Estudio para análisis de falla EAF 281/2021

"Desconexión forzada de barra 13.2 kV de S/E Hualañé"

Fecha de Emisión: 08-10-2021

1. Descripción pormenorizada de la perturbación

a. Fecha y Hora de la falla

Fecha	18/09/2021
Hora	14:03
Consumos desconectados (MW)	1,11
Demanda previa del sistema (MW)	8057,27
Porcentaje de desconexión	0,014%
Calificación Apagón	No aplica (porcentaje de desconexión < 10%)

b. Identificación instalación afectada

Nombre de la instalación	Barra 13,2 kV S/E Hualañé / BA01T005SE176T005
Tipo de instalación	Barra
Tensión nominal	13,2 kV
Segmento	Transmisión zonal
Propietario instalación afectada	Compañía General de Electricidad S.A.
RUT	76.411.321-7
Representante Legal	Iván Arístides Quezada Escobar
Dirección	Av. Presidente Riesco 5561, piso 14, Las Condes, Santiago

c. Identificación del elemento fallado

Nombre del elemento afectado	Reconectador 52C2 S/E Hualañé / IM01T005PA005T005SE176T005
Propietario elemento fallado	Compañía General de Electricidad S.A.
RUT	76.411.321-7
Representante Legal	Iván Arístides Quezada Escobar
Dirección	Av. Presidente Riesco 5561, piso 14, Las Condes, Santiago

d. Origen y causa de la falla

El origen de la desconexión forzada de la barra 13,2 kV de S/E Hualañé se debió a la operación en respaldo de la protección asociada al paño CT1, durante una falla ocurrida en el alimentador de 13,2 kV Docamávida, la cual no fue despejada por la protección de cabecera del paño C2.

La empresa CGE S.A. informa que el origen de la falla en el alimentador de 13,2 kV Docamávida correspondió a un tirante dañado en el poste de la red de media tensión ubicado frente a la S/E Hualañé, a causa de un choque, el cual no causó daño en la línea de media tensión.

d.2 Fenómeno Físico:

OPE6: Falla en instalaciones de terceros u en otro segmento.

La empresa CGE S.A. remite los probatorios para acreditar este fenómeno físico.

d.3 Reiteración:

Reiteración Fenómeno Físico en la instalación afectada: Esta instalación no ha sido afectada por un fenómeno físico similar (homologado), durante los últimos 24 meses móviles.

Reiteración Fenómeno Físico en instalaciones del mismo propietario: Sí se han producido fallas en instalaciones del mismo propietario con un fenómeno físico similar (homologado), durante los últimos 24 meses móviles, de acuerdo con el siguiente detalle.

EAF	Título	Fecha	Acciones correctivas corto plazo	Acciones correctivas largo plazo
EAF 350/2019	Desconexión forzada de barra 13.2 kV de S/E La Manga	09-09-2019	Según lo informado por la empresa CGE S.A., el COT procede a normalizar la barra abriendo todos los alimentadores conectados a la barra y procediendo a cerrar el interruptor 52CT1 de la subestación.	No se indican acciones correctivas a largo plazo.
EAF 383/2019	Apertura intempestiva del interruptor 52ET1 de S/E Ovalle	16-10-2019	De acuerdo con lo indicado por la empresa CGE S.A., se realizarán pruebas del dispositivo de protección del paño 52E9 el día 29 de noviembre 2019.	CGE S.A. indica que no aplica señalar acciones correctivas a largo plazo.
EAF 401/2019	Apertura del interruptor 52CT de S/E Pelequén	09-11-2019	No se indican.	No se indican.
EAF 435/2019	Desconexión del transformador T2 66/15 kV de S/E Talca	18-12-2019	Corrección de la estampa de tiempo del control F5 del reconectador 52C2 de S/E Talca, correspondiente al alimentador Estación, con plazo hasta el día 10 de enero 2020. Modificación de los ajustes de las protecciones de sobrecorriente que operan sobre los interruptores 52BT2 (SEL 387 y SEL 311C) y 52CT2 (SEL 387 y SEL 551) de S/E Talca, para garantizar un tiempo de paso de 300 ms con las protecciones ubicadas aguas abajo (con plazo hasta el día 13 de marzo de 2020).	No se indican.
EAF 005/2020	Desconexión forzada de barra 23 kV de S/E Licantén	10-01-2020	No se indican.	No se indican.

EAF	Título	Fecha	Acciones correctivas corto plazo	Acciones correctivas largo plazo
EAF 018/2020	Desconexión forzada de barra 23 kV N°1 de S/E Ovalle	17-01-2020	No se indican.	No se indican.
EAF 091/2020	Desconexión forzada de barra 15 kV N°1 de S/E Alameda	04-03-2020	La empresa CGE S.A. indica las siguientes acciones correctivas de corto plazo: Se transfieren los consumos mediante barra de transferencia, además se procede a inspeccionar el reconectador 52C1 Av. España, el que presentó una fuga controlada de aceite según imágenes adjuntas. A raíz de lo anterior, se procede a realizar el reemplazo del equipo reconectador por uno de las mismas características de capacidad de corriente.	No se indican.
EAF 097/2020	Desconexión forzada de barra 23 kV de S/E Quirihue	08-03-2020	No se indican.	No se indican.
EAF 109/2020	Apertura intempestiva del interruptor 52CT1 de S/E Fátima	17-03-2020	La empresa CGE S.A. indica que procedió a reemplazar la tarjeta actuadora del reconectador 52C2 de S/E Fátima, ya que esta no ejecutó dos órdenes de apertura enviadas desde el COT.	La empresa CGE S.A. indica que no aplica ejecutar acciones correctivas a largo plazo.
EAF 121/2020	Falla en línea 110 kV Pan de Azúcar - Vicuña	29-03-2020	No se indican.	No se indican.
EAF 122/2020	Desconexión forzada de barra 13.2 kV de S/E Loncoche	30-03-2020	No se indican.	No se indican.
EAF 150/2020	Apertura intempestiva del interruptor 52CT4 de S/E Las Arañas	30-04-2020	La empresa CGE S.A. indica como acción correctiva de largo plazo: El reconectador y protección del paño C2 está en proceso de reemplazo, para lo cual se solicitó al Coordinador Eléctrico Nacional una solicitud de modificación no relevante, proyecto NUP 1597. Actualmente, está en revisión de Infotécnica desde el mes de marzo y se está a la espera de completar el proceso para proceder con el proyecto de reemplazo del reconectador del paño C2 por uno de tecnología más reciente (Cooper NOVA/F6).	La empresa CGE S.A. no indica acciones correctivas de corto plazo.

EAF	Título	Fecha	Acciones correctivas corto plazo	Acciones correctivas largo plazo
EAF 156/2020	Pérdida de suministro en barra 23 kV de S/E Isla de Maipo	03-05-2020	La empresa CGE S.A. indica que no aplica acciones correctivas a corto plazo.	La empresa CGE S.A. indica que no aplica acciones correctivas a largo plazo.
EAF 165/2020	Apertura del interruptor 52HT1 de S/E Tierra Amarilla	11-05-2020	No se indican.	No se indican.
EAF 168/2020	Apertura del interruptor 52CT1 de S/E Papelera Talagante	18-05-2020	No se indican.	No se indican.
EAF 171/2020	Desconexión del transformador T4 110/13.8 kV de S/E Copiapó	19-05-2020	No se indican.	No se indican.
EAF 174/2020	Apertura del interruptor 52CT1 de S/E San Rafael	25-05-2020	No se indican.	No se indican.
EAF 183/2020	Desconexión forzada de barra 13.2 kV de S/E Chocalán	03-06-2020	No se indican.	No se indican.
EAF 212/2020	Desconexión forzada de barra 15 kV de S/E Tuniche	16-06-2020	La empresa CGE S.A. indica las siguientes acciones correctivas de corto plazo: Debido a la diferencia horaria registrada en el equipo 52C4 (circuito La Gonzalina) se procede a sincronizar con reloj satelital de la subestación.	La empresa CGE S.A. indica que no aplica acciones correctivas de largo plazo.
EAF 219/2020	Desconexión forzada de barra 15 kV de S/E Lirquén	21-06-2020	La empresa CGE S.A. indica que no hay acciones correctivas a corto plazo.	La empresa CGE S.A. indica que se realizará el análisis del equipo de protección asociado al paño C4 de S/E Lirquén, y que los resultados serán comunicados al Coordinador a través de medios oficiales.
EAF 241/2020	Desconexión forzada de barra 23 kV de S/E Villarrica	09-07-2020	La empresa CGE S.A. indica las siguientes acciones correctivas a corto plazo: Revisión y pruebas de operación del interruptor 52E4 de S/E Villarrica, incluyendo inyecciones de corriente primaria. Revisión y pruebas de operación del interruptor 52ET de S/E Villarrica.	La empresa CGE S.A. indica lo siguiente como acción correctiva de largo plazo: Verificación de coordinación de protecciones entre el alimentador Ñancul y el interruptor general de la barra 23 kV de S/E Villarrica.
EAF 327/2020	Apertura del interruptor 52ET1 de S/E Caldera	08-10-2020	No se indican.	No se indican.
EAF 337/2020	Desconexión de barra 23 kV N°1 de S/E Padre Hurtado	24-10-2020	La empresa CGE S.A. indica que se reemplaza interruptor de celda 52E2, el cual presenta falla en dos de sus polos, los cuales se mantienen cerrados aun cuando el interruptor se encuentra en posición abierto.	La empresa CGE S.A. no indica acciones correctivas de largo plazo.
EAF 353/2020	Desconexión forzada de barra 23 kV de S/E Quirihue	22-11-2020	No se indican.	No se indican.

EAF	Título	Fecha	Acciones correctivas corto plazo	Acciones correctivas largo plazo
EAF 016/2021	Desconexión forzada de línea 66 kV Cauquenes-La Vega	19-01-2021	La empresa CGE S.A. menciona que se estudiará la posibilidad de ajustar supervisores de corriente, como condición de disparo de elementos de distancia en zona 1 en relés GE D60 y GE D30 del paño B1 de S/E Cauquenes. Una vez realizado dicho estudio, se informará a Coordinador Eléctrico Nacional vía los canales habituales de comunicación, para posteriormente implementar dichas mejoras.	No se indican.
EAF 028/2021	Desconexión forzada de barra 23 kV de S/E Quínquimo	30-01-2021	La empresa CGE S.A. señala que no aplica.	La empresa CGE S.A. señala que no aplica.
EAF 064/2021	Desconexión forzada de barra 15 kV N°2 de S/E Buin	05-03-2021	La empresa CGE S.A. indica las siguientes acciones correctivas de corto plazo: • Se realiza reemplazo de batería asociada al sistema de respaldo del equipo reconectador del paño C6 de S/E Buin. • Debido a la no operación del equipo de protección del Cto. Maipo, se realiza intervención de Curso Forzoso el martes 09.03.2021 para verificar los tiempos de operación del equipo de protección. Los resultados de dichas pruebas confirman la correcta operación de equipo relé Form 4C. • Se realiza análisis de coordinación, mediante el cual se confirma la correcta coordinación para las corrientes de cortocircuito medidas por relé del paño CT2. De igual forma, se remite el estudio EAP 11/2021 mediante el cual se proponen mejoras en los ajustes, lo cual permitirá la coordinación hasta los niveles de cortocircuito máximos determinados en la barra N°2. Lo anterior, se implementará bajo la SD 2021023120.	La empresa CGE S.A. indica que no aplican acciones correctivas de largo plazo.
EAF 126/2021	Desconexión forzada de barra 23 kV de S/E Quirihue	08-05-2021	La empresa CGE S.A. señala: “Operación de Protecciones en segmento no pertenece al Transmisión”.	La empresa CGE S.A. señala: “Operación de Protecciones en segmento no pertenece al Transmisión”.
EAF 127/2021	Desconexión forzada de barra 23 kV de S/E Quirihue	08-05-2021	La empresa CGE S.A. señala: “Operación de Protecciones en segmento no pertenece al Transmisión”.	La empresa CGE S.A. señala: “Operación de Protecciones en segmento no pertenece al Transmisión”.
EAF 154/2021	Desconexión forzada de la barra 23 kV de S/E Marquesa	06-06-2021	No se indican.	No se indican.

Cantidad de fallas (sin importar Fenómeno Físico) en la misma instalación: No se han producido fallas en la misma instalación afectada, durante los últimos 24 meses móviles.

d.4 Fenómeno eléctrico

PR51: Protección de sobrecorriente temporizada de fase.

e. Detalles de la instalación, equipo o elemento donde se produjo la falla

El elemento donde se originó la falla corresponde al reconectador 52C2 de S/E Hualañé, el cual tiene una corriente nominal de 630 [A], una capacidad de ruptura simétrica de 12,5 [kA] y cuya fecha de puesta en servicio fue en el año 1997, según lo informado por el propietario en la plataforma Infotécnica del Coordinador.

La empresa CGE S.A. no adjunta información de los mantenimientos de esta instalación durante los últimos 24 meses.

f. Ubicación urbana o rural según DS 327/1997

Rural.

g. Proposición del propietario respecto del origen de la falla

Interna.

h. Comuna donde se presenta la falla

7302: Hualañé

i. Fecha de entrega de la información al Coordinador

Coordinado	Informe de 48 horas (20-09-2021)	Informe de 5 días (24-09-2021)
CGE S.A.	18-09-2021	04-10-2021

2. Descripción del equipamiento afectado

a. Sistema de Generación

b. Sistema de Transmisión

Elemento Afectado	Segmento	Tramo	Hora Desc.	Hora Norm.
S/E Hualañé	ST Zonal	Barra 13,8 kV	14:03	14:18

c. Consumos

Sub-Estación	Alimentador/Paño	Comuna	Pérdida de Consumo (MW)	% consumo pre-falla	Clientes Afectados	H. Desc.	H. Dispon.	H. Norm.
Hualañé	Barandica / C1	Hualañé	0,32	0,004	2.939	14:03	14:18	14:20
Hualañé	Docamávida / C2	Hualañé	0,36*	0,004	1.942	14:03	14:18	14:51
Hualañé	Docamávida / C2	Hualañé y Curepto	0,42*	0,005	366	14:03	14:18	14:54
Hualañé	Docamávida / C2	Hualañé y Licantén	0,02*	0,000	631	14:03	14:18	15:55
		Total:	**1,11 MW**	**0,014 %**	**5.878**			

- Los montos y horarios señalados corresponden a lo informado por CGE S.A.

- (*) La empresa CGE S.A. informa el total de la pérdida de consumo y el porcentaje de recuperación de consumo por cada bloque, sin embargo, no declara la pérdida de consumo en megawatt (MW) de cada bloque.

3. Estimación de la energía no suministrada

Sub-Estación	Alimentador/Paño	Empresa	Tipo de Cliente	Pérdida de Consumo (MW)	Tiempo Indispon. (h)	Tiempo Desc. (h)	ENS (MWh)
Hualañé	Barandica / C1	CGED	Regulado	0,32	0,25	0,28	0,09
Hualañé	Docamávida / C2	CGED	Regulado	0,36*	0,25	0,80	0,28
Hualañé	Docamávida / C2	CGED	Regulado	0,42*	0,25	0,85	0,36
Hualañé	Docamávida / C2	CGED	Regulado	0,02*	0,25	1,87	0,03

Clientes Regulados : 0,76 MWh

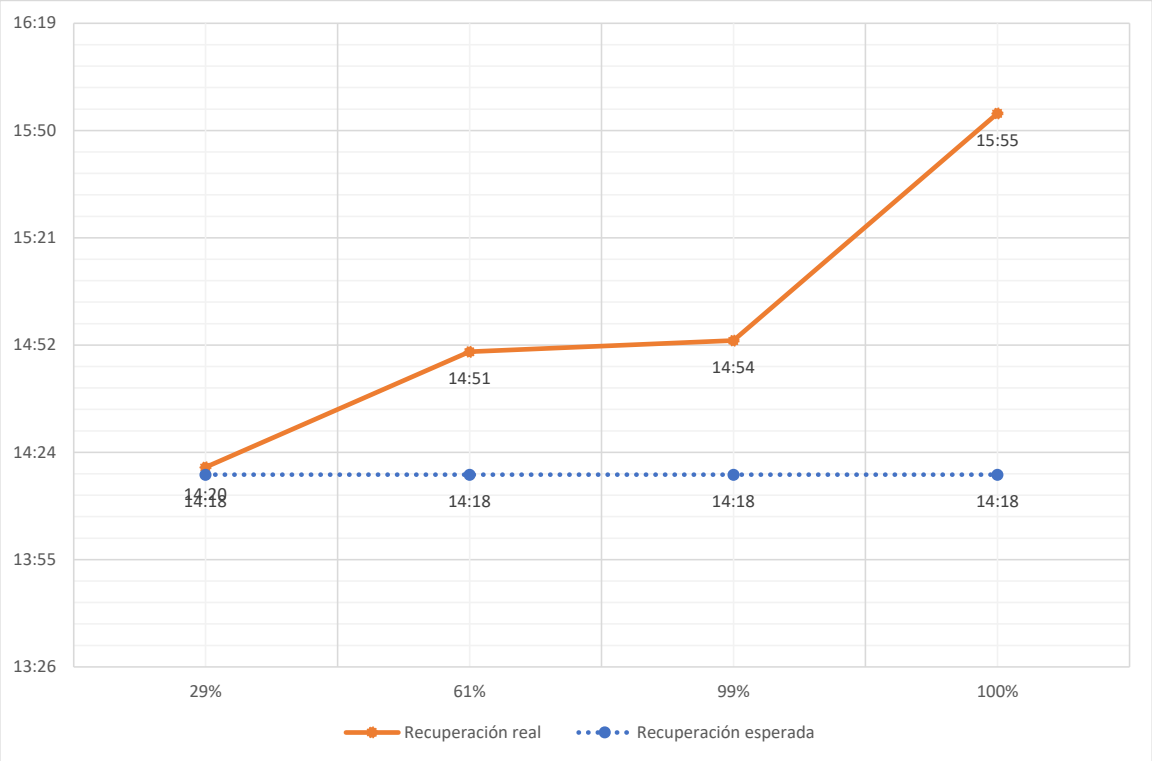
Clientes Libres : 0 MWh

Total : 0,76 MWh

- Los montos señalados corresponden a lo informado por CGE S.A.

- (*) La empresa CGE S.A. informa el total de la pérdida de consumo y el porcentaje de recuperación de consumo por cada bloque, sin embargo, no declara la pérdida de consumo en megawatt (MW) de cada bloque.

- Curva de recuperación esperada v/s recuperación real.



Se observan diferencias entre el horario de recuperación real respecto del horario de disponibilidad de la barra primaria respectiva para recuperar los consumos de S/E Licantén.

- Velocidad promedio de recuperación.

Rango	Potencia (MW)	Tiempo recuperación (h)	Velocidad de recuperación (MW/h)
Primer 80 %	0,89	0,85	1,04
Último 20 %	0,22	1,87	0,12
100 % Total	1,11	1,87	0,59

4. Descripción de las configuraciones en los momentos previo y posterior a la falla

Demanda del sistema previo a la falla: 8057,27 MW

Regulación de Frecuencia

Control distribuido de frecuencia en el Sistema Eléctrico Nacional, previo a la falla, mediante las centrales Andina (CTA), Angamos (ANG1), Angamos (ANG2), Candelaria (U1), Cochrane (CCH1), Cochrane (CCH2), Guacolda (U3), Guacolda (U4), Kelar (TG12), Mejillones (CTM1), Mejillones (CTM3), Norgener (NTO1), Norgener (NTO2) y Tocopilla (U15).

Estado y configuración previo a la falla

Las instalaciones de transmisión se encontraban en servicio normal en los momentos previos a la desconexión forzada.

Otros antecedentes relevantes

De acuerdo con los informado por la empresa CGE S.A.:

"El domingo 18 de septiembre a las 14:03 hrs se produce la desconexión forzada del interruptor general 52CT1 de subestación Hualañe. Se realiza procedimiento de recuperación de barra MT, abiendo los interruptores 52C1 del Cto. Barandica y 52C2 del Cto. Docamavida a las 14:17 horas. A continuación, se cierra el interruptor general 52CT1, recuperando la barra MT a las 14:18 horas.

Posteriormente, se cierra el alimentador C1 Barandica a las 14:20 horas y se solicita la revisión del alimentador C2 Docamavida por presentar una alarma en SCADA. Se informa más tarde el hallazgo de un tirante dañado en poste de la red MT frente a la subestación Hualañe en sector Cementerio. A solicitud del Despacho de CGE se solicita el cierre del interruptor 52C1 a las 14:51 horas recuperando el 100 % de los consumos afectados por esta falla. La falla se origina en redes de MT"

De forma complementaria, se agregan los informes de fallas de instalaciones ingresados en el sistema del Coordinador Eléctrico Nacional por la empresa CGE S.A. (Anexo N°1) y otros antecedentes enviados por la empresa CGE S.A. (Anexo N°2).

En función de los antecedentes presentados a la fecha de emisión del presente EAF, se solicitará a la siguiente información a las empresas involucradas:

<u>CGE S.A.:</u>

- Envío de la información faltante, de acuerdo con lo indicado en las Resoluciones Exentas de la SEC N°30891-2019 y N°30989-2019, en particular:
    - Mantenimientos realizados durante los últimos 24 meses al equipamiento de control y protecciones del paño C2 de S/E Hualañé.
- Envío de un cronograma, con fechas definidas, para la realización de los trabajos comprometidos dentro de las acciones correctivas de corto plazo, que permitan determinar la causa de la no operación de protecciones y despeje de la falla ocurrida en el alimentador Docamávida por medio del interruptor 52C2. En caso de que estos trabajos ya estén realizados, se solicita enviar el resultado de estas pruebas y su fecha de ejecución.
- Rectificación de los montos de consumo normalizados en el alimentador Docamávida en cada horario de recuperación, los cuales fueron estimados en base a los porcentajes declarados en el informe de falla de 5 días.
- Indicar la causa de la demora en la recuperación de los consumos afectados asociados al alimentador Docamávida, a partir de la disponibilidad de la barra (1 hora con 37 minutos de diferencia para el último bloque de recuperación).

Acciones preventivas y/o correctivas

a) La instalación afectada no cuenta con una auditoría, plan de acción u otro tipo de mantenimiento en curso.

b) Acciones correctivas a corto plazo:

La empresa CGE S.A. informa las siguientes medidas correctivas de corto plazo:

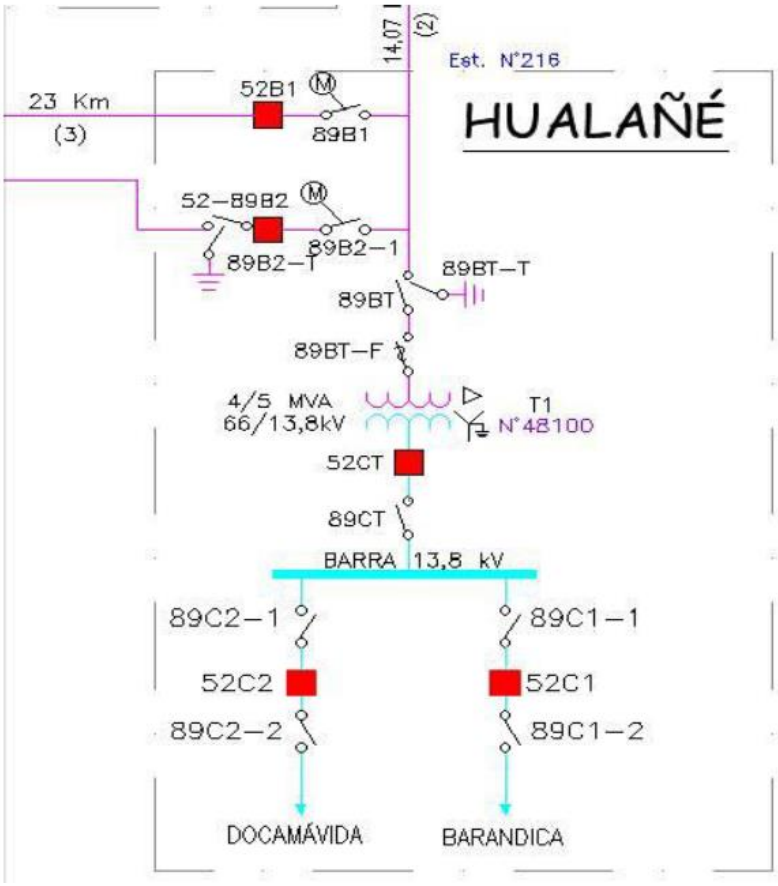
"Debido a la operación del reconectador 52CT1 en respaldo del alimentador Docamavida C2, se revisará ajustes de protecciones y se realizarán pruebas a los controles de los paños general 52CT1 y Docamavida 52C2. Por otra parte, se revisará la causa de los datos congelados en registros históricos de perfiles de carga."

c) Acciones correctivas a largo plazo:

La empresa CGE S.A. informa las siguientes medidas correctivas de largo plazo:

"De acuerdo con los resultados de las pruebas y en caso de ser necesario, se procederá al reemplazo de los equipos".

Diagrama simplificado de las instalaciones previo a la falla



5. Cronología de eventos y la descripción de las causas de los eventos

Hora	Involucrado	Evento
14:03	CGE S.A.	Apertura automática del interruptor 52CT1 de S/E Hualañé, por operación de su protección de sobrecorriente de fase.

- Las horas señaladas corresponden a lo informado por CGE S.A.

6. Normalización del servicio

Fecha	Involucrado	Hora	Acción
18/09/2021	CGE S.A.	14:17	Apertura manual de interruptor 52C1 de S/E Hualañé, por maniobras de recuperación.
18/09/2021	CGE S.A.	14:17	Apertura manual de interruptor 52C2 de S/E Hualañé, por maniobras de recuperación.
18/09/2021	CGE S.A.	14:18	Cierre manual de interruptor 52CT1 de S/E Hualañé, energizando la barra de 13,2 kV de S/E Hualañé.
18/09/2021	CGE S.A.	14:20	Cierre manual de interruptor 52C1 de S/E Hualañé, recuperando la totalidad de consumos asociados al alimentador Barandica.
18/09/2021	CGE S.A.	14:51	Cierre manual de interruptor 52C2 de S/E Hualañé, recuperando 0,36 MW de consumos asociados al alimentador Docamávida.
18/09/2021	CGE S.A.	14:54	Se recuperan 0,42 MW de consumos asociados al alimentador Docamávida.
18/09/2021	CGE S.A.	15:55	Se recuperan 0,02 MW de consumos, totalizando el 100% de los consumos afectados del alimentador Docamávida.

- Las horas y fechas señaladas corresponden a lo informado por CGE S.A.

ANEXO Nº1

Informes de trabajos y fallas de instalaciones ingresados en el Sistema del Coordinador Eléctrico Nacional por Compañía General de Electricidad S.A.

Resumen - **Subestación**

Resumen

Número:

2021002648

Solicitante:

Manuel Francisco Cataldo Araya

Empresa:

COMPAÑÍA GENERAL DE ELECTRICIDAD S.A.

Tipo de Origen:

Externo

SubEstación:

S/E HUALANE

Falla Sobre:

paño

Elementos

Tipo: panos **-** S/E HUALAÑE CT1
Nombre : S/E HUALAÑE CT1
Fecha Perturbacion : 18-09-2021 14:03
Fecha Normaliza : 18-09-2021 14:18
Protección : .
Interruptor : 52CT1
Consumo : 1.1
Comentario : .

¿Produce otra indisponibilidad?

No

Zona Afectada

Maule

Comuna

Curepto
Hualañé
Licantén

Tipo Causa

Causa Presunta
Causa Principal
Se investiga

Comentarios Tipo Causa:

Se investiga

Causas

-Fenómeno Físico: Origen no determinado.
-Elemento: Interruptores
-Fenómeno Eléctrico: Distancia (admitancia, impedancia o reactancia)

-Operación de los interruptores: Opera según lo esperado

Comentarios Causas:

-Fenómeno Físico: .
-Elemento: .
-Fenómeno Eléctrico: .
-Operación de los interruptores: .

