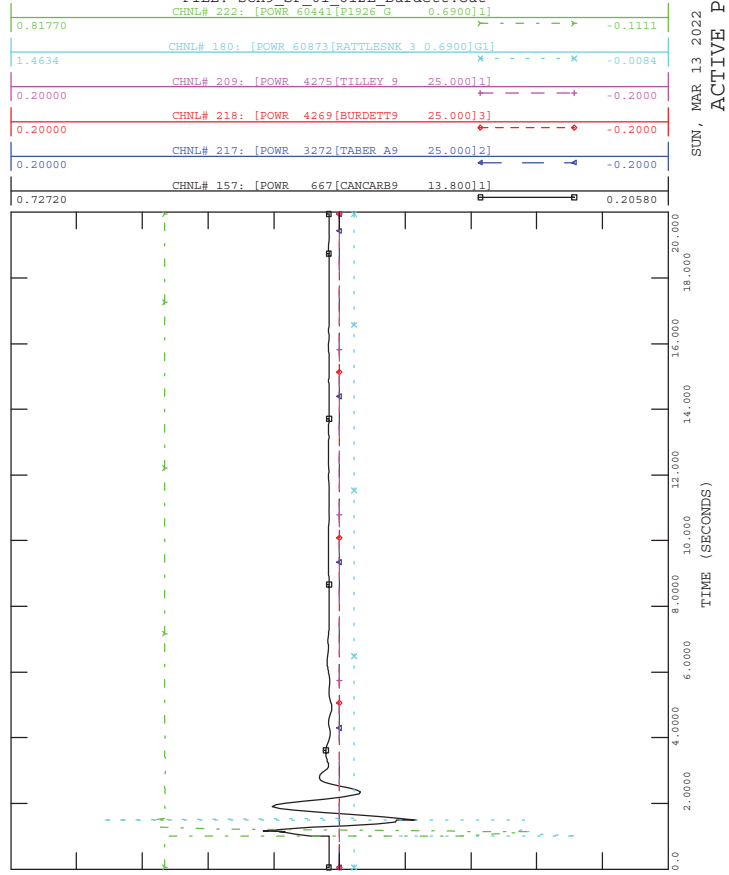
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out

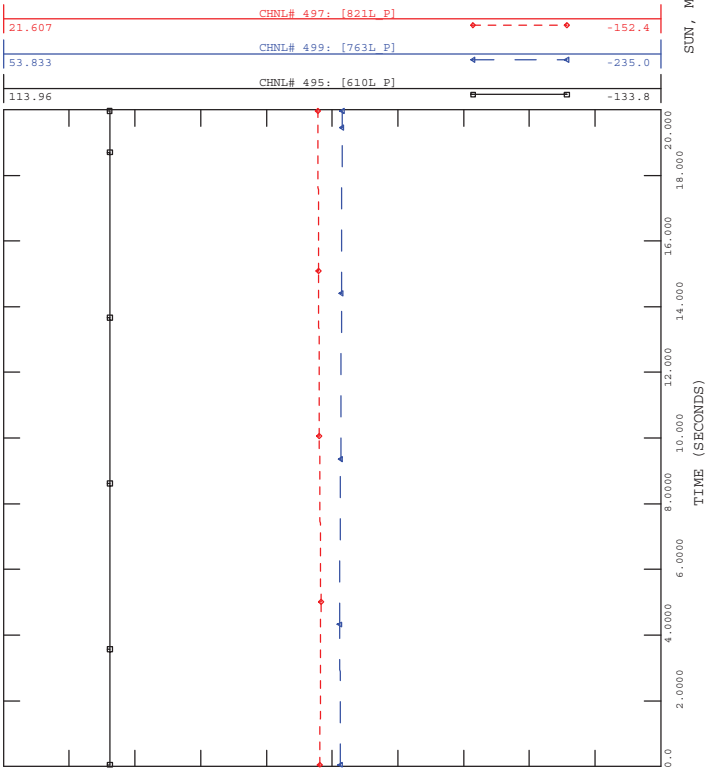
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_NOFAULT

FILE: Scn9_SP_nofault.out

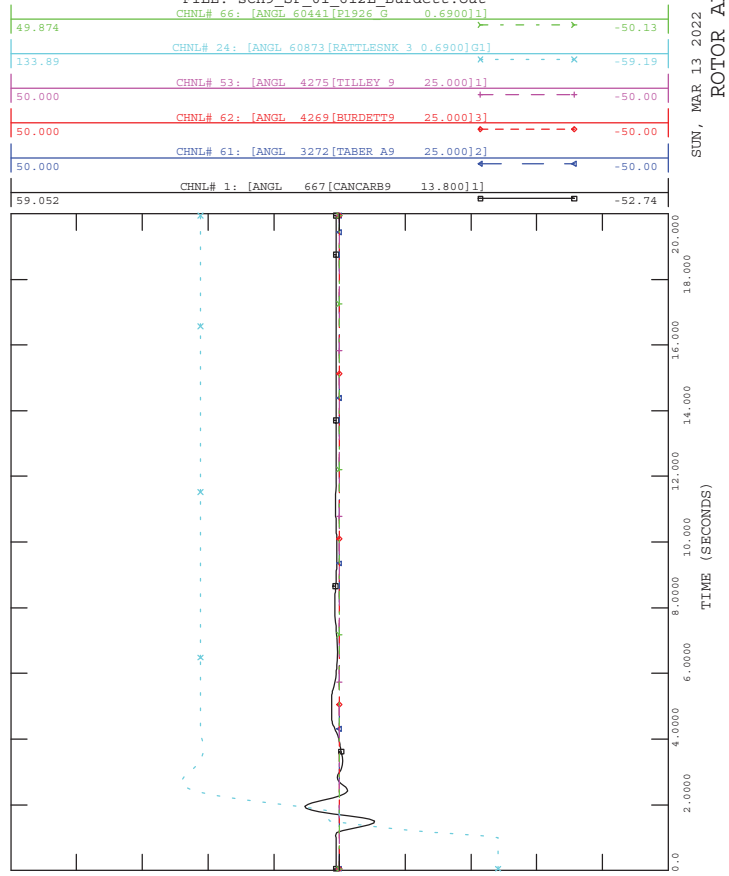
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

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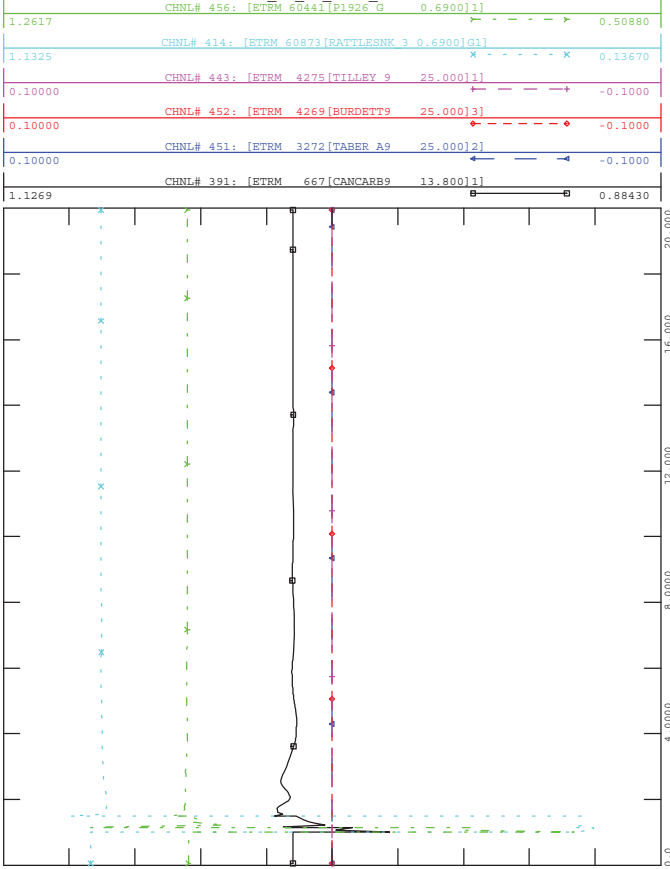
SUN, MAR 13 2022 23:51
ROTOR ANGLE





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]

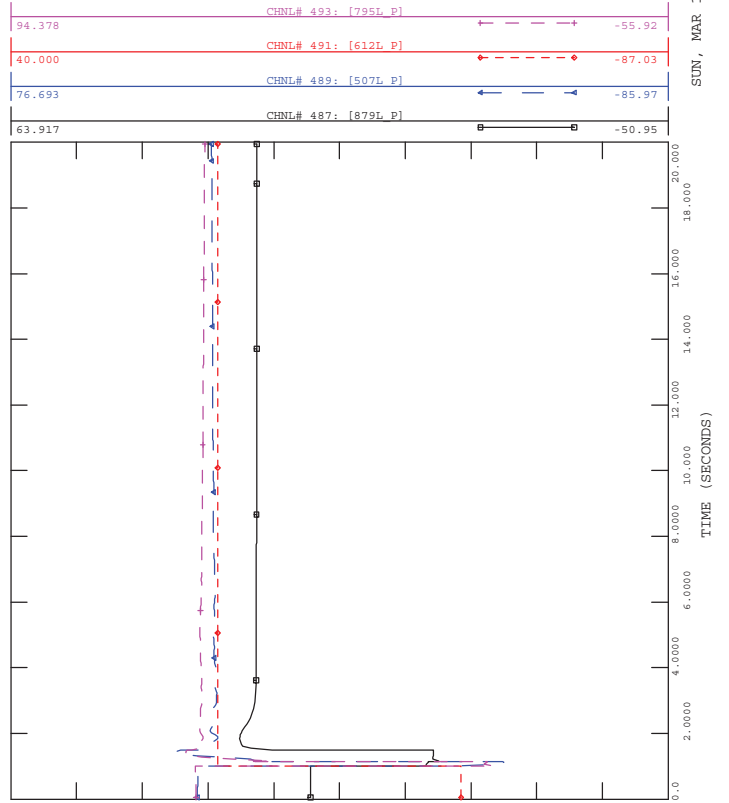


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out

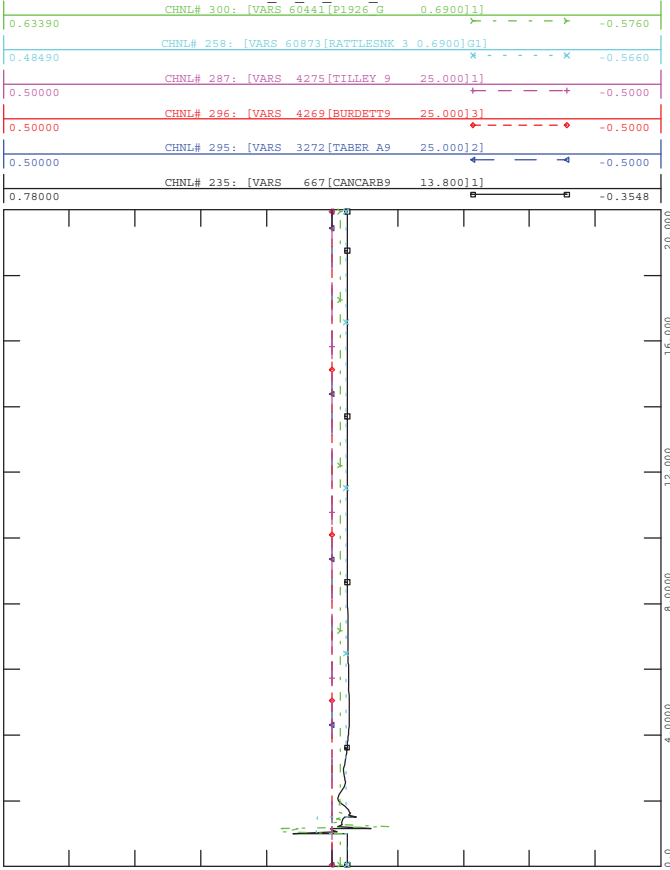


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

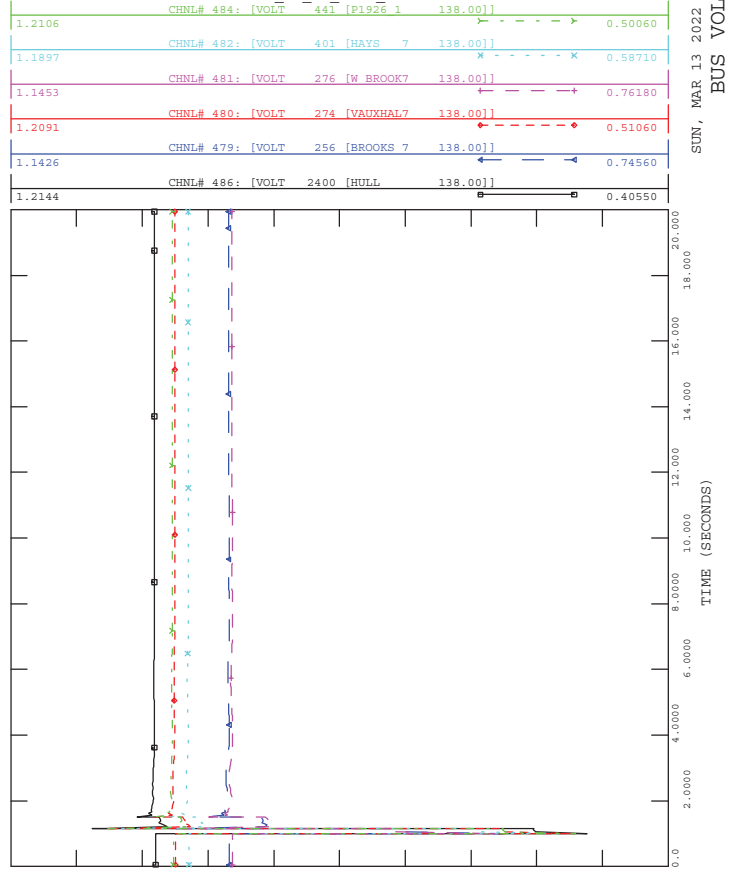


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out
CHNL# 484: [VOLT 441 [P1926 1 138.00]]



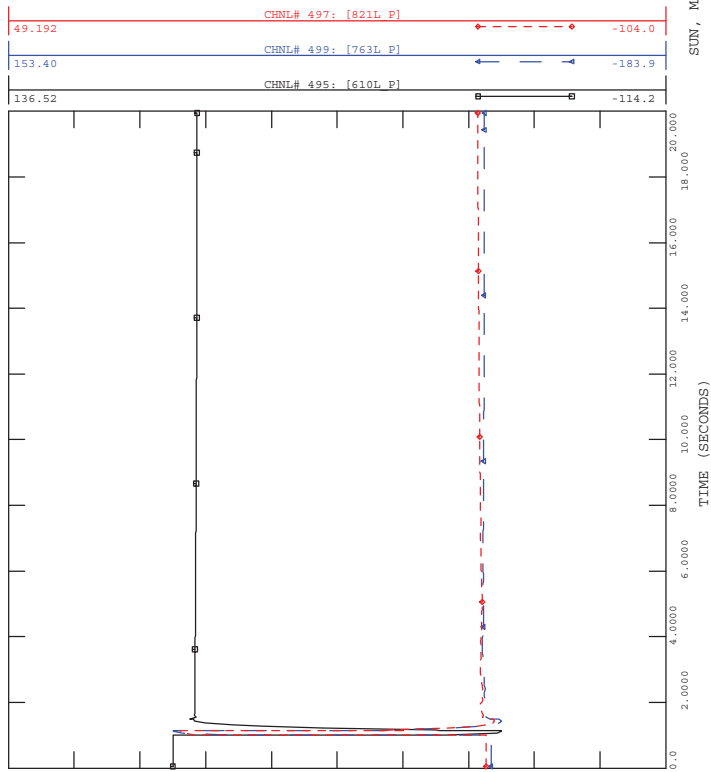
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out

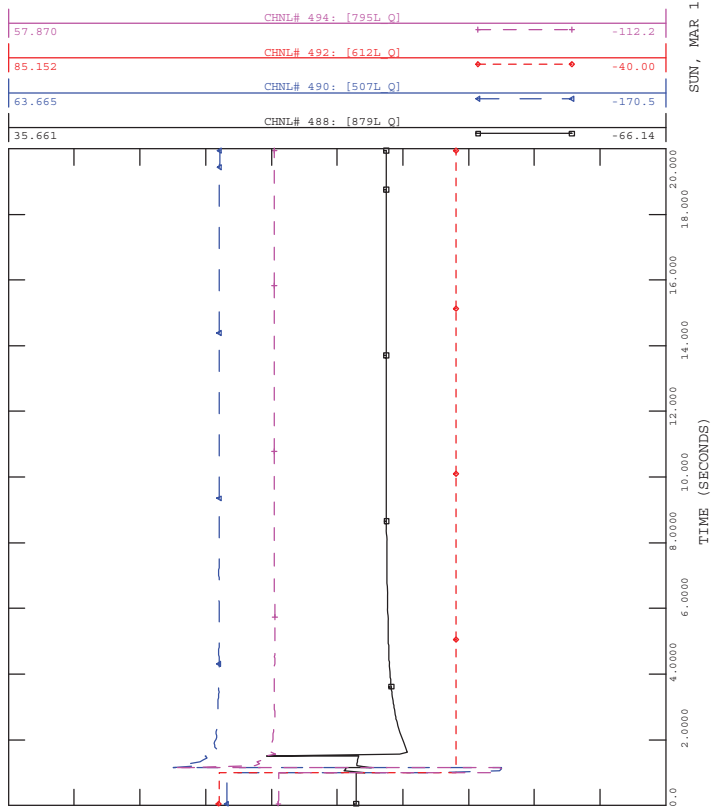
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out

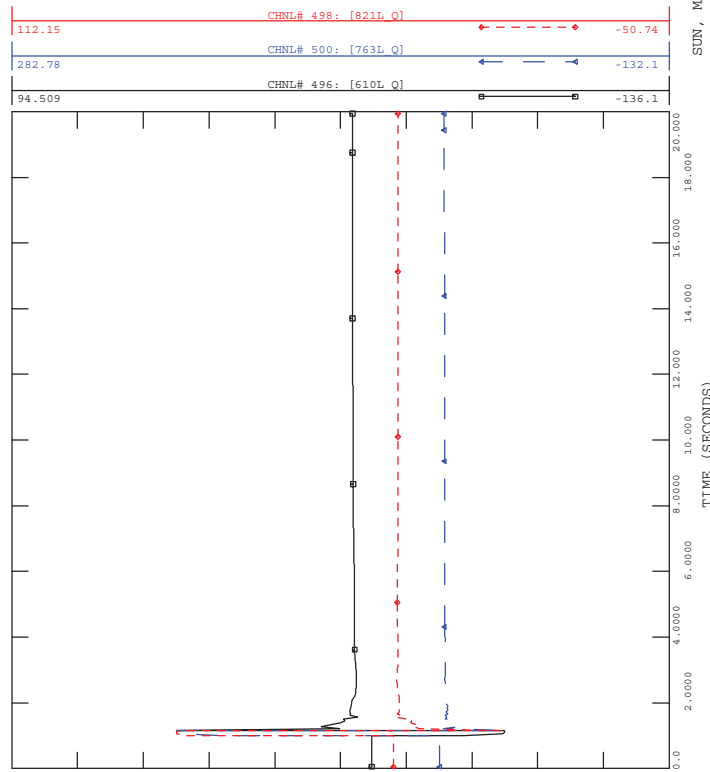
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_01_612L_BURDETT

FILE: scn9_SP_01_612L_Burdett.out

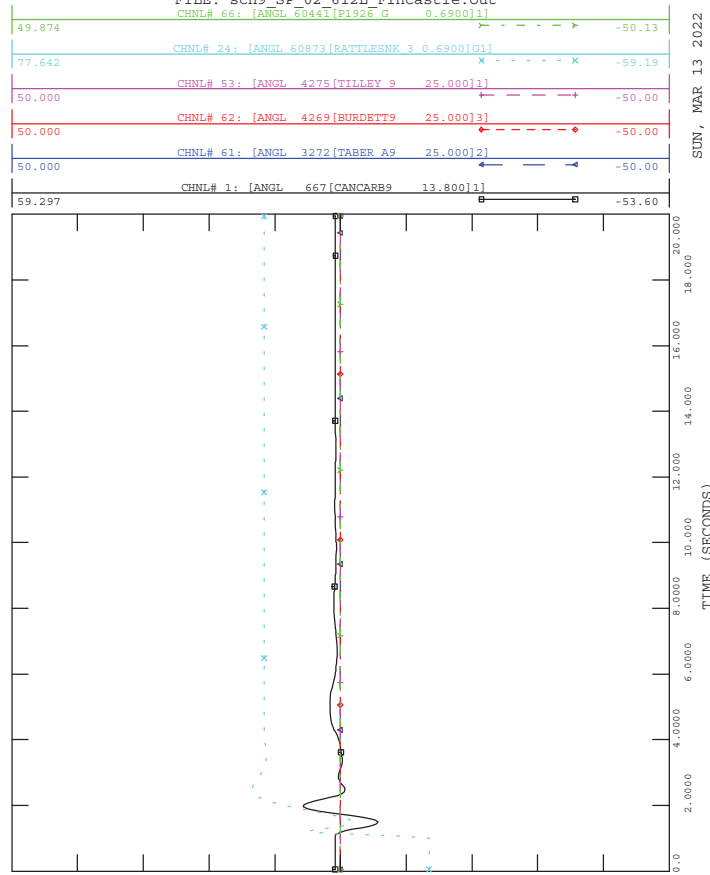
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

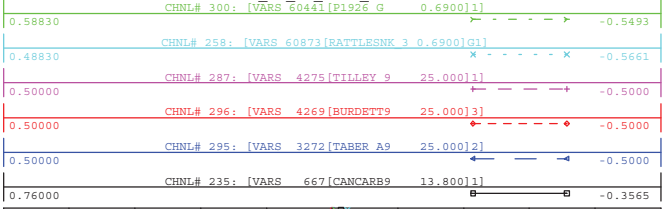
SUN, MAR 13 2022 23:51
ROTOR ANGLE



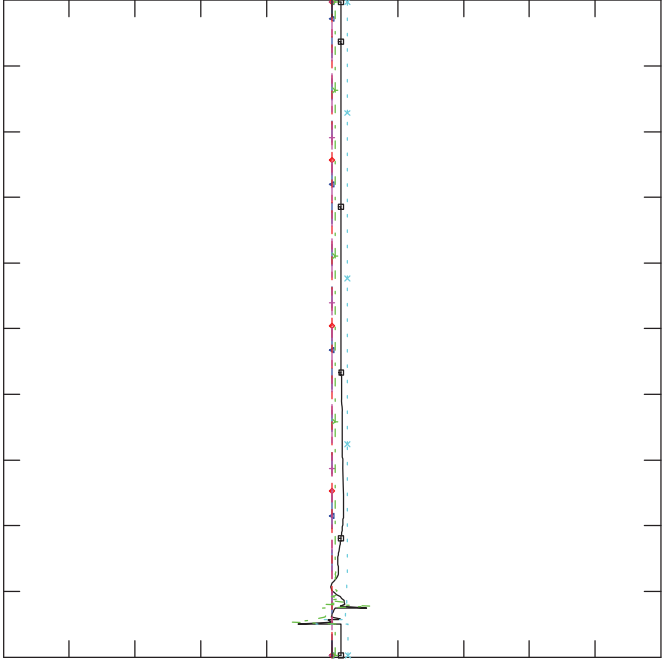


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

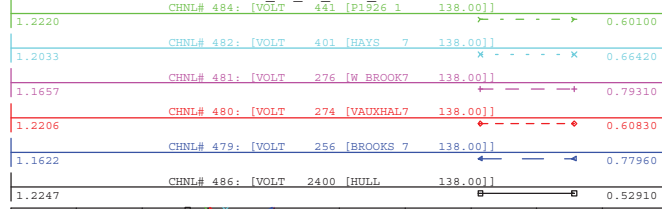


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REACTIVE POWER

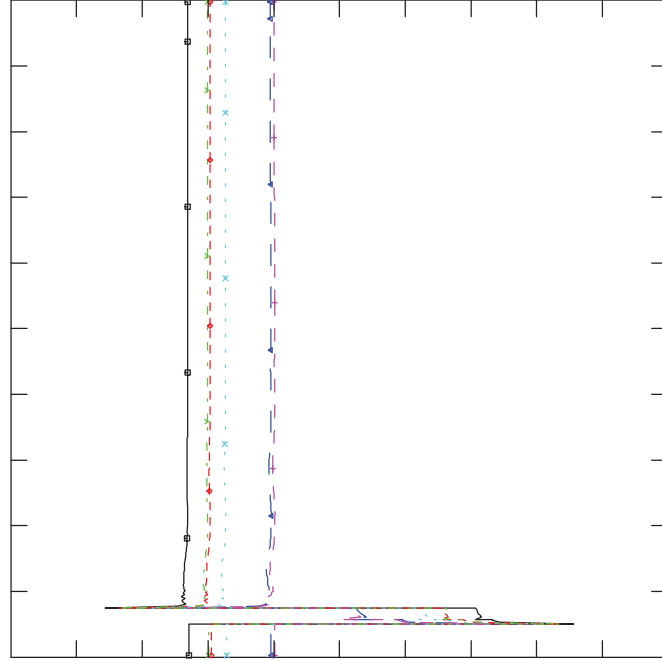


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

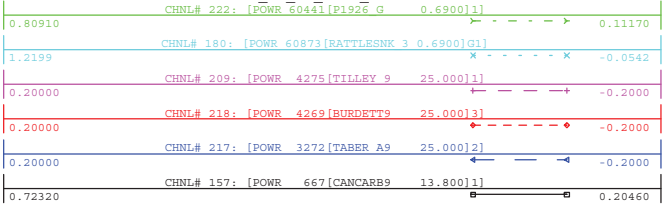


SUN, MAR 13 2022 23:51
BUS VOLTAGE

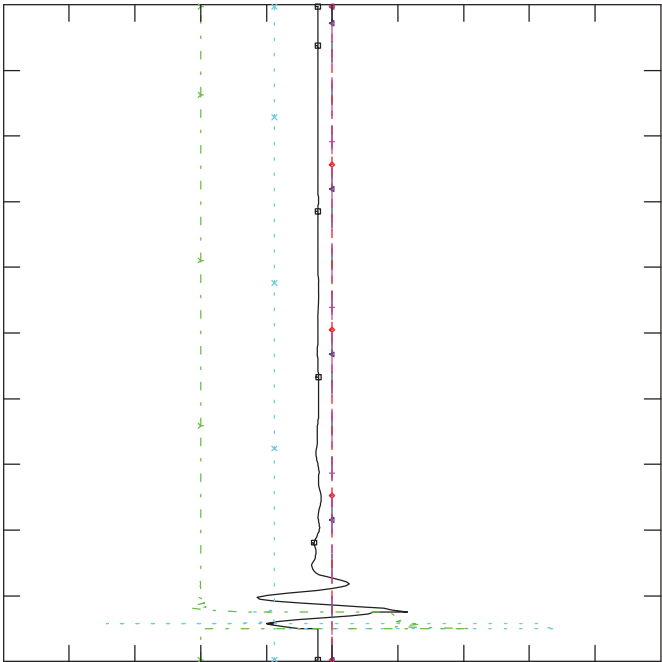


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

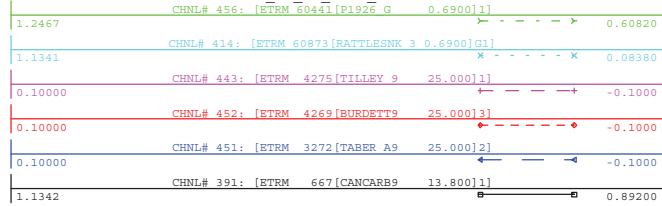


SUN, MAR 13 2022 23:51
ACTIVE POWER

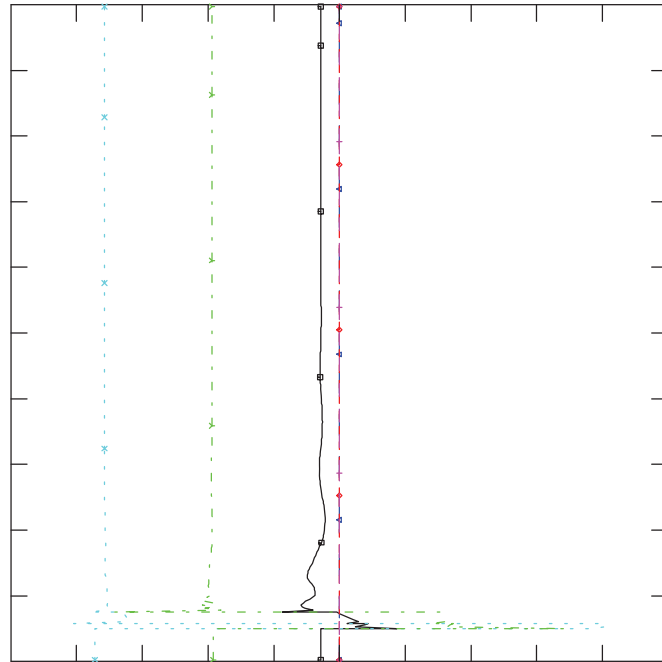


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out



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TERMINAL VOLTAGE

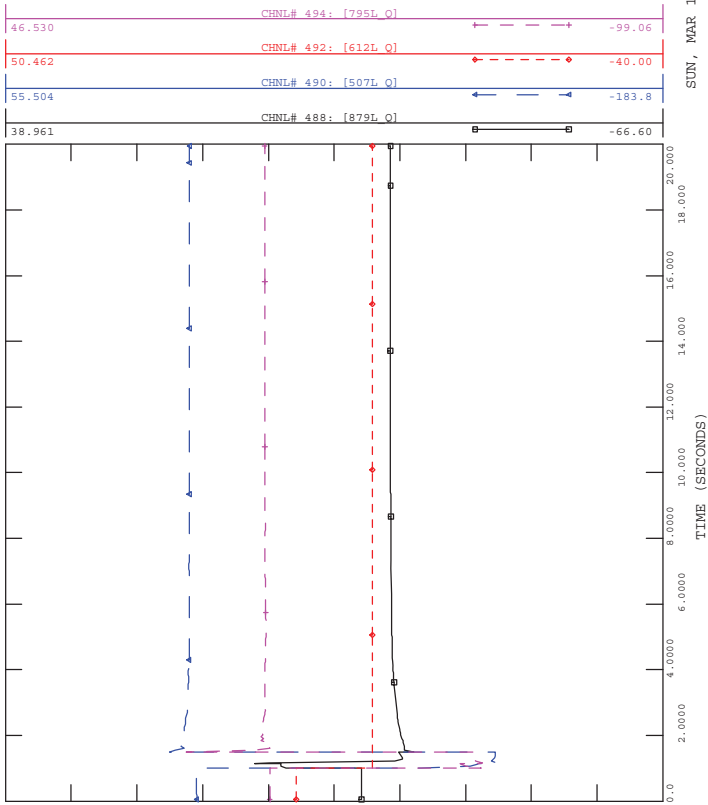




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

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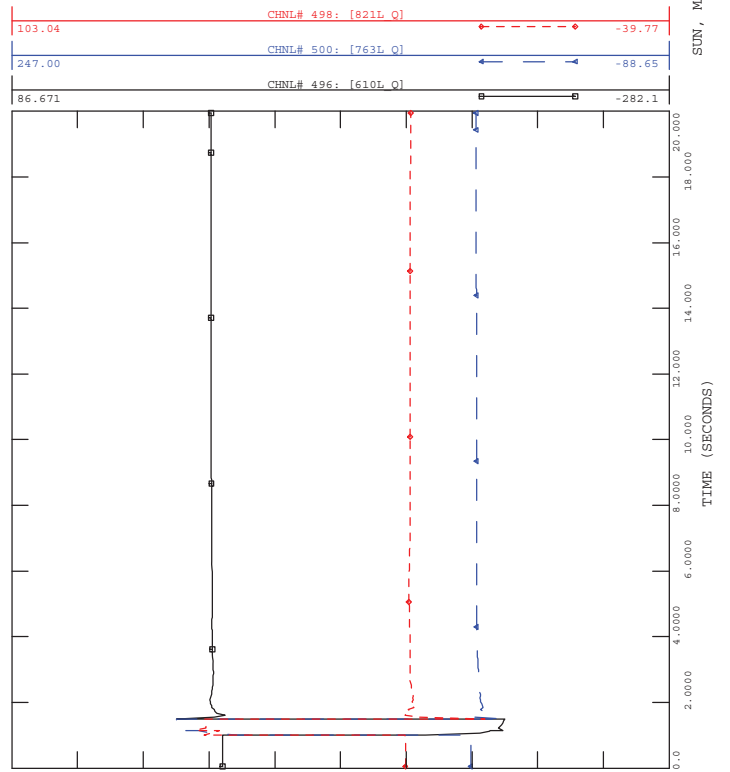
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

