

Russelectric

High Integrity Power Control Systems For Critical Facilities



Founded in 1955

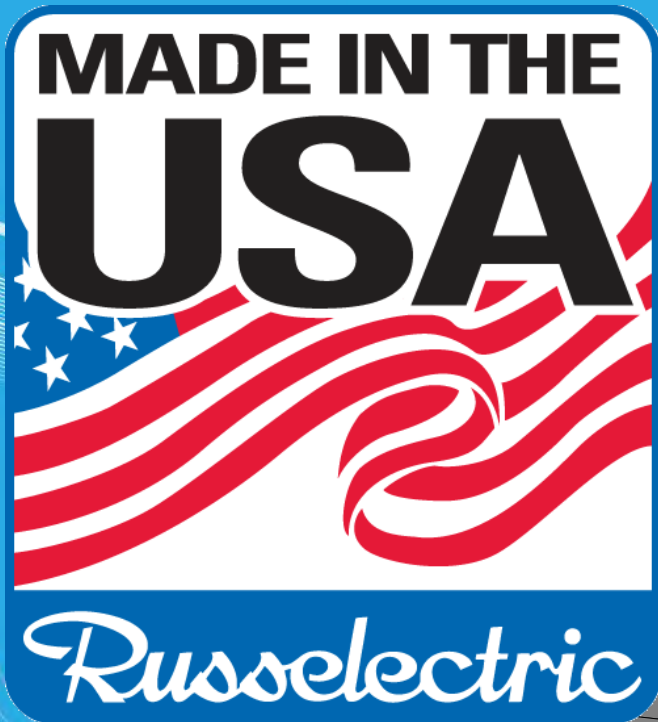


By Raymond G. Russell

Here Today



Independent



Two Manufacturing Facilities



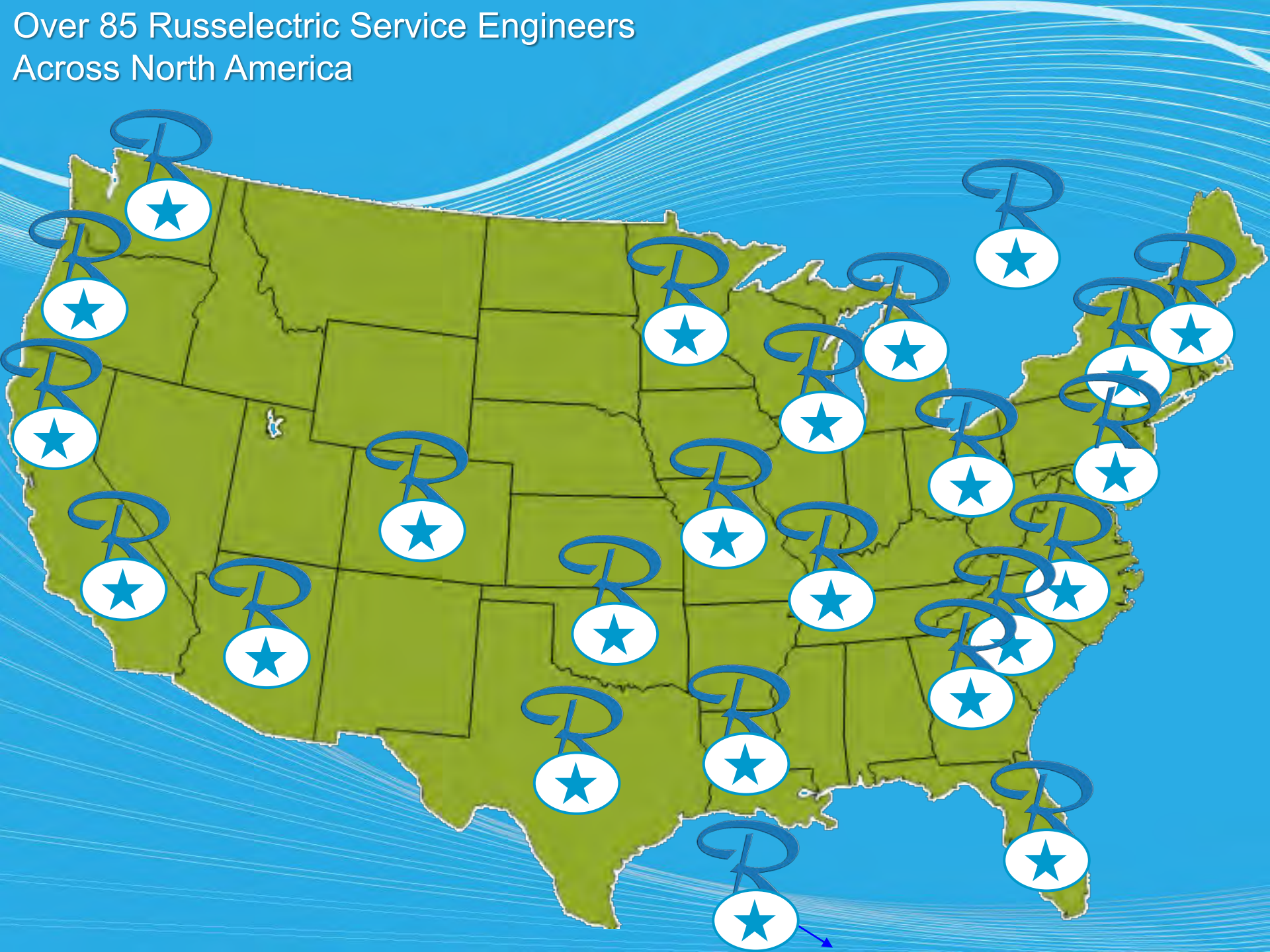
Factory Direct Local Service



24/7 - 365

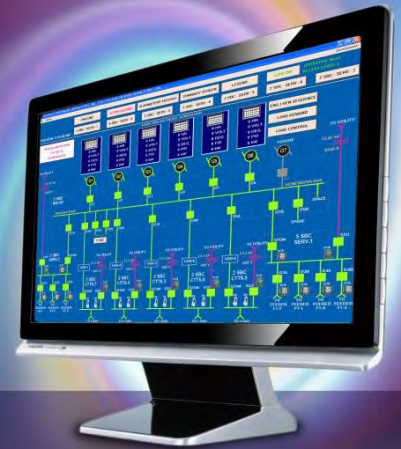


Over 85 Russelectric Service Engineers
Across North America