Observaciones:

-Observaciones: Desconexion forzada del interruptor 52CT1 de S/E Hualañe afectando los consumos de la misma S/E.
-Acciones Inmediatas: En coordinacion con CEN se aplica procedimiento de recuperacion de barras.
-Hechos Sucedidos: .
-Acciones Correctivas a Corto Plazo: .
-Acciones Correctivas a Largo Plazo: .

Afecta SSCC:

No

Afecta Medidores:

No

Afecta Protecciones:

No

Consumo:

Consumo Regulado

Distribuidoras Afectadas

CGE DISTRIBUCIÓN S.A. / Perd. Estm. de Potencia: 1.1 / Región : Maule / Clientes Afectados: 4040

Retorno Automatico:

No Tiene Retorno AutomÃ¡tico

Fecha / Hora Perturbación de la Solicitud:

18-09-2021 14:03

Fecha / Hora Estimada Retorno:

18-09-2021 14:18

Fecha / Hora Efectiva Retorno:

18-09-2021 14:18

ANEXO Nº2
Otros antecedentes aportados por Compañía General de Electricidad S.A.

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INSTALACIÓN (ES) SSEE Hualañe	

1. CAUSA U ORIGEN DE LA FALLA:

1.1. Fecha y hora de la Falla:

Fecha	**18 de septiembre 2021**
Hora	14:03

1.2. Localización de la falla:

1.2.1 Nombre de instalación donde se produjo la falla.
SE Hualañe

1.2.2. Segmento al cual pertenece el equipo elemento fallado.
Transmisión

1.2.3. Elemento o equipo fallado.
52CT1 SE Hualañe, Operación en respaldo al interruptor 52C2.

1.3. Causa origen de la Falla:
Falla en redes de MT, mismo propietario

1.4. Proposición de origen de la falla:
I. Interna.

1.5. Código de falla:

Causas de Falla	Código	Descripción
Fenómeno Físico	OPE6	Fallas en instalaciones de terceros u en otro segmento
Elemento del Sistema Eléctrico	PR6	Interruptor
Fenómeno Eléctrico	PR51	Protección de sobrecorriente temporizada de fase.
Modo	13	Opera según lo esperado

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1.6. Comuna donde se originó la falla:

7302, Hualañé

1.7. Comunas afectadas por la falla:

7302, Hualañé
7103, Curepto
7303, Licantén

1.8. Reiteración:

No hay

2.- INSTALACIONES AFECTADAS.

Subestación	Instalación	Descripción	Hora
Itahue	Barra de MT	Operación del interruptor 52CT1 general de MT del transformador N°1.	14:03

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3. DIAGRAMAS SIMPLIFICADOS.

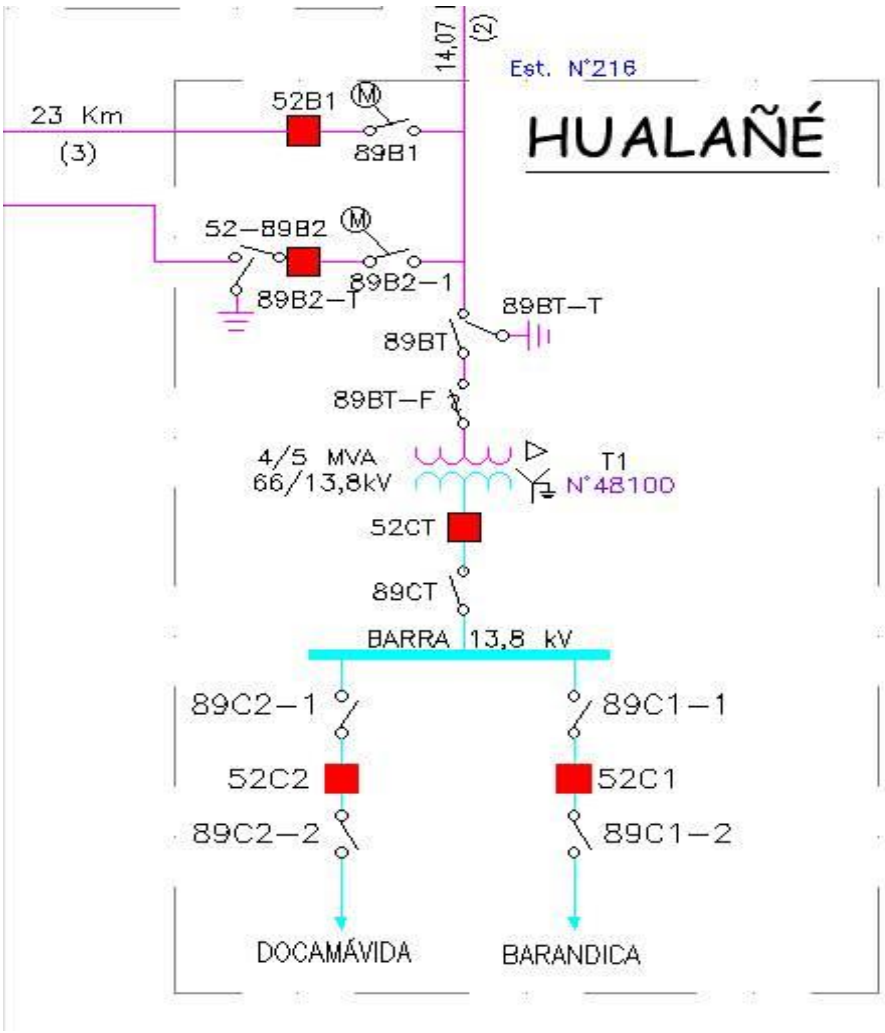

Figura 1. Diagrama simplificado de la instalación afectada.

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4.- PÉRDIDAS DE GENERACIÓN.

-No hay generación de propiedad de CGE S.A., involucrada en la falla.

5.- PÉRDIDAS DE CONSUMOS.

Subestación	Transformador	Alimentador		MW	Horario		Bloque	Clientes Afectados	kVa afectados	Distribuidora	Comunas	Urbano / Rural	N° Incidencia Centrality	Observación
	(Primario)	Nombre	Nema		Desconexión	Normalización			(potencia instalada Dx)					
Hualañé	T1	Barandica	**C1**	0,32	14:03	14:20	**1**	**2939**	**1558,5**	CGE	Hualañé	Rural		Se recuperó de manera normal el 100% de la carga del Cto. 52C1 Cto. Barandica
	T1	Docamávida	**C2**	0,79	14:03	14:51	**1**	**1942**	**1740**	CGE	Hualañé	Rural		Se recuperó de manera normal el 45% de la carga del Cto. 52C2 Cto. Docamávida
	T1	Docamávida	**C2**	-	14:03	14:54	**2**	**366**	**1238**	CGE	Hualañé-Curepto	Rural		Se recuperó de manera normal el 98% de la carga del Cto. 52C2 Cto. Docamávida.
	T1	Docamávida	**C2**	-	14:03	15:55	**3**	**631**	**2128**	CGE	Hualañé-Licantén	Rural		Se recuperó de manera normal el 100% de la carga del Cto. 52C2 Cto. Docamávida.
Total				1,11				**5878**						

Clientes afectados:5878

ENS:1.864 MWH

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6.- CRONOLOGÍA DE EVENTOS Y DESCRIPCIÓN DE CAUSAS.

SUBESTACIÓN	EVENTO	HORARIO
Hualañe	Apertura automática del interruptor general 52CT1 (por falla en redes de MT)	14:03
Hualañe	Apertura manual de interruptor 52C1 Cto. Barandica	14:17
Hualañe	Apertura manual de interruptor 52C2 Cto. Docamavida	14:17
Hualañe	Cierre del interruptor 52CT1 general de MT del transformador N°1.	14:18
Hualañe	Cierre del interruptor 52C1 Cto. Barandica (Se cierre el interruptor de cabecera)	14:20
Hualañe	A solicitud de Despacho de Talca se realiza el cierre del interruptor 52C2 Cto. Docamavida	14:51

El día domingo 18 de septiembre a las 14:03 hrs se produce la desconexión forzada del interruptor general 52CT1 de subestación Hualañe. Se realiza procedimiento de recuperación de barra MT, abiendo los interruptores 52C1 del Cto. Barandica y 52C2 del Cto. Docamavida a las 14:17 horas. A continuación, se cierra el interruptor general 52CT1, recuperando la barra MT a las 14:18 horas.

Posteriormente, se cierra el alimentador C1 Barandica a las 14:20 horas y se solicita la revisión del alimentador C2 Docamavida por presentar una alarma en SCADA. Se informa más tarde el hallazgo de un tirante dañado en poste de la red MT frente a la subestación Hualañe en sector Cementerio. A solicitud del Despacho de CGE se solicita el cierre del interruptor 52C1 a las 14:51 horas recuperando el 100 % de los consumos afectados por esta falla. La falla se origina en redes de MT.

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7.- ESQUEMAS DE PROTECCIÓN Y CONTROL INVOLUCRADOS EN LA FALLA

SUBESTACIÓN	INSTALACIÓN	HORA	RELÉ	PROTECCIÓN OPERADA	TIEMPO OPERACIÓN (S)	OBSERVACIONES
HUALAÑE	52CT1	14:03	RC01 NOJA POWER	No determinado	NO determinado	Falla bifásica en redes de MT.

AJUSTE ACTUAL DE LAS PROTECCIONES

PROTECCIÓN TRANSFORMADOR T-1

PROTECCIÓN 66KV TRANSFORMADOR T-1 (52BT-F)

PROTECCIÓN	03 Fusibles marca S&C tipo SMD 1A 200E
PICK UP	40 E

PROTECCIÓN DE SOBRECORRIENTE, INTERRUPTOR GENERAL 13,2KV (52 CT)

	Protección de Fase	Protección Residual
Reconectador	NOJA POWER / RC01	
Corrientes de Operación	300	120
Curva	UD1	UD1
Reconexión	1 operación	

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Caraterísticas de la curva UD1 implementadas en la unidad.

Ajuste Actual		
Hualañé 52CT		
Unidad de Control	Noja Power RC01	
Sobrecorriente de Fase		
Elemento de Tiempo Inverso		
Pickup	300	[A-prim]
Curva	UD1	
Pointer number	I [A]	t [s]
1	300	14,46
2	304	14,01
3	1260	0,69
4	1295	0,66
5	5897	0,07
Sobrecorriente Residual		
Elemento de Tiempo Inverso		
Pickup	120	[A-prim]
Curva	UD1	
Pointer number	I [A]	t [s]
1	120	27,52
2	218	6,88
3	890	1,38
4	902	1,37
5	3309	0,98

PROTECCIÓN DE SOBRECORRIENTE, ALIMENTADOR DOCAMAVIDA 13,2KV (52 C2)

	Protección de Fase	Protección Residual
Reconectador	NOVA / FORM5	
Corrientes de Operación	132	50
Curva	133	140
Reconexión	2 operaciones	

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ANALISIS DE LA ACTUACIÓN DE LAS PROTECCIONES.

Protección lado MT (13,8 kV) del transformador T1:
Protección Noja Power, control RC-01 52CT1.

Registro de eventos de la unidad de control.

De acuerdo al registro de las protecciones, el control operó sin dejar indicación del tipo de falla y sin registrar corrientes de falla.

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
25-08-2021 10:13:08:223	Reset		EF1+			
05-09-2021 12:03:28:241	Reset		EF1+			
08-09-2021 14:36:08:735	Reset		OC1+	A		
08-09-2021 14:36:08:735	Reset		OC1+	C		
08-09-2021 14:36:08:740	Reset		OC1+	B		
08-09-2021 14:36:08:740	Reset		EF1+			
08-09-2021 17:47:37:051	Reset		OC1+	B		
08-09-2021 17:47:37:051	Reset		OC1+	C		
08-09-2021 17:47:37:056	Reset		OC1+	A		
08-09-2021 17:47:37:056	Reset		EF1+			
11-09-2021 13:22:08:842	Reset		EF1+			
11-09-2021 17:34:11:509	Reset		EF1+			
11-09-2021 17:34:12:774	Reset		EF1+			
11-09-2021 17:34:14:642	Reset		EF1+			
11-09-2021 17:34:15:992	Reset		EF1+			
12-09-2021 15:16:54:910	Reset		OC1+	A		
12-09-2021 15:16:54:910	Reset		EF1+			
12-09-2021 15:57:29:223	Reset		OC1+	A		
12-09-2021 15:57:29:223	Reset		EF1+			
12-09-2021 16:45:36:592	Reset		OC1+	A		
12-09-2021 16:45:36:597	Reset		EF1+			
12-09-2021 16:45:43:740	Reset		OC1+	A		
12-09-2021 16:45:43:745	Reset		EF1+			
17-09-2021 22:29:08:800	Driver comms error	Start	ISC			
18-09-2021 14:02:43:101	Pickup	Start	LSD			
18-09-2021 14:02:47:445	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
18-09-2021 14:16:38:143	Open		Driver			
18-09-2021 14:16:38:146	Pickup	Start	Urst<			
18-09-2021 14:16:40:861	Closed		Driver			
18-09-2021 14:16:41:526	Open		Driver			
18-09-2021 14:16:41:541	Pickup	Start	Urst<			
18-09-2021 14:16:44:476	Driver comms error	End	ISC			
18-09-2021 14:17:35:031	Close		SCADA			

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INSTALACIÓN (ES) SSEE Hualañe	

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
18-09-2021 14:17:35:089	Closed		Driver			
18-09-2021 14:17:35:090	Pickup	End	LSD			
18-09-2021 14:17:35:090	Toir	Start	IR			OIRM=4,00
18-09-2021 14:17:35:189	Toir	End	IR			
18-09-2021 14:17:37:538	AC Off	End	UPS			
19-09-2021 2:05:28:978	Pickup	Start	EF1+			Iop, A=120
19-09-2021 2:05:29:053	Reset		OC1+	C		
19-09-2021 2:05:29:063	Reset		EF1+			
19-09-2021 2:08:50:271	Pickup	Start	OC1+	A		Iop, A=300
19-09-2021 2:08:50:336	Reset		OC1+	A		
19-09-2021 2:08:50:982	Reset		EF1+			
20-09-2021 11:12:13:061	Remote control	End	MMI			

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Registro obtenido del reconectador NOJA POWER, control RC-01 con software Tellus, correspondiente al 52CT1.

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En detalle:

17-09-2021 22:29:08:800	Driver comms error	Start	ISC
18-09-2021 14:02:43:101	Pickup	Start	LSD
18-09-2021 14:02:47:445	AC Off	Start	UPS
18-09-2021 14:16:38:143	Open		Driver
18-09-2021 14:16:38:146	Pickup	Start	Urst<
18-09-2021 14:16:40:861	Closed		Driver
18-09-2021 14:16:41:526	Open		Driver
18-09-2021 14:16:41:541	Pickup	Start	Urst<
18-09-2021 14:16:44:476	Driver comms error	End	ISC
18-09-2021 14:17:35:031	Close		SCADA

TELUS 02.04.05E Event log report Created :20-09-2021 10:20:42

El primer grupo de registros muestra el inicio de una alarma “Driver comms error” el 17-09 a las 22:29 horas, una apertura que se inicia indicando una activación del Detector de Pérdida de Suministro (LSD), pérdida de alimentación AC Off y finalmente Open. Lo cual corresponde a una apertura efectiva a las 14:03 horas, según se vera en el perfil de carga a continuación.

Igualmente, el último registro destacado muestra el término de la alarma “Driver comms error” y posteriormente una orden de cierre vía scada a las 14:18 horas, lo que se verá como un cierre correcto según el perfil de carga.

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Protección MT (13,8 kV) del alimentador Docamavida C2:
Protección Cooper Power, control Form4C.

Registro de eventos de la unidad de control.

```
09/19/11 11:51:40                                52C2_Docamavida_20_09_21.F5D

EVENT RECORDER
    System Events
        09/20/21 12:25:20.180
         OPR      Setting      - Clock has been set.  Previous time:  - 09/20/21 12:25:33
        09/20/21 09:38:40.110
         OPR      Setting      - Clock has been set.  Previous time:  - 09/20/21 09:38:39
        09/20/21 06:52:00.070
         OPR      Setting      - Clock has been set.  Previous time:  - 09/20/21 06:51:54
        09/20/21 04:05:20.000
         OPR      Setting      - Clock has been set.  Previous time:  - 09/20/21 04:05:13
        09/20/21 01:18:40.560
         OPR      Setting      - Clock has been set.  Previous time:  - 09/20/21 01:18:40
        09/20/21 01:09:55.080
         OPR      Setting      - Clock has been set.  Previous time:  - 09/20/21 01:09:58
        09/19/21 22:23:14.930
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 22:23:26
        09/19/21 19:36:34.870
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 19:36:41
        09/19/21 16:49:55.420
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 16:49:56
        09/19/21 15:41:59.840
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 15:41:54
        09/19/21 12:55:20.290
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 12:55:20
        09/19/21 12:53:54.760
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 12:53:50
        09/19/21 10:07:14.730
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 10:07:04
        09/19/21 07:20:34.670
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 07:20:42
        09/19/21 04:33:54.640
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 04:34:04
        09/19/21 01:47:15.170
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 01:47:15
        09/19/21 01:39:40.100
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 01:39:40
        09/19/21 01:22:49.560
         OPR      Setting      - Clock has been set.  Previous time:  - 09/19/21 01:22:55
        09/18/21 22:36:10.040
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 22:36:14
        09/18/21 20:23:04.490
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 20:23:19
        09/18/21 17:52:36.340
         OPR 3-ph Close        - Manual or SCADA -
        09/18/21 17:36:24.440
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 17:36:23
        09/18/21 17:16:38.940
         OPR 3-ph Lockout      - Manual or SCADA                    - PhAI=0, PhBI=0, PhCI=0, GndI=0
        09/18/21 14:49:44.390
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 14:49:55
        09/18/21 12:03:04.350
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 12:03:10
        09/18/21 09:16:24.300
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 09:16:22
        09/18/21 06:29:44.770
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 06:29:54
        09/18/21 04:43:59.230
         OPR      Setting      - Clock has been set.  Previous time:  - 09/18/21 04:44:04
```

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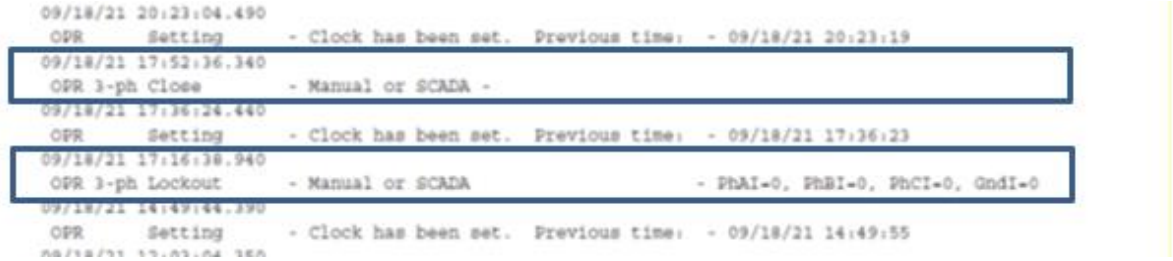

Los registros seleccionados muestran la orden de apertura SCADA realizada a las 17:16 horas del 18-09 y la orden de cierre SCADA realizado a las 17:52 horas, hay un desfase horario de 3 horas correspondiente al cambio de horario GMT.

Se aprecia que la unidad realiza muchos ajustes horarios al día, los cuales pueden estar siendo enviados desde la RTU de SCADA como pulso de sincronización horaria, pero que eventualmente pueden llenar la memoria de registros de eventos y ocasionar pérdida de datos. Se esta realizando consulta al integrador al respecto.

No hay registro de operación por sobrecorriente o detección de sobrecorriente en la unidad.

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Perfiles SCADA de medición de corrientes.

A fin de confirmar los horarios de apertura y pérdida de carga en paño general MT y alimentador C2 Docamavida, como la posterior normalización de estos, se adjuntan registros tomados de los históricos de SCADA (se adjunta archivo completo como datos anexos).

CT1			C2	
Timestamp	Amperes		Timestamp	Amperes
18-sept-21 14:03:00	53,300		18-sept-21 14:03:00	37,806
18-sept-21 14:03:01	53,250		18-sept-21 14:03:01	37,805
18-sept-21 14:03:02	53,200		18-sept-21 14:03:02	37,804
18-sept-21 14:03:03	53,150		18-sept-21 14:03:03	37,803
18-sept-21 14:03:04	53,100		18-sept-21 14:03:04	37,802
18-sept-21 14:03:05	53,050		18-sept-21 14:03:05	37,801
18-sept-21 14:03:06	53,000		18-sept-21 14:03:06	37,800
18-sept-21 14:03:07	52,800		18-sept-21 14:03:07	37,760
18-sept-21 14:03:08	52,600		18-sept-21 14:03:08	37,720
18-sept-21 14:03:09	52,400		18-sept-21 14:03:09	37,680
18-sept-21 14:03:10	52,200		18-sept-21 14:03:10	37,640
18-sept-21 14:03:11	52,000		18-sept-21 14:03:11	37,600
18-sept-21 14:03:12	45,000		18-sept-21 14:03:12	37,560
18-sept-21 14:03:13	38,000		18-sept-21 14:03:13	37,520
18-sept-21 14:03:14	31,000		18-sept-21 14:03:14	37,480
18-sept-21 14:03:15	24,000		18-sept-21 14:03:15	37,440
18-sept-21 14:03:16	17,000		18-sept-21 14:03:16	37,400
18-sept-21 14:03:17	13,600		18-sept-21 14:03:17	37,400
18-sept-21 14:03:18	10,200		18-sept-21 14:03:18	37,400
18-sept-21 14:03:19	6,800		18-sept-21 14:03:19	37,400
18-sept-21 14:03:20	3,400		18-sept-21 14:03:20	37,400
18-sept-21 14:03:21	-		18-sept-21 14:03:21	37,400
18-sept-21 14:03:22	-		18-sept-21 14:03:22	37,400
18-sept-21 14:03:23	-		18-sept-21 14:03:23	37,400
18-sept-21 14:03:24	-		18-sept-21 14:03:24	37,400
18-sept-21 14:03:25	-		18-sept-21 14:03:25	37,400
18-sept-21 14:03:26	-		18-sept-21 14:03:26	37,400
18-sept-21 14:03:27	-		18-sept-21 14:03:27	37,400
18-sept-21 14:03:28	-		18-sept-21 14:03:28	37,400
18-sept-21 14:03:29	-		18-sept-21 14:03:29	37,400
18-sept-21 14:03:30	-		18-sept-21 14:03:30	37,400

Registro scada de la corriente promedio del paño CT1, que muestra el momento de la apertura de este a las 14:03 horas y los valores bajan a cero, mientras los valores del paño C2 no cambian, observándose que se mantiene el valor.

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REGISTROS OPERACIONALES DE SCADA HUALAÑE

18-09-2021	16:33:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	OK	13 kV	MEDIDOR 01 VBC
18-09-2021	16:43:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	LO	13 kV	MEDIDOR 01 VBC
18-09-2021	17:03:11.3	[SCADA_CF]	HUAL_C1_M01_AI_VAB	LOLO	0 kV	MEDIDOR 01 VAB
18-09-2021	17:03:11.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	LOLO	1 kV	MEDIDOR 01 VBC
18-09-2021	17:03:11.3	[SCADA_CF]	HUAL_C1_M01_AI_VCA	LOLO	1 kV	MEDIDOR 01 VCA
18-09-2021	17:03:12.3	[SCADA_CF]	HUAL_C1_M01_AI_V	LOLO	1 kV	MEDIDOR 01 V
18-09-2021	17:03:21.9	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_FALL	CFN	ACTIVA	52C1 EQUIPO FALLA
18-09-2021	17:03:20.8	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_ST	CFN	ACTIVA	52C1 EQUIPO SIN TENSION
18-09-2021	17:03:29.7	[SCADA_CF]	HUAL_C2_PS1-EQUIPO_AL_ST	CFN	ACTIVA	52C2 EQUIPO SIN TENSION
18-09-2021	17:03:19.2	[SCADA_CF]	HUAL_SSAA_220-B1_AI_V	LO	0 VCA	220-B1 VOLTAJE
18-09-2021	17:16:01.1	[SCADA_CF]	HUAL_C2_PS1-79_OR_DESHAB		1	PS1 (79) DESHABILITAR RECONEXION
18-09-2021	17:16:08.8	[SCADA_CF]	HUAL_C1_PS1-79_OR_DESHAB		1	PS1 (79) DESHABILITAR RECONEXION
18-09-2021	17:16:39.1	[SCADA_CF]	HUAL_C2_52C2_OR_ABRIR		1	52C2 ABRIR
18-09-2021	17:16:44.1	[SCADA_CF]	HUAL_C1_52C1_OR_ABRIR		1	52C1 ABRIR
18-09-2021	17:16:44.5	[SCADA_CF]	HUAL_C1_52C1_ST_ABI	CFN	ABIERTO	52C1 ABIERTO
18-09-2021	17:16:44.5	[SCADA_CF]	HUAL_C1_52C1_ST_ABI_X	CFN	ABIERTO	52C1 ABIERTO
18-09-2021	17:16:44.6	[SCADA_CF]	HUAL_C2_52C2_ST_ABI	CFN	ABIERTO	52C2 ABIERTO
18-09-2021	17:16:44.6	[SCADA_CF]	HUAL_C2_52C2_ST_ABI_X	CFN	ABIERTO	52C2 ABIERTO
18-09-2021	17:17:06.9	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI_X	CFN	ABIERTO	52CT1 ABIERTO
18-09-2021	17:17:06.9	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI	CFN	ABIERTO	52CT1 ABIERTO
18-09-2021	17:18:00.9	[SCADA_CF]	HUAL_CT1_52CT1_OR_CERRAR		1	52CT1 CERRAR
18-09-2021	17:18:02.2	[SCADA_CF]	HUAL_SSAA_220-B1_AI_V	OK	222 VCA	220-B1 VOLTAJE
18-09-2021	17:18:04.8	[SCADA_CF]	HUAL_C2_PS1-EQUIPO_AL_ST	OK	NORMAL	52C2 EQUIPO SIN TENSION
18-09-2021	17:18:07.2	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI_X	OK		52CT1 ABIERTO
18-09-2021	17:18:07.2	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI	OK		52CT1 ABIERTO
18-09-2021	17:18:06.3	[SCADA_CF]	HUAL_C1_M01_AI_VCA	OK	13 kV	MEDIDOR 01 VCA
18-09-2021	17:18:06.9	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_FALL	OK	NORMAL	52C1 EQUIPO FALLA
18-09-2021	17:18:02.2	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_ST	OK	NORMAL	52C1 EQUIPO SIN TENSION
18-09-2021	17:20:10.3	[SCADA_CF]	HUAL_C1_52C1_OR_CERRAR		1	52C1 CERRAR
18-09-2021	17:20:10.9	[SCADA_CF]	HUAL_C1_52C1_ST_ABI	OK		52C1 ABIERTO
18-09-2021	17:20:10.9	[SCADA_CF]	HUAL_C1_52C1_ST_ABI_X	OK		52C1 ABIERTO
18-09-2021	17:20:25.1	[SCADA_CF]	HUAL_C1_PS1-79_OR_HABILIT		1	PS1 (79) HABILITAR RECONEXION
18-09-2021	17:23:46.4	[SCADA_CF]	HUAL_C1_M01_AI_VAB	OK	13 kV	MEDIDOR 01 VAB
18-09-2021	17:23:46.4	[SCADA_CF]	HUAL_C1_M01_AI_VBC	OK	13 kV	MEDIDOR 01 VBC
18-09-2021	17:23:47.0	[SCADA_CF]	HUAL_C1_M01_AI_V	OK	13 kV	MEDIDOR 01 V
18-09-2021	17:27:06.1	[SCADA_CF]	HUAL_SSAA_220-B1_AI_V ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:27:10.2	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_ST ALARM	is acknowledg	ed by COTC3::	CRISTIAN AHUMADA
18-09-2021	17:27:12.3	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_FALL ALA	RM is acknowle	dged by COTC3	::CRISTIAN AHUMADA
18-09-2021	17:27:14.4	[SCADA_CF]	HUAL_C2_PS1-EQUIPO_AL_ST ALARM	is acknowledg	ed by COTC3::	CRISTIAN AHUMADA
18-09-2021	17:27:20.1	[SCADA_CF]	HUAL_C1_52C1_ST_ABI ALARM is a	cknowledged by	COTC3::CRIST	IAN AHUMADA
18-09-2021	17:27:22.2	[SCADA_CF]	HUAL_C1_52C1_ST_ABI_X ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:27:24.4	[SCADA_CF]	HUAL_C2_52C2_ST_ABI ALARM is a	cknowledged by	COTC3::CRIST	IAN AHUMADA
18-09-2021	17:27:26.4	[SCADA_CF]	HUAL_C2_52C2_ST_ABI_X ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:27:28.7	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI_X ALARM	is acknowledge	d by COTC3::C	RISTIAN AHUMADA
18-09-2021	17:27:32.4	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:43:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VAB	LO	13 kV	MEDIDOR 01 VAB
18-09-2021	17:43:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VCA	LO	13 kV	MEDIDOR 01 VCA
18-09-2021	17:52:34.5	[SCADA_CF]	HUAL_C2_52C2_OR_CERRAR		1	52C2 CERRAR
18-09-2021	17:52:39.8	[SCADA_CF]	HUAL_C2_52C2_ST_ABI_X	OK		52C2 ABIERTO
18-09-2021	17:52:39.8	[SCADA_CF]	HUAL_C2_52C2_ST_ABI	OK		52C2 ABIERTO
18-09-2021	17:53:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	LO	13 kV	MEDIDOR 01 VBC
18-09-2021	17:53:47.0	[SCADA_CF]	HUAL_C1_M01_AI_V	LO	13 kV	MEDIDOR 01 V
18-09-2021	17:56:23.9	[SCADA_CF]	HUAL_C2_PS1-79_OR_HABILIT		1	PS1 (79) HABILITAR RECONEXION
18-09-2021	18:03:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	OK	13 kV	MEDIDOR 01 VBC

De acuerdo a las secuencias vistas en el SCADA, el operador detecta la apertura del 52CT1 junto con las alarmas 52C1 Equipo falla, 52C1 Equipo sin tensión y 52C2 Equipo sin tensión a las 14:03 horas. Debido a esto, presume una operación del interruptor 52CT en respaldo al alimentador C2. Se procede a aplicar el procedimiento de recuperación de barras, abriendo ambos alimentadores a las 14:16 horas. Luego se cierra el alimentador 52C1 Barandica a las 14:20 horas, instruye realizar una revisión del alimentador Docamavida antes de su cierre. Se realiza una inspección, dando cuenta de un tirante chocado en la cercanía de la subestación sector Cementerio, sin daños en la LMT por lo que se cierra el alimentador a las 14:52 horas.