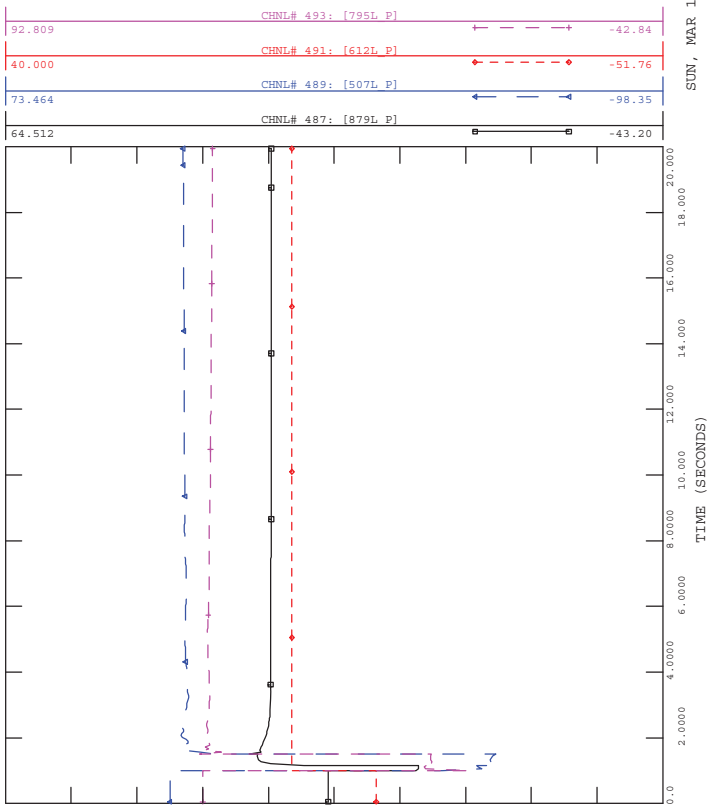
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

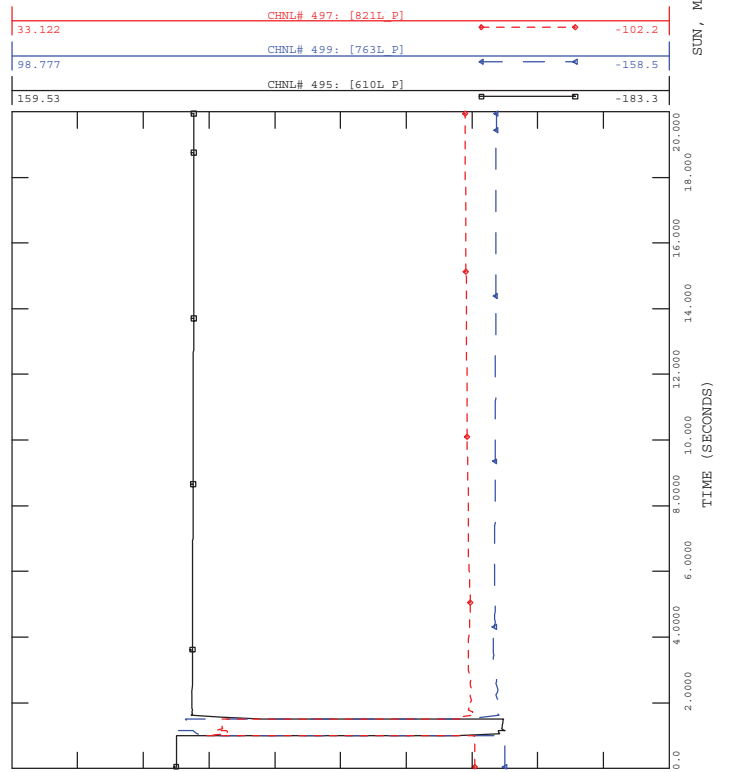
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_02_612L_FINCATTLE

FILE: scn9_SP_02_612L_Fincastle.out

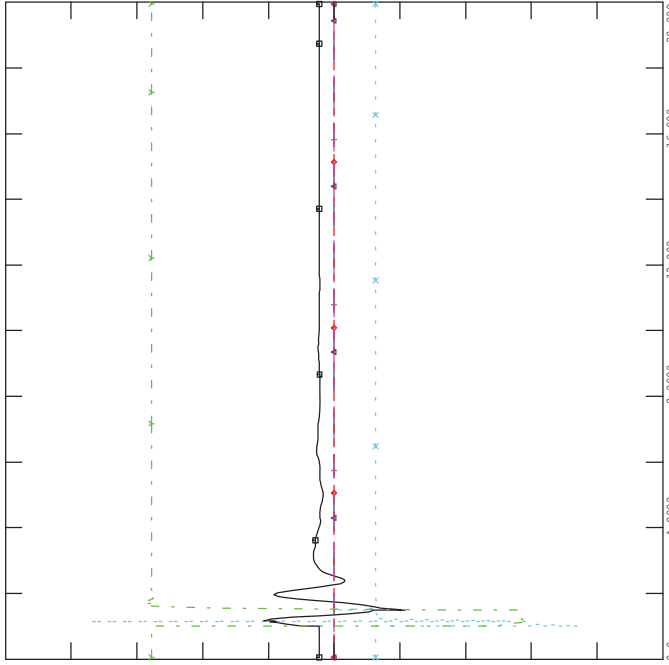
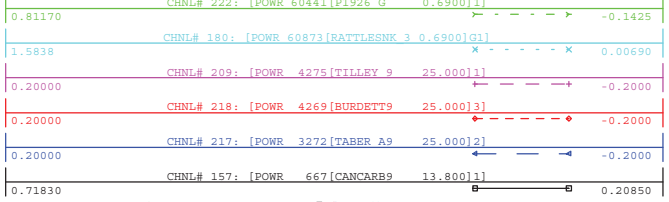
SUN, MAR 13 2022 23:51
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

FILE: scn9_SP_03_610L_Taber.out

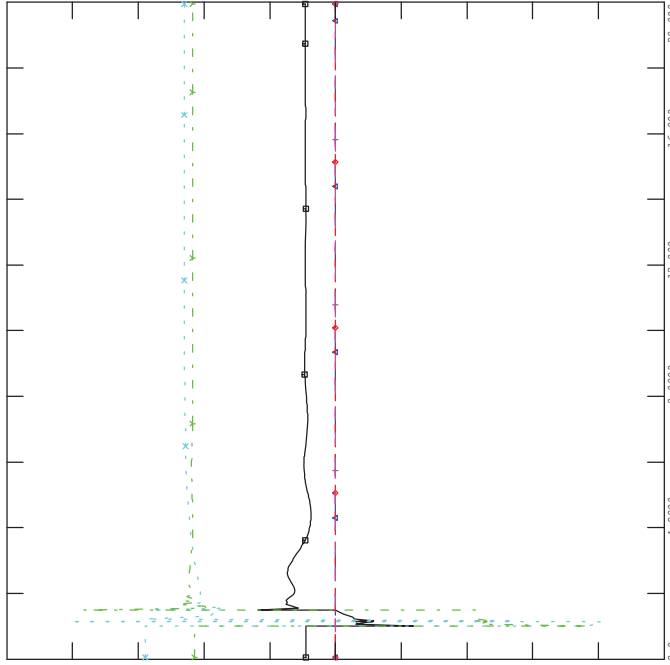
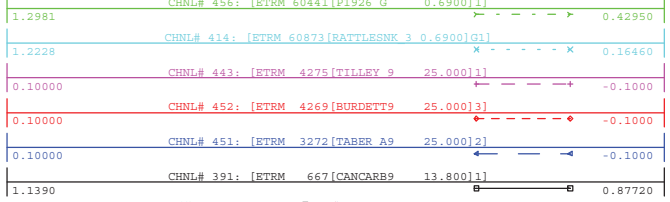


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

FILE: scn9_SP_03_610L_Taber.out

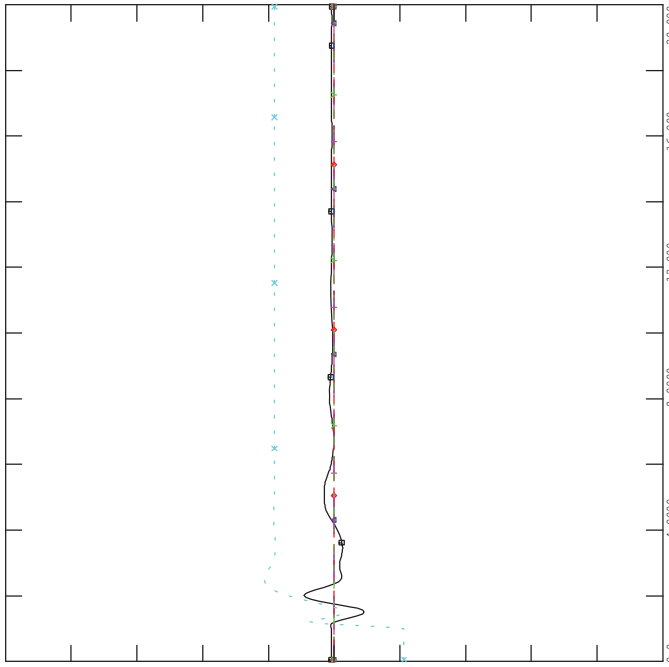
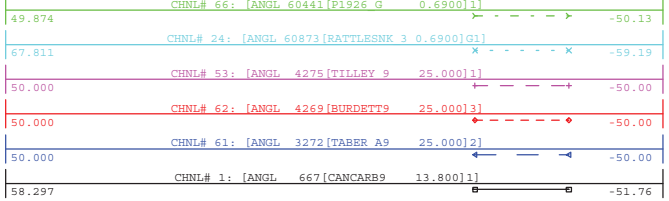


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TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

FILE: scn9_SP_03_610L_Taber.out

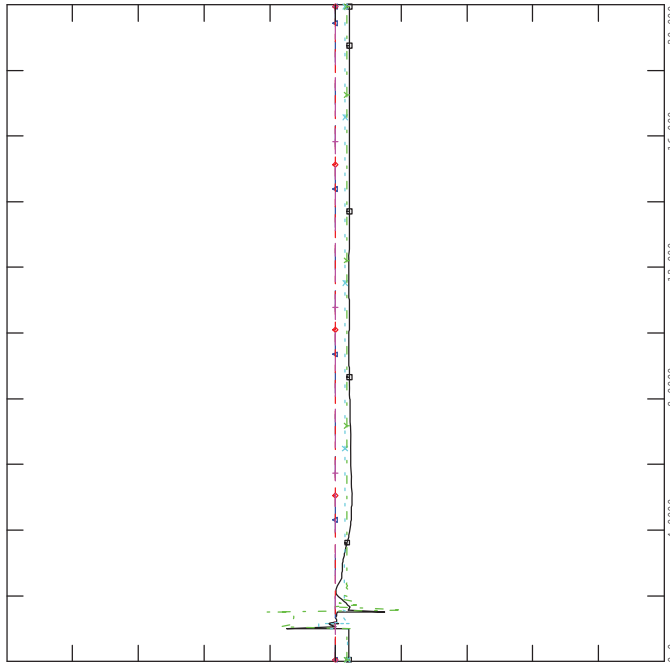
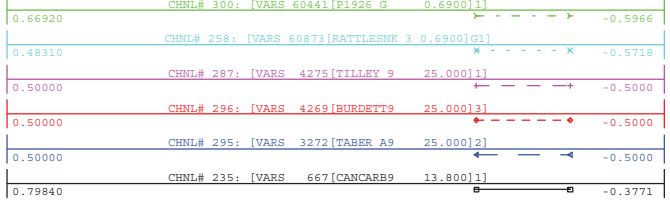


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ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

FILE: scn9_SP_03_610L_Taber.out



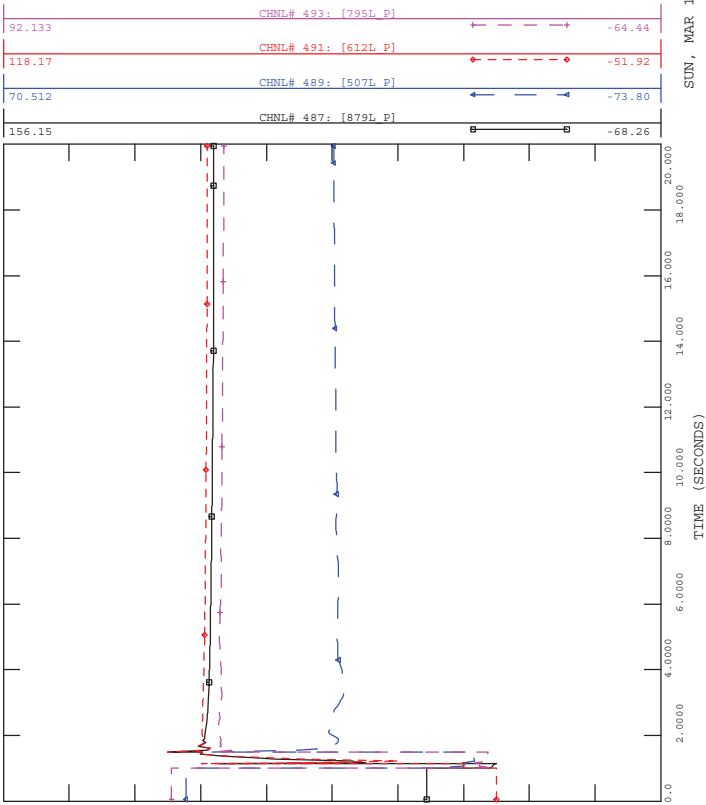
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

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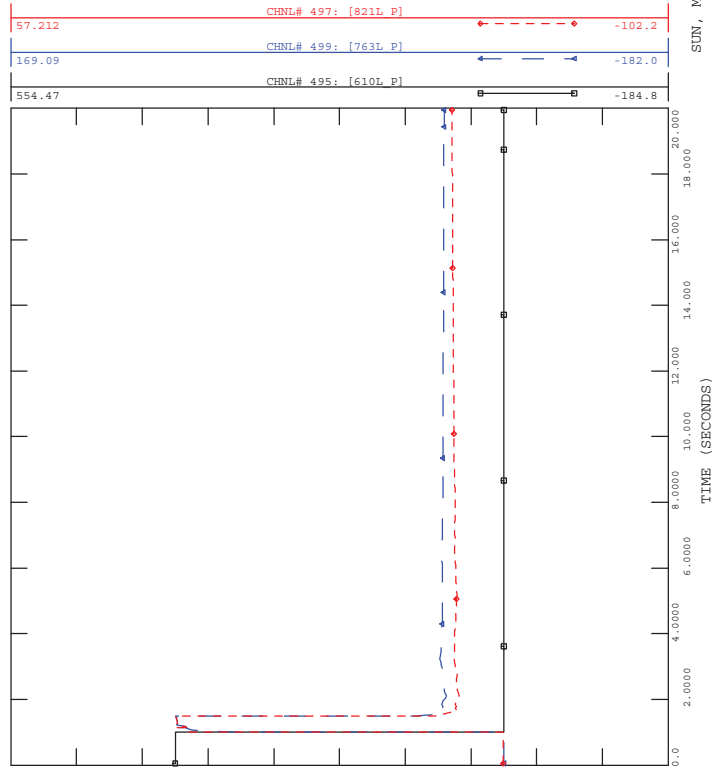
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

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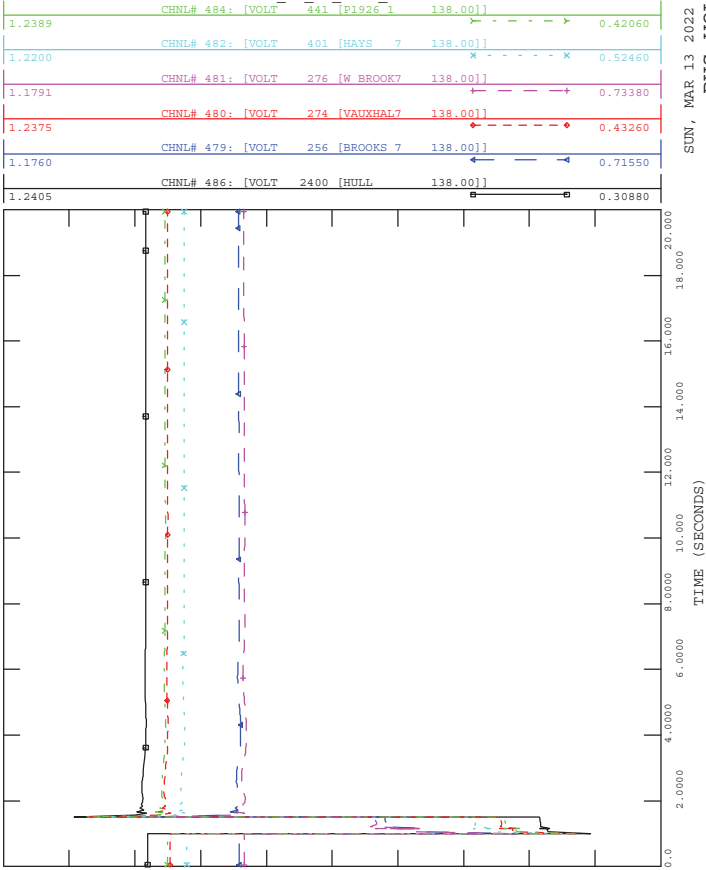
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

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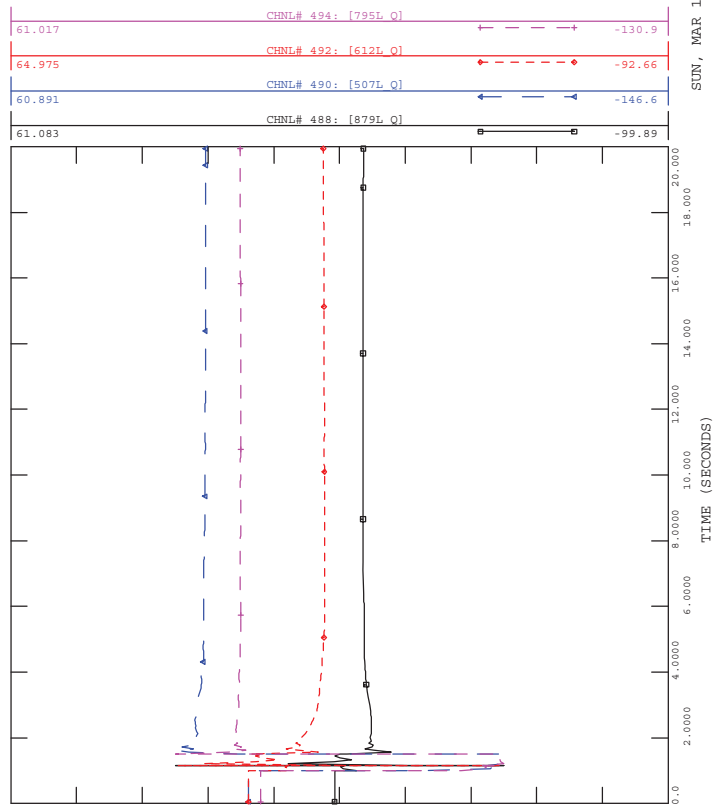
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

FILE: scn9_SP_03_610L_Taber.out

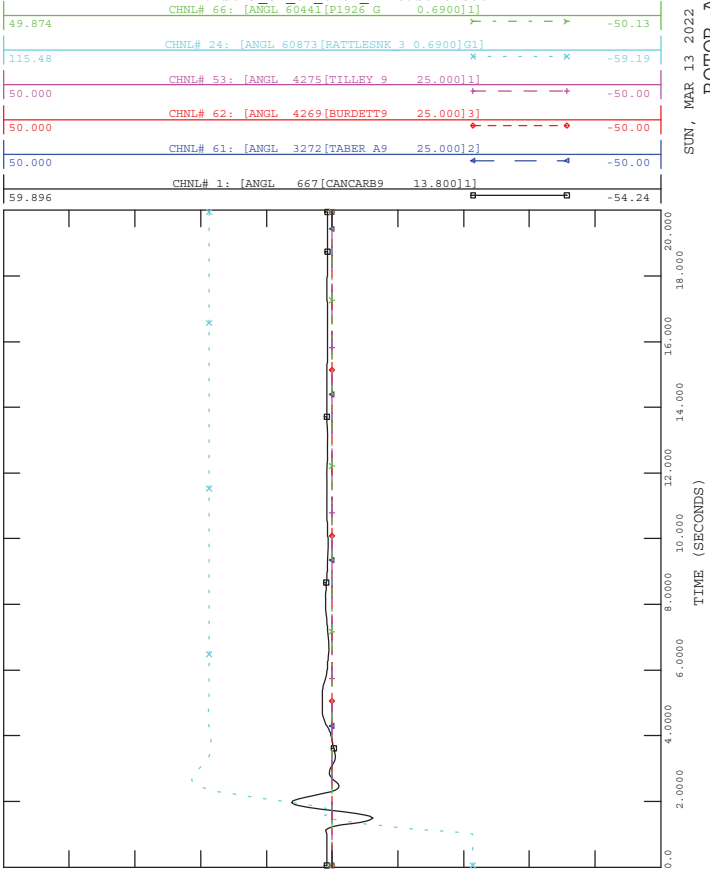
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

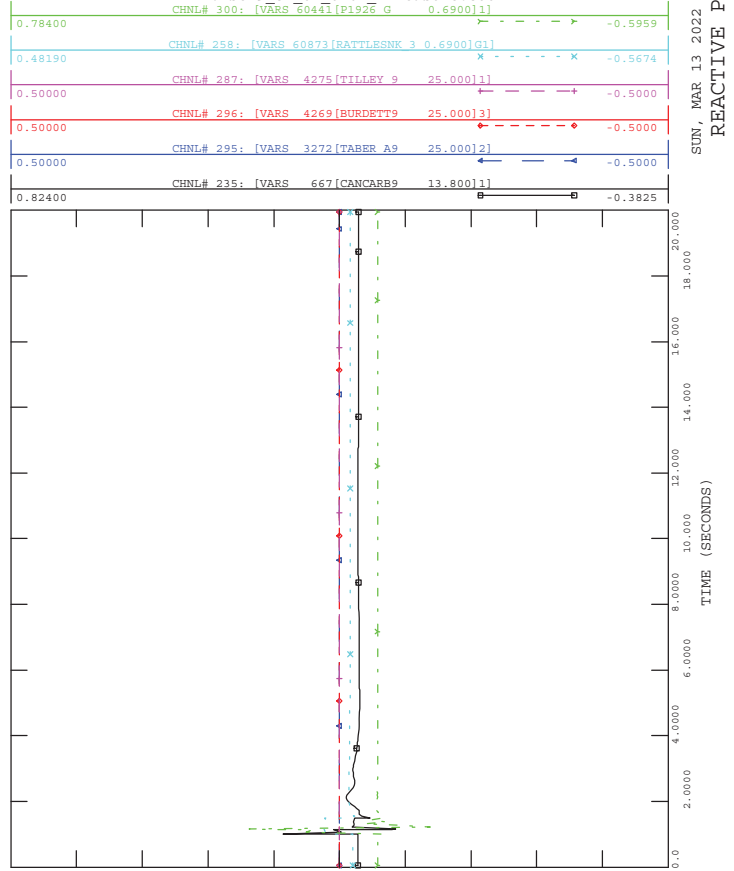


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

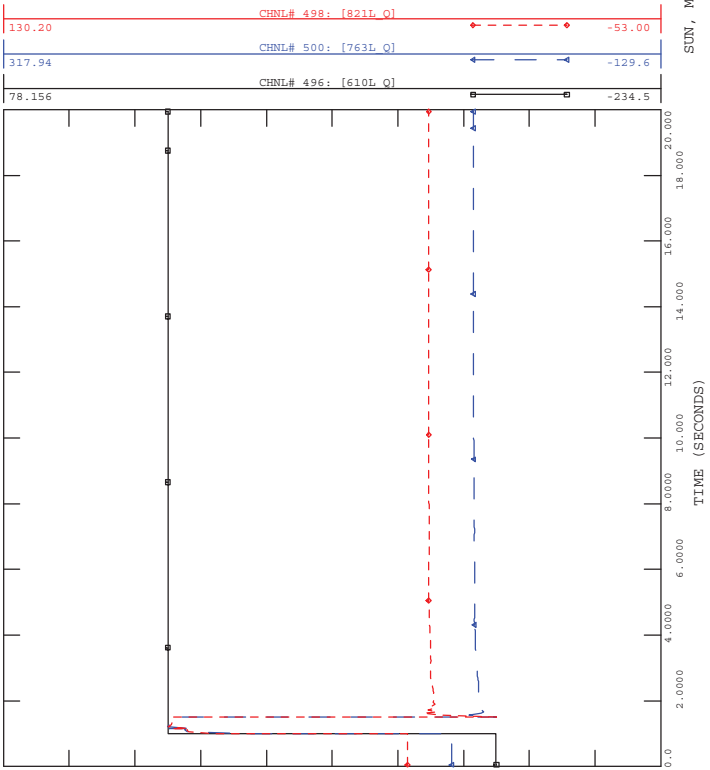


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REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_03_610L_TABER

FILE: scn9_SP_03_610L_Taber.out

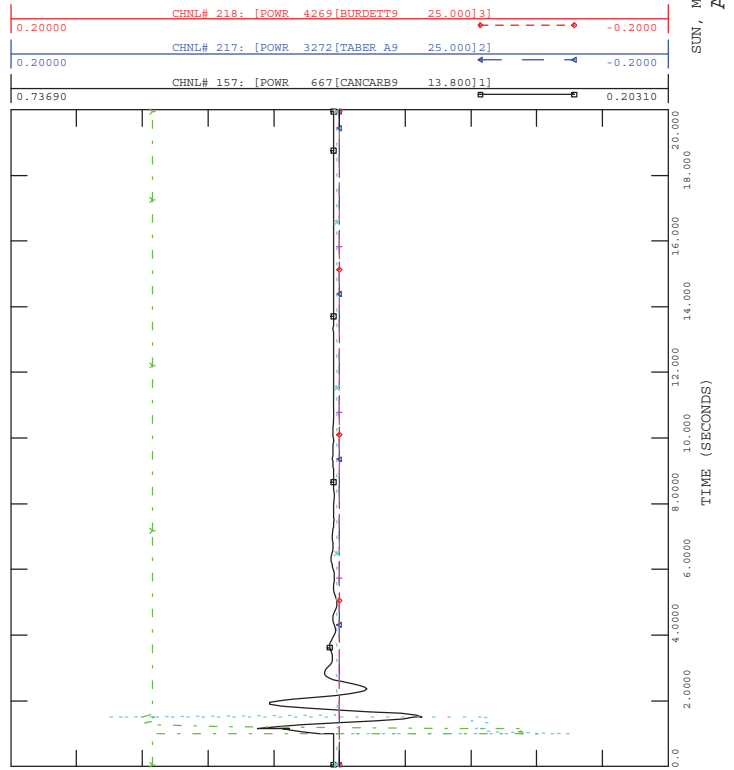


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]



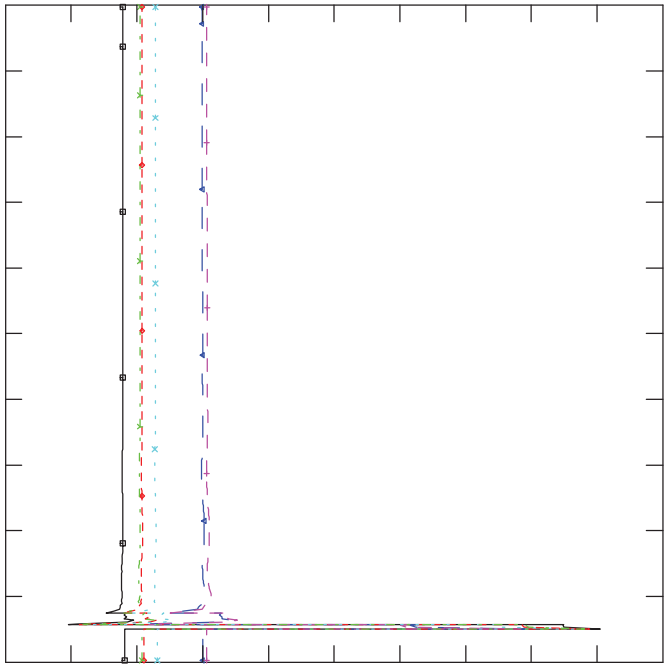
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out

1.2239	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.31320
1.2028	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.43980
1.1581	CHNL# 483: [VOLT 276 [W.BROOK7 138.00]]	0.69420
1.2225	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.32770
1.1553	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.67330
1.2253	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.18000



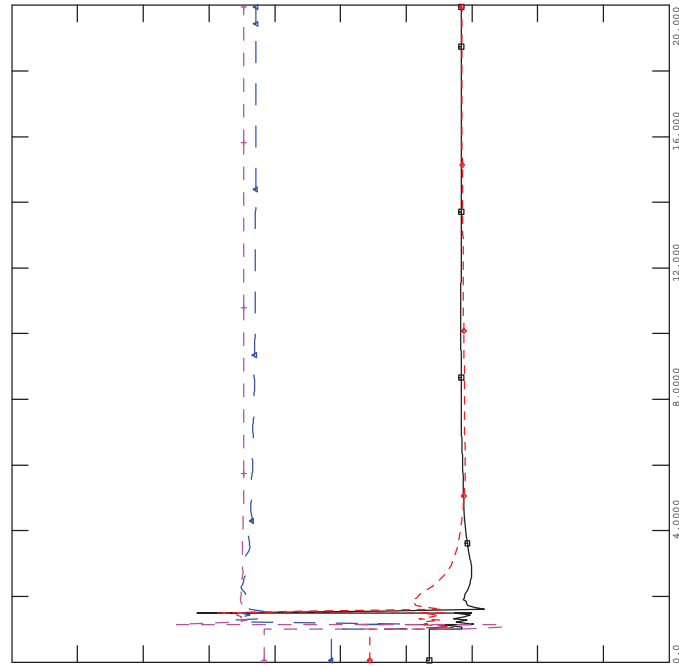
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out

63.221	CHNL# 494: [795L Q]	-132.8
78.125	CHNL# 492: [612L Q]	-50.73
43.498	CHNL# 490: [507L Q]	-75.10
72.035	CHNL# 488: [879L Q]	-70.12



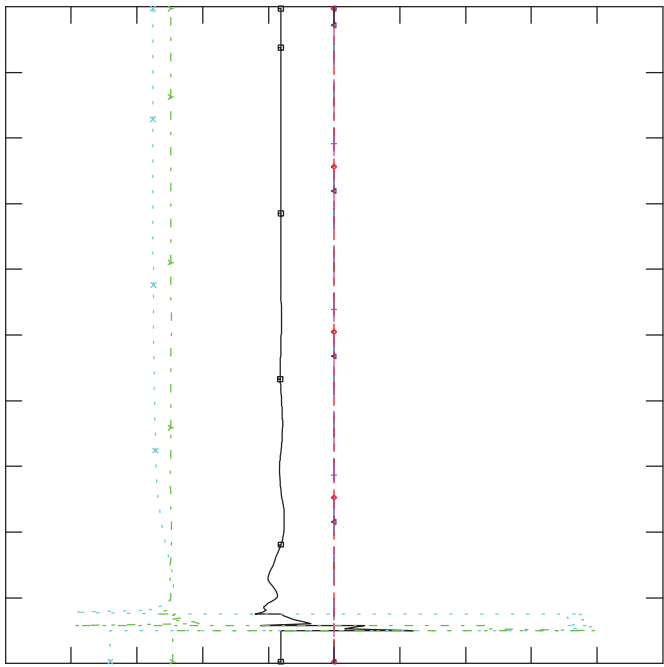
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out

1.2985	CHNL# 456: [ETRM 60441[P1926 G 0.6900]]	0.32230
1.1548	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.18390
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]]	-0.1000
1.1304	CHNL# 391: [ETRM 667[CANCARB9 13.800]]	0.86700



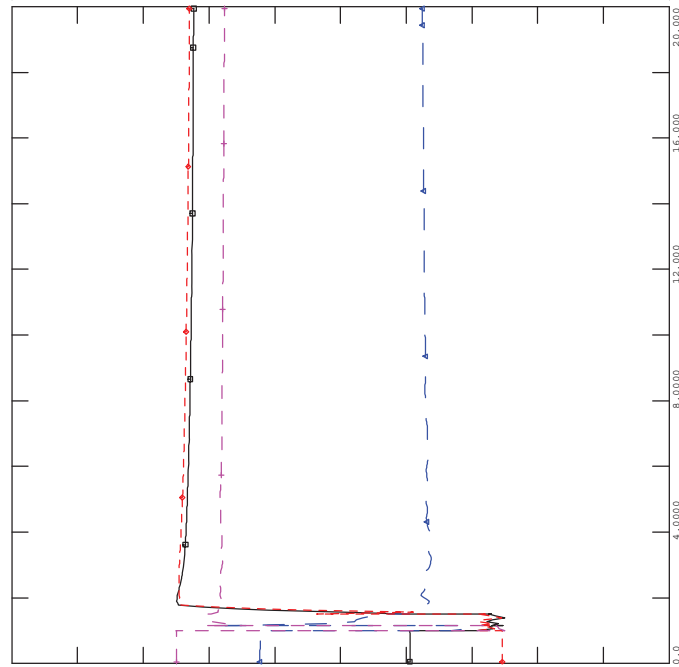
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out

94.872	CHNL# 493: [795L P]	-76.09
108.31	CHNL# 491: [612L P]	-49.40
80.043	CHNL# 489: [507L P]	-51.24
145.97	CHNL# 487: [879L P]	-76.01

