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Contrato: 0800.0060766.10.2
ABB LTDA - Nome do Arquivo Eletrônico: MC-4250.01-5142-700-ABF-004=7

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PROJETO	ABB	ABB	ABB	ABB	ABB	ABB			
EXECUÇÃO	IP/Farfilho	IP/Farfilho	IP/Farfilho	IP/Farfilho	IP/Farfilho	IP/Farfilho			
VERIFICAÇÃO	A.Bandeira	A.Bandeira	A.Bandeira	A. Bandeira	A. Bandeira	A. Bandeira			
APROVAÇÃO	A.Arcon	A.Arcon	A.Arcon	A. Arcon	A. Arcon	A. Arcon			

SUMÁRIO

1 OBJETIVO

O presente relatório tem por objetivo determinar os níveis e potência de curto-circuito trifásico e fase x terra que podem ocorrer durante a ocorrrência de defeitos no sistema (norma IEC 60909).

Estes níveis de Curto-Circuito, juntamente com o Estudo de Análise de Suportabilidade de Equipamentos têm a finalidade de fornecer os requisitos mínimos para o dimensionamento dos Equipamentos, atendendo as condições de operação, conforme as normas de segurança. A análise é referente à Ampliação da Subestação Principal do Sistema Elétrico do terminal Aquaviário de São Sebastião - TEBAR, situado em São Sebastião – SP.

2 NORMAS

Para a elaboração deste relatório as seguintes normas e bibliografias foram consultadas:

- [1] IEC 60909 International Standard 909: Short-circuit current calculation in three phase a.c. systems - 1988 edition (DIN VDE -102 Part 1)
- [2] Norma ANSI C 37.010.1979 Application Guide for A.C. High Voltage Circuit Breakers Rated on a Symmetrical Current Basis (IEEE Std 320)
- [3] Norma ANSI C 37.06.1966 Preferred Ratings and Related Required Capabilities for AC High - Voltage Circuit Breakers
- [4] Norma ANSI C 37.13.1981 Standard for Low Voltage AC Power Circuit Breakers Used in Enclosures
- [4] IEEE Std 141-1993 Red Book Recommended Practice for Electrical Power Distribution for Industrial Plants (ANSI)
- [5] Industrial Power Systems Handbook - Donald Beeman
- [6] Correntes de Curto-Circuito em Redes Trifásicas – Roeper

3 PREMISSAS

3.1 Dados Utilizados

Os dados utilizados no estudo em pauta foram obtidos através de documentação fornecida pela Petrobras, tais como desenhos, documentos e informações contendo os valores de curto-circuito na entrada do sistema elétrico.

Documentos de referência:

- Esquema Unifilar Geral – Subestação de Entrada 138/13.8/4,16kV Terminal Aquaviário de São Sebastião Ampliação da Subestação Principal Transpetro doc Nº: DE-4250.01-5142-946-PEN-001 Rev. B de 28/10/09.
- Diagrama Unifilar Geral 138/13.8/4,16/0,48kV Glebas A/B/C/ Terminal Aquaviário de São Sebastião Sistema Elétrico Nº DE-4250.01-5148-741-ADA-001 Rev. B 28/01/2010
- CEPEL / ANAFAS Relatório de Impedâncias de Barra, Relatório de Niveis de curto-circuito e Relatório de Dados de curto-circuito.
- Parâmetros do ramal Petrobras São Sebastião
- Livro de instruções Transformador Regulador Trifásico 3217 A/B Nº61125/ 1070 - 01_03/02_03/03_03 Caracteristicas Técnicas
- Placa de Identificação TF3218A/B Nº 32997 de 21/09/1973
- Diagrama Unifilar com proteção PN-3228 OSVAT Switchgear – gleba D Nº DE-4250.01-5144-741-AUD-001 Rev.0 02/08/07
- Diagrama Unifilar PN-3232 - 4,16kV – gleba D Nº DE-4250.01-5140-700-ADA-001 Rev.A 23/03/10
- Diagrama Unifilar PN-3254 -13,8/4,16kV – gleba A Nº DE-4250.01-5148-741-AUD-001 Rev.A 23/03/10
- Diagrama Unifilar PN-3230 0.48kV – gleba D Switchgear Nº DE-4250.01-5140-700-AUD-001 Rev.0 02/08/07
- Informações da concessionária Bandeirantes - documentos com parâmetros do ramal Petrobras - São Sebastião e Relatório de curto-circuito (email de 30/11/10)

- Arquivo zipado DIAGRAMA UNIFILAR – TEBAR.rar contendo fontes/arquivos de PTW com dados de impedâncias de cabos, motores, cargas e etc. da Transpetro São Sebastião fornecido pela PETROBRAS em reunião ABB/Transpetro
- Consulta Nº: SIT-4250.01-5142-700-ABF-015=0

4 CONSIDERAÇÕES

4.1 Transformadores

A potência, a relação de transformação e a impedância considerada para o estudo foram obtidos dos desenhos e documentos listados no item 3.1, acima:

2xTrafos 3217A/B-3ϕ 20/26,66/33,33MVA Z%=8,18%
2xTrafo 3202A/B-3ϕ 20/26,66/33,33MVA Z%=8,0%
2xTrafos 3218A/B-3ϕ 8/10MVA Z%=8,0%

Foram considerados os critérios de contribuição dos motores no secundário do transformador, segundo o IEEE Red Book.

4.2 Cabos

Os cabos foram representados por suas impedâncias, as quais são obtidas em função de suas características construtivas. São listadas e indicadas nos diagramas unifilares acima: DE-4250.01-5142-946-PEN-001 Rev. B e Nº DE-4250.01-5148-741-ADA-001 Rev. B.

Os valores das impedâncias foram retirados de catálogos de fabricantes ex. Pirelli.

Em alguns casos é indispensável colocar uma impedância como cabo, com valor muito pequeno, para que o software aceite o modelo (Z = 0.0001 + j0.0001) 0,5 metros, o qual pode ser identificado no Tabelamento de Dados com a nomenclatura de “CBL-nnnn AUX”.

4.3 Motores

As reatâncias para os motores de média tensão foram consideradas individualmente, utilizando o valor de rotor bloqueado. Para a baixa tensão foi considerado o motor equivalente com 60% da potência do transformador que o alimenta.

Para todos os motores assíncronos de baixa ou média tensão a resistência foi obtida a partir do valor da relação X/R, segundo o IEEE Red Book.

Para a definição das impedâncias dos motores, a norma ANSI aplica fatores multiplicativos às reatâncias das máquinas, as quais são funções das potências e velocidades. Neste estudo foram desconsiderados motores menores ou iguais a 50 kW.

Características, rendimento e fator de potência das cargas foram adotados, considerando a tabela de motores da WEG.

Informações do arquivo PTW fornecido

Motor 2/4 polos	kV	In (A)	Ip/In	η	F.P.
MB-6511502 5700kW–2 polos	13,2	309,49	5,8548	0,967	0,85
MB-6511501 1300kW-4 polos	13,2	69,89	5,8548	0,956	0,88
MB-3212 1125kW-4 polos	13,2	56,89	5,8548	0,9610	0,90
MB-4250.0101 1800kW-4 polos	13,2	93,58	5,8548	0,956	0,88
MB-3202 1865kW-4 polos	4,00	475,18	5,8824	0,956	0,88
MB-3208 1288kW-4 polos	4,00	271,06	5.8548	0,956	0,93
MB-3210 670kW-4 polos	4,00	119,40	5,8824	0,935	0,88
MB-3221 710kW-4 polos	4,00	178,92	5,8824	0,957	0,89
MB-3201 185kW-4polos	0,44	367,47	5,8548	0,945	0,86
MB-3207 150kW-4 polos	0,44	316,94	5,8548	0,945	0.86

As demais cargas foram consideradas em kVA com fator de potência de 0,85; 0,92 e 1,00, conforme o arquivo fornecido em PTW.

4.4 Contribuição na Entrada do Sistema

Os valores utilizados e fornecidos pelo PTW para as fontes, como fontes de corrente de curto-circuito na entrada do sistema 138kV, são:

- **Planta alimentada pelas linhas 1 ou 2 de 138kV 31,5kA - vide itens 3.1 e 4.1 acima.**
  - I_{CC} 3ϕ = 6050 A e X/R = 3.620
  - I_{CC} 1ϕ = 0 A e X/R = 1.0
  - Z1= 0,018413+j0,066656
  - Z0 = 10000000+j10000000
  - Base 100MVA 138kV.

4.5 Topologia do Sistema

As simulações de curto-circuito foram efetuadas para a topologia de operação, conforme indicadas nos diagramas unifilares do PTW fornecido em reunião.

Destaca-se a não operação em paralelo dos transformadores.

Cubículos de média tensão e painéis de baixa tensão com dupla alimentação e disjuntor de interligação (tie), não operam em paralelo.

Cubiculos e equipamentos em serviço e fora de serviço conforme indicado no arquivo PTW fornecido em reunião pela Petrobras.

5 METODOLOGIA DE CÁLCULO

5.1 Programa Utilizado

O programa utilizado foi o PTW versão 6.5.2.1 da SKM, módulo DAPPER, que utiliza a técnica da montagem da matriz de Admitâncias Nodal Ybus e posteriormente efetua a inversão da mesma para a obtenção da Matriz Zbus com o modulo IEC-Fault que obedece a normas pertinentes e vigentes da IEC 909.

5.2 Técnica de Montagem de Matriz

A partir do diagrama unifilar e dos dados do sistema, o programa gera a matriz admitância (Ybus). A matriz Ybus é quadrada com tamanho correspondente a quantidade de barras do sistema. As características da matriz Ybus permitem sua inversão, obtendo-se assim a matriz de impedâncias (Zbus) e com isso tornando possível o cálculo das correntes de falta nas barras, utilizando-se a Lei de Ohm.

5.3 Faltas Equilibradas

As correntes de falta em um sistema trifásico podem ser equilibradas através de todas fases ou desequilibradas. Faltas desequilibradas envolvem uma ou duas fases, nunca as três. A corrente de falta trifásica simétrica eficaz (falta equilibrada) é freqüentemente considerada a máxima corrente de falta na barra. Entretanto, em certas condições de sistemas, a falta desequilibrada pode apresentar maior valor de corrente que a falta trifásica.

Para que os cálculos sejam efetuados a Primeira Lei de Ohm deve ser definida:

$[E] = [Z] [I]$

onde:

E - Matriz tensão da barra

Z - Matriz impedância da barra; conhecida como a matriz Zbus

I - Matriz da corrente nodal da barra.

A impedância Z em notação complexa:

$Z = R+jX.$

Onde:

R - Resistência

X - Reatância

5.4 Correntes Simétricas

O Estudo de Curto-Circuito formula as equações dos nós aplicando a Lei de Kirchoff das Correntes. Para a determinação da corrente de falta utiliza-se a impedância equivalente (reduzida) de Thevenin, para cada ponto de falta (nó).
A corrente de curto-circuito é calculada por:

[I] = [E] / [ZTHEVENIN]

A corrente de curto-circuito no primeiro momento é assimétrica, pois contém os componentes de corrente alternada e outra componente contínua que determina um pico de corrente no primeiro ½ ciclo (vide fig. 4.1).

O cálculo é sempre baseado no presumível e completo curto-circuito com a superposição das correntes acima. Outras influências, especialmente resistência de arco, resistência de contato, temperatura do condutor, indutância do transformador de corrente em conjunto podem afetar reduzindo a corrente de curto-circuito. Desde que estes fatores não podem ser totalmente controlados por cálculos eles são considerados pelo fator “c”, (tabela 4.1)

Tabela 4.1 ---------- Fator de Tensão “c”

Tensão Nominal	máxima corrente de Curto-circuito	mínima corrente de Curto-circuito
Baixa Tensão 100-1000V a) 230V/400V b) outras tensões	 1,00 1,05	 0,95 1,00
Media Tensão > 1 kV até 35kV	1,10	1,00
Alta Tensão > 35kV até 230kV	1,10	1,00

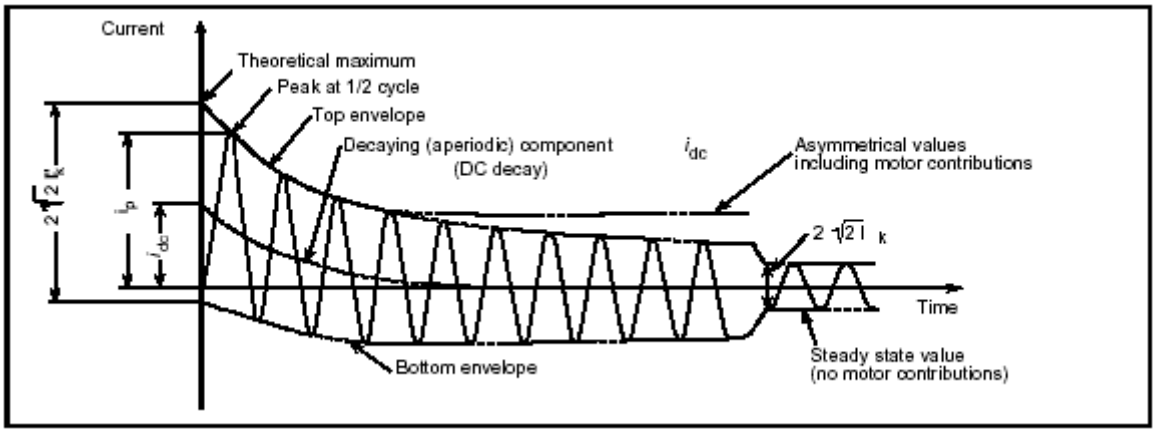

Fig. 4.1 – Forma de Onda da corrente de curto circuito

Curva de curto-circuito próximo ao gerador

- I''_k - corrente inicial de curto-circuito;
- Ip - corrente de pico;
- I_k - corrente de curto-circuito de regime;
- I_{dc} - corrente continua inicial.

5.5 IEC Standard 909 Terms

PTW's Reports conform to IEC Standard 909 notation, including:

c Voltage factor;

cU_n Equivalent voltage source (rms);

f Frequency (Hz);

I_b Symmetrical short circuit breaking current (rms) voltage;

$I_{b\ asym}$ Asymmetrical short circuit breaking current;

I_k Steady-state short circuit current (rms);

I''_k Initial symmetrical short circuit current (rms);

I''_{kG} Initial symmetrical short circuit current at synchronous machine;

I''_{kM} Initial symmetrical short circuit current at asynchronous motor;

$I_{G\ rated}$ Rated current of synchronous machine;

$I_{M\ rated}$ Rated current of asynchronous motor;

I_{LR} Locked-rotor current of an asynchronous motor;

I_{dc} Decaying aperiodic component of short circuit current;

I_p Peak short circuit current;

K_G Correction factor for synchronous machines;

μ Factor of the calculation of breaking currents;

q Factor for the calculation of breaking currents of asynchronous motors;

S_k Steady state symmetrical short circuit power (apparent power);

S''_k Initial symmetrical short circuit power (apparent power);

t_{min} Minimum time delay;

U_n Nominal system voltage, line-to-line (rms);

U_{rG} Rated machine voltage;

X''_d Direct axis sub-transient reactance (saturated) of synchronous machine;

X''_q Quadrature axis sub-transient reactance (saturated) of synchronous machine;

$X''_{d\ sat}$ Reciprocal of the short circuit ratio;

λ Factor for the calculation of the steady-state short circuit current;

ϕ_{rG} Rated machine power factor angle in degrees.

5.6 Equações

Segue abaixo um resumo das equações importantes e gráficos aplicados em IEC_FAULT.

As equações numeradas nesta seção referem-se às equações conforme numeradas no Padrão da IEC 909, edição de 1988. Para cada situação de curto-circuito, IEC_FAULT calcula o equivalente de Thevenin e o curto-circuito inicial simétrico total (I''_k). A contribuição de cada máquina individual na situação de falta é também calculada I_{kG}.

Para alimentadores é definindo a equação:

$$Z_Q = \frac{c.\ U^2_{nQ}}{S''_{kQ}} \qquad \text{Eq. 5a}$$

Máquinas assíncronas são representadas por:

$$Z_M = 1/(I_{LR}/I_{M\ rated}) \qquad \text{Eq. 34}$$

Impedâncias de motor e gerador síncrono são representadas por:

$$Z_{GK} = K_G\ (R_G + jX''_d) \qquad \text{Eq. 35}$$

Onde

$$K_G = \frac{U_n}{U_{rG}} \times \frac{c_{MAX}}{1+X''d\ sen(\phi_{rG})} \qquad \text{Eq. 36}$$

No Padrão é calculada a contribuição de cada máquina (I''_k, I_{dc}, I_P, I_b, I_K) usando as seguintes equações padrões:

Calculado como em Seção 1, Artigo 9, levando em conta o fator de tensão e o fator da máquina síncrona: K_G:

$$I''_k = \frac{cU_n}{\sqrt{3}\ \sqrt{(R^2_k+X^2_k)}} \qquad \text{Eq. 14}$$

$$I''_k = \frac{cU_n}{\sqrt{3}\ Z_k}$$

I_{dc} é calculado como:

$I_{dc}= \sqrt{2}\ I''_k\ e^{-2\pi f\ Tmin\ R/X}$ Eq. 1

R/X é calculado conhecido na forma complexo (vetor) da impedância equivalente do Thevenin.

Ip é calculado para redes não interligadas como:

$I_P= \sqrt{2}\ I''_k\ (1{,}02+ 0{,}98.e^{-3R/X})$ Eq. 16

Para contribuições de redes interligadas, I_{dc} e I_P são corrigidos usando o Método B:

$I_{dc\ MESH}= 1.15\ x(\sqrt{2}\ I''_k\ e^{-2\pi f\ Tmin\ R/X})$ Eq. 21

$I_{P\ MESH}= 1.15\ x[\sqrt{2}\ I''_k\ (1{,}02+ 0{,}98.e^{-3R/X})]$

As contribuições foram consideradas longe do local do curto

$I_K = I_b = I''_K$ Eq. 15

Para as contribuições próximas das máquinas síncronas:

$Ib = \mu\ I''_K$ Eq. 46

Onde:

$\mu = 0{,}84 + 0{,}2\ e^{-0{,}26\wedge I''kG/IrG}$ para t_{min}= 0,02s (inves de 1s crit. segurança) Eq. 47

$\mu = 0{,}71 + 0{,}51\ e^{-0{,}30\wedge I''kG/IrG}$ para t_{min}= 0,05s

$\mu = 0{,}62 + 0{,}72\ e^{-0{,}32\wedge I''kG/IrG}$ para t_{min}= 0,10s

$\mu = 0{,}56 + 0{,}94\ e^{-0{,}38\wedge I''kG/IrG}$ para t_{min}= 0,25s

Se t_{min} não é explicitamente definido como acima, interpolação é usada entre as equações.

Para contribuições próximas de máquinas assíncronas:

$Ib = \mu q\ I''_K$ Eq. 71

Onde μ é definido acima e q é calculado como:

q =1,03 + 0,12[ln (MW/Par de pólo)] para t_{min}= 0,02s (inves de 1s crit. segurança)Eq. 67

q =0,79 + 0.12[ln (MW/Par de pólo)] para t_{min}= 0,05s

q =0,57 + 0.12[ln (MW/Par de pólo)] para t_{min}= 0,10s

q =0,26 + 0.12[ln (MW/Par de pólo)] para t_{min}= 0,25s

A corrente assimétrica de abertura é calculada como:

$I_{basym} = \sqrt{[I_b^2 + (I_{dc}/\sqrt{2})^2]}$. Eq. A2.4

O cálculo da corrente de curto-circuito das contribuições de motores assíncronos no caso de um curto-circuito nos terminais é definido na Tabela II, sub-clásula 13.2.1.

O cálculo da corrente de curto-circuito de abertura próximo às máquinas síncrona e assíncronas contribuindo por redes interligadas é baseado nas equações 60, 61, e 62 e sub-cláusula 12.2.4.3.

Máquinas assíncronas não contribuem em regime (I_K).

A contribuição em regime para máquinas síncronas assume que a contribuição para falta é considerada (como entrando no gerador síncrono ou motor). O cálculo é como segue:

$I_{K\,max} = \lambda_{max} I_{G\,rated}$ Eq. 48

$I_{K\,min} = \lambda_{min} I_{G\,rated}$ Eq. 49

Onde:

I_{max} e I_{min} são tirados das Figuras 17 e 18, da sub-cláusula 12.2.1.4, e dependem se as máquinas são geradores de turbina (pólos liso) ou geradores de pólos salientes.

5.7 Faltas Desequilibradas

Geralmente, o Padrão da IEC de 909 é baseado no procedimento para calcular curtos-circuitos equilibrados e não serve diretamente para calcular curtos-circuitos desequilibrados. O processo é baseado na impedância, envolvendo redução de rede.

Nota-se que redes reduzidas de seqüência não mantêm informações referentes às contribuições individuais, que são necessárias quando há contribuições por redes interligadas e devem ser analisadas. Entretanto, a técnica permite, pelo Padrão da IEC 909, usar fatores de cálculo no procedimento equilibrado para a aplicação nos cálculos de

curtos-circuitos desequilibrados. Além disso, é importante ressaltar que isso não tem nenhuma indicação de proximidade de gerador ou motor nos cálculos para curtos-circuitos desbalanceados.

Assumindo $I''_K = I_b = I_K$ sendo válida, a IEC_FAULT automaticamente calcula os curtos-circuitos fase-terra, fase-fase e fase-fase-terra.

As impedâncias de seqüências positiva e zero pode ser inseridas para todos elementos de ramo. A impedância do neutro do transformador também pode ser inserida. É importante identificar corretamente as conexões do transformador para adequadamente modelar a rede de seqüência zero.

Com exceção de motores síncronos e geradores, a impedância de seqüência negativa sempre é suposta igual à impedância de seqüência positiva. No caso de motores síncronos e geradores, a reatância de seqüência negativa é igual a:

$$X''_2 = \frac{X''_D + X''_q}{2}$$

Se os dados X''_q ou zero não estiverem disponíveis, pode ser considerado $X''_D = X''_q$ e $Z_G(2) = Z_G(1)$ (conforme o Padrão de IEC 909, sub-cláusula 11.5.3.6).

A impedância de seqüência negativa e zero de motores e geradores síncronos, como a impedância de seqüência positiva, é multiplicada pelo fator de correção K_G (conforme as Equações 37 e 38 da Sub-cláusula 11.5.3.6).

Assim, as impedâncias de seqüência positiva, negativa zero de máquina são:

$$Z_G(1) = K_G(R_G + jX''_d)$$

$$Z_G(2) = K_G\left(R_G + j\frac{X''_D + X''_q}{2}\right)$$

$$Z_G(0) = K_G(R_G + jX_0)$$

Para motores assíncronos, $Z_M(1) = Z_M(2)$, como definido na Sub-cláusula 11.5.3.5, e $Z_M(0)$ é assumido como infinito, e não é definido pelo operador. Finalmente, curtos-circuitos desequilibrados próximos ao gerador são tratados como definido nas Seções 11.3 e 12.3.

As capacitâncias de linhas e admitâncias de cargas não girantes, em paralelo, são negligenciadas.

Impedância de seqüência zero é considerada e calculada na rede de alimentadores pelo PTW. Ele é calculado internamente a partir de dados de entrada no PTW definidos pelo usuário como a corrente de linha e corrente de linha terra em Amperes, kVA ou MVA de contribuição de rede, conforme disponivel pelo usuário.

Duas opções são fornecidas para calcular os componentes de curtos-circuitos desequilibrado de componentes: I_{dc} e I_p.

- A primeira opção utiliza fator equivalente trifásico. O equivalente resultado pela divisão da soma das contribuições dos componentes individuais pelo valor absoluto total da corrente inicial de curto-circuito simétrica (I''_K), conforme as Secções 9.2.1.2 e 9.2.3.2.
- A segunda opção utiliza fatores desenvolvidos do tipo de combinações do curto-circuito dependentes da redução de seqüência da rede para estabelecer um equivalente R/X do curto-circuito. Se qualquer contribuição trifásica contribui por uma rede interligada, o Método B da IEC com fator de segurança de 15% é aplicado ao total de corrente de curto-circuito.

Dependendo da opção selecionada, fator máximo ou mínimo de tensão (c) é aplicado à única voltagem equivalente de seqüência positiva utilizada para determinar as correntes de curto-circuito desequilibrado.