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8. ACCIONES CORRECTIVAS A CORTO PLAZO

Debido a la operación del reconectador 52CT1 en respaldo del alimentador Docamavida C2, se revisará ajustes de protecciones y se realizarán pruebas a los controles de los paños general 52CT1 y Docamavida 52C2. Por otra parte, se revisará la causa de los datos congelados en registros históricos de perfiles de carga.

9. ACCIONES CORRECTIVAS A LARGO PLAZO

De acuerdo a los resultados de las pruebas y en caso de se necesario, se procederá al reemplazo de los equipos.

10. CONCLUSIONES

Operación de reconectador 52CT en respaldo del 52C2 Docamavida, el cual no opera ante falla en el sistema de distribución quedando cerrado.

11. ANÁLISIS CONJUNTO

El día sábado 18 de septiembre a las 14:03 hrs se produce la desconexión forzada del interruptor general 52CT1. Se aplica procedimiento de recuperación de barras, a las 14:18 horas se tiene energizada la barra MT. A las 14:52 horas se recupera el 100% de los consumos.

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ANEXO N°1
Historico de Alarmas

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18-09-2021	16:33:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	OK	13 kV	MEDIDOR 01 VBC
18-09-2021	16:43:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	LO	13 kV	MEDIDOR 01 VBC
18-09-2021	17:03:11.3	[SCADA_CF]	HUAL_C1_M01_AI_VAB	LOLO	0 kV	MEDIDOR 01 VAB
18-09-2021	17:03:11.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	LOLO	1 kV	MEDIDOR 01 VBC
18-09-2021	17:03:11.3	[SCADA_CF]	HUAL_C1_M01_AI_VCA	LOLO	1 kV	MEDIDOR 01 VCA
18-09-2021	17:03:12.3	[SCADA_CF]	HUAL_C1_M01_AI_V	LOLO	1 kV	MEDIDOR 01 V
18-09-2021	17:03:21.9	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_FALL	CFN	ACTIVA	52C1 EQUIPO FALLA
18-09-2021	17:03:20.8	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_ST	CFN	ACTIVA	52C1 EQUIPO SIN TENSION
18-09-2021	17:03:29.7	[SCADA_CF]	HUAL_C2_PS1-EQUIPO_AL_ST	CFN	ACTIVA	52C2 EQUIPO SIN TENSION
18-09-2021	17:03:19.2	[SCADA_CF]	HUAL_SSAA_220-B1_AI_V	LO	0 VCA	220-B1 VOLTAJE
18-09-2021	17:16:01.1	[SCADA_CF]	HUAL_C2_PS1-79_OR_DESHAB		1	PS1 (79) DESHABILITAR RECONEXION
18-09-2021	17:16:08.8	[SCADA_CF]	HUAL_C1_PS1-79_OR_DESHAB		1	PS1 (79) DESHABILITAR RECONEXION
18-09-2021	17:16:39.1	[SCADA_CF]	HUAL_C2_52C2_OR_ABRIR		1	52C2 ABRIR
18-09-2021	17:16:44.1	[SCADA_CF]	HUAL_C1_52C1_OR_ABRIR		1	52C1 ABRIR
18-09-2021	17:16:44.5	[SCADA_CF]	HUAL_C1_52C1_ST_ABI	CFN	ABIERTO	52C1 ABIERTO
18-09-2021	17:16:44.5	[SCADA_CF]	HUAL_C1_52C1_ST_ABI_X	CFN	ABIERTO	52C1 ABIERTO
18-09-2021	17:16:44.6	[SCADA_CF]	HUAL_C2_52C2_ST_ABI	CFN	ABIERTO	52C2 ABIERTO
18-09-2021	17:16:44.6	[SCADA_CF]	HUAL_C2_52C2_ST_ABI_X	CFN	ABIERTO	52C2 ABIERTO
18-09-2021	17:17:06.9	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI_X	CFN	ABIERTO	52CT1 ABIERTO
18-09-2021	17:17:06.9	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI	CFN	ABIERTO	52CT1 ABIERTO
18-09-2021	17:18:00.9	[SCADA_CF]	HUAL_CT1_52CT1_OR_CERRAR		1	52CT1 CERRAR
18-09-2021	17:18:02.2	[SCADA_CF]	HUAL_SSAA_220-B1_AI_V	OK	222 VCA	220-B1 VOLTAJE
18-09-2021	17:18:04.8	[SCADA_CF]	HUAL_C2_PS1-EQUIPO_AL_ST	OK	NORMAL	52C2 EQUIPO SIN TENSION
18-09-2021	17:18:07.2	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI_X	OK		52CT1 ABIERTO
18-09-2021	17:18:07.2	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI	OK		52CT1 ABIERTO
18-09-2021	17:18:06.3	[SCADA_CF]	HUAL_C1_M01_AI_VCA	OK	13 kV	MEDIDOR 01 VCA
18-09-2021	17:18:06.9	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_FALL	OK	NORMAL	52C1 EQUIPO FALLA
18-09-2021	17:18:02.2	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_ST	OK	NORMAL	52C1 EQUIPO SIN TENSION
18-09-2021	17:20:10.3	[SCADA_CF]	HUAL_C1_52C1_OR_CERRAR		1	52C1 CERRAR
18-09-2021	17:20:10.9	[SCADA_CF]	HUAL_C1_52C1_ST_ABI	OK		52C1 ABIERTO
18-09-2021	17:20:10.9	[SCADA_CF]	HUAL_C1_52C1_ST_ABI_X	OK		52C1 ABIERTO
18-09-2021	17:20:25.1	[SCADA_CF]	HUAL_C1_PS1-79_OR_HABILIT		1	PS1 (79) HABILITAR RECONEXION
18-09-2021	17:23:46.4	[SCADA_CF]	HUAL_C1_M01_AI_VAB	OK	13 kV	MEDIDOR 01 VAB
18-09-2021	17:23:46.4	[SCADA_CF]	HUAL_C1_M01_AI_VBC	OK	13 kV	MEDIDOR 01 VBC
18-09-2021	17:23:47.0	[SCADA_CF]	HUAL_C1_M01_AI_V	OK	13 kV	MEDIDOR 01 V
18-09-2021	17:27:06.1	[SCADA_CF]	HUAL_SSAA_220-B1_AI_V ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:27:10.2	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_ST ALARM	is acknowledg	ed by COTC3::	CRISTIAN AHUMADA
18-09-2021	17:27:12.3	[SCADA_CF]	HUAL_C1_PS1-EQUIPO_AL_FALL ALA	RM is acknowle	dged by COTC3	::CRISTIAN AHUMADA
18-09-2021	17:27:14.4	[SCADA_CF]	HUAL_C2_PS1-EQUIPO_AL_ST ALARM	is acknowledg	ed by COTC3::	CRISTIAN AHUMADA
18-09-2021	17:27:20.1	[SCADA_CF]	HUAL_C1_52C1_ST_ABI ALARM is a	cknowledged by	COTC3::CRIST	IAN AHUMADA
18-09-2021	17:27:22.2	[SCADA_CF]	HUAL_C1_52C1_ST_ABI_X ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:27:24.4	[SCADA_CF]	HUAL_C2_52C2_ST_ABI ALARM is a	cknowledged by	COTC3::CRIST	IAN AHUMADA
18-09-2021	17:27:26.4	[SCADA_CF]	HUAL_C2_52C2_ST_ABI_X ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:27:28.7	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI_X ALARM	is acknowledge	d by COTC3::C	RISTIAN AHUMADA
18-09-2021	17:27:32.4	[SCADA_CF]	HUAL_CT1_52CT1_ST_ABI ALARM is	acknowledged	by COTC3::CRI	STIAN AHUMADA
18-09-2021	17:43:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VAB	LO	13 kV	MEDIDOR 01 VAB
18-09-2021	17:43:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VCA	LO	13 kV	MEDIDOR 01 VCA
18-09-2021	17:52:34.5	[SCADA_CF]	HUAL_C2_52C2_OR_CERRAR		1	52C2 CERRAR
18-09-2021	17:52:39.8	[SCADA_CF]	HUAL_C2_52C2_ST_ABI_X	OK		52C2 ABIERTO
18-09-2021	17:52:39.8	[SCADA_CF]	HUAL_C2_52C2_ST_ABI	OK		52C2 ABIERTO
18-09-2021	17:53:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	LO	13 kV	MEDIDOR 01 VBC
18-09-2021	17:53:47.0	[SCADA_CF]	HUAL_C1_M01_AI_V	LO	13 kV	MEDIDOR 01 V
18-09-2021	17:56:23.9	[SCADA_CF]	HUAL_C2_PS1-79_OR_HABILIT		1	PS1 (79) HABILITAR RECONEXION
18-09-2021	18:03:46.3	[SCADA_CF]	HUAL_C1_M01_AI_VBC	OK	13 kV	MEDIDOR 01 VBC

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ANEXO Nº2
AJUSTES DE PROTECCIONES.
52CT1, 52C2

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52CT1

Group settings

Created : 20-09-2021 10:23:16

MPM #1958 52CT1
SE Hualañe
Group 1 **Normal** Uploaded 20-09-2021 11:17:01
Description : Received 20-09-2021 11:17:01

Phase overcurrent / Earth fault overcurrent (OC/GF)

Phase overcurrent (OC)

	DE map	AR map. Trips : 1st	2nd	3rd	4th
SST	☐	☑	☐	☐	☐
OC1+	☐	L	L	L	L
OC2+	☐	D	D	D	D
OC3+	☐	L	L	L	L
SST	☐	☑	☐	☐	☐
OC1-	☐	D	D	D	D
OC2-	☐	D	D	D	D
OC3-	☐	D	D	D	D

Directional element (DE)
Torque angle (At), ° 60

Earth fault overcurrent (EF)

	DE map	AR map. Trips : 1st	2nd	3rd	4th
SST	☐	☑	☐	☐	☐
EF1+	☐	L	L	L	L
EF2+	☐	D	D	D	D
EF3+	☐	D	D	D	D
SST	☐	☑	☐	☐	☐
EF1-	☐	D	D	D	D
EF2-	☐	D	D	D	D
EF3-	☐	D	D	D	D

Directional element (DE)
Torque angle (At), ° 30

OCEF reclosing (AR OCEF)
1st reclose time (Tr1), s 0,80
2nd reclose time (Tr2), s 10,00
3rd reclose time (Tr3), s 30,00
Reset time (Tres), s 80,00
Number of trips (NT) 1
☑ Zone sequence coordination
☐ VRC Control

LSRM Mode
D LSRM Time, s 15

Cold load pickup (CLP)
Multiplier (CLM) 1,2
Time (Tcl), min 15
Recognition time (Trec), min 15

Inrush restraint (IR)
Multiplier (IRM) 4,0
Time (Tir), s 0,10

Temporary time adder (TTA)
TTA mode Cont
Transient adding time (Tat), s 0,00

Sensitive earth fault (SEF)

	DE map	AR map. Trips 1st	2nd	3rd	4th
SEF+	☐	D	D	D	D
SEF-	☐	D	D	D	D

Directional element (DE)
Torque angle (At), ° 0

SEF reclosing (AR SEF)
1st reclose time (Tr1), s 1,00
2nd reclose time (Tr2), s 20,00
3rd reclose time (Tr3), s 30,00
Reset time (Tres), s 13,00
Number of trips (NT) -
☐ VRC Control

LSRM Mode
D LSRM Time, s 15

Undervoltage (UV)

	Multiplier (UM)	Tripping time (Tt), s	AR UV map
UV1	0,85	10,00	D
UV2	0,80	10,00	D
UV3		10,00	D
Auto Close		120	D
Reclose time (Tr), s		10,00	

VRC
Mode ABC
Multiplier (UM) : 0,80

Underfrequency (UF)
Mode D
Pickup (Fp), Hz 49,50
Tripping time (Tt), s 10,00

ABR
Mode D
Restoration time (Tr), s 100,00
Auto Open **Disabled**
T_ao, min 1
Operations 1
Power Flow Dir changed ☐ Percent 50
Power Flow reduced ☐ 11 180

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Protection curve : OC

	1+	2+	3+	1-	2-	3-
TCC type	UD1	TD		TD	TD	
Pickup current, A		100	6000	100	100	1000
Time multiplier						
Current multiplier	1,00					
Minimum curr. multipl.						
Max. current mult. mode		☐			☐	
Max. current multiplier		10,00			10,00	
Definite min. time, s						
Triping time, s		0,00	1,00	0,00	0,00	0,00
Max. triping time, s						
Time adder, s	0,00					
Reset time, s	0,05	0,05		0,05	0,05	

Pointer number:	I, A	t, s
1	300	14,46
2	304	14,01
3	1260	0,69
4	1295	0,66
5	5897	0,07
6		
7		
Number of sections	2	

Show elements :		☑ 1+	☑ 2+	☑ 3+	☑ Log current scale	Max. current	6000	☐ Background curves
Custom selected	Other	☑ 1-	☑ 2-	☑ 3-	☑ Log time scale	Max. time	120	☐ Minimum curve

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INSTALACIÓN (ES) SSEE Hualañe	

Protection curve : EF

	1+	2+	3+	1-	2-	3-
TCC type	UD1	TD		TD	TD	
Pickup current, A		100	1000	100	100	1000
Time multiplier						
Current multiplier	1,00					
Minimum curr. multipl.						
Max. current mult. mode		☐			☐	
Max. current multiplier		10,00			10,00	
Definite min. time, s						
Triping time, s		0,00	0,00	0,00	0,00	0,00
Max. triping time, s						
Time adder, s	0,00					
Reset time, s	0,05	0,05		0,05	0,05	

Pointer number:	I, A	t, s
1	120	27,52
2	218	6,88
3	890	1,38
4	902	1,37
5	3309	0,98
6		
7		
Number of sections	2	

Show elements :		☑ 1+	☑ 2+	☑ 3+	☑ Log current scale	Max. current	6000	☐ Background curves
Custom selected	Other	☑ 1-	☑ 2-	☑ 3-	☑ Log time scale	Max. time	120	☐ Minimum curve

INFORME (s) CDEC Nº: 2021002648	FECHA DE FALLA: **18 de septiembre 2021**
INSTALACIÓN (ES) SSEE Hualañe	

Protection curve : SEF

	SEF+	SEF-
Pickup current, A	6	4
Triping time, s	14,70	10,00
Reset time, s	0,05	0,05

Show elements : ☑ + ☑ -
Custom selected Other

☑ Log current scale Max. current **6000** ☐ Background curves
☑ Log time scale Max. time **120** ☐ Minimum curve

INFORME (s) CDEC Nº: 2021002648	FECHA DE FALLA: **18 de septiembre 2021**
INSTALACIÓN (ES) SSEE Hualañe	

52C2

Normal Protection Profile
Reset time: 30
Fast Trips Disabled Shots to Lockout: 2
Disc Reset interval: 0
[ ] Sequence Coordination
Maximum Sequence Coordination Operation Number: 2
[ ] Ground Trip Precedence
[ ] Reset Targets on Reclose.
[X] Reclose/Retry.
Retry Interval = 60Secs.
Retry Attempts = 10

	Phase	Ground
Min. Trip	132 Amps	50 Amps
Operations to Lockout 2	2	
Shot 1 TCC	Kyle_ 133	Kyle_ 140
Shot 2 TCC	Kyle_ 133	Kyle_ 140
Shot 3 TCC	Kyle_ 133	Kyle_ 140
Shot 4 TCC	Kyle_ 133	Kyle_ 140
HLT TCC	Kyle_ 133	Kyle_ 140
FTD TCC	Kyle_ 117	Kyle_ 135
Reclose Intervals		
1st Interval	5 Sec.	5 Sec.
2nd Interval	5 Sec.	5 Sec.
3rd Interval	5 Sec.	5 Sec.
High Current Lockout		
1st Operation	Disabled	Disabled
Threshold	3000 Amps	750 Amps
2nd Operation	Disabled	Disabled
Threshold	3000 Amps	750 Amps
3rd Operation	Disabled	Disabled
Threshold	3000 Amps	750 Amps
Cold Load Pickup		
CLP is NOT Enabled		
Trips to Lockout: 1		
Activation Time: 20		
Reclose Interval: 2		
CLP Minimum Trip	300 Amps	50 Amps
TCC	Kyle_ 116	Kyle_ 140
High Current Lockout Disabled	Disabled	
Threshold	3000 Amps	1500 Amps

Sensitive Ground Fault
SGF is Enabled

Minimum Trip:	18 Amps
Trip Time:	90 Secs.
SGF Reclose Interval 1:	2 Secs.
SGF Reclose Interval 2:	2 Secs.
SGF Reclose Interval 3:	2 Secs.
Operations to Lockout:	1
SGF Reset Interval:	30 Secs.

Low Current Trip (LCT)

Phase Trip Modification Time:	10 Secs.
Shot 1:	Off
Shot 2:	Off
Shot 3:	Off
Shot 4:	Off

High Current Trip (HCT)

	Phase	Ground
Trip Modification Time	0.10 secs.	0.05 secs.
Activation Current	1800Amps	750Amps
Shot 1	On	Off
Shot 2	Off	Off

Shot 3	Off	Off
Shot 4	Off	Off

Alternate 1 Protection Profile

Reset time: 30
Fast Trips Disabled Shots to Lockout: 2
Disc Reset interval: 0
[ ] Sequence Coordination
Maximum Sequence Coordination Operation Number: 2
[ ] Ground Trip Precedence
[ ] Reset Targets on Reclose.
[X] Reclose/Retry.
Retry Interval = 60Secs.
Retry Attempts = 10

	Phase	Ground
Min. Trip	258 Amps	50 Amps
Operations to Lockout 2	2	
Shot 1 TCC	Kyle 133_0.25_u	Kyle_ 140
Shot 2 TCC	Kyle 133_0.25_u	Kyle_ 140
Shot 3 TCC	Kyle 133_0.25_u	Kyle_ 140
Shot 4 TCC	Kyle 133_0.25_u	Kyle_ 140
HLT TCC	Kyle_ 101	Kyle_ 101
FTD TCC	Kyle_ 117	Kyle_ 135
Reclose Intervals		
1st Interval	5 Sec.	5 Sec.
2nd Interval	5 Sec.	5 Sec.
3rd Interval	5 Sec.	5 Sec.
High Current Lockout		
1st Operation	Disabled	Disabled
Threshold	6000 Amps	750 Amps
2nd Operation	Disabled	Disabled
Threshold	6000 Amps	750 Amps
3rd Operation	Disabled	Disabled
Threshold	6000 Amps	750 Amps
Cold Load Pickup		
CLP is NOT Enabled		
Trips to Lockout: 2		
Activation Time: 20		
Reclose Interval: 2		
CLP Minimum Trip	200 Amps	100 Amps
TCC	Kyle_ 117	Kyle_ 135
High Current Lockout Disabled	Disabled	
Threshold	6000 Amps	3000 Amps

Sensitive Ground Fault

SGF is Enabled	
Minimum Trip:	18 Amps
Trip Time:	90 Secs.
SGF Reclose Interval 1:	2 Secs.
SGF Reclose Interval 2:	2 Secs.
SGF Reclose Interval 3:	2 Secs.
Operations to Lockout:	1
SGF Reset Interval:	30 Secs.

Low Current Trip (LCT)

Phase Trip Modification Time:	10 Secs.
Shot 1:	Off
Shot 2:	Off
Shot 3:	Off
Shot 4:	Off

High Current Trip (HCT)

	Phase	Ground
Trip Modification Time	0.05 secs.	0.05 secs.
Activation Current	6000Amps	600Amps
Shot 1	Off	Off
Shot 2	Off	Off
Shot 3	Off	Off
Shot 4	Off	Off

Control Information

Control Type	501
CPU Firmware Version	2.17
Database Version	8
Custom Reference Number	KyleStdCLP3

Release Information:

This firmware release was created on May 24 1999 at 11:20:48.

EVENT RECORDER
System Events

09/20/21 12:25:20.180
OPR Setting - Clock has been set. Previous time: - 09/20/21 12:25:33
09/20/21 09:38:40.110
OPR Setting - Clock has been set. Previous time: - 09/20/21 09:38:39
09/20/21 06:52:00.070
OPR Setting - Clock has been set. Previous time: - 09/20/21 06:51:54
09/20/21 04:05:20.000
OPR Setting - Clock has been set. Previous time: - 09/20/21 04:05:13
09/20/21 01:18:40.560
OPR Setting - Clock has been set. Previous time: - 09/20/21 01:18:40
09/20/21 01:09:55.080
OPR Setting - Clock has been set. Previous time: - 09/20/21 01:09:58
09/19/21 22:23:14.930
OPR Setting - Clock has been set. Previous time: - 09/19/21 22:23:26
09/19/21 19:36:34.870
OPR Setting - Clock has been set. Previous time: - 09/19/21 19:36:41
09/19/21 16:49:55.420
OPR Setting - Clock has been set. Previous time: - 09/19/21 16:49:56
09/19/21 15:41:59.840
OPR Setting - Clock has been set. Previous time: - 09/19/21 15:41:54
09/19/21 12:55:20.290
OPR Setting - Clock has been set. Previous time: - 09/19/21 12:55:20
09/19/21 12:53:54.760
OPR Setting - Clock has been set. Previous time: - 09/19/21 12:53:50
09/19/21 10:07:14.730
OPR Setting - Clock has been set. Previous time: - 09/19/21 10:07:04
09/19/21 07:20:34.670
OPR Setting - Clock has been set. Previous time: - 09/19/21 07:20:42
09/19/21 04:33:54.640
OPR Setting - Clock has been set. Previous time: - 09/19/21 04:34:04
09/19/21 01:47:15.170
OPR Setting - Clock has been set. Previous time: - 09/19/21 01:47:15
09/19/21 01:39:40.100
OPR Setting - Clock has been set. Previous time: - 09/19/21 01:39:40
09/19/21 01:22:49.560
OPR Setting - Clock has been set. Previous time: - 09/19/21 01:22:55
09/18/21 22:36:10.040
OPR Setting - Clock has been set. Previous time: - 09/18/21 22:36:14
09/18/21 20:23:04.490
OPR Setting - Clock has been set. Previous time: - 09/18/21 20:23:19
09/18/21 17:52:36.340
OPR 3-ph Close - Manual or SCADA -
09/18/21 17:36:24.440
OPR Setting - Clock has been set. Previous time: - 09/18/21 17:36:23
09/18/21 17:16:38.940
OPR 3-ph Lockout - Manual or SCADA - PhAI=0, PhBI=0, PhCI=0, GndI=0
09/18/21 14:49:44.390
OPR Setting - Clock has been set. Previous time: - 09/18/21 14:49:55
09/18/21 12:03:04.350
OPR Setting - Clock has been set. Previous time: - 09/18/21 12:03:10
09/18/21 09:16:24.300
OPR Setting - Clock has been set. Previous time: - 09/18/21 09:16:22
09/18/21 06:29:44.770
OPR Setting - Clock has been set. Previous time: - 09/18/21 06:29:54
09/18/21 04:43:59.230
OPR Setting - Clock has been set. Previous time: - 09/18/21 04:44:04
09/18/21 01:57:19.160
OPR Setting - Clock has been set. Previous time: - 09/18/21 01:57:20
09/17/21 23:10:39.130
OPR Setting - Clock has been set. Previous time: - 09/17/21 23:10:35
09/17/21 20:23:59.080
OPR Setting - Clock has been set. Previous time: - 09/17/21 20:23:57
09/17/21 17:37:19.030
OPR Setting - Clock has been set. Previous time: - 09/17/21 17:37:38
09/17/21 14:50:38.980
OPR Setting - Clock has been set. Previous time: - 09/17/21 14:50:30
09/17/21 12:03:58.940
OPR Setting - Clock has been set. Previous time: - 09/17/21 12:04:01
09/17/21 09:17:18.900
OPR Setting - Clock has been set. Previous time: - 09/17/21 09:17:17
09/17/21 06:30:38.850
OPR Setting - Clock has been set. Previous time: - 09/17/21 06:30:40
09/17/21 03:43:58.800
OPR Setting - Clock has been set. Previous time: - 09/17/21 03:44:10
09/17/21 00:57:18.750
OPR Setting - Clock has been set. Previous time: - 09/17/21 00:57:24
09/16/21 22:10:39.220
OPR Setting - Clock has been set. Previous time: - 09/16/21 22:10:35
09/16/21 19:59:33.660
OPR Setting - Clock has been set. Previous time: - 09/16/21 19:59:36