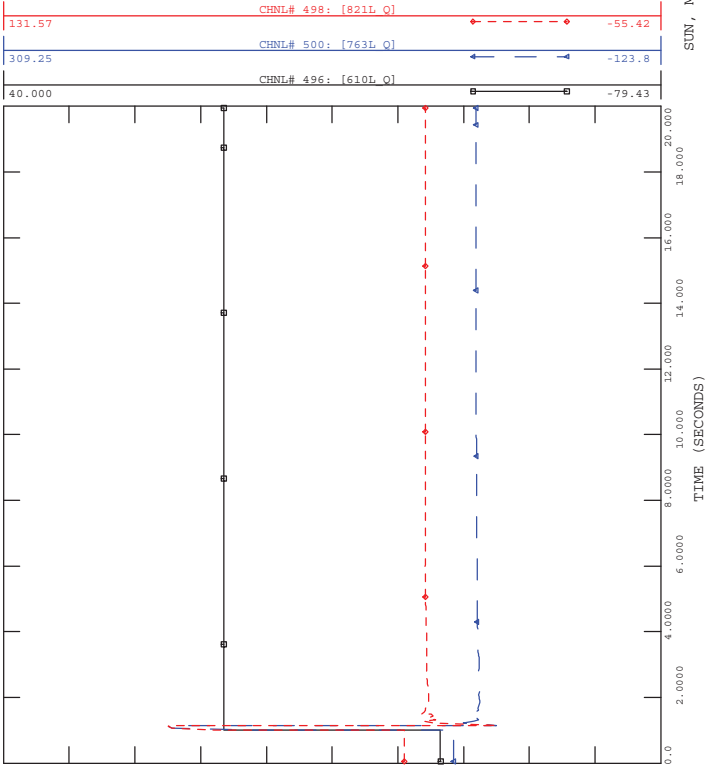


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out

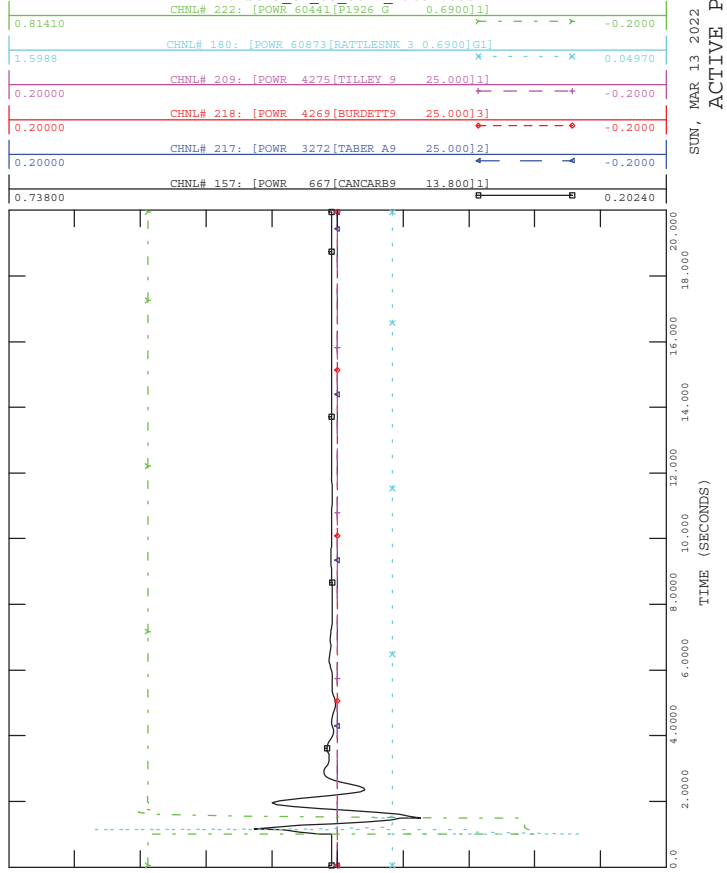


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9 SP 05 507L Taber.out

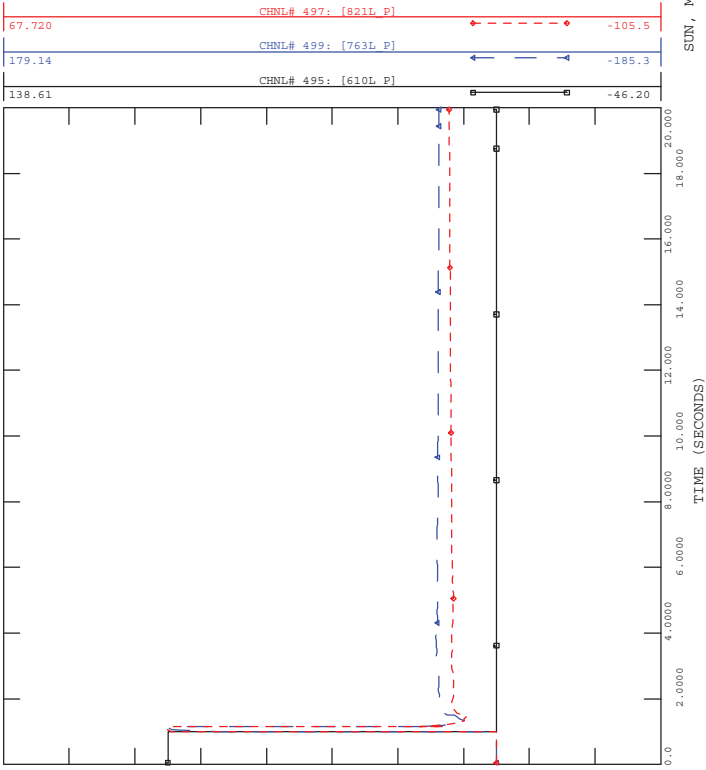


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ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_04_610L_FINCATTLE

FILE: scn9_SP_04_610L_Fincastle.out

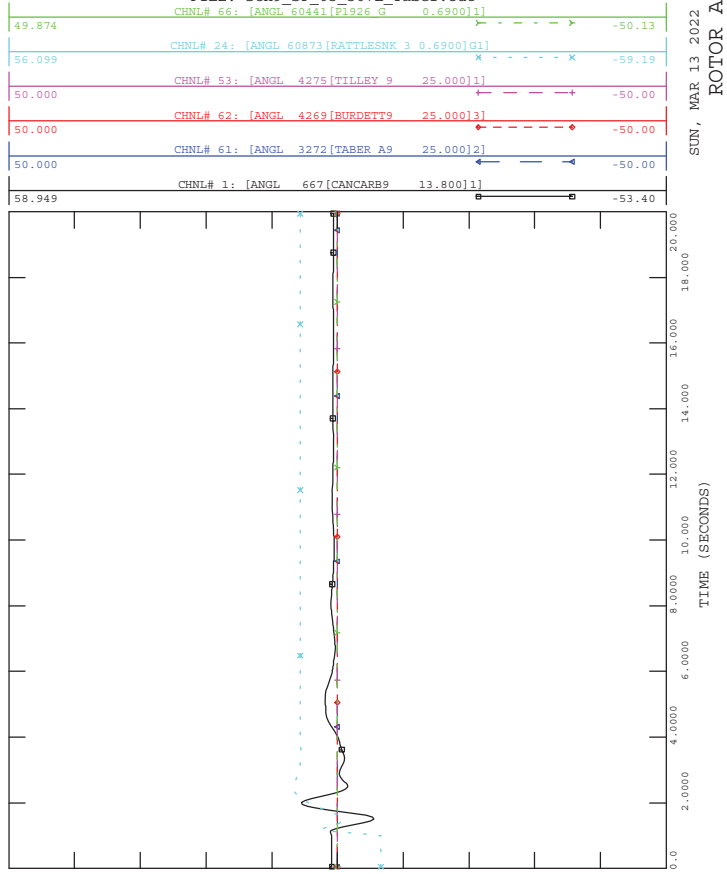


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9 SP 05 507L Taber.out



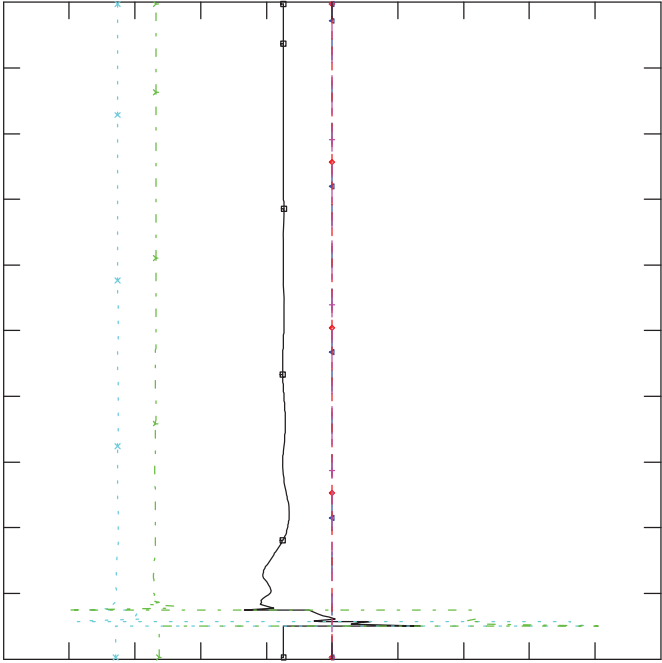
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

1.2976	CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]	0.25020
1.1524	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.25910
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1363	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.86340



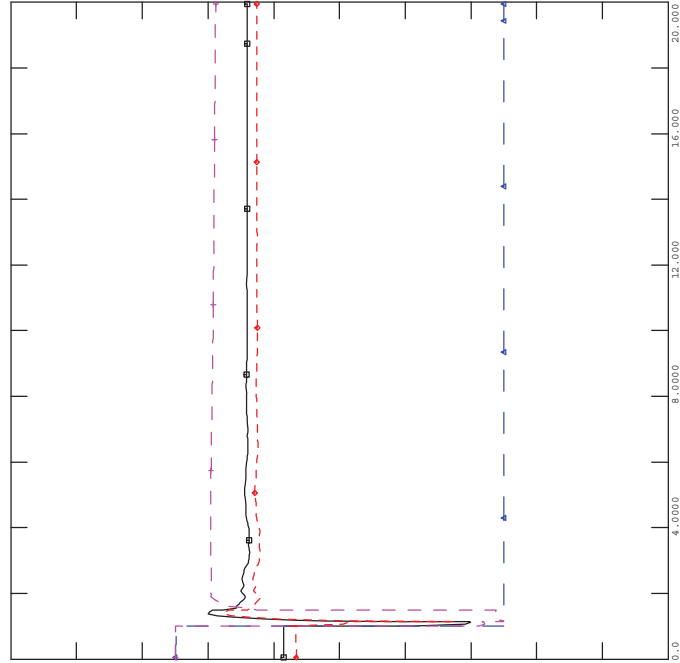
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

100.28	CHNL# 493: [795L P]	-92.31
44.244	CHNL# 491: [612L P]	-79.35
229.05	CHNL# 489: [507L P]	-76.35
66.867	CHNL# 487: [879L P]	-66.29



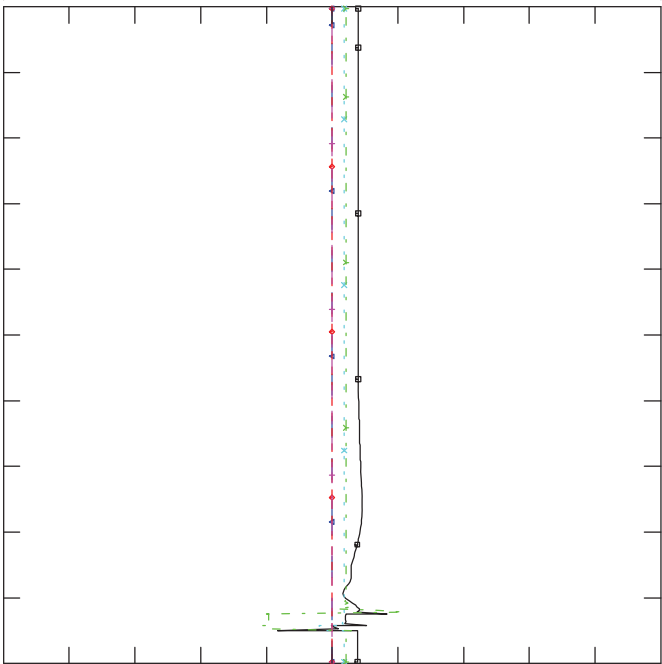
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

0.68210	CHNL# 300: [VARS 60441[P1926 G 0.6900]1]	-0.5991
0.47710	CHNL# 258: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5673
0.50000	CHNL# 287: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 296: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 295: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.83330	CHNL# 235: [VARS 667[CANCARB9 13.800]1]	-0.3665



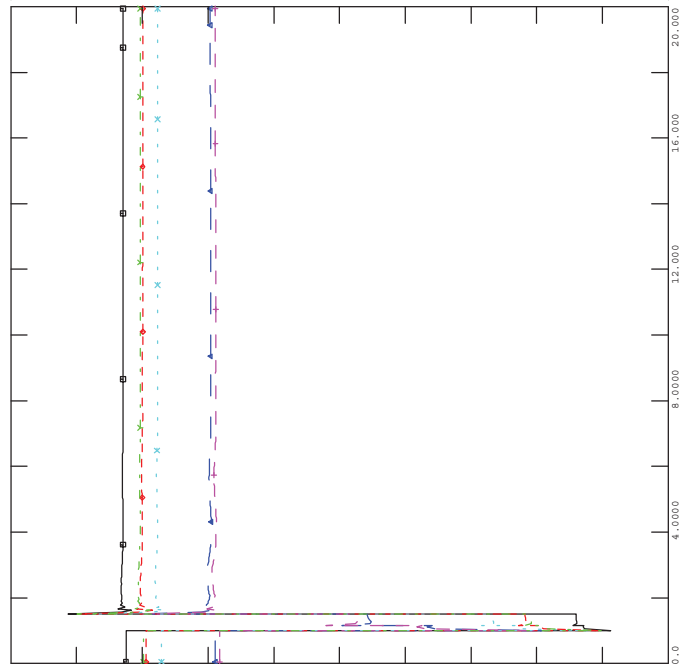
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

1.2356	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.24170
1.2168	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.38600
1.1746	CHNL# 481: [VOLT 276 [W BROOK7 138.00]]	0.67610
1.2343	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.25830
1.1720	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.65300
1.2367	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.09080



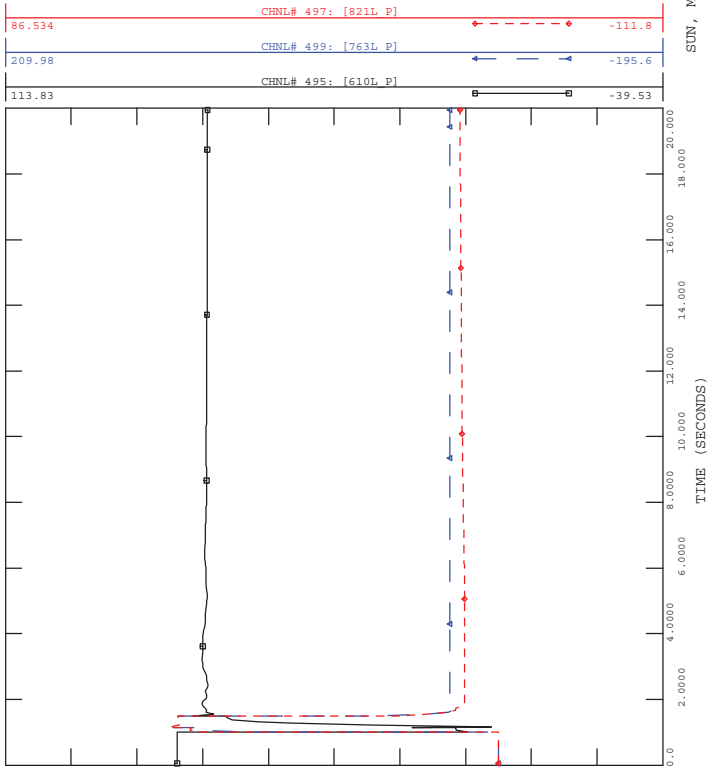
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

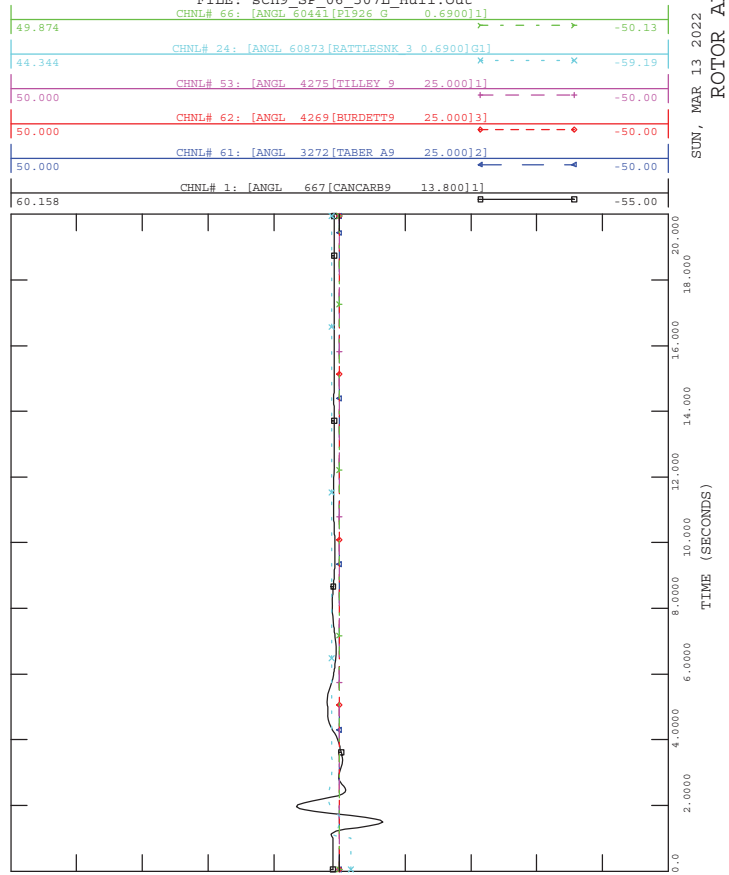
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

FILE: scn9_SP_06_507L_Hull.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

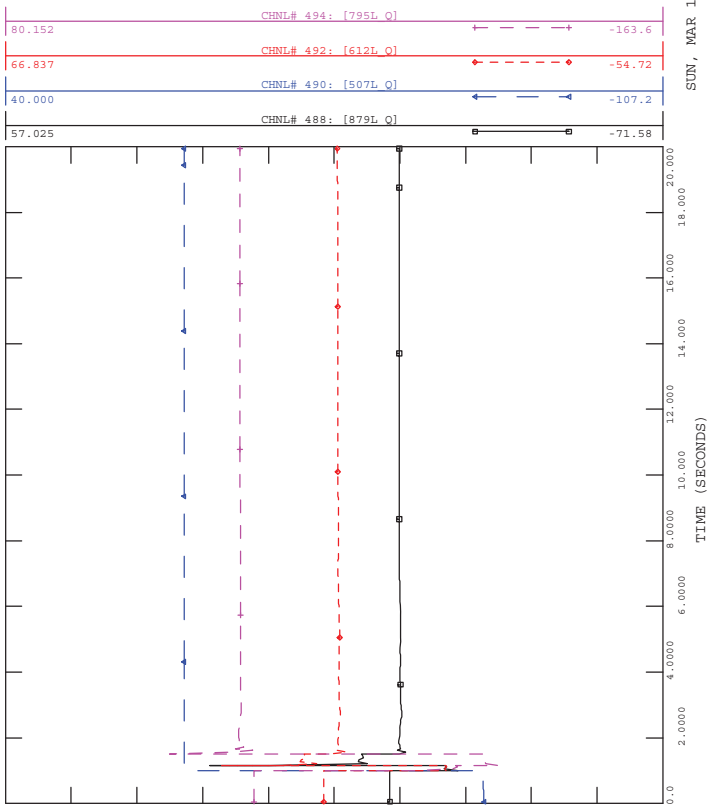
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

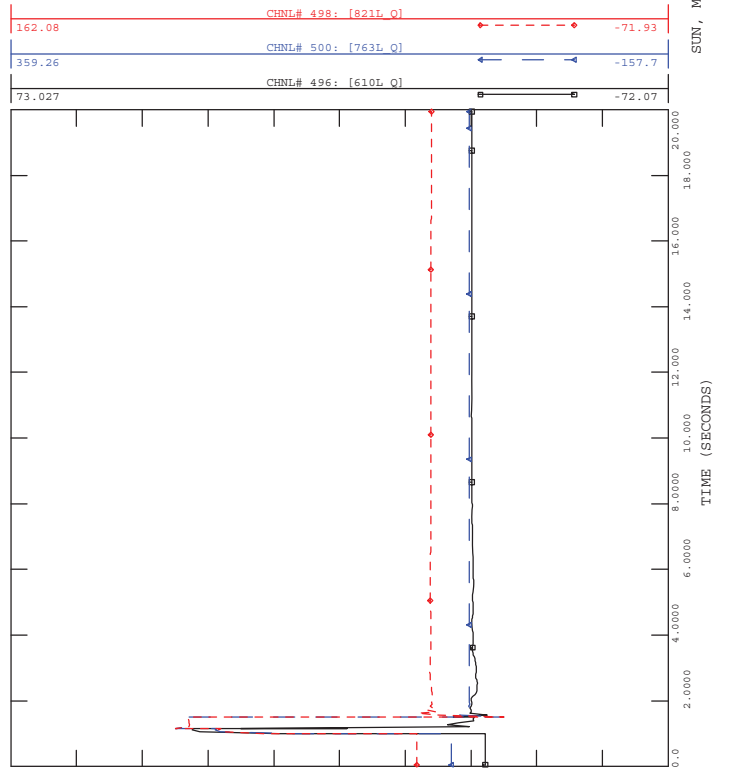
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_05_507L_TABER

FILE: scn9_SP_05_507L_Taber.out

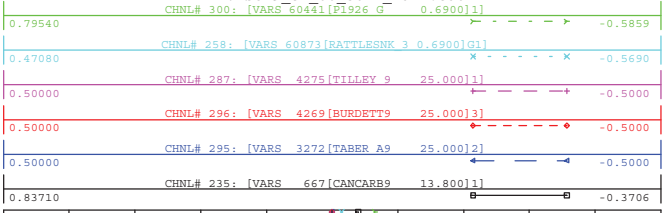
SUN, MAR 13 2022 23:51
BRANCH Q





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

FILE: scn9_SP_06_507L_Hull.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

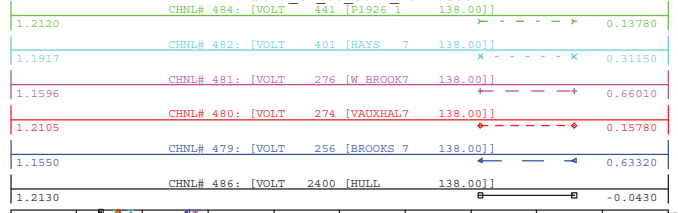


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

FILE: scn9_SP_06_507L_Hull.out
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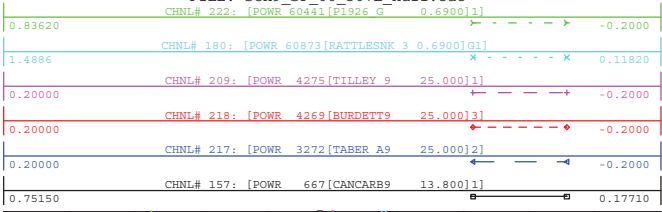


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

FILE: scn9_SP_06_507L_Hull.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]

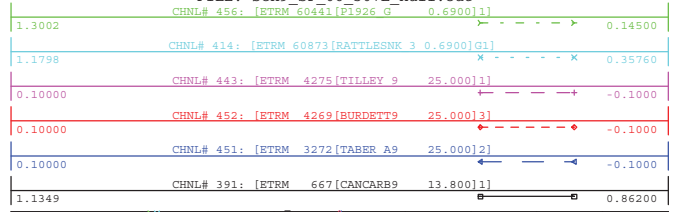


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

FILE: scn9_SP_06_507L_Hull.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]



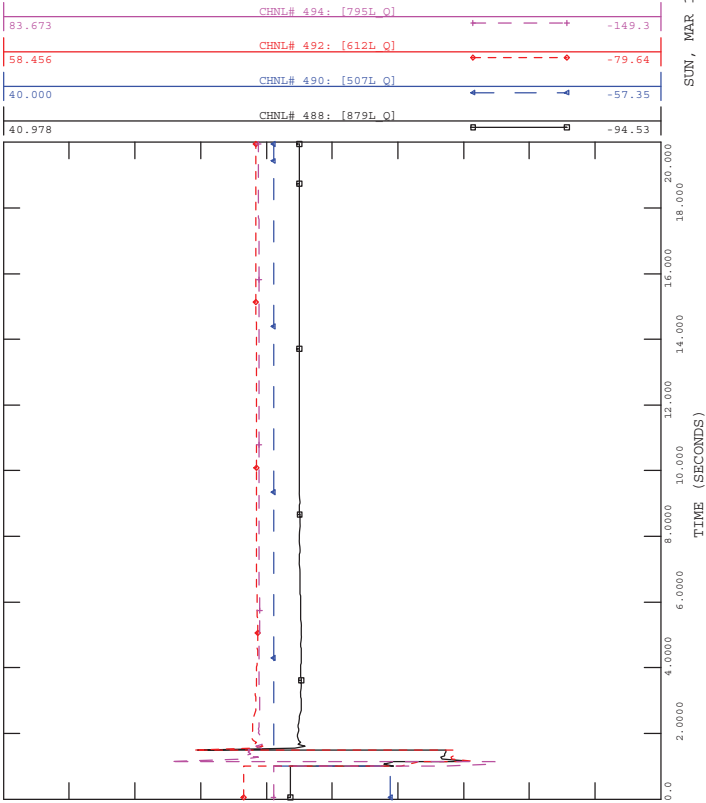
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

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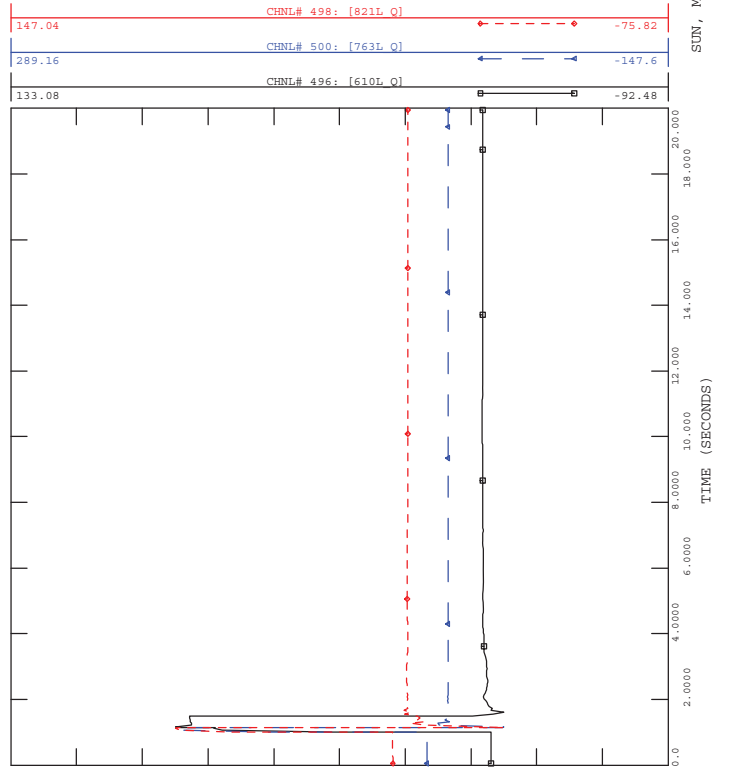
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_06_507L_HULL

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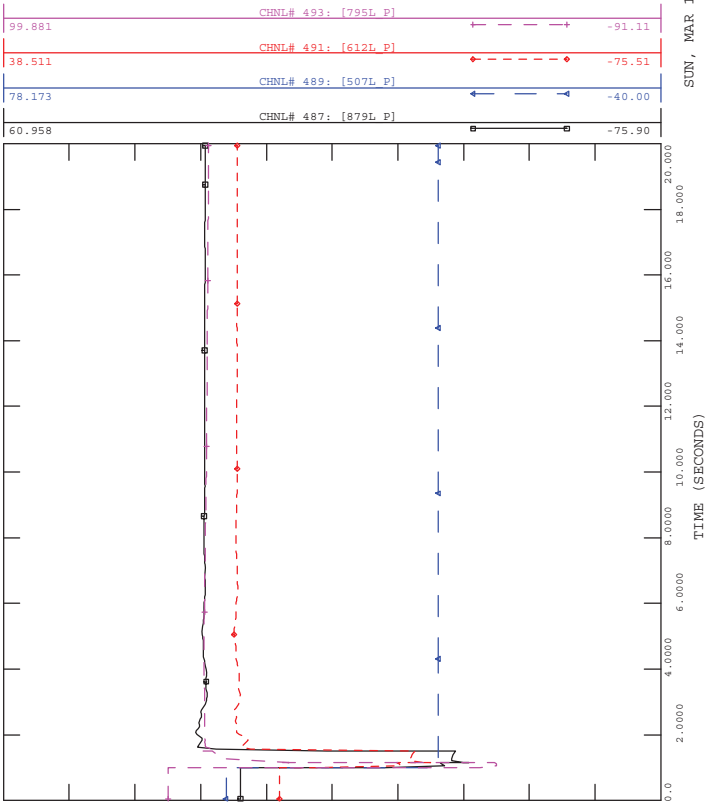
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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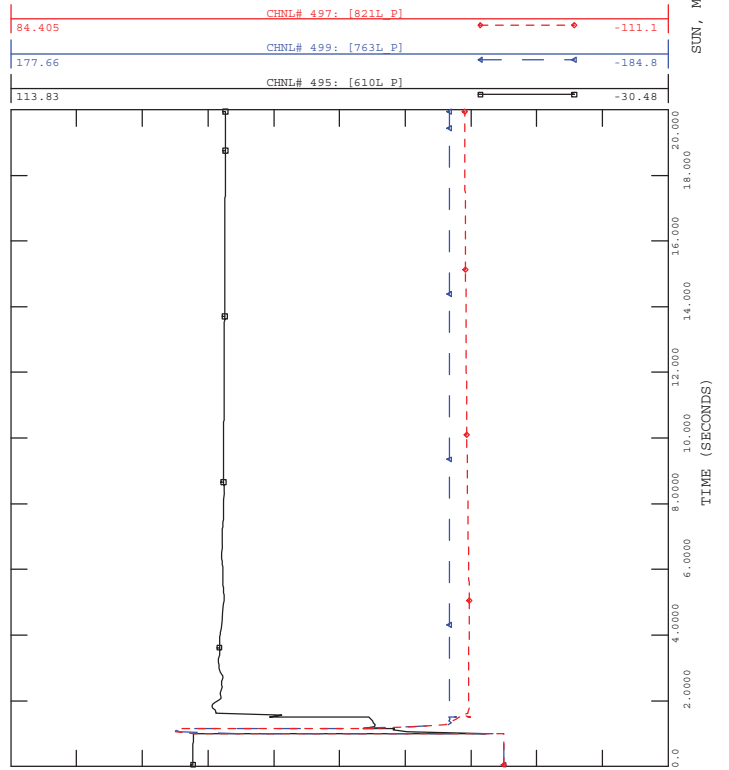
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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SUN, MAR 13 2022 23:51
BRANCH P

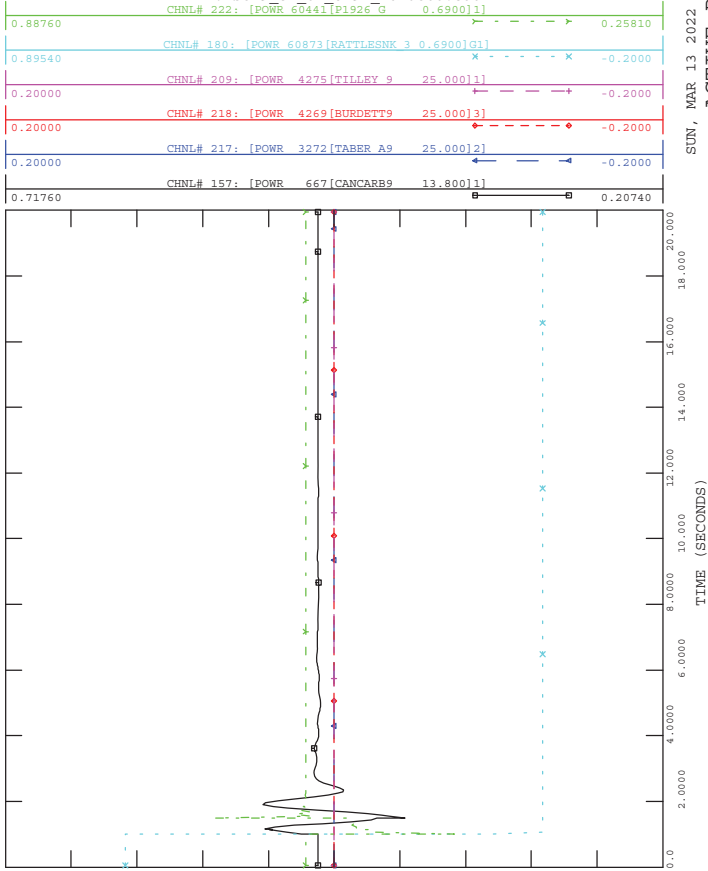




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

FILE: scn9_SP_07_879L_Burdett.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]