6 ANEXO I – ENTRADA DE DADOS

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TEBAR Terminal Aquaviário de São Sebastião
Ampliação da Subestação Principal
Estudo do Sistema IP/Gabor
Jul 29, 2012     17:12:06                                              Page 1
------------------------------------------------------------------------------
 ALL INFORMATION PRESENTED IS FOR REVIEW, APPROVAL
 INTERPRETATION AND APPLICATION BY A REGISTERED ENGINEER ONLY
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 ALL PU VALUES ARE EXPRESSED ON A 100 MVA BASE.
```

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TEBAR Terminal Aquaviário de São Sebastião
Ampliação da Subestação Principal
Estudo do Sistema IP/Gabor

FEEDER INPUT DATA

CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	FEEDER TYPE
CBL-0019	BUS-0288	PN-3228A (OSVA	4	13800	120.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
CBL-0020	PN-3228A (OSVA	BUS-0045	2	13800	100.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:		EPR	Insulation Class:	
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0068 + J 0.0034 PU		
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0068 + J 0.0034 PU		
CBL-0022	PN-3228A (OSVA	BUS-0047	1	13800	100.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0136 + J 0.0068 PU		
	Z0 Impedance: 0.5179 + J 0.1434 Ohms/1000 m				0.0272 + J 0.0075 PU		
CBL-0023	PN-3228B (OSVA	BUS-0048	2	13800	100.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:		EPR	Insulation Class:	
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0068 + J 0.0034 PU		
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0068 + J 0.0034 PU		
CBL-0024	BUS-0330	PN-3240B	4	13800	50.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.00056 + J 0.00074 PU		
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.00056 + J 0.00074 PU		
CBL-0025	BUS-0331	PN-3240A	4	13800	50.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.00056 + J 0.00074 PU		
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.00056 + J 0.00074 PU		
CBL-0026	PN-3228B (OSVA	BUS-0049	2	13800	100.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:		EPR	Insulation Class:	
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0068 + J 0.0034 PU		
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0068 + J 0.0034 PU		
CBL-0029	PN-3228B (OSVA	BUS-0287	1	13800	85.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0116 + J 0.0058 PU		
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m				0.0042 + J 0.0044 PU		
CBL-0031	BUS-0286	PN-3236A	2	480	85.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m				1.73 + J 1.81 PU		
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m				1.73 + J 1.81 PU		

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0032	BUS-0058	PN-3236B	2	480	85.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m					1.73 + J 1.81 PU	
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m					1.73 + J 1.81 PU	
CBL-0033	PN-3228A (OSVA	BUS-0059	1	13800	85.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m					0.0116 + J 0.0058 PU	
	Z0 Impedance: 0.9714 + J 0.1599 Ohms/1000 m					0.0434 + J 0.0071 PU	
CBL-0035	PN-3236B	PN-3249	1	480	300.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.2300 + J 0.1000 Ohms/1000 m					29.95 + J 13.02 PU	
	Z0 Impedance: 0.0128 + J 0.0062 Ohms/1000 m					1.67 + J 0.8073 PU	
CBL-0038	BUS-0205	PN-3232A (TRAN	4	4160	85.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m					0.0104 + J 0.0139 PU	
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m					0.0104 + J 0.0139 PU	
CBL-0039	BUS-0206	PN-3232B (TRAN	4	4160	85.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m					0.0104 + J 0.0139 PU	
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m					0.0104 + J 0.0139 PU	
CBL-0041	PN-3232A (TRAN	CH-3215	1	4160	350.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.2597 + J 0.1273 Ohms/1000 m					0.5252 + J 0.2575 PU	
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m					0.4178 + J 0.2484 PU	
CBL-0045	PN-3232B (TRAN	BUS-0071	1	4160	500.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.9715 + J 0.1558 Ohms/1000 m					2.81 + J 0.4501 PU	
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m					2.81 + J 0.4501 PU	
CBL-0047	PN-3232B (TRAN	BUS-0075	1	4160	500.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.5180 + J 0.1398 Ohms/1000 m					1.50 + J 0.4039 PU	
	Z0 Impedance: 0.1624 + J 0.0472 Ohms/1000 m					0.4692 + J 0.1364 PU	
CBL-0048	BUS-0207	PN-3243	2	480	1.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m					0.0204 + J 0.0213 PU	
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m					0.0204 + J 0.0213 PU	

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0049	PN-3232B (TRAN	BUS-0083	1	4160	100.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.5180 + J 0.1398 Ohms/1000 m				0.2993 + J 0.0808 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.5614 + J 0.0900 PU		
CBL-0050	BUS-0290	PN3229	2	480	100.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m				2.04 + J 2.13 PU		
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m				2.04 + J 2.13 PU		
CBL-0051	PN-3232B (TRAN	BUS-0211	1	4160	250.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2597 + J 0.1273 Ohms/1000 m				0.3752 + J 0.1839 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				1.01 + J 0.2129 PU		
CBL-0052	PN-3232B (TRAN	BUS-0085	1	4160	400.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.5180 + J 0.1398 Ohms/1000 m				1.20 + J 0.3231 PU		
	Z0 Impedance: 0.1200 + J 0.0940 Ohms/1000 m				0.2774 + J 0.2173 PU		
CBL-0053	BUS-0210	PN-3246	2	480	1.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m				0.0204 + J 0.0213 PU		
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m				0.0204 + J 0.0213 PU		
CBL-0054	BUS-0090	PN-3245	2	480	30.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0780 + J 0.0970 Ohms/1000 m				0.5078 + J 0.6315 PU		
	Z0 Impedance: 0.0780 + J 0.0970 Ohms/1000 m				0.5078 + J 0.6315 PU		
CBL-0055	BUS-0091	PN-3244	2	480	30.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0780 + J 0.0970 Ohms/1000 m				0.5078 + J 0.6315 PU		
	Z0 Impedance: 0.0780 + J 0.0970 Ohms/1000 m				0.5078 + J 0.6315 PU		
CBL-0057	PN-6211001A (O	BUS-0086	1	13800	30.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m				0.0016 + J 0.0018 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.0153 + J 0.0025 PU		
CBL-0058	PN-3228B (OSVA	BUS-0064	1	13800	100.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0136 + J 0.0068 PU		
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0045 + J 0.0059 PU		

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0059	PN-3254	BUS-0095	1	13800	30.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
	Z0 Impedance: 0.0538 + J 0.0768 Ohms/1000 m				0.00085 + J 0.0012 PU		
CBL-0060	PN-6211001B (O	BUS-0087	1	13800	30.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m				0.0016 + J 0.0018 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.0153 + J 0.0025 PU		
CBL-0068	PN-3217	PN-3216	1	480	50.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1900 + J 0.1000 Ohms/1000 m				4.12 + J 2.17 PU		
	Z0 Impedance: 0.1900 + J 0.1000 Ohms/1000 m				4.12 + J 2.17 PU		
CBL-0069	PN-3254	BUS-0116	1	13800	30.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0041 + J 0.0021 PU		
CBL-0073	PN-3203A (OSBA	BUS-0126	1	4160	200.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.3594 + J 0.1332 Ohms/1000 m				0.4154 + J 0.1539 PU		
	Z0 Impedance: 0.3594 + J 0.1332 Ohms/1000 m				0.4154 + J 0.1539 PU		
CBL-0074	PN-3212	BUS-0461	1	480	50.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2300 + J 0.1000 Ohms/1000 m				4.99 + J 2.17 PU		
	Z0 Impedance: 0.2300 + J 0.1000 Ohms/1000 m				4.99 + J 2.17 PU		
CBL-0075	PN-3212	BUS-0460	1	480	50.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2300 + J 0.1000 Ohms/1000 m				4.99 + J 2.17 PU		
	Z0 Impedance: 0.2300 + J 0.1000 Ohms/1000 m				4.99 + J 2.17 PU		
CBL-0077	PN-3212	BUS-0458	1	480	50.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.4700 + J 0.1100 Ohms/1000 m				10.20 + J 2.39 PU		
	Z0 Impedance: 0.4700 + J 0.1100 Ohms/1000 m				10.20 + J 2.39 PU		
CBL-0078	PN-3203A (OSBA	BUS-0254	1	4160	1430.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.3594 + J 0.1332 Ohms/1000 m				2.97 + J 1.10 PU		
	Z0 Impedance: 0.3594 + J 0.1332 Ohms/1000 m				2.97 + J 1.10 PU		

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	FEEDER TYPE
CBL-0079	PN-3203A (OSBA	BUS-0128	1	4160	30.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0358 + J 0.0213 PU		
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0358 + J 0.0213 PU		
CBL-0081	PN-3203A (OSBA	BUS-0130	1	4160	42.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0501 + J 0.0298 PU		
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0501 + J 0.0298 PU		
CBL-0084	PN-3203B (OSBA	BUS-0136	1	4160	30.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0358 + J 0.0213 PU		
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0358 + J 0.0213 PU		
CBL-0086	PN-3203B (OSBA	BUS-0131	1	4160	42.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0501 + J 0.0298 PU		
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0501 + J 0.0298 PU		
CBL-0088	PN-3203B (OSBA	CH-3211	1	4160	550.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2597 + J 0.1273 Ohms/1000 m				0.8254 + J 0.4046 PU		
	Z0 Impedance: 0.1045 + J 0.1136 Ohms/1000 m				0.3321 + J 0.3610 PU		
CBL-0089	CH-3211	BUS-0144	1	4160	100.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.4049 + J 0.0852 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.4049 + J 0.0852 PU		
CBL-0092	CH-3211	BUS-0470	1	4160	150.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.6073 + J 0.1278 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.6073 + J 0.1278 PU		
CBL-0095	CH-3211	BUS-0154	1	4160	300.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				1.21 + J 0.2555 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				1.21 + J 0.2555 PU		
CBL-0096	CH-3211	BUS-0155	1	4160	400.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				1.62 + J 0.3407 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				1.62 + J 0.3407 PU		

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0097	BUS-0156	PN-3106	1	480	50.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.2300 + J 0.1000 Ohms/1000 m					4.99 + J 2.17 PU	
	Z0 Impedance: 0.2300 + J 0.1000 Ohms/1000 m					4.99 + J 2.17 PU	
CBL-0098	BUS-0157	PN-5140003	2	480	35.0 METER	185	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1200 + J 0.0940 Ohms/1000 m					0.9115 + J 0.7140 PU	
	Z0 Impedance: 0.2300 + J 0.1000 Ohms/1000 m					1.75 + J 0.7595 PU	
CBL-0100	BUS-0159	PN-3103	1	480	50.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.3200 + J 0.1000 Ohms/1000 m					6.94 + J 2.17 PU	
	Z0 Impedance: 0.3307 + J 0.0965 Ohms/1000 m					7.18 + J 2.09 PU	
CBL-0102	PN-5140001A (N	BUS-0338	2	4160	1250.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1045 + J 0.1136 Ohms/1000 m					0.3774 + J 0.4103 PU	
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m					3.51 + J 0.5627 PU	
CBL-0103	PN-5140001B(NO	BUS-0340	2	4160	1250.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1045 + J 0.1136 Ohms/1000 m					0.3774 + J 0.4103 PU	
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m					3.51 + J 0.5627 PU	
CBL-0107	PN-3206A	BUS-0172	2	480	30.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.3200 + J 0.1000 Ohms/1000 m					2.08 + J 0.6510 PU	
	Z0 Impedance: 0.3200 + J 0.1000 Ohms/1000 m					2.08 + J 0.6510 PU	
CBL-0109	PN-3206A	PN-3214	1	480	80.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.8700 + J 0.1200 Ohms/1000 m					30.21 + J 4.17 PU	
	Z0 Impedance: 0.8700 + J 0.1200 Ohms/1000 m					30.21 + J 4.17 PU	
CBL-0110	PN-3206A	PN-3204	1	480	1.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.8700 + J 0.1200 Ohms/1000 m					0.3776 + J 0.0521 PU	
	Z0 Impedance: 0.8700 + J 0.1200 Ohms/1000 m					0.3776 + J 0.0521 PU	
CBL-0111	PN-3206A	PN-3205	1	480	1.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.4700 + J 0.1100 Ohms/1000 m					0.2040 + J 0.0477 PU	
	Z0 Impedance: 0.4700 + J 0.1100 Ohms/1000 m					0.2040 + J 0.0477 PU	

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	FEEDER TYPE
CBL-0112	PN-3206A	CD-12	1	480	10.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.8700 + J 0.1200 Ohms/1000 m					3.78 + J 0.5208 PU	
	Z0 Impedance: 0.8700 + J 0.1200 Ohms/1000 m					3.78 + J 0.5208 PU	
CBL-0113	PN-3206A	PN-3219	1	480	150.0 METER	10	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 2.19 + J 0.1300 Ohms/1000 m					142.58 + J 8.46 PU	
	Z0 Impedance: 2.19 + J 0.1300 Ohms/1000 m					142.58 + J 8.46 PU	
CBL-0114	PN-3206A	PN-3224	1	480	50.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.3200 + J 0.1000 Ohms/1000 m					6.94 + J 2.17 PU	
	Z0 Impedance: 0.1673 + J 0.0459 Ohms/1000 m					3.63 + J 0.9961 PU	
CBL-0115	PN-3205	PN-3211	1	480	120.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.8700 + J 0.1200 Ohms/1000 m					45.31 + J 6.25 PU	
	Z0 Impedance: 0.8700 + J 0.1200 Ohms/1000 m					45.31 + J 6.25 PU	
CBL-0116	PN-3205	PN-3270	1	480	20.0 METER	10	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 2.19 + J 0.1300 Ohms/1000 m					19.01 + J 1.13 PU	
	Z0 Impedance: 2.19 + J 0.1300 Ohms/1000 m					19.01 + J 1.13 PU	
CBL-0117	PN-3211	PDN-001	1	480	30.0 METER	10	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 2.19 + J 0.1300 Ohms/1000 m					28.52 + J 1.69 PU	
	Z0 Impedance: 2.19 + J 0.1300 Ohms/1000 m					28.52 + J 1.69 PU	
CBL-0118	PN-3224	PN-3215	1	480	130.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.8700 + J 0.1200 Ohms/1000 m					49.09 + J 6.77 PU	
	Z0 Impedance: 0.8700 + J 0.1200 Ohms/1000 m					49.09 + J 6.77 PU	
CBL-0120	PN-3206B	BUS-0175	2	480	30.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.3200 + J 0.1000 Ohms/1000 m					2.08 + J 0.6510 PU	
	Z0 Impedance: 0.3200 + J 0.1000 Ohms/1000 m					2.08 + J 0.6510 PU	
CBL-0121	PN-3206B	BUS-0176	2	480	30.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.3200 + J 0.1000 Ohms/1000 m					2.08 + J 0.6510 PU	
	Z0 Impedance: 0.3200 + J 0.1000 Ohms/1000 m					2.08 + J 0.6510 PU	

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0131	BUS-0200	PN-3228B (OSVA	4	13800	120.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
	Z0 Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
CBL-0164	PN-3203A (OSBA	BUS-0250	1	4160	240.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.5180 + J 0.1398 Ohms/1000 m				0.7184 + J 0.1939 PU		
	Z0 Impedance: 0.3594 + J 0.1332 Ohms/1000 m				0.4984 + J 0.1847 PU		
CBL-0165	PN-3203A (OSBA	BUS-0248	1	4160	345.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.3594 + J 0.1332 Ohms/1000 m				0.7165 + J 0.2655 PU		
	Z0 Impedance: 0.3594 + J 0.1332 Ohms/1000 m				0.7165 + J 0.2655 PU		
CBL-0168	BUS-0253	BUS-0251	1	4160	50.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.2024 + J 0.0426 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.2024 + J 0.0426 PU		
CBL-0169	BUS-0253	BUS-0252	1	4160	100.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.4049 + J 0.0852 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.4049 + J 0.0852 PU		
CBL-0170	BUS-0254	BUS-0253	1	4160	50.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.5180 + J 0.1388 Ohms/1000 m				0.1497 + J 0.0401 PU		
	Z0 Impedance: 0.5180 + J 0.1388 Ohms/1000 m				0.1497 + J 0.0401 PU		
CBL-0172	BUS-0260	PN-3206A	4	480	35.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m				0.3570 + J 0.3722 PU		
	Z0 Impedance: 0.1045 + J 0.1136 Ohms/1000 m				0.3969 + J 0.4314 PU		
CBL-0174	BUS-0269	PN-3203A (OSBA	1	4160	65.0 METER	400	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0684 + J 0.1079 Ohms/1000 m				0.0257 + J 0.0405 PU		
	Z0 Impedance: 0.1045 + J 0.1136 Ohms/1000 m				0.0393 + J 0.0427 PU		
CBL-0175	BUS-0270	PN-3203B (OSBA	1	4160	85.0 METER	400	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0684 + J 0.1079 Ohms/1000 m				0.0336 + J 0.0530 PU		
	Z0 Impedance: 0.1045 + J 0.1136 Ohms/1000 m				0.0513 + J 0.0558 PU		

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0176	PN-3254	BUS-0274	1	13800	30.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0848 + J 0.1133 Ohms/1000 m				0.0013 + J 0.0018 PU		
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m				0.0041 + J 0.0021 PU		
CBL-0178	PN-3210 (OSPLA	BUS-0096	1	4160	50.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0849 + J 0.1101 Ohms/1000 m				0.0245 + J 0.0318 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.2807 + J 0.0450 PU		
CBL-0179	PN-3210 (OSPLA	BUS-0097	1	4160	50.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0849 + J 0.1104 Ohms/1000 m				0.0245 + J 0.0319 PU		
	Z0 Impedance: 0.2397 + J 0.1273 Ohms/1000 m				0.0693 + J 0.0368 PU		
CBL-0180	PN-3210 (OSPLA	BUS-0098	1	4160	50.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0849 + J 0.0110 Ohms/1000 m				0.0245 + J 0.0032 PU		
	Z0 Impedance: 0.2597 + J 0.1273 Ohms/1000 m				0.0750 + J 0.0368 PU		
CBL-0182	PN-3210 (OSPLA	BUS-0422	1	4160	65.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.5180 + J 0.1397 Ohms/1000 m				0.1946 + J 0.0525 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.3649 + J 0.0585 PU		
CBL-0183	PN-3210 (OSPLA	BUS-0100	1	4160	50.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0849 + J 0.1101 Ohms/1000 m				0.0245 + J 0.0318 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.2807 + J 0.0450 PU		
CBL-0185	PN-3210 (OSPLA	BUS-0102	1	4160	100.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0849 + J 0.1101 Ohms/1000 m				0.0491 + J 0.0636 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				0.5614 + J 0.0900 PU		
CBL-0194	BUS-0304	PN-3210 (OSPLA	1	4160	190.0 METER	400	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0684 + J 0.1079 Ohms/1000 m				0.0751 + J 0.1185 PU		
	Z0 Impedance: 0.0849 + J 0.1101 Ohms/1000 m				0.0932 + J 0.1209 PU		
CBL-0199	BUS-0248	BUS-0325	1	4160	50.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.2024 + J 0.0426 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.2024 + J 0.0426 PU		

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CBL-0200	BUS-0248	BUS-0327	1	4160	50.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.2024 + J 0.0426 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				0.2024 + J 0.0426 PU		
CBL-0215	PN-3240A	PN-6211001A (O	2	13800	350.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m				0.0096 + J 0.0108 PU		
	Z0 Impedance: 0.1043 + J 0.1170 Ohms/1000 m				0.0096 + J 0.0108 PU		
CBL-0216	BUS-0475	BUS-0473	2	13800	70.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.0014 + J 0.0022 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.0022 + J 0.0056 PU		
CBL-0216A	BUS-0475	BUS-0474	2	13800	70.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.0014 + J 0.0022 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.0022 + J 0.0056 PU		
CBL-0216A1	BUS-0488	BUS-0486	2	13800	280.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.0056 + J 0.0088 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.0090 + J 0.0224 PU		
CBL-0216B	BUS-0476	BUS-0480	2	13800	230.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.0046 + J 0.0072 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.0074 + J 0.0184 PU		
CBL-0216B1	BUS-0489	BUS-0491	2	13800	20.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.00040 + J 0.00063 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.00064 + J 0.0016 PU		
CBL-0216C	BUS-0479	BUS-0480	2	13800	230.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.0046 + J 0.0072 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.0074 + J 0.0184 PU		
CBL-0216C1	BUS-0490	BUS-0491	2	13800	20.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:		XLP1		Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m				0.00040 + J 0.00063 PU		
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m				0.00064 + J 0.0016 PU		

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0218	PN-3240B	PN-6211001B (O	2	13800	350.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m					0.0096 + J 0.0108 PU	
	Z0 Impedance: 0.1043 + J 0.1170 Ohms/1000 m					0.0096 + J 0.0108 PU	
CBL-0219	PN-6211001A (O	BUS-0358	1	13800	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m					0.0082 + J 0.0092 PU	
	Z0 Impedance: 0.00010 + J 0.00020 Ohms/1000 m					0.00001 + J 0.00002 PU	
CBL-0221	PN-6211001A (O	BUS-0360	1	13800	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m					0.0082 + J 0.0092 PU	
	Z0 Impedance: 0.00010 + J 0.00020 Ohms/1000 m					0.00001 + J 0.00002 PU	
CBL-0222	PN-6211001B (O	BUS-0361	1	13800	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m					0.0082 + J 0.0092 PU	
	Z0 Impedance: 0.00010 + J 0.00020 Ohms/1000 m					0.00001 + J 0.00002 PU	
CBL-0223	PN-6211001B (O	BUS-0362	1	13800	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1043 + J 0.1170 Ohms/1000 m					0.0082 + J 0.0092 PU	
	Z0 Impedance: 0.00010 + J 0.00020 Ohms/1000 m					0.00001 + J 0.00002 PU	
CBL-0224	PN-3254	BUS-0363	1	13800	290.0 METER	50	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.5179 + J 0.1434 Ohms/1000 m					0.0789 + J 0.0218 PU	
	Z0 Impedance: 0.00010 + J 0.00020 Ohms/1000 m					0.00002 + J 0.00003 PU	
CBL-0225	BUS-0372	PN-6211003A	2	480	10.0 METER	185	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1200 + J 0.0940 Ohms/1000 m					0.2604 + J 0.2040 PU	
	Z0 Impedance: 0.1200 + J 0.0940 Ohms/1000 m					0.2604 + J 0.2040 PU	
CBL-0226	BUS-0374	BUS-0376	3	480	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m					2.04 + J 2.13 PU	
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m					2.04 + J 2.13 PU	
CBL-0227	BUS-0375	BUS-0377	3	480	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m					2.04 + J 2.13 PU	
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m					2.04 + J 2.13 PU	

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CBL-0229	BUS-0380	BUS-0381	3	480	150.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m					2.04 + J 2.13 PU	
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m					2.04 + J 2.13 PU	
CBL-0230	BUS-0373	PN-6211003B	2	480	10.0 METER	185	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1200 + J 0.0940 Ohms/1000 m					0.2604 + J 0.2040 PU	
	Z0 Impedance: 0.1200 + J 0.0940 Ohms/1000 m					0.2604 + J 0.2040 PU	
CBL-0231	PN-3254	BUS-0487	1	13800	230.0 METER	150	Copper
	Duct Material: Non-Magnetic		Insulation Type:			XLP1	Insulation Class:
	+/- Impedance: 0.1581 + J 0.1281 Ohms/1000 m					0.0191 + J 0.0155 PU	
	Z0 Impedance: 0.2514 + J 0.3258 Ohms/1000 m					0.0304 + J 0.0394 PU	
CBL-0232	5330001A	BUS-0390	3	13800	400.0 METER	150	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1681 + J 0.1224 Ohms/1000 m					0.0118 + J 0.0086 PU	
	Z0 Impedance: 0.1681 + J 0.1224 Ohms/1000 m					0.0118 + J 0.0086 PU	
CBL-0235	BUS-0488	BUS-0478	2	13800	280.0 METER	300	Copper
	Duct Material: Non-Magnetic		Insulation Type:			XLP1	Insulation Class:
	+/- Impedance: 0.0766 + J 0.1199 Ohms/1000 m					0.0056 + J 0.0088 PU	
	Z0 Impedance: 0.1218 + J 0.3050 Ohms/1000 m					0.0090 + J 0.0224 PU	
CBL-0236	5330001A	BUS-0399	3	13800	40.0 METER	150	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1681 + J 0.1224 Ohms/1000 m					0.0012 + J 0.00086 PU	
	Z0 Impedance: 0.1681 + J 0.1224 Ohms/1000 m					0.0012 + J 0.00086 PU	
CBL-0237	5330001A	BUS-0400	1	13800	40.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.2596 + J 0.1304 Ohms/1000 m					0.0055 + J 0.0027 PU	
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m					0.0055 + J 0.0027 PU	
CBL-0238	PN-533001B	BUS-0401	1	13800	40.0 METER	95	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.2597 + J 0.1304 Ohms/1000 m					0.0055 + J 0.0027 PU	
	Z0 Impedance: 0.2596 + J 0.1304 Ohms/1000 m					0.0055 + J 0.0027 PU	
CBL-0239	5330001A	BUS-0403	3	13800	40.0 METER	150	Copper
	Duct Material: Non-Magnetic		Insulation Type:				Insulation Class:
	+/- Impedance: 0.1681 + J 0.1224 Ohms/1000 m					0.0012 + J 0.00086 PU	
	Z0 Impedance: 0.1681 + J 0.1224 Ohms/1000 m					0.0012 + J 0.00086 PU	

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CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0241	PN-533001B	BUS-0405	3	13800	40.0 METER	150	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1681 + J 0.1224 Ohms/1000 m				0.0012 + J 0.00086 PU		
	Z0 Impedance: 0.1681 + J 0.1224 Ohms/1000 m				0.0012 + J 0.00086 PU		
CBL-0242	PN-533001B	BUS-0406	3	13800	40.0 METER	150	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1681 + J 0.1224 Ohms/1000 m				0.0012 + J 0.00086 PU		
	Z0 Impedance: 0.1681 + J 0.1224 Ohms/1000 m				0.0012 + J 0.00086 PU		
CBL-0255	PN-5140001A (N	BUS-0428	1	4160	390.0 METER	25	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.9715 + J 0.1558 Ohms/1000 m				2.19 + J 0.3511 PU		
	Z0 Impedance: 0.9715 + J 0.1558 Ohms/1000 m				2.19 + J 0.3511 PU		
CBL-0256	PN-5140001B(NO	BUS-0433	2	4160	1440.0 METER	35	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.7007 + J 0.1474 Ohms/1000 m				2.92 + J 0.6133 PU		
	Z0 Impedance: 0.7007 + J 0.1474 Ohms/1000 m				2.92 + J 0.6133 PU		
CBL-0257	PN-5140001B(NO	BUS-0435	1	4160	20.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0239 + J 0.0142 PU		
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.0239 + J 0.0142 PU		
CBL-0258	PN-5140001B(NO	BUS-0436	1	4160	390.0 METER	120	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.4656 + J 0.2767 PU		
	Z0 Impedance: 0.2066 + J 0.1228 Ohms/1000 m				0.4656 + J 0.2767 PU		
CBL-0265	BUS-0452	PN-5140001A (N	2	4160	1600.0 METER	185	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1354 + J 0.1155 Ohms/1000 m				0.6259 + J 0.5339 PU		
	Z0 Impedance: 0.1354 + J 0.1155 Ohms/1000 m				0.6259 + J 0.5339 PU		
CBL-0266	BUS-0453	PN-5140001B(NO	2	4160	1600.0 METER	185	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.1354 + J 0.1155 Ohms/1000 m				0.6259 + J 0.5339 PU		
	Z0 Impedance: 0.1354 + J 0.1155 Ohms/1000 m				0.6259 + J 0.5339 PU		
CBL-0267	BUS-0453	BUS-0457	1	4160	2260.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.3594 + J 0.1332 Ohms/1000 m				4.69 + J 1.74 PU		
	Z0 Impedance: 0.3594 + J 0.1332 Ohms/1000 m				4.69 + J 1.74 PU		

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FEEDER INPUT DATA

CABLE NAME	FEEDER FROM NAME	FEEDER TO NAME	QTY /PH	VOLTS L-L	LENGTH	FEEDER SIZE	TYPE
CBL-0268	BUS-0452	BUS-0454	1	4160	2260.0 METER	70	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.3594 + J 0.1332 Ohms/1000 m					4.69 + J 1.74 PU	
	Z0 Impedance: 0.3594 + J 0.1332 Ohms/1000 m					4.69 + J 1.74 PU	
CBL-0269	BUS-0462	PN-3206B	4	480	35.0 METER	240	Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.0940 + J 0.0980 Ohms/1000 m					0.3570 + J 0.3722 PU	
	Z0 Impedance: 0.0940 + J 0.0980 Ohms/1000 m					0.3570 + J 0.3722 PU	
CBL-AUX 0191	PN-3228A (OSVA	BUS-0488	1	13800	0.500 METER		Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.00010 + J 0.00010 Ohms/1000 m					0.00001 + J 0.00001 PU	
	Z0 Impedance: 0.00010 + J 0.00010 Ohms/1000 m					0.00000 + J 0.00000 PU	
CBL-AUX0275	BUS-0480	BUS-0417	1	13800	0.500 METER		Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.00010 + J 0.00010 Ohms/1000 m					0.00001 + J 0.00001 PU	
	Z0 Impedance: 0.00010 + J 0.00010 Ohms/1000 m					0.00000 + J 0.00000 PU	
CBL-AUX0276	BUS-0491	BUS-0417	1	13800	0.500 METER		Copper
	Duct Material: Non-Magnetic		Insulation Type:			Insulation Class:	
	+/- Impedance: 0.00010 + J 0.00010 Ohms/1000 m					0.00001 + J 0.00001 PU	
	Z0 Impedance: 0.00010 + J 0.00010 Ohms/1000 m					0.00000 + J 0.00000 PU	

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T R A N S M I S S I O N L I N E

TRANSMISSION LINE NAME	FROM BUS NAME	TO BUS NAME	QTY /PH	VOLTS L-L	LENGTH
XLN-0002	BUS-0473	BUS-0476	1	13800.00	1.52 KM
	+ Seq Impedance: 0.137841 + J 0.335304 Per Unit; Equi. Shunt B/2: 5.78741e-006				
	0 Seq Impedance: 0.279832 + J 1.43204 Per Unit; Equi. Shunt B/2: 2.28882e-006				
	% SERIES COMP: 0 From Shunt(MVA): 0.0000 To Shunt(MVA): 0.0000				
XLN-0003	BUS-0474	BUS-0479	1	13800.00	1.52 KM
	+ Seq Impedance: 0.137841 + J 0.335304 Per Unit; Equi. Shunt B/2: 5.78741e-006				
	0 Seq Impedance: 0.279832 + J 1.43204 Per Unit; Equi. Shunt B/2: 2.28882e-006				
	% SERIES COMP: 0 From Shunt(MVA): 0.0000 To Shunt(MVA): 0.0000				
XLN-0006	BUS-0487	PN-533001B	1	13800.00	0.3000 KM
	+ Seq Impedance: 0.086925 + J 0.0863737 Per Unit; Equi. Shunt B/2: 1.02386e-006				
	0 Seq Impedance: 0.114934 + J 0.30282 Per Unit; Equi. Shunt B/2: 4.32196e-007				
	% SERIES COMP: 0 From Shunt(MVA): 0.0000 To Shunt(MVA): 0.0000				
XLN-0007	BUS-0478	BUS-0489	1	13800.00	2.18 KM
	+ Seq Impedance: 0.197693 + J 0.480896 Per Unit; Equi. Shunt B/2: 8.30036e-006				
	0 Seq Impedance: 0.401338 + J 2.05385 Per Unit; Equi. Shunt B/2: 3.28265e-006				
	% SERIES COMP: 0 From Shunt(MVA): 0.0000 To Shunt(MVA): 0.0000				
XLN-0008	BUS-0486	BUS-0490	1	13800.00	2.18 KM
	+ Seq Impedance: 0.197693 + J 0.480896 Per Unit; Equi. Shunt B/2: 8.30036e-006				
	0 Seq Impedance: 0.401338 + J 2.05385 Per Unit; Equi. Shunt B/2: 3.28265e-006				
	% SERIES COMP: 0 From Shunt(MVA): 0.0000 To Shunt(MVA): 0.0000				

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EQUIVALENT PI DATA

PI NAME	FROM NAME	TO NAME	VOLTS		
PI-0017	PN-5330002A	PN-5330002B	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0018	PN-5330003A	PN-5330003B	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0073	PN-6211002A	BUS-0371	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0074	PN-6211002A	BUS-0372	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0075	PN-6211002A	BUS-0374	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0076	PN-6211002A	BUS-0375	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0077	PN-6211002B	BUS-0373	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0079	PN-6211002B	BUS-0380	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0080	PN-6211002B	BUS-0382	480.00		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0089	PN-5330001A	PN-533001B	13800.		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0091	5330001A	PN-533001B	13800.		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0104	PN-3203A (OSBA	BUS-0452	4160.0		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0114	BUS-0453	PN-3203B (OSBA	4160.0		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU
PI-0115	BUS-0417	PN-3254	13800.		
	Pos. Seq. Z:	0.00010+J 0.00010 PU ;		Zero Seq. Z:	0.00010+J 0.00010 PU
	From Shunt Y:	0.00000+J 0.00000 PU ;		To Shunt Y:	0.00000+J 0.00000 PU

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO NAME		VOLTS L-L	* SECONDARY RECORD NO NAME		VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF - 5140001B	BUS-0340	D	4160.00	PN-5140004B	YG	480.00	1000.00	800.00
	Pos. Seq. Z%: 0.920 + J 4.91 (Zpu 1.15 + j 6.14) Shell Type							
	Zero Seq. Z%: 0.920 + J 4.91 (Sec 1.15 + j 6.14 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3101	BUS-0436	D	4160.00	PN-3101	YG	480.00	750.00	750.00
	Pos. Seq. Z%: 0.890 + J 4.67 (Zpu 1.19 + j 6.22) Shell Type							