09/16/21 17:12:53.610
OPR Setting - Clock has been set. Previous time: - 09/16/21 17:13:08
09/16/21 14:26:14.080
OPR Setting - Clock has been set. Previous time: - 09/16/21 14:26:16
09/16/21 13:54:58.540
OPR Setting - Clock has been set. Previous time: - 09/16/21 13:55:04
09/16/21 11:08:18.520
OPR Setting - Clock has been set. Previous time: - 09/16/21 11:08:11
09/16/21 08:21:38.480
OPR Setting - Clock has been set. Previous time: - 09/16/21 08:21:47
09/16/21 05:34:58.440
OPR Setting - Clock has been set. Previous time: - 09/16/21 05:35:02
09/16/21 02:48:18.490
OPR Setting - Clock has been set. Previous time: - 09/16/21 02:48:21
09/16/21 00:01:38.350
OPR Setting - Clock has been set. Previous time: - 09/16/21 00:01:47
09/15/21 21:14:58.300
OPR Setting - Clock has been set. Previous time: - 09/15/21 21:14:58
09/15/21 18:28:18.340
OPR Setting - Clock has been set. Previous time: - 09/15/21 18:28:27
09/15/21 15:41:38.800
OPR Setting - Clock has been set. Previous time: - 09/15/21 15:41:43
09/15/21 14:36:08.800
OPR Setting - Clock has been set. Previous time: - 09/15/21 14:36:16
09/15/21 12:43:38.290
OPR Setting - Clock has been set. Previous time: - 09/15/21 12:43:51
09/15/21 09:56:58.140
OPR Setting - Clock has been set. Previous time: - 09/15/21 09:56:55
09/15/21 07:10:18.610
OPR Setting - Clock has been set. Previous time: - 09/15/21 07:10:18
09/15/21 07:03:43.100
OPR Setting - Clock has been set. Previous time: - 09/15/21 07:03:48
09/15/21 04:17:03.560
OPR Setting - Clock has been set. Previous time: - 09/15/21 04:17:07
09/15/21 02:33:08.010
OPR Setting - Clock has been set. Previous time: - 09/15/21 02:33:10
09/14/21 23:46:27.990
OPR Setting - Clock has been set. Previous time: - 09/14/21 23:46:27
09/14/21 20:59:47.940
OPR Setting - Clock has been set. Previous time: - 09/14/21 20:59:52
09/14/21 18:13:07.900
OPR Setting - Clock has been set. Previous time: - 09/14/21 18:13:21
09/14/21 15:26:27.870
OPR Setting - Clock has been set. Previous time: - 09/14/21 15:26:36
09/14/21 12:39:47.840
OPR Setting - Clock has been set. Previous time: - 09/14/21 12:39:52
09/14/21 09:53:07.780
OPR Setting - Clock has been set. Previous time: - 09/14/21 09:53:07
09/14/21 07:06:27.750
OPR Setting - Clock has been set. Previous time: - 09/14/21 07:06:28
09/14/21 04:19:48.230
OPR Setting - Clock has been set. Previous time: - 09/14/21 04:19:59
09/14/21 02:17:57.680
OPR Setting - Clock has been set. Previous time: - 09/14/21 02:18:05
09/13/21 23:31:18.150
OPR Setting - Clock has been set. Previous time: - 09/13/21 23:31:16
09/13/21 23:03:27.640
OPR Setting - Clock has been set. Previous time: - 09/13/21 23:03:28
09/13/21 20:16:47.560
OPR Setting - Clock has been set. Previous time: - 09/13/21 20:16:49
09/13/21 17:30:07.540
OPR Setting - Clock has been set. Previous time: - 09/13/21 17:30:09
09/13/21 14:43:27.520
OPR Setting - Clock has been set. Previous time: - 09/13/21 14:43:36
09/13/21 11:56:47.460
OPR Setting - Clock has been set. Previous time: - 09/13/21 11:56:44
09/13/21 09:10:07.400
OPR Setting - Clock has been set. Previous time: - 09/13/21 09:10:02
09/13/21 06:23:27.380
OPR Setting - Clock has been set. Previous time: - 09/13/21 06:23:30
09/13/21 03:36:47.340
OPR Setting - Clock has been set. Previous time: - 09/13/21 03:36:56
09/13/21 00:50:07.380
OPR Setting - Clock has been set. Previous time: - 09/13/21 00:50:04
09/12/21 22:03:27.250
OPR Setting - Clock has been set. Previous time: - 09/12/21 22:03:34
09/12/21 19:16:47.210
OPR Setting - Clock has been set. Previous time: - 09/12/21 19:16:58
09/12/21 16:30:07.180
OPR Setting - Clock has been set. Previous time: - 09/12/21 16:30:07
09/12/21 13:43:27.720
OPR Setting - Clock has been set. Previous time: - 09/12/21 13:43:27

09/12/21 13:22:27.120
OPR Setting - Clock has been set. Previous time: - 09/12/21 13:22:35
09/12/21 10:35:47.670
OPR Setting - Clock has been set. Previous time: - 09/12/21 10:35:46
09/12/21 08:34:57.060
OPR Setting - Clock has been set. Previous time: - 09/12/21 08:34:57
09/12/21 05:48:17.020
OPR Setting - Clock has been set. Previous time: - 09/12/21 05:48:26
09/12/21 03:01:36.970
OPR Setting - Clock has been set. Previous time: - 09/12/21 03:01:38
09/12/21 00:14:56.940
OPR Setting - Clock has been set. Previous time: - 09/12/21 00:14:57
09/11/21 21:28:16.900
OPR Setting - Clock has been set. Previous time: - 09/11/21 21:28:14
09/11/21 18:41:36.870
OPR Setting - Clock has been set. Previous time: - 09/11/21 18:41:41
09/11/21 15:54:56.810
OPR Setting - Clock has been set. Previous time: - 09/11/21 15:55:11
09/11/21 13:08:17.280
OPR Setting - Clock has been set. Previous time: - 09/11/21 13:08:16
09/11/21 13:00:56.760
OPR Setting - Clock has been set. Previous time: - 09/11/21 13:01:08
09/11/21 10:14:16.730
OPR Setting - Clock has been set. Previous time: - 09/11/21 10:14:15
09/11/21 07:27:36.760
OPR Setting - Clock has been set. Previous time: - 09/11/21 07:27:35
09/11/21 04:40:56.610
OPR Setting - Clock has been set. Previous time: - 09/11/21 04:41:01
09/11/21 01:54:16.560
OPR Setting - Clock has been set. Previous time: - 09/11/21 01:54:16
09/10/21 23:07:36.510
OPR Setting - Clock has been set. Previous time: - 09/10/21 23:07:34
09/10/21 20:20:56.470
OPR Setting - Clock has been set. Previous time: - 09/10/21 20:20:53
09/10/21 17:34:16.420
OPR Setting - Clock has been set. Previous time: - 09/10/21 17:34:17
09/10/21 14:47:36.380
OPR Setting - Clock has been set. Previous time: - 09/10/21 14:47:39
09/10/21 12:00:56.440
OPR Setting - Clock has been set. Previous time: - 09/10/21 12:01:05
09/10/21 09:14:16.290
OPR Setting - Clock has been set. Previous time: - 09/10/21 09:14:19
09/10/21 06:27:36.240
OPR Setting - Clock has been set. Previous time: - 09/10/21 06:27:43
09/10/21 03:40:56.200
OPR Setting - Clock has been set. Previous time: - 09/10/21 03:40:59
09/10/21 00:54:16.140
OPR Setting - Clock has been set. Previous time: - 09/10/21 00:54:19
09/09/21 22:07:36.100
OPR Setting - Clock has been set. Previous time: - 09/09/21 22:07:36
09/09/21 19:20:56.050
OPR Setting - Clock has been set. Previous time: - 09/09/21 19:21:03
09/09/21 16:34:16.120
OPR Setting - Clock has been set. Previous time: - 09/09/21 16:34:22
09/09/21 13:47:35.970
OPR Setting - Clock has been set. Previous time: - 09/09/21 13:47:42
09/09/21 11:00:55.930
OPR Setting - Clock has been set. Previous time: - 09/09/21 11:00:56
09/09/21 08:14:15.870
OPR Setting - Clock has been set. Previous time: - 09/09/21 08:14:14
09/09/21 05:27:35.830
OPR Setting - Clock has been set. Previous time: - 09/09/21 05:27:39
09/09/21 02:40:55.790
OPR Setting - Clock has been set. Previous time: - 09/09/21 02:40:58
09/08/21 23:54:16.350
OPR Setting - Clock has been set. Previous time: - 09/08/21 23:54:22
09/08/21 21:51:05.730
OPR Setting - Clock has been set. Previous time: - 09/08/21 21:51:11
09/08/21 19:04:25.680
OPR Setting - Clock has been set. Previous time: - 09/08/21 19:04:37
09/08/21 16:17:46.160
OPR Setting - Clock has been set. Previous time: - 09/08/21 16:18:11
09/08/21 14:05:15.610
OPR Setting - Clock has been set. Previous time: - 09/08/21 14:05:22
09/08/21 11:18:35.590
OPR Setting - Clock has been set. Previous time: - 09/08/21 11:18:36
09/08/21 08:31:55.640
OPR Setting - Clock has been set. Previous time: - 09/08/21 08:32:10
09/08/21 05:45:15.490
OPR Setting - Clock has been set. Previous time: - 09/08/21 05:45:13
09/08/21 02:58:35.550
OPR Setting - Clock has been set. Previous time: - 09/08/21 02:58:46

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09/08/21 00:11:55.410
 OPR      Setting      - Clock has been set.  Previous time:  - 09/08/21 00:11:59
09/07/21 21:25:15.360
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 21:25:22
09/07/21 18:38:35.320
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 18:38:37
09/07/21 15:51:55.280
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 15:52:03
09/07/21 13:05:15.240
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 13:05:20
09/07/21 10:18:35.190
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 10:18:26
09/07/21 07:31:55.680
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 07:32:02
09/07/21 06:03:55.240
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 06:03:59
09/07/21 03:17:15.100
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 03:17:27
09/07/21 00:30:35.570
 OPR      Setting      - Clock has been set.  Previous time:  - 09/07/21 00:30:34
09/06/21 22:09:10.530
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 22:09:14
09/06/21 19:27:35.560
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 19:27:43
09/06/21 17:41:24.940
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 17:41:29
09/06/21 14:54:44.910
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 14:54:52
09/06/21 12:08:04.850
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 12:08:07
09/06/21 09:21:24.790
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 09:21:26
09/06/21 06:34:44.770
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 06:34:41
09/06/21 03:48:04.700
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 03:48:14
09/06/21 01:01:24.680
 OPR      Setting      - Clock has been set.  Previous time:  - 09/06/21 01:01:29
09/05/21 22:14:44.630
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 22:14:48
09/05/21 19:28:04.570
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 19:28:19
09/05/21 16:41:24.630
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 16:41:26
09/05/21 13:54:44.500
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 13:54:52
09/05/21 11:08:04.460
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 11:08:04
09/05/21 08:21:24.410
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 08:21:20
09/05/21 05:34:44.480
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 05:34:46
09/05/21 02:48:04.320
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 02:48:01
09/05/21 00:01:24.270
 OPR      Setting      - Clock has been set.  Previous time:  - 09/05/21 00:01:33
09/04/21 21:14:44.820
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 21:14:50
09/04/21 19:13:44.290
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 19:13:55
09/04/21 16:27:04.140
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 16:27:14
09/04/21 13:40:24.120
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 13:40:44
09/04/21 10:53:44.580
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 10:53:43
09/04/21 10:22:34.050
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 10:22:28
09/04/21 07:35:54.030
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 07:35:53
09/04/21 04:49:14.550
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 04:49:17
09/04/21 02:17:53.930
 OPR      Setting      - Clock has been set.  Previous time:  - 09/04/21 02:18:04
09/03/21 23:31:13.880
 OPR      Setting      - Clock has been set.  Previous time:  - 09/03/21 23:31:11
09/03/21 20:44:33.870
 OPR      Setting      - Clock has been set.  Previous time:  - 09/03/21 20:44:38
09/03/21 17:57:54.300
 OPR      Setting      - Clock has been set.  Previous time:  - 09/03/21 17:57:56
09/03/21 16:44:23.780
 OPR      Setting      - Clock has been set.  Previous time:  - 09/03/21 16:44:12
```

09/03/21 13:57:43.750
OPR Setting - Clock has been set. Previous time: - 09/03/21 13:57:47
09/03/21 11:11:03.690
OPR Setting - Clock has been set. Previous time: - 09/03/21 11:11:01
09/03/21 08:24:23.640
OPR Setting - Clock has been set. Previous time: - 09/03/21 08:24:23
09/03/21 05:37:43.580
OPR Setting - Clock has been set. Previous time: - 09/03/21 05:37:45
09/03/21 02:51:03.560
OPR Setting - Clock has been set. Previous time: - 09/03/21 02:51:06
09/03/21 00:04:23.500
OPR Setting - Clock has been set. Previous time: - 09/03/21 00:04:22
09/02/21 21:17:43.970
OPR Setting - Clock has been set. Previous time: - 09/02/21 21:17:54
09/02/21 18:31:38.920
OPR Setting - Clock has been set. Previous time: - 09/02/21 18:31:40
09/02/21 18:04:48.400
OPR Setting - Clock has been set. Previous time: - 09/02/21 18:05:05
09/02/21 15:18:08.870
OPR Setting - Clock has been set. Previous time: - 09/02/21 15:18:15
09/02/21 13:21:48.330
OPR Setting - Clock has been set. Previous time: - 09/02/21 13:21:51
09/02/21 10:35:08.280
OPR Setting - Clock has been set. Previous time: - 09/02/21 10:35:08
09/02/21 07:48:28.760
OPR Setting - Clock has been set. Previous time: - 09/02/21 07:48:30
09/02/21 06:23:33.810
OPR Setting - Clock has been set. Previous time: - 09/02/21 06:23:34
09/02/21 05:55:48.210
OPR Setting - Clock has been set. Previous time: - 09/02/21 05:55:48
09/02/21 03:09:08.160
OPR Setting - Clock has been set. Previous time: - 09/02/21 03:09:06
09/02/21 00:22:28.630
OPR Setting - Clock has been set. Previous time: - 09/02/21 00:22:35
09/01/21 23:07:58.090
OPR Setting - Clock has been set. Previous time: - 09/01/21 23:07:56
09/01/21 20:21:18.040
OPR Setting - Clock has been set. Previous time: - 09/01/21 20:21:32
09/01/21 17:34:37.990
OPR Setting - Clock has been set. Previous time: - 09/01/21 17:34:41
09/01/21 14:47:57.940
OPR Setting - Clock has been set. Previous time: - 09/01/21 14:48:04
09/01/21 12:01:17.900
OPR Setting - Clock has been set. Previous time: - 09/01/21 12:01:21
09/01/21 09:14:37.860
OPR Setting - Clock has been set. Previous time: - 09/01/21 09:14:38
09/01/21 06:27:58.330
OPR Setting - Clock has been set. Previous time: - 09/01/21 06:27:59
09/01/21 04:41:32.790
OPR Setting - Clock has been set. Previous time: - 09/01/21 04:41:43
09/01/21 01:54:53.330
OPR Setting - Clock has been set. Previous time: - 09/01/21 01:55:03
08/31/21 23:18:02.690
OPR Setting - Clock has been set. Previous time: - 08/31/21 23:18:09
08/31/21 20:31:22.630
OPR Setting - Clock has been set. Previous time: - 08/31/21 20:31:27
08/31/21 17:44:42.580
OPR Setting - Clock has been set. Previous time: - 08/31/21 17:44:56
08/31/21 14:58:02.520
OPR Setting - Clock has been set. Previous time: - 08/31/21 14:58:04
08/31/21 12:11:22.490
OPR Setting - Clock has been set. Previous time: - 08/31/21 12:11:26
08/31/21 09:24:42.440
OPR Setting - Clock has been set. Previous time: - 08/31/21 09:24:46
08/31/21 06:38:02.390
OPR Setting - Clock has been set. Previous time: - 08/31/21 06:38:04
08/31/21 03:51:22.350
OPR Setting - Clock has been set. Previous time: - 08/31/21 03:51:33
08/31/21 01:04:42.300
OPR Setting - Clock has been set. Previous time: - 08/31/21 01:04:50
08/30/21 22:18:02.260
OPR Setting - Clock has been set. Previous time: - 08/30/21 22:18:20
08/30/21 19:31:22.210
OPR Setting - Clock has been set. Previous time: - 08/30/21 19:31:26
08/30/21 16:44:42.750
OPR Setting - Clock has been set. Previous time: - 08/30/21 16:44:43
08/30/21 16:33:52.160
OPR Setting - Clock has been set. Previous time: - 08/30/21 16:33:49
08/30/21 13:47:12.090
OPR Setting - Clock has been set. Previous time: - 08/30/21 13:47:19
08/30/21 11:00:32.060
OPR Setting - Clock has been set. Previous time: - 08/30/21 11:00:35

08/30/21 08:13:52.000
OPR Setting - Clock has been set. Previous time: - 08/30/21 08:13:56
08/30/21 05:27:11.970
OPR Setting - Clock has been set. Previous time: - 08/30/21 05:27:23
08/30/21 02:40:31.920
OPR Setting - Clock has been set. Previous time: - 08/30/21 02:40:37
08/29/21 23:53:51.870
OPR Setting - Clock has been set. Previous time: - 08/29/21 23:53:47
08/29/21 21:07:11.820
OPR Setting - Clock has been set. Previous time: - 08/29/21 21:07:14
08/29/21 18:20:31.770
OPR Setting - Clock has been set. Previous time: - 08/29/21 18:20:30
08/29/21 15:33:51.830
OPR Setting - Clock has been set. Previous time: - 08/29/21 15:33:49
08/29/21 12:47:11.680
OPR Setting - Clock has been set. Previous time: - 08/29/21 12:47:23
08/29/21 10:00:31.650
OPR Setting - Clock has been set. Previous time: - 08/29/21 10:00:32
08/29/21 07:13:52.110
OPR Setting - Clock has been set. Previous time: - 08/29/21 07:13:48
08/29/21 06:08:46.580
OPR Setting - Clock has been set. Previous time: - 08/29/21 06:08:49
08/29/21 03:22:06.540
OPR Setting - Clock has been set. Previous time: - 08/29/21 03:22:07
08/29/21 00:35:26.490
OPR Setting - Clock has been set. Previous time: - 08/29/21 00:35:24
08/28/21 21:48:46.460
OPR Setting - Clock has been set. Previous time: - 08/28/21 21:48:52
08/28/21 19:02:06.400
OPR Setting - Clock has been set. Previous time: - 08/28/21 19:02:17
08/28/21 16:15:26.340
OPR Setting - Clock has been set. Previous time: - 08/28/21 16:15:25
08/28/21 13:28:46.910
OPR Setting - Clock has been set. Previous time: - 08/28/21 13:28:44
08/28/21 13:04:06.320
OPR Setting - Clock has been set. Previous time: - 08/28/21 13:04:17
08/28/21 10:17:26.260
OPR Setting - Clock has been set. Previous time: - 08/28/21 10:17:22
08/28/21 07:30:46.250
OPR Setting - Clock has been set. Previous time: - 08/28/21 07:30:51
08/28/21 04:44:06.210
OPR Setting - Clock has been set. Previous time: - 08/28/21 04:44:12
08/28/21 01:57:26.200
OPR Setting - Clock has been set. Previous time: - 08/28/21 01:57:26
08/27/21 23:10:46.140
OPR Setting - Clock has been set. Previous time: - 08/27/21 23:10:50
08/27/21 20:24:06.100
OPR Setting - Clock has been set. Previous time: - 08/27/21 20:24:07
08/27/21 17:37:26.070
OPR Setting - Clock has been set. Previous time: - 08/27/21 17:37:28
08/27/21 14:50:46.030
OPR Setting - Clock has been set. Previous time: - 08/27/21 14:50:46
08/27/21 12:04:06.000
OPR Setting - Clock has been set. Previous time: - 08/27/21 12:04:09
08/27/21 09:17:25.960
OPR Setting - Clock has been set. Previous time: - 08/27/21 09:17:23
08/27/21 06:30:45.910
OPR Setting - Clock has been set. Previous time: - 08/27/21 06:30:54
08/27/21 03:44:06.400
OPR Setting - Clock has been set. Previous time: - 08/27/21 03:44:11
08/27/21 01:23:40.850
OPR Setting - Clock has been set. Previous time: - 08/27/21 01:23:42
08/26/21 22:37:00.810
OPR Setting - Clock has been set. Previous time: - 08/26/21 22:36:55
08/26/21 19:50:20.770
OPR Setting - Clock has been set. Previous time: - 08/26/21 19:50:35
08/26/21 17:03:40.730
OPR Setting - Clock has been set. Previous time: - 08/26/21 17:03:40
08/26/21 14:17:00.680
OPR Setting - Clock has been set. Previous time: - 08/26/21 14:17:22
08/26/21 11:30:21.250
OPR Setting - Clock has been set. Previous time: - 08/26/21 11:30:25
08/26/21 09:44:50.640
OPR Setting - Clock has been set. Previous time: - 08/26/21 09:44:49
08/26/21 06:58:11.110
OPR Setting - Clock has been set. Previous time: - 08/26/21 06:58:11
08/26/21 06:47:25.600
OPR Setting - Clock has been set. Previous time: - 08/26/21 06:47:28
08/26/21 04:00:45.570
OPR Setting - Clock has been set. Previous time: - 08/26/21 04:00:54
08/26/21 01:14:05.530
OPR Setting - Clock has been set. Previous time: - 08/26/21 01:14:04

```
08/25/21 22:27:26.070
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 22:27:28
08/25/21 21:59:10.480
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 21:59:07
08/25/21 19:12:30.430
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 19:12:55
08/25/21 16:25:50.410
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 16:26:01
08/25/21 13:39:10.380
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 13:39:21
08/25/21 10:52:30.350
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 10:52:35
08/25/21 08:05:50.320
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 08:05:51
08/25/21 05:19:10.270
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 05:19:26
08/25/21 02:32:30.250
 OPR      Setting      - Clock has been set.  Previous time:  - 08/25/21 02:32:36
08/24/21 23:45:50.220
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 23:45:44
08/24/21 20:59:10.170
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 20:59:05
08/24/21 18:12:30.730
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 18:12:35
08/24/21 15:31:10.100
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 15:31:21
08/24/21 12:44:30.070
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 12:44:31
08/24/21 09:57:50.040
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 09:58:03
08/24/21 07:11:10.000
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 07:11:19
08/24/21 04:24:29.960
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 04:24:44
08/24/21 01:37:50.510
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 01:37:51
08/24/21 00:29:04.910
 OPR      Setting      - Clock has been set.  Previous time:  - 08/24/21 00:29:10
08/23/21 21:42:24.870
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 21:42:23
08/23/21 18:55:44.830
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 18:55:50
08/23/21 16:09:04.890
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 16:09:03
08/23/21 13:22:25.350
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 13:22:34
08/23/21 11:17:24.830
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 11:17:26
08/23/21 08:30:44.670
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 08:30:46
08/23/21 05:44:04.670
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 05:44:13
08/23/21 02:57:24.610
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 02:57:30
08/23/21 00:10:45.150
 OPR      Setting      - Clock has been set.  Previous time:  - 08/23/21 00:10:44
08/22/21 23:14:40.140
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 23:14:43
08/22/21 22:15:25.120
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 22:15:26
08/22/21 21:18:45.030
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 21:19:12
08/22/21 19:11:09.480
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 19:11:27
08/22/21 16:24:29.440
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 16:24:50
08/22/21 13:37:49.400
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 13:38:01
08/22/21 10:51:09.880
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 10:51:09
08/22/21 10:38:49.350
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 10:38:43
08/22/21 07:52:09.910
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 07:52:16
08/22/21 06:11:19.300
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 06:11:24
08/22/21 03:24:39.270
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 03:24:48
08/22/21 00:37:59.230
 OPR      Setting      - Clock has been set.  Previous time:  - 08/22/21 00:38:24
08/21/21 21:51:19.770
 OPR      Setting      - Clock has been set.  Previous time:  - 08/21/21 21:51:19
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08/21/21 21:48:44.170
OPR Setting - Clock has been set. Previous time: - 08/21/21 21:49:02
08/21/21 19:02:04.660
OPR Setting - Clock has been set. Previous time: - 08/21/21 19:02:04
08/21/21 19:01:09.250
OPR Setting - Clock has been set. Previous time: - 08/21/21 19:01:20
08/21/21 16:14:29.110
OPR Setting - Clock has been set. Previous time: - 08/21/21 16:14:27
08/21/21 13:27:49.080
OPR Setting - Clock has been set. Previous time: - 08/21/21 13:28:14
08/21/21 10:41:09.030
OPR Setting - Clock has been set. Previous time: - 08/21/21 10:41:06
08/21/21 07:54:28.990
OPR Setting - Clock has been set. Previous time: - 08/21/21 07:54:32
08/21/21 05:07:49.460
OPR Setting - Clock has been set. Previous time: - 08/21/21 05:07:55
08/21/21 03:20:33.930
OPR Setting - Clock has been set. Previous time: - 08/21/21 03:20:38
08/21/21 00:33:54.190
OPR Setting - Clock has been set. Previous time: - 08/21/21 00:33:57
08/21/21 00:00:27.900
OPR Setting - Clock has been set. Previous time: - 08/21/21 00:00:44
08/20/21 21:13:47.840
OPR Setting - Clock has been set. Previous time: - 08/20/21 21:13:52
08/20/21 18:27:07.810
OPR Setting - Clock has been set. Previous time: - 08/20/21 18:27:06
08/20/21 15:40:27.770
OPR Setting - Clock has been set. Previous time: - 08/20/21 15:40:28
08/20/21 12:53:48.320
OPR Setting - Clock has been set. Previous time: - 08/20/21 12:53:50
08/20/21 11:21:37.700
OPR Setting - Clock has been set. Previous time: - 08/20/21 11:21:35
08/20/21 08:34:57.670
OPR Setting - Clock has been set. Previous time: - 08/20/21 08:35:01
08/20/21 05:48:17.630
OPR Setting - Clock has been set. Previous time: - 08/20/21 05:48:22
08/20/21 03:01:37.580
OPR Setting - Clock has been set. Previous time: - 08/20/21 03:01:49
08/20/21 00:14:58.060
OPR Setting - Clock has been set. Previous time: - 08/20/21 00:15:07
08/19/21 21:44:27.500
OPR Setting - Clock has been set. Previous time: - 08/19/21 21:44:47
08/19/21 18:57:48.050
OPR Setting - Clock has been set. Previous time: - 08/19/21 18:57:48
08/19/21 18:55:17.450
OPR Setting - Clock has been set. Previous time: - 08/19/21 18:55:18
08/19/21 16:08:37.410
OPR Setting - Clock has been set. Previous time: - 08/19/21 16:08:37
08/19/21 13:21:57.380
OPR Setting - Clock has been set. Previous time: - 08/19/21 13:22:04
08/19/21 10:35:17.340
OPR Setting - Clock has been set. Previous time: - 08/19/21 10:35:24
08/19/21 07:48:37.290
OPR Setting - Clock has been set. Previous time: - 08/19/21 07:48:43
08/19/21 05:01:57.250
OPR Setting - Clock has been set. Previous time: - 08/19/21 05:02:08
08/19/21 02:15:17.310
OPR Setting - Clock has been set. Previous time: - 08/19/21 02:15:26
08/18/21 23:28:37.170
OPR Setting - Clock has been set. Previous time: - 08/18/21 23:28:39
08/18/21 20:41:57.640
OPR Setting - Clock has been set. Previous time: - 08/18/21 20:41:56
08/18/21 20:04:32.220
OPR Setting - Clock has been set. Previous time: - 08/18/21 20:04:27
08/18/21 17:17:52.080
OPR Setting - Clock has been set. Previous time: - 08/18/21 17:17:55
08/18/21 14:31:12.050
OPR Setting - Clock has been set. Previous time: - 08/18/21 14:31:16
08/18/21 11:44:31.990
OPR Setting - Clock has been set. Previous time: - 08/18/21 11:44:41
08/18/21 08:57:51.960
OPR Setting - Clock has been set. Previous time: - 08/18/21 08:58:06
08/18/21 06:11:11.920
OPR Setting - Clock has been set. Previous time: - 08/18/21 06:11:21
08/18/21 03:24:31.880
OPR Setting - Clock has been set. Previous time: - 08/18/21 03:24:44
08/18/21 00:37:51.840
OPR Setting - Clock has been set. Previous time: - 08/18/21 00:37:54
08/17/21 21:51:11.790
OPR Setting - Clock has been set. Previous time: - 08/17/21 21:51:10
08/17/21 19:04:31.750
OPR Setting - Clock has been set. Previous time: - 08/17/21 19:04:37