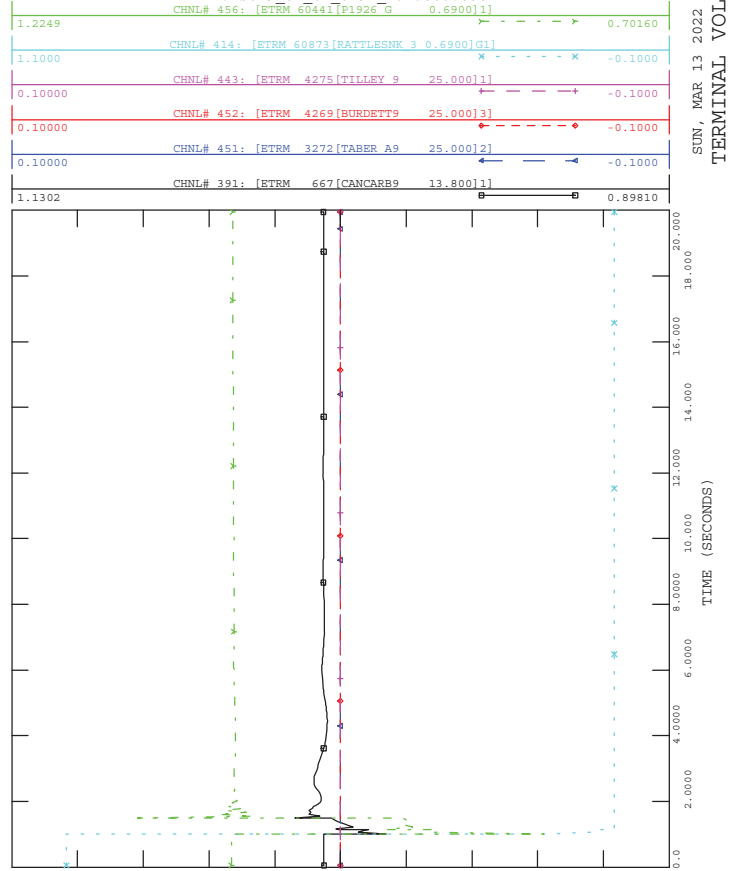
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

FILE: scn9_SP_07_879L_Burdett.out
CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]

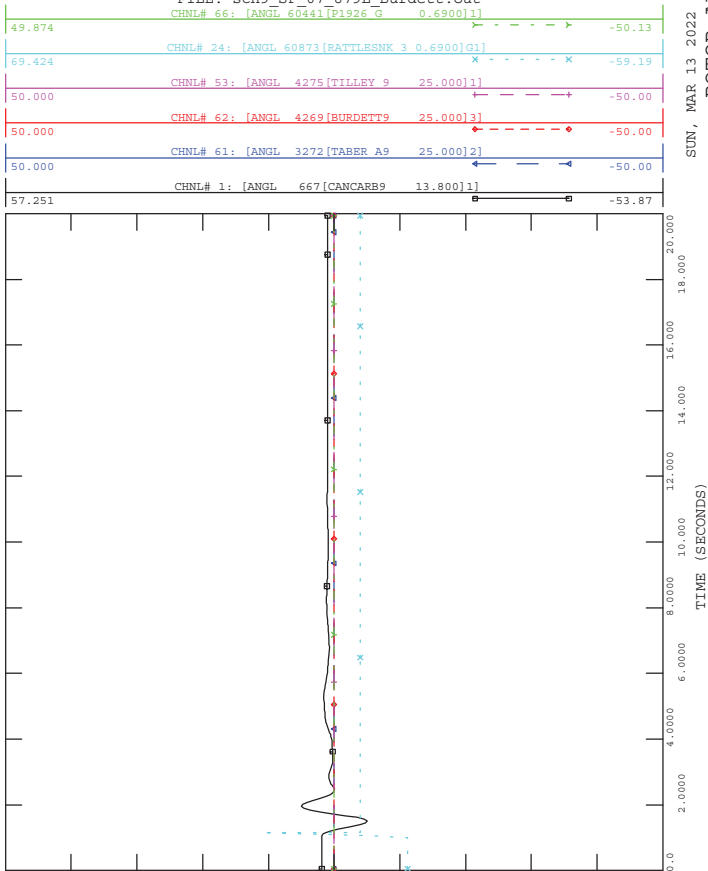
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

FILE: scn9_SP_07_879L_Burdett.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]

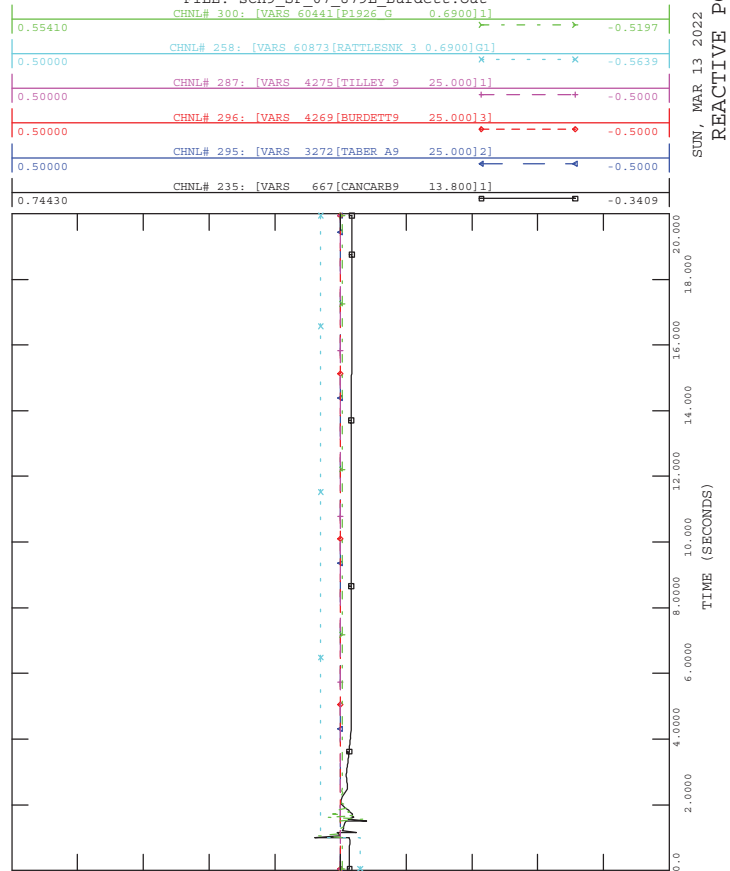
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

FILE: scn9_SP_07_879L_Burdett.out
CHNL# 300: [VARS 60441[P1926 G 0.6900]1]

SUN, MAR 13 2022 23:51
REACTIVE POWER

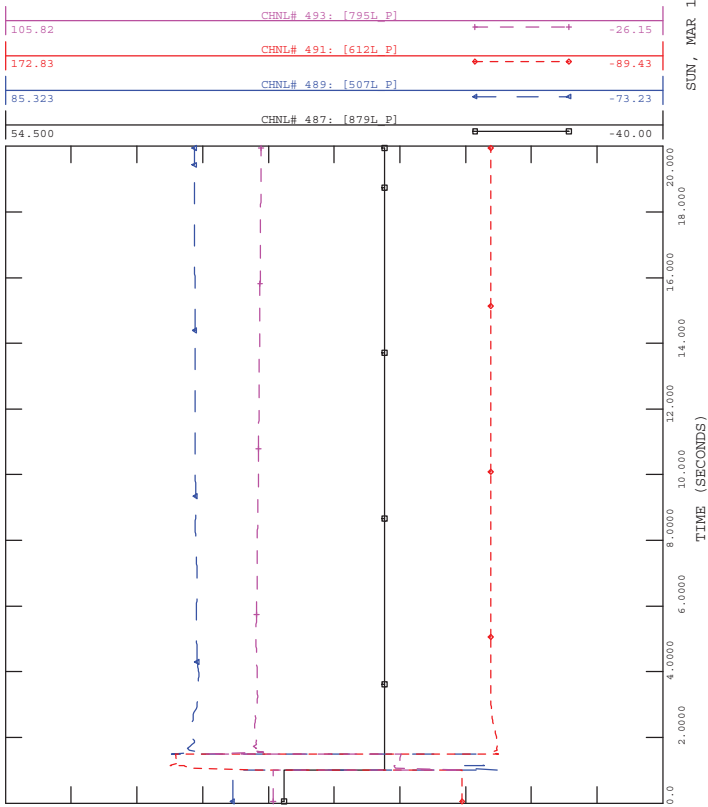




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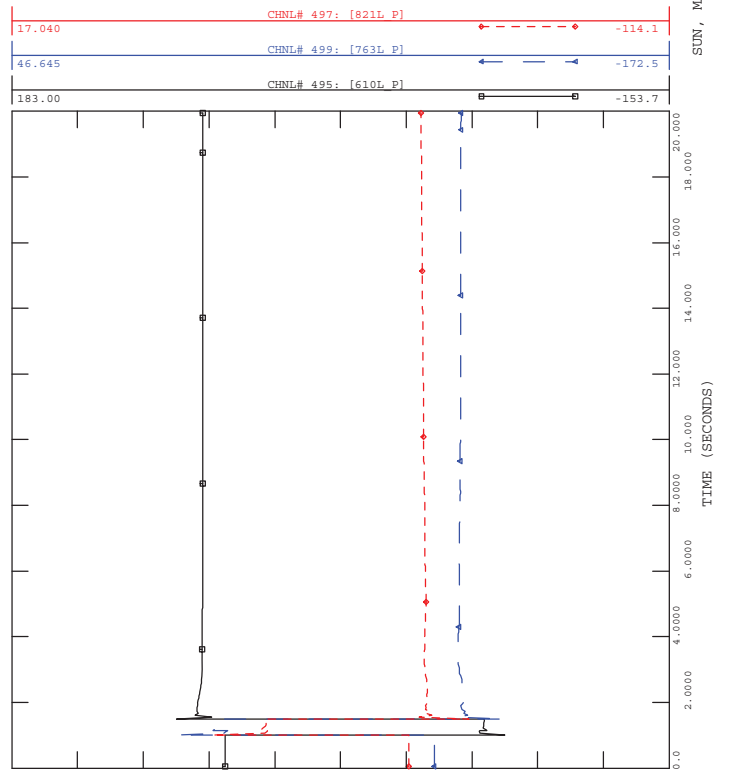
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

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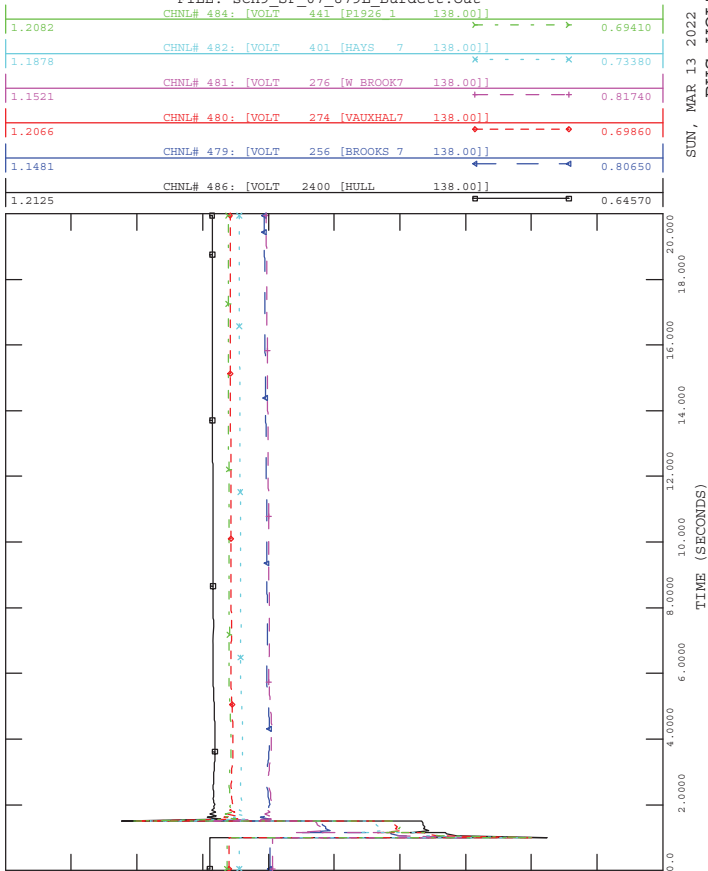
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn9_SP_07_879L_Burdett.out

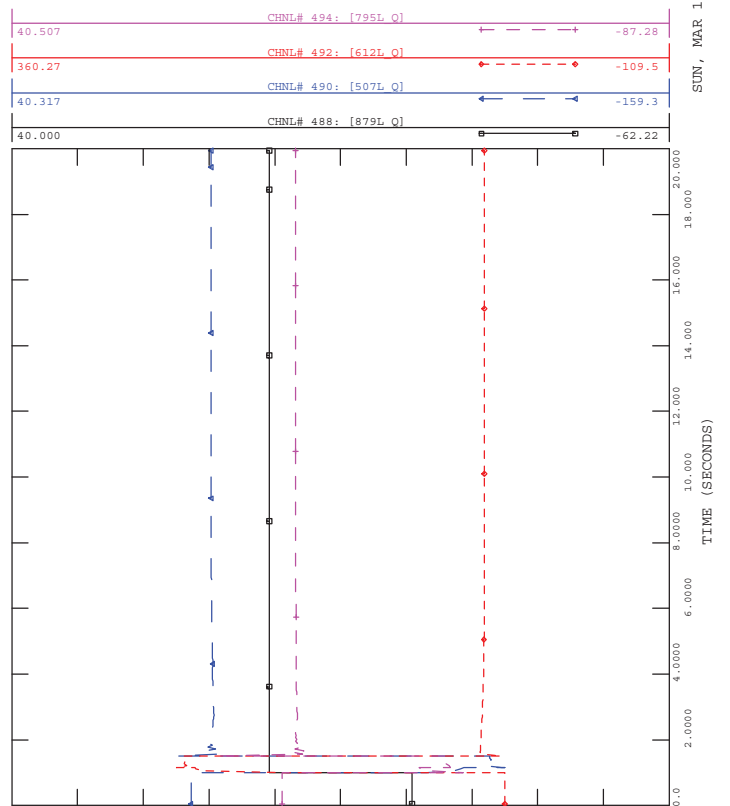
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

FILE: scn9_SP_07_879L_Burdett.out

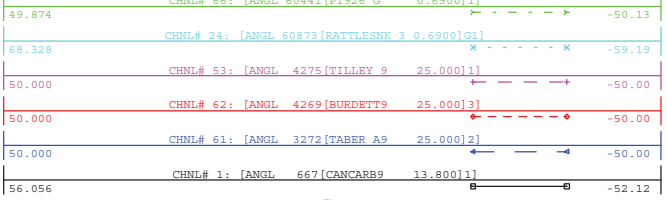
SUN, MAR 13 2022 23:51
BRANCH Q



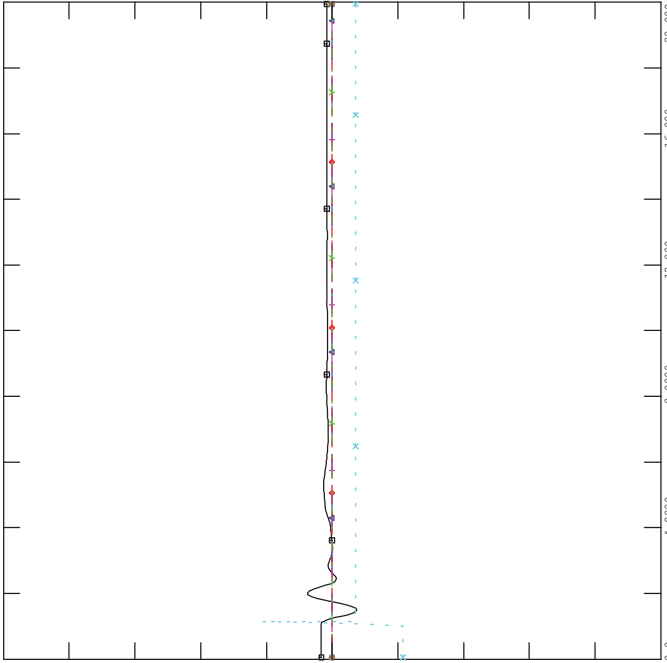


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

FILE: scn9_SP_08_879L_Bowmantion.out

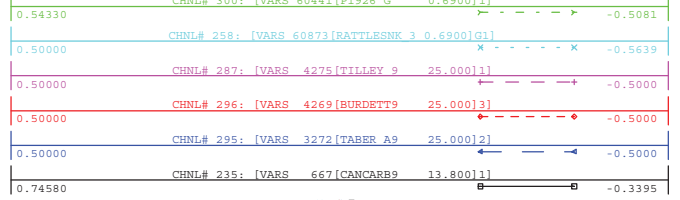


SUN, MAR 13 2022 23:51
ROTOR ANGLE

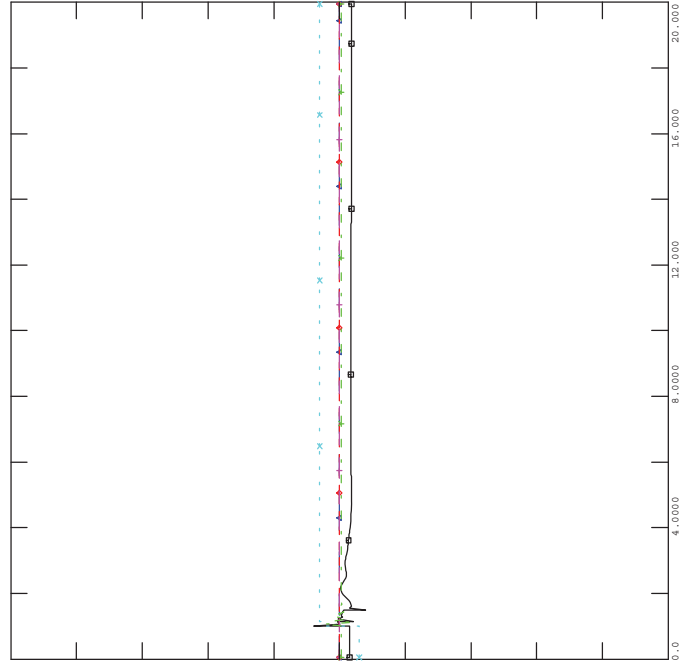


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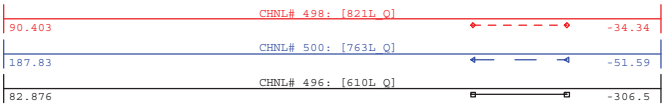


SUN, MAR 13 2022 23:51
REACTIVE POWER

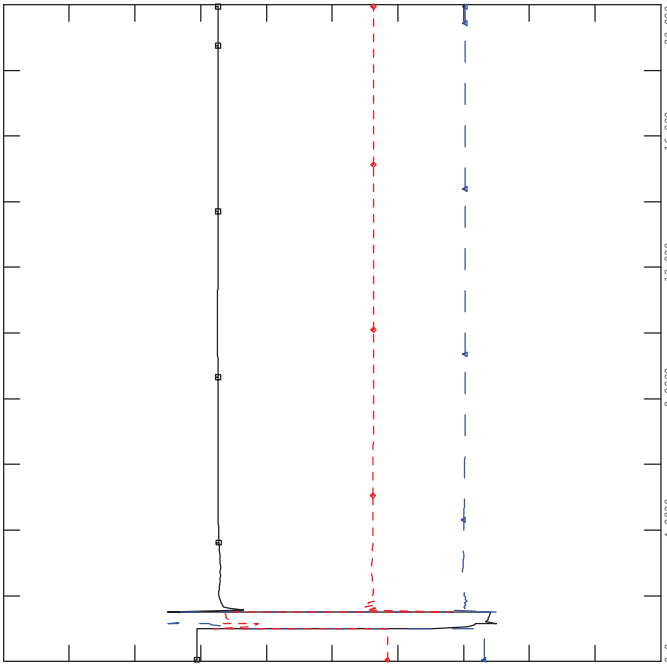


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_07_879L_BURDETT

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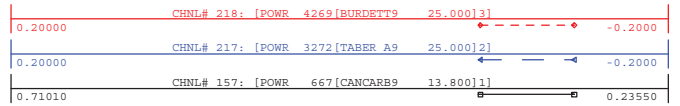


SUN, MAR 13 2022 23:51
BRANCH Q

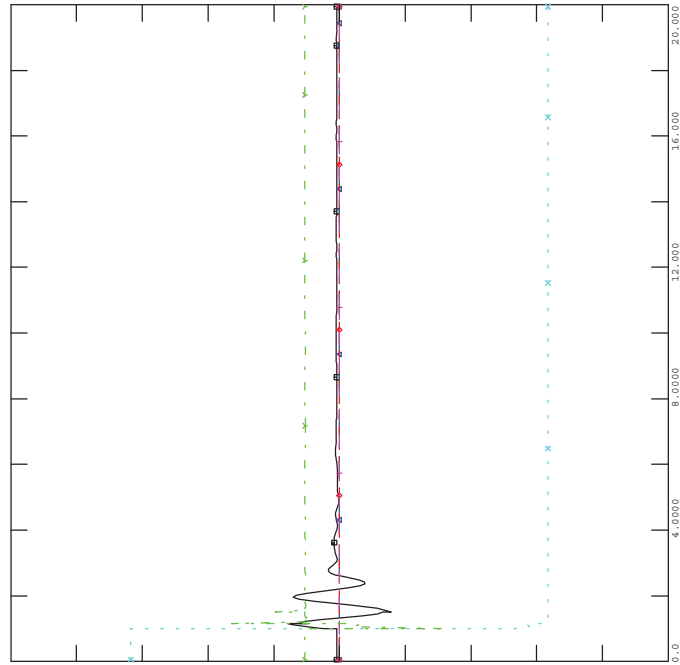


SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

FILE: scn9_SP_08_879L_Bowmantion.out



SUN, MAR 13 2022 23:51
ACTIVE POWER

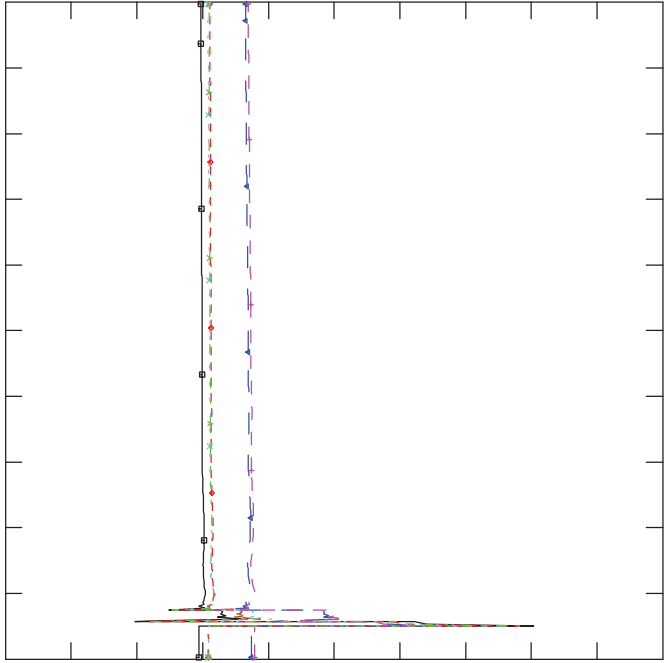




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

FILE: scn9_SP_08_879L_Bowmanton.out

1.1763	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.71700
1.1505	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.74800
1.1386	CHNL# 481: [VOLT 276 [W.BROOK7 138.00]]	0.81550
1.1742	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.72050
1.1331	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.80560
1.1854	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.67760



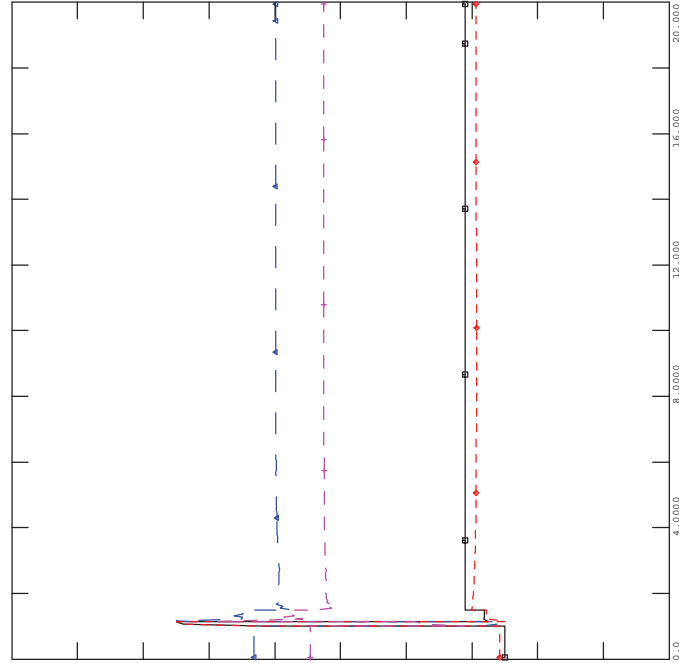
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

FILE: scn9_SP_08_879L_Bowmanton.out

46.290	CHNL# 494: [795L Q]	-82.04
316.69	CHNL# 492: [612L Q]	-99.43
53.664	CHNL# 490: [507L Q]	-130.4
207.97	CHNL# 488: [879L Q]	-93.57



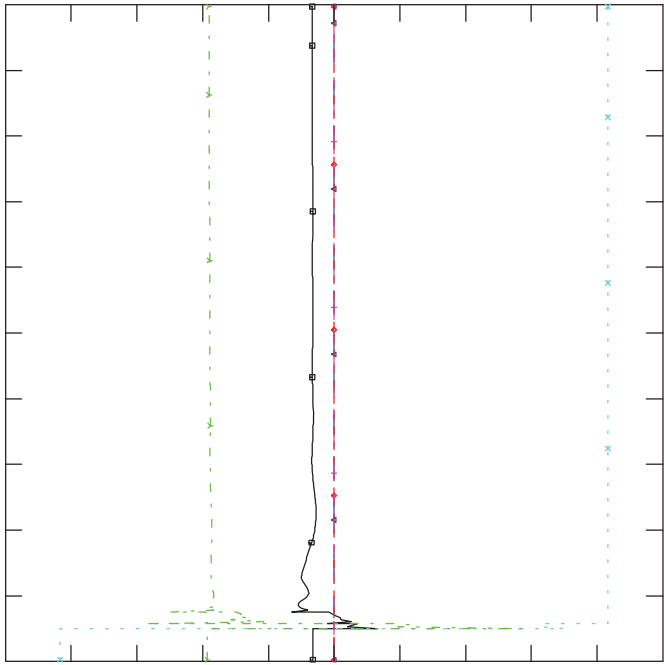
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

FILE: scn9_SP_08_879L_Bowmanton.out

1.1941	CHNL# 456: [ETRM 60441[P1926 0 0.6900]]	0.72530
1.1000	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	-0.1000
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1275	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.89770



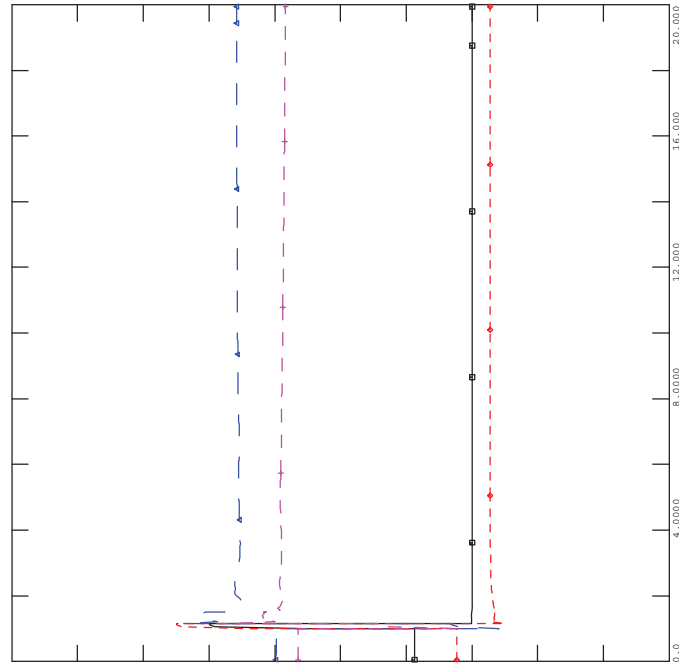
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

FILE: scn9_SP_08_879L_Bowmanton.out

107.24	CHNL# 493: [795L P]	-19.42
141.15	CHNL# 491: [612L P]	-81.36
92.658	CHNL# 489: [507L P]	-62.04
93.265	CHNL# 487: [879L P]	-40.00



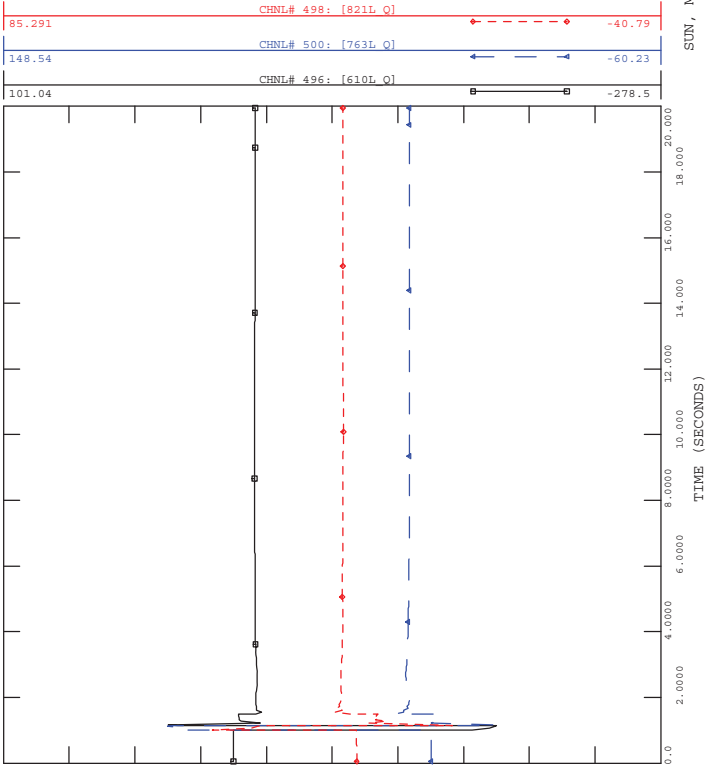
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

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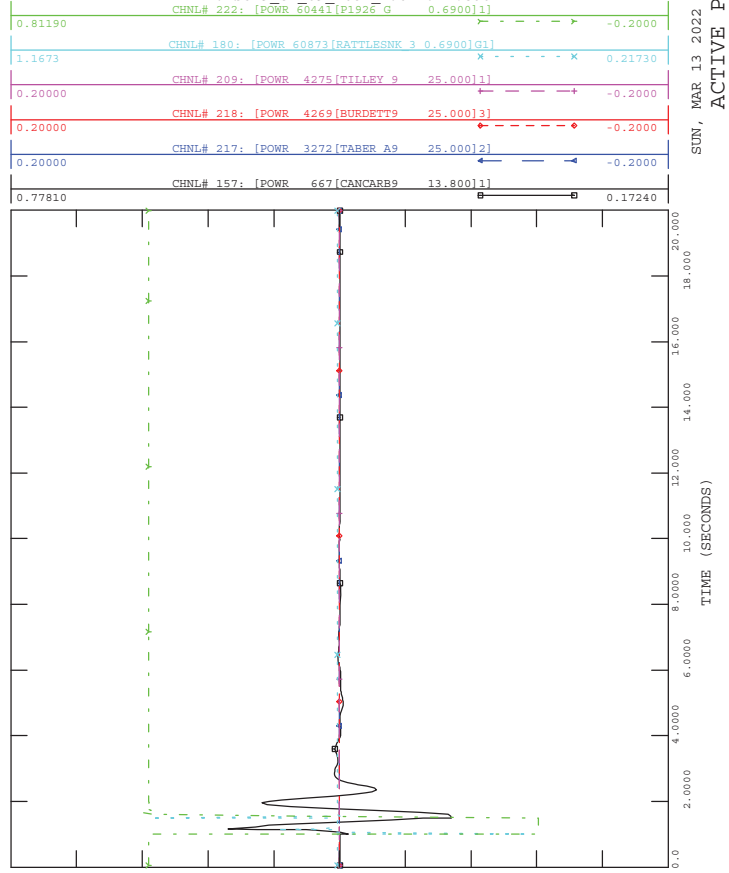
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_09_763L_VAUXHALL