	Zero Seq. Z%: 0.890 + J 4.67 (Sec 1.19 + j 6.22 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3102	BUS-0428	D	4160.00	BUS-0159	YG	480.00	112.50	112.50
	Pos. Seq. Z%: 1.13 + J 3.84 (Zpu 10.05 + j 34.11) Shell Type							
	Zero Seq. Z%: 1.13 + J 3.84 (Sec 10.05 + j 34.11 Pri Open)							
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3104	BUS-0433	D	4160.00	BUS-0156	YG	480.00	225.00	225.00
	Pos. Seq. Z%: 1.05 + J 4.11 (Zpu 4.69 + j 18.25) Shell Type							
	Zero Seq. Z%: 1.05 + J 4.11 (Sec 4.69 + j 18.25 Pri Open)							
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3201A	BUS-0274	D	13800.0	BUS-0269	YG	4160.00	9375.00	9375.00
	Pos. Seq. Z%: 0.573 + J 9.31 (Zpu 0.061 + j 0.993) Shell Type							
	Zero Seq. Z%: 0.573 + J 9.31 (Sec 0.061 + j 0.993 Pri Open)							
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3201B	BUS-0116	D	13800.0	BUS-0270	YG	4160.00	9375.00	9375.00
	Pos. Seq. Z%: 0.557 + J 9.05 (Zpu 0.059 + j 0.965) Shell Type							
	Zero Seq. Z%: 0.557 + J 9.05 (Sec 0.059 + j 0.965 Pri Open)							
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO	NAME	VOLTS L-L	* SECONDARY RECORD NO	NAME	VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-3201C	BUS-0095	D	13800.0	BUS-0304		YG 4160.00	9375.00	9375.00
	Pos. Seq. Z%:	0.544 + J 8.85	(Zpu 0.058 + j 0.944)	Shell Type				
	Zero Seq. Z%:	0.544 + J 8.85	(Sec 0.058 + j 0.944 Pri Open)					
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3202A	SE-TEBAR 138kV	D	138000.	BUS-0331		YG 13800.0	33333.3	20000.0
	Pos. Seq. Z%:	0.359 + J 7.99	(Zpu 0.018 + j 0.399)	Shell Type				
	Zero Seq. Z%:	0.359 + J 7.99	(Sec 31.40 + j 0.399 Pri Open)					
	Taps Pri. -2.50 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
Secondary Neutral Z:	19.92 + J 0.000 Ohms							
TF-3202B	SE-TEBAR 138kV	D	138000.	BUS-0330		YG 13800.0	33333.3	20000.0
	Pos. Seq. Z%:	0.359 + J 7.99	(Zpu 0.018 + j 0.399)	Shell Type				
	Zero Seq. Z%:	0.359 + J 7.99	(Sec 31.40 + j 0.399 Pri Open)					
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
Secondary Neutral Z:	19.92 + J 0.000 Ohms							
TF-3204A	BUS-0128	D	4160.00	BUS-0260		YG 480.00	1000.00	1000.00
	Pos. Seq. Z%:	0.497 + J 4.69	(Zpu 0.497 + j 4.69)	Shell Type				
	Zero Seq. Z%:	0.497 + J 4.69	(Sec 0.497 + j 4.69 Pri Open)					
	Taps Pri. -5.00 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3204B	BUS-0136	D	4160.00	BUS-0462		YG 480.00	1000.00	1000.00
	Pos. Seq. Z%:	0.497 + J 4.72	(Zpu 0.497 + j 4.72)	Shell Type				
	Zero Seq. Z%:	0.497 + J 4.72	(Sec 0.497 + j 4.72 Pri Open)					
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3205	BUS-0126	D	4160.00	PN-3212		YG 480.00	750.00	750.00
	Pos. Seq. Z%:	0.497 + J 4.75	(Zpu 0.663 + j 6.34)	Shell Type				
	Zero Seq. Z%:	0.497 + J 4.75	(Sec 0.663 + j 6.34 Pri Open)					
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO NAME		VOLTS L-L	* SECONDARY RECORD NO NAME		VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-3206	BUS-0248	D	4160.00	PN-3217	YG	480.00	500.00	300.00
	Pos. Seq. Z%: 0.497 + J 4.92 (Zpu 1.66 + j 16.42) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.92 (Sec 1.66 + j 16.42 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3207	BUS-0327	D	4160.00	PN-CLUBE	YG	220.00	300.00	300.00
	Pos. Seq. Z%: 1.16 + J 4.81 (Zpu 3.87 + j 16.04) Shell Type							
	Zero Seq. Z%: 1.16 + J 4.81 (Sec 3.87 + j 16.04 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3208	BUS-0144	D	4160.00	PN-3221	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 1.03 + J 4.84 (Zpu 2.06 + j 9.68) Shell Type							
	Zero Seq. Z%: 1.03 + J 4.84 (Sec 2.06 + j 9.68 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3209	BUS-0470	D	4160.00	PN-3220	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 1.03 + J 4.84 (Zpu 2.06 + j 9.68) Shell Type							
	Zero Seq. Z%: 1.03 + J 4.84 (Sec 2.06 + j 9.68 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3210	BUS-0250	D	4160.00	PN-3213	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.92 (Zpu 0.995 + j 9.85) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.92 (Sec 0.995 + j 9.85 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3211	BUS-0254	D	4160.00	PN-3222	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.80 (Zpu 0.994 + j 9.61) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.80 (Sec 0.994 + j 9.61 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO NAME		VOLTS L-L	* SECONDARY RECORD NO NAME		VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-3212	BUS-0251	D	4160.00	PN-3223	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.81 (Zpu 0.994 + j 9.63) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.81 (Sec 0.994 + j 9.63 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3213	BUS-0252	D	4160.00	PN-3242	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.496 + J 4.24 (Zpu 0.993 + j 8.48) Shell Type							
	Zero Seq. Z%: 0.496 + J 4.24 (Sec 0.993 + j 8.48 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3214	CH-3215	D	4160.00	BUS-0091	YG	480.00	750.00	750.00
	Pos. Seq. Z%: 0.948 + J 4.97 (Zpu 1.26 + j 6.63) Shell Type							
	Zero Seq. Z%: 0.948 + J 4.97 (Sec 1.26 + j 6.63 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3215	BUS-0075	D	4160.00	BUS-0207	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.61 (Zpu 0.994 + j 9.23) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.57 (Sec 0.994 + j 9.15 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3216	CH-3215	D	4160.00	BUS-0090	YG	480.00	750.00	750.00
	Pos. Seq. Z%: 0.948 + J 4.97 (Zpu 1.26 + j 6.63) Shell Type							
	Zero Seq. Z%: 0.948 + J 4.97 (Sec 1.26 + j 6.63 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3217A	SE-TEBAR 138kV	D	138000.	BUS-0200	YG	13800.0	33333.3	20000.0
	Pos. Seq. Z%: 0.499 + J 8.16 (Zpu 0.025 + j 0.408) Shell Type							
	Zero Seq. Z%: 0.000 + J 0.000 (Sec 31.38 + j 0.000 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							

Secondary Neutral Z: 19.92 + J 0.000 Ohms

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO NAME	VOLTS L-L	* SECONDARY RECORD NO NAME	VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-3217B	SE-TEBAR 138kV D	138000.	BUS-0288	YG	13800.0 33333.3	20000.0
	Pos. Seq. Z%:	0.499 + J 8.16	(Zpu 0.025 + j 0.408)		Shell Type	
	Zero Seq. Z%:	0.499 + J 8.07	(Sec 31.40 + j 0.403 Pri		Open)	
	Taps Pri. 0.000 %	Sec. 0.000 %	Phase Shift (Pri. Leading Sec.): 30.00 Deg.			
Secondary Neutral Z:	19.92 + J 0.000 Ohms					
TF-3218A	SE-TEBAR 138kV D	138000.	BUS-0205	YG	4160.00 10000.0	8000.00
	Pos. Seq. Z%:	0.499 + J 7.98	(Zpu 0.062 + j 0.998)		Shell Type	
	Zero Seq. Z%:	0.499 + J 7.98	(Sec 104.1 + j 0.998 Pri		Open)	
	Taps Pri. -2.50 %	Sec. 0.000 %	Phase Shift (Pri. Leading Sec.): 30.00 Deg.			
Secondary Neutral Z:	6.00 + J 0.000 Ohms					
TF-3218B	SE-TEBAR 138kV D	138000.	BUS-0206	YG	4160.00 10000.0	8000.00
	Pos. Seq. Z%:	0.499 + J 7.98	(Zpu 0.062 + j 0.998)		Shell Type	
	Zero Seq. Z%:	0.499 + J 7.98	(Sec 104.1 + j 0.998 Pri		Open)	
	Taps Pri. -2.50 %	Sec. 0.000 %	Phase Shift (Pri. Leading Sec.): 30.00 Deg.			
Secondary Neutral Z:	6.00 + J 0.000 Ohms					
TF-3219A	BUS-0287 D	13800.0	BUS-0286	YG	480.00 500.00	500.00
	Pos. Seq. Z%:	1.04 + J 4.89	(Zpu 2.08 + j 9.78)		Shell Type	
	Zero Seq. Z%:	1.04 + J 4.89	(Sec 2.08 + j 9.78 Pri		Open)	
	Taps Pri. 0.000 %	Sec. 0.000 %	Phase Shift (Pri. Leading Sec.): 30.00 Deg.			
TF-3219B	BUS-0059 D	13800.0	BUS-0058	YG	480.00 500.00	500.00
	Pos. Seq. Z%:	1.04 + J 4.89	(Zpu 2.08 + j 9.78)		Shell Type	
	Zero Seq. Z%:	1.04 + J 4.89	(Sec 2.08 + j 9.78 Pri		Open)	
	Taps Pri. 0.000 %	Sec. 0.000 %	Phase Shift (Pri. Leading Sec.): 30.00 Deg.			

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO	NAME	VOLTS L-L	* SECONDARY RECORD NO	NAME	VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-3220	BUS-0083	D	4160.00	BUS-0290	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.56 (Zpu 0.994 + j 9.13) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.57 (Sec 0.994 + j 9.15 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3221	BUS-0085	D	4160.00	BUS-0210	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.956 + J 4.49 (Zpu 1.91 + j 8.98) Shell Type							
	Zero Seq. Z%: 0.956 + J 4.49 (Sec 1.91 + j 8.98 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3224	BUS-0154	D	4160.00	PN-3248	YG	480.00	500.00	500.00
	Pos. Seq. Z%: 0.818 + J 3.84 (Zpu 1.64 + j 7.69) Shell Type							
	Zero Seq. Z%: 0.818 + J 3.84 (Sec 1.64 + j 7.69 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-3226	BUS-0071	D	4160.00	QUEIROZ GALVÃO	YG	380.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.57 (Zpu 0.994 + j 9.15) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.57 (Sec 0.994 + j 9.15 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-5140001A	BUS-0338	D	4160.00	PN-5140004A	YG	480.00	1000.00	800.00
	Pos. Seq. Z%: 0.920 + J 4.91 (Zpu 1.15 + j 6.14) Shell Type							
	Zero Seq. Z%: 0.920 + J 4.91 (Sec 1.15 + j 6.14 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-5140002	BUS-0435	D	4160.00	BUS-0157	YG	480.00	630.00	500.00
	Pos. Seq. Z%: 0.833 + J 3.91 (Zpu 1.67 + j 7.82) Shell Type							
	Zero Seq. Z%: 0.833 + J 3.91 (Sec 1.67 + j 7.82 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO NAME	VOLTS L-L	* SECONDARY RECORD NO NAME	VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-5330001A	BUS-0403 D	13800.0	PN-5330002A	YG	480.00 2000.00	1600.00
	Pos. Seq. Z%: 0.960 + J 6.43	(Zpu 0.600 + j 4.02)	Shell Type			
	Zero Seq. Z%: 0.960 + J 6.43	(Sec 0.600 + j 4.02 Pri Open)				
	Taps Pri. -2.50 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.					
TF-5330002A	BUS-0399 D	13800.0	PN-5330003A	YG	480.00 2000.00	1600.00
	Pos. Seq. Z%: 0.960 + J 6.43	(Zpu 0.600 + j 4.02)	Shell Type			
	Zero Seq. Z%: 0.960 + J 6.43	(Sec 0.600 + j 4.02 Pri Open)				
	Taps Pri. -2.50 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.					
TF-5330003A	BUS-0400 D	13800.0	PN-5330004A	YG	480.00 625.00	500.00
	Pos. Seq. Z%: 0.960 + J 6.43	(Zpu 1.92 + j 12.86)	Shell Type			
	Zero Seq. Z%: 0.960 + J 6.43	(Sec 1.92 + j 12.86 Pri Open)				
	Taps Pri. -2.50 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.					
TF-5330003B	BUS-0401 D	13800.0	PN-5330004B	YG	480.00 625.00	500.00
	Pos. Seq. Z%: 1.35 + J 6.36	(Zpu 2.71 + j 12.71)	Shell Type			
	Zero Seq. Z%: 1.35 + J 6.36	(Sec 2.71 + j 12.71 Pri Open)				
	Taps Pri. -2.50 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.					
TF-5334-01	BUS-0155 D	4160.00	PN-5334-01	YG	480.00 400.00	400.00
	Pos. Seq. Z%: 0.940 + J 4.18	(Zpu 2.35 + j 10.44)	Shell Type			
	Zero Seq. Z%: 0.940 + J 4.18	(Sec 2.35 + j 10.44 Pri Open)				
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.					
TF-6211001A	BUS-0086 D	13800.0	PN-6211002A	YG	480.00 2000.00	1600.00
	Pos. Seq. Z%: 0.960 + J 6.43	(Zpu 0.600 + j 4.02)	Shell Type			
	Zero Seq. Z%: 0.960 + J 6.43	(Sec 0.600 + j 4.02 Pri Open)				
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.					

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TRANSFORMER INPUT DATA

TRANSFORMER NAME	PRIMARY RECORD NO NAME		VOLTS L-L	* SECONDARY RECORD NO NAME		VOLTS L-L	FULL-LOAD KVA	NOMINAL KVA
TF-6211001B	BUS-0087	D	13800.0	PN-6211002B	YG	480.00	2000.00	1600.00
	Pos. Seq. Z%: 0.960 + J 6.43 (Zpu 0.600 + j 4.02) Shell Type							
	Zero Seq. Z%: 0.960 + J 6.43 (Sec 0.600 + j 4.02 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							
TF-TEBAR	BUS-0248	D	4160.00	PN-CLUBE	YG	220.00	500.00	500.00
	Pos. Seq. Z%: 0.497 + J 4.92 (Zpu 0.995 + j 9.85) Shell Type							
	Zero Seq. Z%: 0.497 + J 4.92 (Sec 0.995 + j 9.85 Pri Open)							
	Taps Pri. 0.000 % Sec. 0.000 % Phase Shift (Pri. Leading Sec.): 30.00 Deg.							

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GENERATION DATA

BUS NAME	GENERATION	VOLT	SIZE	InitKW	MaxKVAR	TYPE
SE-TEBAR 138kV	BANDEIRANTES L	1 pu				SB

Three Phase Contribution: 6050.00 AMPS X/R : 3.62
Line to Earth Contribution: 0.00000 AMPS X/R : 1.0000
Pos sequence impedance (100 MVA base) 0.0184 + J 0.0667 PU
Zero sequence impedance (100 MVA base) Infinite

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P A S S I V E F I L T E R D A T A

Filter Name	Bus Name	Bus Voltage	Rated Voltage	Connect	Filter Type	Capacitor KVAR	Tuned Order	Q	M	R (Ω)	L (H)	C (μF)
FLTR-0006	BUS-0358	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0008	BUS-0360	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0009	BUS-0361	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0010	BUS-0362	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0011	BUS-0371	480	480	DELTA	Capacitor	210.0				0.0000	0.0000	805.9061
										0.0000	0.0000	805.9061
FLTR-0012	BUS-0382	480	480	DELTA	Capacitor	210.0				0.0000	0.0000	805.9061
										0.0000	0.0000	805.9061
FLTR-0015	PN-5330002A	480	480	WYE_G	Capacitor	240.0				0.0000	0.0000	2763.100
										0.0000	0.0000	2763.100
FLTR-0016	PN-5330002B	480	480	WYE_G	Capacitor	390.0				0.0000	0.0000	4490.000
										0.0000	0.0000	4490.000
FLTR-0017	PN-5330003A	480	480	WYE_G	Capacitor	120.0				0.0000	0.0000	1381.600
										0.0000	0.0000	1381.600
FLTR-0018	PN-5330003B	480	480	WYE_G	Capacitor	120.0				0.0000	0.0000	1381.600
										0.0000	0.0000	1381.600
FLTR-0013	BUS-0363	13800	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0021	PN-3228A (OSVAT)	13800	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0022	BUS-0045	13800	13800	WYE_G	Capacitor	900.0				0.0000	0.0000	12.5358
										0.0000	0.0000	12.5358
FLTR-0024	BUS-0047	13800	13800	WYE_G	Capacitor	200.0				0.0000	0.0000	2.7857
										0.0000	0.0000	2.7857
FLTR-0026	BUS-0064	13800	13800	WYE_G	Capacitor	200.0				0.0000	0.0000	2.7857
										0.0000	0.0000	2.7857
FLTR-0027	BUS-0048	13800	13800	WYE_G	Capacitor	900.0				0.0000	0.0000	12.5358
										0.0000	0.0000	12.5358
FLTR-0028	BUS-0049	13800	13800	WYE_G	Capacitor	900.0				0.0000	0.0000	12.5358
										0.0000	0.0000	12.5358
FLTR-0029	PN-3228B (OSVAT)	13800	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0019	BUS-0097	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0032	BUS-0098	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0033	BUS-0096	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0034	BUS-0100	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0036	BUS-0102	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0037	BUS-0458	480	13800	WYE_G	Capacitor	30.0				0.0000	0.0000	0.4179
										0.0000	0.0000	0.4179
FLTR-0039	BUS-0460	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0040	BUS-0461	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0042	BUS-0130	4160	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0043	BUS-0131	4160	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0049	BUS-0175	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0050	BUS-0176	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0052	PN-3206B	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0056	PN-3206A	480	480	WYE_G	Capacitor	50.0				0.0000	0.0000	575.6472
										0.0000	0.0000	575.6472
BCAP-4000kVArc 2	PN-3240B	13800	13800	DELTA	Capacitor	4000.0				0.0000	0.0000	18.5716
										0.0000	0.0000	18.5716
BCAP-4000kVArc 1	PN-3240B	13800	13800	DELTA	Capacitor	4000.0				0.0000	0.0000	18.5716
										0.0000	0.0000	18.5716
BCAP-500kVArc 3	PN-3228A (OSVAT)	13800	13800	DELTA	Capacitor	800.0				0.0000	0.0000	3.7143
										0.0000	0.0000	3.7143
BCAP-2000kVArc 4	PN-3228B (OSVAT)	13800	13800	DELTA	Capacitor	2000.0				0.0000	0.0000	9.2858
										0.0000	0.0000	9.2858

BCAP-320kVArc 6	PN-3232B (TRANS.	4160	4160	DELTA	Capacitor	320.0				0.0000	0.0000	16.3497
										0.0000	0.0000	16.3497
BCAP-100kVArc 5	PN-3232A (TRANS.	4160	4160	DELTA	Capacitor	100.0				0.0000	0.0000	5.1093
										0.0000	0.0000	5.1093
BCAP 200kVARc 0	PN-3240A	13800	13800	DELTA	Capacitor	200.0				0.0000	0.0000	0.9286
										0.0000	0.0000	0.9286

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ENERGY AUDIT LOADS

BUS NAME	LOAD NAME	VOLTS	SIZE	LOADTYPE	PF	LAG/LEAD
BUS-0390	URV	13800.0	1500.0*1.00 kVA	KVA	0.90	LAG
CD-12	EQV-CD12	480.00	63.00*1.00 kVA	KVA	0.85	LAG
PDN-001	EQV-001	480.00	53.00*1.00 kVA	KVA	0.85	LAG
PN-3101	EQV-3101	480.00	750.00*1.00 kVA	KVA	1.00UNIT	
PN-3103	EQV-3103	480.00	112.50*1.00 kVA	KVA	0.85	LAG
PN-3106	EQV-3106	480.00	225.00*1.00 kVA	KVA	0.92	LAG
PN-3204	EQV-3204	480.00	63.00*1.00 kVA	KVA	0.85	LAG
PN-3211	EQV-3211	480.00	50.00*1.00 kVA	KVA	0.85	LAG
PN-3213	EQV-3213	480.00	250.00*1.00 kVA	KVA	0.85	LAG
PN-3214	EQV-3214	480.00	63.00*1.00 kVA	KVA	0.85	LAG
PN-3215	EQV-3215	480.00	63.00*1.00 kVA	KVA	0.85	LAG
PN-3216	EQV-3216	480.00	75.00*1.00 kVA	KVA	0.85	LAG
PN-3217	EQV-3217	480.00	75.00*1.00 kVA	KVA	0.85	LAG
PN-3219	EQV-3219	480.00	30.00*1.00 kVA	KVA	0.85	LAG
PN-3219	EQV-3218	480.00	20.00*1.00 kVA	KVA	0.85	LAG
PN-3220	EQV-3220	480.00	350.00*1.00 kVA	KVA	0.85	LAG
PN-3221	EQV-3221	480.00	350.00*1.00 kVA	KVA	0.85	LAG
PN-3222	EQV-3222	480.00	200.00*1.00 kVA	KVA	0.85	LAG
PN-3223	EQV-3223	480.00	250.00*1.00 kVA	KVA	0.85	LAG
PN-3224	EQV-3224	480.00	30.00*1.00 kVA	KVA	0.85	LAG
PN-3236A	EQV-3236a	480.00	250.00*1.00 kVA	KVA	0.85	LAG
PN-3236B	EQV-3236b	480.00	148.00*1.00 kVA	KVA	0.85	LAG
PN-3242	EQV-3242	480.00	200.00*1.00 kVA	KVA	0.85	LAG
PN-3243	EQV-3243	480.00	150.00*1.00 kVA	KVA	0.85	LAG
PN-3244	EQV-3244	480.00	225.00*1.00 kVA	KVA	0.85	LAG
PN-3245	EQV-3245	480.00	225.00*1.00 kVA	KVA	0.85	LAG
PN-3246	EQV-3246	480.00	200.00*1.00 kVA	KVA	0.85	LAG
PN-3248	EQV-3248	480.00	350.00*1.00 kVA	KVA	0.85	LAG
PN-3270	EQV-3270	480.00	20.00*1.00 kVA	KVA	0.85	LAG
PN-5140003	EQV-5140003	480.00	313.00*1.00 kVA	KVA	1.00UNIT	
PN-5140004A	EQV - 5140005	480.00	303.00*1.00 kVA	KVA	0.92	LAG
PN-5140004B	EQV-5140006	480.00	297.00*1.00 kVA	KVA	0.92	LAG
PN-5330002A	EQV-5330002A	480.00	228.00*1.00 kVA	KVA	0.92	LAG
PN-5330002A	EQV 5330006	480.00	365.00*1.00 kVA	KVA	0.92	LAG
PN-5330002B	EQV-5330002B	480.00	227.00*1.00 kVA	KVA	0.92	LAG
PN-5330002B	EQV 5330005	480.00	534.00*1.00 kVA	KVA	0.92	LAG
PN-5330003A	EQV 5330003A	480.00	476.00*1.00 kVA	KVA	0.92	LAG
PN-5330003B	EQV-5330003B	480.00	137.00*1.00 kVA	KVA	0.92	LAG
PN-5330003B	EQV 5330007	480.00	439.00*1.00 kVA	KVA	0.92	LAG
PN-5330004A	EQV-5330004A	480.00	120.00*1.00 kVA	KVA	0.92	LAG
PN-5330004B	EQV-5330004B	480.00	120.00*1.00 kVA	KVA	0.92	LAG
PN-5334-01	EQV-5334-01	480.00	300.00*1.00 kVA	KVA	0.85	LAG
PN-6211003A	EQV-6211003A	480.00	275.00*1.00 kVA	KVA	0.80	LAG

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BUS NAME	LOAD NAME	VOLTS	SIZE	LOADTYPE	PF	LAG/LEAD
PN-6211003B	EQV-6211003B	480.00	275.00*1.00 kVA	KVA	0.80	LAG
PN-CLUBE	EQV-CLUBE	220.00	210.00*1.00 kVA	KVA	0.85	LAG
PN3229	EQV-3229	480.00	200.00*1.00 kVA	KVA	0.85	LAG
QUEIROZ GALVÃO	EQV-QG	380.00	200.00*1.00 kVA	KVA	0.85	LAG

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MOTOR LOAD DATA

BUS NAME	LOAD NAME	VOLT	SIZE	#	TYPE	EFF	PF
BUS-0045	MB-6511502A (P	13200	5700.0*	1	KW KVA	0.96	0.85 LAG
BUS-0047	MB-6511501A (B	13200	1300.0*	1	KW KVA	0.95	0.88 LAG
BUS-0048	MB-6511502C (P	13200	5700.0*	1	KW KVA	0.96	0.85 LAG
BUS-0049	MB-6511502D (P	13200	5700.0*	1	KW KVA	0.96	0.85 LAG
BUS-0064	MB-6511501C (B	13200	1300.0*	1	KW KVA	0.95	0.88 LAG
BUS-0096	MB-3202B (PRIN	4000	1865.0*	1	KW KVA	0.95	0.88 LAG
BUS-0097	MB-3202C (PRIN	4000	1865.0*	1	KW KVA	0.95	0.88 LAG
BUS-0098	MB-3202D (PRIN	4000	1865.0*	1	KW KVA	0.95	0.88 LAG
BUS-0100	MB-3202A (PRIN	4000	1865.0*	1	KW KVA	0.95	0.88 LAG
BUS-0102	MB-001A (DIESE	4000	1865.0*	1	KW KVA	0.95	0.88 LAG
BUS-0130	MB-3208B	4000	1288.0*	1	KW KVA	0.95	0.93 LAG
BUS-0131	MB-3208C	4000	1288.0*	1	KW Z	0.95	0.93 LAG
BUS-0172	MB-3201A (BOOS	440	185.0*	1	KW KVA	0.94	0.86 LAG
BUS-0175	MB-3207A (BOOS	440	150.0*	1	KW KVA	0.94	0.86 LAG
BUS-0176	MB-3207B (BOOS	440	150.0*	1	KW KVA	0.94	0.86 LAG
BUS-0211	MB-3210A	4000	670.0*	1	KW KVA	0.93	0.88 LAG
BUS-0358	MB-42500101A(P	13200	1800.0*	1	KW KVA	0.95	0.88 LAG
BUS-0360	MB-42500101D(P	13200	1800.0*	1	KW KVA	0.95	0.88 LAG
BUS-0361	MB-42500101B(P	13200	1800.0*	1	KW KVA	0.95	0.88 LAG
BUS-0362	MB-42500101E(P	13200	1800.0*	1	KW KVA	0.95	0.88 LAG
BUS-0363	MB-3212A(GASOL	13200	1125.0*	1	KW KVA	0.96	0.90 LAG
BUS-0376	MB-42500102A (	440	300.0*	1	KW KVA	0.95	0.86 LAG
BUS-0377	MB-42500102AB(	440	300.0*	1	KW KVA	0.95	0.86 LAG
BUS-0381	MB-42500102D(B	440	300.0*	1	KW KVA	0.95	0.86 LAG
BUS-0422	MB-3221	4000	710.0*	1	KW KVA	0.95	0.89 LAG
BUS-0458	MB-3231B (ABAS	440	75.0*	1	KW KVA	0.93	0.87 LAG
BUS-0460	MB-3221B (ABAS	440	150.0*	1	KW KVA	0.94	0.86 LAG
BUS-0461	MB-3221A (ABAS	440	150.0*	1	KW KVA	0.94	0.86 LAG
PN-3249	MB-001	440	45.0*	1	KW KVA	0.93	0.87 LAG
PN-3249	MB-002	440	45.0*	1	KW KVA	0.93	0.87 LAG

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PASSIVE FILTER DATA

Filter Name	Bus Name	Bus Voltage	Rated Voltage	Connect	Filter Type	Capacitor KVAR	Tuned Order	Q	M	R (Ω)	L (H)	C (μF)
FLTR-0006	BUS-0358	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0008	BUS-0360	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0009	BUS-0361	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0010	BUS-0362	13800	13800	WYE_G	Capacitor	210.0				0.0000	0.0000	2.9250
										0.0000	0.0000	2.9250
FLTR-0011	BUS-0371	480	480	DELTA	Capacitor	210.0				0.0000	0.0000	805.9061
										0.0000	0.0000	805.9061
FLTR-0012	BUS-0382	480	480	DELTA	Capacitor	210.0				0.0000	0.0000	805.9061
										0.0000	0.0000	805.9061
FLTR-0015	PN-5330002A	480	480	WYE_G	Capacitor	240.0				0.0000	0.0000	2763.100
										0.0000	0.0000	2763.100
FLTR-0016	PN-5330002B	480	480	WYE_G	Capacitor	390.0				0.0000	0.0000	4490.000
										0.0000	0.0000	4490.000
FLTR-0017	PN-5330003A	480	480	WYE_G	Capacitor	120.0				0.0000	0.0000	1381.600
										0.0000	0.0000	1381.600
FLTR-0018	PN-5330003B	480	480	WYE_G	Capacitor	120.0				0.0000	0.0000	1381.600
										0.0000	0.0000	1381.600
FLTR-0013	BUS-0363	13800	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0021	PN-3228A (OSVAT)	13800	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0022	BUS-0045	13800	13800	WYE_G	Capacitor	900.0				0.0000	0.0000	12.5358
										0.0000	0.0000	12.5358
FLTR-0024	BUS-0047	13800	13800	WYE_G	Capacitor	200.0				0.0000	0.0000	2.7857
										0.0000	0.0000	2.7857
FLTR-0026	BUS-0064	13800	13800	WYE_G	Capacitor	200.0				0.0000	0.0000	2.7857
										0.0000	0.0000	2.7857
FLTR-0027	BUS-0048	13800	13800	WYE_G	Capacitor	900.0				0.0000	0.0000	12.5358
										0.0000	0.0000	12.5358
FLTR-0028	BUS-0049	13800	13800	WYE_G	Capacitor	900.0				0.0000	0.0000	12.5358
										0.0000	0.0000	12.5358
FLTR-0029	PN-3228B (OSVAT)	13800	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0019	BUS-0097	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0032	BUS-0098	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0033	BUS-0096	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0034	BUS-0100	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0036	BUS-0102	4160	13800	WYE_G	Capacitor	300.0				0.0000	0.0000	4.1786
										0.0000	0.0000	4.1786
FLTR-0037	BUS-0458	480	13800	WYE_G	Capacitor	30.0				0.0000	0.0000	0.4179
										0.0000	0.0000	0.4179
FLTR-0039	BUS-0460	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0040	BUS-0461	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0042	BUS-0130	4160	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0043	BUS-0131	4160	13800	WYE_G	Capacitor	150.0				0.0000	0.0000	2.0893
										0.0000	0.0000	2.0893
FLTR-0049	BUS-0175	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0050	BUS-0176	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0052	PN-3206B	480	13800	WYE_G	Capacitor	50.0				0.0000	0.0000	0.6964
										0.0000	0.0000	0.6964
FLTR-0056	PN-3206A	480	480	WYE_G	Capacitor	50.0				0.0000	0.0000	575.6472
										0.0000	0.0000	575.6472
BCAP-4000kVArc 2	PN-3240B	13800	13800	DELTA	Capacitor	4000.0				0.0000	0.0000	18.5716
										0.0000	0.0000	18.5716
BCAP-4000kVArc 1	PN-3240B	13800	13800	DELTA	Capacitor	4000.0				0.0000	0.0000	18.5716
										0.0000	0.0000	18.5716
BCAP-500kVArc 3	PN-3228A (OSVAT)	13800	13800	DELTA	Capacitor	800.0				0.0000	0.0000	3.7143
										0.0000	0.0000	3.7143
BCAP-2000kVArc 4	PN-3228B (OSVAT)	13800	13800	DELTA	Capacitor	2000.0				0.0000	0.0000	9.2858
										0.0000	0.0000	9.2858
BCAP-320kVArc 6	PN-3232B (TRANS.	4160	4160	DELTA	Capacitor	320.0				0.0000	0.0000	16.3497

BCAP-100kVArc 5	PN-3232A (TRANS.	4160	4160	DELTA	Capacitor	100.0				0.0000	0.0000	16.3497
										0.0000	0.0000	5.1093
										0.0000	0.0000	5.1093
BCAP 200kVARc 0	PN-3240A	13800	13800	DELTA	Capacitor	200.0				0.0000	0.0000	0.9286
										0.0000	0.0000	0.9286

7 ANEXO II – RELATÓRIO DE ANÁLISE DE CURTO-CIRCUITO COMPLETO

TEBAR Terminal Aquaviário de São Sebastião
Ampliação da Subestação Principal
Estudo do Sistema IP/Gabor
Jul 29, 2012 17:12:11

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SKM POWER*TOOLS FOR WINDOWS
IEC 60909 FAULT ANALYSIS REPORT

Voltage Factor Table

Voltage Range		cmax	cmin	
Specific Voltage		230	1.00	0.00
Specific Voltage		400	1.00	0.00
0		1000	1.00	1.00
1000		35000	1.00	1.00
35000		230000	1.00	1.00
230000		765000	1.00	1.00

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TEBAR Terminal Aquaviário de São Sebastião

Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

T H R E E P H A S E I E C 6 0 9 0 9 F A U L T R E P O R T

System Frequency(Hz): 60 Tmin: 1.00 sec.

Calculate Maximum Short-Circuit Current

==========

*FAULT BUS: 5330001A Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 185824 kVA Sk: 120343 kVA Ib asym: 6.286 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.774	0.000	15.021	6.286	5.035
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
PI-0091	7.790	0.000	15.021	6.286	5.035

*FAULT BUS: BUS-0045 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 345909 kVA Sk: 223274 kVA Ib asym: 11.348 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.472	0.000	35.007	11.348	9.341
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0020	12.649	0.000	30.425	10.784	9.341
INDIVIDUAL CONTRIBUTIONS:					
MB-6511502A (PRINCIPAL)	1.856	0.000	4.583	0.564	0.000

*FAULT BUS: BUS-0047 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 340451 kVA Sk: 221311 kVA Ib asym: 11.257 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.243	0.000	33.677	11.257	9.259
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0022	13.861	0.000	32.652	11.200	9.259
INDIVIDUAL CONTRIBUTIONS:					
MB-6511501A (BOOSTER)	0.416	0.000	1.026	0.057	0.000

*FAULT BUS: BUS-0048 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 323602 kVA Sk: 223839 kVA Ib asym: 10.631 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.539	0.000	33.261	10.631	9.365
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0023	11.716	0.000	28.678	10.067	9.365
INDIVIDUAL CONTRIBUTIONS:					

MB-6511502C (PRINCIPAL)	1.856	0.000	4.583	0.564	0.000

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TEBAR Terminal Aquaviário de São Sebastião

Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0049 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 323602 kVA Sk: 223839 kVA Ib asym: 10.631 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.539	0.000	33.261	10.631	9.365
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0026	11.716	0.000	28.678	10.067	9.365
INDIVIDUAL CONTRIBUTIONS:					
MB-6511502D (PRINCIPAL)1	1.856	0.000	4.583	0.564	0.000

*FAULT BUS: BUS-0064 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 318841 kVA Sk: 221866 kVA Ib asym: 10.552 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.339	0.000	32.053	10.552	9.282
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0058	12.959	0.000	31.032	10.495	9.282
INDIVIDUAL CONTRIBUTIONS:					
MB-6511501C (BOOSTER)	0.414	0.000	1.021	0.057	0.000

*FAULT BUS: BUS-0086 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 258016 kVA Sk: 223571 kVA Ib asym: 9.691 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.795	0.000	26.875	9.691	9.354
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0057	10.657	0.000	26.472	9.651	9.354
TF-6211001A	0.171	0.000	0.403	0.043	0.000

*FAULT BUS: BUS-0087 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 254410 kVA Sk: 221670 kVA Ib asym: 9.582 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.644	0.000	26.473	9.582	9.274
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0060	10.584	0.000	26.255	9.580	9.274
INDIVIDUAL CONTRIBUTIONS:					
MB-42500102D(BOOSTER)1	0.092	0.000	0.218	0.002	0.000

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TEBAR Terminal Aquaviário de São Sebastião

Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0096 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 134227 kVA Sk: 55800 kVA Ib asym: 10.113 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	18.629	0.000	43.934	10.113	7.744
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0178	16.704	0.000	39.128	9.790	7.744
INDIVIDUAL CONTRIBUTIONS:					
MB-3202B (PRINCIPAL)	1.948	0.000	4.810	0.323	0.000

*FAULT BUS: BUS-0097 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 134221 kVA Sk: 55797 kVA Ib asym: 10.112 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	18.628	0.000	43.934	10.112	7.744
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0179	16.694	0.000	39.105	9.788	7.744
INDIVIDUAL CONTRIBUTIONS:					
MB-3202C (PRINCIPAL)	1.957	0.000	4.832	0.324	0.000

*FAULT BUS: BUS-0098 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 138400 kVA Sk: 56690 kVA Ib asym: 10.205 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	19.208	0.000	45.041	10.205	7.868
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0180	17.361	0.000	40.426	9.902	7.868
INDIVIDUAL CONTRIBUTIONS:					
MB-3202D (PRINCIPAL)	1.871	0.000	4.620	0.303	0.000

*FAULT BUS: BUS-0100 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 134233 kVA Sk: 55800 kVA Ib asym: 10.112 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	18.630	0.000	43.937	10.112	7.744
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0183	16.696	0.000	39.109	9.789	7.744
INDIVIDUAL CONTRIBUTIONS:					
MB-3202A (PRINCIPAL)	1.957	0.000	4.832	0.324	0.000

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TEBAR Terminal Aquaviário de São Sebastião

Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0102 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 129514 kVA Sk: 54746 kVA Ib asym: 10.015 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	17.975	0.000	41.692	10.015	7.598
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0185	16.042	0.000	36.868	9.691	7.598
INDIVIDUAL CONTRIBUTIONS:					
MB-001A (DIESEL 10)	1.957	0.000	4.832	0.324	0.000

*FAULT BUS: BUS-0130 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 81917 kVA Sk: 57126 kVA Ib asym: 9.187 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.369	0.000	26.832	9.187	7.928
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0081	10.111	0.000	23.677	9.012	7.928
INDIVIDUAL CONTRIBUTIONS:					
MB-3208B	1.279	0.000	3.158	0.175	0.000

*FAULT BUS: BUS-0131 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 80709 kVA Sk: 57501 kVA Ib asym: 9.232 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.201	0.000	26.379	9.232	7.980
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0086	9.950	0.000	23.239	9.058	7.980
INDIVIDUAL CONTRIBUTIONS:					