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08/17/21 16:17:51.710
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 16:17:55
08/17/21 13:31:11.670
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 13:31:17
08/17/21 10:44:32.230
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 10:44:27
08/17/21 09:26:16.620
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 09:26:19
08/17/21 06:39:36.670
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 06:39:42
08/17/21 03:52:56.540
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 03:53:02
08/17/21 01:06:16.500
 OPR      Setting      - Clock has been set.  Previous time:  - 08/17/21 01:06:17
08/16/21 22:19:36.570
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 22:19:46
08/16/21 19:32:56.430
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 19:33:00
08/16/21 16:46:16.400
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 16:46:18
08/16/21 13:59:36.380
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 13:59:29
08/16/21 11:12:56.310
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 11:12:57
08/16/21 08:26:16.280
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 08:26:24
08/16/21 05:39:36.270
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 05:39:46
08/16/21 02:52:56.240
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 02:53:09
08/16/21 00:06:16.200
 OPR      Setting      - Clock has been set.  Previous time:  - 08/16/21 00:06:15
08/15/21 21:19:36.170
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 21:19:43
08/15/21 18:32:56.130
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 18:32:52
08/15/21 15:46:16.110
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 15:46:09
08/15/21 12:59:36.660
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 12:59:38
08/15/21 12:31:01.070
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 12:31:02
08/15/21 09:44:21.630
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 09:44:20
08/15/21 08:21:11.030
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 08:21:20
08/15/21 05:34:31.000
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 05:34:43
08/15/21 02:47:50.950
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 02:48:03
08/15/21 00:01:10.940
 OPR      Setting      - Clock has been set.  Previous time:  - 08/15/21 00:01:04
08/14/21 21:14:30.910
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 21:14:39
08/14/21 18:27:50.980
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 18:27:54
08/14/21 15:41:10.840
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 15:41:06
08/14/21 12:54:30.810
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 12:54:32
08/14/21 10:07:50.780
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 10:07:48
08/14/21 07:21:10.750
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 07:21:21
08/14/21 04:34:31.230
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 04:34:34
08/14/21 02:26:11.200
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 02:26:11
08/14/21 01:42:40.660
 OPR      Setting      - Clock has been set.  Previous time:  - 08/14/21 01:42:44
08/13/21 22:56:01.160
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 22:56:00
08/13/21 22:20:16.220
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 22:20:14
08/13/21 20:30:00.610
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 20:30:16
08/13/21 17:43:20.570
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 17:43:34
08/13/21 14:56:40.640
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 14:56:35
08/13/21 12:10:01.020
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 12:10:02
```

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08/13/21 11:33:15.520
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 11:33:15
08/13/21 08:46:36.050
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 08:46:34
08/13/21 07:07:15.940
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 07:07:19
08/13/21 05:26:10.520
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 05:26:28
08/13/21 02:39:30.400
 OPR      Setting      - Clock has been set.  Previous time:  - 08/13/21 02:39:31
08/12/21 23:52:50.370
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 23:52:52
08/12/21 21:06:10.860
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 21:06:11
08/12/21 19:55:20.310
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 19:55:32
08/12/21 17:08:40.280
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 17:08:42
08/12/21 14:22:00.780
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 14:21:57
08/12/21 13:13:00.250
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 13:12:50
08/12/21 10:26:20.230
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 10:26:12
08/12/21 07:39:40.190
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 07:39:43
08/12/21 04:53:00.680
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 04:53:01
08/12/21 02:50:05.150
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 02:50:04
08/12/21 00:03:25.610
 OPR      Setting      - Clock has been set.  Previous time:  - 08/12/21 00:03:26
08/11/21 23:06:35.090
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 23:06:34
08/11/21 20:19:55.060
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 20:20:04
08/11/21 17:33:15.030
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 17:33:28
08/11/21 14:46:35.000
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 14:46:34
08/11/21 11:59:54.960
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 11:59:57
08/11/21 09:13:15.470
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 09:13:14
08/11/21 08:27:10.450
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 08:27:13
08/11/21 06:29:54.920
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 06:30:03
08/11/21 03:43:14.990
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 03:43:27
08/11/21 00:56:34.850
 OPR      Setting      - Clock has been set.  Previous time:  - 08/11/21 00:56:36
08/10/21 22:09:54.820
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 22:09:48
08/10/21 19:23:15.300
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 19:23:26
08/10/21 17:21:55.270
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 17:22:05
08/10/21 15:40:59.740
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 15:41:04
08/10/21 12:54:19.710
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 12:54:26
08/10/21 10:07:39.670
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 10:07:48
08/10/21 07:20:59.640
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 07:21:01
08/10/21 04:34:19.600
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 04:34:32
08/10/21 01:47:39.550
 OPR      Setting      - Clock has been set.  Previous time:  - 08/10/21 01:47:54
08/09/21 23:00:59.630
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 23:01:04
08/09/21 20:14:19.480
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 20:14:27
08/09/21 17:27:39.430
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 17:27:48
08/09/21 14:40:59.420
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 14:40:54
08/09/21 11:54:19.390
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 11:54:27
08/09/21 09:07:39.350
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 09:07:54
```

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08/09/21 06:20:59.310
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 06:21:18
08/09/21 03:34:19.280
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 03:34:23
08/09/21 00:47:39.330
 OPR      Setting      - Clock has been set.  Previous time:  - 08/09/21 00:47:31
08/08/21 22:00:59.210
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 22:00:59
08/08/21 19:14:19.160
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 19:14:19
08/08/21 16:27:39.130
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 16:27:34
08/08/21 13:40:59.100
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 13:40:55
08/08/21 10:54:19.090
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 10:54:16
08/08/21 08:07:39.050
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 08:07:49
08/08/21 05:20:58.990
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 05:20:58
08/08/21 02:34:18.950
 OPR      Setting      - Clock has been set.  Previous time:  - 08/08/21 02:34:09
08/07/21 23:47:38.900
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 23:47:41
08/07/21 21:00:58.860
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 21:01:09
08/07/21 18:14:18.830
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 18:14:22
08/07/21 15:27:38.800
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 15:27:35
08/07/21 12:40:58.750
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 12:41:11
08/07/21 09:54:19.240
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 09:54:31
08/07/21 07:58:43.690
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 07:58:59
08/07/21 05:12:04.250
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 05:11:59
08/07/21 03:05:18.610
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 03:05:11
08/07/21 00:18:38.600
 OPR      Setting      - Clock has been set.  Previous time:  - 08/07/21 00:18:33
08/06/21 21:31:58.560
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 21:32:00
08/06/21 18:45:18.520
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 18:45:21
08/06/21 15:58:38.490
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 15:58:34
08/06/21 13:11:58.450
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 13:12:04
08/06/21 10:25:18.440
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 10:25:26
08/06/21 07:38:38.370
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 07:38:56
08/06/21 04:51:58.360
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 04:52:09
08/06/21 02:05:18.320
 OPR      Setting      - Clock has been set.  Previous time:  - 08/06/21 02:05:20
08/05/21 23:18:38.310
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 23:18:35
08/05/21 20:31:58.250
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 20:31:51
08/05/21 17:45:18.190
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 17:45:19
08/05/21 14:58:38.690
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 14:58:42
08/05/21 13:39:13.160
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 13:39:10
08/05/21 10:52:33.120
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 10:52:43
08/05/21 08:05:53.100
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 08:05:55
08/05/21 05:19:13.640
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 05:19:16
08/05/21 04:28:18.040
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 04:28:24
08/05/21 01:41:38.000
 OPR      Setting      - Clock has been set.  Previous time:  - 08/05/21 01:41:38
08/04/21 22:54:57.960
 OPR      Setting      - Clock has been set.  Previous time:  - 08/04/21 22:54:59
08/04/21 20:08:18.030
 OPR      Setting      - Clock has been set.  Previous time:  - 08/04/21 20:08:31
```

```
        08/04/21 17:21:38.400
         OPR      Setting      - Clock has been set.  Previous time:  - 08/04/21 17:21:43
        08/04/21 15:59:47.960
         OPR      Setting      - Clock has been set.  Previous time:  - 08/04/21 15:59:48
    Error Events
PROTECTION PROFILES
    Configured TCC's
        TCC # 1:        Kyle_ 101                       TCC # 2:        Kyle_ 102
        TCC # 3:        Kyle 133_0.25_u                 TCC # 4:        Kyle 102_0.50
        TCC # 5:        Kyle_ 106                       TCC # 6:        Kyle_ 111
        TCC # 7:        Kyle_ 114                       TCC # 8:        Kyle_ 116
        TCC # 9:        Kyle_ 117                       TCC #10:        Kyle138x2+0.07
        TCC #11:        Kyle_ 131                       TCC #12:        Kyle_ 132
        TCC #13:        Kyle_ 133                       TCC #14:        Kyle_ 135
        TCC #15:        Kyle_ 136                       TCC #16:        Kyle_ 138
        TCC #17:        Kyle_ 140                       TCC #18:        Kyle_ 141
        TCC #19:        Kyle_ 142                       TCC #20:        Kyle_ 162
    Protection Profiles TCC's