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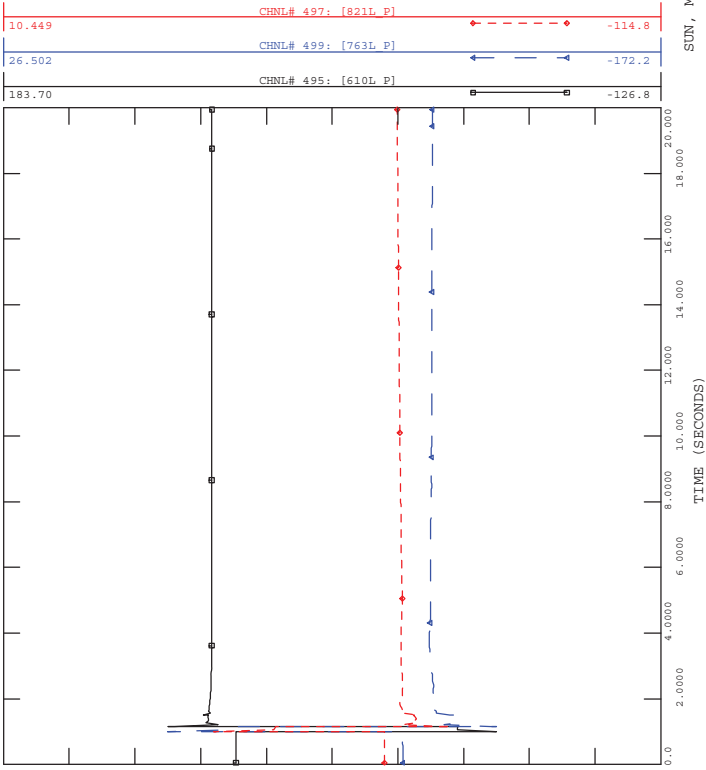
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_08_879L_BOWMANTON

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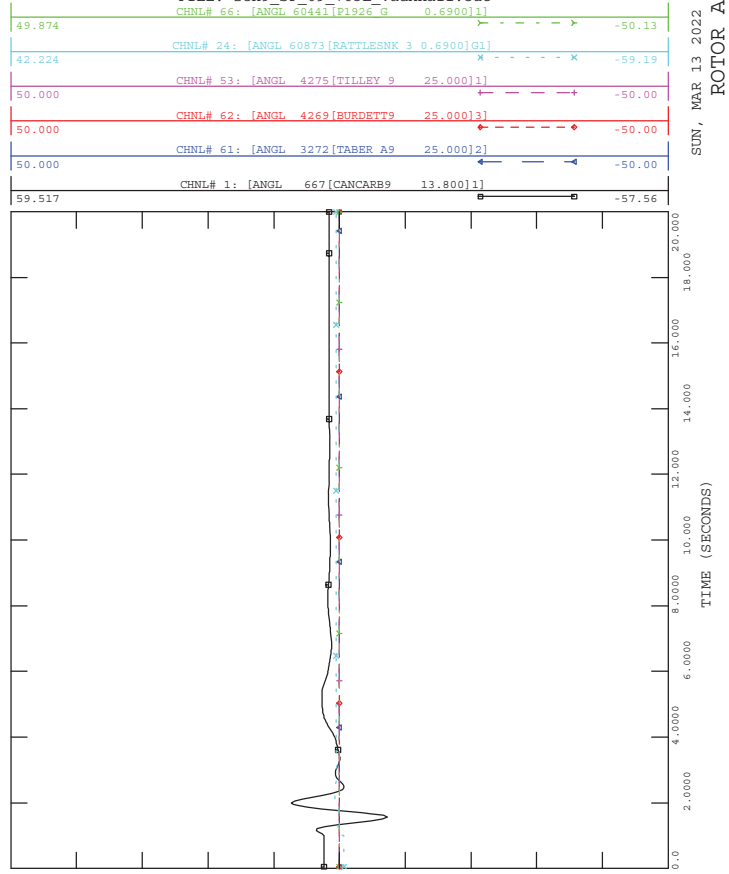
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
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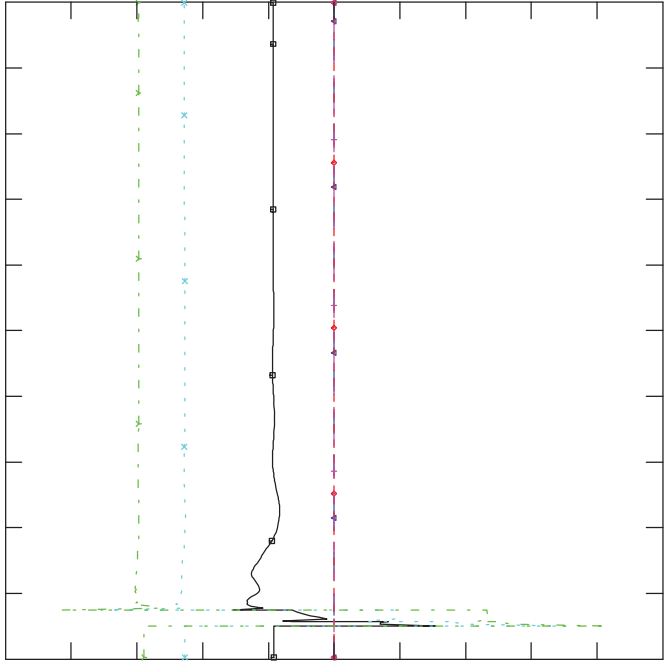
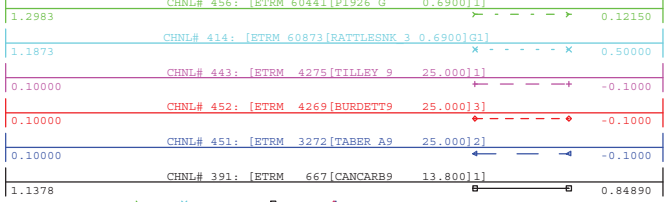
SUN, MAR 13 2022 23:51
ROTOR ANGLE





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_09_763L_VAUXHALL

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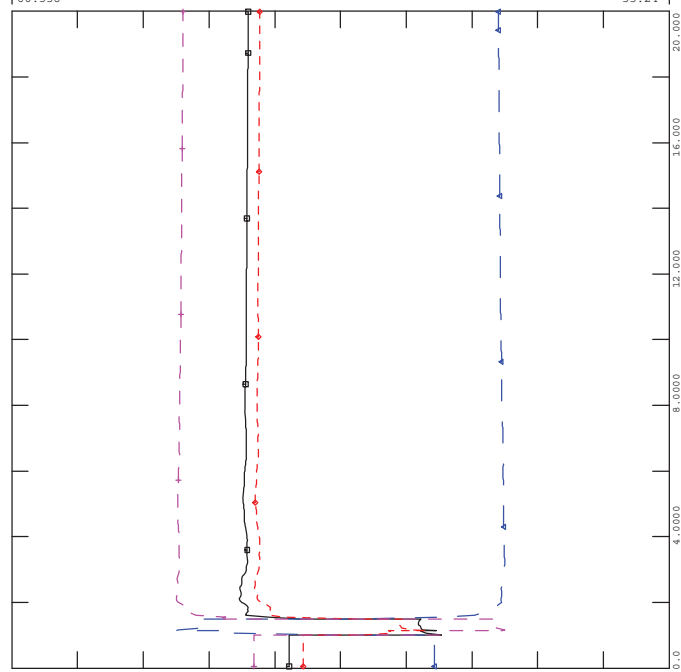
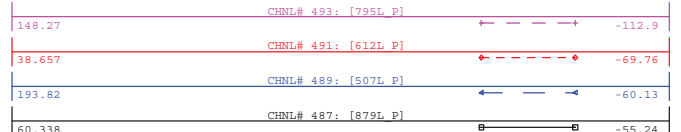


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_09_763L_VAUXHALL

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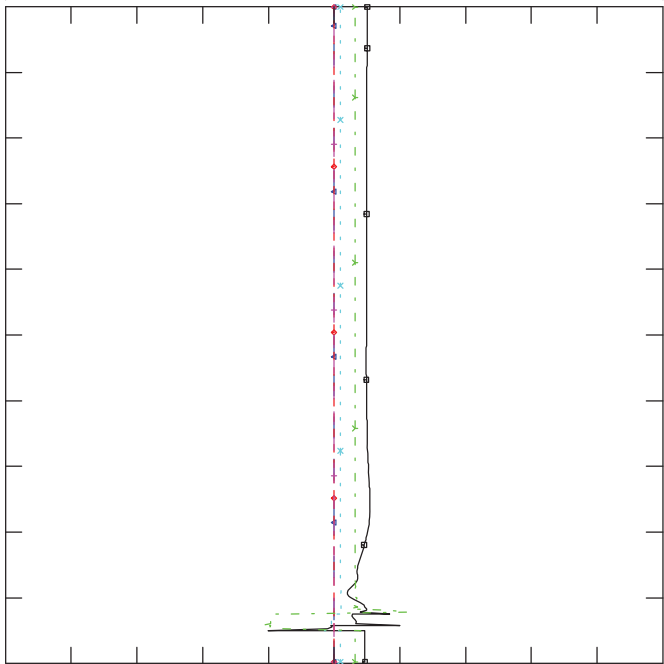
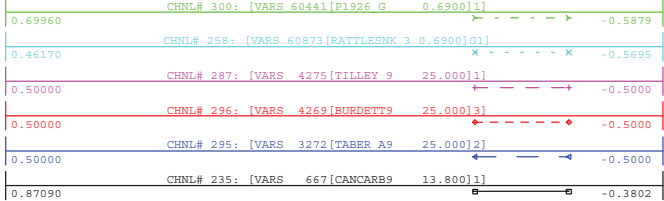


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BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_09_763L_VAUXHALL

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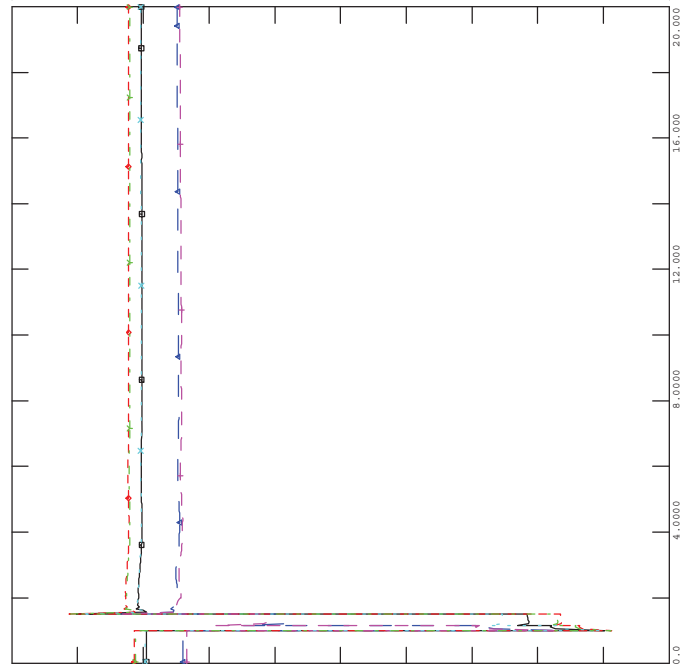
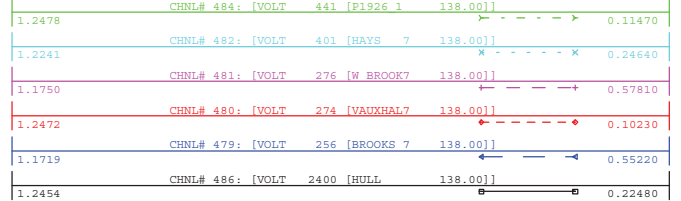


SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_09_763L_VAUXHALL

FILE: scn9_SP_09_763L_Vauxhall.out



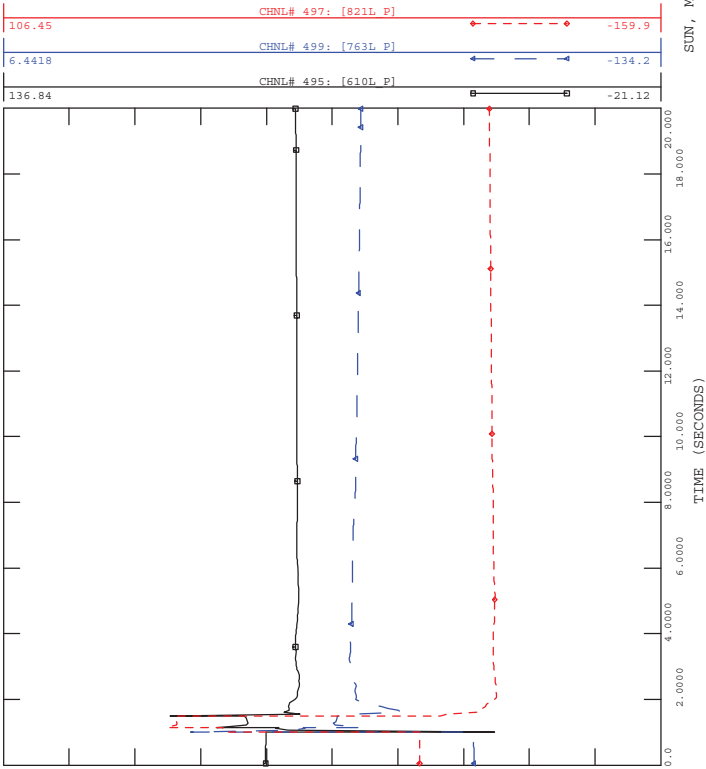
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_09_763L_VAUXHALL

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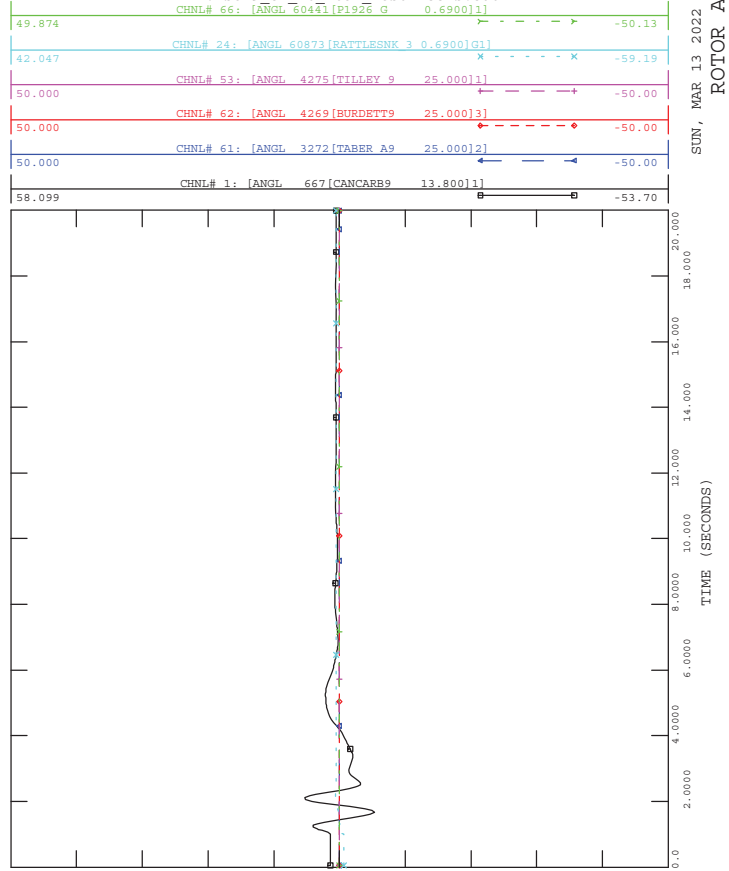
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_10_763L_WESTBROOKS

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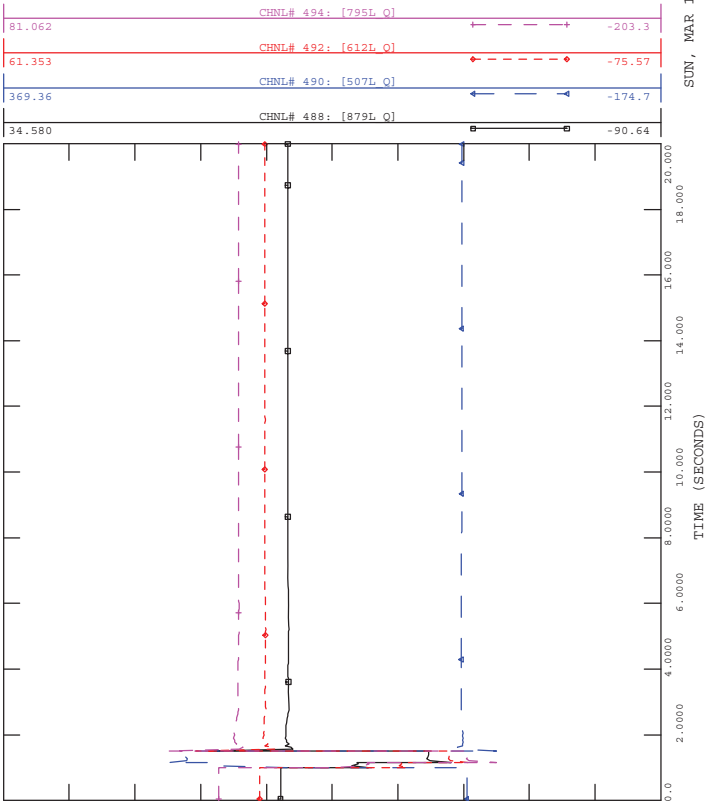
SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
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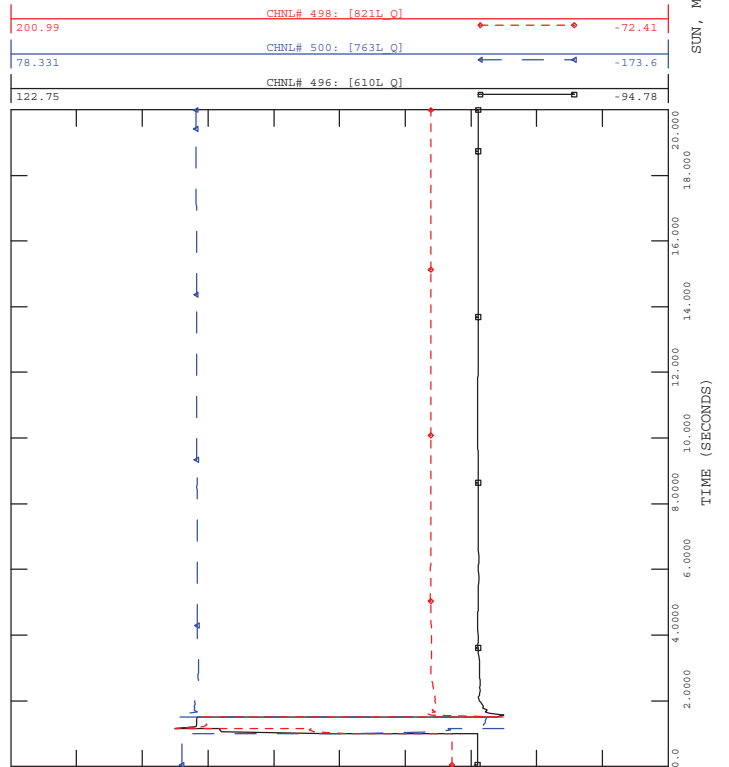
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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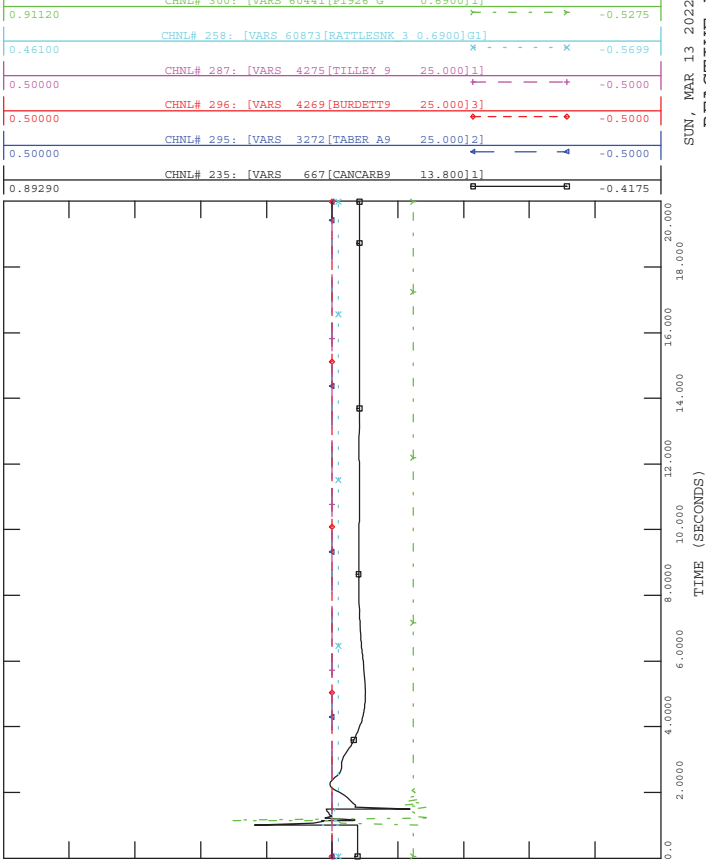
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BRANCH Q





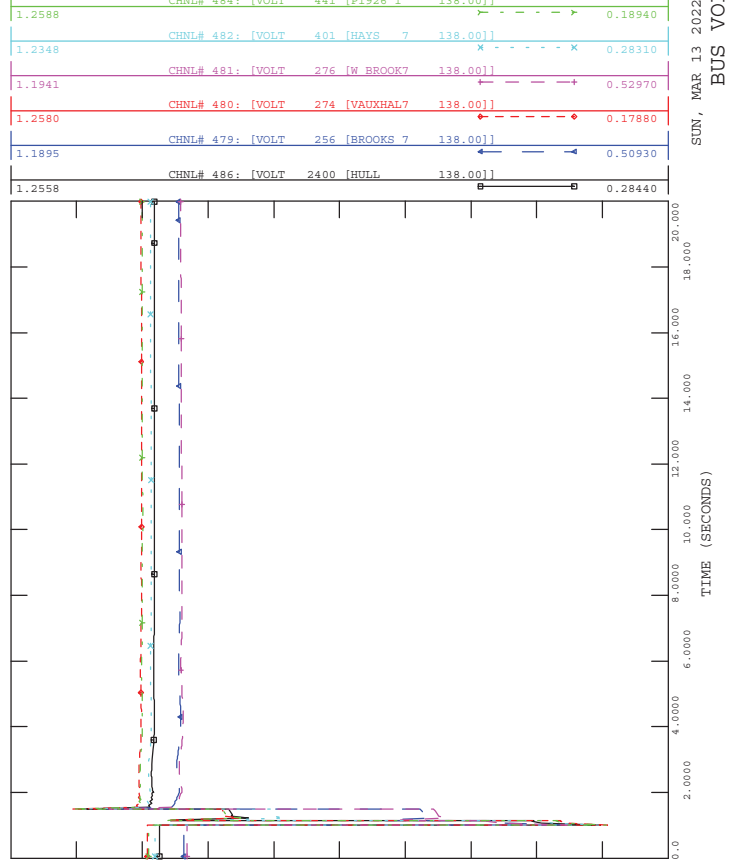
SCENARIO: P2342 SYSTEM IMPACT STUDY
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FILE: scn9_SP_10_763L WestBrooks.out



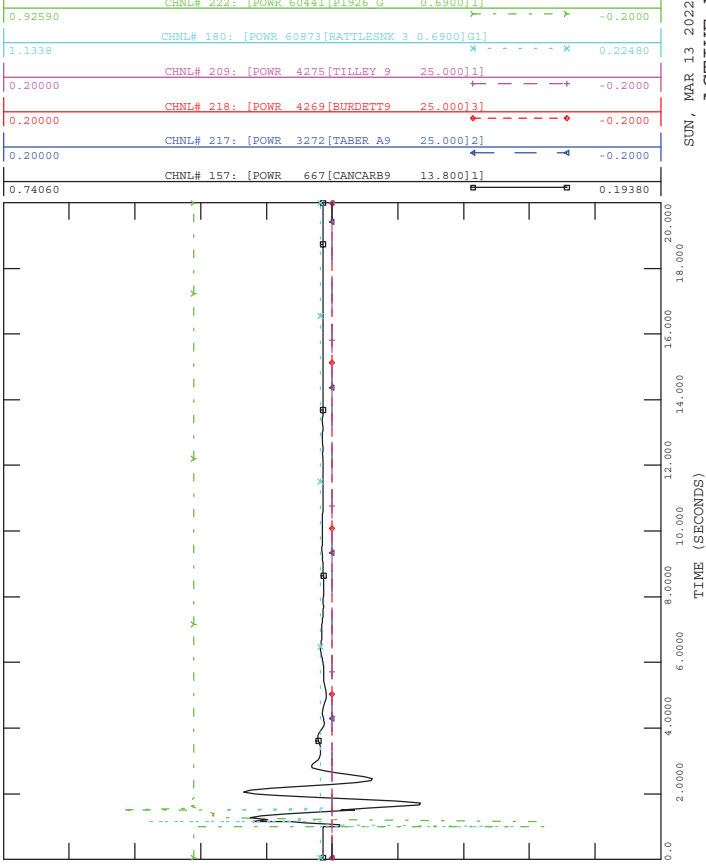
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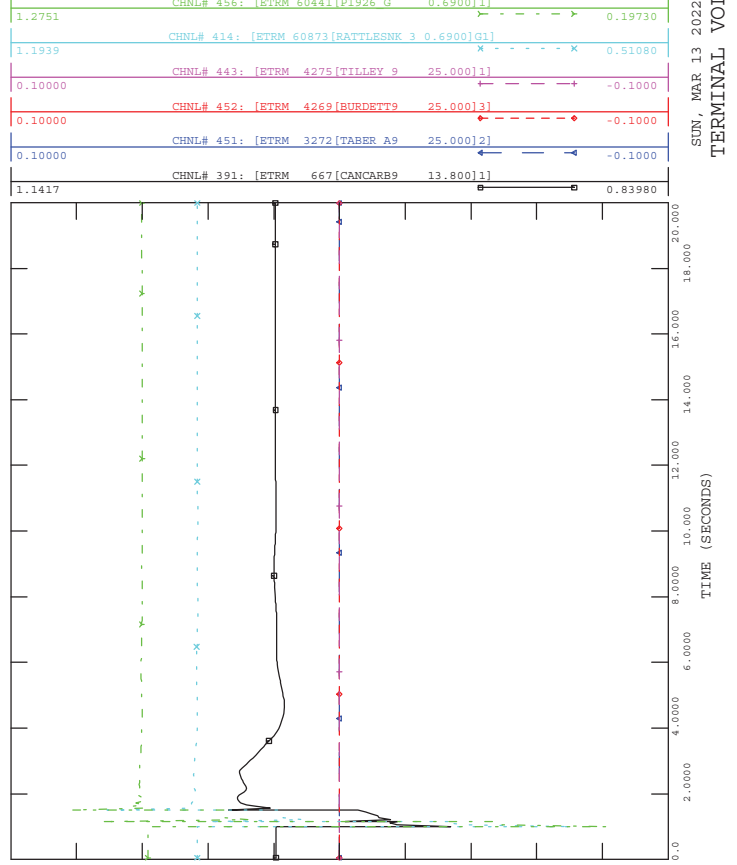
SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_10_763L_WESTBROOKS

FILE: scn9_SP_10_763L WestBrooks.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_10_763L_WESTBROOKS

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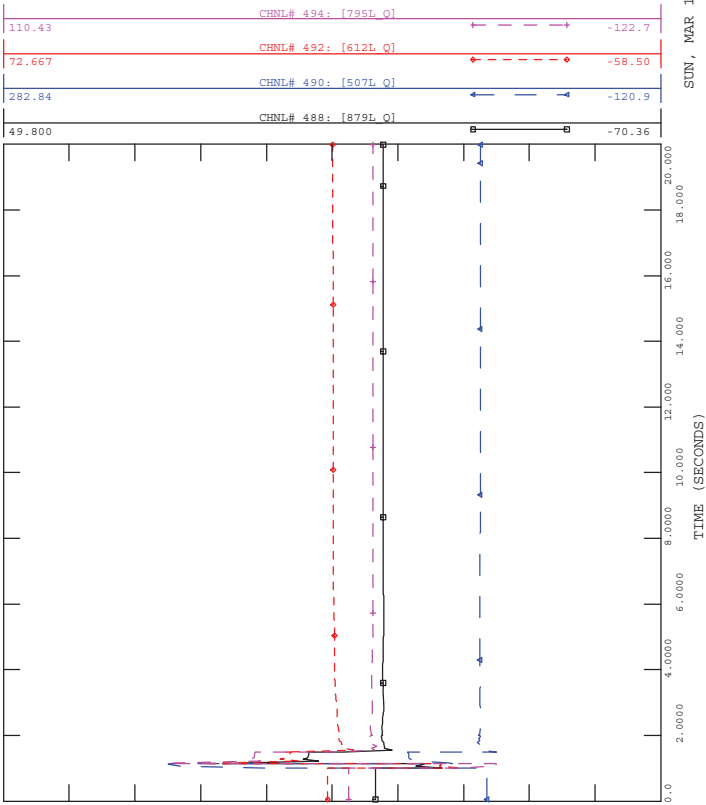




SCENARIO: P2342 SYSTEM IMPACT STUDY
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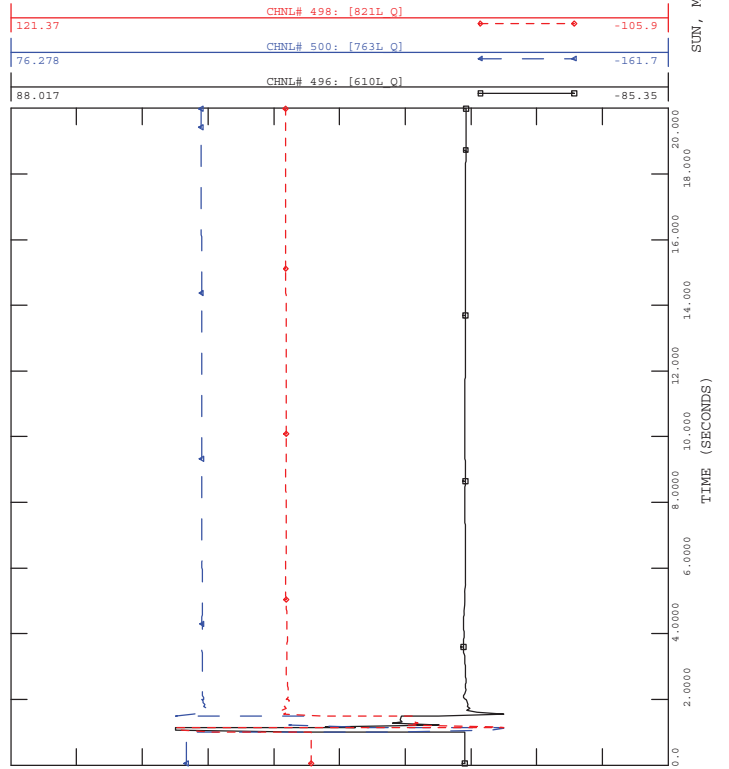
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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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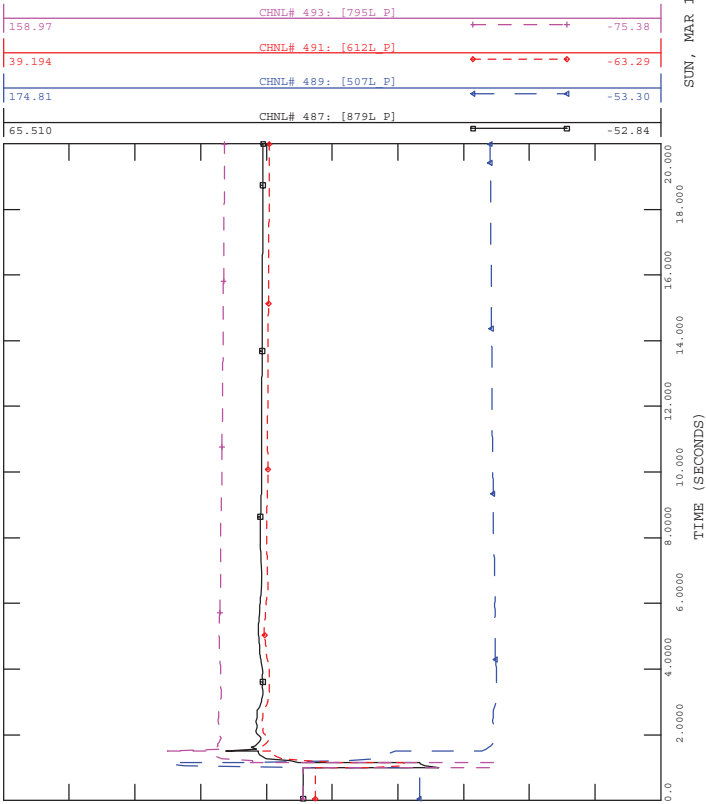
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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
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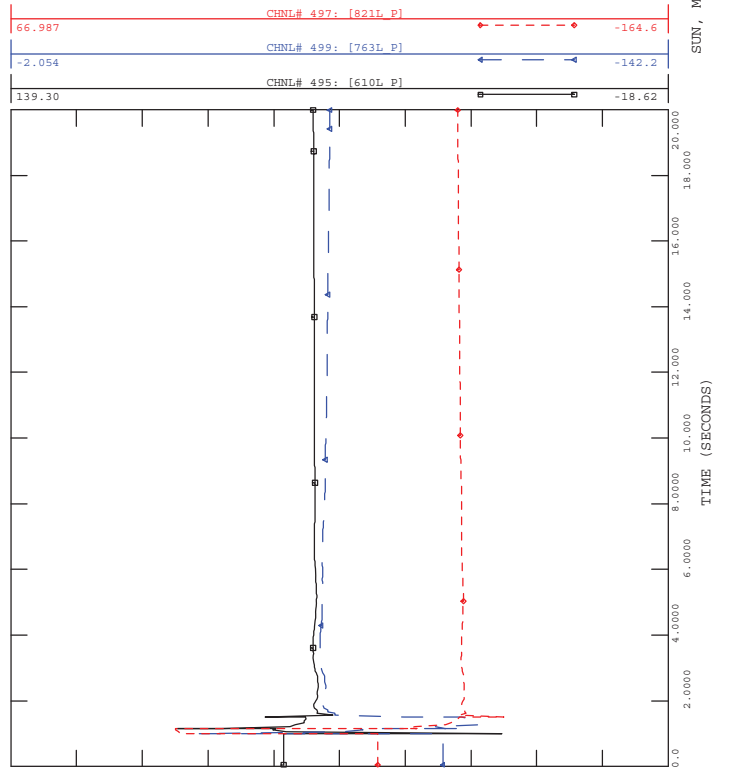
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_10_763L_WESTBROOKS