MB-3208C	1.273	0.000	3.143	0.174	0.000

*FAULT BUS: BUS-0136 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 80955 kVA Sk: 57839 kVA Ib asym: 9.305 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.235	0.000	26.533	9.305	8.027
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0084	10.941	0.000	25.780	9.265	8.027
TF-3204B	0.315	0.000	0.754	0.053	0.000

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0172 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 15337 kVA Sk: 12873 kVA Ib asym: 16.189 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	18.447	0.000	35.677	16.189	15.484
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0107	16.634	0.000	31.120	16.189	15.484
INDIVIDUAL CONTRIBUTIONS:					
MB-3201A (BOOSTER OSPLAN)	1.907	0.000	4.709	0.000	0.000

*FAULT BUS: BUS-0175 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 16109 kVA Sk: 13194 kVA Ib asym: 16.526 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	19.376	0.000	36.799	16.526	15.870
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0120	17.920	0.000	33.123	16.526	15.870
INDIVIDUAL CONTRIBUTIONS:					
MB-3207A (BOOSTER OSBAT)	1.546	0.000	3.818	0.000	0.000

*FAULT BUS: BUS-0176 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 16109 kVA Sk: 13194 kVA Ib asym: 16.526 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	19.376	0.000	36.799	16.526	15.870
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0121	17.920	0.000	33.123	16.526	15.870
INDIVIDUAL CONTRIBUTIONS:					
MB-3207B (BOOSTER OSBAT)	1.546	0.000	3.818	0.000	0.000

*FAULT BUS: BUS-0200 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 327472 kVA Sk: 226817 kVA Ib asym: 10.784 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.700	0.000	34.216	10.784	9.489
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0131	4.112	0.000	10.117	1.257	0.000
TF-3217A	9.623	0.000	24.099	9.555	9.489

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TEBAR Terminal Aquaviário de São Sebastião

Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0205 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 103210 kVA Sk: 102635 kVA Ib asym: 14.316 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.324	0.000	36.695	14.316	14.244
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
TF-3218A	14.373	0.000	36.695	14.316	14.244

*FAULT BUS: BUS-0206 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 108305 kVA Sk: 102635 kVA Ib asym: 14.378 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	15.031	0.000	38.407	14.378	14.244
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
TF-3218B	14.371	0.000	36.685	14.315	14.244
INDIVIDUAL CONTRIBUTIONS:					
MB-3210A	0.710	0.000	1.723	0.063	0.000

*FAULT BUS: BUS-0211 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 86863 kVA Sk: 81475 kVA Ib asym: 11.417 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	12.055	0.000	24.216	11.417	11.308
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0051	11.391	0.000	22.477	11.355	11.308
INDIVIDUAL CONTRIBUTIONS:					
MB-3210A	0.719	0.000	1.775	0.063	0.000

*FAULT BUS: BUS-0248 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 62080 kVA Sk: 47204 kVA Ib asym: 7.524 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	8.616	0.000	15.282	7.524	6.551
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0165	8.631	0.000	15.282	7.524	6.551

*FAULT BUS: BUS-0250 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 64630 kVA Sk: 48708 kVA Ib asym: 7.798 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	8.970	0.000	15.688	7.798	6.760
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0164	8.986	0.000	15.688	7.798	6.760

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0253 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 28805 kVA Sk: 25696 kVA Ib asym: 3.831 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	3.998	0.000	5.979	3.831	3.566
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0170	4.005	0.000	5.979	3.831	3.566

*FAULT BUS: BUS-0254 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 29777 kVA Sk: 26432 kVA Ib asym: 3.951 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	4.133	0.000	6.202	3.951	3.668
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0078	4.140	0.000	6.202	3.951	3.668

*FAULT BUS: BUS-0260 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 18940 kVA Sk: 15901 kVA Ib asym: 20.201 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	22.782	0.000	55.414	20.201	19.126
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3204A	20.949	0.000	50.958	20.201	19.126
INDIVIDUAL CONTRIBUTIONS:					
MB-3201A (BOOSTER OSPLAN)	1.871	0.000	4.457	0.000	0.000

*FAULT BUS: BUS-0288 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 350265 kVA Sk: 226242 kVA Ib asym: 11.514 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.654	0.000	36.083	11.514	9.465
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0019	5.103	0.000	12.086	2.012	0.000
TF-3217B	9.588	0.000	24.005	9.522	9.465

*FAULT BUS: BUS-0330 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 261947 kVA Sk: 228836 kVA Ib asym: 9.908 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.959	0.000	27.851	9.908	9.574
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0024	1.232	0.000	3.021	0.241	0.000
TF-3202B	9.762	0.000	24.831	9.689	9.574

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*FAULT BUS: BUS-0331 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 265649 kVA Sk: 230855 kVA Ib asym: 10.008 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.114	0.000	28.276	10.008	9.658
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0025	1.309	0.000	3.203	0.266	0.000
TF-3202A	9.839	0.000	25.074	9.765	9.658

*FAULT BUS: BUS-0358 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 253513 kVA Sk: 219710 kVA Ib asym: 9.518 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.606	0.000	26.082	9.518	9.192
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0219	10.066	0.000	24.668	9.425	9.192
INDIVIDUAL CONTRIBUTIONS:					
MB-42500101A(PRINC.)	0.573	0.000	1.414	0.093	0.000

*FAULT BUS: BUS-0360 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 253513 kVA Sk: 219710 kVA Ib asym: 9.518 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.606	0.000	26.082	9.518	9.192
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0221	10.066	0.000	24.668	9.425	9.192
INDIVIDUAL CONTRIBUTIONS:					
MB-42500101D(PRINC.)	0.573	0.000	1.414	0.093	0.000

*FAULT BUS: BUS-0361 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 250055 kVA Sk: 217871 kVA Ib asym: 9.426 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.462	0.000	25.709	9.426	9.115
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0222	9.921	0.000	24.295	9.333	9.115
INDIVIDUAL CONTRIBUTIONS:					
MB-42500101B(PRINC.)	0.573	0.000	1.414	0.093	0.000

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*FAULT BUS: BUS-0362 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 250055 kVA Sk: 217871 kVA Ib asym: 9.426 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.462	0.000	25.709	9.426	9.115
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0223	9.921	0.000	24.295	9.333	9.115
INDIVIDUAL CONTRIBUTIONS:					
MB-42500101E(PRINC.)	0.573	0.000	1.414	0.093	0.000

*FAULT BUS: BUS-0363 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 224105 kVA Sk: 134855 kVA Ib asym: 7.113 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	9.376	0.000	18.725	7.113	5.642
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0224	9.054	0.000	17.883	7.069	5.642
INDIVIDUAL CONTRIBUTIONS:					
MB-3212A(GASOLINA 50)	0.348	0.000	0.860	0.044	0.000

*FAULT BUS: BUS-0376 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 18517 kVA Sk: 15103 kVA Ib asym: 18.456 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	22.273	0.000	43.920	18.456	18.166
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0226	19.357	0.000	36.576	18.386	18.166
INDIVIDUAL CONTRIBUTIONS:					
MB-42500102A (BOOSTER)	3.060	0.000	7.557	0.073	0.000

*FAULT BUS: BUS-0377 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 18517 kVA Sk: 15103 kVA Ib asym: 18.456 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	22.273	0.000	43.920	18.456	18.166
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0227	19.357	0.000	36.576	18.386	18.166
INDIVIDUAL CONTRIBUTIONS:					
MB-42500102AB(BOOSTER)	3.060	0.000	7.557	0.073	0.000

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*FAULT BUS: BUS-0381 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 17638 kVA Sk: 15094 kVA Ib asym: 18.274 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	21.215	0.000	42.265	18.274	18.155
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0229	18.293	0.000	34.901	18.204	18.155
INDIVIDUAL CONTRIBUTIONS:					
MB-42500102D(BOOSTER)1	3.060	0.000	7.557	0.073	0.000

*FAULT BUS: BUS-0390 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 182045 kVA Sk: 118782 kVA Ib asym: 6.195 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.616	0.000	14.586	6.195	4.969
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0232	7.631	0.000	14.586	6.195	4.969

*FAULT BUS: BUS-0417 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 242736 kVA Sk: 141800 kVA Ib asym: 7.465 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.155	0.000	22.866	7.465	5.932
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-AUX0276	6.806	0.000	14.626	6.299	5.932
PI-0115	3.385	0.000	8.273	1.209	0.000

*FAULT BUS: BUS-0422 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 125732 kVA Sk: 54392 kVA Ib asym: 10.323 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	17.450	0.000	35.178	10.323	7.549
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0182	16.748	0.000	33.395	10.257	7.549
INDIVIDUAL CONTRIBUTIONS:					
MB-3221	0.736	0.000	1.817	0.067	0.000

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*FAULT BUS: BUS-0452 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 83771 kVA Sk: 58293 kVA Ib asym: 9.402 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.626	0.000	28.180	9.402	8.090
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
PI-0104	11.647	0.000	28.180	9.402	8.090

*FAULT BUS: BUS-0453 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 82508 kVA Sk: 58688 kVA Ib asym: 9.451 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.451	0.000	27.676	9.451	8.145
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
PI-0114	11.472	0.000	27.676	9.451	8.145

*FAULT BUS: BUS-0454 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 20830 kVA Sk: 19275 kVA Ib asym: 2.813 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	2.891	0.000	4.259	2.813	2.675
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0268	2.896	0.000	4.259	2.813	2.675

*FAULT BUS: BUS-0457 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 20766 kVA Sk: 19293 kVA Ib asym: 2.809 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	2.882	0.000	4.248	2.809	2.678
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0267	2.887	0.000	4.248	2.809	2.678

*FAULT BUS: BUS-0458 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8439 kVA Sk: 7227 kVA Ib asym: 9.044 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.151	0.000	15.801	9.044	8.692
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0077	9.574	0.000	14.318	9.044	8.692
INDIVIDUAL CONTRIBUTIONS:					
MB-3231B (ABAST. NAVIO)	0.776	0.000	1.916	0.000	0.000

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*FAULT BUS: BUS-0460 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 11277 kVA Sk: 8963 kVA Ib asym: 11.212 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.564	0.000	23.953	11.212	10.781
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0075	12.158	0.000	20.416	11.212	10.781
INDIVIDUAL CONTRIBUTIONS:					
MB-3221B (ABAST. NAVIO)	1.554	0.000	3.836	0.000	0.000

*FAULT BUS: BUS-0461 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 11273 kVA Sk: 8963 kVA Ib asym: 11.213 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.559	0.000	23.940	11.213	10.781
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0074	12.160	0.000	20.419	11.213	10.781
INDIVIDUAL CONTRIBUTIONS:					
MB-3221A (ABAST. NAVIO)	1.546	0.000	3.818	0.000	0.000

*FAULT BUS: BUS-0462 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 20191 kVA Sk: 16398 kVA Ib asym: 20.712 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	24.285	0.000	59.077	20.712	19.724
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0269	3.029	0.000	7.234	0.386	0.000
TF-3204B	21.297	0.000	51.844	20.601	19.724

*FAULT BUS: BUS-0475 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 167851 kVA Sk: 112540 kVA Ib asym: 5.797 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.022	0.000	16.924	5.797	4.708
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0216,CBL-0216A	7.036	0.000	16.924	5.797	4.708

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*FAULT BUS: BUS-0480 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 242729 kVA Sk: 141798 kVA Ib asym: 7.465 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.155	0.000	22.764	7.465	5.932
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-AUX0275	10.175	0.000	22.764	7.465	5.932

*FAULT BUS: BUS-0488 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 349544 kVA Sk: 225262 kVA Ib asym: 11.468 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.624	0.000	35.970	11.468	9.424
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-AUX 0191	11.840	0.000	29.473	10.129	9.424
CBL-0235,CBL-0216A1	2.822	0.000	6.507	1.344	0.000

*FAULT BUS: BUS-0491 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 242738 kVA Sk: 141803 kVA Ib asym: 7.465 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.155	0.000	22.866	7.465	5.933
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0216B1,CBL-0216C1	6.806	0.000	14.627	6.299	5.933
CBL-AUX0276	3.385	0.000	8.273	1.209	0.000

*FAULT BUS: CD-12 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 13803 kVA Sk: 12127 kVA Ib asym: 15.349 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	16.603	0.000	27.304	15.349	14.587
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0112	16.630	0.000	27.304	15.349	14.587

*FAULT BUS: CH-3211 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 55826 kVA Sk: 44069 kVA Ib asym: 6.930 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.748	0.000	13.675	6.930	6.116
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0088	7.762	0.000	13.675	6.930	6.116

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*FAULT BUS: CH-3215 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 75117 kVA Sk: 74859 kVA Ib asym: 10.430 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.425	0.000	19.516	10.430	10.389
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0041	10.461	0.000	19.516	10.430	10.389

*FAULT BUS: PDN-001 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 1587 kVA Sk: 1582 kVA Ib asym: 1.907 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	1.909	0.000	2.758	1.907	1.903
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0117	1.912	0.000	2.758	1.907	1.903

*FAULT BUS: PN-3101 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 12437 kVA Sk: 11756 kVA Ib asym: 14.614 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.959	0.000	30.908	14.614	14.140
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3101	14.986	0.000	30.908	14.614	14.140

*FAULT BUS: PN-3103 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 2488 kVA Sk: 2463 kVA Ib asym: 2.982 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	2.992	0.000	5.292	2.982	2.962
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0100	2.997	0.000	5.292	2.982	2.962

*FAULT BUS: PN-3106 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 4060 kVA Sk: 3990 kVA Ib asym: 4.855 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	4.883	0.000	8.417	4.855	4.799
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0097	4.892	0.000	8.417	4.855	4.799

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*FAULT BUS: PN-3203A (OSBAT) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 83779 kVA Sk: 58297 kVA Ib asym: 9.389 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.627	0.000	28.188	9.389	8.091
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0073	0.364	0.000	0.847	0.085	0.000
CBL-0174	9.784	0.000	23.670	9.141	8.091
INDIVIDUAL CONTRIBUTIONS:					
MB-3208B	1.275	0.000	3.135	0.175	0.000
MB-3201A (BOOSTER OSPLAN)	0.225	0.000	0.536	0.000	0.000

*FAULT BUS: PN-3203B (OSBAT) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 82515 kVA Sk: 58692 kVA Ib asym: 9.438 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.452	0.000	27.682	9.438	8.146
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0084	0.315	0.000	0.753	0.053	0.000
CBL-0175	9.889	0.000	23.809	9.223	8.146
INDIVIDUAL CONTRIBUTIONS:					
MB-3208C	1.269	0.000	3.120	0.174	0.000

*FAULT BUS: PN-3204 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 17472 kVA Sk: 14701 kVA Ib asym: 18.670 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	21.015	0.000	46.275	18.670	17.683
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0110	21.050	0.000	46.275	18.670	17.683

*FAULT BUS: PN-3205 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 17559 kVA Sk: 14763 kVA Ib asym: 18.743 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	21.120	0.000	47.630	18.743	17.757
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0111	21.155	0.000	47.630	18.743	17.757

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*FAULT BUS: PN-3206A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 17792 kVA Sk: 14928 kVA Ib asym: 18.906 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	21.400	0.000	49.816	18.906	17.955
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0172	19.554	0.000	45.314	18.906	17.955
INDIVIDUAL CONTRIBUTIONS:					
MB-3201A (BOOSTER OSPLAN)	1.882	0.000	4.503	0.000	0.000

*FAULT BUS: PN-3206B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 19027 kVA Sk: 15371 kVA Ib asym: 19.262 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	22.886	0.000	53.398	19.262	18.488
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0269	19.865	0.000	46.038	19.262	18.488
INDIVIDUAL CONTRIBUTIONS:					
MB-3207A (BOOSTER OSBAT)	1.530	0.000	3.682	0.000	0.000
MB-3207B (BOOSTER OSBAT)	1.530	0.000	3.682	0.000	0.000

*FAULT BUS: PN-3210 (OSPLAN) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 139311 kVA Sk: 56890 kVA Ib asym: 10.076 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	19.334	0.000	46.495	10.076	7.896
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0194	8.986	0.000	20.984	8.419	7.896
INDIVIDUAL CONTRIBUTIONS:					
MB-3202C (PRINCIPAL)	1.948	0.000	4.796	0.323	0.000
MB-3202B (PRINCIPAL)	1.939	0.000	4.774	0.322	0.000
MB-3202D (PRINCIPAL)	1.870	0.000	4.602	0.303	0.000
MB-3221	0.733	0.000	1.793	0.067	0.000
MB-3202A (PRINCIPAL)	1.948	0.000	4.796	0.323	0.000
MB-001A (DIESEL 10)	1.939	0.000	4.760	0.322	0.000

*FAULT BUS: PN-3211 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 2503 kVA Sk: 2480 kVA Ib asym: 2.999 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	3.010	0.000	4.350	2.999	2.982
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0115	3.015	0.000	4.350	2.999	2.982

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*FAULT BUS: PN-3212 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 16798 kVA Sk: 12865 kVA Ib asym: 16.021 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	20.205	0.000	47.178	16.021	15.474
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3205	16.478	0.000	38.433	16.021	15.474
INDIVIDUAL CONTRIBUTIONS:					
MB-3221A (ABAST. NAVIO)	1.495	0.000	3.484	0.000	0.000
MB-3221B (ABAST. NAVIO)	1.502	0.000	3.499	0.000	0.000
MB-3231B (ABAST. NAVIO)	0.759	0.000	1.763	0.000	0.000

*FAULT BUS: PN-3213 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9441 kVA Sk: 9027 kVA Ib asym: 11.140 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.355	0.000	26.370	11.140	10.857
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3210	11.375	0.000	26.370	11.140	10.857

*FAULT BUS: PN-3214 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 3651 kVA Sk: 3587 kVA Ib asym: 4.357 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	4.391	0.000	6.347	4.357	4.315
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0109	4.398	0.000	6.347	4.357	4.315

*FAULT BUS: PN-3215 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 2042 kVA Sk: 2028 kVA Ib asym: 2.449 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	2.456	0.000	3.549	2.449	2.439
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0118	2.460	0.000	3.549	2.449	2.439

*FAULT BUS: PN-3216 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 5105 kVA Sk: 4991 kVA Ib asym: 6.084 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	6.140	0.000	12.369	6.084	6.003
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0068	6.151	0.000	12.369	6.084	6.003

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*FAULT BUS: PN-3217 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 5971 kVA Sk: 5811 kVA Ib asym: 7.100 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.182	0.000	17.075	7.100	6.989
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3206	7.195	0.000	17.075	7.100	6.989

*FAULT BUS: PN-3219 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 844 kVA Sk: 844 kVA Ib asym: 1.015 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	1.015	0.000	1.466	1.015	1.016
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0113	1.016	0.000	1.466	1.015	1.016

*FAULT BUS: PN-3220 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8981 kVA Sk: 8630 kVA Ib asym: 10.629 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.802	0.000	21.799	10.629	10.380
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3209	10.822	0.000	21.799	10.629	10.380

*FAULT BUS: PN-3221 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9050 kVA Sk: 8693 kVA Ib asym: 10.709 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.885	0.000	22.227	10.709	10.456
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3208	10.905	0.000	22.227	10.709	10.456

*FAULT BUS: PN-3222 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8577 kVA Sk: 8239 kVA Ib asym: 10.146 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.317	0.000	20.714	10.146	9.910
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3211	10.335	0.000	20.714	10.146	9.910

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*FAULT BUS: PN-3223 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8448 kVA Sk: 8120 kVA Ib asym: 9.996 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.161	0.000	20.041	9.996	9.767
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3212	10.179	0.000	20.041	9.996	9.767

*FAULT BUS: PN-3224 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9878 kVA Sk: 9046 kVA Ib asym: 11.300 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.882	0.000	18.481	11.300	10.880
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0114	11.901	0.000	18.481	11.300	10.880

*FAULT BUS: PN-3228A (OSVAT) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 349552 kVA Sk: 225268 kVA Ib asym: 11.445 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.624	0.000	35.975	11.445	9.425
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0019	9.546	0.000	23.838	9.481	9.425
CBL-0033	0.027	0.000	0.055	0.008	0.000
CBL-AUX 0191	2.822	0.000	6.507	1.344	0.000
INDIVIDUAL CONTRIBUTIONS:					
MB-6511502A (PRINCIPAL)	1.853	0.000	4.563	0.563	0.000
MB-6511501A (BOOSTER)	0.415	0.000	1.024	0.057	0.000

*FAULT BUS: PN-3228B (OSVAT) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 326652 kVA Sk: 225842 kVA Ib asym: 10.698 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	13.666	0.000	34.077	10.698	9.449
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0131	9.581	0.000	23.932	9.514	9.449
INDIVIDUAL CONTRIBUTIONS:					
MB-6511501C (BOOSTER)	0.413	0.000	1.019	0.057	0.000
MB-6511502C (PRINCIPAL)	1.853	0.000	4.563	0.563	0.000
MB-6511502D (PRINCIPAL)1	1.853	0.000	4.563	0.563	0.000

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*FAULT BUS: PN-3232A (TRANS.INTERNA) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 101688 kVA Sk: 101133 kVA Ib asym: 14.106 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.113	0.000	35.816	14.106	14.036
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0038	14.161	0.000	35.816	14.106	14.036

*FAULT BUS: PN-3232B (TRANS.INTERNA) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 106789 kVA Sk: 101133 kVA Ib asym: 14.168 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.821	0.000	37.531	14.168	14.036
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0039	14.159	0.000	35.807	14.105	14.036
INDIVIDUAL CONTRIBUTIONS:					
MB-3210A	0.711	0.000	1.725	0.063	0.000

*FAULT BUS: PN-3236A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8586 kVA Sk: 8520 kVA Ib asym: 10.309 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.327	0.000	20.725	10.309	10.248
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0031	10.353	0.000	20.725	10.309	10.248

*FAULT BUS: PN-3236B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9283 kVA Sk: 8519 kVA Ib asym: 10.441 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.165	0.000	22.440	10.441	10.247
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0032	10.368	0.000	20.740	10.322	10.247
CBL-0035	0.822	0.000	1.702	0.222	0.000

*FAULT BUS: PN-3240A Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 265231 kVA Sk: 230442 kVA Ib asym: 9.990 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.096	0.000	28.202	9.990	9.641
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0025	9.821	0.000	25.000	9.747	9.641
CBL-0215	1.310	0.000	3.204	0.265	0.000

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*FAULT BUS: PN-3240B Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 261534 kVA Sk: 228429 kVA Ib asym: 9.890 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.942	0.000	27.779	9.890	9.557
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0024	9.744	0.000	24.758	9.672	9.557
CBL-0218	1.232	0.000	3.022	0.240	0.000

*FAULT BUS: PN-3242 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9129 kVA Sk: 8747 kVA Ib asym: 10.789 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.980	0.000	20.898	10.789	10.521
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3213	11.000	0.000	20.898	10.789	10.521

*FAULT BUS: PN-3243 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9876 kVA Sk: 9860 kVA Ib asym: 11.871 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.879	0.000	25.730	11.871	11.860
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0048	11.918	0.000	25.730	11.871	11.860

*FAULT BUS: PN-3244 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 12125 kVA Sk: 12158 kVA Ib asym: 14.627 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.584	0.000	30.437	14.627	14.624
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0055	14.634	0.000	30.437	14.627	14.624

*FAULT BUS: PN-3245 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 12125 kVA Sk: 12158 kVA Ib asym: 14.627 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.584	0.000	30.437	14.627	14.624
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0054	14.634	0.000	30.437	14.627	14.624

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*FAULT BUS: PN-3246 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 10016 kVA Sk: 10000 kVA Ib asym: 12.039 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	12.047	0.000	24.426	12.039	12.028
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0053	12.087	0.000	24.426	12.039	12.028

*FAULT BUS: PN-3248 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 10445 kVA Sk: 9971 kVA Ib asym: 12.330 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	12.564	0.000	24.075	12.330	11.993
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-3224	12.586	0.000	24.075	12.330	11.993

*FAULT BUS: PN-3249 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 3314 kVA Sk: 2711 kVA Ib asym: 3.262 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	3.986	0.000	6.713	3.262	3.260
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0035	3.265	0.000	4.852	3.262	3.260
INDIVIDUAL CONTRIBUTIONS:					
MB-001	0.466	0.000	1.151	0.000	0.000
MB-002	0.466	0.000	1.151	0.000	0.000

*FAULT BUS: PN-3254 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 242710 kVA Sk: 141776 kVA Ib asym: 7.461 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.154	0.000	22.862	7.461	5.931
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0069	0.478	0.000	1.173	0.082	0.000
CBL-0176	0.554	0.000	1.347	0.100	0.000
CBL-0059	2.006	0.000	4.902	0.990	0.000
PI-0115	6.804	0.000	14.622	6.297	5.931
INDIVIDUAL CONTRIBUTIONS:					
MB-3212A(GASOLINA 50)	0.347	0.000	0.853	0.044	0.000

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*FAULT BUS: PN-3270 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 5583 kVA Sk: 5417 kVA Ib asym: 6.627 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	6.715	0.000	9.709	6.627	6.515
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0116	6.726	0.000	9.709	6.627	6.515

*FAULT BUS: PN-5140001A (NOVO PIER) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 54619 kVA Sk: 42631 kVA Ib asym: 6.701 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.580	0.000	14.485	6.701	5.917
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0265	7.594	0.000	14.485	6.701	5.917

*FAULT BUS: PN-5140001B(NOVO PIER) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

Sk": 54074 kVA Sk: 42819 kVA Ib asym: 6.703 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.505	0.000	14.350	6.703	5.943
GROUP CONTRIBUTIONS ---------- referred to 4.160 kV					
CBL-0266	7.518	0.000	14.350	6.703	5.943

*FAULT BUS: PN-5140003 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9838 kVA Sk: 9416 kVA Ib asym: 11.624 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	11.833	0.000	23.756	11.624	11.325
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0098	11.855	0.000	23.756	11.624	11.325

*FAULT BUS: PN-5140004A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 12426 kVA Sk: 11706 kVA Ib asym: 14.571 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.947	0.000	31.316	14.571	14.080
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-5140001A	14.973	0.000	31.316	14.571	14.080

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*FAULT BUS: PN-5140004B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 12398 kVA Sk: 11721 kVA Ib asym: 14.569 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.912	0.000	31.243	14.569	14.098
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF - 5140001B	14.939	0.000	31.243	14.569	14.098

*FAULT BUS: PN-5330001A Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 185824 kVA Sk: 120343 kVA Ib asym: 6.286 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.774	0.000	15.022	6.286	5.035
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