        Normal Protection Profile
            Reset time:                  30
            Fast Trips Disabled Shots to Lockout: 2
            Disc Reset interval:         0
            [ ] Sequence Coordination
            Maximum Sequence Coordination Operation Number: 2
            [ ] Ground Trip Precedence
            [ ] Reset Targets on Reclose.
            [X] Reclose/Retry.
            Retry Interval = 60Secs.
            Retry Attempts = 10
                                        Phase                          Ground
            Min. Trip                   132 Amps                       50 Amps
            Operations to
            Lockout  2                  2
            Shot 1 TCC                  Kyle_ 133                      Kyle_ 140
            Shot 2 TCC                  Kyle_ 133                      Kyle_ 140
            Shot 3 TCC                  Kyle_ 133                      Kyle_ 140
            Shot 4 TCC                  Kyle_ 133                      Kyle_ 140
            HLT TCC                     Kyle_ 133                      Kyle_ 140
            FTD TCC                     Kyle_ 117                      Kyle_ 135
            Reclose Intervals
                1st Interval            5 Sec.                         5 Sec.
                2nd Interval            5 Sec.                         5 Sec.
                3rd Interval            5 Sec.                         5 Sec.
            High Current Lockout
                1st Operation           Disabled                       Disabled
                        Threshold       3000 Amps                      750 Amps
                2nd Operation           Disabled                       Disabled
                        Threshold       3000 Amps                      750 Amps
                3rd Operation           Disabled                       Disabled
                        Threshold       3000 Amps                      750 Amps
            Cold Load Pickup
                CLP is NOT Enabled
                Trips to Lockout: 1
                Activation Time:  20
                Reclose Interval: 2
                CLP Minimum Trip        300 Amps                       50 Amps
                TCC                     Kyle_ 116                      Kyle_ 140
                High Current
                Lockout  Disabled       Disabled
                        Threshold       3000 Amps                      1500 Amps
            Sensitive Ground Fault
                SGF is Enabled
                Minimum Trip:                           18 Amps
                Trip Time:                              90 Secs.
                SGF Reclose Interval 1:                 2 Secs.
                SGF Reclose Interval 2:                 2 Secs.
                SGF Reclose Interval 3:                 2 Secs.
                Operations to Lockout:                  1
                SGF Reset Interval:                     30 Secs.
            Low Current Trip (LCT)
                Phase Trip Modification Time:           10 Secs.
                Shot 1:                                 Off
                Shot 2:                                 Off
                Shot 3:                                 Off
                Shot 4:                                 Off
            High Current Trip (HCT)
                                            Phase           Ground
                Trip Modification Time      0.10 secs.      0.05 secs.
                Activation Current          1800Amps        750Amps
                Shot 1                      On              Off
                Shot 2                      Off             Off
```

Shot 3	Off	Off
Shot 4	Off	Off

Alternate 1 Protection Profile

Reset time: 30
Fast Trips Disabled Shots to Lockout: 2
Disc Reset interval: 0
[ ] Sequence Coordination
Maximum Sequence Coordination Operation Number: 2
[ ] Ground Trip Precedence
[ ] Reset Targets on Reclose.
[X] Reclose/Retry.
Retry Interval = 60Secs.
Retry Attempts = 10

	Phase	Ground
Min. Trip	258 Amps	50 Amps
Operations to Lockout 2	2	
Shot 1 TCC	Kyle 133_0.25_u	Kyle_ 140
Shot 2 TCC	Kyle 133_0.25_u	Kyle_ 140
Shot 3 TCC	Kyle 133_0.25_u	Kyle_ 140
Shot 4 TCC	Kyle 133_0.25_u	Kyle_ 140
HLT TCC	Kyle_ 101	Kyle_ 101
FTD TCC	Kyle_ 117	Kyle_ 135
Reclose Intervals		
1st Interval	5 Sec.	5 Sec.
2nd Interval	5 Sec.	5 Sec.
3rd Interval	5 Sec.	5 Sec.
High Current Lockout		
1st Operation	Disabled	Disabled
Threshold	6000 Amps	750 Amps
2nd Operation	Disabled	Disabled
Threshold	6000 Amps	750 Amps
3rd Operation	Disabled	Disabled
Threshold	6000 Amps	750 Amps
Cold Load Pickup		
CLP is NOT Enabled		
Trips to Lockout: 2		
Activation Time: 20		
Reclose Interval: 2		
CLP Minimum Trip	200 Amps	100 Amps
TCC	Kyle_ 117	Kyle_ 135
High Current Lockout Disabled	Disabled	
Threshold	6000 Amps	3000 Amps
Sensitive Ground Fault		
SGF is Enabled		
Minimum Trip:	18 Amps	
Trip Time:	90 Secs.	
SGF Reclose Interval 1:	2 Secs.	
SGF Reclose Interval 2:	2 Secs.	
SGF Reclose Interval 3:	2 Secs.	
Operations to Lockout:	1	
SGF Reset Interval:	30 Secs.	
Low Current Trip (LCT)		
Phase Trip Modification Time:	10 Secs.	
Shot 1:	Off	
Shot 2:	Off	
Shot 3:	Off	
Shot 4:	Off	

High Current Trip (HCT)

	Phase	Ground
Trip Modification Time	0.05 secs.	0.05 secs.
Activation Current	6000Amps	600Amps
Shot 1	Off	Off
Shot 2	Off	Off
Shot 3	Off	Off
Shot 4	Off	Off

Alternate 2 Protection Profile

Reset time: 30
Fast Trips Disabled Shots to Lockout: 2
Disc Reset interval: 0
[X] Sequence Coordination
Maximum Sequence Coordination Operation Number: 2
[X] Ground Trip Precedence
[X] Reset Targets on Reclose.
[X] Reclose/Retry.
Retry Interval = 60Secs.
Retry Attempts = 10

	Phase	Ground
Min. Trip	200 Amps	100 Amps

Operations to Lockout 4	4	
Shot 1 TCC	Kyle_ 133	Kyle_ 140
Shot 2 TCC	Kyle_ 133	Kyle_ 140
Shot 3 TCC	Kyle_ 133	Kyle_ 140
Shot 4 TCC	Kyle_ 133	Kyle_ 140
HLT TCC	Kyle_ 101	Kyle_ 101
FTD TCC	Kyle_ 117	Kyle_ 135
Reclose Intervals		
1st Interval	2 Sec.	2 Sec.
2nd Interval	2 Sec.	2 Sec.
3rd Interval	5 Sec.	5 Sec.
High Current Lockout		
1st Operation	Disabled	Disabled
Threshold	6000 Amps	3000 Amps
2nd Operation	Disabled	Disabled
Threshold	6000 Amps	3000 Amps
3rd Operation	Disabled	Disabled
Threshold	6000 Amps	3000 Amps
Cold Load Pickup		
CLP is NOT Enabled		
Trips to Lockout: 2		
Activation Time: 20		
Reclose Interval: 2		
CLP Minimum Trip	200 Amps	100 Amps
TCC	Kyle_ 117	Kyle_ 135
High Current Lockout Disabled	Disabled	
Threshold	6000 Amps	3000 Amps

Sensitive Ground Fault

SGF is NOT Enabled	
Minimum Trip:	40 Amps
Trip Time:	120 Secs.
SGF Reclose Interval 1:	2 Secs.
SGF Reclose Interval 2:	2 Secs.
SGF Reclose Interval 3:	2 Secs.
Operations to Lockout:	4
SGF Reset Interval:	30 Secs.

Low Current Trip (LCT)

Phase Trip Modification Time:	10 Secs.
Shot 1:	Off
Shot 2:	Off
Shot 3:	Off
Shot 4:	Off

High Current Trip (HCT)

	Phase	Ground
Trip Modification Time	0.05 secs.	0.05 secs.
Activation Current	6000Amps	3000Amps
Shot 1	Off	Off
Shot 2	Off	Off
Shot 3	Off	Off
Shot 4	Off	Off

Alternate 3 Protection Profile

Reset time: 30
Fast Trips Disabled Shots to Lockout: 2
Disc Reset interval: 0
[X] Sequence Coordination
Maximum Sequence Coordination Operation Number: 2
[X] Ground Trip Precedence
[X] Reset Targets on Reclose.
[X] Reclose/Retry.
Retry Interval = 60Secs.
Retry Attempts = 10

	Phase	Ground
Min. Trip	200 Amps	100 Amps
Operations to Lockout 4	4	
Shot 1 TCC	Kyle_ 133	Kyle_ 140
Shot 2 TCC	Kyle_ 133	Kyle_ 140
Shot 3 TCC	Kyle_ 133	Kyle_ 140
Shot 4 TCC	Kyle_ 133	Kyle_ 140
HLT TCC	Kyle_ 101	Kyle_ 101
FTD TCC	Kyle_ 117	Kyle_ 135
Reclose Intervals		
1st Interval	2 Sec.	2 Sec.
2nd Interval	2 Sec.	2 Sec.
3rd Interval	5 Sec.	5 Sec.
High Current Lockout		
1st Operation	Disabled	Disabled
Threshold	6000 Amps	3000 Amps
2nd Operation	Disabled	Disabled

Threshold	6000 Amps	3000 Amps
3rd Operation	Disabled	Disabled
Threshold	6000 Amps	3000 Amps

Cold Load Pickup

CLP is NOT Enabled
Trips to Lockout: 2
Activation Time: 20
Reclose Interval: 2

CLP Minimum Trip	200 Amps	100 Amps
TCC	Kyle_ 117	Kyle_ 135
High Current		
Lockout Disabled	Disabled	
Threshold	6000 Amps	3000 Amps

Sensitive Ground Fault

SGF is NOT Enabled

Minimum Trip:	40 Amps
Trip Time:	120 Secs.
SGF Reclose Interval 1:	2 Secs.
SGF Reclose Interval 2:	2 Secs.
SGF Reclose Interval 3:	2 Secs.
Operations to Lockout:	4
SGF Reset Interval:	30 Secs.

Low Current Trip (LCT)

Phase Trip Modification Time:	10 Secs.
Shot 1:	Off
Shot 2:	Off
Shot 3:	Off
Shot 4:	Off

High Current Trip (HCT)

	Phase	Ground
Trip Modification Time	0.05 secs.	0.05 secs.
Activation Current	6000Amps	3000Amps
Shot 1	Off	Off
Shot 2	Off	Off
Shot 3	Off	Off
Shot 4	Off	Off

Event log

Created : 20-09-2021 10:20:42

MPM #1958 52CT1
SE Hualañe

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
Data may be lost						
04-03-2015 16:48:03:178	Reset		EF1+			
09-03-2015 14:24:19:369	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
09-03-2015 14:24:29:369	AC Off	End	UPS			
10-03-2015 9:07:44:106	Reset		OC1+	A		
10-03-2015 9:07:44:106	Reset		OC1+	B		
13-03-2015 9:31:17:822	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
13-03-2015 9:34:47:844	AC Off	End	UPS			
13-03-2015 9:38:07:870	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
13-03-2015 9:38:37:873	AC Off	End	UPS			
15-03-2015 4:49:33:846	Reset		EF1+			
16-03-2015 3:51:24:772	Reset		EF1+			
24-03-2015 20:36:37:979	Reset		OC1+	A		
24-03-2015 20:36:37:979	Reset		OC1+	C		
27-03-2015 4:08:34:911	Reset		EF1+			
19-04-2015 7:47:40:635	Reset		OC1+	A		
19-04-2015 7:47:40:645	Reset		EF1+			
09-05-2015 1:07:23:466	Reset		OC1+	A		
09-05-2015 1:07:23:476	Reset		EF1+			
09-05-2015 1:33:29:272	Reset		EF1+			
28-05-2015 8:02:34:152	Pickup	Start	LSD			
28-05-2015 8:02:44:098	Pickup	End	LSD			
28-05-2015 8:02:44:098	Toir	Start	IR			OIRM=4,00
28-05-2015 8:02:44:178	Toir	End	IR			
29-05-2015 19:24:51:322	Reset		OC1+	A		
29-05-2015 19:24:51:322	Reset		OC1+	B		
03-06-2015 14:48:04:523	Reset		EF1+			
03-06-2015 14:48:04:723	Reset		EF1+			
03-06-2015 14:48:04:883	Reset		EF1+			
03-06-2015 14:48:05:083	Reset		EF1+			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
13-06-2015 13:42:49:171	Reset		EF1+			
15-06-2015 10:22:14:511	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
15-06-2015 10:22:34:514	AC Off	End	UPS			
15-06-2015 14:54:02:283	Reset		OC1+	A		
15-06-2015 14:54:02:283	Reset		OC1+	B		
23-06-2015 10:29:06:283	Reset		EF1+			
11-07-2015 16:39:50:979	Reset		OC1+	A		
11-07-2015 16:39:50:989	Reset		EF1+			
12-07-2015 3:53:30:916	Reset		OC1+	A		
12-07-2015 3:53:30:921	Reset		EF1+			
12-07-2015 3:53:41:085	Reset		OC1+	A		
12-07-2015 3:53:41:095	Reset		EF1+			
12-07-2015 9:43:36:958	Reset		OC1+	A		
12-07-2015 9:43:36:958	Reset		OC1+	B		
12-07-2015 10:12:05:340	Reset		OC1+	A		
12-07-2015 10:12:05:340	Reset		OC1+	B		
12-07-2015 13:38:49:519	Reset		EF1+			
12-07-2015 13:38:51:303	Reset		EF1+			
14-07-2015 5:12:05:545	Reset		EF1+			
14-07-2015 5:12:07:084	Reset		EF1+			
16-07-2015 9:33:11:130	Pickup	Start	LSD			
16-07-2015 9:33:21:131	Pickup	End	LSD			
16-07-2015 9:33:21:131	Toir	Start	IR			OIRM=4,00
16-07-2015 9:33:21:211	Toir	End	IR			
08-08-2015 0:38:53:161	Reset		OC1+	A		
08-08-2015 0:38:53:171	Reset		EF1+			
08-08-2015 0:39:03:327	Reset		OC1+	A		
08-08-2015 0:39:03:332	Reset		EF1+			
08-08-2015 1:50:56:135	Reset		OC1+	A		
08-08-2015 1:50:56:140	Reset		OC1+	B		
08-08-2015 14:20:30:046	Reset		EF1+			
08-08-2015 14:20:31:524	Reset		EF1+			
08-08-2015 15:14:31:489	Reset		OC1+	A		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
08-08-2015 15:14:31:489	Reset		OC1+	B		
08-08-2015 15:27:56:694	Reset		OC1+	B		
08-08-2015 15:27:56:694	Reset		OC1+	C		
08-08-2015 15:27:59:260	Reset		OC1+	B		
08-08-2015 15:27:59:260	Reset		OC1+	C		
08-08-2015 16:01:06:086	Reset		EF1+			
08-08-2015 16:01:44:485	Reset		OC1+	A		
08-08-2015 16:01:44:495	Reset		EF1+			
08-08-2015 16:01:55:139	Reset		EF1+			
08-08-2015 16:18:43:785	Reset		OC1+	A		
08-08-2015 16:18:43:785	Reset		OC1+	B		
08-08-2015 16:18:43:785	Reset		OC1+	C		
08-08-2015 16:25:41:342	Reset		OC1+	C		
08-08-2015 16:25:41:347	Reset		OC1+	A		
08-08-2015 16:25:41:347	Reset		OC1+	B		
08-08-2015 16:55:00:510	Reset		OC1+	C		
08-08-2015 16:55:25:655	Reset		OC1+	B		
08-08-2015 16:55:27:221	Reset		OC1+	A		
08-08-2015 17:47:37:242	Reset		OC1+	A		
08-08-2015 17:47:37:242	Reset		EF1+			
08-08-2015 17:49:07:662	Reset		OC1+	A		
08-08-2015 17:49:07:662	Reset		OC1+	B		
08-08-2015 18:48:27:559	Reset		OC1+	C		
08-08-2015 18:48:27:569	Reset		EF1+			
08-08-2015 19:23:48:135	Pickup	Start	LSD			
08-08-2015 20:47:50:155	Pickup	End	LSD			
08-08-2015 20:47:50:155	Toir	Start	IR			OIRM=4,00
08-08-2015 20:47:50:235	Toir	End	IR			
08-08-2015 20:47:50:315	Pickup	Start	LSD			
09-08-2015 1:23:30:284	Pickup	End	LSD			
09-08-2015 1:23:30:284	Toir	Start	IR			OIRM=4,00
09-08-2015 1:23:30:364	Toir	End	IR			
09-08-2015 1:23:30:469	Reset		OC1+	B		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
09-08-2015 1:23:30:469	Reset		OC1+	C		
09-08-2015 1:23:31:564	Reset		OC1+	B		
09-08-2015 1:23:31:564	Reset		OC1+	C		
09-08-2015 2:23:37:322	Reset		EF1+			
09-08-2015 5:14:20:610	Reset		OC1+	C		
09-08-2015 5:14:20:620	Reset		EF1+			
10-08-2015 10:47:00:106	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
10-08-2015 10:47:10:106	AC Off	End	UPS			
12-08-2015 0:52:58:264	Reset		EF1+			
12-08-2015 0:52:58:269	Reset		OC1+	A		
12-08-2015 0:52:58:269	Reset		OC1+	B		
12-08-2015 0:53:03:340	Reset		EF1+			
12-08-2015 0:53:03:345	Reset		OC1+	A		
12-08-2015 0:53:03:345	Reset		OC1+	B		
21-08-2015 10:10:48:216	Pickup	Start	LSD			
21-08-2015 11:09:50:117	Pickup	End	LSD			
21-08-2015 11:09:50:117	Toir	Start	IR			OIRM=4,00
21-08-2015 11:09:50:217	Toir	End	IR			
25-08-2015 16:36:06:954	Reset		OC1+	A		
25-08-2015 16:36:08:040	Reset		OC1+	C		
25-08-2015 16:36:08:110	Reset		OC1+	B		
25-08-2015 16:36:08:255	Reset		OC1+	A		
07-09-2015 8:59:14:952	Reset		OC1+	C		
30-09-2015 11:49:49:842	Reset		OC1+	B		
30-09-2015 11:49:49:857	Reset		EF1+			
02-10-2015 9:55:21:326	Reset		OC1+	C		
02-10-2015 9:55:21:336	Reset		EF1+			
06-10-2015 6:06:56:577	Pickup	Start	LSD			
06-10-2015 6:07:06:098	Pickup	End	LSD			
06-10-2015 6:07:06:098	Toir	Start	IR			OIRM=4,00
06-10-2015 6:07:06:179	Toir	End	IR			
22-10-2015 11:33:34:596	Reset		OC1+	C		
22-10-2015 11:33:34:601	Reset		EF1+			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
14-11-2015 8:35:35:091	Reset		EF1+			
16-11-2015 23:17:53:932	Reset		OC1+	A		
16-11-2015 23:17:53:932	Reset		OC1+	B		
20-11-2015 5:08:13:793	Pickup	Start	LSD			
20-11-2015 5:08:20:699	Pickup	End	LSD			
20-11-2015 5:08:20:699	Toir	Start	IR			OIRM=4,00
20-11-2015 5:08:20:782	Toir	End	IR			
22-11-2015 18:07:55:275	Pickup	Start	LSD			
22-11-2015 18:08:04:942	Pickup	End	LSD			
22-11-2015 18:08:04:942	Toir	Start	IR			OIRM=4,00
22-11-2015 18:08:05:023	Toir	End	IR			
22-11-2015 22:57:19:434	Reset		OC1+	A		
22-11-2015 22:57:19:434	Reset		OC1+	B		
29-11-2015 13:43:35:560	Reset		OC1+	A		
29-11-2015 13:43:35:570	Reset		OC1+	C		
07-12-2015 8:09:24:085	Reset		EF1+			
09-12-2015 5:11:34:995	Pickup	Start	LSD			
09-12-2015 5:34:40:496	Pickup	End	LSD			
09-12-2015 5:34:40:496	Toir	Start	IR			OIRM=4,00
09-12-2015 5:34:40:579	Toir	End	IR			
12-12-2015 1:14:23:790	Pickup	Start	LSD			
12-12-2015 1:29:10:413	Pickup	End	LSD			
12-12-2015 1:29:10:413	Toir	Start	IR			OIRM=4,00
12-12-2015 1:29:10:493	Toir	End	IR			
29-12-2015 11:17:49:316	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
29-12-2015 11:18:09:317	AC Off	End	UPS			
01-01-2016 10:22:46:958	Reset		OC1+	A		
01-01-2016 10:22:46:973	Reset		EF1+			
05-01-2016 12:56:54:992	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
05-01-2016 12:57:04:993	AC Off	End	UPS			
04-02-2016 11:03:16:860	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
04-02-2016 11:03:26:863	AC Off	End	UPS			
15-02-2016 10:53:46:283	Reset		OC1+	B		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
15-02-2016 10:53:48:249	Reset		OC1+	C		
15-02-2016 10:53:49:164	Reset		OC1+	A		
15-02-2016 10:58:09:391	Reset		OC1+	B		
15-02-2016 10:58:09:476	Reset		OC1+	A		
15-02-2016 10:58:09:601	Reset		OC1+	C		
25-02-2016 13:44:09:668	Pickup	Start	LSD			
25-02-2016 13:53:24:741	Pickup	End	LSD			
25-02-2016 13:53:24:741	Toir	Start	IR			OIRM=4,00
25-02-2016 13:53:24:841	Toir	End	IR			
10-03-2016 14:24:17:126	Remote control	End	MMI			
10-03-2016 15:32:12:000	RTC settings changed		PC			
10-03-2016 15:39:14:598	Remote control	Start	MMI			
21-03-2016 11:38:12:493	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
21-03-2016 11:38:22:497	AC Off	End	UPS			
18-04-2016 22:53:10:257	Reset		OC1+	B		
18-04-2016 22:53:10:257	Reset		OC1+	C		
21-04-2016 15:49:19:535	Pickup	Start	LSD			
21-04-2016 16:09:59:752	Pickup	End	LSD			
21-04-2016 16:09:59:752	Toir	Start	IR			OIRM=4,00
21-04-2016 16:09:59:839	Toir	End	IR			
04-05-2016 15:17:06:359	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
04-05-2016 15:17:26:360	AC Off	End	UPS			
20-05-2016 19:11:09:734	Pickup	Start	LSD			
20-05-2016 19:11:10:115	Pickup	End	LSD			
20-05-2016 19:11:10:115	Toir	Start	IR			OIRM=4,00
20-05-2016 19:11:10:155	Pickup	Start	LSD			
20-05-2016 19:11:19:617	Pickup	End	LSD			
20-05-2016 19:11:19:617	Toir	Start	IR			OIRM=4,00
20-05-2016 19:11:19:697	Toir	End	IR			
21-05-2016 5:39:36:043	Reset		OC1+	A		
21-05-2016 5:39:36:053	Reset		EF1+			
22-05-2016 22:05:29:720	Reset		EF1+			
23-05-2016 13:25:32:767	Reset		EF1+			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
26-05-2016 11:28:53:405	Reset		OC1+	B		
26-05-2016 11:28:53:420	Reset		EF1+			
25-06-2016 4:36:39:027	Pickup	Start	LSD			
25-06-2016 4:47:45:418	Pickup	End	LSD			
25-06-2016 4:47:45:418	Toir	Start	IR			OIRM=4,00
25-06-2016 4:47:45:499	Toir	End	IR			
28-06-2016 13:31:30:543	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
28-06-2016 13:31:40:544	AC Off	End	UPS			
13-07-2016 4:20:18:726	Reset		EF1+			
13-07-2016 4:48:07:671	Reset		OC1+	C		
13-07-2016 4:48:07:676	Reset		OC1+	B		
13-07-2016 4:50:11:920	Reset		EF1+			
13-07-2016 11:19:59:671	Reset		OC1+	B		
13-07-2016 13:00:06:042	Reset		OC1+	C		
13-07-2016 13:03:11:155	Reset		OC1+	C		
13-07-2016 13:05:18:366	Reset		OC1+	B		
13-07-2016 13:05:18:376	Reset		OC1+	C		
13-07-2016 13:05:18:666	Reset		OC1+	A		
13-07-2016 13:05:25:636	Reset		OC1+	A		
13-07-2016 13:12:39:143	Reset		OC1+	A		
13-07-2016 13:39:18:950	Reset		OC1+	B		
13-07-2016 13:51:00:360	Reset		OC1+	C		
13-07-2016 13:51:00:520	Reset		OC1+	B		
13-07-2016 13:51:01:242	Reset		OC1+	C		
13-07-2016 13:51:01:367	Reset		OC1+	B		
13-07-2016 13:51:01:993	Reset		OC1+	C		
13-07-2016 13:51:02:119	Reset		OC1+	B		
13-07-2016 13:51:02:665	Reset		OC1+	C		
13-07-2016 13:51:02:795	Reset		OC1+	B		
13-07-2016 13:51:03:071	Reset		OC1+	C		
13-07-2016 13:51:03:406	Reset		OC1+	B		
13-07-2016 13:51:03:887	Reset		OC1+	C		
13-07-2016 13:51:04:143	Reset		OC1+	B		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
13-07-2016 13:51:04:619	Reset		OC1+	C		
13-07-2016 13:51:04:784	Reset		OC1+	B		
13-07-2016 13:51:04:955	Reset		OC1+	B		
13-07-2016 13:51:05:345	Reset		OC1+	C		
13-07-2016 13:51:05:581	Reset		OC1+	B		
13-07-2016 13:51:06:207	Reset		OC1+	C		
13-07-2016 13:51:06:322	Reset		OC1+	C		
13-07-2016 13:51:06:597	Reset		OC1+	B		
13-07-2016 13:51:06:983	Reset		OC1+	C		
13-07-2016 13:51:07:183	Reset		OC1+	C		
13-07-2016 13:51:07:338	Reset		OC1+	C		
13-07-2016 13:51:07:513	Reset		OC1+	C		
13-07-2016 13:51:07:693	Reset		OC1+	C		
13-07-2016 13:51:07:989	Reset		OC1+	C		
13-07-2016 13:51:08:039	Reset		OC1+	B		
13-07-2016 13:51:13:499	Reset		OC1+	C		
13-07-2016 13:51:13:588	Reset		OC1+	B		
13-07-2016 13:51:14:168	Reset		OC1+	C		
13-07-2016 13:51:14:378	Reset		OC1+	B		
13-07-2016 13:51:14:948	Reset		OC1+	C		
13-07-2016 13:51:15:093	Reset		OC1+	B		
13-07-2016 13:51:15:597	Reset		OC1+	C		
13-07-2016 13:51:15:847	Reset		OC1+	B		
13-07-2016 13:51:16:307	Reset		OC1+	C		
13-07-2016 13:51:16:327	Reset		OC1+	B		
13-07-2016 14:14:27:113	Reset		OC1+	A		
13-07-2016 14:14:27:118	Reset		EF1+			
13-07-2016 14:14:34:196	Reset		OC1+	C		
13-07-2016 14:14:34:271	Reset		OC1+	A		
13-07-2016 14:14:34:271	Reset		OC1+	B		
13-07-2016 14:14:34:276	Reset		EF1+			
13-07-2016 15:52:18:911	Reset		OC1+	C		
13-07-2016 15:52:18:916	Reset		OC1+	B		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
13-07-2016 15:52:31:818	Reset		OC1+	B		
13-07-2016 15:52:31:818	Reset		OC1+	C		
13-07-2016 16:12:39:750	Reset		EF1+			
13-07-2016 16:24:51:357	Reset		EF1+			
13-07-2016 16:24:56:416	Reset		OC1+	C		
13-07-2016 16:24:58:146	Reset		OC1+	B		
13-07-2016 16:24:58:156	Reset		EF1+			
14-07-2016 0:29:37:738	Reset		EF1+			
14-07-2016 0:29:37:748	Reset		OC1+	A		
14-07-2016 0:29:37:748	Reset		OC1+	C		
14-07-2016 0:29:37:758	Reset		OC1+	B		
14-07-2016 0:29:45:834	Reset		EF1+			
14-07-2016 0:29:45:844	Reset		OC1+	A		
14-07-2016 0:29:45:844	Reset		OC1+	B		
14-07-2016 0:29:45:844	Reset		OC1+	C		
14-07-2016 4:34:49:298	Reset		EF1+			
14-07-2016 4:34:50:572	Reset		OC1+	A		
14-07-2016 4:34:50:577	Reset		EF1+			
14-07-2016 4:34:57:344	Reset		OC1+	A		
14-07-2016 4:34:57:359	Reset		EF1+			
14-07-2016 11:09:33:097	Reset		EF1+			
14-07-2016 11:16:00:296	Reset		OC1+	A		
14-07-2016 11:16:00:306	Reset		EF1+			
14-07-2016 11:39:49:786	Reset		EF1+			
14-07-2016 11:51:43:086	Reset		OC1+	A		
14-07-2016 11:51:43:101	Reset		EF1+			
14-07-2016 13:28:30:759	Reset		OC1+	C		
14-07-2016 13:28:30:769	Reset		EF1+			
14-07-2016 20:56:51:423	Reset		OC1+	B		
14-07-2016 20:56:51:433	Reset		EF1+			
14-07-2016 20:56:54:162	Reset		OC1+	B		
14-07-2016 20:56:54:167	Reset		EF1+			
02-09-2016 10:12:35:409	Reset		OC1+	B		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
02-09-2016 10:12:35:424	Reset		EF1+			
06-09-2016 8:31:48:355	Reset		OC1+	B		
06-09-2016 8:31:48:370	Reset		EF1+			
20-09-2016 9:14:09:766	Reset		OC1+	A		
20-09-2016 9:14:09:766	Reset		OC1+	B		
20-09-2016 12:02:55:926	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
20-09-2016 12:03:05:927	AC Off	End	UPS			
16-10-2016 18:57:31:624	Reset		OC1+	C		
16-10-2016 18:57:31:634	Reset		EF1+			
30-10-2016 14:12:43:019	Reset		EF1+			
04-11-2016 1:10:24:026	Pickup	Start	LSD			
04-11-2016 1:59:38:298	Pickup	End	LSD			
04-11-2016 1:59:38:298	Toir	Start	IR			OIRM=4,00
04-11-2016 1:59:38:398	Toir	End	IR			
21-11-2016 18:09:51:660	Reset		OC1+	A		
21-11-2016 18:09:51:670	Reset		EF1+			
21-11-2016 18:09:52:901	Reset		EF1+			
29-11-2016 11:57:10:635	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
29-11-2016 11:57:20:638	AC Off	End	UPS			
17-12-2016 6:03:14:729	Pickup	Start	LSD			
17-12-2016 6:46:50:193	Pickup	End	LSD			
17-12-2016 6:46:50:193	Toir	Start	IR			OIRM=4,00
17-12-2016 6:46:50:293	Toir	End	IR			
04-01-2017 23:10:49:497	Pickup	Start	LSD			
04-01-2017 23:32:08:733	Pickup	End	LSD			
04-01-2017 23:32:08:733	Toir	Start	IR			OIRM=4,00
04-01-2017 23:32:08:814	Toir	End	IR			
19-01-2017 13:58:32:582	Reset		OC1+	A		
19-01-2017 13:58:32:587	Reset		EF1+			
23-01-2017 12:28:54:310	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-01-2017 12:29:04:308	AC Off	End	UPS			
23-01-2017 14:23:16:641	Pickup	Start	LSD			
23-01-2017 14:23:27:269	Pickup	End	LSD			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
23-01-2017 14:23:27:269	Toir	Start	IR			OIRM=4,00
23-01-2017 14:23:27:349	Toir	End	IR			
23-01-2017 14:24:39:488	Pickup	Start	LSD			
23-01-2017 14:24:49:571	Pickup	End	LSD			
23-01-2017 14:24:49:571	Toir	Start	IR			OIRM=4,00
23-01-2017 14:24:49:671	Toir	End	IR			
23-01-2017 14:24:55:088	Pickup	Start	LSD			
23-01-2017 15:00:39:415	Pickup	End	LSD			
23-01-2017 15:00:39:415	Toir	Start	IR			OIRM=4,00
23-01-2017 15:00:39:495	Toir	End	IR			
04-02-2017 16:36:22:668	Pickup	Start	LSD			
04-02-2017 16:36:32:500	Pickup	End	LSD			
04-02-2017 16:36:32:500	Toir	Start	IR			OIRM=4,00
04-02-2017 16:36:32:580	Toir	End	IR			
08-02-2017 22:46:51:032	Pickup	Start	LSD			
08-02-2017 23:00:01:907	Pickup	End	LSD			
08-02-2017 23:00:01:907	Toir	Start	IR			OIRM=4,00
08-02-2017 23:00:02:007	Toir	End	IR			
18-02-2017 0:00:13:713	Reset		OC1+	B		
18-02-2017 0:00:13:713	Reset		OC1+	C		
01-03-2017 13:19:16:493	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
01-03-2017 13:19:26:495	AC Off	End	UPS			
16-04-2017 10:00:27:601	Reset		OC1+	A		
16-04-2017 10:00:27:601	Reset		OC1+	B		
20-04-2017 3:05:47:062	Reset		OC1+	B		
20-04-2017 3:05:47:062	Reset		OC1+	C		
06-05-2017 23:12:39:370	Reset		EF1+			
07-05-2017 0:25:51:531	Reset		OC1+	A		
07-05-2017 0:25:51:531	Reset		OC1+	B		
07-05-2017 4:32:25:003	Reset		OC1+	A		
07-05-2017 4:32:25:003	Reset		OC1+	B		
17-05-2017 12:04:19:182	Remote control	End	MMI			
17-05-2017 15:04:28:001	RTC settings changed		MMI			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
17-05-2017 15:10:31:001	RTC settings changed		MMI			
17-05-2017 15:10:32:001	RTC settings changed		MMI			
25-05-2017 14:19:02:439	Remote control	Start	MMI			
06-06-2017 11:07:59:623	Reset		OC1+	B		
06-06-2017 11:07:59:623	Reset		OC1+	C		