FILE: scn9_SP_10_763L_WestBrooks.out

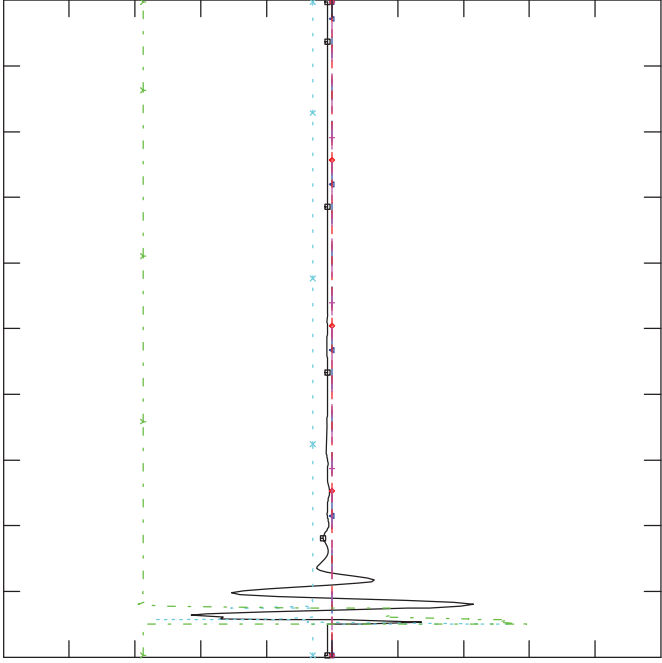
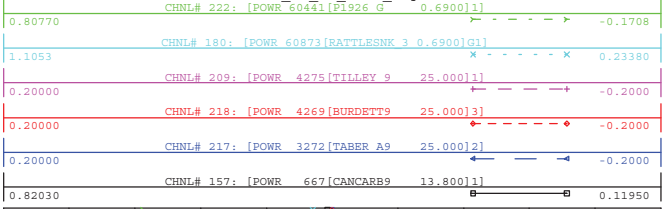
SUN, MAR 13 2022 23:51
BRANCH P





SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out

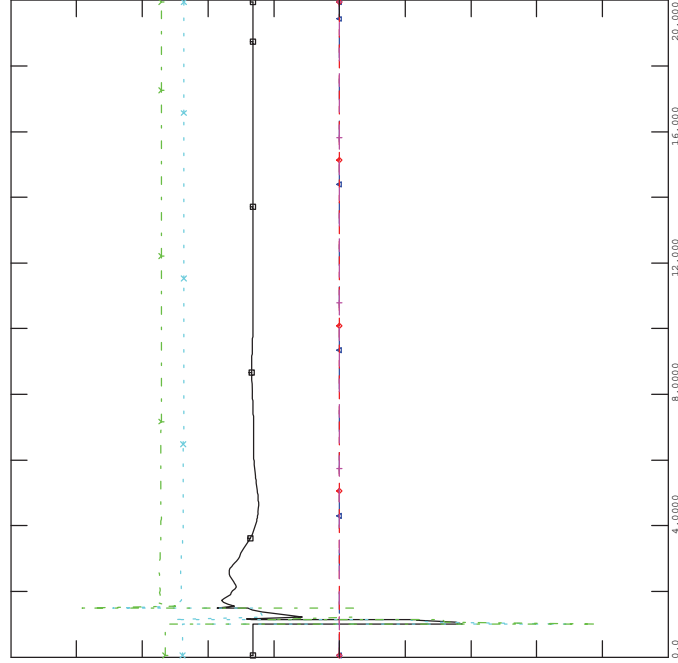
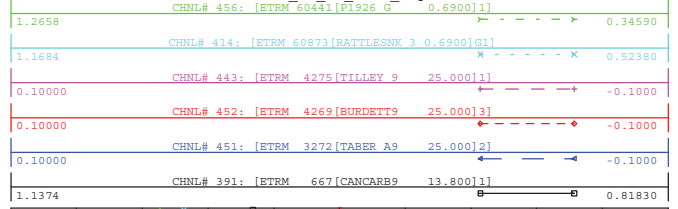


SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out

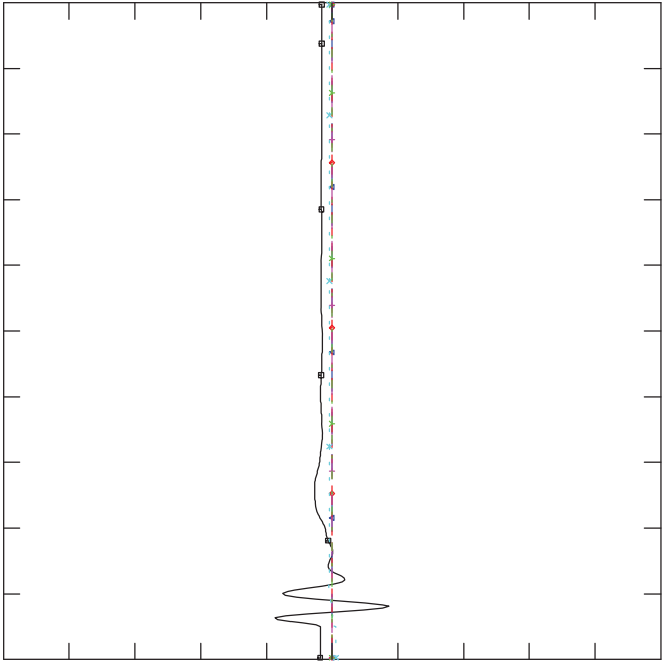
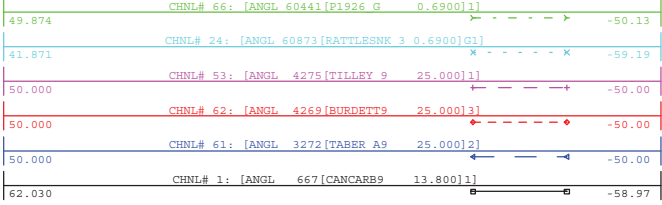


SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out

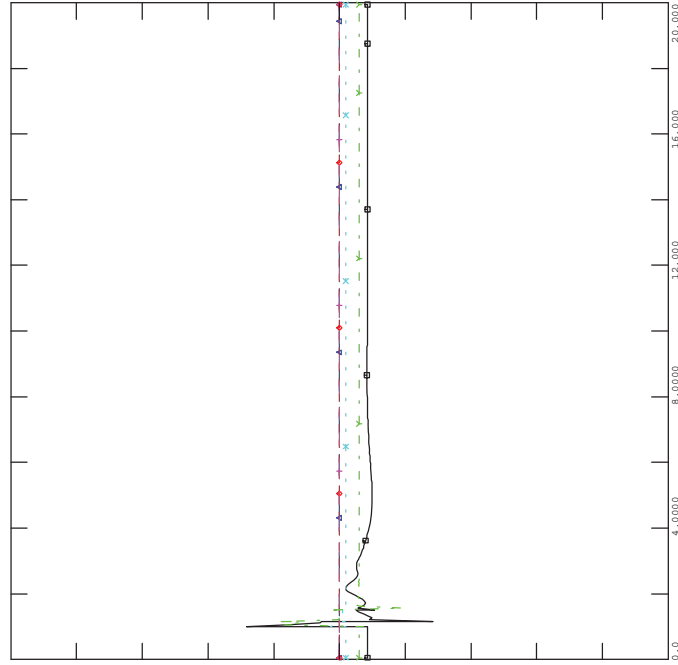
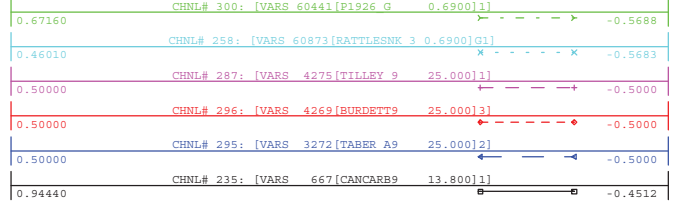


SUN, MAR 13 2022 23:51
ROTOR ANGLE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out



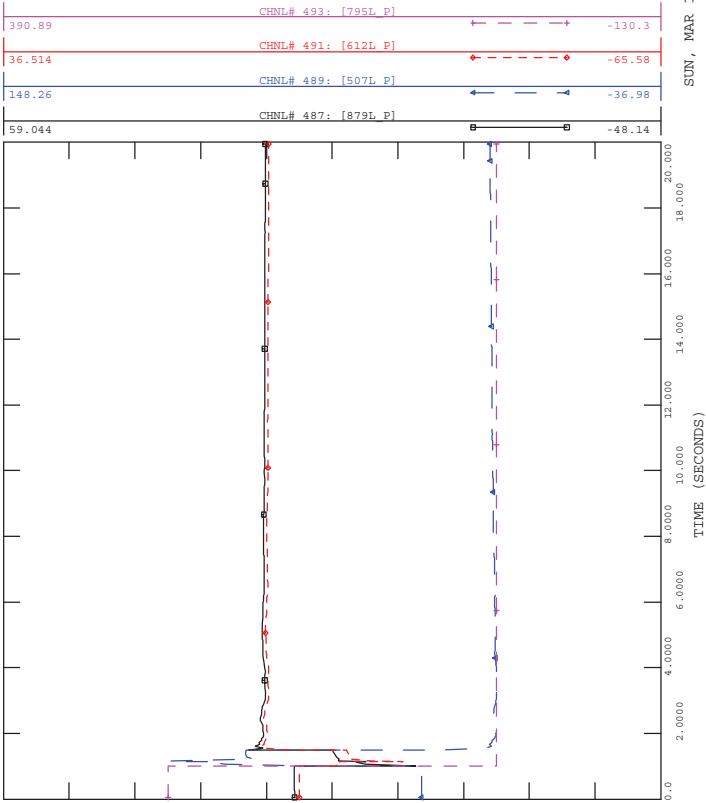
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out

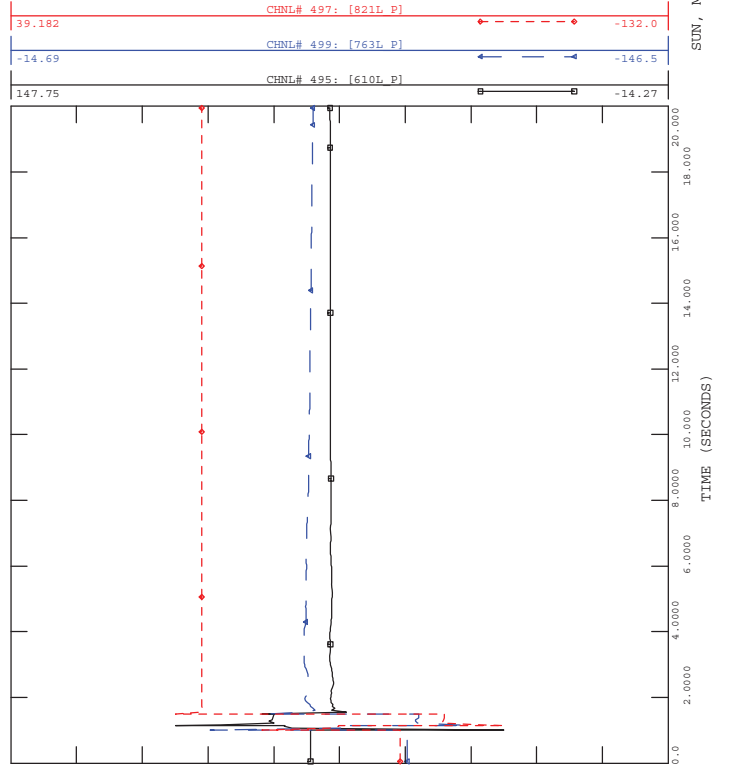
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

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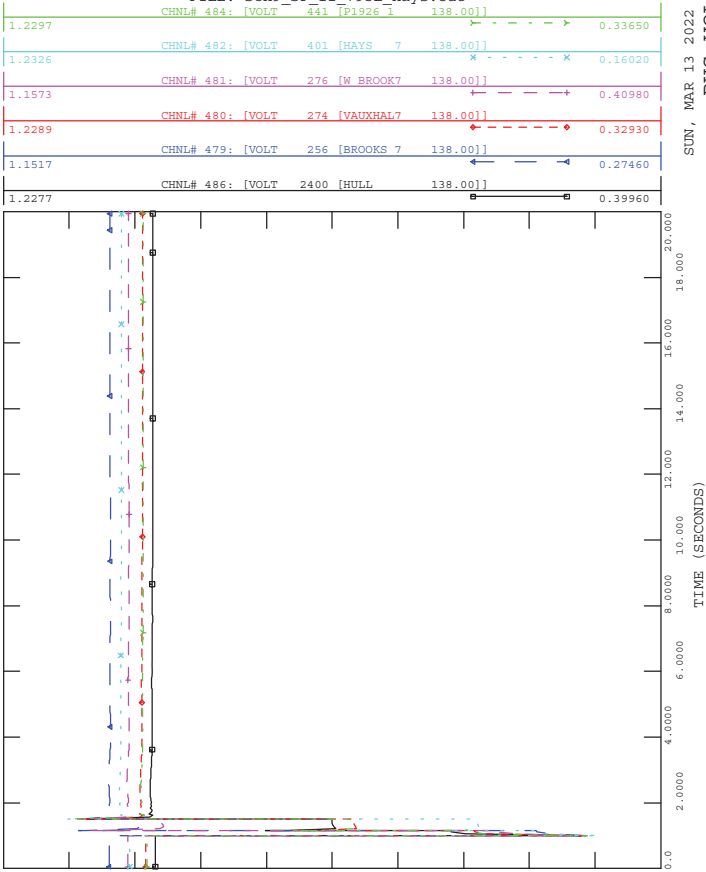
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BRANCH P



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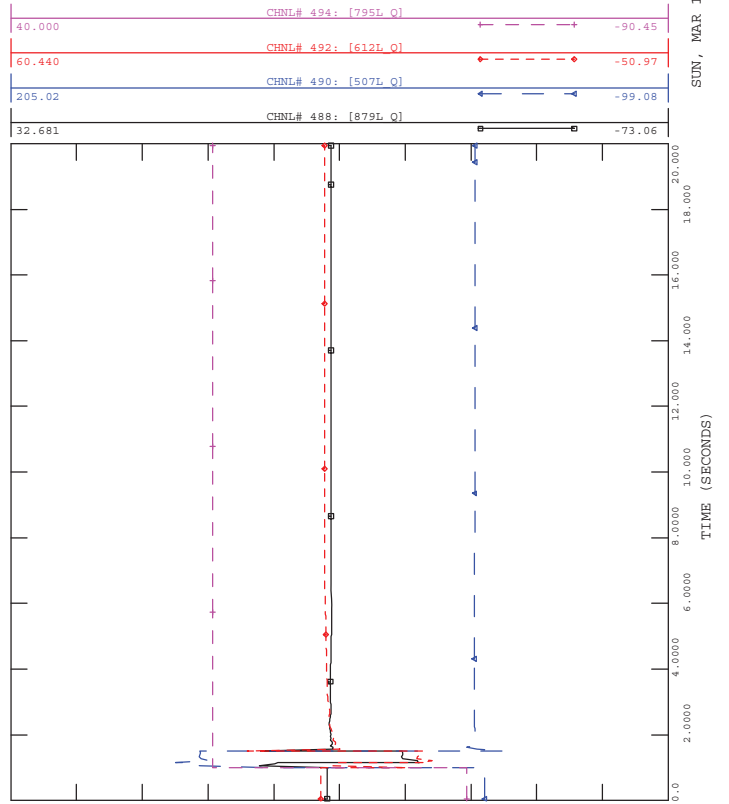
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out

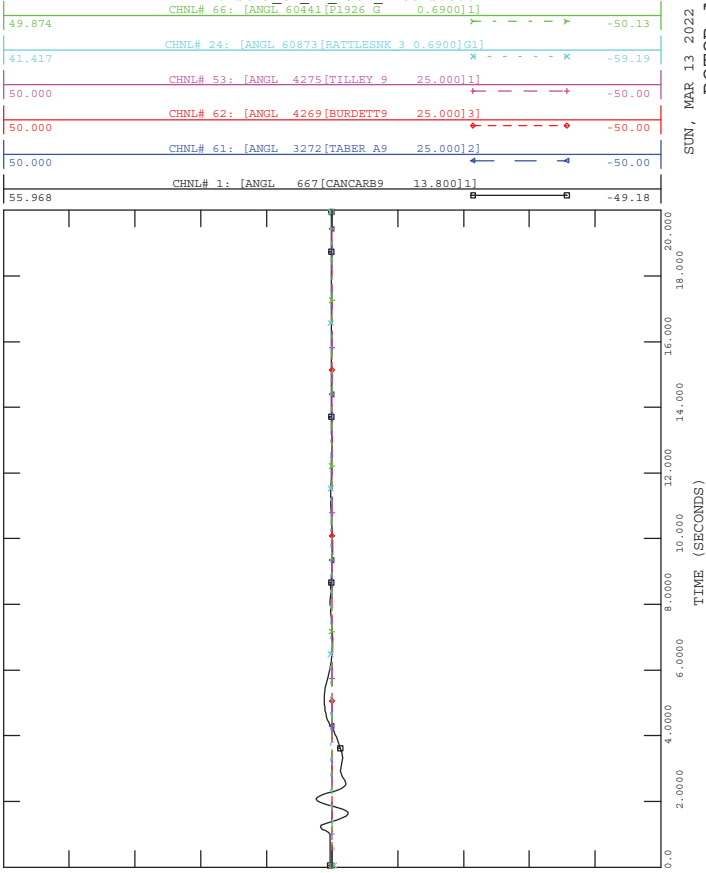
SUN, MAR 13 2022 23:51
BRANCH Q





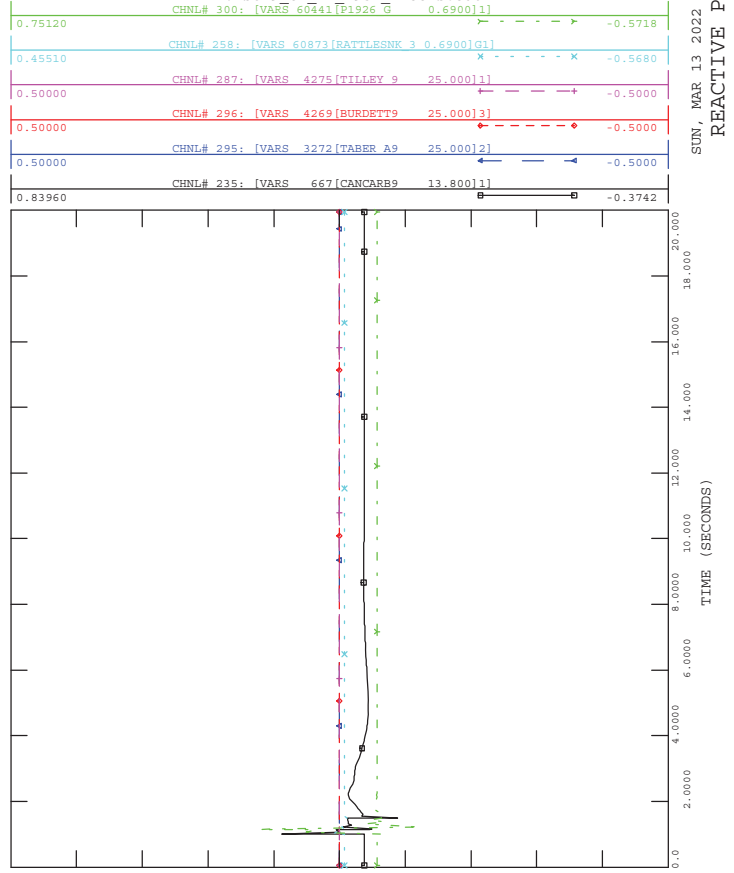
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CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out
CHNL# 66: [ANGL 60441[P1926 G 0.6900]1]



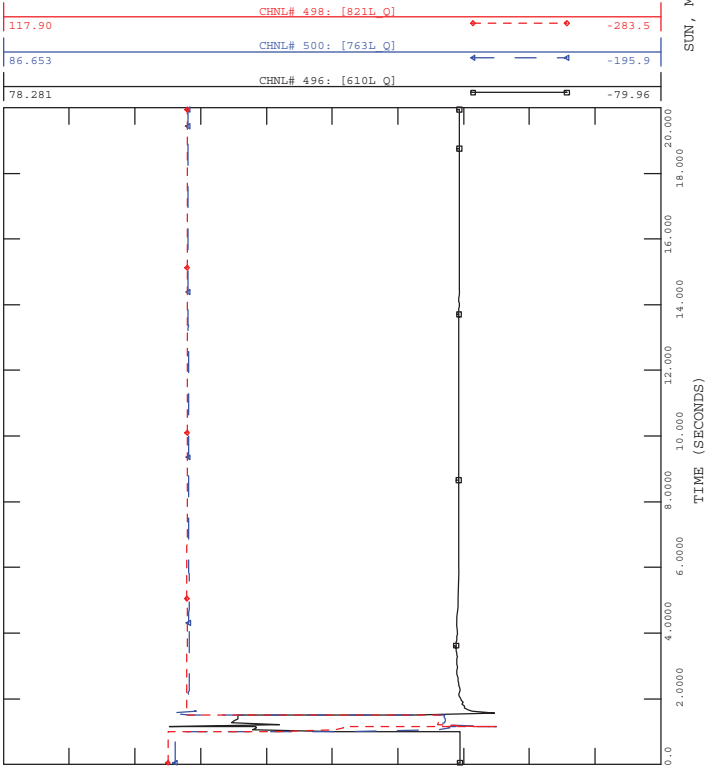
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CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out
CHNL# 300: [VAR5 60441[P1926 G 0.6900]1]



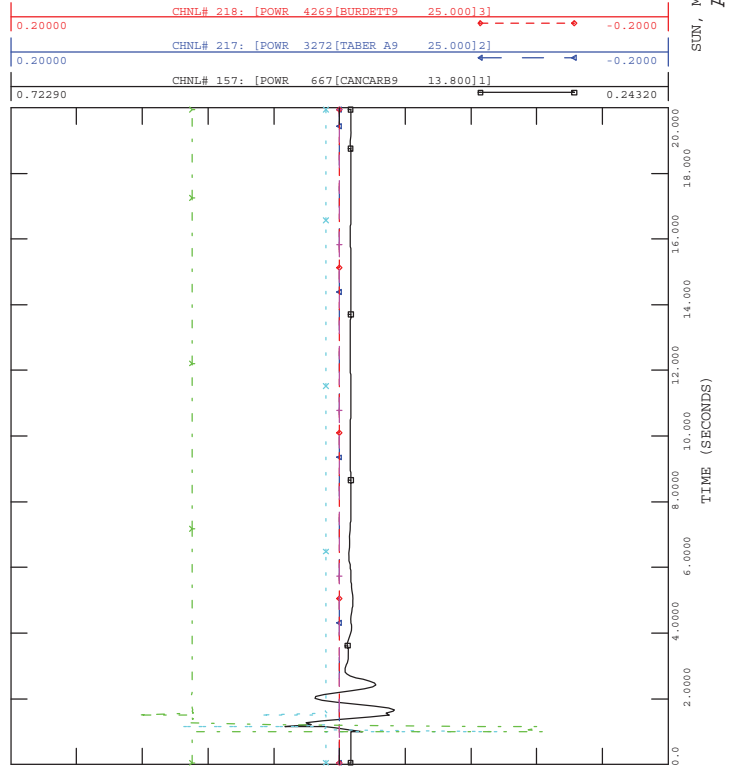
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CONTINGENCY -SCN9_SP_11_795L_HAYS

FILE: scn9_SP_11_795L_Hays.out



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out
CHNL# 222: [POWR 60441[P1926 G 0.6900]1]

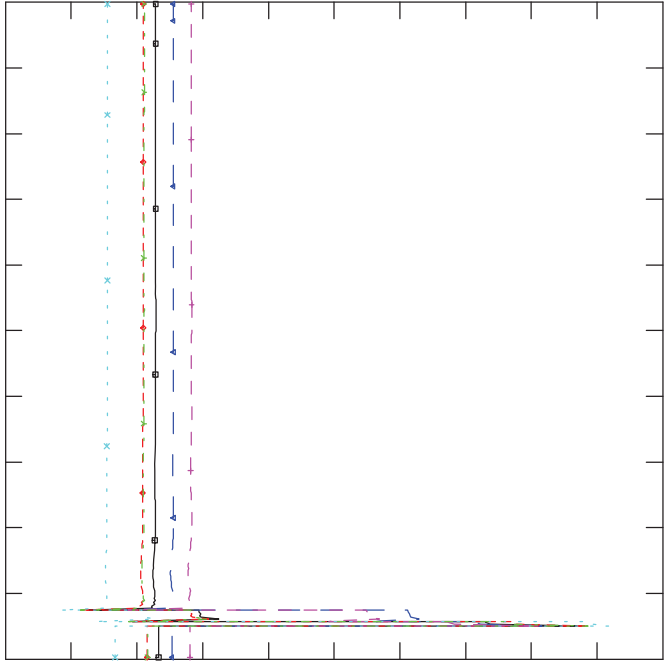




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out

1.2251	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.34800
1.2269	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.02430
1.1663	CHNL# 483: [VOLT 276 [W.BROOK7 138.00]]	0.63080
1.2244	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.33920
1.1607	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.56800
1.2220	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.42530



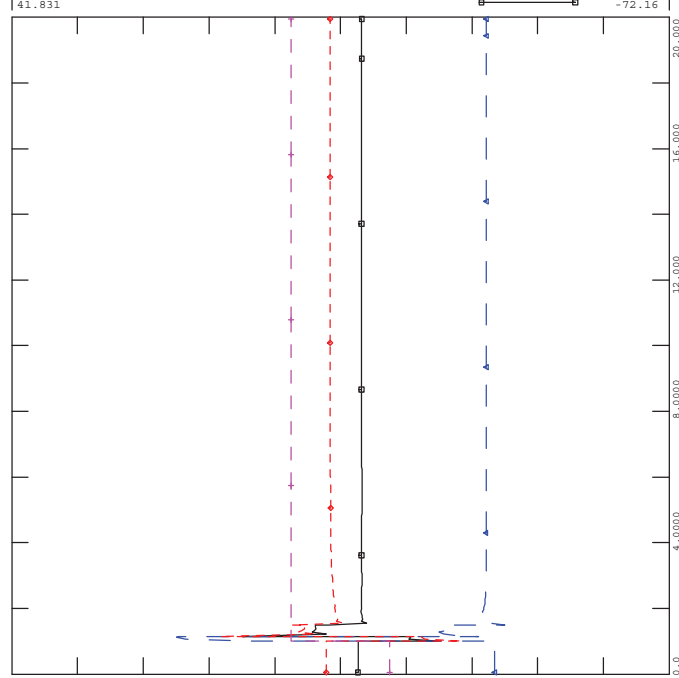
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out

40.000	CHNL# 494: [795L Q]	-54.11
68.455	CHNL# 492: [612L Q]	-57.93
245.31	CHNL# 490: [507L Q]	-108.0
41.831	CHNL# 488: [879L Q]	-72.16



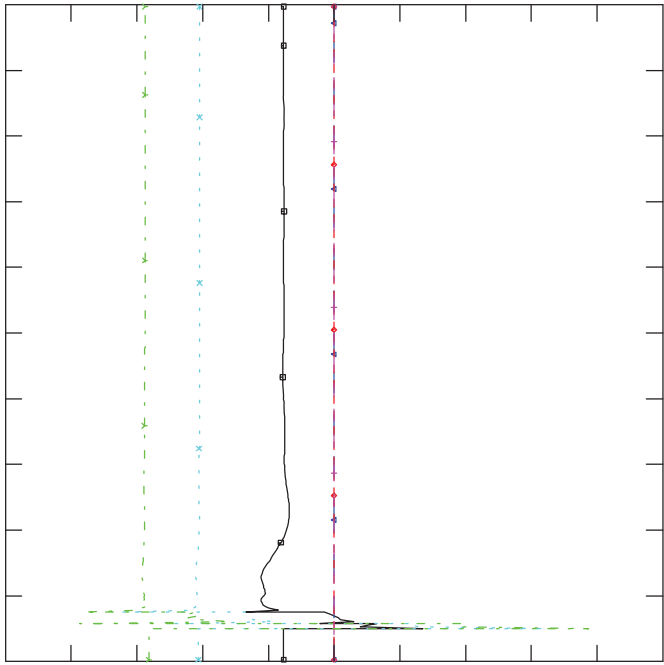
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out

1.2430	CHNL# 456: [ETRM 60441[P1926 Q 0.6900]]	0.35770
1.1648	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.60290
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1360	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.86190



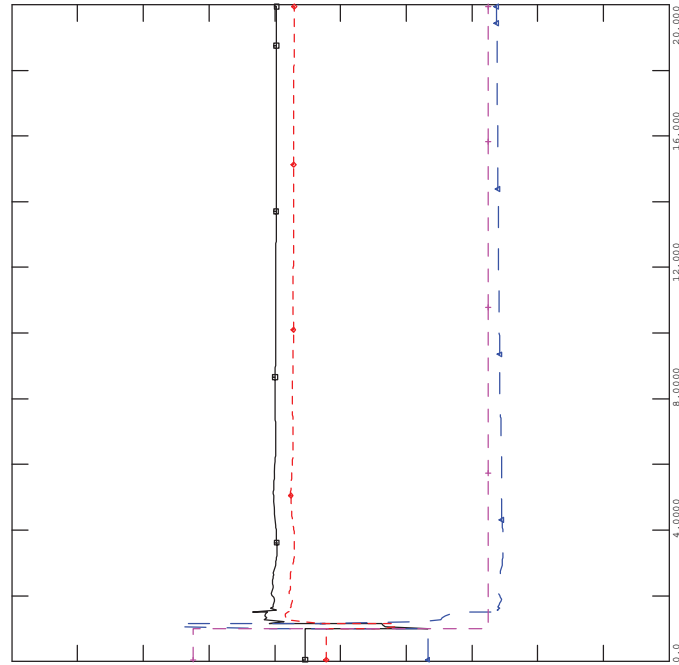
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out

105.15	CHNL# 493: [795L P]	-40.00
36.654	CHNL# 491: [612L P]	-59.58
147.49	CHNL# 489: [507L P]	-37.36
60.276	CHNL# 487: [879L P]	-48.79



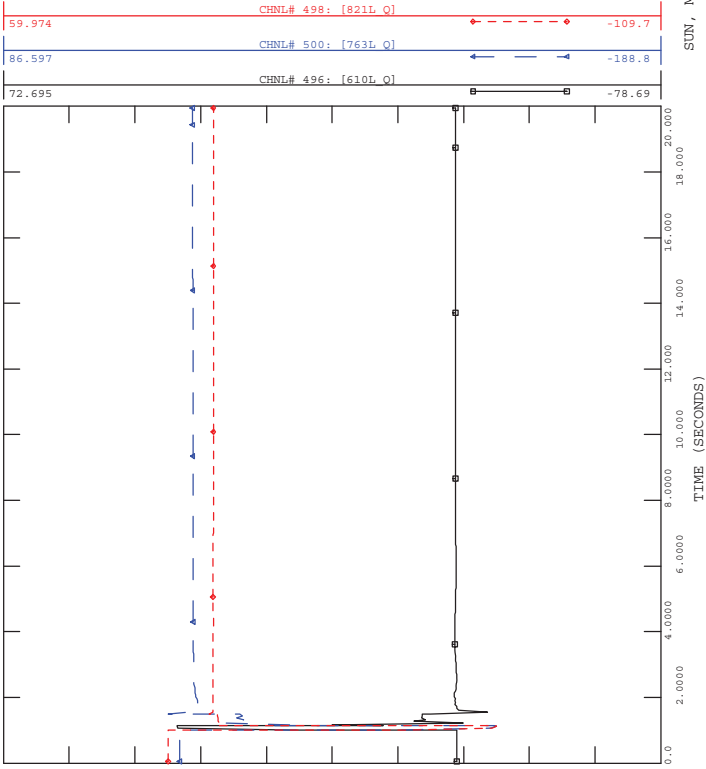
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out