PI-0089	7.790	0.000	15.022	6.286	5.035

*FAULT BUS: PN-5330002A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 22785 kVA Sk: 21290 kVA Ib asym: 26.827 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	27.406	0.000	62.224	26.827	25.608
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-5330001A	27.461	0.000	62.224	26.827	25.608

*FAULT BUS: PN-5330002B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 22785 kVA Sk: 21290 kVA Ib asym: 26.826 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	27.406	0.000	62.221	26.826	25.608
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
PI-0017	27.461	0.000	62.221	26.826	25.608

*FAULT BUS: PN-5330003A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 23163 kVA Sk: 21662 kVA Ib asym: 27.261 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	27.861	0.000	63.300	27.261	26.055
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-5330002A	27.917	0.000	63.300	27.261	26.055

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*FAULT BUS: PN-5330003B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 23162 kVA Sk: 21662 kVA Ib asym: 27.260 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	27.860	0.000	63.297	27.260	26.055
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
PI-0018	27.916	0.000	63.297	27.260	26.055

*FAULT BUS: PN-5330004A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8031 kVA Sk: 7866 kVA Ib asym: 9.601 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	9.660	0.000	22.370	9.601	9.461
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-5330003A	9.680	0.000	22.370	9.601	9.461

*FAULT BUS: PN-5330004B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8025 kVA Sk: 7859 kVA Ib asym: 9.593 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	9.652	0.000	20.950	9.593	9.453
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-5330003B	9.672	0.000	20.950	9.593	9.453

*FAULT BUS: PN-533001B Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 185868 kVA Sk: 120361 kVA Ib asym: 6.287 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	7.776	0.000	15.027	6.287	5.036
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
XLN-0006	7.792	0.000	15.027	6.287	5.036

*FAULT BUS: PN-5334-01 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8084 kVA Sk: 7804 kVA Ib asym: 9.588 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	9.724	0.000	18.603	9.588	9.387
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-5334-01	9.741	0.000	18.603	9.588	9.387

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-6211001A (OSVAP) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 259283 kVA Sk: 224552 kVA Ib asym: 9.722 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.848	0.000	27.102	9.722	9.395
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0057	0.171	0.000	0.403	0.043	0.000
CBL-0215	9.567	0.000	23.879	9.496	9.395
INDIVIDUAL CONTRIBUTIONS:					
MB-42500101A(PRINC.)	0.572	0.000	1.411	0.093	0.000
MB-42500101D(PRINC.)	0.572	0.000	1.411	0.093	0.000

*FAULT BUS: PN-6211001B (OSVAP) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

Sk": 255660 kVA Sk: 222635 kVA Ib asym: 9.613 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.696	0.000	26.697	9.613	9.314
GROUP CONTRIBUTIONS ---------- referred to 13.800 kV					
CBL-0218	9.493	0.000	23.658	9.424	9.314
INDIVIDUAL CONTRIBUTIONS:					
MB-42500101B(PRINC.)	0.572	0.000	1.411	0.093	0.000
MB-42500101E(PRINC.)	0.572	0.000	1.411	0.093	0.000
MB-42500102D(BOOSTER)1	0.092	0.000	0.218	0.002	0.000

*FAULT BUS: PN-6211002A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 29141 kVA Sk: 24106 kVA Ib asym: 29.263 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	35.051	0.000	82.494	29.263	28.994
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-6211001A	29.361	0.000	68.817	29.123	28.994
INDIVIDUAL CONTRIBUTIONS:					
MB-42500102A (BOOSTER)	2.891	0.000	6.839	0.070	0.000
MB-42500102AB(BOOSTER)	2.891	0.000	6.839	0.070	0.000

*FAULT BUS: PN-6211002B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 26722 kVA Sk: 24083 kVA Ib asym: 29.171 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	32.141	0.000	75.603	29.171	28.967
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
TF-6211001B	29.342	0.000	68.765	29.101	28.967
INDIVIDUAL CONTRIBUTIONS:					
MB-42500102D(BOOSTER)1	2.891	0.000	6.839	0.070	0.000

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*FAULT BUS: PN-6211003A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 27260 kVA Sk: 22811 kVA Ib asym: 28.116 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	32.789	0.000	72.933	28.116	27.438
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0225	32.874	0.000	72.933	28.116	27.438

*FAULT BUS: PN-6211003B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 25133 kVA Sk: 22791 kVA Ib asym: 27.799 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	30.230	0.000	67.498	27.799	27.414
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0230	30.316	0.000	67.498	27.799	27.414

*FAULT BUS: PN-CLUBE Voltage: 0.220 kV Eq. Volt. Source: 1.00 p.u.

Sk": 13713 kVA Sk: 12835 kVA Ib asym: 34.976 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	35.987	0.000	77.754	34.976	33.683
GROUP CONTRIBUTIONS ---------- referred to 0.220 kV					
TF-3207,TF-TEBAR	36.050	0.000	77.754	34.976	33.683

*FAULT BUS: PN3229 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

Sk": 8377 kVA Sk: 8370 kVA Ib asym: 10.075 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	10.076	0.000	21.201	10.075	10.068
GROUP CONTRIBUTIONS ---------- referred to 0.480 kV					
CBL-0050	10.109	0.000	21.201	10.075	10.068

*FAULT BUS: QUEIROZ GALVÃO Voltage: 0.380 kV Eq. Volt. Source: 1.00 p.u.

Sk": 9667 kVA Sk: 9653 kVA Ib asym: 14.680 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	14.688	0.000	28.997	14.680	14.667
GROUP CONTRIBUTIONS ---------- referred to 0.380 kV					
TF-3226	14.736	0.000	28.997	14.680	14.667

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Estudo do Sistema IP/Gabor

*FAULT BUS: SE-TEBAR 138kV Voltage: 138.000 kV Eq. Volt. Source: 1.00 p.u.

Sk": 1660624 kVA Sk: 1446089 kVA Ib asym: 6.452 kA

	Ik"(kA)	iDC(kA)	ip(kA)	Ib(kA)	Ik(kA)
Total Fault Current	6.948	0.000	14.659	6.452	6.050
GROUP CONTRIBUTIONS ---------- referred to 138.000 kV					
TF-3217B	0.358	0.000	0.871	0.211	0.000
TF-3217A	0.306	0.000	0.763	0.154	0.000
TF-3202B	0.124	0.000	0.306	0.024	0.000
TF-3202A	0.124	0.000	0.306	0.030	0.000
INDIVIDUAL CONTRIBUTIONS:					
BANDEIRANTES L1	6.050	0.000	12.388	6.050	6.050
MB-3210A	0.022	0.000	0.052	0.002	0.000

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Estudo do Sistema IP/Gabor

U N B A L A N C E D I E C 6 0 9 0 9 F A U L T R E P O R T

System Frequency(Hz): 60 Tmin: 1.00 sec.

Calculate Maximum Short-Circuit Current

Use Sequence Network to Calculate Ip & Idc

==========

*FAULT BUS: 5330001A Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3525

Z1(ê):	0.341 + j 0.967	or	1.025/70.6ø
Z2(ê):	0.341 + j 0.967	or	1.025/70.6ø
Z0(ê):	0.000 + j 49.751	or	49.751/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.774	0.000	15.021	0.000	0.3525
L-E	0.480	0.679	1.359	0.480	0.0132
L-L	6.733	0.000	12.953	0.000	0.3525
LL-E	6.853	0.000	13.071	0.238	0.3487

*FAULT BUS: BUS-0045 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1195

Z1(ê):	0.065 + j 0.547	or	0.551/83.2ø
Z2(ê):	0.065 + j 0.547	or	0.551/83.2ø
Z0(ê):	0.000 + j 49.815	or	49.815/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.472	0.000	35.007	0.000	0.1195
L-E	0.483	0.683	1.365	0.483	0.0026
L-L	12.533	0.000	30.216	0.000	0.1195
LL-E	12.648	0.000	30.297	0.239	0.1188

*FAULT BUS: BUS-0047 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1387

Z1(ê):	0.077 + j 0.554	or	0.559/82.1ø
Z2(ê):	0.077 + j 0.554	or	0.559/82.1ø
Z0(ê):	0.000 + j 49.838	or	49.838/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.243	0.000	33.677	0.000	0.1387
L-E	0.482	0.682	1.364	0.482	0.0030
L-L	12.335	0.000	29.070	0.000	0.1387
LL-E	12.451	0.000	29.155	0.238	0.1379

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0048 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1071

Z1(ê):	0.063 + j 0.585	or	0.589/83.9ø
Z2(ê):	0.063 + j 0.585	or	0.589/83.9ø
Z0(ê):	0.000 + j 47.804	or	47.804/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.539	0.000	33.261	0.000	0.1071
L-E	0.505	0.715	1.430	0.505	0.0026
L-L	11.725	0.000	28.698	0.000	0.1071
LL-E	11.837	0.000	28.774	0.248	0.1064

*FAULT BUS: BUS-0049 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1071

Z1(ê):	0.063 + j 0.585	or	0.589/83.9ø
Z2(ê):	0.063 + j 0.585	or	0.589/83.9ø
Z0(ê):	0.000 + j 47.804	or	47.804/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.539	0.000	33.261	0.000	0.1071
L-E	0.505	0.715	1.430	0.505	0.0026
L-L	11.725	0.000	28.698	0.000	0.1071
LL-E	11.837	0.000	28.774	0.248	0.1064

*FAULT BUS: BUS-0064 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1253

Z1(ê):	0.074 + j 0.593	or	0.597/82.9ø
Z2(ê):	0.074 + j 0.593	or	0.597/82.9ø
Z0(ê):	0.000 + j 47.797	or	47.797/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.339	0.000	32.053	0.000	0.1253
L-E	0.505	0.715	1.429	0.505	0.0030
L-L	11.552	0.000	27.657	0.000	0.1253
LL-E	11.666	0.000	27.738	0.249	0.1246

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Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0086 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0967

Z1(ê):	0.071 + j 0.735	or	0.738/84.5ø
Z2(ê):	0.071 + j 0.735	or	0.738/84.5ø
Z0(ê):	0.000 + j 53.943	or	53.943/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.795	0.000	26.875	0.000	0.0967
L-E	0.443	0.627	1.253	0.443	0.0026
L-L	9.348	0.000	23.179	0.000	0.0967
LL-E	9.459	0.000	23.253	0.220	0.0960

*FAULT BUS: BUS-0087 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0975

Z1(ê):	0.073 + j 0.745	or	0.749/84.4ø
Z2(ê):	0.073 + j 0.745	or	0.749/84.4ø
Z0(ê):	0.000 + j 53.943	or	53.943/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.644	0.000	26.473	0.000	0.0975
L-E	0.443	0.627	1.253	0.443	0.0026
L-L	9.218	0.000	22.833	0.000	0.0975
LL-E	9.329	0.000	22.906	0.220	0.0968

*FAULT BUS: BUS-0096 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1404

Z1(ê):	0.018 + j 0.128	or	0.129/82.0ø
Z2(ê):	0.018 + j 0.128	or	0.129/82.0ø
Z0(ê):	0.060 + j 0.176	or	0.186/71.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	18.629	0.000	43.934	0.000	0.1404
L-E	16.297	0.000	35.134	16.297	0.2214
L-L	16.133	0.000	37.944	0.000	0.1404
LL-E	18.561	0.000	42.241	14.423	0.1696

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Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0097 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1404

Z1(ê):	0.018 + j 0.128	or	0.129/82.0ø
Z2(ê):	0.018 + j 0.128	or	0.129/82.0ø
Z0(ê):	0.031 + j 0.175	or	0.178/79.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	18.628	0.000	43.934	0.000	0.1404
L-E	16.547	0.000	38.248	16.547	0.1556
L-L	16.132	0.000	37.943	0.000	0.1404
LL-E	17.946	0.000	41.930	14.882	0.1462

*FAULT BUS: BUS-0098 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1454

Z1(ê):	0.018 + j 0.124	or	0.125/81.7ø
Z2(ê):	0.018 + j 0.124	or	0.125/81.7ø
Z0(ê):	0.032 + j 0.175	or	0.178/79.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	19.208	0.000	45.041	0.000	0.1454
L-E	16.843	0.000	38.710	16.843	0.1607
L-L	16.635	0.000	38.898	0.000	0.1454
LL-E	18.427	0.000	42.813	14.994	0.1511

*FAULT BUS: BUS-0100 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1404

Z1(ê):	0.018 + j 0.128	or	0.129/82.0ø
Z2(ê):	0.018 + j 0.128	or	0.129/82.0ø
Z0(ê):	0.060 + j 0.176	or	0.186/71.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	18.630	0.000	43.937	0.000	0.1404
L-E	16.298	0.000	35.136	16.298	0.2214
L-L	16.134	0.000	37.946	0.000	0.1404
LL-E	18.562	0.000	42.244	14.424	0.1696

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Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0102 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1552

Z1(ê):	0.020 + j 0.132	or	0.134/81.2ø
Z2(ê):	0.020 + j 0.132	or	0.134/81.2ø
Z0(ê):	0.098 + j 0.184	or	0.208/62.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	17.975	0.000	41.692	0.000	0.1552
L-E	15.359	0.000	30.569	15.359	0.3094
L-L	15.567	0.000	35.999	0.000	0.1552
LL-E	18.375	0.000	40.215	13.225	0.2065

*FAULT BUS: BUS-0130 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1409

Z1(ê):	0.029 + j 0.209	or	0.211/82.0ø
Z2(ê):	0.029 + j 0.209	or	0.211/82.0ø
Z0(ê):	0.022 + j 0.167	or	0.169/82.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.369	0.000	26.832	0.000	0.1409
L-E	12.189	0.000	28.765	12.189	0.1375
L-L	9.846	0.000	23.145	0.000	0.1409
LL-E	11.874	0.000	27.977	13.137	0.1389

*FAULT BUS: BUS-0131 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1428

Z1(ê):	0.030 + j 0.212	or	0.214/81.9ø
Z2(ê):	0.030 + j 0.212	or	0.214/81.9ø
Z0(ê):	0.023 + j 0.165	or	0.167/82.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.201	0.000	26.379	0.000	0.1428
L-E	12.092	0.000	28.398	12.092	0.1417
L-L	9.701	0.000	22.752	0.000	0.1428
LL-E	11.728	0.000	27.528	13.138	0.1422

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*FAULT BUS: BUS-0136 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1401

Z1(ê):	0.030 + j 0.212	or	0.214/82.0ø
Z2(ê):	0.030 + j 0.212	or	0.214/82.0ø
Z0(ê):	0.021 + j 0.164	or	0.165/82.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.235	0.000	26.533	0.000	0.1401
L-E	12.154	0.000	28.706	12.154	0.1368
L-L	9.730	0.000	22.894	0.000	0.1401
LL-E	11.806	0.000	27.842	13.236	0.1381

*FAULT BUS: BUS-0172 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3616

Z1(mê):	5.109 + j 14.127	or	15.023/70.1ø
Z2(mê):	5.109 + j 14.127	or	15.023/70.1ø
Z0(mê):	5.751 + j 12.512	or	13.770/65.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	18.447	0.000	35.677	0.000	0.3616
L-E	18.989	0.000	35.517	18.989	0.3917
L-L	15.976	0.000	30.527	0.000	0.3616
LL-E	19.175	0.000	36.218	19.549	0.3777

*FAULT BUS: BUS-0175 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3847

Z1(mê):	5.135 + j 13.349	or	14.303/69.0ø
Z2(mê):	5.135 + j 13.349	or	14.303/69.0ø
Z0(mê):	5.667 + j 12.412	or	13.645/65.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	19.376	0.000	36.799	0.000	0.3847
L-E	19.686	0.000	36.431	19.686	0.4075
L-L	16.780	0.000	31.539	0.000	0.3847
LL-E	19.874	0.000	37.052	19.997	0.3965

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Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0176 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3847

Z1(mê):	5.135 + j 13.349	or	14.303/69.0ø
Z2(mê):	5.135 + j 13.349	or	14.303/69.0ø
Z0(mê):	5.667 + j 12.412	or	13.645/65.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	19.376	0.000	36.799	0.000	0.3847
L-E	19.686	0.000	36.431	19.686	0.4075
L-L	16.780	0.000	31.539	0.000	0.3847
LL-E	19.874	0.000	37.052	19.997	0.3965

*FAULT BUS: BUS-0200 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0939

Z1(ê):	0.054 + j 0.579	or	0.582/84.6ø
Z2(ê):	0.054 + j 0.579	or	0.582/84.6ø
Z0(ê):	0.000 + j 47.792	or	47.792/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.700	0.000	34.216	0.000	0.0939
L-E	0.506	0.715	1.430	0.506	0.0022
L-L	11.865	0.000	29.521	0.000	0.0939
LL-E	11.977	0.000	29.594	0.249	0.0934

*FAULT BUS: BUS-0205 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0746

Z1(ê):	0.012 + j 0.167	or	0.168/85.7ø
Z2(ê):	0.012 + j 0.167	or	0.168/85.7ø
Z0(ê):	16.340 + j 0.157	or	16.341/0.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.324	0.000	36.695	0.000	0.0746
L-E	0.440	0.000	0.635	0.440	33.3281
L-L	12.405	0.000	31.639	0.000	0.0746
LL-E	12.515	0.000	31.707	0.220	0.0797

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0206 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0765

Z1(ê):	0.012 + j 0.159	or	0.160/85.6ø
Z2(ê):	0.012 + j 0.159	or	0.160/85.6ø
Z0(ê):	16.340 + j 0.157	or	16.341/0.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	15.031	0.000	38.407	0.000	0.0765
L-E	0.440	0.000	0.635	0.440	34.4289
L-L	13.017	0.000	33.117	0.000	0.0765
LL-E	13.127	0.000	33.185	0.220	0.0814

*FAULT BUS: BUS-0211 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3070

Z1(ê):	0.058 + j 0.190	or	0.199/72.9ø
Z2(ê):	0.058 + j 0.190	or	0.199/72.9ø
Z0(ê):	16.478 + j 0.196	or	16.480/0.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	12.055	0.000	24.216	0.000	0.3070
L-E	0.434	0.000	0.626	0.434	28.7694
L-L	10.440	0.000	20.820	0.000	0.3070
LL-E	10.544	0.000	20.919	0.218	0.3133

*FAULT BUS: BUS-0248 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.4823

Z1(ê):	0.121 + j 0.251	or	0.279/64.3ø
Z2(ê):	0.121 + j 0.251	or	0.279/64.3ø
Z0(ê):	0.112 + j 0.208	or	0.236/61.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	8.616	0.000	15.282	0.000	0.4823
L-E	9.081	0.000	15.921	9.081	0.4983
L-L	7.461	0.000	13.197	0.000	0.4823
LL-E	8.981	0.000	15.804	9.596	0.4914

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0250 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.5084

Z1(ê):	0.121 + j 0.239	or	0.268/63.1ø
Z2(ê):	0.121 + j 0.239	or	0.268/63.1ø
Z0(ê):	0.082 + j 0.194	or	0.211/67.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	8.970	0.000	15.688	0.000	0.5084
L-E	9.660	0.000	17.069	9.660	0.4839
L-L	7.768	0.000	13.548	0.000	0.5084
LL-E	9.547	0.000	16.782	10.460	0.4935

*FAULT BUS: BUS-0253 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 1.1079

Z1(ê):	0.446 + j 0.403	or	0.601/42.1ø
Z2(ê):	0.446 + j 0.403	or	0.601/42.1ø
Z0(ê):	0.437 + j 0.359	or	0.566/39.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	3.998	0.000	5.979	0.000	1.1079
L-E	4.078	0.000	6.068	4.078	1.1408
L-L	3.462	0.000	5.167	0.000	1.1079
LL-E	4.092	0.000	6.096	4.161	1.1250

*FAULT BUS: BUS-0254 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 1.0762

Z1(ê):	0.426 + j 0.396	or	0.581/42.9ø
Z2(ê):	0.426 + j 0.396	or	0.581/42.9ø
Z0(ê):	0.416 + j 0.353	or	0.546/40.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	4.133	0.000	6.202	0.000	1.0762
L-E	4.220	0.000	6.297	4.220	1.1085
L-L	3.579	0.000	5.359	0.000	1.0762
LL-E	4.233	0.000	6.327	4.310	1.0931

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0260 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1153

Z1(mê):	1.394 + j 12.084	or	12.164/83.4ø
Z2(mê):	1.394 + j 12.084	or	12.164/83.4ø
Z0(mê):	1.063 + j 10.014	or	10.070/83.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	22.782	0.000	55.414	0.000	0.1153
L-E	24.169	0.000	58.756	24.169	0.1126
L-L	19.730	0.000	47.807	0.000	0.1153
LL-E	23.616	0.000	57.333	25.736	0.1138

*FAULT BUS: BUS-0288 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1055

Z1(ê):	0.057 + j 0.541	or	0.544/84.0ø
Z2(ê):	0.057 + j 0.541	or	0.544/84.0ø
Z0(ê):	0.000 + j 49.802	or	49.802/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.654	0.000	36.083	0.000	0.1055
L-E	0.483	0.683	1.366	0.483	0.0022
L-L	12.691	0.000	31.124	0.000	0.1055
LL-E	12.806	0.000	31.202	0.239	0.1049

*FAULT BUS: BUS-0330 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0806

Z1(ê):	0.058 + j 0.725	or	0.727/85.4ø
Z2(ê):	0.058 + j 0.725	or	0.727/85.4ø
Z0(ê):	0.000 + j 53.903	or	53.903/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.959	0.000	27.851	0.000	0.0806
L-E	0.444	0.627	1.255	0.444	0.0021
L-L	9.491	0.000	24.018	0.000	0.0806
LL-E	9.602	0.000	24.088	0.220	0.0801

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0331 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0798

Z1(ê):	0.057 + j 0.715	or	0.717/85.4ø
Z2(ê):	0.057 + j 0.715	or	0.717/85.4ø
Z0(ê):	0.000 + j 53.903	or	53.903/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.114	0.000	28.276	0.000	0.0798
L-E	0.444	0.627	1.255	0.444	0.0021
L-L	9.625	0.000	24.384	0.000	0.0798
LL-E	9.736	0.000	24.453	0.220	0.0793

*FAULT BUS: BUS-0358 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1066

Z1(ê):	0.080 + j 0.747	or	0.751/83.9ø
Z2(ê):	0.080 + j 0.747	or	0.751/83.9ø
Z0(ê):	0.000 + j 53.921	or	53.921/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.606	0.000	26.082	0.000	0.1066
L-E	0.443	0.627	1.253	0.443	0.0029
L-L	9.185	0.000	22.496	0.000	0.1066
LL-E	9.296	0.000	22.572	0.220	0.1058

*FAULT BUS: BUS-0360 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1066

Z1(ê):	0.080 + j 0.747	or	0.751/83.9ø
Z2(ê):	0.080 + j 0.747	or	0.751/83.9ø
Z0(ê):	0.000 + j 53.921	or	53.921/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.606	0.000	26.082	0.000	0.1066
L-E	0.443	0.627	1.253	0.443	0.0029
L-L	9.185	0.000	22.496	0.000	0.1066
LL-E	9.296	0.000	22.572	0.220	0.1058

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0361 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1071

Z1(ê):	0.081 + j 0.757	or	0.762/83.9ø
Z2(ê):	0.081 + j 0.757	or	0.762/83.9ø
Z0(ê):	0.000 + j 53.921	or	53.921/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.462	0.000	25.709	0.000	0.1071
L-E	0.443	0.627	1.253	0.443	0.0029
L-L	9.060	0.000	22.174	0.000	0.1071
LL-E	9.171	0.000	22.250	0.220	0.1064

*FAULT BUS: BUS-0362 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1071

Z1(ê):	0.081 + j 0.757	or	0.762/83.9ø
Z2(ê):	0.081 + j 0.757	or	0.762/83.9ø
Z0(ê):	0.000 + j 53.921	or	53.921/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.462	0.000	25.709	0.000	0.1071
L-E	0.443	0.627	1.253	0.443	0.0029
L-L	9.060	0.000	22.174	0.000	0.1071
LL-E	9.171	0.000	22.250	0.220	0.1064

*FAULT BUS: BUS-0363 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3124

Z1(ê):	0.253 + j 0.811	or	0.850/72.7ø
Z2(ê):	0.253 + j 0.811	or	0.850/72.7ø
Z0(ê):	0.000 + j 49.733	or	49.733/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	9.376	0.000	18.725	0.000	0.3124
L-E	0.481	0.681	1.362	0.481	0.0099
L-L	8.120	0.000	16.121	0.000	0.3124
LL-E	8.240	0.000	16.235	0.238	0.3096

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0376 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3379

Z1(mê):	3.983 + j 11.788	or	12.443/71.3ø
Z2(mê):	3.983 + j 11.788	or	12.443/71.3ø
Z0(mê):	5.118 + j 13.368	or	14.314/69.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	22.273	0.000	43.920	0.000	0.3379
L-E	21.213	0.000	40.761	21.213	0.3541
L-L	19.289	0.000	37.526	0.000	0.3379
LL-E	22.031	0.000	42.624	20.246	0.3451

*FAULT BUS: BUS-0377 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3379

Z1(mê):	3.983 + j 11.788	or	12.443/71.3ø
Z2(mê):	3.983 + j 11.788	or	12.443/71.3ø
Z0(mê):	5.118 + j 13.368	or	14.314/69.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	22.273	0.000	43.920	0.000	0.3379
L-E	21.213	0.000	40.761	21.213	0.3541
L-L	19.289	0.000	37.526	0.000	0.3379
LL-E	22.031	0.000	42.624	20.246	0.3451

*FAULT BUS: BUS-0381 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3247

Z1(mê):	4.034 + j 12.424	or	13.063/72.0ø
Z2(mê):	4.034 + j 12.424	or	13.063/72.0ø
Z0(mê):	5.118 + j 13.368	or	14.314/69.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	21.215	0.000	42.265	0.000	0.3247
L-E	20.565	0.000	39.788	20.565	0.3450
L-L	18.373	0.000	36.116	0.000	0.3247
LL-E	21.214	0.000	41.393	19.947	0.3341

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0390 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3644

Z1(ê):	0.358 + j 0.983	or	1.046/70.0ø
Z2(ê):	0.358 + j 0.983	or	1.046/70.0ø
Z0(ê):	0.000 + j 49.762	or	49.762/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.616	0.000	14.586	0.000	0.3644
L-E	0.480	0.679	1.358	0.480	0.0138
L-L	6.596	0.000	12.578	0.000	0.3644
LL-E	6.716	0.000	12.697	0.238	0.3605

*FAULT BUS: BUS-0417 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1872

Z1(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z2(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z0(ê):	0.000 + j 49.733	or	49.733/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.155	0.000	22.866	0.000	0.1872
L-E	0.483	0.683	1.367	0.483	0.0056
L-L	8.795	0.000	19.638	0.000	0.1872
LL-E	8.913	0.000	19.734	0.238	0.1857

*FAULT BUS: BUS-0422 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2993

Z1(ê):	0.039 + j 0.132	or	0.138/73.3ø
Z2(ê):	0.039 + j 0.132	or	0.138/73.3ø
Z0(ê):	0.071 + j 0.179	or	0.192/68.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	17.450	0.000	35.178	0.000	0.2993
L-E	15.425	0.000	29.981	15.425	0.3391
L-L	15.112	0.000	30.332	0.000	0.2993
LL-E	17.015	0.000	33.736	13.809	0.3141

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0452 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1182

Z1(ê):	0.024 + j 0.205	or	0.207/83.3ø
Z2(ê):	0.024 + j 0.205	or	0.207/83.3ø
Z0(ê):	0.015 + j 0.162	or	0.163/84.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.626	0.000	28.180	0.000	0.1182
L-E	12.512	0.000	30.491	12.512	0.1106
L-L	10.069	0.000	24.314	0.000	0.1182
LL-E	12.224	0.000	29.681	13.542	0.1136

*FAULT BUS: BUS-0453 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1206

Z1(ê):	0.025 + j 0.208	or	0.210/83.1ø
Z2(ê):	0.025 + j 0.208	or	0.210/83.1ø
Z0(ê):	0.016 + j 0.160	or	0.161/84.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.451	0.000	27.676	0.000	0.1206
L-E	12.411	0.000	30.077	12.411	0.1152
L-L	9.917	0.000	23.878	0.000	0.1206
LL-E	12.073	0.000	29.187	13.546	0.1172

*FAULT BUS: BUS-0454 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 1.3015

Z1(ê):	0.659 + j 0.506	or	0.831/37.5ø
Z2(ê):	0.659 + j 0.506	or	0.831/37.5ø
Z0(ê):	0.649 + j 0.463	or	0.798/35.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	2.891	0.000	4.259	0.000	1.3015
L-E	2.930	0.000	4.301	2.930	1.3331
L-L	2.504	0.000	3.681	0.000	1.3015
LL-E	2.941	0.000	4.320	2.970	1.3177

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0457 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 1.2953

Z1(ê):	0.660 + j 0.509	or	0.833/37.7ø
Z2(ê):	0.660 + j 0.509	or	0.833/37.7ø
Z0(ê):	0.651 + j 0.461	or	0.798/35.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	2.882	0.000	4.248	0.000	1.2953
L-E	2.924	0.000	4.293	2.924	1.3313
L-L	2.496	0.000	3.671	0.000	1.2953
LL-E	2.937	0.000	4.316	2.967	1.3138

*FAULT BUS: BUS-0458 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.9846

Z1(mê):	19.154 + j 19.453	or	27.301/45.4ø
Z2(mê):	19.154 + j 19.453	or	27.301/45.4ø
Z0(mê):	20.674 + j 18.990	or	28.072/42.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.151	0.000	15.801	0.000	0.9846
L-E	10.059	0.000	15.166	10.059	1.0187
L-L	8.791	0.000	13.316	0.000	0.9846
LL-E	10.250	0.000	15.491	9.966	1.0012

*FAULT BUS: BUS-0460 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.5277

Z1(mê):	9.536 + j 18.070	or	20.432/62.2ø
Z2(mê):	9.536 + j 18.070	or	20.432/62.2ø
Z0(mê):	10.837 + j 18.490	or	21.432/59.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.564	0.000	23.953	0.000	0.5277
L-E	13.349	0.000	22.836	13.349	0.5475
L-L	11.746	0.000	20.287	0.000	0.5277
LL-E	13.630	0.000	23.432	13.138	0.5372

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0461 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.5281

Z1(mê):	9.544 + j 18.073	or	20.438/62.2ø
Z2(mê):	9.544 + j 18.073	or	20.438/62.2ø
Z0(mê):	10.837 + j 18.490	or	21.432/59.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.559	0.000	23.940	0.000	0.5281
L-E	13.346	0.000	22.828	13.346	0.5477
L-L	11.743	0.000	20.277	0.000	0.5281
LL-E	13.626	0.000	23.421	13.136	0.5375

*FAULT BUS: BUS-0462 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1149

Z1(mê):	1.303 + j 11.337	or	11.411/83.4ø
Z2(mê):	1.303 + j 11.337	or	11.411/83.4ø
Z0(mê):	1.059 + j 10.055	or	10.110/84.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	24.285	0.000	59.077	0.000	0.1149
L-E	25.245	0.000	61.422	25.245	0.1120
L-L	21.032	0.000	50.986	0.000	0.1149
LL-E	24.868	0.000	60.406	26.283	0.1133

*FAULT BUS: BUS-0475 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2548

Z1(ê):	0.280 + j 1.099	or	1.135/75.7ø
Z2(ê):	0.280 + j 1.099	or	1.135/75.7ø
Z0(ê):	0.000 + j 49.511	or	49.511/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.022	0.000	16.924	0.000	0.2548
L-E	0.484	0.685	1.370	0.484	0.0108
L-L	6.082	0.000	14.602	0.000	0.2548
LL-E	6.202	0.000	14.726	0.239	0.2519

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Estudo do Sistema IP/Gabor

*FAULT BUS: BUS-0480 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1872

Z1(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z2(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z0(ê):	0.000 + j 49.733	or	49.733/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.155	0.000	22.764	0.000	0.1872
L-E	0.483	0.683	1.367	0.483	0.0056
L-L	8.795	0.000	19.637	0.000	0.1872
LL-E	8.913	0.000	19.733	0.238	0.1857

*FAULT BUS: BUS-0488 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1066

Z1(ê):	0.058 + j 0.542	or	0.545/83.9ø
Z2(ê):	0.058 + j 0.542	or	0.545/83.9ø
Z0(ê):	0.000 + j 49.805	or	49.805/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.624	0.000	35.970	0.000	0.1066
L-E	0.483	0.683	1.366	0.483	0.0023
L-L	12.665	0.000	31.018	0.000	0.1066
LL-E	12.780	0.000	31.096	0.239	0.1060

*FAULT BUS: BUS-0491 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1872

Z1(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z2(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z0(ê):	0.000 + j 49.733	or	49.733/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.155	0.000	22.866	0.000	0.1872
L-E	0.483	0.683	1.367	0.483	0.0056
L-L	8.795	0.000	19.638	0.000	0.1872
LL-E	8.913	0.000	19.734	0.238	0.1857

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Estudo do Sistema IP/Gabor

*FAULT BUS: CD-12 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.6491

Z1(mê):	9.087 + j 14.001	or	16.692/57.0ø
Z2(mê):	9.087 + j 14.001	or	16.692/57.0ø
Z0(mê):	8.948 + j 12.212	or	15.139/53.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	16.603	0.000	27.304	0.000	0.6491
L-E	17.140	0.000	27.865	17.140	0.6745
L-L	14.378	0.000	23.584	0.000	0.6491
LL-E	17.159	0.000	28.008	17.707	0.6628

*FAULT BUS: CH-3211 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.4912

Z1(ê):	0.137 + j 0.278	or	0.310/63.8ø
Z2(ê):	0.137 + j 0.278	or	0.310/63.8ø
Z0(ê):	0.061 + j 0.223	or	0.231/74.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.748	0.000	13.675	0.000	0.4912
L-E	8.497	0.000	15.506	8.497	0.4292
L-L	6.710	0.000	11.809	0.000	0.4912
LL-E	8.607	0.000	15.494	9.374	0.4515

*FAULT BUS: CH-3215 Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3964

Z1(ê):	0.085 + j 0.214	or	0.230/68.4ø
Z2(ê):	0.085 + j 0.214	or	0.230/68.4ø
Z0(ê):	16.398 + j 0.202	or	16.399/0.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.425	0.000	19.516	0.000	0.3964
L-E	0.435	0.000	0.627	0.435	26.2838
L-L	9.028	0.000	16.833	0.000	0.3964
LL-E	9.130	0.000	16.936	0.219	0.4039

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Estudo do Sistema IP/Gabor

*FAULT BUS: PDN-001 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 4.5422

Z1(ê):	0.142 + j 0.031	or	0.145/12.4ø
Z2(ê):	0.142 + j 0.031	or	0.145/12.4ø
Z0(ê):	0.142 + j 0.029	or	0.145/11.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	1.909	0.000	2.758	0.000	4.5422
L-E	1.911	0.000	2.757	1.911	4.6292
L-L	1.653	0.000	2.385	0.000	4.5422
LL-E	1.917	0.000	2.765	1.914	4.5855

*FAULT BUS: PN-3101 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2699

Z1(mê):	4.827 + j 17.886	or	18.526/74.9ø
Z2(mê):	4.827 + j 17.886	or	18.526/74.9ø
Z0(mê):	2.528 + j 13.246	or	13.485/79.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.959	0.000	30.908	0.000	0.2699
L-E	16.460	0.000	34.568	16.460	0.2485