Russelectric

Core Products Manufactured...



SCADA

Switchgear



Transfer Switches

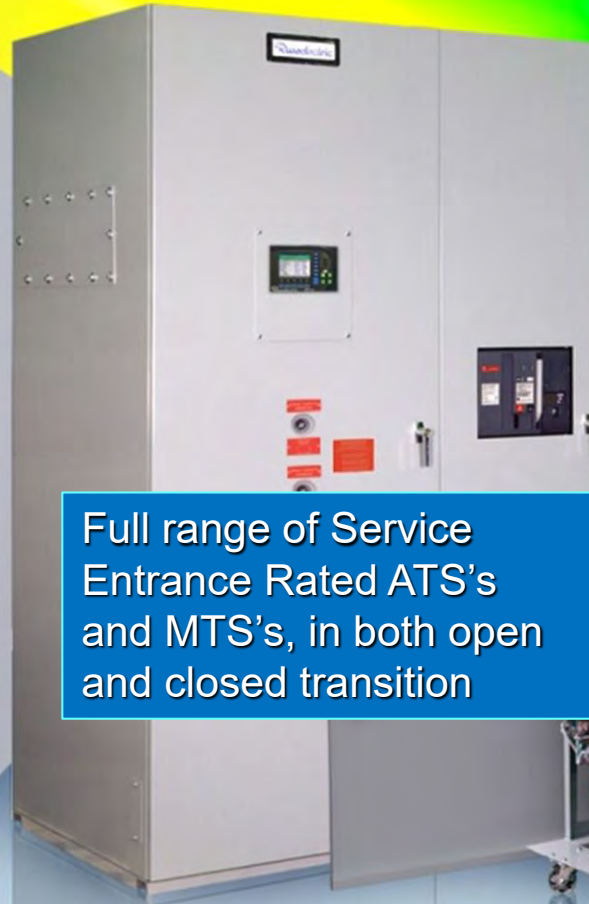


Transfer Switches...

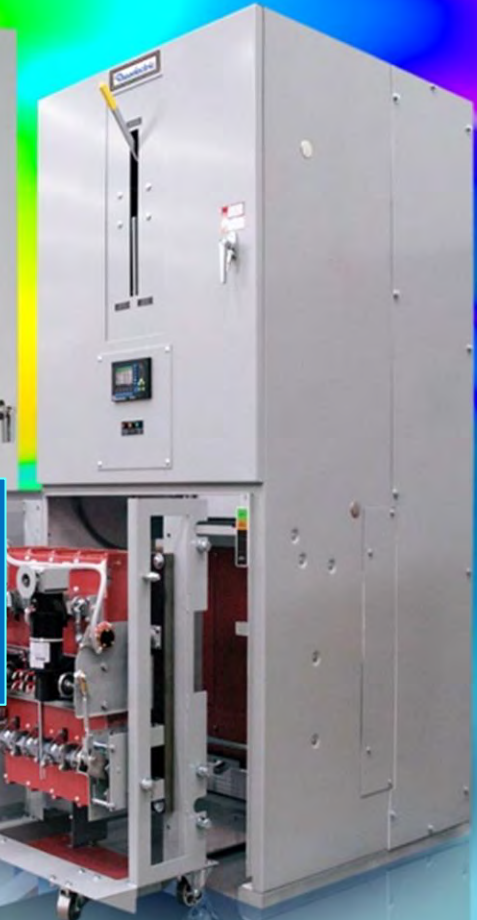
Full range of
Bypass/Isolation ATS's
and MTS's, Open or
Closed Transition, Load
Break or No-load Break



Full range of ATS's and
MTS's, in both open and
closed transition,
In both 3 or 30 cycle
withstand and close-on
ratings.