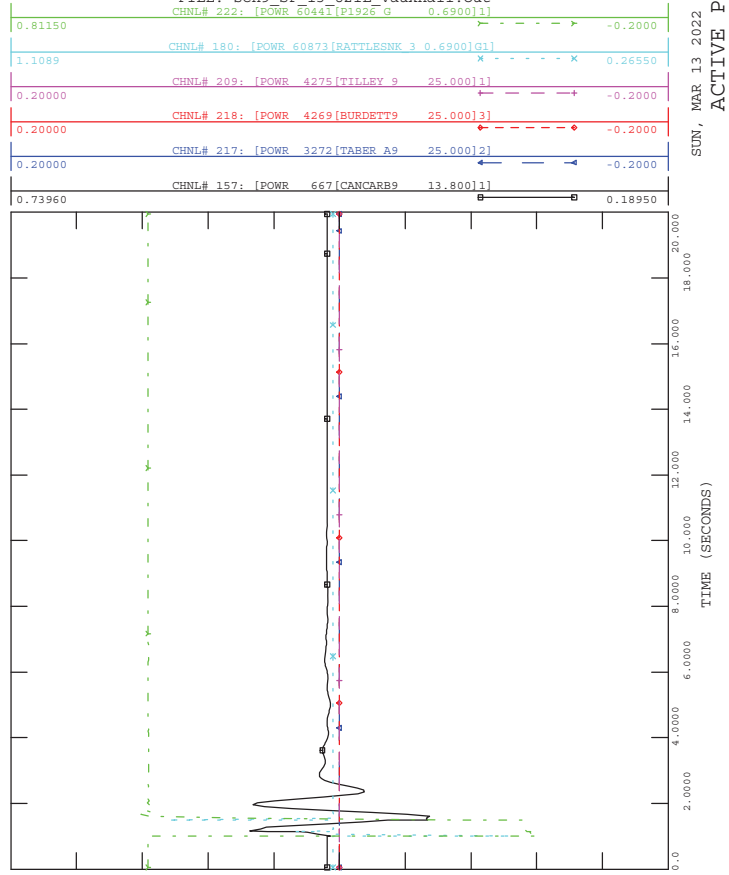
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

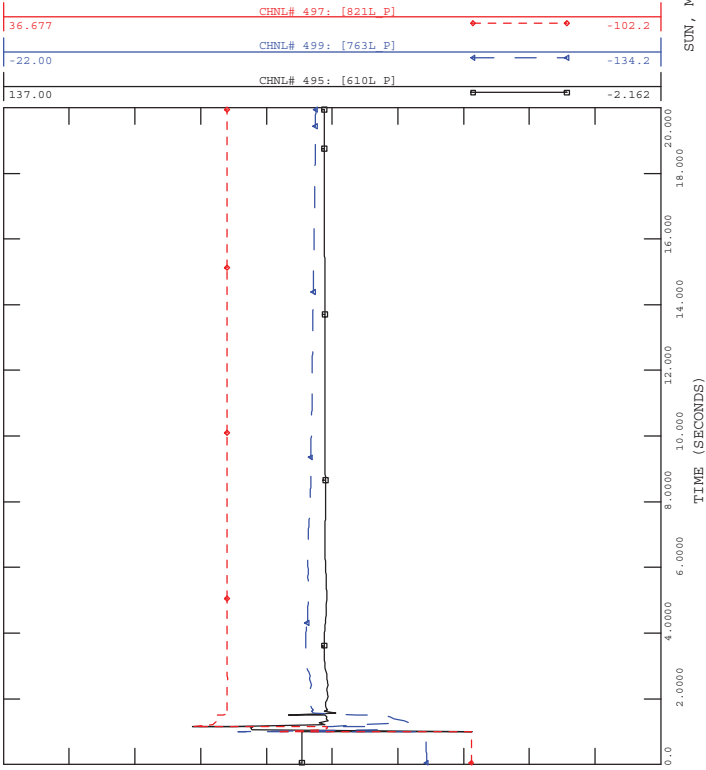
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_12_795L_BROOKS

FILE: scn9_SP_12_795L_Brooks.out

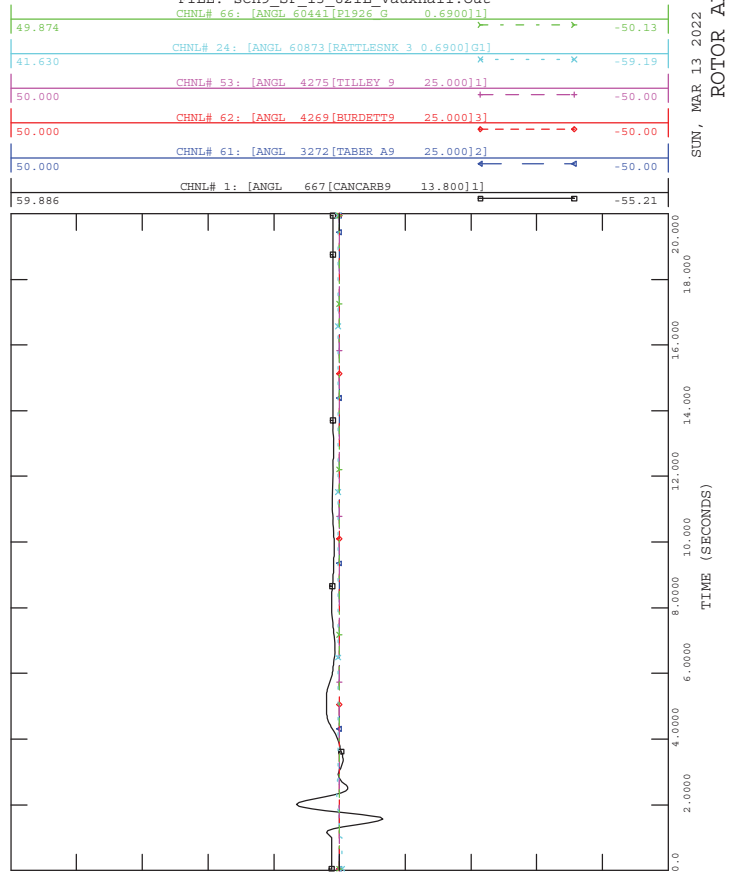
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BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

SUN, MAR 13 2022 23:51
ROTOR ANGLE

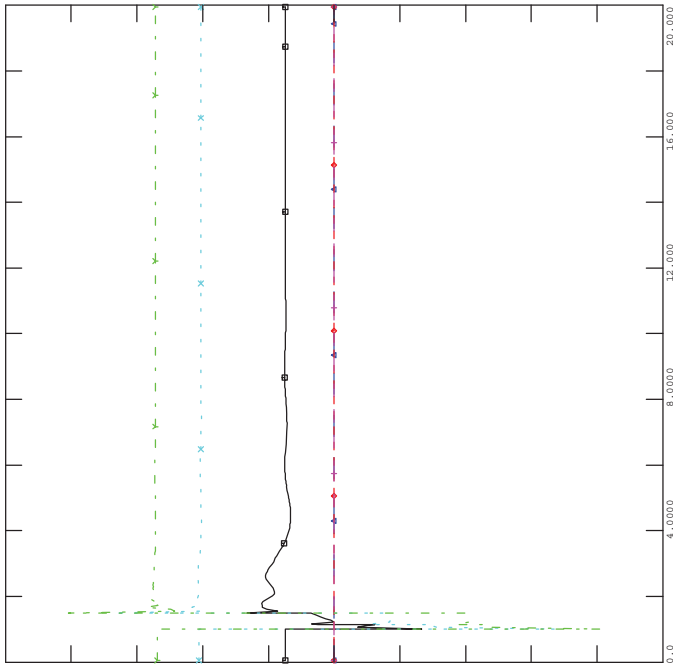




SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

1.2904	CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]	0.25000
1.1795	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.56950
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1359	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.86370



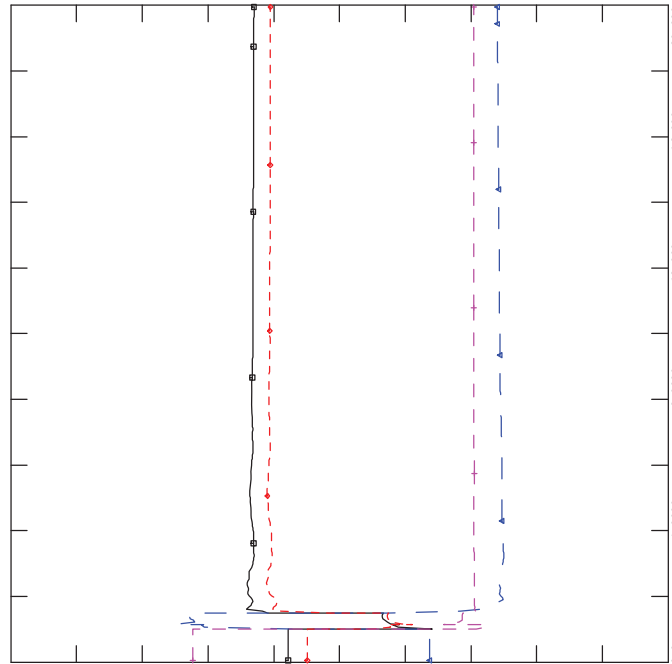
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

92.135	CHNL# 493: [795L P]	-52.41
36.974	CHNL# 491: [612L P]	-65.88
175.66	CHNL# 489: [507L P]	-52.27
58.597	CHNL# 487: [879L P]	-52.90



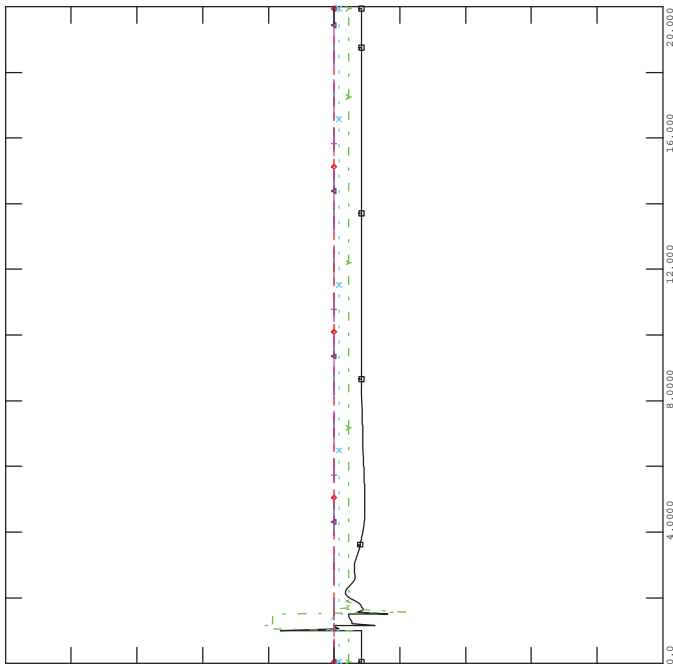
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

0.68170	CHNL# 300: [VARS 60441[P1926 G 0.6900]1]	-0.5969
0.45720	CHNL# 258: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5690
0.50000	CHNL# 287: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 296: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 295: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.83440	CHNL# 235: [VARS 667[CANCARB9 13.800]1]	-0.3608



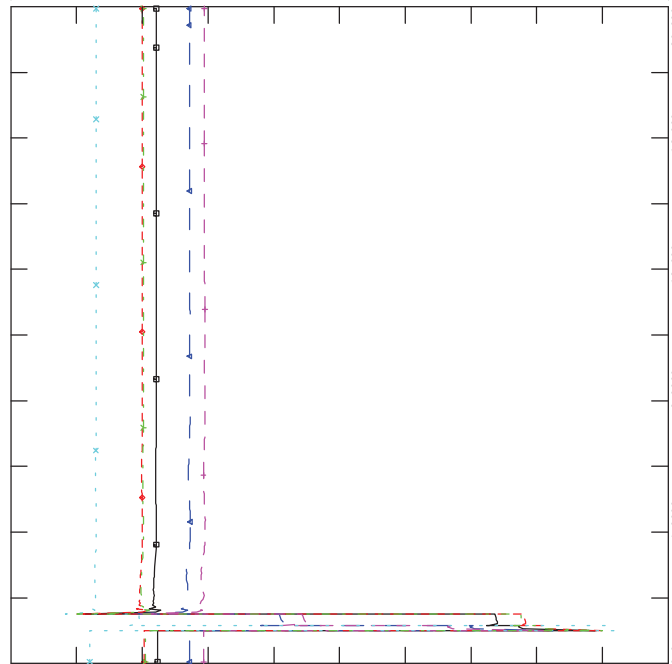
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

1.2391	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.24150
1.1716	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	-0.0377
1.1704	CHNL# 481: [VOLT 276 [W BROOK7 138.00]]	0.64460
1.2383	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.23080
1.1656	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.59590
1.2376	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.33650

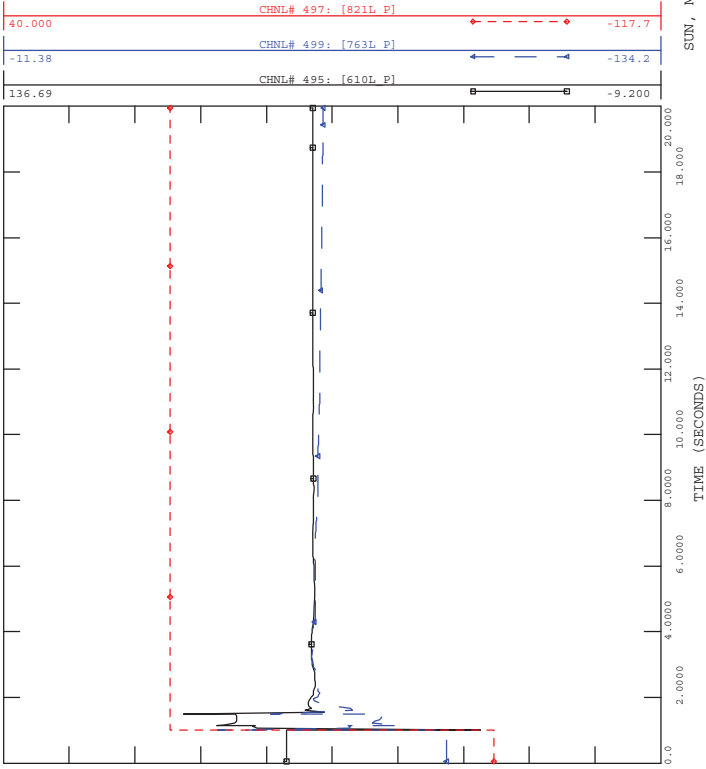


SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

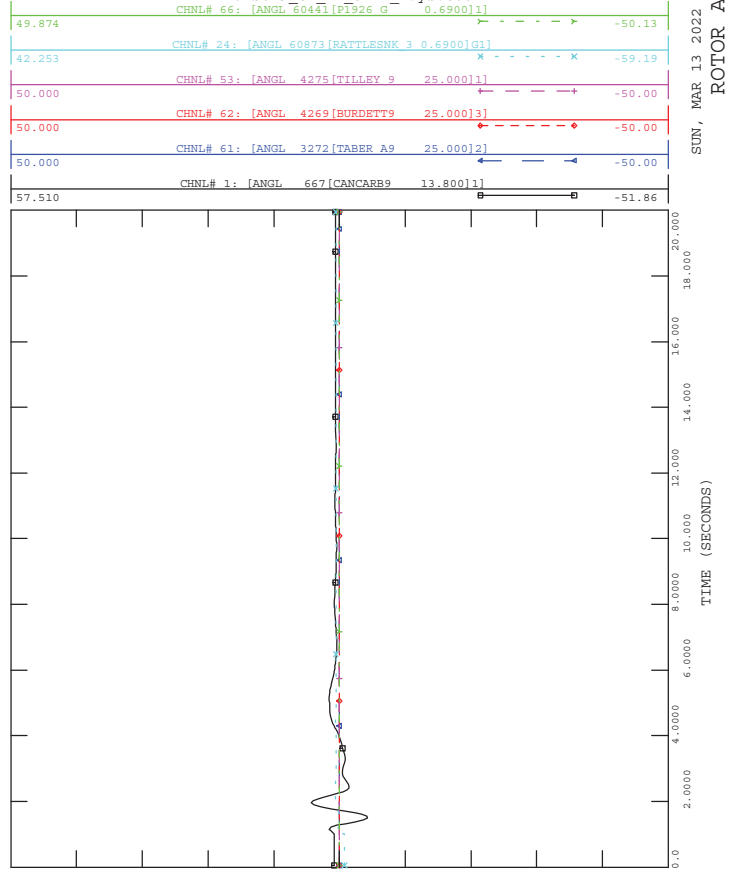


SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out
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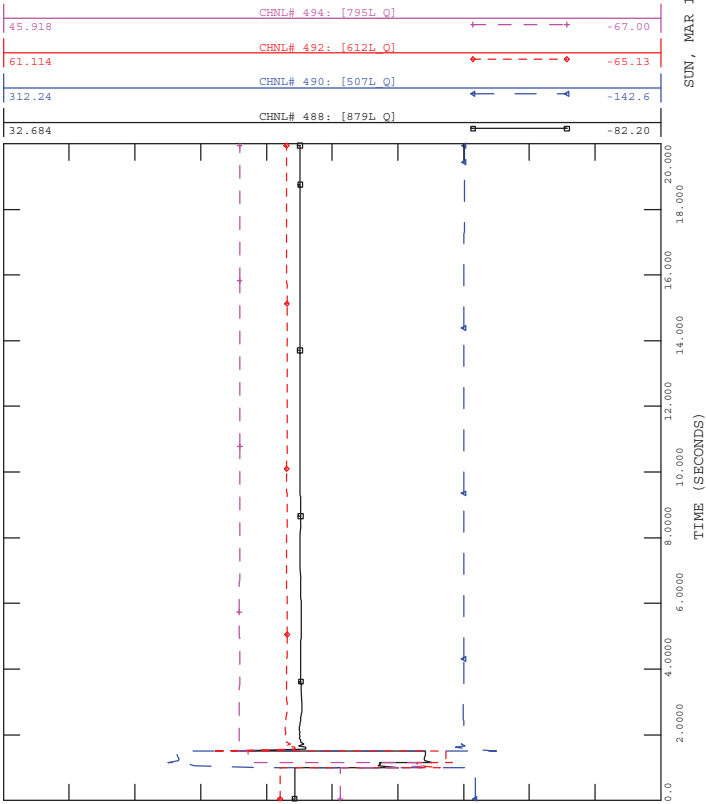


SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out

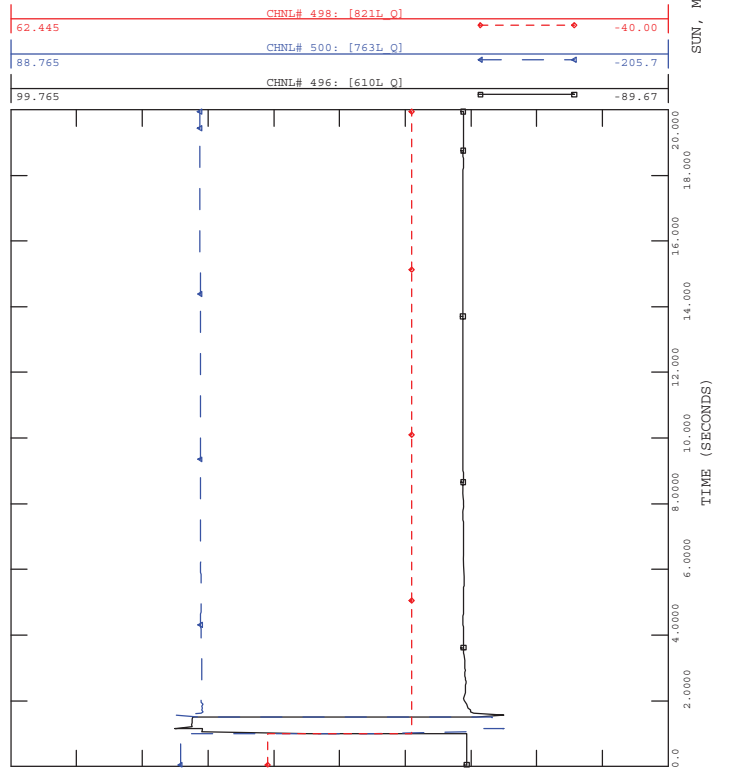


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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_13_821L_VAUXHALL

FILE: scn9_SP_13_821L_Vauxhall.out



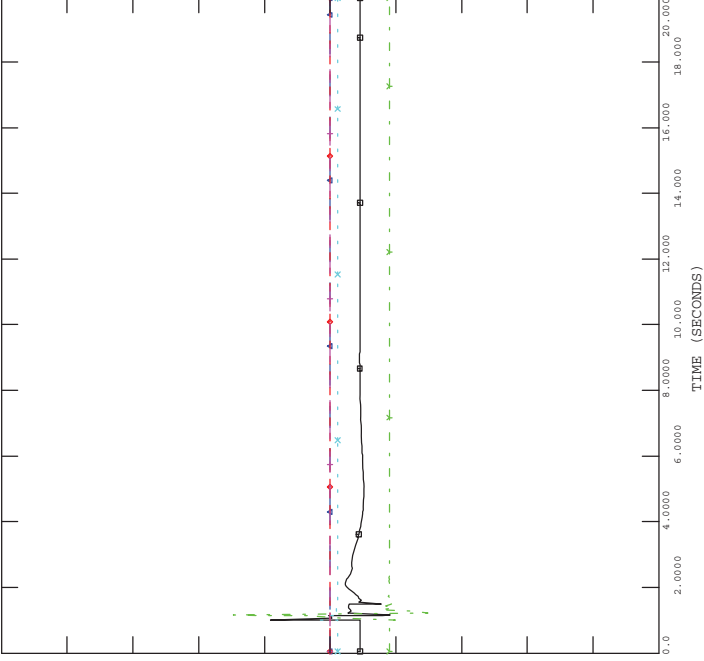
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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

0.85340	CHNL# 300: [VARS 60441[P1926 G 0.6900]1]	-0.5688
0.46280	CHNL# 258: [VARS 60873[RATTLESNK 3 0.6900]G1]	-0.5671
0.50000	CHNL# 287: [VARS 4275[TILLEY 9 25.000]1]	-0.5000
0.50000	CHNL# 296: [VARS 4269[BURDETT9 25.000]3]	-0.5000
0.50000	CHNL# 295: [VARS 3272[TABER A9 25.000]2]	-0.5000
0.85350	CHNL# 235: [VARS 667[CANCARB9 13.800]1]	-0.3682



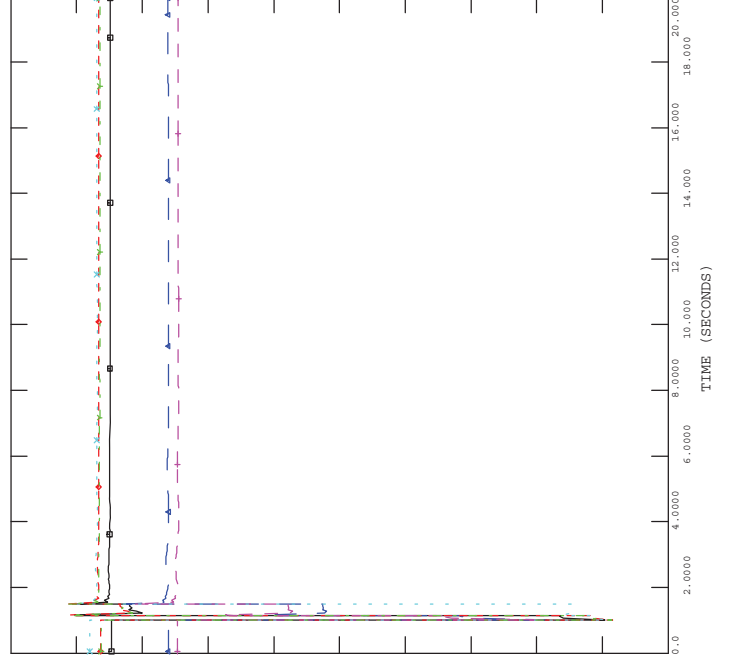
SUN, MAR 13 2022 23:51
REACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

1.1956	CHNL# 484: [VOLT 441 [P1926 1 138.00]]	0.02980
1.1546	CHNL# 482: [VOLT 401 [HAYS 7 138.00]]	0.08900
1.1518	CHNL# 481: [VOLT 276 [W BROOK7 138.00]]	0.61620
1.1948	CHNL# 480: [VOLT 274 [VAUXHAL7 138.00]]	0.01580
1.1470	CHNL# 479: [VOLT 256 [BROOKS 7 138.00]]	0.57770
1.1951	CHNL# 486: [VOLT 2400 [HULL 138.00]]	0.15580



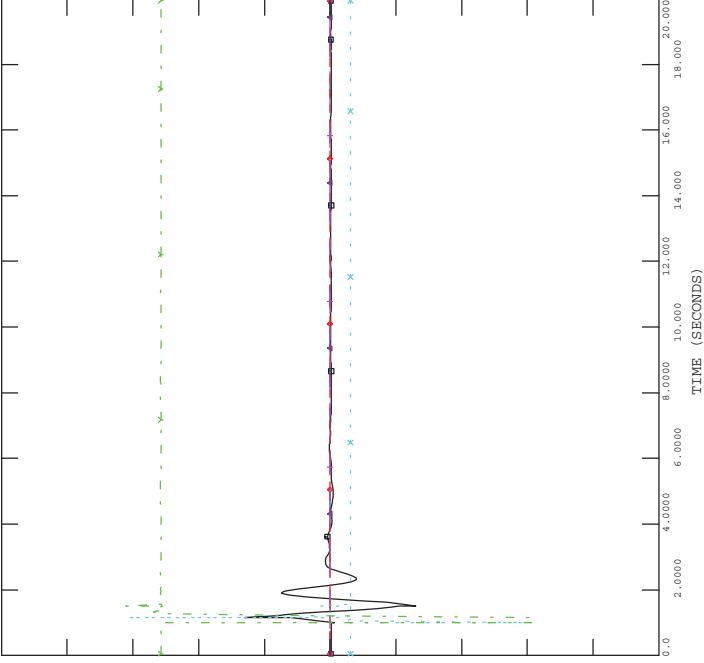
SUN, MAR 13 2022 23:51
BUS VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

0.85570	CHNL# 222: [POWR 60441[P1926 G 0.6900]1]	-0.2000
1.2504	CHNL# 180: [POWR 60873[RATTLESNK 3 0.6900]G1]	0.20440
0.20000	CHNL# 209: [POWR 4275[TILLEY 9 25.000]1]	-0.2000
0.20000	CHNL# 218: [POWR 4269[BURDETT9 25.000]3]	-0.2000
0.20000	CHNL# 217: [POWR 3272[TABER A9 25.000]2]	-0.2000
0.74570	CHNL# 157: [POWR 667[CANCARB9 13.800]1]	0.20560



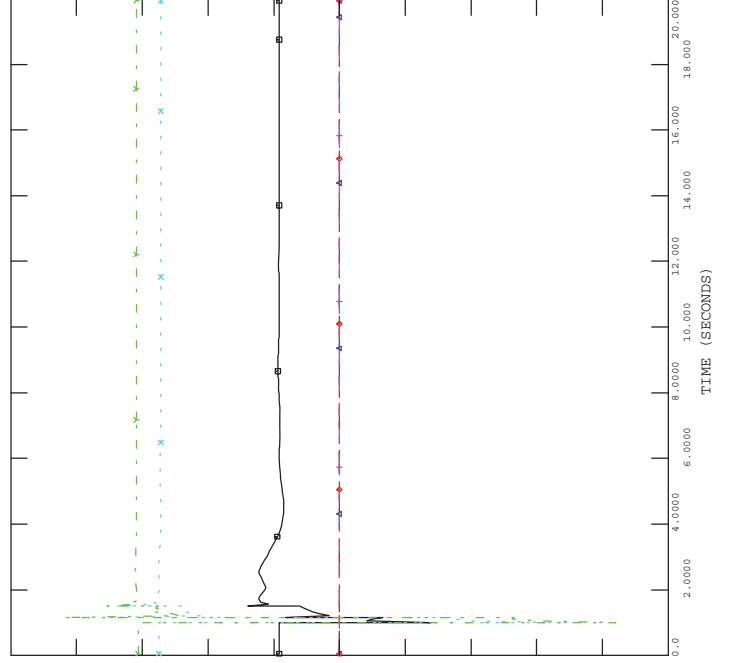
SUN, MAR 13 2022 23:51
ACTIVE POWER



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

1.2939	CHNL# 456: [ETRM 60441[P1926 G 0.6900]1]	0.03560
1.1507	CHNL# 414: [ETRM 60873[RATTLESNK 3 0.6900]G1]	0.48160
0.10000	CHNL# 443: [ETRM 4275[TILLEY 9 25.000]1]	-0.1000
0.10000	CHNL# 452: [ETRM 4269[BURDETT9 25.000]3]	-0.1000
0.10000	CHNL# 451: [ETRM 3272[TABER A9 25.000]2]	-0.1000
1.1331	CHNL# 391: [ETRM 667[CANCARB9 13.800]1]	0.85580



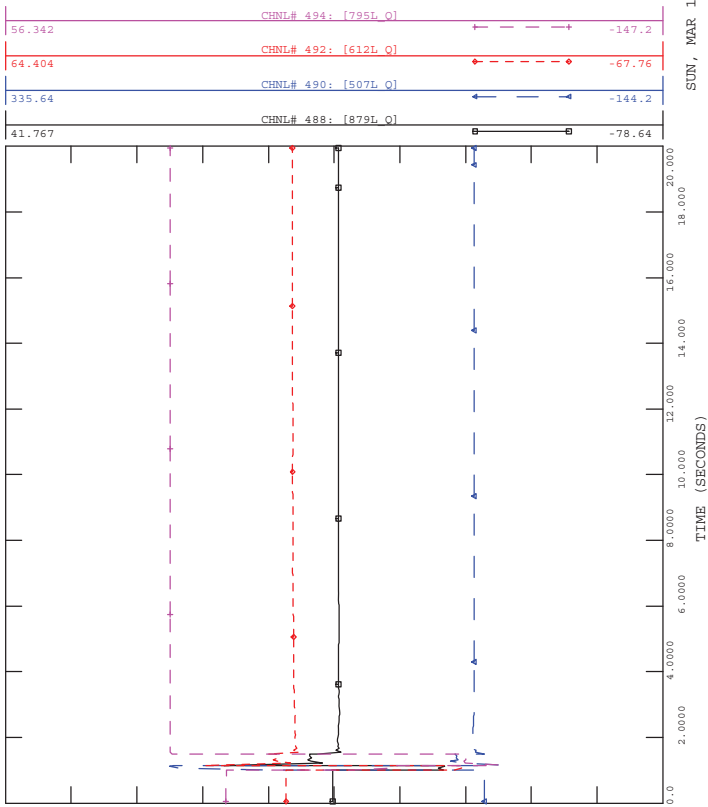
SUN, MAR 13 2022 23:51
TERMINAL VOLTAGE



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

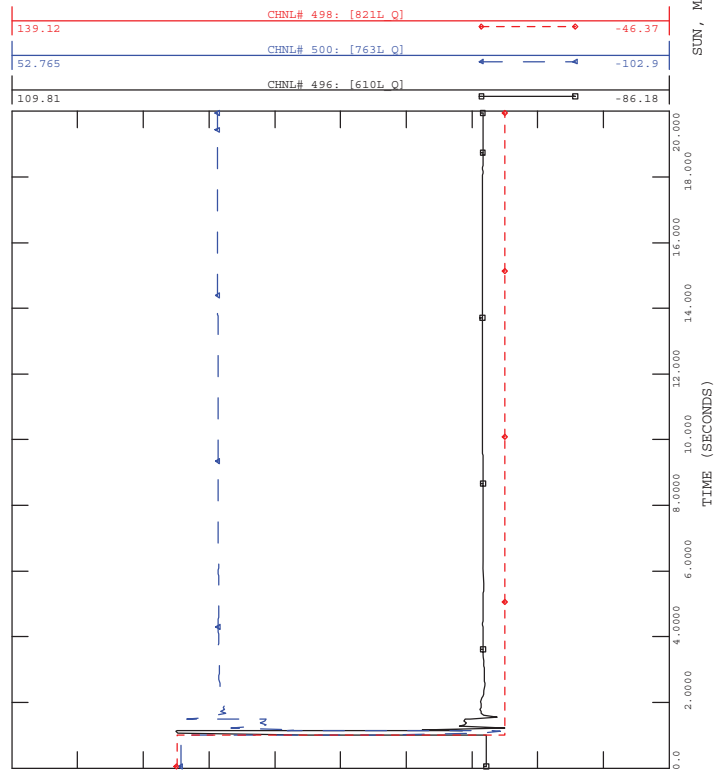
SUN, MAR 13 2022 23:51
BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