L-L	12.955	0.000	26.678	0.000	0.2699
LL-E	16.185	0.000	33.751	18.286	0.2561

*FAULT BUS: PN-3103 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.4875

Z1(mê):	40.587 + j 83.257	or	92.623/64.0ø
Z2(mê):	40.587 + j 83.257	or	92.623/64.0ø
Z0(mê):	35.053 + j 77.796	or	85.328/65.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	2.992	0.000	5.292	0.000	0.4875
L-E	3.073	0.000	5.455	3.073	0.4757
L-L	2.591	0.000	4.570	0.000	0.4875
LL-E	3.061	0.000	5.417	3.158	0.4812

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3106 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.5375

Z1(mê):	26.869 + j 49.991	or	56.754/61.7ø
Z2(mê):	26.869 + j 49.991	or	56.754/61.7ø
Z0(mê):	19.436 + j 43.990	or	48.092/66.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	4.883	0.000	8.417	0.000	0.5375
L-E	5.148	0.000	8.979	5.148	0.5082
L-L	4.229	0.000	7.269	0.000	0.5375
LL-E	5.138	0.000	8.904	5.440	0.5207

*FAULT BUS: PN-3203A (OSBAT) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1181

Z1(ê):	0.024 + j 0.205	or	0.207/83.3ø
Z2(ê):	0.024 + j 0.205	or	0.207/83.3ø
Z0(ê):	0.015 + j 0.162	or	0.163/84.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.627	0.000	28.188	0.000	0.1181
L-E	12.513	0.000	30.497	12.513	0.1106
L-L	10.070	0.000	24.318	0.000	0.1181
LL-E	12.225	0.000	29.687	13.544	0.1135

*FAULT BUS: PN-3203B (OSBAT) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1205

Z1(ê):	0.025 + j 0.208	or	0.210/83.1ø
Z2(ê):	0.025 + j 0.208	or	0.210/83.1ø
Z0(ê):	0.016 + j 0.160	or	0.161/84.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.452	0.000	27.682	0.000	0.1205
L-E	12.412	0.000	30.083	12.412	0.1151
L-L	9.918	0.000	23.882	0.000	0.1205
LL-E	12.075	0.000	29.192	13.547	0.1172

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3204 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2040

Z1(mê):	2.636 + j 12.921	or	13.187/78.5ø
Z2(mê):	2.636 + j 12.921	or	13.187/78.5ø
Z0(mê):	2.496 + j 11.132	or	11.408/77.4ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	21.015	0.000	46.275	0.000	0.2040
L-E	22.005	0.000	47.981	22.005	0.2101
L-L	18.200	0.000	39.930	0.000	0.2040
LL-E	21.672	0.000	47.383	23.093	0.2074

*FAULT BUS: PN-3205 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1814

Z1(mê):	2.342 + j 12.911	or	13.122/79.7ø
Z2(mê):	2.342 + j 12.911	or	13.122/79.7ø
Z0(mê):	2.202 + j 11.122	or	11.338/78.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	21.120	0.000	47.630	0.000	0.1814
L-E	22.123	0.000	49.443	22.123	0.1864
L-L	18.290	0.000	41.096	0.000	0.1814
LL-E	21.765	0.000	48.756	23.226	0.1842

*FAULT BUS: PN-3206A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1528

Z1(mê):	1.956 + j 12.801	or	12.950/81.3ø
Z2(mê):	1.956 + j 12.801	or	12.950/81.3ø
Z0(mê):	1.817 + j 11.012	or	11.161/80.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	21.400	0.000	49.816	0.000	0.1528
L-E	22.434	0.000	51.804	22.434	0.1565
L-L	18.533	0.000	42.974	0.000	0.1528
LL-E	22.038	0.000	50.981	23.572	0.1549

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3206B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1504

Z1(mê):	1.801 + j 11.974	or	12.109/81.4ø
Z2(mê):	1.801 + j 11.974	or	12.109/81.4ø
Z0(mê):	1.733 + j 10.912	or	11.049/81.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	22.886	0.000	53.398	0.000	0.1504
L-E	23.574	0.000	54.651	23.574	0.1530
L-L	19.820	0.000	46.085	0.000	0.1504
LL-E	23.304	0.000	54.098	24.305	0.1518

*FAULT BUS: PN-3210 (OSPLAN) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1243

Z1(ê):	0.015 + j 0.123	or	0.124/82.9ø
Z2(ê):	0.015 + j 0.123	or	0.124/82.9ø
Z0(ê):	0.022 + j 0.169	or	0.170/82.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	19.334	0.000	46.495	0.000	0.1243
L-E	17.222	0.000	41.189	17.222	0.1262
L-L	16.744	0.000	40.135	0.000	0.1243
LL-E	18.480	0.000	44.257	15.526	0.1250

*FAULT BUS: PN-3211 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 3.2190

Z1(mê):	87.915 + j 27.311	or	92.060/17.3ø
Z2(mê):	87.915 + j 27.311	or	92.060/17.3ø
Z0(mê):	87.776 + j 25.522	or	91.411/16.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	3.010	0.000	4.350	0.000	3.2190
L-E	3.018	0.000	4.353	3.018	3.2892
L-L	2.607	0.000	3.761	0.000	3.2190
LL-E	3.030	0.000	4.371	3.025	3.2540

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3212 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1494

Z1(mê):	2.026 + j 13.566	or	13.716/81.5ø
Z2(mê):	2.026 + j 13.566	or	13.716/81.5ø
Z0(mê):	1.411 + j 13.490	or	13.564/84.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	20.205	0.000	47.178	0.000	0.1494
L-E	20.284	0.000	48.038	20.284	0.1345
L-L	17.498	0.000	40.733	0.000	0.1494
LL-E	20.499	0.000	48.134	20.360	0.1419

*FAULT BUS: PN-3213 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1547

Z1(mê):	3.731 + j 24.118	or	24.405/81.2ø
Z2(mê):	3.731 + j 24.118	or	24.405/81.2ø
Z0(mê):	2.115 + j 20.940	or	21.047/84.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.355	0.000	26.370	0.000	0.1547
L-E	11.905	0.000	28.064	11.905	0.1384
L-L	9.834	0.000	22.754	0.000	0.1547
LL-E	11.829	0.000	27.658	12.506	0.1455

*FAULT BUS: PN-3214 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 2.6341

Z1(mê):	59.005 + j 22.401	or	63.115/20.8ø
Z2(mê):	59.005 + j 22.401	or	63.115/20.8ø
Z0(mê):	58.866 + j 20.612	or	62.370/19.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	4.391	0.000	6.347	0.000	2.6341
L-E	4.409	0.000	6.361	4.409	2.7040
L-L	3.803	0.000	5.487	0.000	2.6341
LL-E	4.433	0.000	6.396	4.426	2.6690

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3215 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 3.2267

Z1(ê):	0.108 + j 0.033	or	0.113/17.2ø
Z2(ê):	0.108 + j 0.033	or	0.113/17.2ø
Z0(ê):	0.101 + j 0.029	or	0.105/15.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	2.456	0.000	3.549	0.000	3.2267
L-E	2.511	0.000	3.623	2.511	3.3114
L-L	2.127	0.000	3.068	0.000	3.2267
LL-E	2.501	0.000	3.608	2.569	3.2710

*FAULT BUS: PN-3216 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2989

Z1(mê):	12.925 + j 43.244	or	45.134/73.4ø
Z2(mê):	12.925 + j 43.244	or	45.134/73.4ø
Z0(mê):	11.312 + j 39.901	or	41.473/74.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	6.140	0.000	12.369	0.000	0.2989
L-E	6.311	0.000	12.724	6.311	0.2940
L-L	5.318	0.000	10.677	0.000	0.2989
LL-E	6.255	0.000	12.587	6.491	0.2963

*FAULT BUS: PN-3217 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1343

Z1(mê):	5.138 + j 38.244	or	38.587/82.3ø
Z2(mê):	5.138 + j 38.244	or	38.587/82.3ø
Z0(mê):	3.526 + j 34.901	or	35.078/84.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.182	0.000	17.075	0.000	0.1343
L-E	7.407	0.000	17.764	7.407	0.1239
L-L	6.220	0.000	14.733	0.000	0.1343
LL-E	7.369	0.000	17.573	7.646	0.1287

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3219 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 8.3966

Z1(ê):	0.271 + j 0.032	or	0.273/6.8ø
Z2(ê):	0.271 + j 0.032	or	0.273/6.8ø
Z0(ê):	0.271 + j 0.031	or	0.273/6.4ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	1.015	0.000	1.466	0.000	8.3966
L-E	1.015	0.000	1.464	1.015	8.5531
L-L	0.879	0.000	1.268	0.000	8.3966
LL-E	1.017	0.000	1.467	1.015	8.4742

*FAULT BUS: PN-3220 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2968

Z1(mê):	7.300 + j 24.594	or	25.655/73.5ø
Z2(mê):	7.300 + j 24.594	or	25.655/73.5ø
Z0(mê):	4.387 + j 20.595	or	21.058/78.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.802	0.000	21.799	0.000	0.2968
L-E	11.496	0.000	23.626	11.496	0.2721
L-L	9.355	0.000	18.816	0.000	0.2968
LL-E	11.437	0.000	23.295	12.277	0.2823

*FAULT BUS: PN-3221 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2831

Z1(mê):	6.936 + j 24.496	or	25.459/74.2ø
Z2(mê):	6.936 + j 24.496	or	25.459/74.2ø
Z0(mê):	4.387 + j 20.595	or	21.058/78.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.885	0.000	22.227	0.000	0.2831
L-E	11.556	0.000	23.959	11.556	0.2624
L-L	9.427	0.000	19.186	0.000	0.2831
LL-E	11.468	0.000	23.593	12.310	0.2710

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*FAULT BUS: PN-3222 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3028

Z1(mê):	7.784 + j 25.709	or	26.862/73.2ø
Z2(mê):	7.784 + j 25.709	or	26.862/73.2ø
Z0(mê):	2.116 + j 20.442	or	20.551/84.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.317	0.000	20.714	0.000	0.3028
L-E	11.234	0.000	23.647	11.234	0.2461
L-L	8.935	0.000	17.881	0.000	0.3028
LL-E	11.411	0.000	23.553	12.286	0.2673

*FAULT BUS: PN-3223 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3245

Z1(mê):	8.418 + j 25.941	or	27.273/72.0ø
Z2(mê):	8.418 + j 25.941	or	27.273/72.0ø
Z0(mê):	2.116 + j 20.484	or	20.593/84.1ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.161	0.000	20.041	0.000	0.3245
L-E	11.114	0.000	23.052	11.114	0.2619
L-L	8.800	0.000	17.301	0.000	0.3245
LL-E	11.327	0.000	23.018	12.209	0.2849

*FAULT BUS: PN-3224 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.8466

Z1(mê):	15.071 + j 17.801	or	23.324/49.7ø
Z2(mê):	15.071 + j 17.801	or	23.324/49.7ø
Z0(mê):	8.673 + j 13.307	or	15.884/56.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.882	0.000	18.481	0.000	0.8466
L-E	13.315	0.000	20.913	13.315	0.7936
L-L	10.290	0.000	15.968	0.000	0.8466
LL-E	13.200	0.000	20.649	15.120	0.8105

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*FAULT BUS: PN-3228A (OSVAT) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1066

Z1(ê):	0.058 + j 0.542	or	0.545/83.9ø
Z2(ê):	0.058 + j 0.542	or	0.545/83.9ø
Z0(ê):	0.000 + j 49.805	or	49.805/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.624	0.000	35.975	0.000	0.1066
L-E	0.483	0.683	1.366	0.483	0.0023
L-L	12.665	0.000	31.019	0.000	0.1066
LL-E	12.780	0.000	31.097	0.239	0.1060

*FAULT BUS: PN-3228B (OSVAT) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0952

Z1(ê):	0.055 + j 0.580	or	0.583/84.6ø
Z2(ê):	0.055 + j 0.580	or	0.583/84.6ø
Z0(ê):	0.000 + j 47.796	or	47.796/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	13.666	0.000	34.077	0.000	0.0952
L-E	0.506	0.715	1.430	0.506	0.0023
L-L	11.835	0.000	29.402	0.000	0.0952
LL-E	11.947	0.000	29.475	0.249	0.0946

*FAULT BUS: PN-3232A (TRANS.INTERNA) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0819

Z1(ê):	0.014 + j 0.170	or	0.170/85.3ø
Z2(ê):	0.014 + j 0.170	or	0.170/85.3ø
Z0(ê):	16.342 + j 0.159	or	16.342/0.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.113	0.000	35.816	0.000	0.0819
L-E	0.440	0.000	0.635	0.440	32.8534
L-L	12.222	0.000	30.881	0.000	0.0819
LL-E	12.332	0.000	30.951	0.220	0.0871

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*FAULT BUS: PN-3232B (TRANS.INTERNA) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0835

Z1(ê):	0.013 + j 0.161	or	0.162/85.2ø
Z2(ê):	0.013 + j 0.161	or	0.162/85.2ø
Z0(ê):	16.342 + j 0.159	or	16.342/0.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.821	0.000	37.531	0.000	0.0835
L-E	0.440	0.000	0.635	0.440	33.9547
L-L	12.835	0.000	32.363	0.000	0.0835
LL-E	12.945	0.000	32.433	0.220	0.0884

*FAULT BUS: PN-3236A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3035

Z1(mê):	7.792 + j 25.678	or	26.834/73.1ø
Z2(mê):	7.792 + j 25.678	or	26.834/73.1ø
Z0(mê):	7.705 + j 24.963	or	26.125/72.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.327	0.000	20.725	0.000	0.3035
L-E	10.419	0.000	20.811	10.419	0.3052
L-L	8.944	0.000	17.889	0.000	0.3035
LL-E	10.388	0.000	20.763	10.513	0.3043

*FAULT BUS: PN-3236B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3012

Z1(mê):	7.157 + j 23.766	or	24.820/73.2ø
Z2(mê):	7.157 + j 23.766	or	24.820/73.2ø
Z0(mê):	7.705 + j 24.963	or	26.125/72.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.165	0.000	22.440	0.000	0.3012
L-E	10.973	0.000	21.943	10.973	0.3037
L-L	9.670	0.000	19.378	0.000	0.3012
LL-E	11.094	0.000	22.210	10.788	0.3024

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3240A Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0806

Z1(ê):	0.058 + j 0.716	or	0.718/85.4ø
Z2(ê):	0.058 + j 0.716	or	0.718/85.4ø
Z0(ê):	0.000 + j 53.904	or	53.904/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.096	0.000	28.202	0.000	0.0806
L-E	0.444	0.627	1.255	0.444	0.0021
L-L	9.610	0.000	24.321	0.000	0.0806
LL-E	9.721	0.000	24.391	0.220	0.0800

*FAULT BUS: PN-3240B Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0814

Z1(ê):	0.059 + j 0.726	or	0.728/85.3ø
Z2(ê):	0.059 + j 0.726	or	0.728/85.3ø
Z0(ê):	0.000 + j 53.904	or	53.904/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.942	0.000	27.779	0.000	0.0814
L-E	0.444	0.627	1.255	0.444	0.0021
L-L	9.476	0.000	23.956	0.000	0.0814
LL-E	9.587	0.000	24.026	0.220	0.0809

*FAULT BUS: PN-3242 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3714

Z1(mê):	8.786 + j 23.660	or	25.239/69.6ø
Z2(mê):	8.786 + j 23.660	or	25.239/69.6ø
Z0(mê):	2.120 + j 18.105	or	18.228/83.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.980	0.000	20.898	0.000	0.3714
L-E	12.168	0.000	24.389	12.168	0.3010
L-L	9.509	0.000	18.042	0.000	0.3714
LL-E	12.435	0.000	24.435	13.569	0.3252

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*FAULT BUS: PN-3243 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2207

Z1(mê):	5.028 + j 22.781	or	23.329/77.6ø
Z2(mê):	5.028 + j 22.781	or	23.329/77.6ø
Z0(mê):	2.155 + j 19.534	or	19.652/83.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.879	0.000	25.730	0.000	0.2207
L-E	12.553	0.000	28.018	12.553	0.1876
L-L	10.288	0.000	22.194	0.000	0.2207
LL-E	12.618	0.000	27.753	13.292	0.2016

*FAULT BUS: PN-3244 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2597

Z1(mê):	4.777 + j 18.392	or	19.002/75.4ø
Z2(mê):	4.777 + j 18.392	or	19.002/75.4ø
Z0(mê):	3.647 + j 15.540	or	15.962/76.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.584	0.000	30.437	0.000	0.2597
L-E	15.406	0.000	32.240	15.406	0.2523
L-L	12.630	0.000	26.249	0.000	0.2597
LL-E	15.140	0.000	31.590	16.326	0.2555

*FAULT BUS: PN-3245 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2597

Z1(mê):	4.777 + j 18.392	or	19.002/75.4ø
Z2(mê):	4.777 + j 18.392	or	19.002/75.4ø
Z0(mê):	3.647 + j 15.540	or	15.962/76.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.584	0.000	30.437	0.000	0.2597
L-E	15.406	0.000	32.240	15.406	0.2523
L-L	12.630	0.000	26.249	0.000	0.2597
LL-E	15.140	0.000	31.590	16.326	0.2555

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3246 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2921

Z1(mê):	6.450 + j 22.080	or	23.003/73.7ø
Z2(mê):	6.450 + j 22.080	or	23.003/73.7ø
Z0(mê):	4.115 + j 19.186	or	19.622/77.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	12.047	0.000	24.426	0.000	0.2921
L-E	12.675	0.000	26.132	12.675	0.2686
L-L	10.433	0.000	21.070	0.000	0.2921
LL-E	12.646	0.000	25.838	13.364	0.2787

*FAULT BUS: PN-3248 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3621

Z1(mê):	7.510 + j 20.740	or	22.058/70.1ø
Z2(mê):	7.510 + j 20.740	or	22.058/70.1ø
Z0(mê):	3.504 + j 16.447	or	16.816/78.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	12.564	0.000	24.075	0.000	0.3621
L-E	13.670	0.000	26.979	13.670	0.3198
L-L	10.880	0.000	20.784	0.000	0.3621
LL-E	13.706	0.000	26.712	14.962	0.3356

*FAULT BUS: PN-3249 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.8363

Z1(mê):	44.598 + j 53.330	or	69.520/50.1ø
Z2(mê):	44.598 + j 53.330	or	69.520/50.1ø
Z0(mê):	10.852 + j 26.823	or	28.935/68.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	3.986	0.000	6.713	0.000	0.8363
L-E	4.984	0.000	7.918	4.984	0.7495
L-L	3.452	0.000	5.369	0.000	0.8363
LL-E	5.104	0.000	8.098	6.606	0.7541

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Estudo do Sistema IP/Gabor

*FAULT BUS: PN-3254 Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1872

Z1(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z2(ê):	0.144 + j 0.771	or	0.785/79.4ø
Z0(ê):	0.000 + j 49.733	or	49.733/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.154	0.000	22.862	0.000	0.1872
L-E	0.483	0.683	1.367	0.483	0.0056
L-L	8.794	0.000	19.635	0.000	0.1872
LL-E	8.912	0.000	19.731	0.238	0.1858

*FAULT BUS: PN-3270 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 2.4656

Z1(mê):	38.243 + j 15.511	or	41.269/22.1ø
Z2(mê):	38.243 + j 15.511	or	41.269/22.1ø
Z0(mê):	38.103 + j 13.722	or	40.499/19.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	6.715	0.000	9.709	0.000	2.4656
L-E	6.758	0.000	9.753	6.758	2.5610
L-L	5.815	0.000	8.394	0.000	2.4656
LL-E	6.813	0.000	9.833	6.801	2.5133

*FAULT BUS: PN-5140001A (NOVO PIER) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3659

Z1(ê):	0.109 + j 0.298	or	0.317/69.9ø
Z2(ê):	0.109 + j 0.298	or	0.317/69.9ø
Z0(ê):	0.099 + j 0.254	or	0.273/68.7ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.580	0.000	14.485	0.000	0.3659
L-E	7.945	0.000	15.053	7.945	0.3734
L-L	6.565	0.000	12.505	0.000	0.3659
LL-E	7.828	0.000	14.866	8.347	0.3701

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*FAULT BUS: PN-5140001B(NOVO PIER) Voltage: 4.160 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3650

Z1(ê):	0.110 + j 0.301	or	0.320/69.9ø
Z2(ê):	0.110 + j 0.301	or	0.320/69.9ø
Z0(ê):	0.101 + j 0.253	or	0.272/68.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.505	0.000	14.350	0.000	0.3650
L-E	7.900	0.000	14.949	7.900	0.3751
L-L	6.499	0.000	12.389	0.000	0.3650
LL-E	7.787	0.000	14.782	8.339	0.3707

*FAULT BUS: PN-5140003 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3029

Z1(mê):	6.790 + j 22.414	or	23.419/73.1ø
Z2(mê):	6.790 + j 22.414	or	23.419/73.1ø
Z0(mê):	6.864 + j 18.483	or	19.717/69.6ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	11.833	0.000	23.756	0.000	0.3029
L-E	12.497	0.000	24.600	12.497	0.3229
L-L	10.248	0.000	20.506	0.000	0.3029
LL-E	12.411	0.000	24.600	13.233	0.3144

*FAULT BUS: PN-5140004A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2546

Z1(mê):	4.575 + j 17.968	or	18.541/75.7ø
Z2(mê):	4.575 + j 17.968	or	18.541/75.7ø
Z0(mê):	2.446 + j 13.061	or	13.288/79.4ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.947	0.000	31.316	0.000	0.2546
L-E	16.512	0.000	35.069	16.512	0.2367
L-L	12.944	0.000	27.029	0.000	0.2546
LL-E	16.172	0.000	34.143	18.436	0.2429

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*FAULT BUS: PN-5140004B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2547

Z1(mê):	4.587 + j 18.009	or	18.584/75.7ø
Z2(mê):	4.587 + j 18.009	or	18.584/75.7ø
Z0(mê):	2.446 + j 13.061	or	13.288/79.4ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.912	0.000	31.243	0.000	0.2547
L-E	16.484	0.000	35.008	16.484	0.2368
L-L	12.915	0.000	26.966	0.000	0.2547
LL-E	16.143	0.000	34.079	18.419	0.2430

*FAULT BUS: PN-5330001A Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3525

Z1(ê):	0.341 + j 0.967	or	1.025/70.6ø
Z2(ê):	0.341 + j 0.967	or	1.025/70.6ø
Z0(ê):	0.000 + j 49.751	or	49.751/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.774	0.000	15.022	0.000	0.3525
L-E	0.480	0.679	1.359	0.480	0.0132
L-L	6.733	0.000	12.953	0.000	0.3525
LL-E	6.853	0.000	13.071	0.238	0.3487

*FAULT BUS: PN-5330002A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1800

Z1(mê):	1.791 + j 9.952	or	10.112/79.8ø
Z2(mê):	1.791 + j 9.952	or	10.112/79.8ø
Z0(mê):	1.326 + j 8.664	or	8.765/81.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	27.406	0.000	62.224	0.000	0.1800
L-E	28.682	0.000	65.115	28.682	0.1718
L-L	23.735	0.000	53.406	0.000	0.1800
LL-E	28.310	0.000	64.018	30.080	0.1754

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: PN-5330002B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1800

Z1(mê):	1.792 + j 9.952	or	10.112/79.8ø
Z2(mê):	1.792 + j 9.952	or	10.112/79.8ø
Z0(mê):	1.326 + j 8.664	or	8.765/81.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	27.406	0.000	62.221	0.000	0.1800
L-E	28.681	0.000	65.111	28.681	0.1718
L-L	23.734	0.000	53.403	0.000	0.1800
LL-E	28.309	0.000	64.015	30.079	0.1754

*FAULT BUS: PN-5330003A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1771

Z1(mê):	1.734 + j 9.795	or	9.947/80.0ø
Z2(mê):	1.734 + j 9.795	or	9.947/80.0ø
Z0(mê):	1.288 + j 8.541	or	8.638/81.4ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	27.861	0.000	63.300	0.000	0.1771
L-E	29.141	0.000	66.355	29.141	0.1691
L-L	24.128	0.000	54.463	0.000	0.1771
LL-E	28.764	0.000	65.245	30.542	0.1726

*FAULT BUS: PN-5330003B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1771

Z1(mê):	1.735 + j 9.795	or	9.947/80.0ø
Z2(mê):	1.735 + j 9.795	or	9.947/80.0ø
Z0(mê):	1.288 + j 8.542	or	8.638/81.4ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	27.860	0.000	63.297	0.000	0.1771
L-E	29.140	0.000	66.352	29.140	0.1691
L-L	24.127	0.000	54.460	0.000	0.1771
LL-E	28.763	0.000	65.242	30.541	0.1726

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: PN-5330004A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1585

Z1(mê):	4.492 + j 28.334	or	28.688/81.0ø
Z2(mê):	4.492 + j 28.334	or	28.688/81.0ø
Z0(mê):	4.048 + j 27.097	or	27.398/81.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	9.660	0.000	22.370	0.000	0.1585
L-E	9.807	0.000	22.670	9.807	0.1556
L-L	8.366	0.000	19.274	0.000	0.1585
LL-E	9.761	0.000	22.527	9.959	0.1570

*FAULT BUS: PN-5330004B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2194

Z1(mê):	6.154 + j 28.044	or	28.711/77.6ø
Z2(mê):	6.154 + j 28.044	or	28.711/77.6ø
Z0(mê):	5.710 + j 26.808	or	27.409/78.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	9.652	0.000	20.950	0.000	0.2194
L-E	9.800	0.000	21.213	9.800	0.2174
L-L	8.359	0.000	18.056	0.000	0.2194
LL-E	9.746	0.000	21.073	9.953	0.2184

*FAULT BUS: PN-533001B Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3523

Z1(ê):	0.340 + j 0.966	or	1.025/70.6ø
Z2(ê):	0.340 + j 0.966	or	1.025/70.6ø
Z0(ê):	0.000 + j 49.751	or	49.751/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	7.776	0.000	15.027	0.000	0.3523
L-E	0.480	0.679	1.359	0.480	0.0132
L-L	6.734	0.000	12.958	0.000	0.3523
LL-E	6.854	0.000	13.076	0.238	0.3486

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: PN-5334-01 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3643

Z1(mê):	9.755 + j 26.779	or	28.500/70.0ø
Z2(mê):	9.755 + j 26.779	or	28.500/70.0ø
Z0(mê):	5.020 + j 22.289	or	22.848/77.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	9.724	0.000	18.603	0.000	0.3643
L-E	10.429	0.000	20.523	10.429	0.3234
L-L	8.421	0.000	16.060	0.000	0.3643
LL-E	10.481	0.000	20.362	11.227	0.3397

*FAULT BUS: PN-6211001A (OSVAP) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0939

Z1(ê):	0.069 + j 0.731	or	0.734/84.6ø
Z2(ê):	0.069 + j 0.731	or	0.734/84.6ø
Z0(ê):	0.000 + j 53.921	or	53.921/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.848	0.000	27.102	0.000	0.0939
L-E	0.443	0.627	1.254	0.443	0.0025
L-L	9.394	0.000	23.375	0.000	0.0939
LL-E	9.505	0.000	23.448	0.220	0.0933

*FAULT BUS: PN-6211001B (OSVAP) Voltage: 13.800 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.0947

Z1(ê):	0.070 + j 0.742	or	0.745/84.6ø
Z2(ê):	0.070 + j 0.742	or	0.745/84.6ø
Z0(ê):	0.000 + j 53.921	or	53.921/90.0ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.696	0.000	26.697	0.000	0.0947
L-E	0.443	0.627	1.254	0.443	0.0025
L-L	9.263	0.000	23.026	0.000	0.0947
LL-E	9.374	0.000	23.099	0.220	0.0940

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: PN-6211002A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1428

Z1(mê):	1.118 + j 7.827	or	7.906/81.9ø
Z2(mê):	1.118 + j 7.827	or	7.906/81.9ø
Z0(mê):	1.265 + j 8.468	or	8.562/81.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	35.051	0.000	82.494	0.000	0.1428
L-E	34.109	0.000	79.791	34.109	0.1451
L-L	30.355	0.000	71.200	0.000	0.1428
LL-E	34.666	0.000	81.210	33.216	0.1439

*FAULT BUS: PN-6211002B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1435

Z1(mê):	1.225 + j 8.535	or	8.622/81.8ø
Z2(mê):	1.225 + j 8.535	or	8.622/81.8ø
Z0(mê):	1.265 + j 8.468	or	8.562/81.5ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	32.141	0.000	75.603	0.000	0.1435
L-E	32.217	0.000	75.333	32.217	0.1455
L-L	27.835	0.000	65.234	0.000	0.1435
LL-E	32.232	0.000	75.454	32.292	0.1445

*FAULT BUS: PN-6211003A Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1940

Z1(mê):	1.610 + j 8.297	or	8.452/79.0ø
Z2(mê):	1.610 + j 8.297	or	8.452/79.0ø
Z0(mê):	1.757 + j 8.938	or	9.109/78.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	32.789	0.000	72.933	0.000	0.1940
L-E	31.961	0.000	70.788	31.961	0.1949
L-L	28.396	0.000	62.953	0.000	0.1940
LL-E	32.416	0.000	71.832	31.173	0.1944

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: PN-6211003B Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.1907

Z1(mê):	1.717 + j 9.005	or	9.167/79.2ø
Z2(mê):	1.717 + j 9.005	or	9.167/79.2ø
Z0(mê):	1.757 + j 8.938	or	9.109/78.9ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	30.230	0.000	67.498	0.000	0.1907
L-E	30.295	0.000	67.258	30.295	0.1926
L-L	26.180	0.000	58.244	0.000	0.1907
LL-E	30.312	0.000	67.367	30.359	0.1916

*FAULT BUS: PN-CLUBE Voltage: 0.220 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2226

Z1(mê):	0.767 + j 3.445	or	3.530/77.4ø
Z2(mê):	0.767 + j 3.445	or	3.530/77.4ø
Z0(mê):	0.418 + j 2.738	or	2.770/81.3ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	35.987	0.000	77.754	0.000	0.2226
L-E	38.785	0.000	85.207	38.785	0.2027
L-L	31.165	0.000	67.106	0.000	0.2226
LL-E	38.302	0.000	83.479	42.037	0.2105

*FAULT BUS: PN3229 Voltage: 0.480 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2507

Z1(mê):	6.689 + j 26.679	or	27.505/75.9ø
Z2(mê):	6.689 + j 26.679	or	27.505/75.9ø
Z0(mê):	5.970 + j 24.385	or	25.105/76.2ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	10.076	0.000	21.201	0.000	0.2507
L-E	10.378	0.000	21.786	10.378	0.2489
L-L	8.726	0.000	18.287	0.000	0.2507
LL-E	10.251	0.000	21.504	10.698	0.2497

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Ampliação da Subestação Principal

Estudo do Sistema IP/Gabor

*FAULT BUS: QUEIROZ GALVÃO Voltage: 0.380 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.3242

Z1(mê):	4.606 + j 14.209	or	14.937/72.0ø
Z2(mê):	4.606 + j 14.209	or	14.937/72.0ø
Z0(mê):	1.327 + j 12.212	or	12.284/83.8ø

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	14.688	0.000	28.997	0.000	0.3242
L-E	15.680	0.000	32.598	15.680	0.2594
L-L	12.720	0.000	25.014	0.000	0.3242
LL-E	16.094	0.000	32.679	16.744	0.2858

*FAULT BUS: SE-TEBAR 138kV Voltage: 138.000 kV Eq. Volt. Source: 1.00 p.u.

R/X of Z(eq): 0.2531

Z1(ê):	2.814 + j 11.117	or	11.468/75.8ø
Z2(ê):	2.814 + j 11.117	or	11.468/75.8ø
Z0(ê):	INFINITE		

TYPE	Ik"(kA)	iDC(kA)	ip(kA)	Ik"E(kA)	R/X
LLL-E	6.948	0.000	14.659	0.000	0.2531
L-E	0.000	0.000	0.000	0.000	0.8641
L-L	6.017	0.000	12.582	0.000	0.2531
LL-E	6.017	0.000	12.582	0.816	0.2731

8 ANEXO III – RELATÓRIO DE ANÁLISE DE CURTO-CIRCUITO SIMPLIFICADO

Project: DIAGRAMA UNIFILAR

Unbalanced IEC Fault 909 Report

IEC_FAULT Settings

Report Optio	Standard Report, No Calculation	Pre-Fault Volta	Use Voltage Factor
Short Circuit Ty	Balanced & Unbalanced Isc	Max or Min	I max
Faulted Bus	All Buses	Tmin	0,02 (security criterion)
System Modeling	Use Sequence Network to Calc Ip & Idc	Include Tap	Yes

Specific Voltage	cmin	cmax	Voltage Ranges		cmin	cmax
230	0,00	1,00	0	1,000	1,00	1,00
400	0,00	1,00	1,000	35,000	1,00	1,00
0	0,00	0,00	35,000	230,000	1,00	1,00
0	0,00	0,00	230,000	765,000	1,00	1,00

						Fault Data Based on F				Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X

										Fault Data Based on F		Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
5330001A	LLLE	5,03	8,70	0,13	5,03	4,74	120,	113,	5,04	0,54	Pos:	0,83	0,54
Bus Voltag13,800	LE	3.77	6.94	0.23	---	---	---	---	---	0,42	Neg:	0,83	0,54
PreFault Vpu:1,	LL	4.36	7.50	0.11	---	---	---	---	---	0,54	Zero:	1,	0,31
C Fac 1,00	LLE	4.83	8.44	0.15	---	---	---	---	---	0,50			
BUS-0045	LLLE	11,81	29,15	7,74	11,58	9,40	282,	224,	13,92	0,10	Pos:	0,35	0,10
Bus Voltag13,800	LE	11.60	28.83	8.03	---	---	---	---	---	0,09	Neg:	0,35	0,10
PreFault Vpu:1,	LL	10.23	25.15	6.64	---	---	---	---	---	0,10	Zero:	0,	0,08
C Fac 1,00	LLE	11.79	29.14	7.89	---	---	---	---	---	0,10			
BUS-0046	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag13,800	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0047	LLLE	11,66	28,21	6,76	11,44	9,32	278,	222,	13,28	0,12	Pos:	0,36	0,12
Bus Voltag13,800	LE	11.44	27.57	6.56	---	---	---	---	---	0,12	Neg:	0,36	0,12
PreFault Vpu:1,	LL	10.09	24.33	5.79	---	---	---	---	---	0,12	Zero:	0,	0,12
C Fac 1,00	LLE	11.55	27.85	6.63	---	---	---	---	---	0,12			
BUS-0048	LLLE	13,54	33,26	8,63	13,12	9,36	323,	223,	15,70	0,11	Pos:	0,31	0,11
Bus Voltag13,800	LE	20.12	48.68	11.83	---	---	---	---	---	0,12	Neg:	0,31	0,11
PreFault Vpu:1,	LL	11.72	28.70	7.40	---	---	---	---	---	0,11	Zero:	0,	1,22
C Fac 1,00	LLE	23.16	55.47	12.77	---	---	---	---	---	0,12			

											Fault Data Based on F	Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0049	LLLE	13,54	33,26	8,63	13,12	9,36	323,	223,	15,70	0,11	Pos:	0,31	0,11
Bus Voltag13,800	LE	20.12	48.68	11.83	---	---	---	---	---	0,12	Neg:	0,31	0,11
PreFault Vpu:1,	LL	11.72	28.70	7.40	---	---	---	---	---	0,11	Zero:	0,	1,22
C Fac 1,00	LLE	23.16	55.47	12.77	---	---	---	---	---	0,12			
BUS-0058	LLLE	13,36	29,14	3,85	13,07	12,48	11,104	10,373	13,63	0,21	Pos:	9,01	0,21
Bus Voltag 480	LE	13.25	28.80	3.76	---	---	---	---	---	0,21	Neg:	9,01	0,21
PreFault Vpu:1,	LL	11.57	25.14	3.28	---	---	---	---	---	0,21	Zero:	9,	0,21
C Fac 1,00	LLE	13.30	28.92	3.77	---	---	---	---	---	0,21			
BUS-0059	LLLE	11,68	28,34	6,89	11,46	9,34	279,	223,	13,37	0,12	Pos:	0,36	0,12
Bus Voltag13,800	LE	11.44	27.25	6.08	---	---	---	---	---	0,13	Neg:	0,36	0,12
PreFault Vpu:1,	LL	10.11	24.45	5.91	---	---	---	---	---	0,12	Zero:	0,	0,15
C Fac 1,00	LLE	11.68	28.04	6.52	---	---	---	---	---	0,12			
BUS-0062	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag13,800	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0064	LLLE	13,34	32,05	7,41	12,94	9,28	318,	221,	14,91	0,13	Pos:	0,31	0,13
Bus Voltag13,800	LE	19.75	46.97	10.41	---	---	---	---	---	0,13	Neg:	0,31	0,13
PreFault Vpu:1,	LL	11.55	27.66	6.35	---	---	---	---	---	0,13	Zero:	0,	0,58
C Fac 1,00	LLE	22.45	53.08	11.40	---	---	---	---	---	0,14			

										Fault Data Based on F	Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0066	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0071	LLLE	5,22	7,61	0,00	5,24	5,18	37,638	37,301	5,24	1,64	Pos:	2,66	1,64
Bus Voltag 4,160	LE	5.23	7.60	0.00	---	---	---	---	---	1,65	Neg:	2,66	1,64
PreFault Vpu:1,	LL	4.52	6.57	0.00	---	---	---	---	---	1,64	Zero:	2,	1,65
C Fac 1,00	LLE	5.23	7.60	0.00	---	---	---	---	---	1,65			
BUS-0075	LLLE	7,60	11,64	0,01	7,61	7,45	54,767	53,660	7,61	0,93	Pos:	1,83	0,93
Bus Voltag 4,160	LE	8.79	13.84	0.03	---	---	---	---	---	0,79	Neg:	1,83	0,93
PreFault Vpu:1,	LL	6.58	10.05	0.01	---	---	---	---	---	0,93	Zero:	1,	0,41
C Fac 1,00	LLE	9.14	14.25	0.03	---	---	---	---	---	0,82			
BUS-0083	LLLE	13,12	26,25	1,84	13,07	12,52	94,523	90,228	13,20	0,31	Pos:	1,06	0,31
Bus Voltag 4,160	LE	12.88	24.44	1.11	---	---	---	---	---	0,37	Neg:	1,06	0,31
PreFault Vpu:1,	LL	11.36	22.65	1.58	---	---	---	---	---	0,31	Zero:	1,	0,50
C Fac 1,00	LLE	13.59	26.45	1.51	---	---	---	---	---	0,34			
BUS-0085	LLLE	8,61	13,53	0,03	8,61	8,40	62,058	60,528	8,61	0,81	Pos:	1,61	0,81
Bus Voltag 4,160	LE	9.66	15.93	0.12	---	---	---	---	---	0,63	Neg:	1,61	0,81
PreFault Vpu:1,	LL	7.46	11.68	0.02	---	---	---	---	---	0,81	Zero:	1,	0,25
C Fac 1,00	LLE	10.26	16.60	0.08	---	---	---	---	---	0,69			