13-06-2017 2:53:00:267	Battery Off	Start	UPS			
13-06-2017 2:53:09:169	Battery Off	End	UPS			
15-06-2017 8:10:37:526	Battery Off	Start	UPS			
15-06-2017 8:20:47:583	Battery Off	End	UPS			
15-06-2017 8:21:27:585	Battery Off	Start	UPS			
15-06-2017 8:22:17:590	Battery Off	End	UPS			
15-06-2017 8:23:57:596	Battery Off	Start	UPS			
15-06-2017 8:24:47:605	Battery Off	End	UPS			
15-06-2017 8:25:27:604	Battery Off	Start	UPS			
15-06-2017 8:26:17:609	Battery Off	End	UPS			
15-06-2017 23:12:08:309	Reset		OC1+	A		
15-06-2017 23:12:08:319	Reset		EF1+			
16-06-2017 2:14:35:391	Reset		OC1+	A		
16-06-2017 2:14:35:401	Reset		OC1+	B		
16-06-2017 4:34:03:527	Reset		OC1+	A		
16-06-2017 4:34:03:543	Reset		EF1+			
16-06-2017 13:54:52:361	Reset		OC1+	A		
16-06-2017 13:54:52:361	Reset		OC1+	B		
16-06-2017 17:41:58:976	Reset		OC1+	A		
16-06-2017 17:41:58:976	Reset		OC1+	B		
16-06-2017 21:00:28:480	Reset		OC1+	C		
16-06-2017 21:07:14:448	Reset		OC1+	B		
16-06-2017 21:07:22:086	Reset		OC1+	A		
16-06-2017 21:07:22:086	Reset		EF1+			
16-06-2017 21:09:11:715	Reset		OC1+	A		
16-06-2017 21:09:11:770	Reset		OC1+	C		
16-06-2017 21:09:12:832	Reset		OC1+	A		
16-06-2017 21:09:14:369	Reset		OC1+	C		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
16-06-2017 21:09:14:374	Reset		OC1+	A		
16-06-2017 21:09:14:374	Reset		OC1+	B		
16-06-2017 21:09:21:686	Reset		OC1+	C		
16-06-2017 21:09:21:691	Reset		OC1+	A		
16-06-2017 21:09:21:691	Reset		OC1+	B		
16-06-2017 21:20:58:011	Reset		OC1+	A		
16-06-2017 21:20:58:011	Reset		OC1+	B		
16-06-2017 21:56:24:382	Pickup	Start	LSD			
16-06-2017 22:26:39:504	Pickup	End	LSD			
16-06-2017 22:26:39:504	Toir	Start	IR			OIRM=4,00
16-06-2017 22:26:39:604	Toir	End	IR			
16-06-2017 23:32:41:924	Reset		OC1+	A		
16-06-2017 23:32:41:924	Reset		OC1+	B		
16-06-2017 23:35:47:900	Reset		OC1+	C		
16-06-2017 23:35:47:935	Reset		OC1+	A		
16-06-2017 23:35:47:935	Reset		OC1+	B		
17-06-2017 1:34:35:675	Reset		OC1+	A		
17-06-2017 1:34:35:685	Reset		OC1+	B		
17-06-2017 1:34:35:820	Reset		EF1+			
17-06-2017 18:59:25:691	Reset		OC1+	B		
17-06-2017 18:59:25:691	Reset		OC1+	C		
17-06-2017 18:59:35:447	Reset		OC1+	B		
17-06-2017 18:59:35:452	Reset		OC1+	C		
17-06-2017 19:24:59:502	Reset		OC1+	C		
17-06-2017 19:24:59:507	Reset		OC1+	B		
18-06-2017 0:06:15:617	Reset		EF1+			
19-06-2017 13:32:12:836	Battery Off	Start	UPS			
19-06-2017 13:43:01:813	Battery Off	End	UPS			
19-06-2017 13:53:01:888	Battery Off	Start	UPS			
19-06-2017 13:55:23:008	Battery Off	End	UPS			
19-06-2017 13:55:41:903	Battery Off	Start	UPS			
19-06-2017 14:08:42:001	Battery Off	End	UPS			
19-06-2017 14:10:53:123	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
19-06-2017 14:11:02:022	Battery Off	End	UPS			
19-06-2017 14:18:52:080	Battery Off	Start	UPS			
19-06-2017 14:21:13:204	Battery Off	End	UPS			
19-06-2017 14:21:30:808	Battery Off	Start	UPS			
19-06-2017 14:34:42:198	Battery Off	End	UPS			
19-06-2017 14:44:42:275	Battery Off	Start	UPS			
19-06-2017 15:00:22:388	Battery Off	End	UPS			
19-06-2017 15:10:22:463	Battery Off	Start	UPS			
19-06-2017 15:12:33:579	Battery Off	End	UPS			
19-06-2017 15:12:42:480	Battery Off	Start	UPS			
19-06-2017 15:26:12:576	Battery Off	End	UPS			
19-06-2017 15:27:53:689	Battery Off	Start	UPS			
19-06-2017 15:28:02:590	Battery Off	End	UPS			
19-06-2017 15:35:52:648	Battery Off	Start	UPS			
19-06-2017 15:51:42:758	Battery Off	End	UPS			
19-06-2017 15:53:23:869	Battery Off	Start	UPS			
19-06-2017 15:53:32:773	Battery Off	End	UPS			
19-06-2017 16:01:22:827	Battery Off	Start	UPS			
19-06-2017 16:17:12:940	Battery Off	End	UPS			
19-06-2017 16:26:53:019	Battery Off	Start	UPS			
19-06-2017 16:29:04:130	Battery Off	End	UPS			
19-06-2017 16:29:13:037	Battery Off	Start	UPS			
19-06-2017 16:42:33:141	Battery Off	End	UPS			
19-06-2017 16:52:13:210	Battery Off	Start	UPS			
19-06-2017 17:08:03:327	Battery Off	End	UPS			
19-06-2017 17:17:43:397	Battery Off	Start	UPS			
19-06-2017 17:33:23:517	Battery Off	End	UPS			
19-06-2017 17:35:04:629	Battery Off	Start	UPS			
19-06-2017 17:35:13:529	Battery Off	End	UPS			
19-06-2017 17:42:53:587	Battery Off	Start	UPS			
19-06-2017 17:58:33:695	Battery Off	End	UPS			
19-06-2017 18:00:14:804	Battery Off	Start	UPS			
19-06-2017 18:00:23:708	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
19-06-2017 18:08:12:468	Battery Off	Start	UPS			
19-06-2017 18:10:24:877	Battery Off	End	UPS			
19-06-2017 18:10:42:482	Battery Off	Start	UPS			
19-06-2017 18:23:53:871	Battery Off	End	UPS			
19-06-2017 18:33:23:948	Battery Off	Start	UPS			
19-06-2017 18:49:04:062	Battery Off	End	UPS			
19-06-2017 18:58:34:135	Battery Off	Start	UPS			
19-06-2017 19:14:14:257	Battery Off	End	UPS			
19-06-2017 19:23:44:322	Battery Off	Start	UPS			
19-06-2017 19:26:05:445	Battery Off	End	UPS			
19-06-2017 19:26:14:341	Battery Off	Start	UPS			
19-06-2017 19:39:24:433	Battery Off	End	UPS			
19-06-2017 19:49:03:205	Battery Off	Start	UPS			
19-06-2017 20:04:44:615	Battery Off	End	UPS			
19-06-2017 20:06:25:728	Battery Off	Start	UPS			
19-06-2017 20:06:34:630	Battery Off	End	UPS			
19-06-2017 20:14:14:679	Battery Off	Start	UPS			
19-06-2017 20:16:25:797	Battery Off	End	UPS			
19-06-2017 20:16:34:697	Battery Off	Start	UPS			
19-06-2017 20:29:54:797	Battery Off	End	UPS			
19-06-2017 20:39:24:868	Battery Off	Start	UPS			
19-06-2017 20:41:45:987	Battery Off	End	UPS			
19-06-2017 20:42:03:590	Battery Off	Start	UPS			
19-06-2017 20:55:04:989	Battery Off	End	UPS			
19-06-2017 21:04:45:057	Battery Off	Start	UPS			
19-06-2017 21:20:25:178	Battery Off	End	UPS			
19-06-2017 21:30:05:246	Battery Off	Start	UPS			
19-06-2017 21:32:26:362	Battery Off	End	UPS			
19-06-2017 21:32:43:965	Battery Off	Start	UPS			
19-06-2017 21:34:05:276	Battery Off	End	UPS			
19-06-2017 22:39:05:736	Battery Off	Start	UPS			
19-06-2017 22:39:25:739	Battery Off	End	UPS			
19-06-2017 22:44:05:773	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
19-06-2017 22:44:45:777	Battery Off	End	UPS			
19-06-2017 22:46:45:793	Battery Off	Start	UPS			
19-06-2017 22:46:55:793	Battery Off	End	UPS			
19-06-2017 22:50:25:820	Battery Off	Start	UPS			
19-06-2017 22:51:15:825	Battery Off	End	UPS			
19-06-2017 22:54:15:846	Battery Off	Start	UPS			
19-06-2017 22:54:25:847	Battery Off	End	UPS			
19-06-2017 22:57:55:874	Battery Off	Start	UPS			
19-06-2017 22:58:05:874	Battery Off	End	UPS			
19-06-2017 22:59:05:884	Battery Off	Start	UPS			
19-06-2017 22:59:35:889	Battery Off	End	UPS			
19-06-2017 23:01:35:903	Battery Off	Start	UPS			
19-06-2017 23:01:45:903	Battery Off	End	UPS			
19-06-2017 23:04:25:924	Battery Off	Start	UPS			
19-06-2017 23:04:45:928	Battery Off	End	UPS			
19-06-2017 23:05:45:933	Battery Off	Start	UPS			
19-06-2017 23:06:05:933	Battery Off	End	UPS			
19-06-2017 23:08:45:956	Battery Off	Start	UPS			
19-06-2017 23:09:35:961	Battery Off	End	UPS			
19-06-2017 23:11:15:974	Battery Off	Start	UPS			
19-06-2017 23:11:55:978	Battery Off	End	UPS			
19-06-2017 23:14:55:999	Battery Off	Start	UPS			
19-06-2017 23:15:16:002	Battery Off	End	UPS			
19-06-2017 23:18:36:028	Battery Off	Start	UPS			
19-06-2017 23:19:26:036	Battery Off	End	UPS			
19-06-2017 23:20:06:040	Battery Off	Start	UPS			
19-06-2017 23:21:06:046	Battery Off	End	UPS			
19-06-2017 23:21:46:052	Battery Off	Start	UPS			
19-06-2017 23:22:46:058	Battery Off	End	UPS			
19-06-2017 23:23:36:065	Battery Off	Start	UPS			
19-06-2017 23:24:26:070	Battery Off	End	UPS			
19-06-2017 23:25:06:073	Battery Off	Start	UPS			
19-06-2017 23:26:06:079	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
19-06-2017 23:27:46:092	Battery Off	Start	UPS			
19-06-2017 23:28:46:106	Battery Off	End	UPS			
19-06-2017 23:29:26:109	Battery Off	Start	UPS			
19-06-2017 23:29:46:111	Battery Off	End	UPS			
19-06-2017 23:31:46:130	Battery Off	Start	UPS			
19-06-2017 23:32:16:132	Battery Off	End	UPS			
19-06-2017 23:33:56:144	Battery Off	Start	UPS			
19-06-2017 23:34:46:149	Battery Off	End	UPS			
19-06-2017 23:36:26:159	Battery Off	Start	UPS			
19-06-2017 23:48:16:244	Battery Off	End	UPS			
20-06-2017 3:28:07:841	Battery Off	Start	UPS			
20-06-2017 3:28:27:844	Battery Off	End	UPS			
20-06-2017 3:38:27:917	Battery Off	Start	UPS			
20-06-2017 3:39:07:919	Battery Off	End	UPS			
20-06-2017 3:39:47:925	Battery Off	Start	UPS			
20-06-2017 3:40:47:933	Battery Off	End	UPS			
20-06-2017 3:41:27:938	Battery Off	Start	UPS			
20-06-2017 3:42:17:943	Battery Off	End	UPS			
20-06-2017 3:43:17:951	Battery Off	Start	UPS			
20-06-2017 3:45:07:969	Battery Off	End	UPS			
20-06-2017 3:53:16:725	Battery Off	Start	UPS			
20-06-2017 3:55:29:142	Battery Off	End	UPS			
20-06-2017 3:55:38:042	Battery Off	Start	UPS			
20-06-2017 4:08:58:143	Battery Off	End	UPS			
20-06-2017 4:10:39:251	Battery Off	Start	UPS			
20-06-2017 4:10:48:155	Battery Off	End	UPS			
20-06-2017 4:18:38:206	Battery Off	Start	UPS			
20-06-2017 4:20:49:322	Battery Off	End	UPS			
20-06-2017 4:20:58:225	Battery Off	Start	UPS			
20-06-2017 4:34:18:328	Battery Off	End	UPS			
20-06-2017 4:36:09:440	Battery Off	Start	UPS			
20-06-2017 4:36:18:342	Battery Off	End	UPS			
20-06-2017 4:44:08:397	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
20-06-2017 4:46:19:512	Battery Off	End	UPS			
20-06-2017 4:46:28:412	Battery Off	Start	UPS			
20-06-2017 4:59:58:518	Battery Off	End	UPS			
20-06-2017 5:09:38:589	Battery Off	Start	UPS			
20-06-2017 5:11:59:709	Battery Off	End	UPS			
20-06-2017 5:12:17:312	Battery Off	Start	UPS			
20-06-2017 5:25:28:701	Battery Off	End	UPS			
20-06-2017 5:27:19:815	Battery Off	Start	UPS			
20-06-2017 5:27:28:715	Battery Off	End	UPS			
20-06-2017 5:35:18:774	Battery Off	Start	UPS			
20-06-2017 5:37:29:890	Battery Off	End	UPS			
20-06-2017 5:37:38:790	Battery Off	Start	UPS			
20-06-2017 5:50:58:888	Battery Off	End	UPS			
20-06-2017 5:52:38:897	Battery Off	Start	UPS			
20-06-2017 5:56:08:918	Battery Off	End	UPS			
20-06-2017 5:58:00:035	Battery Off	Start	UPS			
20-06-2017 5:58:08:937	Battery Off	End	UPS			
20-06-2017 6:05:57:692	Battery Off	Start	UPS			
20-06-2017 6:21:29:109	Battery Off	End	UPS			
20-06-2017 6:23:30:214	Battery Off	Start	UPS			
20-06-2017 6:23:39:124	Battery Off	End	UPS			
20-06-2017 6:31:29:177	Battery Off	Start	UPS			
20-06-2017 6:33:50:295	Battery Off	End	UPS			
20-06-2017 6:34:09:193	Battery Off	Start	UPS			
20-06-2017 6:47:09:261	Battery Off	End	UPS			
20-06-2017 6:52:19:288	Battery Off	Start	UPS			
20-06-2017 7:15:09:410	Battery Off	End	UPS			
20-06-2017 7:16:50:517	Battery Off	Start	UPS			
20-06-2017 7:16:59:422	Battery Off	End	UPS			
20-06-2017 7:22:18:156	Battery Off	Start	UPS			
20-06-2017 7:24:30:565	Battery Off	End	UPS			
20-06-2017 7:24:39:462	Battery Off	Start	UPS			
20-06-2017 7:35:39:528	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
20-06-2017 7:37:20:633	Battery Off	Start	UPS			
20-06-2017 7:37:29:535	Battery Off	End	UPS			
20-06-2017 7:45:18:278	Battery Off	Start	UPS			
20-06-2017 7:47:30:685	Battery Off	End	UPS			
20-06-2017 7:47:39:586	Battery Off	Start	UPS			
20-06-2017 8:00:49:666	Battery Off	End	UPS			
20-06-2017 8:10:49:719	Battery Off	Start	UPS			
20-06-2017 8:26:29:807	Battery Off	End	UPS			
20-06-2017 8:28:30:919	Battery Off	Start	UPS			
20-06-2017 8:28:39:821	Battery Off	End	UPS			
20-06-2017 8:44:09:902	Battery Off	Start	UPS			
20-06-2017 8:59:49:992	Battery Off	End	UPS			
20-06-2017 9:09:40:045	Battery Off	Start	UPS			
20-06-2017 9:12:01:164	Battery Off	End	UPS			
20-06-2017 9:12:18:768	Battery Off	Start	UPS			
20-06-2017 9:25:20:129	Battery Off	End	UPS			
20-06-2017 9:36:20:185	Battery Off	Start	UPS			
20-06-2017 9:38:00:192	Battery Off	End	UPS			
20-06-2017 9:40:01:306	Battery Off	Start	UPS			
20-06-2017 9:40:10:206	Battery Off	End	UPS			
20-06-2017 9:48:00:252	Battery Off	Start	UPS			
20-06-2017 9:50:11:356	Battery Off	End	UPS			
20-06-2017 9:50:20:264	Battery Off	Start	UPS			
20-06-2017 10:03:30:328	Battery Off	End	UPS			
20-06-2017 10:05:31:439	Battery Off	Start	UPS			
20-06-2017 10:05:40:342	Battery Off	End	UPS			
20-06-2017 10:13:20:382	Battery Off	Start	UPS			
20-06-2017 10:15:41:498	Battery Off	End	UPS			
20-06-2017 10:15:50:398	Battery Off	Start	UPS			
20-06-2017 10:29:00:471	Battery Off	End	UPS			
20-06-2017 10:38:50:520	Battery Off	Start	UPS			
20-06-2017 10:41:11:637	Battery Off	End	UPS			
20-06-2017 10:41:20:532	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
20-06-2017 10:54:20:604	Battery Off	End	UPS			
20-06-2017 10:56:21:709	Battery Off	Start	UPS			
20-06-2017 10:56:30:613	Battery Off	End	UPS			
20-06-2017 11:04:20:653	Battery Off	Start	UPS			
20-06-2017 11:06:31:767	Battery Off	End	UPS			
20-06-2017 11:06:40:664	Battery Off	Start	UPS			
20-06-2017 11:19:50:730	Battery Off	End	UPS			
20-06-2017 11:21:51:840	Battery Off	Start	UPS			
20-06-2017 11:22:00:744	Battery Off	End	UPS			
20-06-2017 11:29:40:783	Battery Off	Start	UPS			
20-06-2017 11:32:01:898	Battery Off	End	UPS			
20-06-2017 11:32:19:503	Battery Off	Start	UPS			
20-06-2017 11:42:20:854	Battery Off	End	UPS			
20-06-2017 11:45:30:869	Battery Off	Start	UPS			
20-06-2017 11:50:20:893	Battery Off	End	UPS			
20-06-2017 11:52:22:003	Battery Off	Start	UPS			
20-06-2017 11:52:30:909	Battery Off	End	UPS			
20-06-2017 12:00:10:952	Battery Off	Start	UPS			
20-06-2017 12:02:32:065	Battery Off	End	UPS			
20-06-2017 12:02:50:963	Battery Off	Start	UPS			
20-06-2017 12:11:31:012	Battery Off	End	UPS			
20-06-2017 12:55:51:258	Battery Off	Start	UPS			
20-06-2017 12:56:01:261	Battery Off	End	UPS			
20-06-2017 12:56:41:263	Battery Off	Start	UPS			
20-06-2017 12:56:51:264	Battery Off	End	UPS			
20-06-2017 12:57:51:789	Battery Off	Start	UPS			
20-06-2017 12:58:31:274	Battery Off	End	UPS			
20-06-2017 12:59:11:278	Battery Off	Start	UPS			
20-06-2017 13:00:22:385	Battery Off	End	UPS			
20-06-2017 13:02:52:398	Battery Off	Start	UPS			
20-06-2017 13:03:01:297	Battery Off	End	UPS			
20-06-2017 13:08:51:321	Battery Off	Start	UPS			
20-06-2017 13:11:11:333	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
20-06-2017 13:20:31:386	Battery Off	Start	UPS			
20-06-2017 13:22:52:502	Battery Off	End	UPS			
20-06-2017 13:23:01:922	Battery Off	Start	UPS			
20-06-2017 13:36:11:474	Battery Off	End	UPS			
20-06-2017 13:37:52:578	Battery Off	Start	UPS			
20-06-2017 13:38:01:479	Battery Off	End	UPS			
20-06-2017 13:45:41:517	Battery Off	Start	UPS			
20-06-2017 13:48:02:634	Battery Off	End	UPS			
20-06-2017 13:48:11:531	Battery Off	Start	UPS			
20-06-2017 14:01:21:607	Battery Off	End	UPS			
20-06-2017 14:11:00:353	Battery Off	Start	UPS			
20-06-2017 14:13:12:766	Battery Off	End	UPS			
20-06-2017 14:13:21:667	Battery Off	Start	UPS			
20-06-2017 14:26:31:743	Battery Off	End	UPS			
20-06-2017 14:36:11:790	Battery Off	Start	UPS			
20-06-2017 14:51:51:873	Battery Off	End	UPS			
20-06-2017 14:53:32:983	Battery Off	Start	UPS			
20-06-2017 14:53:41:881	Battery Off	End	UPS			
20-06-2017 14:57:21:902	Battery Off	Start	UPS			
20-06-2017 14:58:11:906	Battery Off	End	UPS			
20-06-2017 14:58:21:908	Battery Off	Start	UPS			
21-06-2017 3:14:25:965	Battery Off	End	UPS			
21-06-2017 3:14:45:965	Battery Off	Start	UPS			
21-06-2017 3:15:05:966	Battery Off	End	UPS			
21-06-2017 3:15:25:968	Battery Off	Start	UPS			
21-06-2017 4:50:56:492	Battery Off	End	UPS			
21-06-2017 4:51:46:496	Battery Off	Start	UPS			
21-06-2017 4:53:06:505	Battery Off	End	UPS			
21-06-2017 4:53:36:507	Battery Off	Start	UPS			
21-06-2017 4:59:56:545	Battery Off	End	UPS			
21-06-2017 5:00:26:545	Battery Off	Start	UPS			
21-06-2017 5:01:16:549	Battery Off	End	UPS			
21-06-2017 5:01:56:554	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
21-06-2017 5:03:06:560	Battery Off	End	UPS			
21-06-2017 5:04:26:573	Battery Off	Start	UPS			
21-06-2017 5:05:36:579	Battery Off	End	UPS			
21-06-2017 5:06:27:685	Battery Off	Start	UPS			
21-06-2017 5:08:36:601	Battery Off	End	UPS			
21-06-2017 5:11:06:608	Battery Off	Start	UPS			
21-06-2017 5:11:16:610	Battery Off	End	UPS			
21-06-2017 5:11:46:611	Battery Off	Start	UPS			
21-06-2017 5:59:56:880	Battery Off	End	UPS			
21-06-2017 6:00:06:879	Battery Off	Start	UPS			
22-06-2017 0:00:37:343	Pickup	Start	LSD			
22-06-2017 0:00:46:728	Pickup	End	LSD			
22-06-2017 0:00:46:728	Toir	Start	IR			OIRM=4,00
22-06-2017 0:00:46:809	Toir	End	IR			
22-06-2017 1:02:11:376	Reset		OC1+	A		
22-06-2017 1:02:11:376	Reset		OC1+	B		
22-06-2017 5:49:45:196	Reset		EF1+			
22-06-2017 5:53:41:108	Reset		OC1+	A		
22-06-2017 5:53:41:108	Reset		OC1+	B		
22-06-2017 13:16:39:616	Reset		OC1+	C		
22-06-2017 13:16:39:626	Reset		EF1+			
22-06-2017 13:35:11:228	Reset		EF1+			
24-06-2017 20:02:25:104	Reset		OC1+	A		
24-06-2017 20:02:25:104	Reset		OC1+	B		
24-06-2017 23:55:01:243	Reset		OC1+	A		
24-06-2017 23:55:01:243	Reset		OC1+	B		
25-06-2017 7:30:01:731	Battery Off	End	UPS			
25-06-2017 7:30:41:737	Battery Off	Start	UPS			
25-06-2017 7:31:41:749	Battery Off	End	UPS			
25-06-2017 7:32:21:749	Battery Off	Start	UPS			
25-06-2017 7:33:21:757	Battery Off	End	UPS			
25-06-2017 7:34:01:762	Battery Off	Start	UPS			
25-06-2017 7:34:51:766	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
25-06-2017 7:35:51:773	Battery Off	Start	UPS			
25-06-2017 7:37:21:784	Battery Off	End	UPS			
25-06-2017 7:38:21:793	Battery Off	Start	UPS			
25-06-2017 7:38:31:794	Battery Off	End	UPS			
25-06-2017 7:39:11:799	Battery Off	Start	UPS			
25-06-2017 7:40:01:805	Battery Off	End	UPS			
25-06-2017 7:40:12:326	Battery Off	Start	UPS			
25-06-2017 20:44:35:413	Reset		OC1+	A		
25-06-2017 20:44:35:413	Reset		OC1+	B		
26-06-2017 8:47:12:688	Battery Off	End	UPS			
26-06-2017 8:48:13:214	Battery Off	Start	UPS			
26-06-2017 8:49:12:701	Battery Off	End	UPS			
26-06-2017 8:49:52:705	Battery Off	Start	UPS			
26-06-2017 8:51:12:718	Battery Off	End	UPS			
26-06-2017 8:52:22:726	Battery Off	Start	UPS			
26-06-2017 8:53:52:736	Battery Off	End	UPS			
26-06-2017 8:54:52:743	Battery Off	Start	UPS			
26-06-2017 8:57:02:759	Battery Off	End	UPS			
26-06-2017 8:58:03:867	Battery Off	Start	UPS			
26-06-2017 11:19:03:777	Battery Off	End	UPS			
26-06-2017 11:20:33:787	Battery Off	Start	UPS			
26-06-2017 11:48:03:984	Battery Off	End	UPS			
26-06-2017 11:48:23:985	Battery Off	Start	UPS			
26-06-2017 11:49:23:993	Battery Off	End	UPS			
26-06-2017 11:49:53:996	Battery Off	Start	UPS			
26-06-2017 11:50:44:006	Battery Off	End	UPS			
26-06-2017 11:51:24:009	Battery Off	Start	UPS			
26-06-2017 11:53:04:021	Battery Off	End	UPS			
26-06-2017 11:53:54:028	Battery Off	Start	UPS			
26-06-2017 11:54:04:028	Battery Off	End	UPS			
26-06-2017 11:54:24:031	Battery Off	Start	UPS			
26-06-2017 11:56:04:043	Battery Off	End	UPS			
26-06-2017 11:56:44:045	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
26-06-2017 11:58:04:055	Battery Off	End	UPS			
26-06-2017 11:59:24:065	Battery Off	Start	UPS			
26-06-2017 12:12:44:161	Battery Off	End	UPS			
26-06-2017 12:13:44:168	Battery Off	Start	UPS			
26-06-2017 12:21:34:219	Battery Off	End	UPS			
26-06-2017 12:23:24:227	Battery Off	Start	UPS			
26-06-2017 12:24:04:749	Battery Off	End	UPS			
26-06-2017 12:27:14:250	Battery Off	Start	UPS			
26-06-2017 12:43:44:345	Battery Off	End	UPS			
26-06-2017 12:43:54:341	Battery Off	Start	UPS			
26-06-2017 13:04:34:462	Battery Off	End	UPS			
26-06-2017 13:04:54:464	Battery Off	Start	UPS			
26-06-2017 13:06:54:475	Battery Off	End	UPS			
26-06-2017 13:07:55:582	Battery Off	Start	UPS			
26-06-2017 13:08:04:481	Battery Off	End	UPS			
26-06-2017 13:08:14:483	Battery Off	Start	UPS			
26-06-2017 13:10:25:596	Battery Off	End	UPS			
26-06-2017 13:10:44:497	Battery Off	Start	UPS			
26-06-2017 13:11:04:499	Battery Off	End	UPS			
26-06-2017 13:11:54:502	Battery Off	Start	UPS			
26-06-2017 13:13:54:516	Battery Off	End	UPS			
26-06-2017 13:14:34:519	Battery Off	Start	UPS			
26-06-2017 13:15:54:527	Battery Off	End	UPS			
26-06-2017 13:16:44:531	Battery Off	Start	UPS			
26-06-2017 13:18:44:539	Battery Off	End	UPS			
26-06-2017 13:19:24:547	Battery Off	Start	UPS			
26-06-2017 13:21:04:558	Battery Off	End	UPS			
26-06-2017 13:21:44:558	Battery Off	Start	UPS			
26-06-2017 13:23:44:568	Battery Off	End	UPS			
26-06-2017 13:24:34:572	Battery Off	Start	UPS			
26-06-2017 13:26:14:582	Battery Off	End	UPS			
26-06-2017 13:26:54:586	Battery Off	Start	UPS			
26-06-2017 13:28:24:595	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
26-06-2017 13:28:54:596	Battery Off	Start	UPS			
26-06-2017 13:29:04:598	Battery Off	End	UPS			
26-06-2017 13:29:24:598	Battery Off	Start	UPS			
26-06-2017 13:35:24:635	Battery Off	End	UPS			
26-06-2017 13:36:54:644	Battery Off	Start	UPS			
26-06-2017 13:38:34:653	Battery Off	End	UPS			
26-06-2017 13:39:34:657	Battery Off	Start	UPS			
26-06-2017 13:44:34:684	Battery Off	End	UPS			
26-06-2017 13:45:44:690	Battery Off	Start	UPS			
26-06-2017 13:45:54:689	Battery Off	End	UPS			
26-06-2017 13:47:14:695	Battery Off	Start	UPS			
26-06-2017 13:47:25:799	Battery Off	End	UPS			
26-06-2017 13:48:04:701	Battery Off	Start	UPS			
26-06-2017 13:49:55:809	Battery Off	End	UPS			
26-06-2017 13:50:14:711	Battery Off	Start	UPS			
26-06-2017 13:50:24:712	Battery Off	End	UPS			
26-06-2017 13:51:44:719	Battery Off	Start	UPS			
26-06-2017 13:56:34:744	Battery Off	End	UPS			
26-06-2017 13:58:54:757	Battery Off	Start	UPS			
26-06-2017 14:02:15:871	Battery Off	End	UPS			
26-06-2017 14:02:34:777	Battery Off	Start	UPS			
26-06-2017 14:03:24:779	Battery Off	End	UPS			
26-06-2017 14:05:24:791	Battery Off	Start	UPS			
26-06-2017 14:05:44:799	Battery Off	End	UPS			
26-06-2017 14:06:44:800	Battery Off	Start	UPS			
26-06-2017 14:07:54:806	Battery Off	End	UPS			
26-06-2017 14:08:34:808	Battery Off	Start	UPS			
26-06-2017 14:09:14:813	Battery Off	End	UPS			
26-06-2017 14:09:24:813	Battery Off	Start	UPS			
26-06-2017 14:19:24:872	Battery Off	End	UPS			
26-06-2017 14:19:54:875	Battery Off	Start	UPS			
26-06-2017 14:20:44:880	Battery Off	End	UPS			
26-06-2017 14:21:44:884	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
26-06-2017 14:26:44:914	Battery Off	End	UPS			
26-06-2017 14:27:24:918	Battery Off	Start	UPS			
26-06-2017 14:28:34:923	Battery Off	End	UPS			
26-06-2017 14:30:14:934	Battery Off	Start	UPS			
26-06-2017 14:30:34:937	Battery Off	End	UPS			
26-06-2017 14:30:54:942	Battery Off	Start	UPS			
26-06-2017 14:33:44:957	Battery Off	End	UPS			
26-06-2017 14:34:24:959	Battery Off	Start	UPS			
26-06-2017 14:38:24:983	Battery Off	End	UPS			
26-06-2017 14:39:26:089	Battery Off	Start	UPS			
26-06-2017 14:45:15:022	Battery Off	End	UPS			
26-06-2017 14:46:15:029	Battery Off	Start	UPS			
26-06-2017 14:51:56:167	Battery Off	End	UPS			
26-06-2017 14:52:05:064	Battery Off	Start	UPS			
27-06-2017 15:44:13:216	Battery Off	End	UPS			
27-06-2017 15:52:23:266	Battery Off	Start	UPS			
27-06-2017 16:04:33:334	Battery Off	End	UPS			
27-06-2017 16:09:33:363	Battery Off	Start	UPS			
27-06-2017 16:15:43:396	Battery Off	End	UPS			
27-06-2017 16:16:23:397	Battery Off	Start	UPS			
27-06-2017 16:31:03:484	Battery Off	End	UPS			
27-06-2017 16:36:53:507	Battery Off	Start	UPS			
27-06-2017 16:37:44:614	Battery Off	End	UPS			
27-06-2017 16:37:53:514	Battery Off	Start	UPS			
27-06-2017 16:50:53:590	Battery Off	End	UPS			
27-06-2017 16:52:14:700	Battery Off	Start	UPS			
27-06-2017 16:52:23:599	Battery Off	End	UPS			
27-06-2017 16:59:42:335	Battery Off	Start	UPS			
27-06-2017 17:15:03:729	Battery Off	End	UPS			
27-06-2017 17:23:42:501	Battery Off	Start	UPS			
27-06-2017 17:25:44:916	Battery Off	End	UPS			
27-06-2017 17:25:53:816	Battery Off	Start	UPS			
27-06-2017 17:38:53:887	Battery Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
27-06-2017 17:40:04:997	Battery Off	Start	UPS			
27-06-2017 17:40:13:897	Battery Off	End	UPS			
27-06-2017 17:47:23:931	Battery Off	Start	UPS			
27-06-2017 17:49:25:040	Battery Off	End	UPS			
27-06-2017 17:49:33:941	Battery Off	Start	UPS			
27-06-2017 18:02:34:015	Battery Off	End	UPS			
27-06-2017 18:03:34:541	Battery Off	Start	UPS			
27-06-2017 18:03:44:023	Battery Off	End	UPS			
27-06-2017 18:10:54:067	Battery Off	Start	UPS			
27-06-2017 18:12:55:181	Battery Off	End	UPS			
27-06-2017 18:13:04:080	Battery Off	Start	UPS			
27-06-2017 18:25:54:149	Battery Off	End	UPS			
27-06-2017 18:26:55:253	Battery Off	Start	UPS			
27-06-2017 18:27:04:156	Battery Off	End	UPS			
27-06-2017 18:34:14:189	Battery Off	Start	UPS			
27-06-2017 18:36:15:302	Battery Off	End	UPS			
27-06-2017 18:36:24:201	Battery Off	Start	UPS			
27-06-2017 18:49:14:266	Battery Off	End	UPS			
27-06-2017 18:50:15:371	Battery Off	Start	UPS			
27-06-2017 18:50:24:273	Battery Off	End	UPS			
27-06-2017 18:57:33:006	Battery Off	Start	UPS			
27-06-2017 19:12:34:392	Battery Off	End	UPS			
27-06-2017 19:20:44:436	Battery Off	Start	UPS			
27-06-2017 19:35:44:522	Battery Off	End	UPS			
27-06-2017 19:36:45:631	Battery Off	Start	UPS			
27-06-2017 19:36:54:529	Battery Off	End	UPS			
27-06-2017 19:38:44:546	Battery Off	Start	UPS			
29-06-2017 22:30:27:153	Reset		OC1+	B		
29-06-2017 22:30:27:153	Reset		OC1+	C		
06-07-2017 2:19:33:909	Battery Off	End	UPS			