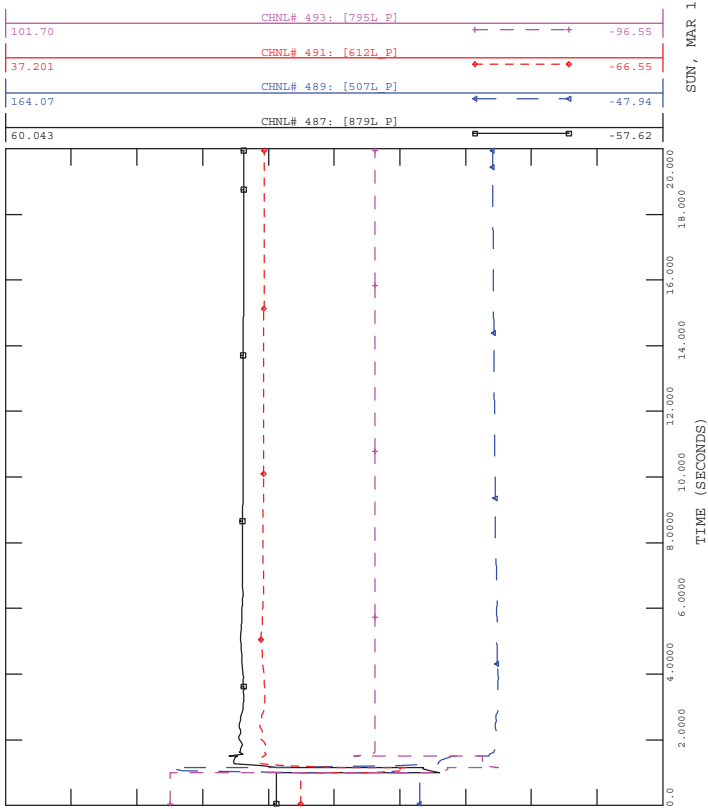
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BRANCH Q



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

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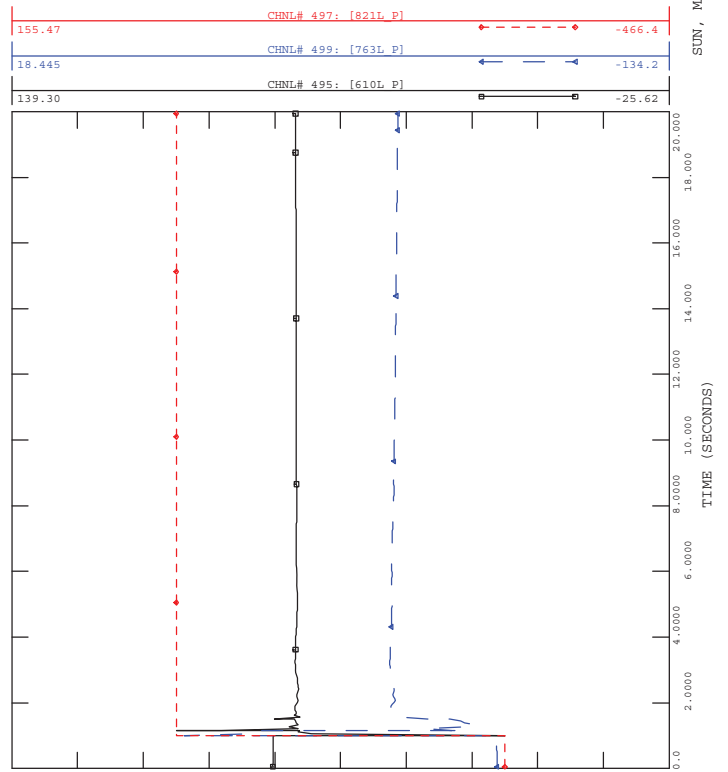
SUN, MAR 13 2022 23:51
BRANCH P



SCENARIO: P2342 SYSTEM IMPACT STUDY
CONTINGENCY -SCN9_SP_14_821L_HAYS

FILE: scn9_SP_14_821L_Hays.out

SUN, MAR 13 2022 23:51
BRANCH P



Attachment A5

Dynamic Data and Assumptions

/ *****

/ ***** Solar Farm generic models ***** /

/project P1926 - Solar Farm

/ *

60441 'USRMDL' 1 'REGCAU1' 101 1 1 14 3 4

1

0.20000E-01 10.000 0.90000 0.50000 1.2200 1.2000 0.80000 0.40000

-1.3000 0.20000E-01 0.70000 10.5 -10.5 0.7000 /

60441 'USRMDL' 1 'REECAU1' 102 0 6 45 6 9

0 0 1 1 0 0

0.9000 1.1000 0.0200 -0.100 0.1000

0.50000 1.0 -1.0 1.0000 0.0

0.0 0.0 0.02 1.0 -1.0

1.500 0.800 0.5 5.0 1.0

10.00 0.0 0.02 10.0 -10.0

1.0 0.0 1.0 0.02 0.0

1.0 2.0 1.0 0.0 0.0

0.0 0.0 0.2 0.0 0.75

0.23 0.85 0.85 1.0 1.0 /

60441 'USRMDL' 1 'REPCAUI' 107 0 7 27 7 9

0 0 0 '0' 1 0 0

0.20000E-01 18.000 5.0000 0.0000 0.75000E-01 0.0000 0.0000

0.0000 0.20000E-01 0.10000 -0.10000 0.0000 0.0000 0.43600 -0.4360

0.10000 0.50000E-01 0.25000 0.0000 0.0000 999.00 -999.00

999.00 -999.00 0.10000 20.000 0.0000 /

Attachment A6

Post-Mitigation Power Flow Diagrams

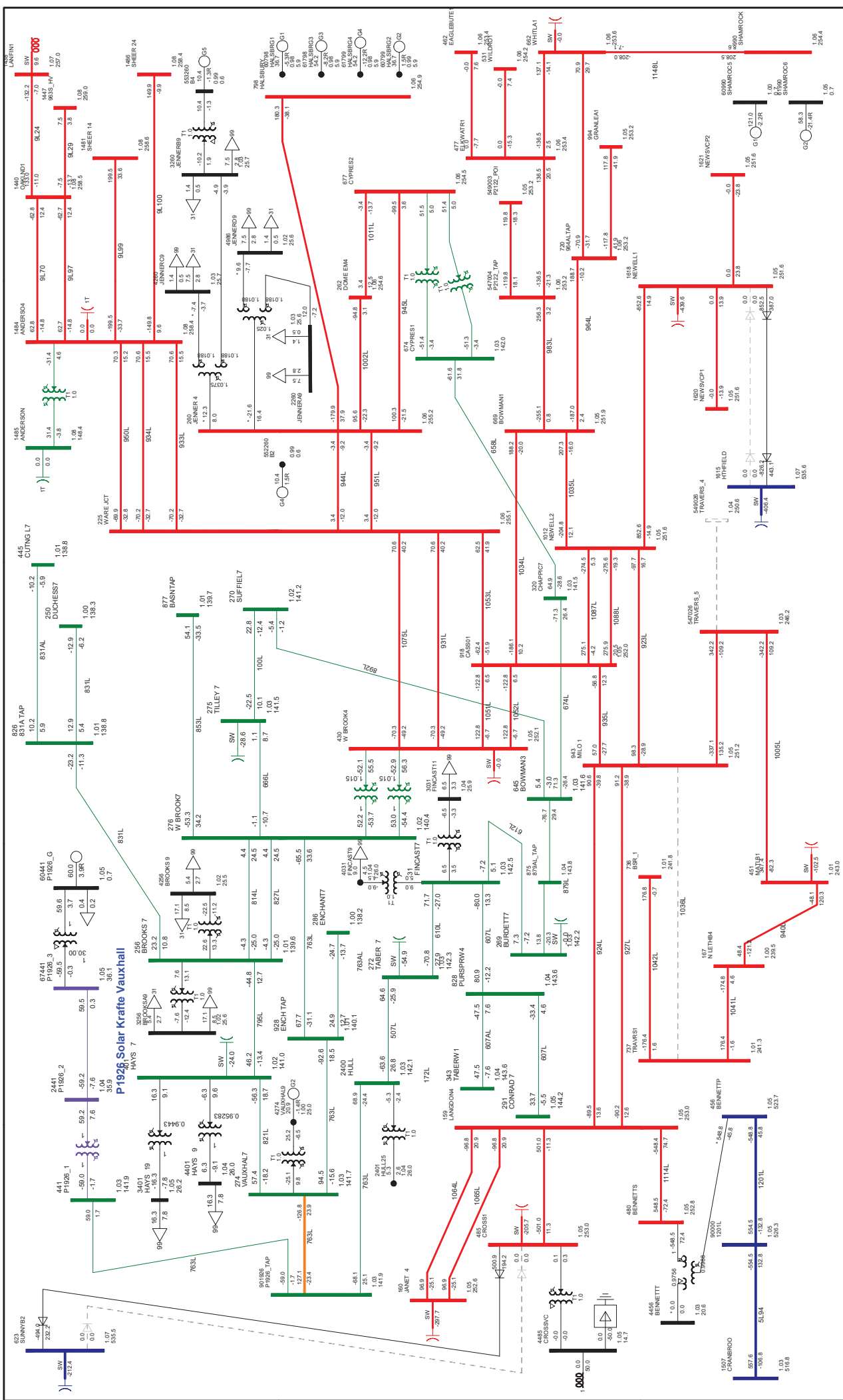


FIGURE A6.1-3 N-1: 1036L (MILO 356S TO TRAVERS 554S) WITH RAS
2023 SUMMER PEAK (POST-PROJECT)
PRINTED ON SUNDAY 13. MARCH 2022

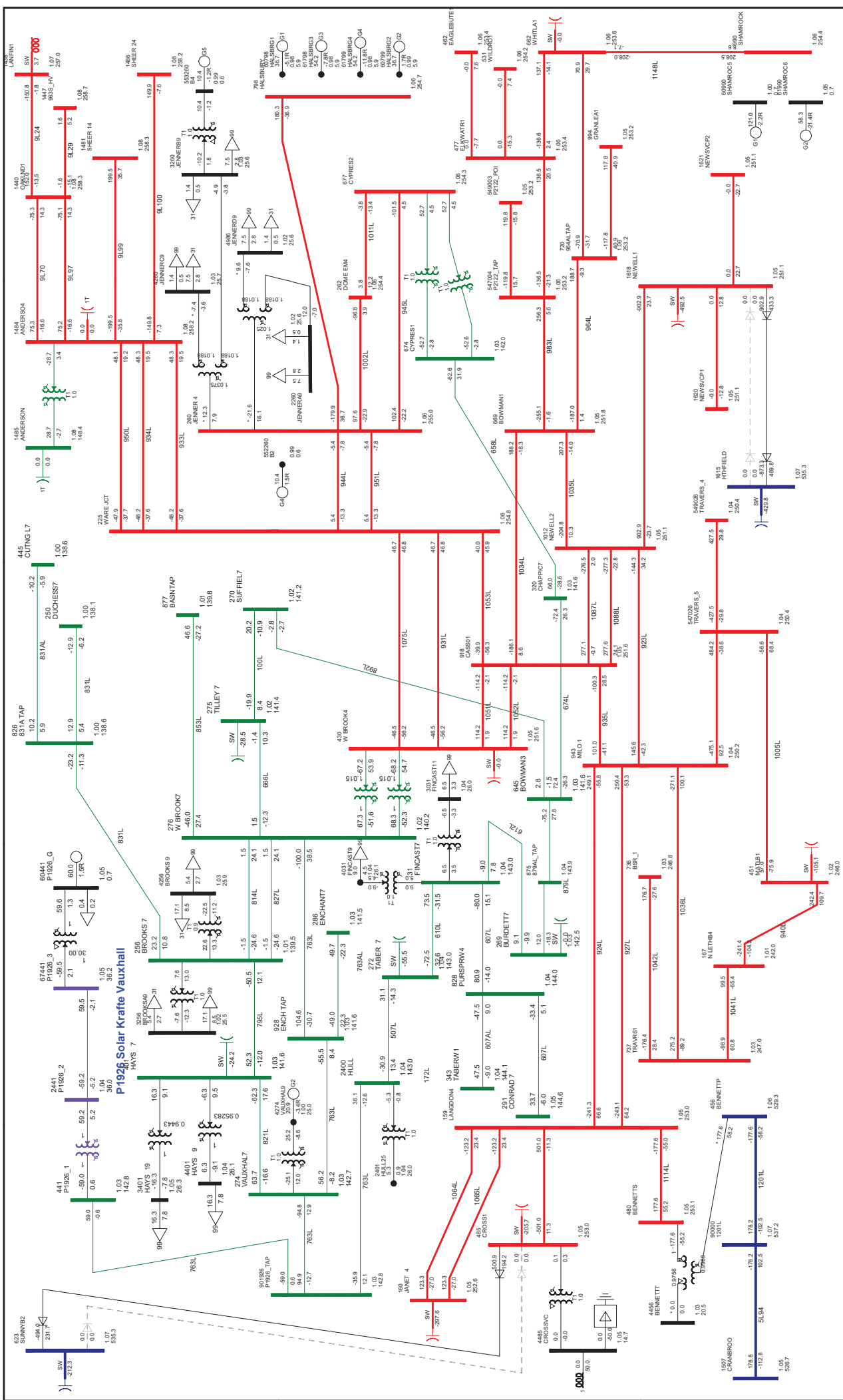


FIGURE A6.2-1-N-0: NORMAL OPERATION
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

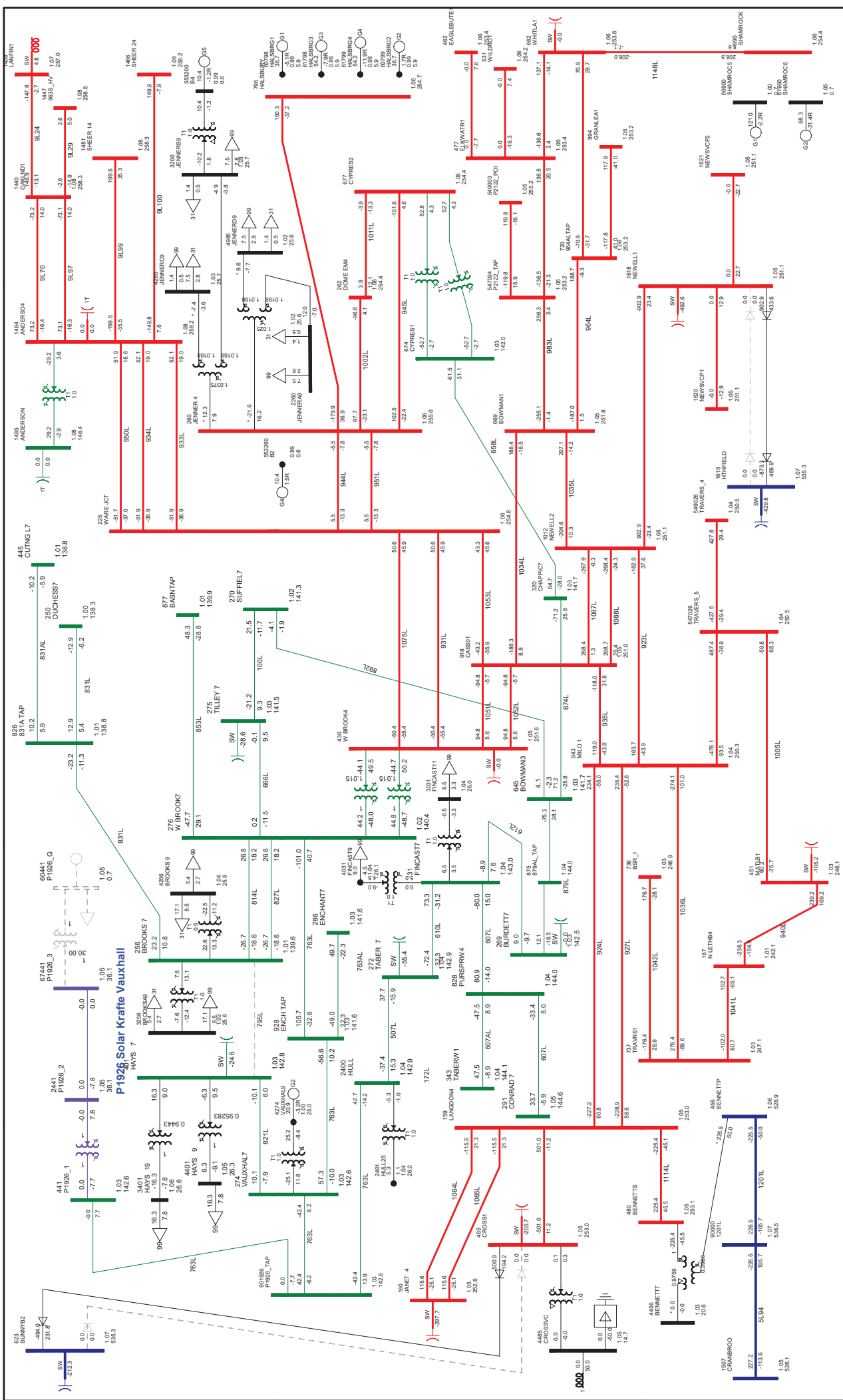


FIGURE A6.2-3 N-1: 795L (BROOKS 121S TO HAYS 421S) WITH RAS
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

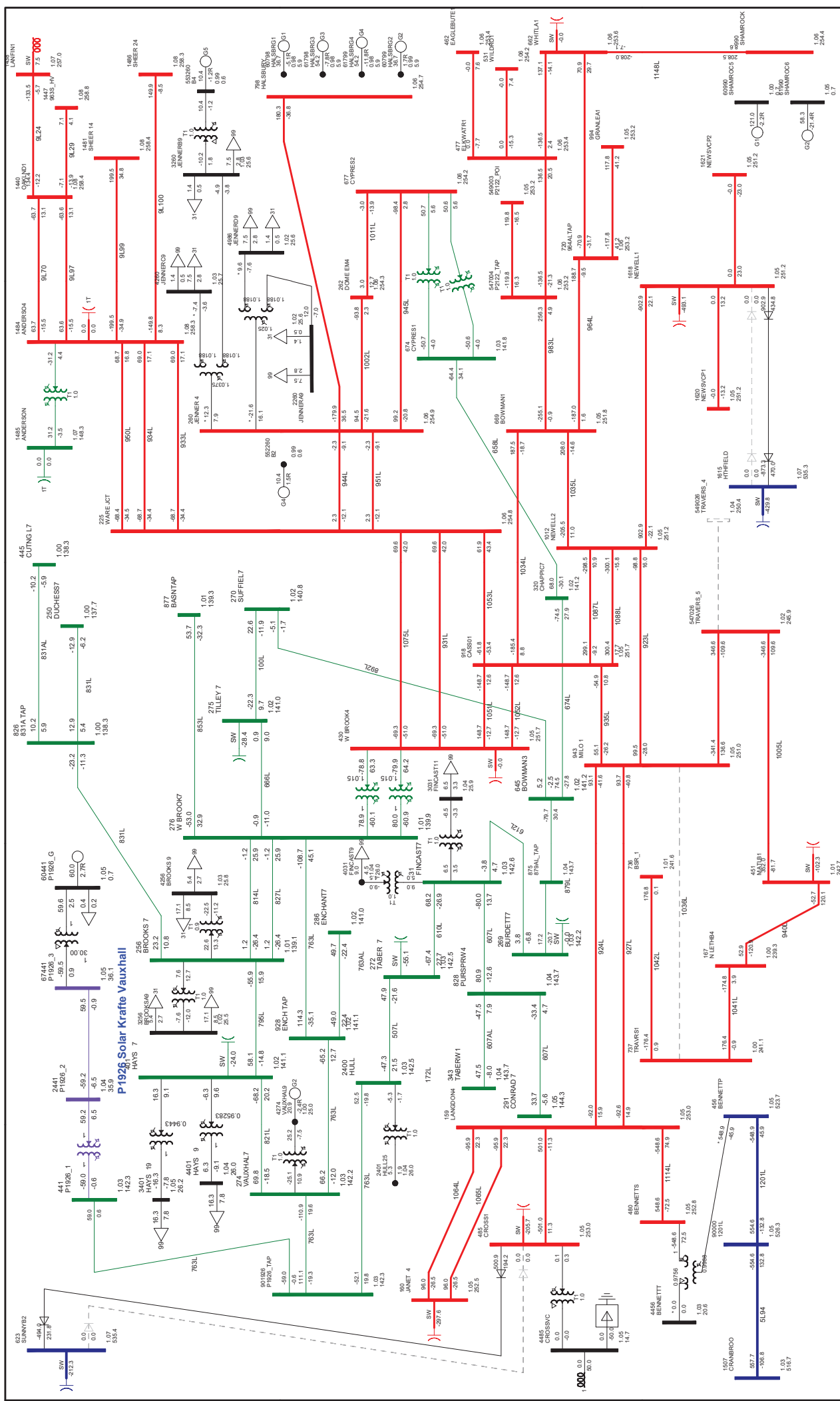


FIGURE A6.2-5 N-1: 1036L (MILO 356S TO TRAVERS 554S) WITH RAS
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

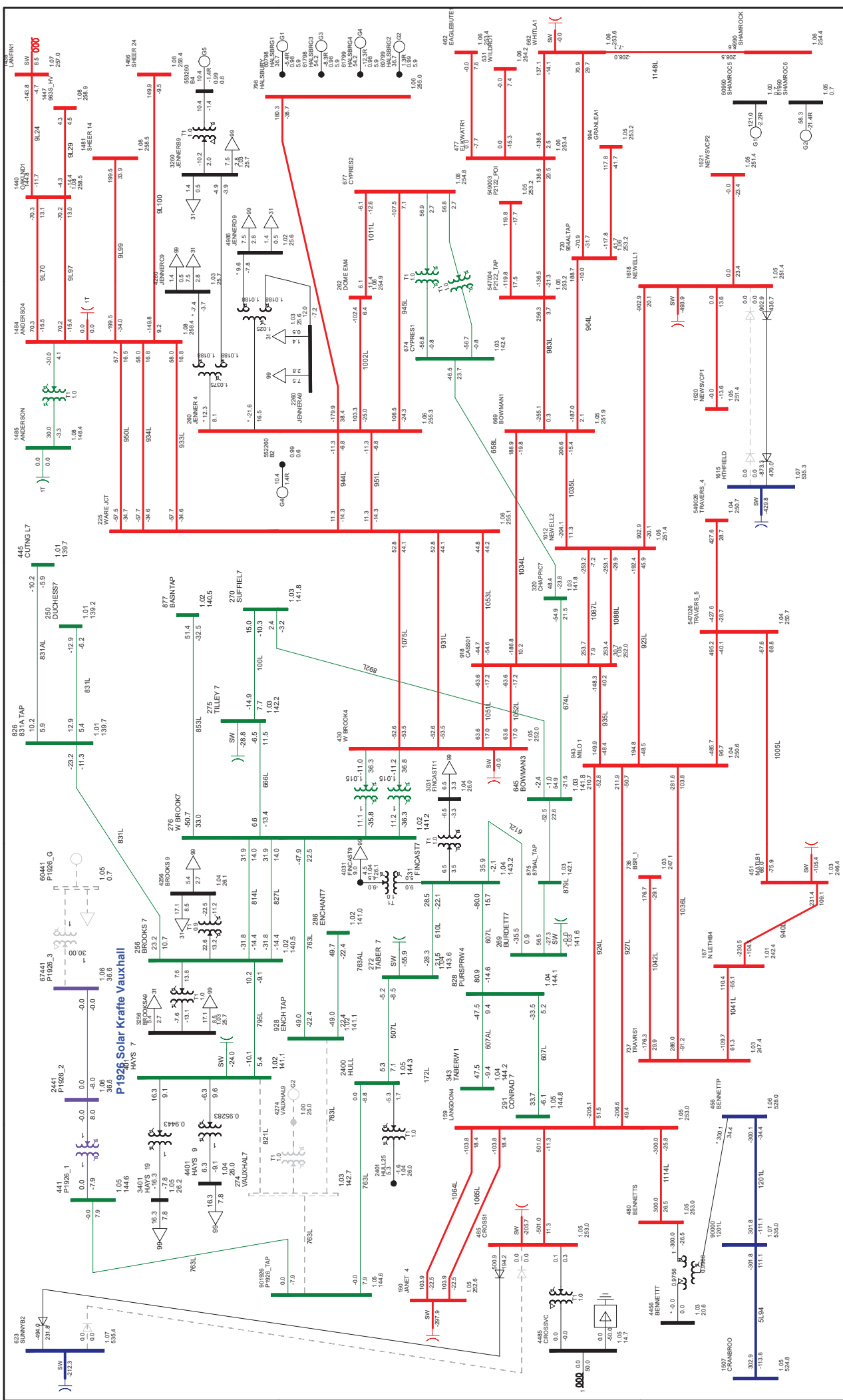
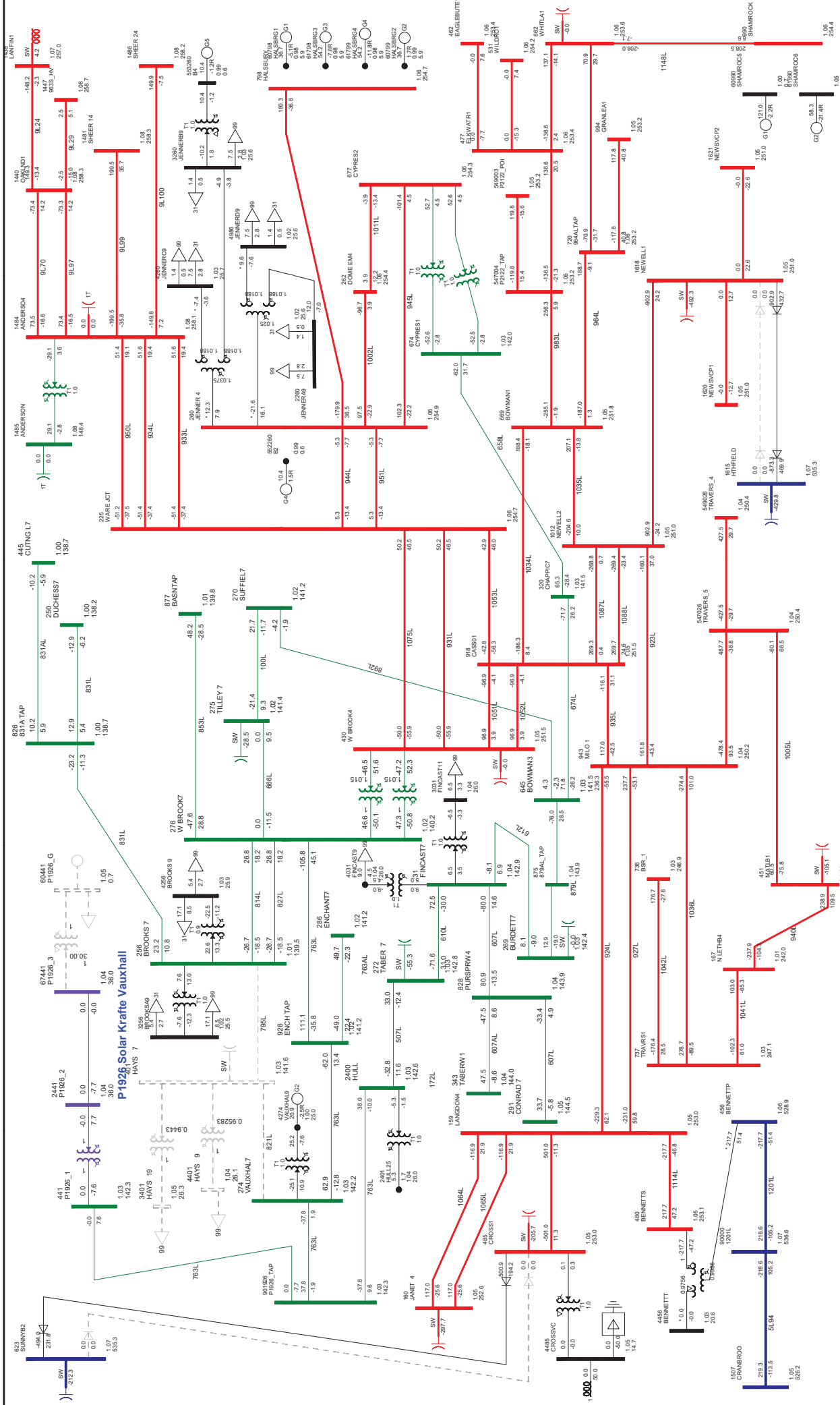


FIGURE A6.2-6 N-1: VAUXHALL 158S T2 WITH RAS
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022



P1926 Solar Krafte Vauxhall

FIGURE A6.2.7 N-1: HAYS 421S T2 WITH RAS
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
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BC Import: 186.0 MW Sask Import: 150.0 MW MATL Import: 306.5 MW
MH Export: -20.9 MW

Blue = Vantage Voltage
Green = Vantage Power
Yellow = Vantage Flow
Red = Vantage Losses
Grey = Vantage Other

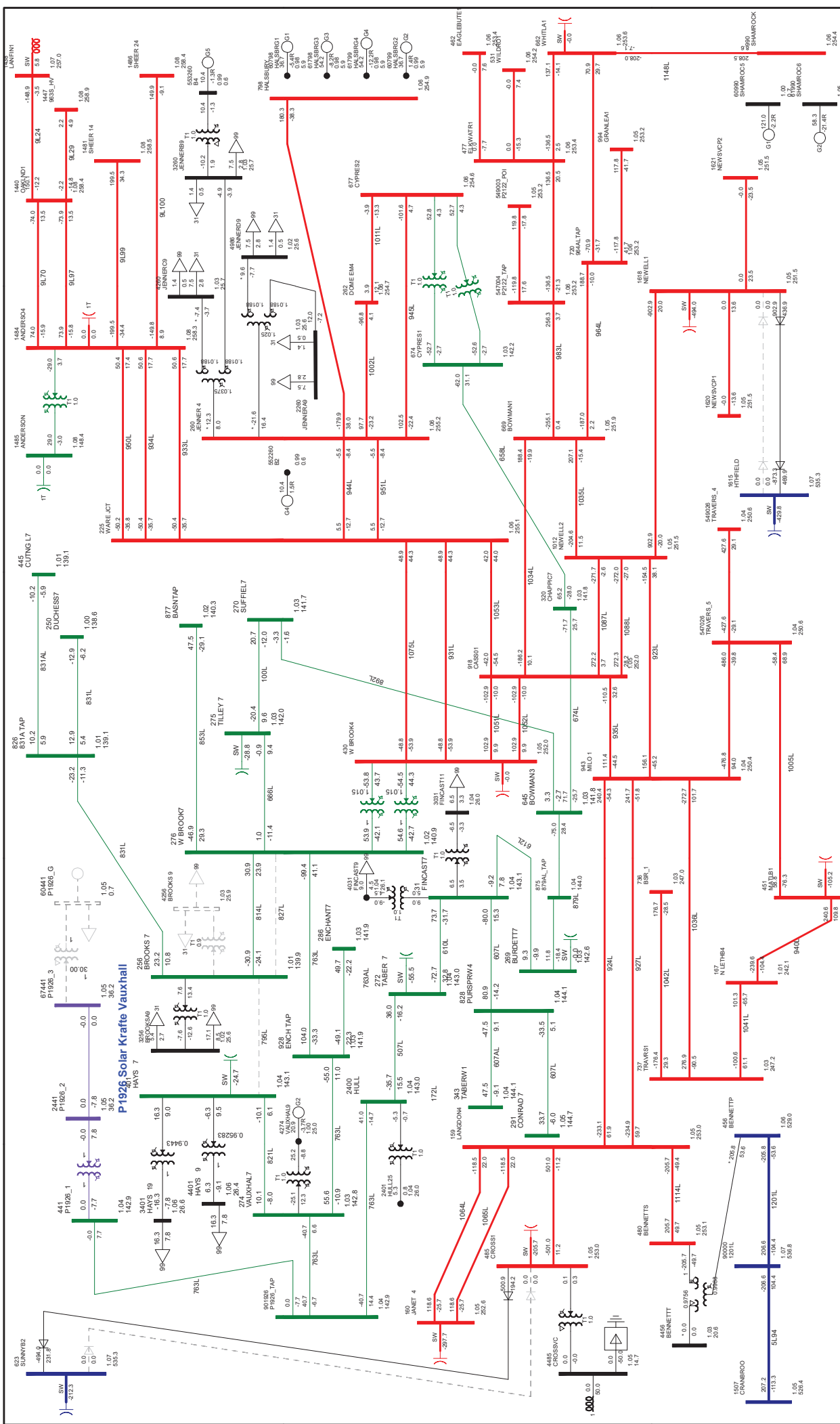


FIGURE A6.2-8 N-1: BROOKS 121S T2
2023 SUMMER PEAK (POST-PROJECT) - ENCHANT DERS
PRINTED ON SUNDAY 13. MARCH 2022

Attachment A7

Constraint Effective Factors Table