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
BUS-0086	LLLE	10,83	26,99	7,52	10,70	9,39	258,	224,	13,08	0,10	Pos: 0,39	0,10
Bus Voltag13,800	LE	10.90	27.06	7.48	---	---	---	---	---	0,10	Neg: 0,39	0,10
PreFault Vpu:1,	LL	9.38	23.28	6.44	---	---	---	---	---	0,10	Zero: 0,	0,10
C Fac 1,00	LLE	10.87	26.97	7.46	---	---	---	---	---	0,10		
BUS-0087	LLLE	13,27	32,35	8,08	12,99	9,41	317,	224,	15,30	0,11	Pos: 0,32	0,11
Bus Voltag13,800	LE	12.43	30.45	7.87	---	---	---	---	---	0,11	Neg: 0,32	0,11
PreFault Vpu:1,	LL	11.49	27.92	6.94	---	---	---	---	---	0,11	Zero: 0,	0,10
C Fac 1,00	LLE	12.95	31.58	7.98	---	---	---	---	---	0,11		
BUS-0090	LLLE	15,97	34,43	4,17	16,02	16,01	13,276	13,311	16,55	0,23	Pos: 7,53	0,23
Bus Voltag 480	LE	16.95	36.77	4.73	---	---	---	---	---	0,22	Neg: 7,53	0,23
PreFault Vpu:1,	LL	13.83	29.69	3.57	---	---	---	---	---	0,23	Zero: 6,	0,19
C Fac 1,00	LLE	16.67	36.01	4.51	---	---	---	---	---	0,22		
BUS-0091	LLLE	15,97	34,43	4,17	16,02	16,01	13,276	13,311	16,55	0,23	Pos: 7,53	0,23
Bus Voltag 480	LE	16.95	36.77	4.73	---	---	---	---	---	0,22	Neg: 7,53	0,23
PreFault Vpu:1,	LL	13.83	29.69	3.57	---	---	---	---	---	0,23	Zero: 6,	0,19
C Fac 1,00	LLE	16.67	36.01	4.51	---	---	---	---	---	0,22		
BUS-0095	LLLE	10,51	24,18	4,45	10,24	6,81	251,	162,	11,16	0,16	Pos: 0,40	0,16
Bus Voltag13,800	LE	6.59	15.25	2.91	---	---	---	---	---	0,15	Neg: 0,40	0,16
PreFault Vpu:1,	LL	9.10	20.85	3.75	---	---	---	---	---	0,16	Zero: 1,	0,15
C Fac 1,00	LLE	9.44	21.68	3.94	---	---	---	---	---	0,16		

									Fault Data Based on F		Sequence Data			
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X	
BUS-0096	LLLE	19,14	45,39	9,87	18,06	8,55	137,	61,612	20,58	0,14	Pos:	0,73	0,14	
Bus Voltag 4,160	LE	16.56	35.76	4.47	---	---	---	---	---	0,22	Neg:	0,73	0,14	
PreFault Vpu:1,	LL	16.57	39.22	8.46	---	---	---	---	---	0,14	Zero:	1,	0,34	
C Fac 1,00	LLE	19.02	43.52	7.77	---	---	---	---	---	0,16				
BUS-0097	LLLE	19,14	45,38	9,87	18,06	8,55	137,	61,608	20,58	0,14	Pos:	0,73	0,14	
Bus Voltag 4,160	LE	16.81	38.99	7.52	---	---	---	---	---	0,15	Neg:	0,73	0,14	
PreFault Vpu:1,	LL	16.57	39.22	8.46	---	---	---	---	---	0,14	Zero:	1,	0,18	
C Fac 1,00	LLE	18.40	43.21	8.95	---	---	---	---	---	0,14				
BUS-0098	LLLE	19,75	46,58	9,82	18,59	8,70	142,	62,702	21,02	0,14	Pos:	0,70	0,14	
Bus Voltag 4,160	LE	17.12	39.47	7.37	---	---	---	---	---	0,16	Neg:	0,70	0,14	
PreFault Vpu:1,	LL	17.11	40.25	8.41	---	---	---	---	---	0,14	Zero:	1,	0,18	
C Fac 1,00	LLE	18.91	44.17	8.87	---	---	---	---	---	0,15				
BUS-0099	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00	
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00	
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00	
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00				
BUS-0100	LLLE	19,14	45,39	9,87	18,06	8,55	137,	61,612	20,58	0,14	Pos:	0,73	0,14	
Bus Voltag 4,160	LE	16.56	35.76	4.47	---	---	---	---	---	0,22	Neg:	0,73	0,14	
PreFault Vpu:1,	LL	16.57	39.22	8.46	---	---	---	---	---	0,14	Zero:	1,	0,34	
C Fac 1,00	LLE	19.02	43.53	7.77	---	---	---	---	---	0,16				

											Fault Data Based on F	Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0101	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0102	LLLE	18,44	42,98	8,51	17,46	8,37	132,	60,339	19,42	0,15	Pos:	0,75	0,15
Bus Voltag 4,160	LE	15.59	31.04	2.15	---	---	---	---	---	0,31	Neg:	0,75	0,15
PreFault Vpu:1,	LL	15.97	37.13	7.26	---	---	---	---	---	0,15	Zero:	1,	0,53
C Fac 1,00	LLE	18.81	41.35	5.80	---	---	---	---	---	0,20			
BUS-0116	LLLE	10,50	24,12	4,36	10,23	6,81	250,	162,	11,12	0,16	Pos:	0,40	0,16
Bus Voltag13,800	LE	6.58	15.21	2.87	---	---	---	---	---	0,16	Neg:	0,40	0,16
PreFault Vpu:1,	LL	9.09	20.82	3.73	---	---	---	---	---	0,16	Zero:	1,	0,15
C Fac 1,00	LLE	9.43	21.63	3.91	---	---	---	---	---	0,16			
BUS-0126	LLLE	10,25	20,12	1,27	10,00	7,87	73,827	56,686	10,09	0,33	Pos:	1,35	0,33
Bus Voltag 4,160	LE	10.75	20.80	1.13	---	---	---	---	---	0,34	Neg:	1,35	0,33
PreFault Vpu:1,	LL	8.87	17.35	1.03	---	---	---	---	---	0,33	Zero:	1,	0,38
C Fac 1,00	LLE	10.64	20.68	1.17	---	---	---	---	---	0,34			
BUS-0128	LLLE	11,86	28,33	6,36	11,54	8,83	85,437	63,615	13,18	0,13	Pos:	1,17	0,13
Bus Voltag 4,160	LE	12.60	30.12	6.87	---	---	---	---	---	0,13	Neg:	1,17	0,13
PreFault Vpu:1,	LL	10.27	24.46	5.47	---	---	---	---	---	0,13	Zero:	0,	0,12
C Fac 1,00	LLE	12.31	29.38	6.64	---	---	---	---	---	0,13			

										Fault Data Based on F		Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0129	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0130	LLLE	11,82	28,15	6,23	11,50	8,77	85,178	63,216	13,08	0,13	Pos:	1,17	0,13
Bus Voltag 4,160	LE	12.53	29.78	6.58	---	---	---	---	---	0,13	Neg:	1,17	0,13
PreFault Vpu:1,	LL	10.24	24.30	5.33	---	---	---	---	---	0,13	Zero:	0,	0,13
C Fac 1,00	LLE	12.23	29.05	6.40	---	---	---	---	---	0,13			
BUS-0131	LLLE	11,66	27,70	6,06	11,41	8,84	83,995	63,674	12,92	0,13	Pos:	1,19	0,13
Bus Voltag 4,160	LE	12.44	29.42	6.32	---	---	---	---	---	0,14	Neg:	1,19	0,13
PreFault Vpu:1,	LL	10.10	23.91	5.18	---	---	---	---	---	0,13	Zero:	0,	0,14
C Fac 1,00	LLE	12.12	28.67	6.18	---	---	---	---	---	0,14			
BUS-0135	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0136	LLLE	11,70	27,88	6,19	11,45	8,89	84,273	64,081	13,02	0,13	Pos:	1,19	0,13
Bus Voltag 4,160	LE	12.51	29.77	6.61	---	---	---	---	---	0,13	Neg:	1,19	0,13
PreFault Vpu:1,	LL	10.13	24.08	5.32	---	---	---	---	---	0,13	Zero:	0,	0,13
C Fac 1,00	LLE	12.17	28.94	6.42	---	---	---	---	---	0,13			

								Fault Data Based on F		Sequence Data			
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0144	LLLE	7,03	11,51	0,07	6,99	5,99	50,663	43,192	6,99	0,66	Pos:	1,97	0,66
Bus Voltag 4,160	LE	7.62	12.68	0.11	---	---	---	---	---	0,61	Neg:	1,97	0,66
PreFault Vpu:1,	LL	6.09	9.94	0.06	---	---	---	---	---	0,66	Zero:	1,	0,49
C Fac 1,00	LLE	7.64	12.61	0.09	---	---	---	---	---	0,63			
BUS-0154	LLLE	5,55	8,47	0,01	5,53	4,93	39,955	35,549	5,53	0,95	Pos:	2,50	0,95
Bus Voltag 4,160	LE	5.93	9.08	0.01	---	---	---	---	---	0,92	Neg:	2,50	0,95
PreFault Vpu:1,	LL	4.80	7.31	0.01	---	---	---	---	---	0,95	Zero:	2,	0,84
C Fac 1,00	LLE	5.86	8.95	0.01	---	---	---	---	---	0,93			
BUS-0155	LLLE	4,98	7,48	0,00	4,97	4,50	35,874	32,430	4,97	1,07	Pos:	2,79	1,07
Bus Voltag 4,160	LE	5.29	7.95	0.00	---	---	---	---	---	1,05	Neg:	2,79	1,07
PreFault Vpu:1,	LL	4.31	6.46	0.00	---	---	---	---	---	1,07	Zero:	2,	0,99
C Fac 1,00	LLE	5.21	7.81	0.00	---	---	---	---	---	1,06			
BUS-0156	LLLE	5,85	11,10	0,49	5,86	5,77	4,868	4,799	5,88	0,38	Pos:	20,54	0,38
Bus Voltag 480	LE	6.17	11.98	0.67	---	---	---	---	---	0,34	Neg:	20,54	0,38
PreFault Vpu:1,	LL	5.07	9.59	0.42	---	---	---	---	---	0,38	Zero:	17,	0,26
C Fac 1,00	LLE	6.21	11.92	0.60	---	---	---	---	---	0,36			
BUS-0157	LLLE	13,03	27,58	2,96	13,04	12,57	10,835	10,449	13,38	0,24	Pos:	9,23	0,24
Bus Voltag 480	LE	13.94	29.67	3.36	---	---	---	---	---	0,23	Neg:	9,23	0,24
PreFault Vpu:1,	LL	11.29	23.82	2.55	---	---	---	---	---	0,24	Zero:	7,	0,21
C Fac 1,00	LLE	13.66	28.97	3.21	---	---	---	---	---	0,24			

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
											Fault Data Based on F	Sequence Data
BUS-0158	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0159	LLLE	3,37	6,54	0,35	3,38	3,35	2,805	2,784	3,40	0,35	Pos: 35,66	0,35
Bus Voltag 480	LE	3.46	6.77	0.41	---	---	---	---	---	0,33	Neg: 35,66	0,35
PreFault Vpu:1,	LL	2.92	5.65	0.30	---	---	---	---	---	0,35	Zero: 33,	0,29
C Fac 1,00	LLE	3.46	6.74	0.39	---	---	---	---	---	0,34		
BUS-0160	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0161	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0162	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
											Fault Data Based on F	Sequence Data
BUS-0172	LLLE	18,58	35,90	2,50	17,96	15,87	15,443	13,196	18,13	0,36	Pos: 6,48	0,36
Bus Voltag 480	LE	19.08	35.68	1.40	---	---	---	---	---	0,39	Neg: 6,48	0,36
PreFault Vpu:1,	LL	16.09	30.73	1.48	---	---	---	---	---	0,36	Zero: 5,	0,46
C Fac 1,00	LLE	19.28	36.41	1.58	---	---	---	---	---	0,38		
BUS-0173	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0174	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0175	LLLE	19,50	37,00	2,18	18,64	16,24	16,210	13,498	18,77	0,39	Pos: 6,17	0,39
Bus Voltag 480	LE	19.77	36.57	1.29	---	---	---	---	---	0,41	Neg: 6,17	0,39
PreFault Vpu:1,	LL	16.88	31.73	1.31	---	---	---	---	---	0,39	Zero: 5,	0,46
C Fac 1,00	LLE	19.97	37.23	1.42	---	---	---	---	---	0,40		
BUS-0176	LLLE	19,50	37,00	2,18	18,64	16,24	16,210	13,498	18,77	0,39	Pos: 6,17	0,39
Bus Voltag 480	LE	19.77	36.57	1.29	---	---	---	---	---	0,41	Neg: 6,17	0,39
PreFault Vpu:1,	LL	16.88	31.73	1.31	---	---	---	---	---	0,39	Zero: 5,	0,46
C Fac 1,00	LLE	19.97	37.23	1.42	---	---	---	---	---	0,40		

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
BUS-0177	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0200	LLLE	13,70	34,22	9,65	13,28	9,49	327,	226,	16,41	0,09	Pos: 0,31	0,09
Bus Voltag13,800	LE	20.55	51.13	14.32	---	---	---	---	---	0,09	Neg: 0,31	0,09
PreFault Vpu:1,	LL	11.87	29.52	8.27	---	---	---	---	---	0,09	Zero: 0,	0,00
C Fac 1,00	LLE	23.73	59.04	16.53	---	---	---	---	---	0,09		
BUS-0205	LLLE	14,37	36,84	11,74	14,42	14,29	103,	102,	18,59	0,07	Pos: 0,97	0,07
Bus Voltag 4,160	LE	14.67	37.63	12.21	---	---	---	---	---	0,07	Neg: 0,97	0,07
PreFault Vpu:1,	LL	12.44	31.76	10.07	---	---	---	---	---	0,07	Zero: 0,	0,06
C Fac 1,00	LLE	14.57	37.29	11.97	---	---	---	---	---	0,07		
BUS-0206	LLLE	15,08	38,55	12,16	14,99	14,29	108,	102,	19,30	0,08	Pos: 0,92	0,08
Bus Voltag 4,160	LE	15.15	38.81	12.50	---	---	---	---	---	0,07	Neg: 0,92	0,08
PreFault Vpu:1,	LL	13.06	33.24	10.41	---	---	---	---	---	0,08	Zero: 0,	0,06
C Fac 1,00	LLE	15.17	38.75	12.31	---	---	---	---	---	0,07		
BUS-0207	LLLE	11,91	25,83	3,25	11,94	11,89	9,903	9,886	12,38	0,22	Pos: 10,10	0,22
Bus Voltag 480	LE	12.59	28.13	4.37	---	---	---	---	---	0,19	Neg: 10,10	0,22
PreFault Vpu:1,	LL	10.32	22.28	2.79	---	---	---	---	---	0,22	Zero: 8,	0,11
C Fac 1,00	LLE	12.65	27.87	3.95	---	---	---	---	---	0,20		

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
BUS-0210	LLLE	12,08	24,52	1,92	12,12	12,06	10,044	10,027	12,27	0,29	Pos: 9,96	0,29
Bus Voltag 480	LE	12.71	26.23	2.39	---	---	---	---	---	0,27	Neg: 9,96	0,29
PreFault Vpu:1,	LL	10.46	21.15	1.65	---	---	---	---	---	0,29	Zero: 8,	0,21
C Fac 1,00	LLE	12.68	25.94	2.21	---	---	---	---	---	0,28		
BUS-0211	LLLE	12,08	24,27	1,92	11,99	11,34	87,074	81,707	12,14	0,31	Pos: 1,15	0,31
Bus Voltag 4,160	LE	11.37	20.37	0.50	---	---	---	---	---	0,46	Neg: 1,15	0,31
PreFault Vpu:1,	LL	10.47	20.87	1.46	---	---	---	---	---	0,31	Zero: 1,	0,76
C Fac 1,00	LLE	12.84	24.39	1.12	---	---	---	---	---	0,37		
BUS-0248	LLLE	8,88	15,71	0,32	8,75	7,13	63,979	51,350	8,75	0,49	Pos: 1,56	0,49
Bus Voltag 4,160	LE	9.27	16.23	0.30	---	---	---	---	---	0,50	Neg: 1,56	0,49
PreFault Vpu:1,	LL	7.69	13.57	0.28	---	---	---	---	---	0,49	Zero: 1,	0,54
C Fac 1,00	LLE	9.20	16.16	0.31	---	---	---	---	---	0,49		
BUS-0250	LLLE	9,26	16,14	0,28	9,11	7,37	66,687	53,130	9,11	0,51	Pos: 1,50	0,51
Bus Voltag 4,160	LE	9.88	17.43	0.36	---	---	---	---	---	0,49	Neg: 1,50	0,51
PreFault Vpu:1,	LL	8.02	13.94	0.24	---	---	---	---	---	0,51	Zero: 1,	0,42
C Fac 1,00	LLE	9.80	17.20	0.33	---	---	---	---	---	0,50		
BUS-0251	LLLE	3,88	5,77	0,00	3,88	3,58	27,961	25,787	3,88	1,17	Pos: 3,58	1,17
Bus Voltag 4,160	LE	3.94	5.83	0.00	---	---	---	---	---	1,20	Neg: 3,58	1,17
PreFault Vpu:1,	LL	3.36	4.99	0.00	---	---	---	---	---	1,17	Zero: 3,	1,26
C Fac 1,00	LLE	3.95	5.86	0.00	---	---	---	---	---	1,19		

										Fault Data Based on F		Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X		Equiv. Impedance Z		R/X
BUS-0252	LLLE	3,73	5,52	0,00	3,72	3,45	26,846	24,870	3,72	1,22		Pos:	3,72	1,22
Bus Voltag 4,160	LE	3.78	5.58	0.00	---	---	---	---	---	1,25		Neg:	3,72	1,22
PreFault Vpu:1,	LL	3.23	4.77	0.00	---	---	---	---	---	1,22		Zero:	3,	1,31
C Fac 1,00	LLE	3.79	5.60	0.00	---	---	---	---	---	1,23				
BUS-0253	LLLE	4,05	6,04	0,00	4,04	3,71	29,162	26,763	4,04	1,12		Pos:	3,43	1,12
Bus Voltag 4,160	LE	4.11	6.11	0.00	---	---	---	---	---	1,15		Neg:	3,43	1,12
PreFault Vpu:1,	LL	3.50	5.22	0.00	---	---	---	---	---	1,12		Zero:	3,	1,21
C Fac 1,00	LLE	4.13	6.14	0.00	---	---	---	---	---	1,14				
BUS-0254	LLLE	4,19	6,27	0,00	4,18	3,83	30,161	27,571	4,18	1,09		Pos:	3,32	1,09
Bus Voltag 4,160	LE	4.26	6.35	0.00	---	---	---	---	---	1,12		Neg:	3,32	1,09
PreFault Vpu:1,	LL	3.63	5.42	0.00	---	---	---	---	---	1,09		Zero:	3,	1,18
C Fac 1,00	LLE	4.27	6.37	0.00	---	---	---	---	---	1,11				
BUS-0259	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00		Pos:	0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00		Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00		Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00				
BUS-0260	LLLE	22,98	56,00	13,98	22,35	19,71	19,105	16,386	26,36	0,11		Pos:	5,23	0,11
Bus Voltag 480	LE	24.32	59.23	14.88	---	---	---	---	---	0,11		Neg:	5,23	0,11
PreFault Vpu:1,	LL	19.90	48.35	11.99	---	---	---	---	---	0,11		Zero:	4,	0,11
C Fac 1,00	LLE	23.77	57.83	14.45	---	---	---	---	---	0,11				

										Fault Data Based on F	Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0269	LLLE	12,42	30,83	8,46	12,09	9,22	89,495	66,450	14,76	0,10	Pos:	1,12	0,10
Bus Voltag 4,160	LE	13.30	33.36	9.71	---	---	---	---	---	0,09	Neg:	1,12	0,10
PreFault Vpu:1,	LL	10.76	26.62	7.25	---	---	---	---	---	0,10	Zero:	0,	0,06
C Fac 1,00	LLE	13.05	32.56	9.23	---	---	---	---	---	0,09			
BUS-0270	LLLE	12,36	30,73	8,48	12,12	9,38	89,092	67,550	14,79	0,10	Pos:	1,12	0,10
Bus Voltag 4,160	LE	13.36	33.53	9.79	---	---	---	---	---	0,09	Neg:	1,12	0,10
PreFault Vpu:1,	LL	10.71	26.54	7.28	---	---	---	---	---	0,10	Zero:	0,	0,06
C Fac 1,00	LLE	13.07	32.63	9.30	---	---	---	---	---	0,09			
BUS-0274	LLLE	10,50	24,12	4,36	10,23	6,81	250,	162,	11,12	0,16	Pos:	0,40	0,16
Bus Voltag13,800	LE	6.58	15.21	2.87	---	---	---	---	---	0,16	Neg:	0,40	0,16
PreFault Vpu:1,	LL	9.09	20.82	3.73	---	---	---	---	---	0,16	Zero:	1,	0,15
C Fac 1,00	LLE	9.43	21.63	3.91	---	---	---	---	---	0,16			
BUS-0286	LLLE	12,61	27,59	3,70	12,64	12,48	10,481	10,372	13,17	0,21	Pos:	9,54	0,21
Bus Voltag 480	LE	12.75	27.77	3.67	---	---	---	---	---	0,21	Neg:	9,54	0,21
PreFault Vpu:1,	LL	10.92	23.81	3.17	---	---	---	---	---	0,21	Zero:	9,	0,21
C Fac 1,00	LLE	12.69	27.65	3.67	---	---	---	---	---	0,21			
BUS-0287	LLLE	13,37	32,24	7,58	12,97	9,31	319,	222,	15,03	0,12	Pos:	0,31	0,12
Bus Voltag13,800	LE	19.85	47.35	10.68	---	---	---	---	---	0,13	Neg:	0,31	0,12
PreFault Vpu:1,	LL	11.58	27.82	6.50	---	---	---	---	---	0,12	Zero:	0,	0,70
C Fac 1,00	LLE	22.67	53.75	11.73	---	---	---	---	---	0,13			

Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
					Fault Data Based on F						Sequence Data	
BUS-0288	LLLE	11,94	29,90	8,54	11,71	9,53	285,	227,	14,49	0,09	Pos: 0,35	0,09
Bus Voltag13,800	LE	11.75	29.69	8.98	---	---	---	---	---	0,08	Neg: 0,35	0,09
PreFault Vpu:1,	LL	10.34	25.79	7.31	---	---	---	---	---	0,09	Zero: 0,	0,06
C Fac 1,00	LLE	11.95	29.99	8.77	---	---	---	---	---	0,09		
BUS-0290	LLLE	12,62	30,17	6,75	12,66	12,60	10,494	10,473	14,34	0,13	Pos: 9,53	0,13
Bus Voltag 480	LE	13.09	31.41	7.29	---	---	---	---	---	0,12	Neg: 9,53	0,13
PreFault Vpu:1,	LL	10.93	26.02	5.79	---	---	---	---	---	0,13	Zero: 8,	0,11
C Fac 1,00	LLE	12.95	30.96	7.05	---	---	---	---	---	0,13		
BUS-0304	LLLE	19,89	48,18	11,73	18,97	9,48	143,	68,302	22,30	0,12	Pos: 0,70	0,12
Bus Voltag 4,160	LE	18.52	45.92	12.65	---	---	---	---	---	0,10	Neg: 0,70	0,12
PreFault Vpu:1,	LL	17.23	41.62	10.02	---	---	---	---	---	0,12	Zero: 0,	0,06
C Fac 1,00	LLE	19.58	47.83	12.19	---	---	---	---	---	0,11		
BUS-0321	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0322	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		

								Fault Data Based on F		Sequence Data			
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0324	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0325	LLLE	8,29	14,00	0,15	8,18	6,77	59,701	48,764	8,18	0,58	Pos:	1,68	0,58
Bus Voltag 4,160	LE	8.62	14.41	0.13	---	---	---	---	---	0,60	Neg:	1,68	0,58
PreFault Vpu:1,	LL	7.18	12.09	0.13	---	---	---	---	---	0,58	Zero:	1,	0,65
C Fac 1,00	LLE	8.58	14.39	0.14	---	---	---	---	---	0,59			
BUS-0327	LLLE	8,28	16,10	0,15	8,18	6,77	59,688	48,754	8,18	0,58	Pos:	1,68	0,58
Bus Voltag 4,160	LE	8.62	16.57	0.13	---	---	---	---	---	0,60	Neg:	1,68	0,58
PreFault Vpu:1,	LL	7.17	13.91	0.13	---	---	---	---	---	0,58	Zero:	1,	0,65
C Fac 1,00	LLE	8.58	16.55	0.14	---	---	---	---	---	0,59			
BUS-0330	LLLE	13,78	34,53	10,00	13,49	9,72	329,	232,	16,79	0,09	Pos:	0,30	0,09
Bus Voltag13,800	LE	12.93	33.00	10.45	---	---	---	---	---	0,07	Neg:	0,30	0,09
PreFault Vpu:1,	LL	11.93	29.77	8.45	---	---	---	---	---	0,09	Zero:	0,	0,05
C Fac 1,00	LLE	13.57	34.19	10.17	---	---	---	---	---	0,08			
BUS-0331	LLLE	11,15	28,41	8,82	11,02	9,70	266,	231,	14,12	0,08	Pos:	0,38	0,08
Bus Voltag13,800	LE	11.27	29.01	9.56	---	---	---	---	---	0,07	Neg:	0,38	0,08
PreFault Vpu:1,	LL	9.66	24.50	7.54	---	---	---	---	---	0,08	Zero:	0,	0,05
C Fac 1,00	LLE	11.32	28.93	9.22	---	---	---	---	---	0,07			

										Fault Data Based on F		Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X		Equiv. Impedance Z	R/X
BUS-0338	LLLE	6,10	11,13	0,33	6,06	5,22	43,986	37,619	6,07	0,44		Pos: 2,27	0,44
Bus Voltag 4,160	LE	5.17	8.06	0.01	---	---	---	---	---	0,83		Neg: 2,27	0,44
PreFault Vpu:1,	LL	5.29	9.61	0.28	---	---	---	---	---	0,44		Zero: 3,	1,63
C Fac 1,00	LLE	6.55	11.22	0.15	---	---	---	---	---	0,54			
BUS-0340	LLLE	6,06	11,05	0,33	6,03	5,24	43,666	37,757	6,04	0,43		Pos: 2,29	0,43
Bus Voltag 4,160	LE	5.15	8.03	0.01	---	---	---	---	---	0,83		Neg: 2,29	0,43
PreFault Vpu:1,	LL	5.25	9.55	0.28	---	---	---	---	---	0,43		Zero: 3,	1,64
C Fac 1,00	LLE	6.51	11.16	0.15	---	---	---	---	---	0,54			
BUS-0358	LLLE	10,64	26,19	6,85	10,51	9,23	254,	220,	12,55	0,11		Pos: 0,39	0,11
Bus Voltag13,800	LE	10.81	26.94	7.61	---	---	---	---	---	0,09		Neg: 0,39	0,11
PreFault Vpu:1,	LL	9.21	22.59	5.87	---	---	---	---	---	0,11		Zero: 0,	0,06
C Fac 1,00	LLE	10.85	26.83	7.28	---	---	---	---	---	0,10			
BUS-0359	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00		Pos: 0,00	0,00
Bus Voltag13,800	LE	0.00	0.00	0.00	---	---	---	---	---	0,00		Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00		Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0360	LLLE	10,64	26,19	6,85	10,51	9,23	254,	220,	12,55	0,11		Pos: 0,39	0,11
Bus Voltag13,800	LE	10.81	26.94	7.61	---	---	---	---	---	0,09		Neg: 0,39	0,11
PreFault Vpu:1,	LL	9.21	22.59	5.87	---	---	---	---	---	0,11		Zero: 0,	0,06
C Fac 1,00	LLE	10.85	26.83	7.28	---	---	---	---	---	0,10			

												Fault Data Based on F		Sequence Data
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X	
BUS-0361	LLLE	12,97	31,18	7,22	12,72	9,24	310,	220,	14,62	0,12	Pos:	0,32	0,12	
Bus Voltag13,800	LE	12.30	30.28	8.02	---	---	---	---	---	0,10	Neg:	0,32	0,12	
PreFault Vpu:1,	LL	11.24	26.92	6.20	---	---	---	---	---	0,12	Zero:	0,	0,06	
C Fac 1,00	LLE	12.88	31.22	7.65	---	---	---	---	---	0,12				
BUS-0362	LLLE	12,97	31,18	7,22	12,72	9,24	310,	220,	14,62	0,12	Pos:	0,32	0,12	
Bus Voltag13,800	LE	12.30	30.28	8.02	---	---	---	---	---	0,10	Neg:	0,32	0,12	
PreFault Vpu:1,	LL	11.24	26.92	6.20	---	---	---	---	---	0,12	Zero:	0,	0,06	
C Fac 1,00	LLE	12.88	31.22	7.65	---	---	---	---	---	0,12				
BUS-0363	LLLE	9,73	19,73	1,62	9,51	6,47	232,	154,	9,65	0,29	Pos:	0,43	0,29	
Bus Voltag13,800	LE	6.40	13.95	1.85	---	---	---	---	---	0,21	Neg:	0,43	0,29	
PreFault Vpu:1,	LL	8.43	17.00	1.31	---	---	---	---	---	0,29	Zero:	1,	0,15	
C Fac 1,00	LLE	9.02	18.47	1.59	---	---	---	---	---	0,28				
BUS-0364	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00	
Bus Voltag13,800	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00	
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00	
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00				
BUS-0371	LLLE	35,06	82,52	17,05	33,62	29,00	29,148	24,114	37,70	0,14	Pos:	3,43	0,14	
Bus Voltag 480	LE	34.11	79.80	16.16	---	---	---	---	---	0,15	Neg:	3,43	0,14	
PreFault Vpu:1,	LL	30.36	71.22	14.64	---	---	---	---	---	0,14	Zero:	3,	0,15	
C Fac 1,00	LLE	34.67	81.23	16.58	---	---	---	---	---	0,14				

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
											Fault Data Based on F	Sequence Data
BUS-0372	LLLE	35,06	82,52	17,05	33,62	29,00	29,148	24,114	37,70	0,14	Pos: 3,43	0,14
Bus Voltag 480	LE	34.11	79.80	16.16	---	---	---	---	---	0,15	Neg: 3,43	0,14
PreFault Vpu:1,	LL	30.36	71.22	14.64	---	---	---	---	---	0,14	Zero: 3,	0,15
C Fac 1,00	LLE	34.67	81.23	16.58	---	---	---	---	---	0,14		
BUS-0373	LLLE	32,71	76,71	15,55	32,01	29,01	27,195	24,118	35,59	0,15	Pos: 3,68	0,15
Bus Voltag 480	LE	32.60	76.10	15.24	---	---	---	---	---	0,15	Neg: 3,68	0,15
PreFault Vpu:1,	LL	28.33	66.24	13.37	---	---	---	---	---	0,15	Zero: 3,	0,15
C Fac 1,00	LLE	32.69	76.38	15.36	---	---	---	---	---	0,15		
BUS-0374	LLLE	35,06	82,53	17,05	33,57	29,00	29,148	24,114	37,65	0,14	Pos: 3,43	0,14
Bus Voltag 480	LE	34.11	79.80	16.16	---	---	---	---	---	0,15	Neg: 3,43	0,14
PreFault Vpu:1,	LL	30.36	71.22	14.64	---	---	---	---	---	0,14	Zero: 3,	0,15
C Fac 1,00	LLE	34.67	81.23	16.58	---	---	---	---	---	0,14		
BUS-0375	LLLE	35,06	82,53	17,05	33,57	29,00	29,148	24,114	37,65	0,14	Pos: 3,43	0,14
Bus Voltag 480	LE	34.11	79.80	16.16	---	---	---	---	---	0,15	Neg: 3,43	0,14
PreFault Vpu:1,	LL	30.36	71.22	14.64	---	---	---	---	---	0,14	Zero: 3,	0,15
C Fac 1,00	LLE	34.67	81.23	16.58	---	---	---	---	---	0,14		
BUS-0376	LLLE	22,28	43,93	3,63	21,25	18,17	18,520	15,106	21,56	0,34	Pos: 5,40	0,34
Bus Voltag 480	LE	21.22	40.77	2.08	---	---	---	---	---	0,35	Neg: 5,40	0,34
PreFault Vpu:1,	LL	19.29	37.53	2.14	---	---	---	---	---	0,34	Zero: 6,	0,38
C Fac 1,00	LLE	22.03	42.63	2.31	---	---	---	---	---	0,35		

Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
BUS-0377	LLLE	22,28	43,93	3,63	21,25	18,17	18,520	15,106	21,56	0,34	Pos: 5,40	0,34
Bus Voltag 480	LE	21.22	40.77	2.08	---	---	---	---	---	0,35	Neg: 5,40	0,34
PreFault Vpu:1,	LL	19.29	37.53	2.14	---	---	---	---	---	0,34	Zero: 6,	0,38
C Fac 1,00	LLE	22.03	42.63	2.31	---	---	---	---	---	0,35		
BUS-0378	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0379	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0380	LLLE	32,71	76,71	15,56	31,96	29,01	27,195	24,118	35,54	0,15	Pos: 3,68	0,15
Bus Voltag 480	LE	32.60	76.10	15.24	---	---	---	---	---	0,15	Neg: 3,68	0,15
PreFault Vpu:1,	LL	28.33	66.24	13.37	---	---	---	---	---	0,15	Zero: 3,	0,15
C Fac 1,00	LLE	32.69	76.38	15.36	---	---	---	---	---	0,15		
BUS-0381	LLLE	21,42	42,53	3,67	20,61	18,17	17,810	15,107	20,93	0,33	Pos: 5,61	0,33
Bus Voltag 480	LE	20.69	39.95	2.13	---	---	---	---	---	0,35	Neg: 5,61	0,33
PreFault Vpu:1,	LL	18.55	36.35	2.20	---	---	---	---	---	0,33	Zero: 6,	0,38
C Fac 1,00	LLE	21.37	41.58	2.37	---	---	---	---	---	0,34		

									Fault Data Based on F		Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0382	LLLE	32,71	76,71	15,55	32,01	29,01	27,195	24,118	35,59	0,15	Pos:	3,68	0,15
Bus Voltag 480	LE	32.60	76.10	15.24	---	---	---	---	---	0,15	Neg:	3,68	0,15
PreFault Vpu:1,	LL	28.33	66.24	13.37	---	---	---	---	---	0,15	Zero:	3,	0,15
C Fac 1,00	LLE	32.69	76.38	15.36	---	---	---	---	---	0,15			
BUS-0390	LLLE	4,96	8,56	0,12	4,96	4,68	118,	111,	4,97	0,54	Pos:	0,84	0,54
Bus Voltag13,800	LE	3.73	6.85	0.22	---	---	---	---	---	0,42	Neg:	0,84	0,54
PreFault Vpu:1,	LL	4.30	7.37	0.10	---	---	---	---	---	0,54	Zero:	1,	0,31
C Fac 1,00	LLE	4.76	8.30	0.15	---	---	---	---	---	0,51			
BUS-0392	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag13,800	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0394	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag13,800	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0399	LLLE	5,02	8,69	0,13	5,03	4,74	120,	113,	5,03	0,54	Pos:	0,83	0,54
Bus Voltag13,800	LE	3.77	6.93	0.23	---	---	---	---	---	0,42	Neg:	0,83	0,54
PreFault Vpu:1,	LL	4.35	7.48	0.11	---	---	---	---	---	0,54	Zero:	1,	0,31
C Fac 1,00	LLE	4.82	8.43	0.15	---	---	---	---	---	0,50			

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
											Fault Data Based on F	Sequence Data
BUS-0400	LLLE	5,01	8,64	0,13	5,01	4,72	119,	112,	5,01	0,54	Pos: 0,84	0,54
Bus Voltag13,800	LE	3.76	6.90	0.23	---	---	---	---	---	0,42	Neg: 0,84	0,54
PreFault Vpu:1,	LL	4.33	7.44	0.10	---	---	---	---	---	0,54	Zero: 1,	0,31
C Fac 1,00	LLE	4.80	8.38	0.15	---	---	---	---	---	0,51		
BUS-0401	LLLE	5,00	8,64	0,13	5,01	4,72	119,	112,	5,01	0,54	Pos: 0,84	0,54
Bus Voltag13,800	LE	3.76	6.90	0.23	---	---	---	---	---	0,42	Neg: 0,84	0,54
PreFault Vpu:1,	LL	4.33	7.44	0.10	---	---	---	---	---	0,54	Zero: 1,	0,31
C Fac 1,00	LLE	4.80	8.38	0.15	---	---	---	---	---	0,51		
BUS-0403	LLLE	5,02	8,69	0,13	5,03	4,74	120,	113,	5,03	0,54	Pos: 0,83	0,54
Bus Voltag13,800	LE	3.77	6.93	0.23	---	---	---	---	---	0,42	Neg: 0,83	0,54
PreFault Vpu:1,	LL	4.35	7.48	0.11	---	---	---	---	---	0,54	Zero: 1,	0,31
C Fac 1,00	LLE	4.82	8.43	0.15	---	---	---	---	---	0,50		
BUS-0405	LLLE	5,02	8,69	0,13	5,03	4,73	120,	113,	5,03	0,54	Pos: 0,83	0,54
Bus Voltag13,800	LE	3.77	6.93	0.23	---	---	---	---	---	0,42	Neg: 0,83	0,54
PreFault Vpu:1,	LL	4.35	7.48	0.11	---	---	---	---	---	0,54	Zero: 1,	0,31
C Fac 1,00	LLE	4.82	8.42	0.15	---	---	---	---	---	0,50		
BUS-0406	LLLE	5,02	8,69	0,13	5,03	4,73	120,	113,	5,03	0,54	Pos: 0,83	0,54
Bus Voltag13,800	LE	3.77	6.93	0.23	---	---	---	---	---	0,42	Neg: 0,83	0,54
PreFault Vpu:1,	LL	4.35	7.48	0.11	---	---	---	---	---	0,54	Zero: 1,	0,31
C Fac 1,00	LLE	4.82	8.42	0.15	---	---	---	---	---	0,50		

Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
											Fault Data Based on F	Sequence Data
BUS-0417	LLLE	6,64	14,53	1,95	6,62	6,11	158,	145,	6,90	0,21	Pos: 0,63	0,21
Bus Voltag13,800	LE	4.70	10.55	1.69	---	---	---	---	---	0,18	Neg: 0,63	0,21
PreFault Vpu:1,	LL	5.75	12.54	1.67	---	---	---	---	---	0,21	Zero: 1,	0,16
C Fac 1,00	LLE	6.10	13.40	1.86	---	---	---	---	---	0,20		
BUS-0422	LLLE	17,90	36,10	2,90	17,02	8,32	129,	59,961	17,27	0,30	Pos: 0,78	0,30
Bus Voltag 4,160	LE	15.66	30.43	1.72	---	---	---	---	---	0,34	Neg: 0,78	0,30
PreFault Vpu:1,	LL	15.51	31.14	2.31	---	---	---	---	---	0,30	Zero: 1,	0,40
C Fac 1,00	LLE	17.40	34.53	2.32	---	---	---	---	---	0,31		
BUS-0428	LLLE	4,50	6,71	0,00	4,49	4,10	32,447	29,507	4,49	1,15	Pos: 3,08	1,15
Bus Voltag 4,160	LE	4.58	6.80	0.00	---	---	---	---	---	1,18	Neg: 3,08	1,15
PreFault Vpu:1,	LL	3.90	5.80	0.00	---	---	---	---	---	1,15	Zero: 2,	1,25
C Fac 1,00	LLE	4.60	6.83	0.00	---	---	---	---	---	1,16		
BUS-0430	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
BUS-0431	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		

											Fault Data Based on F		Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X	
BUS-0433	LLLE	3,75	5,54	0,00	3,75	3,49	27,031	25,174	3,75	1,26	Pos:	3,70	1,26	
Bus Voltag 4,160	LE	3.81	5.60	0.00	---	---	---	---	---	1,29	Neg:	3,70	1,26	
PreFault Vpu:1,	LL	3.25	4.79	0.00	---	---	---	---	---	1,26	Zero:	3,	1,38	
C Fac 1,00	LLE	3.83	5.64	0.00	---	---	---	---	---	1,28				
BUS-0434	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00	
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00	
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00	
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00				
BUS-0435	LLLE	7,63	14,50	0,65	7,56	6,36	54,966	45,797	7,59	0,37	Pos:	1,82	0,37	
Bus Voltag 4,160	LE	7.96	14.97	0.62	---	---	---	---	---	0,38	Neg:	1,82	0,37	
PreFault Vpu:1,	LL	6.61	12.52	0.56	---	---	---	---	---	0,37	Zero:	1,	0,41	
C Fac 1,00	LLE	7.88	14.86	0.64	---	---	---	---	---	0,38				
BUS-0436	LLLE	6,31	11,10	0,21	6,28	5,44	45,493	39,180	6,28	0,50	Pos:	2,20	0,50	
Bus Voltag 4,160	LE	6.53	11.37	0.19	---	---	---	---	---	0,51	Neg:	2,20	0,50	
PreFault Vpu:1,	LL	5.47	9.59	0.18	---	---	---	---	---	0,50	Zero:	1,	0,54	
C Fac 1,00	LLE	6.50	11.34	0.20	---	---	---	---	---	0,51				
BUS-0437	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00	
Bus Voltag 4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00	
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00	
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00				

											Fault Data Based on F	Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0452	LLLE	12,10	29,66	7,62	11,77	8,97	87,183	64,621	14,02	0,11	Pos:	1,15	0,11
Bus Voltag 4,160	LE	12.87	31.65	8.34	---	---	---	---	---	0,10	Neg:	1,15	0,11
PreFault Vpu:1,	LL	10.48	25.61	6.55	---	---	---	---	---	0,11	Zero:	0,	0,09
C Fac 1,00	LLE	12.59	30.88	8.04	---	---	---	---	---	0,11			
BUS-0453	LLLE	11,93	29,15	7,37	11,68	9,04	85,944	65,105	13,81	0,11	Pos:	1,16	0,11
Bus Voltag 4,160	LE	12.78	31.24	8.00	---	---	---	---	---	0,11	Neg:	1,16	0,11
PreFault Vpu:1,	LL	10.33	25.17	6.34	---	---	---	---	---	0,11	Zero:	0,	0,10
C Fac 1,00	LLE	12.44	30.38	7.73	---	---	---	---	---	0,11			
BUS-0454	LLLE	2,92	4,29	0,00	2,92	2,75	21,007	19,840	2,92	1,32	Pos:	4,76	1,32
Bus Voltag 4,160	LE	2.95	4.32	0.00	---	---	---	---	---	1,34	Neg:	4,76	1,32
PreFault Vpu:1,	LL	2.52	3.71	0.00	---	---	---	---	---	1,32	Zero:	4,	1,40
C Fac 1,00	LLE	2.96	4.34	0.00	---	---	---	---	---	1,33			
BUS-0457	LLLE	2,91	4,28	0,00	2,91	2,76	20,948	19,857	2,91	1,31	Pos:	4,77	1,31
Bus Voltag 4,160	LE	2.94	4.32	0.00	---	---	---	---	---	1,34	Neg:	4,77	1,31
PreFault Vpu:1,	LL	2.52	3.70	0.00	---	---	---	---	---	1,31	Zero:	4,	1,41
C Fac 1,00	LLE	2.95	4.34	0.00	---	---	---	---	---	1,33			
BUS-0458	LLLE	10,18	15,83	0,52	9,79	8,79	8,459	7,308	9,81	0,99	Pos:	11,82	0,99
Bus Voltag 480	LE	10.07	15.19	0.01	---	---	---	---	---	1,02	Neg:	11,82	0,99
PreFault Vpu:1,	LL	8.81	13.34	0.01	---	---	---	---	---	0,99	Zero:	12,	1,09
C Fac 1,00	LLE	10.27	15.51	0.01	---	---	---	---	---	1,00			

											Fault Data Based on F		Sequence Data	
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X		Equiv. Impedance Z	R/X
BUS-0459		LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag	480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,		LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac	1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
BUS-0460		LLLE	13,61	24,02	1,23	12,84	10,95	11,316	9,100	12,90	0,53	Pos:	8,84	0,53
Bus Voltag	480	LE	13.38	22.88	0.30	---	---	---	---	---	0,55	Neg:	8,84	0,53
PreFault Vpu:1,		LL	11.79	20.35	0.31	---	---	---	---	---	0,53	Zero:	9,	0,59
C Fac	1,00	LLE	13.67	23.49	0.33	---	---	---	---	---	0,54			
BUS-0461		LLLE	13,61	24,00	1,23	12,84	10,95	11,313	9,100	12,89	0,53	Pos:	8,84	0,53
Bus Voltag	480	LE	13.38	22.87	0.30	---	---	---	---	---	0,55	Neg:	8,84	0,53
PreFault Vpu:1,		LL	11.78	20.34	0.31	---	---	---	---	---	0,53	Zero:	9,	0,59
C Fac	1,00	LLE	13.66	23.47	0.33	---	---	---	---	---	0,54			
BUS-0462		LLLE	24,48	59,64	14,89	23,46	20,28	20,352	16,860	27,78	0,11	Pos:	4,91	0,11
Bus Voltag	480	LE	25.38	61.86	15.59	---	---	---	---	---	0,11	Neg:	4,91	0,11
PreFault Vpu:1,		LL	21.20	51.52	12.79	---	---	---	---	---	0,11	Zero:	4,	0,11
C Fac	1,00	LLE	25.02	60.89	15.24	---	---	---	---	---	0,11			
BUS-0470		LLLE	6,61	10,56	0,04	6,58	5,70	47,632	41,104	6,58	0,74	Pos:	2,10	0,74
Bus Voltag	4,160	LE	7.14	11.54	0.05	---	---	---	---	---	0,69	Neg:	2,10	0,74
PreFault Vpu:1,		LL	5.73	9.12	0.03	---	---	---	---	---	0,74	Zero:	1,	0,58
C Fac	1,00	LLE	7.12	11.44	0.05	---	---	---	---	---	0,71			