15-07-2017 1:34:47:394	Reset		OC1+	A		
15-07-2017 1:34:47:394	Reset		EF1+			
15-07-2017 1:34:54:557	Reset		OC1+	A		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
15-07-2017 1:34:54:557	Reset		EF1+			
23-07-2017 7:18:09:051	Reset		EF1+			
23-07-2017 14:47:47:680	Reset		OC1+	B		
23-07-2017 14:47:47:685	Reset		OC1+	C		
23-07-2017 14:47:47:690	Reset		EF1+			
23-07-2017 14:47:53:630	Reset		OC1+	B		
23-07-2017 14:47:53:630	Reset		OC1+	C		
23-07-2017 14:47:53:635	Reset		EF1+			
27-07-2017 22:29:08:006	Reset		OC1+	B		
27-07-2017 22:29:08:006	Reset		OC1+	C		
09-08-2017 1:10:28:249	Trip		SCADA			
09-08-2017 1:10:28:294	Open		Driver			
09-08-2017 1:10:28:297	Pickup	Start	Uabc>			Up, kV=6,4
09-08-2017 1:10:28:315	Pickup	Start	LSD			
09-08-2017 1:10:28:315	Pickup	Start	Urst<			
09-08-2017 1:12:36:157	Pickup	End	Uabc>			Max(Uc), kV=7,9
09-08-2017 3:51:03:891	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
09-08-2017 3:51:23:921	AC Off	End	UPS			
09-08-2017 5:08:14:009	Pickup	Start	Uabc>			Up, kV=6,4
09-08-2017 5:10:34:808	Close		SCADA			
09-08-2017 5:10:34:867	Closed		Driver			
09-08-2017 5:10:34:868	Pickup	End	LSD			
09-08-2017 5:10:34:868	Toir	Start	IR			OIRM=4,00
09-08-2017 5:10:34:947	Toir	End	IR			
09-08-2017 13:33:22:065	Pickup	Start	OC1+	A		Iop, A=300
09-08-2017 13:33:22:145	Reset		OC1+	A		
09-08-2017 13:33:22:145	Reset		OC1+	B		
12-08-2017 1:48:56:677	Reset		OC1+	B		
12-08-2017 1:48:56:677	Reset		OC1+	C		
07-09-2017 18:06:40:171	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
07-09-2017 18:06:50:172	AC Off	End	UPS			
04-10-2017 16:23:45:060	Reset		OC1+	A		
04-10-2017 16:23:45:060	Reset		OC1+	B		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
22-10-2017 18:27:54:425	Reset		OC1+	A		
22-10-2017 18:27:54:440	Reset		OC1+	C		
29-10-2017 7:48:45:344	Pickup	Start	EF1+			Iop, A=120
29-10-2017 7:48:45:449	Reset		OC1+	C		
29-10-2017 7:48:45:459	Reset		EF1+			
15-12-2017 9:22:53:907	Pickup	Start	LSD			
15-12-2017 9:23:03:776	Pickup	End	LSD			
15-12-2017 9:23:03:776	Toir	Start	IR			OIRM=4,00
15-12-2017 9:23:03:876	Toir	End	IR			
02-01-2018 17:46:18:147	Pickup	Start	LSD			
02-01-2018 17:46:27:865	Pickup	End	LSD			
02-01-2018 17:46:27:865	Toir	Start	IR			OIRM=4,00
02-01-2018 17:46:27:946	Toir	End	IR			
08-02-2018 14:56:36:919	Reset		OC1+	C		
08-02-2018 14:56:36:929	Reset		EF1+			
11-02-2018 11:52:16:941	Reset		OC1+	B		
11-02-2018 11:52:16:941	Reset		OC1+	C		
22-02-2018 14:12:16:882	Reset		OC1+	C		
22-02-2018 14:12:16:892	Reset		EF1+			
27-02-2018 15:56:02:564	Reset		OC1+	B		
27-02-2018 15:56:02:639	Reset		OC1+	A		
27-02-2018 15:56:03:409	Reset		OC1+	C		
27-02-2018 15:57:02:022	Reset		OC1+	A		
27-02-2018 15:57:02:052	Reset		OC1+	C		
27-02-2018 15:57:02:087	Reset		OC1+	B		
14-03-2018 14:49:17:266	Reset		EF1+			
17-03-2018 12:07:10:894	Reset		OC1+	A		
17-03-2018 12:07:10:904	Reset		EF1+			
05-04-2018 4:20:11:992	Reset		EF1+			
25-04-2018 15:05:19:830	Remote control	End	MMI			
25-04-2018 12:08:29:000	RTC settings changed		PC			
25-04-2018 12:09:12:642	Remote control	Start	MMI			
25-04-2018 12:16:26:533	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
25-04-2018 12:16:45:435	Battery Off	End	UPS			
26-04-2018 14:59:26:223	Reset		OC1+	B		
26-04-2018 14:59:26:223	Reset		OC1+	C		
29-05-2018 1:43:02:266	Reset		EF1+			
29-05-2018 1:43:02:496	Reset		EF1+			
29-05-2018 3:09:16:655	Reset		EF1+			
09-06-2018 12:58:37:279	Reset		OC1+	B		
09-06-2018 15:35:09:630	Reset		OC1+	C		
09-06-2018 15:35:09:635	Reset		OC1+	B		
09-06-2018 15:38:22:663	Reset		OC1+	A		
09-06-2018 15:38:22:668	Reset		EF1+			
09-06-2018 15:38:24:995	Reset		OC1+	A		
09-06-2018 15:38:25:000	Reset		EF1+			
09-06-2018 15:38:30:151	Reset		OC1+	A		
09-06-2018 15:38:30:156	Reset		EF1+			
10-06-2018 13:47:01:584	Reset		EF1+			
10-06-2018 13:47:02:483	Reset		OC1+	A		
10-06-2018 13:47:02:499	Reset		EF1+			
10-06-2018 16:47:56:729	Reset		EF1+			
10-06-2018 20:11:59:954	Reset		OC1+	C		
10-06-2018 20:11:59:954	Reset		EF1+			
11-06-2018 23:48:31:691	Reset		OC1+	A		
11-06-2018 23:48:31:707	Reset		EF1+			
04-07-2018 17:53:19:649	Reset		EF1+			
06-07-2018 4:55:47:647	Reset		OC1+	A		
06-07-2018 4:55:47:653	Reset		EF1+			
04-08-2018 8:23:11:919	Pickup	Start	LSD			
04-08-2018 8:23:21:908	Pickup	End	LSD			
04-08-2018 8:23:21:908	Toir	Start	IR			OIRM=4,00
04-08-2018 8:23:21:989	Toir	End	IR			
20-08-2018 0:15:12:675	Pickup	Start	LSD			
20-08-2018 1:02:25:244	Pickup	End	LSD			
20-08-2018 1:02:25:244	Toir	Start	IR			OIRM=4,00

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
20-08-2018 1:02:25:325	Toir	End	IR			
12-09-2018 13:11:00:627	Reset		OC1+	C		
12-09-2018 13:11:00:638	Reset		EF1+			
21-10-2018 21:19:29:608	Reset		OC1+	A		
21-10-2018 21:19:29:608	Reset		OC1+	B		
14-11-2018 20:13:13:772	Pickup	Start	LSD			
14-11-2018 20:13:23:612	Pickup	End	LSD			
14-11-2018 20:13:23:612	Toir	Start	IR			OIRM=4,00
14-11-2018 20:13:23:693	Toir	End	IR			
06-12-2018 8:42:19:914	Reset		EF1+			
09-01-2019 6:53:10:570	Pickup	Start	LSD			
09-01-2019 6:53:20:313	Pickup	End	LSD			
09-01-2019 6:53:20:313	Toir	Start	IR			OIRM=4,00
09-01-2019 6:53:20:394	Toir	End	IR			
12-01-2019 15:40:10:236	Reset		EF1+			
16-01-2019 14:11:42:233	Reset		OC1+	B		
16-01-2019 14:11:42:233	Reset		OC1+	C		
22-02-2019 9:24:03:134	Pickup	Start	LSD			
22-02-2019 9:24:12:947	Pickup	End	LSD			
22-02-2019 9:24:12:947	Toir	Start	IR			OIRM=4,00
22-02-2019 9:24:13:027	Toir	End	IR			
22-02-2019 21:09:13:436	Pickup	Start	LSD			
22-02-2019 21:09:23:422	Pickup	End	LSD			
22-02-2019 21:09:23:422	Toir	Start	IR			OIRM=4,00
22-02-2019 21:09:23:502	Toir	End	IR			
22-02-2019 21:09:30:219	Pickup	Start	LSD			
22-02-2019 21:20:31:875	Pickup	End	LSD			
22-02-2019 21:20:31:875	Toir	Start	IR			OIRM=4,00
22-02-2019 21:20:31:895	Pickup	Start	LSD			
22-02-2019 23:28:46:143	Pickup	End	LSD			
22-02-2019 23:28:46:143	Toir	Start	IR			OIRM=4,00
22-02-2019 23:28:46:224	Toir	End	IR			
22-02-2019 23:28:46:264	Pickup	Start	LSD			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
23-02-2019 2:53:54:266	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 2:54:14:268	AC Off	End	UPS			
23-02-2019 2:54:24:269	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 2:54:44:267	AC Off	End	UPS			
23-02-2019 2:54:54:270	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 2:56:04:275	AC Off	End	UPS			
23-02-2019 2:57:55:384	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 2:58:04:285	AC Off	End	UPS			
23-02-2019 2:58:24:286	AC Off	Start	UPS			S(AC1)=1, S(AC2)=1
23-02-2019 3:00:25:395	AC Off	End	UPS			
23-02-2019 3:00:34:295	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:08:44:331	AC Off	End	UPS			
23-02-2019 3:10:44:344	AC Off	Start	UPS			S(AC1)=1, S(AC2)=1
23-02-2019 3:12:45:454	AC Off	End	UPS			
23-02-2019 3:12:54:356	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:21:04:395	AC Off	End	UPS			
23-02-2019 3:22:35:499	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:22:44:403	AC Off	End	UPS			
23-02-2019 3:23:04:405	AC Off	Start	UPS			S(AC1)=1, S(AC2)=1
23-02-2019 3:25:05:517	AC Off	End	UPS			
23-02-2019 3:25:14:417	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:33:24:462	AC Off	End	UPS			
23-02-2019 3:35:05:572	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:35:14:470	AC Off	End	UPS			
23-02-2019 3:35:24:475	AC Off	Start	UPS			S(AC1)=1, S(AC2)=1
23-02-2019 3:45:54:521	AC Off	End	UPS			
23-02-2019 3:47:25:628	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:47:34:530	AC Off	End	UPS			
23-02-2019 3:47:54:530	AC Off	Start	UPS			S(AC1)=1, S(AC2)=1
23-02-2019 3:49:55:640	AC Off	End	UPS			
23-02-2019 3:50:04:539	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 3:58:14:576	AC Off	End	UPS			
23-02-2019 3:59:45:685	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
23-02-2019 3:59:54:585	AC Off	End	UPS			
23-02-2019 4:00:14:586	AC Off	Start	UPS			S(AC1)=1, S(AC2)=1
23-02-2019 4:06:54:619	AC Off	End	UPS			
23-02-2019 4:07:04:618	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:08:44:625	AC Off	End	UPS			
23-02-2019 4:08:54:626	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:10:54:634	AC Off	End	UPS			
23-02-2019 4:11:04:636	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:11:24:645	AC Off	End	UPS			
23-02-2019 4:11:34:639	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:11:54:641	AC Off	End	UPS			
23-02-2019 4:12:04:641	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:12:24:643	AC Off	End	UPS			
23-02-2019 4:12:34:645	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:15:44:657	AC Off	End	UPS			
23-02-2019 4:15:54:659	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:16:14:661	AC Off	End	UPS			
23-02-2019 4:16:24:661	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:16:44:662	AC Off	End	UPS			
23-02-2019 4:16:54:669	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:17:14:664	AC Off	End	UPS			
23-02-2019 4:17:24:666	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:20:34:683	AC Off	End	UPS			
23-02-2019 4:20:44:682	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:21:04:684	AC Off	End	UPS			
23-02-2019 4:21:14:684	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:21:34:685	AC Off	End	UPS			
23-02-2019 4:21:44:688	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:22:05:206	AC Off	End	UPS			
23-02-2019 4:22:14:690	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:22:24:689	AC Off	End	UPS			
23-02-2019 4:22:34:695	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:26:04:707	AC Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
23-02-2019 4:26:14:708	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:26:44:711	AC Off	End	UPS			
23-02-2019 4:26:54:711	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:27:24:714	AC Off	End	UPS			
23-02-2019 4:27:34:714	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:30:54:732	AC Off	End	UPS			
23-02-2019 4:31:04:734	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:31:44:735	AC Off	End	UPS			
23-02-2019 4:31:54:737	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:33:54:745	AC Off	End	UPS			
23-02-2019 4:34:04:746	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:35:34:754	AC Off	End	UPS			
23-02-2019 4:35:44:754	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:37:05:279	AC Off	End	UPS			
23-02-2019 4:37:14:760	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:39:14:770	AC Off	End	UPS			
23-02-2019 4:39:35:290	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:43:04:789	AC Off	End	UPS			
23-02-2019 4:43:34:793	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:44:54:798	AC Off	End	UPS			
23-02-2019 4:45:04:800	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:46:44:807	AC Off	End	UPS			
23-02-2019 4:46:54:807	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:49:44:823	AC Off	End	UPS			
23-02-2019 4:49:54:823	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:53:04:839	AC Off	End	UPS			
23-02-2019 4:53:14:838	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 4:57:24:854	AC Off	End	UPS			
23-02-2019 4:57:34:855	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 5:15:44:949	AC Off	End	UPS			
23-02-2019 5:15:54:948	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 5:18:24:962	AC Off	End	UPS			
23-02-2019 5:18:34:961	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
23-02-2019 5:23:54:992	AC Off	End	UPS			
23-02-2019 5:24:04:993	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
23-02-2019 6:24:04:995	Ext. load Off	Start	MPM			
23-02-2019 9:34:19:970	Pickup	End	LSD			
23-02-2019 9:34:19:970	Toir	Start	IR			OIRM=4,00
23-02-2019 9:34:20:050	Toir	End	IR			
23-02-2019 9:34:25:969	AC Off	End	UPS			
23-02-2019 9:34:26:970	Ext. load Off	End	UPS			
07-03-2019 9:21:18:113	Reset		EF1+			
08-04-2019 8:42:29:200	Reset		OC1+	B		
08-04-2019 8:42:29:200	Reset		OC1+	C		
08-04-2019 14:21:00:822	Reset		OC1+	B		
08-04-2019 14:21:00:822	Reset		OC1+	C		
24-04-2019 7:38:00:129	Reset		OC1+	C		
24-04-2019 7:38:00:134	Reset		OC1+	B		
03-05-2019 4:57:44:507	Reset		OC1+	B		
03-05-2019 4:57:44:517	Reset		EF1+			
03-05-2019 7:14:30:814	Reset		OC1+	A		
10-05-2019 8:42:57:880	Reset		OC1+	B		
10-05-2019 8:42:57:890	Reset		EF1+			
30-05-2019 1:01:03:860	Reset		OC1+	A		
30-05-2019 1:01:03:860	Reset		OC1+	B		
30-05-2019 3:36:00:328	Reset		EF1+			
30-05-2019 3:36:01:313	Reset		OC1+	C		
30-05-2019 3:36:01:328	Reset		EF1+			
30-05-2019 3:36:04:166	Reset		EF1+			
07-06-2019 16:14:44:031	Reset		EF1+			
10-06-2019 15:55:46:532	Reset		EF1+			
10-06-2019 15:55:47:512	Reset		OC1+	A		
10-06-2019 15:55:47:522	Reset		EF1+			
12-06-2019 8:00:00:824	Reset		EF1+			
12-06-2019 8:58:51:422	Reset		EF1+			
12-06-2019 11:58:40:923	Reset		EF1+			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
30-06-2019 9:34:30:907	Reset		EF1+			
18-07-2019 14:42:38:086	Reset		EF1+			
18-07-2019 14:42:39:004	Reset		EF1+			
18-07-2019 18:49:35:184	Reset		OC1+	B		
18-07-2019 18:49:35:184	Reset		OC1+	C		
18-07-2019 18:49:40:709	Reset		OC1+	B		
18-07-2019 18:49:40:709	Reset		OC1+	C		
18-07-2019 19:39:07:992	Reset		OC1+	A		
29-07-2019 1:04:53:275	Reset		EF1+			
02-08-2019 10:09:43:084	Reset		EF1+			
17-08-2019 0:22:13:008	Reset		OC1+	C		
17-08-2019 0:22:13:023	Reset		EF1+			
17-08-2019 11:33:55:715	Reset		EF1+			
17-08-2019 11:33:56:660	Reset		EF1+			
17-08-2019 11:33:56:690	Reset		OC1+	B		
17-08-2019 11:33:56:690	Reset		OC1+	C		
18-08-2019 14:45:21:333	Reset		OC1+	A		
18-08-2019 14:45:21:348	Reset		OC1+	B		
18-08-2019 14:45:21:353	Reset		EF1+			
18-08-2019 14:45:26:476	Reset		OC1+	A		
18-08-2019 14:45:26:476	Reset		OC1+	B		
18-08-2019 14:45:26:486	Reset		EF1+			
25-09-2019 7:38:13:682	Reset		OC1+	B		
25-09-2019 7:38:13:682	Reset		OC1+	C		
08-11-2019 16:54:16:436	Reset		OC1+	B		
08-11-2019 16:54:16:437	Reset		OC1+	C		
28-12-2019 19:51:31:830	Reset		OC1+	A		
28-12-2019 19:51:31:830	Reset		OC1+	B		
28-12-2019 19:51:36:975	Reset		OC1+	B		
28-12-2019 19:51:36:980	Reset		OC1+	A		
28-12-2019 19:51:36:980	Reset		OC1+	C		
28-12-2019 19:51:36:985	Reset		EF1+			
04-01-2020 8:19:34:287	Reset		EF1+			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
10-01-2020 6:13:19:812	Reset		EF1+			
10-01-2020 6:13:20:143	Reset		OC1+	B		
10-01-2020 6:13:21:004	Reset		EF1+			
10-01-2020 6:13:22:886	Reset		OC1+	B		
10-01-2020 6:13:27:949	Reset		OC1+	B		
10-01-2020 6:13:27:954	Reset		OC1+	C		
10-01-2020 6:13:27:969	Reset		OC1+	A		
10-01-2020 6:13:28:420	Reset		EF1+			
07-02-2020 21:08:43:042	Pickup	Start	LSD			
07-02-2020 21:08:53:035	Pickup	End	LSD			
07-02-2020 21:08:53:035	Toir	Start	IR			OIRM=4,00
07-02-2020 21:08:53:115	Toir	End	IR			
19-02-2020 21:21:22:781	Pickup	Start	LSD			
19-02-2020 21:21:28:973	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
19-02-2020 21:21:32:741	Pickup	End	LSD			
19-02-2020 21:21:32:741	Toir	Start	IR			OIRM=4,00
19-02-2020 21:21:32:821	Toir	End	IR			
19-02-2020 21:21:38:974	AC Off	End	UPS			
24-02-2020 19:08:47:891	Pickup	Start	LSD			
24-02-2020 19:08:47:991	Pickup	End	LSD			
24-02-2020 19:08:47:991	Toir	Start	IR			OIRM=4,00
24-02-2020 19:08:48:091	Toir	End	IR			
24-02-2020 19:08:48:450	Pickup	Start	LSD			
24-02-2020 19:08:51:269	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
24-02-2020 19:08:59:152	Pickup	End	LSD			
24-02-2020 19:08:59:152	Toir	Start	IR			OIRM=4,00
24-02-2020 19:08:59:252	Toir	End	IR			
24-02-2020 19:09:01:271	AC Off	End	UPS			
24-02-2020 20:54:36:254	Reset		OC1+	A		
24-02-2020 20:54:36:254	Reset		OC1+	B		
25-03-2020 11:01:58:376	Reset		OC1+	A		
25-03-2020 11:01:58:376	Reset		OC1+	C		
30-03-2020 10:49:06:058	Battery Off	Start	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
30-03-2020 10:59:36:136	Battery Off	End	UPS			
24-04-2020 2:33:42:735	Reset		OC1+	B		
24-04-2020 2:33:42:735	Reset		OC1+	C		
24-04-2020 2:33:52:393	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
24-04-2020 2:52:12:499	AC Off	End	UPS			
29-04-2020 12:10:35:591	Reset		EF1+			
09-06-2020 7:37:16:450	Grp settings changed		SCADA			
09-06-2020 7:37:31:197	Grp settings changed		SCADA			
09-06-2020 8:19:40:591	Pickup	Start	EF1+			Iop, A=120
09-06-2020 8:19:42:288	Reset		OC1+	B		
09-06-2020 8:19:42:303	Reset		EF1+			
11-06-2020 19:13:31:888	Reset		EF1+			
11-06-2020 19:19:09:132	Reset		EF1+			
16-06-2020 15:55:00:892	Reset		EF1+			
29-06-2020 5:57:05:198	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
29-06-2020 6:57:05:200	Ext. load Off	Start	MPM			
29-06-2020 13:43:47:847	Pickup	Start	LSD			
29-06-2020 13:44:51:433	Pickup	End	LSD			
29-06-2020 13:44:51:433	Toir	Start	IR			OIRM=4,00
29-06-2020 13:44:51:533	Toir	End	IR			
01-07-2020 3:49:40:742	Data saving	Start	UPS			
01-07-2020 3:49:40:742	Shutdown		UPS			
01-07-2020 3:49:54:833	Data saving	Start	UPS			
01-07-2020 3:49:54:833	Shutdown		UPS			
01-07-2020 3:49:58:078	Data saving	End	UPS			
01-07-2020 13:12:05:007	Power Restart		UPS			
01-07-2020 13:12:05:568	Tbt sensor fault	Start	UPS			
01-07-2020 13:12:07:572	Ext. load Off	End	UPS			
01-07-2020 14:00:38:137	AC Off	End	UPS			
17-07-2020 12:31:34:684	Pickup	Start	EF1+			Iop, A=120
17-07-2020 12:31:34:774	Reset		EF1+			
17-07-2020 12:31:35:594	Pickup	Start	OC1+	A		Iop, A=300
17-07-2020 12:31:35:709	Reset		OC1+	A		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
17-07-2020 12:31:35:719	Reset		EF1+			
14-08-2020 11:20:43:158	Pickup	Start	LSD			
14-08-2020 11:20:51:116	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
14-08-2020 11:20:52:895	Pickup	End	LSD			
14-08-2020 11:20:52:895	Toir	Start	IR			OIRM=4,00
14-08-2020 11:20:52:976	Toir	End	IR			
14-08-2020 11:21:01:120	AC Off	End	UPS			
23-09-2020 14:26:12:638	Reset		EF1+			
30-10-2020 8:50:36:409	Reset		EF1+			
05-11-2020 10:31:03:839	Reset		EF1+			
07-11-2020 13:07:59:526	Reset		EF1+			
14-11-2020 15:20:38:514	Reset		EF1+			
21-11-2020 6:33:14:230	Pickup	Start	LSD			
21-11-2020 6:33:22:021	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
21-11-2020 6:33:24:893	Pickup	End	LSD			
21-11-2020 6:33:24:893	Toir	Start	IR			OIRM=4,00
21-11-2020 6:33:24:974	Toir	End	IR			
21-11-2020 6:33:32:022	AC Off	End	UPS			
23-11-2020 18:01:42:108	Pickup	Start	OC1+	C		Iop, A=300
23-11-2020 18:01:42:188	Reset		OC1+	C		
23-11-2020 18:01:42:193	Reset		EF1+			
23-11-2020 18:27:44:461	Pickup	Start	OC1+	B		Iop, A=300
23-11-2020 18:27:44:536	Reset		OC1+	B		
23-11-2020 18:27:44:541	Reset		EF1+			
25-11-2020 6:04:56:873	Reset		OC1+	A		
25-11-2020 6:04:56:873	Reset		OC1+	B		
25-11-2020 8:25:37:230	Reset		OC1+	C		
25-11-2020 8:25:37:240	Reset		EF1+			
25-11-2020 12:25:57:227	Reset		OC1+	C		
25-11-2020 12:25:57:237	Reset		EF1+			
25-11-2020 12:25:58:804	Reset		OC1+	C		
25-11-2020 12:25:58:814	Reset		EF1+			
27-12-2020 16:04:27:281	Reset		EF1+			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
28-12-2020 23:03:49:268	Reset		OC1+	A		
28-12-2020 23:03:49:268	Reset		OC1+	C		
28-12-2020 23:12:44:817	Reset		EF1+			
28-12-2020 23:12:45:983	Reset		EF1+			
06-01-2021 9:54:10:895	Reset		OC1+	C		
06-01-2021 9:54:10:905	Reset		EF1+			
08-01-2021 9:52:27:971	Reset		OC1+	B		
08-01-2021 9:52:27:971	Reset		OC1+	C		
10-01-2021 17:10:42:875	Reset		OC1+	A		
10-01-2021 17:10:42:875	Reset		OC1+	C		
26-01-2021 11:57:08:997	Reset		OC1+	C		
26-01-2021 11:57:09:007	Reset		EF1+			
29-01-2021 20:05:55:943	Reset		OC1+	A		
29-01-2021 20:05:55:943	Reset		OC1+	B		
29-01-2021 20:06:00:992	Reset		OC1+	A		
29-01-2021 20:06:00:992	Reset		OC1+	C		
07-02-2021 7:11:11:126	Reset		EF1+			
07-02-2021 7:11:14:139	Reset		EF1+			
18-02-2021 15:19:07:702	Remote control	End	MMI			
18-02-2021 15:31:44:000	RTC settings changed		PC			
18-02-2021 15:32:16:260	Remote control	Start	MMI			
04-03-2021 7:26:14:723	Pickup	Start	LSD			
04-03-2021 7:26:17:590	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
04-03-2021 7:26:24:472	Pickup	End	LSD			
04-03-2021 7:26:24:472	Toir	Start	IR			OIRM=4,00
04-03-2021 7:26:24:553	Toir	End	IR			
04-03-2021 7:26:27:591	AC Off	End	UPS			
07-03-2021 7:38:41:610	Pickup	Start	LSD			
07-03-2021 7:38:50:233	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
07-03-2021 7:38:51:632	Pickup	End	LSD			
07-03-2021 7:38:51:632	Toir	Start	IR			OIRM=4,00
07-03-2021 7:38:51:712	Toir	End	IR			
07-03-2021 7:39:00:234	AC Off	End	UPS			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
11-04-2021 13:46:52:607	Reset		EF1+			
20-04-2021 19:36:40:757	Reset		EF1+			
21-04-2021 7:43:40:300	Reset		OC1+	A		
21-04-2021 7:43:40:300	Reset		OC1+	B		
21-04-2021 9:11:26:705	Reset		OC1+	B		
21-04-2021 9:11:26:720	Reset		EF1+			
21-04-2021 9:29:41:796	Reset		OC1+	B		
21-04-2021 9:29:41:801	Reset		EF1+			
21-04-2021 11:08:22:030	Reset		OC1+	B		
21-04-2021 11:08:22:030	Reset		OC1+	C		
21-04-2021 13:19:09:796	Reset		OC1+	A		
21-04-2021 13:19:09:796	Reset		OC1+	B		
22-05-2021 16:33:50:058	Reset		EF1+			
26-05-2021 15:52:54:268	Reset		OC1+	B		
26-05-2021 15:52:54:268	Reset		OC1+	C		
26-05-2021 15:52:55:546	Reset		OC1+	C		
26-05-2021 15:52:55:806	Reset		EF1+			
08-06-2021 18:25:19:016	Reset		OC1+	B		
08-06-2021 18:25:19:031	Reset		EF1+			
09-06-2021 7:17:01:778	Reset		EF1+			
09-06-2021 7:17:03:911	Reset		OC1+	B		
09-06-2021 7:17:03:921	Reset		EF1+			
17-06-2021 9:57:30:796	Reset		OC1+	B		
17-06-2021 9:57:30:971	Reset		EF1+			
17-06-2021 9:57:31:131	Reset		OC1+	C		
17-06-2021 9:57:31:136	Reset		OC1+	B		
23-06-2021 9:37:58:064	Reset		EF1+			
23-06-2021 9:37:59:129	Reset		OC1+	B		
23-06-2021 9:37:59:139	Reset		EF1+			
15-07-2021 22:04:09:695	Reset		OC1+	B		
15-07-2021 22:04:09:705	Reset		EF1+			
30-07-2021 12:09:59:295	Pickup	Start	LSD			
30-07-2021 12:09:59:483	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
30-07-2021 12:10:09:936	Pickup	End	LSD			
30-07-2021 12:10:09:936	Toir	Start	IR			OIRM=4,00
30-07-2021 12:10:10:016	Toir	End	IR			
30-07-2021 12:10:19:485	AC Off	End	UPS			
12-08-2021 15:05:23:232	Reset		EF1+			
16-08-2021 3:03:58:205	Reset		OC1+	B		
16-08-2021 3:03:58:205	Reset		OC1+	C		
21-08-2021 13:29:59:781	Reset		EF1+			
21-08-2021 13:44:17:420	Reset		EF1+			
21-08-2021 13:46:43:276	Reset		EF1+			
21-08-2021 13:46:50:561	Reset		EF1+			
21-08-2021 14:04:37:742	Reset		OC1+	A		
21-08-2021 14:04:37:742	Reset		EF1+			
21-08-2021 14:38:47:830	Reset		EF1+			
21-08-2021 14:38:52:313	Reset		EF1+			
21-08-2021 14:47:57:535	Reset		EF1+			
21-08-2021 15:08:22:456	Reset		OC1+	A		
21-08-2021 15:08:22:461	Reset		EF1+			
21-08-2021 15:10:06:424	Reset		OC1+	A		
21-08-2021 15:10:06:429	Reset		EF1+			
21-08-2021 15:11:37:922	Reset		OC1+	A		
21-08-2021 15:11:37:927	Reset		EF1+			
21-08-2021 15:11:44:999	Reset		OC1+	C		
21-08-2021 15:11:45:074	Reset		OC1+	B		
21-08-2021 15:11:45:079	Reset		OC1+	A		
21-08-2021 15:11:45:079	Reset		EF1+			
21-08-2021 15:32:59:258	Reset		OC1+	A		
21-08-2021 15:32:59:258	Reset		OC1+	B		
22-08-2021 11:05:19:170	Reset		EF1+			
25-08-2021 10:13:07:301	Reset		OC1+	B		
25-08-2021 10:13:07:311	Reset		EF1+			
25-08-2021 10:13:08:218	Reset		OC1+	A		
25-08-2021 10:13:08:218	Reset		OC1+	C		

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
25-08-2021 10:13:08:223	Reset		EF1+			
05-09-2021 12:03:28:241	Reset		EF1+			
08-09-2021 14:36:08:735	Reset		OC1+	A		
08-09-2021 14:36:08:735	Reset		OC1+	C		
08-09-2021 14:36:08:740	Reset		OC1+	B		
08-09-2021 14:36:08:740	Reset		EF1+			
08-09-2021 17:47:37:051	Reset		OC1+	B		
08-09-2021 17:47:37:051	Reset		OC1+	C		
08-09-2021 17:47:37:056	Reset		OC1+	A		
08-09-2021 17:47:37:056	Reset		EF1+			
11-09-2021 13:22:08:842	Reset		EF1+			
11-09-2021 17:34:11:509	Reset		EF1+			
11-09-2021 17:34:12:774	Reset		EF1+			
11-09-2021 17:34:14:642	Reset		EF1+			
11-09-2021 17:34:15:992	Reset		EF1+			
12-09-2021 15:16:54:910	Reset		OC1+	A		
12-09-2021 15:16:54:910	Reset		EF1+			
12-09-2021 15:57:29:223	Reset		OC1+	A		
12-09-2021 15:57:29:223	Reset		EF1+			
12-09-2021 16:45:36:592	Reset		OC1+	A		
12-09-2021 16:45:36:597	Reset		EF1+			
12-09-2021 16:45:43:740	Reset		OC1+	A		
12-09-2021 16:45:43:745	Reset		EF1+			
17-09-2021 22:29:08:800	Driver comms error	Start	ISC			
18-09-2021 14:02:43:101	Pickup	Start	LSD			
18-09-2021 14:02:47:445	AC Off	Start	UPS			S(AC1)=0, S(AC2)=0
18-09-2021 14:16:38:143	Open		Driver			
18-09-2021 14:16:38:146	Pickup	Start	Urst<			
18-09-2021 14:16:40:861	Closed		Driver			
18-09-2021 14:16:41:526	Open		Driver			
18-09-2021 14:16:41:541	Pickup	Start	Urst<			
18-09-2021 14:16:44:476	Driver comms error	End	ISC			
18-09-2021 14:17:35:031	Close		SCADA			

Date and Time	Event title	Start/End	Source of event	Relevant phase	Relevant state	Critical parameter
18-09-2021 14:17:35:089	Closed		Driver			
18-09-2021 14:17:35:090	Pickup	End	LSD			
18-09-2021 14:17:35:090	Toir	Start	IR			OIRM=4,00
18-09-2021 14:17:35:189	Toir	End	IR			
18-09-2021 14:17:37:538	AC Off	End	UPS			
19-09-2021 2:05:28:978	Pickup	Start	EF1+			Iop, A=120
19-09-2021 2:05:29:053	Reset		OC1+	C		
19-09-2021 2:05:29:063	Reset		EF1+			
19-09-2021 2:08:50:271	Pickup	Start	OC1+	A		Iop, A=300
19-09-2021 2:08:50:336	Reset		OC1+	A		
19-09-2021 2:08:50:982	Reset		EF1+			
20-09-2021 11:12:13:061	Remote control	End	MMI			