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
BUS-0471	LLLE	10,98	27,56	7,92	10,86	9,57	262,	228,	13,44	0,09	Pos: 0,38	0,09
Bus Voltag13,800	LE	11.03	27.87	8.42	---	---	---	---	---	0,08	Neg: 0,38	0,09
PreFault Vpu:1,	LL	9.51	23.76	6.79	---	---	---	---	---	0,09	Zero: 0,	0,06
C Fac 1,00	LLE	11.09	27.87	8.19	---	---	---	---	---	0,09		
BUS-0473	LLLE	11,05	31,35	8,47	10,93	9,62	264,	229,	13,83	0,08	Pos: 0,38	0,08
Bus Voltag13,800	LE	11.13	31.48	9.13	---	---	---	---	---	0,07	Neg: 0,38	0,08
PreFault Vpu:1,	LL	9.57	27.07	7.26	---	---	---	---	---	0,08	Zero: 0,	0,05
C Fac 1,00	LLE	11.19	31.65	8.84	---	---	---	---	---	0,08		
BUS-0474	LLLE	11,05	31,35	8,47	10,93	9,62	264,	229,	13,83	0,08	Pos: 0,38	0,08
Bus Voltag13,800	LE	11.13	31.48	9.13	---	---	---	---	---	0,07	Neg: 0,38	0,08
PreFault Vpu:1,	LL	9.57	27.07	7.26	---	---	---	---	---	0,08	Zero: 0,	0,05
C Fac 1,00	LLE	11.19	31.65	8.84	---	---	---	---	---	0,08		
BUS-0475	LLLE	11,13	28,33	8,73	11,00	9,68	266,	231,	14,04	0,08	Pos: 0,38	0,08
Bus Voltag13,800	LE	11.25	28.92	9.48	---	---	---	---	---	0,07	Neg: 0,38	0,08
PreFault Vpu:1,	LL	9.64	24.43	7.48	---	---	---	---	---	0,08	Zero: 0,	0,05
C Fac 1,00	LLE	11.30	28.85	9.15	---	---	---	---	---	0,07		
BUS-0476	LLLE	6,64	14,54	1,95	6,62	6,11	158,	145,	6,90	0,21	Pos: 0,63	0,21
Bus Voltag13,800	LE	4.70	10.55	1.69	---	---	---	---	---	0,18	Neg: 0,63	0,21
PreFault Vpu:1,	LL	5.75	12.54	1.67	---	---	---	---	---	0,21	Zero: 1,	0,16
C Fac 1,00	LLE	6.10	13.40	1.86	---	---	---	---	---	0,20		

									Fault Data Based on F		Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0477	LLLE	13,68	34,11	9,54	13,39	9,65	326,	230,	16,45	0,09	Pos:	0,31	0,09
Bus Voltag13,800	LE	12.79	32.48	10.05	---	---	---	---	---	0,08	Neg:	0,31	0,09
PreFault Vpu:1,	LL	11.85	29.45	8.20	---	---	---	---	---	0,09	Zero:	0,	0,05
C Fac 1,00	LLE	13.45	33.73	9.82	---	---	---	---	---	0,09			
BUS-0478	LLLE	4,71	11,22	0,90	4,71	4,44	112,	106,	4,79	0,27	Pos:	0,89	0,27
Bus Voltag13,800	LE	2.96	7.41	0.85	---	---	---	---	---	0,21	Neg:	0,89	0,27
PreFault Vpu:1,	LL	4.08	9.68	0.77	---	---	---	---	---	0,27	Zero:	2,	0,17
C Fac 1,00	LLE	4.29	10.30	0.88	---	---	---	---	---	0,26			
BUS-0479	LLLE	6,64	14,54	1,95	6,62	6,11	158,	145,	6,90	0,21	Pos:	0,63	0,21
Bus Voltag13,800	LE	4.70	10.55	1.69	---	---	---	---	---	0,18	Neg:	0,63	0,21
PreFault Vpu:1,	LL	5.75	12.54	1.67	---	---	---	---	---	0,21	Zero:	1,	0,16
C Fac 1,00	LLE	6.10	13.40	1.86	---	---	---	---	---	0,20			
BUS-0480	LLLE	6,64	14,54	1,95	6,62	6,11	158,	145,	6,90	0,21	Pos:	0,63	0,21
Bus Voltag13,800	LE	4.70	10.55	1.69	---	---	---	---	---	0,18	Neg:	0,63	0,21
PreFault Vpu:1,	LL	5.75	12.54	1.67	---	---	---	---	---	0,21	Zero:	1,	0,16
C Fac 1,00	LLE	6.10	13.40	1.86	---	---	---	---	---	0,20			
BUS-0481	LLLE	13,68	34,11	9,54	13,39	9,65	326,	230,	16,45	0,09	Pos:	0,31	0,09
Bus Voltag13,800	LE	12.79	32.48	10.05	---	---	---	---	---	0,08	Neg:	0,31	0,09
PreFault Vpu:1,	LL	11.85	29.45	8.20	---	---	---	---	---	0,09	Zero:	0,	0,05
C Fac 1,00	LLE	13.45	33.73	9.82	---	---	---	---	---	0,09			

										Fault Data Based on F	Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
BUS-0482	LLLE	13,76	34,46	9,93	13,47	9,70	328,	231,	16,74	0,09	Pos:	0,30	0,09
Bus Voltag13,800	LE	12.91	32.91	10.37	---	---	---	---	---	0,07	Neg:	0,30	0,09
PreFault Vpu:1,	LL	11.92	29.71	8.40	---	---	---	---	---	0,09	Zero:	0,	0,05
C Fac 1,00	LLE	13.55	34.11	10.11	---	---	---	---	---	0,08			
BUS-0483	LLLE	10,49	24,09	4,33	10,22	6,84	250,	163,	11,10	0,16	Pos:	0,40	0,16
Bus Voltag13,800	LE	6.59	15.25	2.91	---	---	---	---	---	0,15	Neg:	0,40	0,16
PreFault Vpu:1,	LL	9.09	20.80	3.72	---	---	---	---	---	0,16	Zero:	1,	0,15
C Fac 1,00	LLE	9.43	21.63	3.92	---	---	---	---	---	0,16			
BUS-0484	LLLE	10,49	24,09	4,33	10,22	6,84	250,	163,	11,10	0,16	Pos:	0,40	0,16
Bus Voltag13,800	LE	6.59	15.25	2.91	---	---	---	---	---	0,15	Neg:	0,40	0,16
PreFault Vpu:1,	LL	9.09	20.80	3.72	---	---	---	---	---	0,16	Zero:	1,	0,15
C Fac 1,00	LLE	9.43	21.63	3.92	---	---	---	---	---	0,16			
BUS-0485	LLLE	10,55	24,32	4,58	10,27	6,84	252,	163,	11,25	0,16	Pos:	0,40	0,16
Bus Voltag13,800	LE	6.61	15.30	2.93	---	---	---	---	---	0,15	Neg:	0,40	0,16
PreFault Vpu:1,	LL	9.13	20.95	3.80	---	---	---	---	---	0,16	Zero:	1,	0,15
C Fac 1,00	LLE	9.47	21.77	3.99	---	---	---	---	---	0,16			
BUS-0486	LLLE	4,71	11,22	0,90	4,71	4,44	112,	106,	4,79	0,27	Pos:	0,89	0,27
Bus Voltag13,800	LE	2.96	7.41	0.85	---	---	---	---	---	0,21	Neg:	0,89	0,27
PreFault Vpu:1,	LL	4.08	9.68	0.77	---	---	---	---	---	0,27	Zero:	2,	0,17
C Fac 1,00	LLE	4.29	10.30	0.88	---	---	---	---	---	0,26			

										Fault Data Based on F		Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X		Equiv. Impedance Z	R/X
BUS-0487	LLLE	3,18	5,17	0,03	3,19	3,07	75,976	73,389	3,19	0,69	Pos:	1,32	0,69
Bus Voltag13,800	LE	2.25	3.97	0.08	---	---	---	---	---	0,49	Neg:	1,32	0,69
PreFault Vpu:1,	LL	2.75	4.45	0.02	---	---	---	---	---	0,69	Zero:	3,	0,34
C Fac 1,00	LLE	3.07	5.05	0.04	---	---	---	---	---	0,64			
BUS-0488	LLLE	4,71	11,22	0,90	4,71	4,44	112,	106,	4,79	0,27	Pos:	0,89	0,27
Bus Voltag13,800	LE	2.96	7.41	0.85	---	---	---	---	---	0,21	Neg:	0,89	0,27
PreFault Vpu:1,	LL	4.08	9.68	0.77	---	---	---	---	---	0,27	Zero:	2,	0,17
C Fac 1,00	LLE	4.29	10.30	0.88	---	---	---	---	---	0,26			
BUS-0489	LLLE	6,63	16,69	1,94	6,62	6,10	158,	145,	6,89	0,21	Pos:	0,63	0,21
Bus Voltag13,800	LE	4.69	12.12	1.68	---	---	---	---	---	0,18	Neg:	0,63	0,21
PreFault Vpu:1,	LL	5.74	14.40	1.66	---	---	---	---	---	0,21	Zero:	1,	0,16
C Fac 1,00	LLE	6.10	15.39	1.86	---	---	---	---	---	0,20			
BUS-0490	LLLE	6,63	16,69	1,94	6,62	6,10	158,	145,	6,89	0,21	Pos:	0,63	0,21
Bus Voltag13,800	LE	4.69	12.12	1.68	---	---	---	---	---	0,18	Neg:	0,63	0,21
PreFault Vpu:1,	LL	5.74	14.40	1.66	---	---	---	---	---	0,21	Zero:	1,	0,16
C Fac 1,00	LLE	6.10	15.39	1.86	---	---	---	---	---	0,20			
BUS-0491	LLLE	6,64	14,53	1,95	6,62	6,11	158,	145,	6,90	0,21	Pos:	0,63	0,21
Bus Voltag13,800	LE	4.70	10.55	1.69	---	---	---	---	---	0,18	Neg:	0,63	0,21
PreFault Vpu:1,	LL	5.75	12.54	1.67	---	---	---	---	---	0,21	Zero:	1,	0,16
C Fac 1,00	LLE	6.10	13.40	1.86	---	---	---	---	---	0,20			

									Fault Data Based on F		Sequence Data			
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance	Z	R/X
CD-12		LLLE	16,71	27,45	0,18	16,41	14,92	13,890	12,408	16,41	0,65	Pos:	7,20	0,65
Bus Voltag	480	LE	17.21	27.97	0.15	---	---	---	---	---	0,68	Neg:	7,20	0,65
PreFault Vpu:1,		LL	14.47	23.71	0.15	---	---	---	---	---	0,65	Zero:	6,	0,73
C Fac	1,00	LLE	17.24	28.12	0.16	---	---	---	---	---	0,66			
CH-3211		LLLE	7,97	14,03	0,27	7,90	6,61	57,412	47,653	7,90	0,50	Pos:	1,74	0,50
Bus Voltag	4,160	LE	8.67	15.81	0.48	---	---	---	---	---	0,43	Neg:	1,74	0,50
PreFault Vpu:1,		LL	6.90	12.12	0.23	---	---	---	---	---	0,50	Zero:	1,	0,27
C Fac	1,00	LLE	8.81	15.84	0.40	---	---	---	---	---	0,45			
CH-3215		LLLE	10,45	19,56	0,75	10,48	10,42	75,293	75,053	10,51	0,40	Pos:	1,33	0,40
Bus Voltag	4,160	LE	10.71	20.25	0.88	---	---	---	---	---	0,38	Neg:	1,33	0,40
PreFault Vpu:1,		LL	9.05	16.87	0.64	---	---	---	---	---	0,40	Zero:	1,	0,34
C Fac	1,00	LLE	10.75	20.19	0.83	---	---	---	---	---	0,39			
PDN-001		LLLE	1,91	2,76	0,00	1,91	1,91	1,588	1,585	1,91	4,56	Pos:	62,98	4,56
Bus Voltag	480	LE	1.91	2.76	0.00	---	---	---	---	---	4,64	Neg:	62,98	4,56
PreFault Vpu:1,		LL	1.65	2.39	0.00	---	---	---	---	---	4,56	Zero:	62,	4,81
C Fac	1,00	LLE	1.92	2.77	0.00	---	---	---	---	---	4,60			
PN-3101		LLLE	15,05	31,10	2,82	15,06	14,43	12,514	11,996	15,32	0,27	Pos:	7,99	0,27
Bus Voltag	480	LE	16.53	34.74	3.60	---	---	---	---	---	0,25	Neg:	7,99	0,27
PreFault Vpu:1,		LL	13.04	26.86	2.42	---	---	---	---	---	0,27	Zero:	5,	0,19
C Fac	1,00	LLE	16.26	33.93	3.35	---	---	---	---	---	0,26			

										Fault Data Based on F	Sequence Data		
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3102		LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag	480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,		LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac	1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
PN-3102 (PIER		LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag	4,160	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,		LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac	1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
PN-3103		LLLE	3,02	5,35	0,11	3,02	3,00	2,510	2,495	3,03	0,48	Pos: 39,84	0,48
Bus Voltag	480	LE	3.09	5.50	0.12	---	---	---	---	---	0,47	Neg: 39,84	0,48
PreFault Vpu:1,		LL	2.61	4.62	0.10	---	---	---	---	---	0,48	Zero: 37,	0,45
C Fac	1,00	LLE	3.08	5.46	0.12	---	---	---	---	---	0,48		
PN-3104		LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos: 0,00	0,00
Bus Voltag	480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg: 0,00	0,00
PreFault Vpu:0,		LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero: 0,	0,00
C Fac	1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00		
PN-3106		LLLE	4,97	8,59	0,13	4,98	4,91	4,130	4,085	4,98	0,53	Pos: 24,21	0,53
Bus Voltag	480	LE	5.21	9.11	0.17	---	---	---	---	---	0,50	Neg: 24,21	0,53
PreFault Vpu:1,		LL	4.30	7.42	0.11	---	---	---	---	---	0,53	Zero: 20,	0,44
C Fac	1,00	LLE	5.20	9.05	0.15	---	---	---	---	---	0,51		

									Fault Data Based on F		Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
PN-3107	LLLE	0,00	0,00	0,00	0,00	0,00	0	0	0,00	0,00	Pos:	0,00	0,00
Bus Voltag 480	LE	0.00	0.00	0.00	---	---	---	---	---	0,00	Neg:	0,00	0,00
PreFault Vpu:0,	LL	0.00	0.00	0.00	---	---	---	---	---	0,00	Zero:	0,	0,00
C Fac 1,00	LLE	0.00	0.00	0.00	---	---	---	---	---	0,00			
PN-3203A	LLLE	12,10	29,67	7,64	11,77	8,97	87,191	64,626	14,03	0,11	Pos:	1,15	0,11
Bus Voltag 4,160	LE	12.87	31.66	8.35	---	---	---	---	---	0,10	Neg:	1,15	0,11
PreFault Vpu:1,	LL	10.48	25.61	6.55	---	---	---	---	---	0,11	Zero:	0,	0,09
C Fac 1,00	LLE	12.59	30.89	8.05	---	---	---	---	---	0,11			
PN-3203B	LLLE	11,93	29,15	7,38	11,68	9,04	85,952	65,110	13,81	0,11	Pos:	1,16	0,11
Bus Voltag 4,160	LE	12.78	31.25	8.01	---	---	---	---	---	0,11	Neg:	1,16	0,11
PreFault Vpu:1,	LL	10.33	25.17	6.34	---	---	---	---	---	0,11	Zero:	0,	0,10
C Fac 1,00	LLE	12.45	30.39	7.73	---	---	---	---	---	0,11			
PN-3204	LLLE	21,18	46,68	6,56	20,60	18,19	17,612	15,121	21,62	0,20	Pos:	5,68	0,20
Bus Voltag 480	LE	22.13	48.29	6.46	---	---	---	---	---	0,21	Neg:	5,68	0,20
PreFault Vpu:1,	LL	18.35	40.30	5.62	---	---	---	---	---	0,20	Zero:	4,	0,22
C Fac 1,00	LLE	21.82	47.76	6.51	---	---	---	---	---	0,21			
PN-3205	LLLE	21,29	48,05	7,83	20,69	18,26	17,701	15,184	22,13	0,18	Pos:	5,65	0,18
Bus Voltag 480	LE	22.25	49.77	7.77	---	---	---	---	---	0,19	Neg:	5,65	0,18
PreFault Vpu:1,	LL	18.44	41.49	6.71	---	---	---	---	---	0,18	Zero:	4,	0,20
C Fac 1,00	LLE	21.92	49.16	7.80	---	---	---	---	---	0,18			

											Fault Data Based on F	Sequence Data	
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3206A		LLLE	21,57	50,28	9,88	20,94	18,47	17,937	15,358	23,15	0,15	Pos: 5,58	0,15
Bus Voltag	480	LE	22.56	52.17	9.89	---	---	---	---	---	0,16	Neg: 5,58	0,15
PreFault Vpu:1,		LL	18.68	43.41	8.45	---	---	---	---	---	0,15	Zero: 4,	0,16
C Fac	1,00	LLE	22.19	51.42	9.86	---	---	---	---	---	0,15		
PN-3206B		LLLE	23,06	53,85	10,72	21,99	18,98	19,169	15,779	24,46	0,15	Pos: 5,22	0,15
Bus Voltag	480	LE	23.69	54.99	10.65	---	---	---	---	---	0,15	Neg: 5,22	0,15
PreFault Vpu:1,		LL	19.97	46.50	9.19	---	---	---	---	---	0,15	Zero: 4,	0,16
C Fac	1,00	LLE	23.46	54.53	10.66	---	---	---	---	---	0,15		
PN-3210		LLLE	19,88	48,13	11,67	18,68	8,73	143,	62,935	22,03	0,12	Pos: 0,70	0,12
Bus Voltag	4,160	LE	17.51	42.06	9.82	---	---	---	---	---	0,12	Neg: 0,70	0,12
PreFault Vpu:1,		LL	17.22	41.58	9.99	---	---	---	---	---	0,12	Zero: 0,	0,13
C Fac	1,00	LLE	18.97	45.71	10.87	---	---	---	---	---	0,12		
PN-3211		LLLE	3,01	4,35	0,00	3,01	2,99	2,504	2,487	3,01	3,23	Pos: 39,93	3,23
Bus Voltag	480	LE	3.02	4.35	0.00	---	---	---	---	---	3,30	Neg: 39,93	3,23
PreFault Vpu:1,		LL	2.61	3.76	0.00	---	---	---	---	---	3,23	Zero: 39,	3,44
C Fac	1,00	LLE	3.03	4.37	0.00	---	---	---	---	---	3,26		
PN-3212		LLLE	20,32	47,48	9,46	18,93	15,82	16,892	13,149	21,16	0,15	Pos: 5,92	0,15
Bus Voltag	480	LE	20.36	48.27	10.51	---	---	---	---	---	0,13	Neg: 5,92	0,15
PreFault Vpu:1,		LL	17.60	41.02	8.14	---	---	---	---	---	0,15	Zero: 5,	0,10
C Fac	1,00	LLE	20.59	48.40	10.06	---	---	---	---	---	0,14		

												Fault Data Based on F	Sequence Data
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3213		LLLE	11,41	26,49	5,10	11,41	11,02	9,483	9,166	12,50	0,15	Pos: 10,55	0,15
Bus Voltag	480	LE	11.94	28.17	5.98	---	---	---	---	---	0,14	Neg: 10,55	0,15
PreFault Vpu:1,		LL	9.88	22.88	4.38	---	---	---	---	---	0,15	Zero: 9,	0,10
C Fac	1,00	LLE	11.87	27.78	5.64	---	---	---	---	---	0,14		
PN-3214		LLLE	4,40	6,35	0,00	4,40	4,33	3,655	3,603	4,40	2,64	Pos: 27,36	2,64
Bus Voltag	480	LE	4.41	6.37	0.00	---	---	---	---	---	2,71	Neg: 27,36	2,64
PreFault Vpu:1,		LL	3.81	5.49	0.00	---	---	---	---	---	2,64	Zero: 27,	2,86
C Fac	1,00	LLE	4.44	6.40	0.00	---	---	---	---	---	2,68		
PN-3215		LLLE	2,46	3,55	0,00	2,46	2,44	2,043	2,033	2,46	3,24	Pos: 48,94	3,24
Bus Voltag	480	LE	2.51	3.62	0.00	---	---	---	---	---	3,32	Neg: 48,94	3,24
PreFault Vpu:1,		LL	2.13	3.07	0.00	---	---	---	---	---	3,24	Zero: 45,	3,51
C Fac	1,00	LLE	2.50	3.61	0.00	---	---	---	---	---	3,28		
PN-3216		LLLE	6,16	12,39	0,92	6,16	6,05	5,117	5,033	6,23	0,30	Pos: 19,54	0,30
Bus Voltag	480	LE	6.32	12.75	0.97	---	---	---	---	---	0,29	Neg: 19,54	0,30
PreFault Vpu:1,		LL	5.33	10.70	0.79	---	---	---	---	---	0,30	Zero: 18,	0,28
C Fac	1,00	LLE	6.27	12.61	0.95	---	---	---	---	---	0,30		
PN-3217		LLLE	7,20	17,12	3,75	7,21	7,06	5,988	5,868	8,12	0,13	Pos: 16,70	0,13
Bus Voltag	480	LE	7.42	17.81	4.14	---	---	---	---	---	0,12	Neg: 16,70	0,13
PreFault Vpu:1,		LL	6.24	14.78	3.22	---	---	---	---	---	0,13	Zero: 15,	0,10
C Fac	1,00	LLE	7.39	17.62	3.97	---	---	---	---	---	0,13		

									Fault Data Based on F		Sequence Data	
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3219		LLLE	1,01	1,47	0,00	1,02	1,02	844	845	1,02	8,42	Pos: 118,	8,42
Bus Voltag	480	LE	1.02	1.46	0.00	---	---	---	---	---	8,57	Neg: 118,	8,42
PreFault Vpu:1,		LL	0.88	1.27	0.00	---	---	---	---	---	8,42	Zero: 118	8,88
C Fac	1,00	LLE	1.02	1.47	0.00	---	---	---	---	---	8,50		
PN-3220		LLLE	10,85	21,89	1,65	10,86	10,54	9,021	8,759	10,99	0,30	Pos: 11,09	0,30
Bus Voltag	480	LE	11.53	23.71	2.10	---	---	---	---	---	0,27	Neg: 11,09	0,30
PreFault Vpu:1,		LL	9.40	18.91	1.42	---	---	---	---	---	0,30	Zero: 9,	0,21
C Fac	1,00	LLE	11.48	23.38	1.94	---	---	---	---	---	0,28		
PN-3221		LLLE	10,93	22,32	1,85	10,95	10,61	9,091	8,824	11,10	0,28	Pos: 11,00	0,28
Bus Voltag	480	LE	11.59	24.04	2.27	---	---	---	---	---	0,26	Neg: 11,00	0,28
PreFault Vpu:1,		LL	9.47	19.28	1.59	---	---	---	---	---	0,28	Zero: 9,	0,21
C Fac	1,00	LLE	11.51	23.68	2.11	---	---	---	---	---	0,27		
PN-3222		LLLE	10,36	20,79	1,51	10,37	10,05	8,613	8,356	10,47	0,30	Pos: 11,61	0,30
Bus Voltag	480	LE	11.27	23.73	2.50	---	---	---	---	---	0,25	Neg: 11,61	0,30
PreFault Vpu:1,		LL	8.97	17.96	1.30	---	---	---	---	---	0,30	Zero: 8,	0,10
C Fac	1,00	LLE	11.45	23.63	2.16	---	---	---	---	---	0,27		
PN-3223		LLLE	10,20	20,11	1,26	10,21	9,90	8,482	8,234	10,29	0,32	Pos: 11,79	0,32
Bus Voltag	480	LE	11.15	23.13	2.19	---	---	---	---	---	0,26	Neg: 11,79	0,32
PreFault Vpu:1,		LL	8.84	17.37	1.08	---	---	---	---	---	0,32	Zero: 8,	0,10
C Fac	1,00	LLE	11.36	23.10	1.88	---	---	---	---	---	0,28		

												Fault Data Based on F	Sequence Data
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3224		LLLE	11,93	18,55	0,03	11,81	11,06	9,921	9,195	11,81	0,85	Pos: 10,08	0,85
Bus Voltag	480	LE	13.36	20.97	0.05	---	---	---	---	---	0,80	Neg: 10,08	0,85
PreFault Vpu:1,		LL	10.33	16.03	0.02	---	---	---	---	---	0,85	Zero: 6,	0,65
C Fac	1,00	LLE	13.25	20.72	0.04	---	---	---	---	---	0,81		
PN-3228A		LLLE	11,90	29,75	8,41	11,67	9,48	284,	226,	14,38	0,09	Pos: 0,35	0,09
Bus Voltag	13,800	LE	11.70	29.50	8.81	---	---	---	---	---	0,08	Neg: 0,35	0,09
PreFault Vpu:1,		LL	10.31	25.66	7.20	---	---	---	---	---	0,09	Zero: 0,	0,06
C Fac	1,00	LLE	11.90	29.80	8.62	---	---	---	---	---	0,09		
PN-3228B		LLLE	13,67	34,08	9,53	13,24	9,45	326,	225,	16,31	0,10	Pos: 0,31	0,10
Bus Voltag	13,800	LE	20.44	50.68	13.96	---	---	---	---	---	0,10	Neg: 0,31	0,10
PreFault Vpu:1,		LL	11.84	29.40	8.17	---	---	---	---	---	0,10	Zero: 0,	0,58
C Fac	1,00	LLE	23.51	58.21	15.89	---	---	---	---	---	0,10		
PN-3232A		LLLE	14,16	35,95	10,95	14,20	14,08	102,	101,	17,93	0,08	Pos: 0,98	0,08
Bus Voltag	4,160	LE	14.45	36.70	11.36	---	---	---	---	---	0,08	Neg: 0,98	0,08
PreFault Vpu:1,		LL	12.26	31.00	9.39	---	---	---	---	---	0,08	Zero: 0,	0,07
C Fac	1,00	LLE	14.35	36.38	11.15	---	---	---	---	---	0,08		
PN-3232B		LLLE	14,87	37,67	11,37	14,78	14,08	107,	101,	18,64	0,08	Pos: 0,93	0,08
Bus Voltag	4,160	LE	14.93	37.88	11.66	---	---	---	---	---	0,08	Neg: 0,93	0,08
PreFault Vpu:1,		LL	12.87	32.48	9.74	---	---	---	---	---	0,08	Zero: 0,	0,07
C Fac	1,00	LLE	14.95	37.83	11.50	---	---	---	---	---	0,08		

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3236A	LLLE	10,33	20,72	1,50	10,35	10,25	8,586	8,519	10,46	0,30	Pos: 11,65	0,30
Bus Voltag 480	LE	10.42	20.81	1.48	---	---	---	---	---	0,31	Neg: 11,65	0,30
PreFault Vpu:1,	LL	8.94	17.89	1.28	---	---	---	---	---	0,30	Zero: 11,	0,31
C Fac 1,00	LLE	10.39	20.76	1.48	---	---	---	---	---	0,30		
PN-3236B	LLLE	11,11	22,37	1,66	10,80	10,25	9,236	8,521	10,93	0,30	Pos: 10,83	0,30
Bus Voltag 480	LE	10.94	21.89	1.58	---	---	---	---	---	0,30	Neg: 10,83	0,30
PreFault Vpu:1,	LL	9.62	19.30	1.42	---	---	---	---	---	0,30	Zero: 11,	0,31
C Fac 1,00	LLE	11.05	22.15	1.61	---	---	---	---	---	0,30		
PN-3240A	LLLE	11,13	28,34	8,75	11,01	9,68	266,	231,	14,06	0,08	Pos: 0,38	0,08
Bus Voltag13,800	LE	11.25	28.92	9.48	---	---	---	---	---	0,07	Neg: 0,38	0,08
PreFault Vpu:1,	LL	9.64	24.43	7.48	---	---	---	---	---	0,08	Zero: 0,	0,05
C Fac 1,00	LLE	11.30	28.85	9.15	---	---	---	---	---	0,07		
PN-3240B	LLLE	13,76	34,47	9,96	13,47	9,70	328,	231,	16,75	0,09	Pos: 0,30	0,09
Bus Voltag13,800	LE	12.91	32.91	10.37	---	---	---	---	---	0,07	Neg: 0,30	0,09
PreFault Vpu:1,	LL	11.92	29.71	8.40	---	---	---	---	---	0,09	Zero: 0,	0,05
C Fac 1,00	LLE	13.55	34.11	10.11	---	---	---	---	---	0,08		
PN-3242	LLLE	11,03	20,98	0,96	11,03	10,68	9,169	8,880	11,08	0,37	Pos: 10,91	0,37
Bus Voltag 480	LE	12.21	24.47	1.79	---	---	---	---	---	0,30	Neg: 10,91	0,37
PreFault Vpu:1,	LL	9.55	18.12	0.82	---	---	---	---	---	0,37	Zero: 7,	0,12
C Fac 1,00	LLE	12.48	24.52	1.52	---	---	---	---	---	0,33		

Fault Location / Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
											Fault Data Based on F	Sequence Data
PN-3243	LLLE	11,88	25,74	3,21	11,92	11,86	9,879	9,863	12,34	0,22	Pos: 10,12	0,22
Bus Voltag 480	LE	12.56	28.02	4.32	---	---	---	---	---	0,19	Neg: 10,12	0,22
PreFault Vpu:1,	LL	10.29	22.20	2.76	---	---	---	---	---	0,22	Zero: 8,	0,11
C Fac 1,00	LLE	12.62	27.76	3.90	---	---	---	---	---	0,20		
PN-3244	LLLE	14,59	30,45	2,94	14,64	14,63	12,130	12,162	14,93	0,26	Pos: 8,24	0,26
Bus Voltag 480	LE	15.41	32.25	3.25	---	---	---	---	---	0,25	Neg: 8,24	0,26
PreFault Vpu:1,	LL	12.64	26.26	2.52	---	---	---	---	---	0,26	Zero: 6,	0,23
C Fac 1,00	LLE	15.14	31.60	3.12	---	---	---	---	---	0,26		
PN-3245	LLLE	14,59	30,45	2,94	14,64	14,63	12,130	12,162	14,93	0,26	Pos: 8,24	0,26
Bus Voltag 480	LE	15.41	32.25	3.25	---	---	---	---	---	0,25	Neg: 8,24	0,26
PreFault Vpu:1,	LL	12.64	26.26	2.52	---	---	---	---	---	0,26	Zero: 6,	0,23
C Fac 1,00	LLE	15.14	31.60	3.12	---	---	---	---	---	0,26		
PN-3246	LLLE	12,05	24,43	1,90	12,08	12,03	10,019	10,002	12,23	0,29	Pos: 9,98	0,29
Bus Voltag 480	LE	12.68	26.14	2.37	---	---	---	---	---	0,27	Neg: 9,98	0,29
PreFault Vpu:1,	LL	10.44	21.08	1.63	---	---	---	---	---	0,29	Zero: 8,	0,21
C Fac 1,00	LLE	12.65	25.84	2.19	---	---	---	---	---	0,28		
PN-3248	LLLE	12,63	24,19	1,17	12,64	12,20	10,500	10,143	12,69	0,36	Pos: 9,52	0,36
Bus Voltag 480	LE	13.72	27.08	1.74	---	---	---	---	---	0,32	Neg: 9,52	0,36
PreFault Vpu:1,	LL	10.94	20.89	1.01	---	---	---	---	---	0,36	Zero: 7,	0,21
C Fac 1,00	LLE	13.76	26.83	1.55	---	---	---	---	---	0,34		

										Fault Data Based on F	Sequence Data	
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-3249		LLLE	3,98	6,71	0,62	3,63	3,26	3,311	2,711	3,68	0,83	Pos: 30,20	0,83
Bus Voltag	480	LE	4.98	7.92	0.03	---	---	---	---	---	0,75	Neg: 30,20	0,83
PreFault Vpu:1,		LL	3.45	5.37	0.01	---	---	---	---	---	0,83	Zero: 12,	0,40
C Fac	1,00	LLE	5.10	8.09	0.02	---	---	---	---	---	0,75		
PN-3254		LLLE	10,55	24,31	4,58	10,27	6,84	252,	163,	11,24	0,16	Pos: 0,40	0,16
Bus Voltag	13,800	LE	6.60	15.30	2.93	---	---	---	---	---	0,15	Neg: 0,40	0,16
PreFault Vpu:1,		LL	9.13	20.95	3.79	---	---	---	---	---	0,16	Zero: 1,	0,15
C Fac	1,00	LLE	9.47	21.77	3.99	---	---	---	---	---	0,16		
PN-3270		LLLE	6,73	9,73	0,00	6,72	6,56	5,593	5,455	6,72	2,48	Pos: 17,88	2,48
Bus Voltag	480	LE	6.77	9.76	0.00	---	---	---	---	---	2,57	Neg: 17,88	2,48
PreFault Vpu:1,		LL	5.83	8.41	0.00	---	---	---	---	---	2,48	Zero: 17,	2,78
C Fac	1,00	LLE	6.82	9.84	0.00	---	---	---	---	---	2,53		
PN-5140001A		LLLE	7,78	14,87	0,70	7,69	6,38	56,091	45,989	7,72	0,37	Pos: 1,78	0,37
Bus Voltag	4,160	LE	8.09	15.33	0.68	---	---	---	---	---	0,37	Neg: 1,78	0,37
PreFault Vpu:1,		LL	6.74	12.84	0.60	---	---	---	---	---	0,37	Zero: 1,	0,39
C Fac	1,00	LLE	8.00	15.19	0.69	---	---	---	---	---	0,37		
PN-5140001B(NOV		LLLE	7,71	14,74	0,70	7,64	6,41	55,570	46,205	7,67	0,37	Pos: 1,80	0,37
Bus Voltag	4,160	LE	8.05	15.23	0.67	---	---	---	---	---	0,38	Neg: 1,80	0,37
PreFault Vpu:1,		LL	6.68	12.73	0.60	---	---	---	---	---	0,37	Zero: 1,	0,40
C Fac	1,00	LLE	7.96	15.11	0.69	---	---	---	---	---	0,37		

									Fault Data Based on F		Sequence Data		
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-5140003		LLLE	11,89	23,86	1,73	11,90	11,51	9,886	9,569	12,03	0,30	Pos: 10,11	0,30
Bus Voltag	480	LE	12.54	24.69	1.56	---	---	---	---	---	0,32	Neg: 10,11	0,30
PreFault Vpu:1,		LL	10.30	20.61	1.49	---	---	---	---	---	0,30	Zero: 8,	0,37
C Fac	1,00	LLE	12.46	24.71	1.65	---	---	---	---	---	0,31		
PN-5140004A		LLLE	15,04	31,50	3,16	15,03	14,37	12,501	11,944	15,36	0,25	Pos: 8,00	0,25
Bus Voltag	480	LE	16.58	35.24	3.95	---	---	---	---	---	0,24	Neg: 8,00	0,25
PreFault Vpu:1,		LL	13.02	27.21	2.71	---	---	---	---	---	0,25	Zero: 5,	0,19
C Fac	1,00	LLE	16.25	34.32	3.69	---	---	---	---	---	0,24		
PN-5140004B		LLLE	15,00	31,44	3,15	15,01	14,38	12,475	11,959	15,34	0,25	Pos: 8,02	0,25
Bus Voltag	480	LE	16.56	35.19	3.95	---	---	---	---	---	0,24	Neg: 8,02	0,25
PreFault Vpu:1,		LL	12.99	27.15	2.71	---	---	---	---	---	0,25	Zero: 5,	0,19
C Fac	1,00	LLE	16.22	34.26	3.69	---	---	---	---	---	0,24		
PN-5330001A		LLLE	5,03	8,70	0,13	5,03	4,74	120,	113,	5,03	0,54	Pos: 0,83	0,54
Bus Voltag	13,800	LE	3.77	6.94	0.23	---	---	---	---	---	0,42	Neg: 0,83	0,54
PreFault Vpu:1,		LL	4.36	7.49	0.11	---	---	---	---	---	0,54	Zero: 1,	0,31
C Fac	1,00	LLE	4.82	8.44	0.15	---	---	---	---	---	0,50		
PN-5330002A		LLLE	25,96	56,69	7,48	26,03	25,72	21,580	21,382	27,08	0,22	Pos: 4,63	0,22
Bus Voltag	480	LE	27.62	60.84	8.65	---	---	---	---	---	0,20	Neg: 4,63	0,22
PreFault Vpu:1,		LL	22.48	48.55	6.08	---	---	---	---	---	0,22	Zero: 3,	0,15
C Fac	1,00	LLE	27.37	59.81	8.07	---	---	---	---	---	0,21		

											Fault Data Based on F	Sequence Data	
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-5330002B		LLLE	25,96	56,69	7,48	26,03	25,72	21,579	21,381	27,08	0,22	Pos: 4,63	0,22
Bus Voltag	480	LE	27.62	60.84	8.65	---	---	---	---	---	0,20	Neg: 4,63	0,22
PreFault Vpu:1,		LL	22.48	48.55	6.08	---	---	---	---	---	0,22	Zero: 3,	0,15
C Fac	1,00	LLE	27.37	59.80	8.06	---	---	---	---	---	0,21		
PN-5330003A		LLLE	3,92	9,07	1,71	3,93	3,92	3,255	3,261	4,28	0,17	Pos: 30,72	0,17
Bus Voltag	480	LE	3.95	9.02	1.58	---	---	---	---	---	0,17	Neg: 30,72	0,17
PreFault Vpu:1,		LL	3.39	7.70	1.32	---	---	---	---	---	0,17	Zero: 29,	0,16
C Fac	1,00	LLE	3.95	8.99	1.56	---	---	---	---	---	0,17		
PN-5330003B		LLLE	3,92	9,07	1,71	3,93	3,92	3,255	3,261	4,28	0,17	Pos: 30,72	0,17
Bus Voltag	480	LE	3.95	9.02	1.58	---	---	---	---	---	0,17	Neg: 30,72	0,17
PreFault Vpu:1,		LL	3.39	7.70	1.32	---	---	---	---	---	0,17	Zero: 29,	0,16
C Fac	1,00	LLE	3.95	8.99	1.56	---	---	---	---	---	0,17		
PN-5330004A		LLLE	9,49	21,69	3,79	9,51	9,48	7,886	7,880	10,24	0,17	Pos: 12,68	0,17
Bus Voltag	480	LE	9.69	22.16	3.95	---	---	---	---	---	0,17	Neg: 12,68	0,17
PreFault Vpu:1,		LL	8.21	18.64	3.17	---	---	---	---	---	0,17	Zero: 11,	0,15
C Fac	1,00	LLE	9.65	21.99	3.83	---	---	---	---	---	0,17		
PN-5330004B		LLLE	9,47	20,34	2,41	9,50	9,46	7,874	7,868	9,80	0,23	Pos: 12,70	0,23
Bus Voltag	480	LE	9.68	20.76	2.49	---	---	---	---	---	0,23	Neg: 12,70	0,23
PreFault Vpu:1,		LL	8.20	17.49	2.01	---	---	---	---	---	0,23	Zero: 11,	0,21
C Fac	1,00	LLE	9.63	20.60	2.42	---	---	---	---	---	0,23		

										Fault Data Based on F		Sequence Data	
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z		R/X
PN-533001B	LLLE	5,03	8,70	0,13	5,03	4,74	120,	113,	5,04	0,54	Pos:	0,83	0,54
Bus Voltag13,800	LE	3.77	6.94	0.23	---	---	---	---	---	0,42	Neg:	0,83	0,54
PreFault Vpu:1,	LL	4.36	7.49	0.11	---	---	---	---	---	0,54	Zero:	1,	0,31
C Fac 1,00	LLE	4.83	8.44	0.15	---	---	---	---	---	0,50			
PN-5334-01	LLLE	9,76	18,67	0,89	9,77	9,51	8,117	7,909	9,81	0,36	Pos:	12,32	0,36
Bus Voltag 480	LE	10.46	20.58	1.29	---	---	---	---	---	0,32	Neg:	12,32	0,36
PreFault Vpu:1,	LL	8.46	16.12	0.77	---	---	---	---	---	0,36	Zero:	9,	0,23
C Fac 1,00	LLE	10.52	20.43	1.15	---	---	---	---	---	0,34			
PN-6211001A	LLLE	10,88	27,22	7,72	10,75	9,43	260,	225,	13,24	0,09	Pos:	0,38	0,09
Bus Voltag13,800	LE	10.97	27.65	8.25	---	---	---	---	---	0,08	Neg:	0,38	0,09
PreFault Vpu:1,	LL	9.42	23.48	6.61	---	---	---	---	---	0,09	Zero:	0,	0,06
C Fac 1,00	LLE	11.02	27.60	8.01	---	---	---	---	---	0,09			
PN-6211001B	LLLE	13,35	32,69	8,34	13,07	9,45	319,	225,	15,50	0,11	Pos:	0,31	0,11
Bus Voltag13,800	LE	12.53	31.21	8.80	---	---	---	---	---	0,09	Neg:	0,31	0,11
PreFault Vpu:1,	LL	11.56	28.22	7.16	---	---	---	---	---	0,11	Zero:	0,	0,06
C Fac 1,00	LLE	13.14	32.36	8.60	---	---	---	---	---	0,10			
PN-6211002A	LLLE	35,06	82,53	17,06	33,51	29,01	29,149	24,114	37,60	0,14	Pos:	3,43	0,14
Bus Voltag 480	LE	34.11	79.81	16.16	---	---	---	---	---	0,15	Neg:	3,43	0,14
PreFault Vpu:1,	LL	30.36	71.22	14.64	---	---	---	---	---	0,14	Zero:	3,	0,15
C Fac 1,00	LLE	34.67	81.23	16.58	---	---	---	---	---	0,14			

										Fault Data Based on F		Sequence Data	
Fault Location Bus Name		Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
PN-6211002B		LLLE	32,71	76,72	15,56	31,96	29,01	27,196	24,119	35,54	0,15	Pos: 3,68	0,15
Bus Voltag	480	LE	32.60	76.10	15.24	---	---	---	---	---	0,15	Neg: 3,68	0,15
PreFault Vpu:1,		LL	28.33	66.24	13.38	---	---	---	---	---	0,15	Zero: 3,	0,15
C Fac	1,00	LLE	32.69	76.38	15.36	---	---	---	---	---	0,15		
PN-6211003A		LLLE	32,80	72,96	10,84	31,57	27,45	27,267	22,819	33,38	0,19	Pos: 3,67	0,19
Bus Voltag	480	LE	31.97	70.80	10.40	---	---	---	---	---	0,19	Neg: 3,67	0,19
PreFault Vpu:1,		LL	28.40	62.97	9.31	---	---	---	---	---	0,19	Zero: 3,	0,20
C Fac	1,00	LLE	32.42	71.85	10.59	---	---	---	---	---	0,19		
PN-6211003B		LLLE	30,73	68,38	10,19	30,13	27,45	25,550	22,823	31,81	0,19	Pos: 3,91	0,19
Bus Voltag	480	LE	30.63	67.87	10.00	---	---	---	---	---	0,19	Neg: 3,91	0,19
PreFault Vpu:1,		LL	26.61	59.04	8.76	---	---	---	---	---	0,19	Zero: 3,	0,20
C Fac	1,00	LLE	30.71	68.08	10.07	---	---	---	---	---	0,19		
PN-CLUBE		LLLE	36,22	78,28	9,71	36,21	34,43	13,803	13,121	37,49	0,22	Pos: 7,24	0,22
Bus Voltag	220	LE	38.97	85.67	12.02	---	---	---	---	---	0,20	Neg: 7,24	0,22
PreFault Vpu:1,		LL	31.37	67.61	8.34	---	---	---	---	---	0,22	Zero: 5,	0,15
C Fac	1,00	LLE	38.50	83.97	11.20	---	---	---	---	---	0,21		
PN3229		LLLE	10,08	21,20	2,17	10,11	10,07	8,379	8,372	10,34	0,25	Pos: 11,93	0,25
Bus Voltag	480	LE	10.38	21.79	2.25	---	---	---	---	---	0,25	Neg: 11,93	0,25
PreFault Vpu:1,		LL	8.73	18.29	1.86	---	---	---	---	---	0,25	Zero: 10,	0,24
C Fac	1,00	LLE	10.25	21.51	2.21	---	---	---	---	---	0,25		

								Fault Data Based on F		Sequence Data		
Fault Location Bus Name	Type	Ik" kA	ip kA	iDC kA	Ib kA	Ik kA	Sk" kVA	Sk kVA	Ib asym kA	R/X	Equiv. Impedance Z	R/X
QUEIROZ GALVÃO	LLLE	14,69	29,00	1,82	14,73	14,67	9,670	9,656	14,85	0,32	Pos: 10,34	0,32
Bus Voltag 380	LE	15.68	32.60	3.14	---	---	---	---	---	0,26	Neg: 10,34	0,32
PreFault Vpu:1,	LL	12.72	25.02	1.56	---	---	---	---	---	0,32	Zero: 8,	0,11
C Fac 1,00	LLE	16.10	32.69	2.64	---	---	---	---	---	0,29		
SE-TEBAR 138kV	LLLE	6,95	14,67	1,69	6,91	6,05	1,660,	1,446,	7,11	0,25	Pos: 0,06	0,25
Bus Voltag 138,	LE	0.00	0.00	0.00	---	---	---	---	---	4.	Neg: 0,06	0,25
PreFault Vpu:1,	LL	6.02	12.59	1.27	---	---	---	---	---	0,25	Zero: 500	9.
C Fac 1,00	LLE	6.02	12.59	1.27	---	---	---	---	---	0,25		

9 ANEXO IV-DIAGRAMA CURTO-CIRCUITO BARRAS E RAMAIS–IEC60909

10 ANEXO V-DIAGRAMA DADOS DE ENTRADA PARA CURTO-CIRCUITO

11 ANEXO VI -TABELA BARRA X TENSÃO X CORRENTE DE CURTO-CIRCUITO

BARRA	TENSÃO (kV)	3ø Icc-Ik"(kA)	1ø Icc-Ik"(kA)	Obs:
Barra Entrada L1/L2	138	6.9	0,00	31,5 kA
PN-3240	13,8	11.1	0,44	31,5 kA
PN-3254	13,8	10.2	0,48	31,5 kA
PN-3228	13,8	14.6	0,48	25 kA
PN-3232	4,16	14,8	0,44	25 kA
PN-3210-OSPLAN	4,16	19,3	17,22	25 kA
PN-3203-OSBAT	4,16	11,6	12,51	25 kA
PN-3206	0,48	22.9	23.57	25 kA
PN-3203	4,16	11,6	12,51	25 kA
PN-3204	0,48	21,1	22,06	25 kA
PN-3101	0,48	15,0	16,46	25 kA
PN-3103	0,48	3,0	3,07	25 kA
PN-3212	0,48	20,2	20,28	25 kA
PN-3214	0,48	4,4	4,41	25 kA
PN-3205	0,48	21,1	22,12	25 kA
PN-3224	0,48	11,9	13,32	25 kA
PN- 5330001	13,8	7.8	0.48	25 kA
PN-6211001	13,8	10.8	0,44	31,5kA
PN-6211002	0,48	35,1	34,11	40 kA
PN- 5330002	0,48	27,4	28,68	50 kA
PN- 5330003	0,48	27,9	29,14	50 kA
PN- 5330004	0,48	9,7	9,81	50 kA
PN-5140001-NV PIER	4,16	7,6	7,95	25 kA
PN-5140003	0,48	11,8	12,50	25 kA
PN-5140004	0,48	14,9	16,51	25 kA
CH-3211	4,16	7,7	8,50	25 kA

Nota: Os dados de suportabilidade dos painéis não foram disponibilizados pela TEBAR. A TEBAR deverá verificar a compatibilidade de suportabilidade ao curto-circuito dos paineis existentes (não faz parte desse escopo) e confrontar com a corrente da coluna Icc - Ik" (kA) acima.

12 DIAGNÓSTICO, CONCLUSÕES E RECOMENDAÇÕES

12.1 Diagnóstico, conclusões e recomendações

Na tabela acima item 11, verificamos que os níveis e potência de curto-circuito trifásico e fase x terra que podem ocorrer durante a ocorrrência de defeitos no sistema (norma IEC 60909) não superam a suportabilidade dos novos equipamentos fornecidos pela ABB atendendo as condições de operação referente à Ampliação da Subestação Principal do Sistema Elétrico do terminal Aquaviário de São Sebastião - TEBAR, situado em São Sebastião – SP, conforme as normas de segurança atuais.

Foram analisadas a operação da planta TEBAR para a condição onde os transformadores não deverão ser paralelados, a fim de não superar a capacidade e suportabilidade dos equipamentos as correntes de curto-circuitos.

Deverá ser reestudado o estudo de curto-circuito caso existam modificações de cargas atuais ou acréscimo das mesmas devido a projetos futuros.

A TEBAR deve verificar a compatibilidade de suportabilidade de curto-circuito dos barramentos dos painéis existentes com as calculadas neste estudo.