Full range of Service
Entrance Rated ATS's
and MTS's, in both open
and closed transition

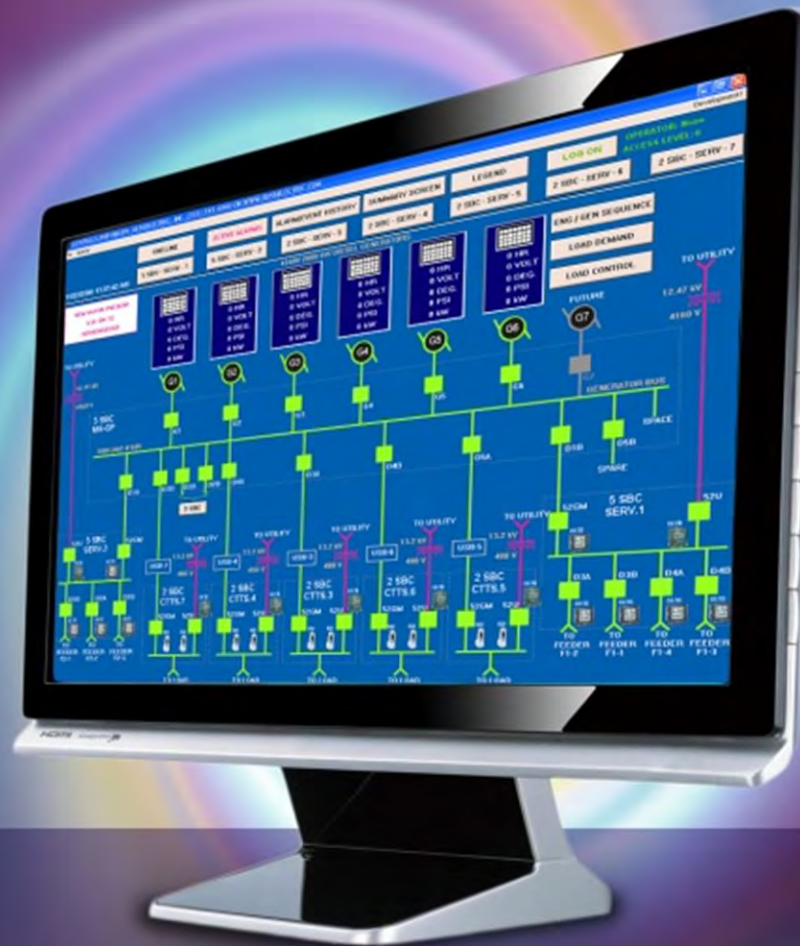


Generator Control & Utility Paralleling Switchgear Low (120-600vac) & Medium Voltage (5Kv – 27Kv)



Russelectric

Custom SCADA, System Training Simulators



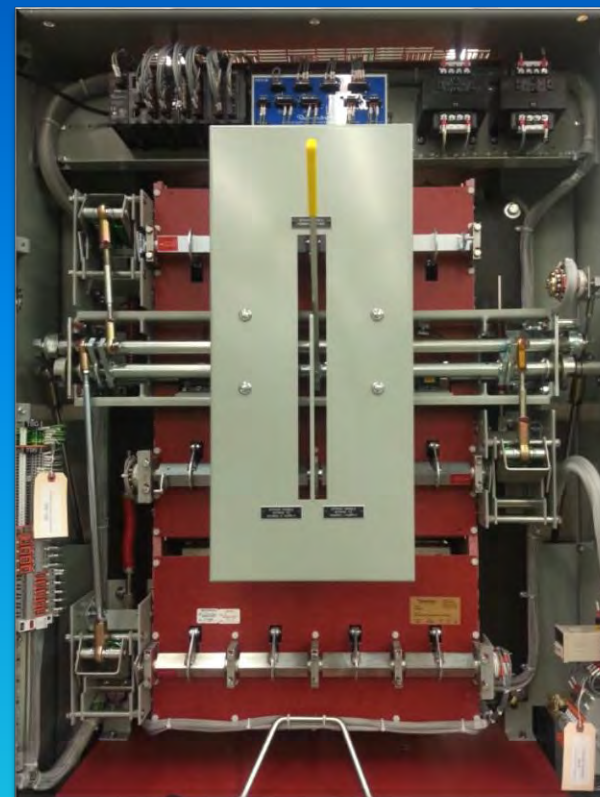
Russelectric

Completely Custom Designs
and Installations

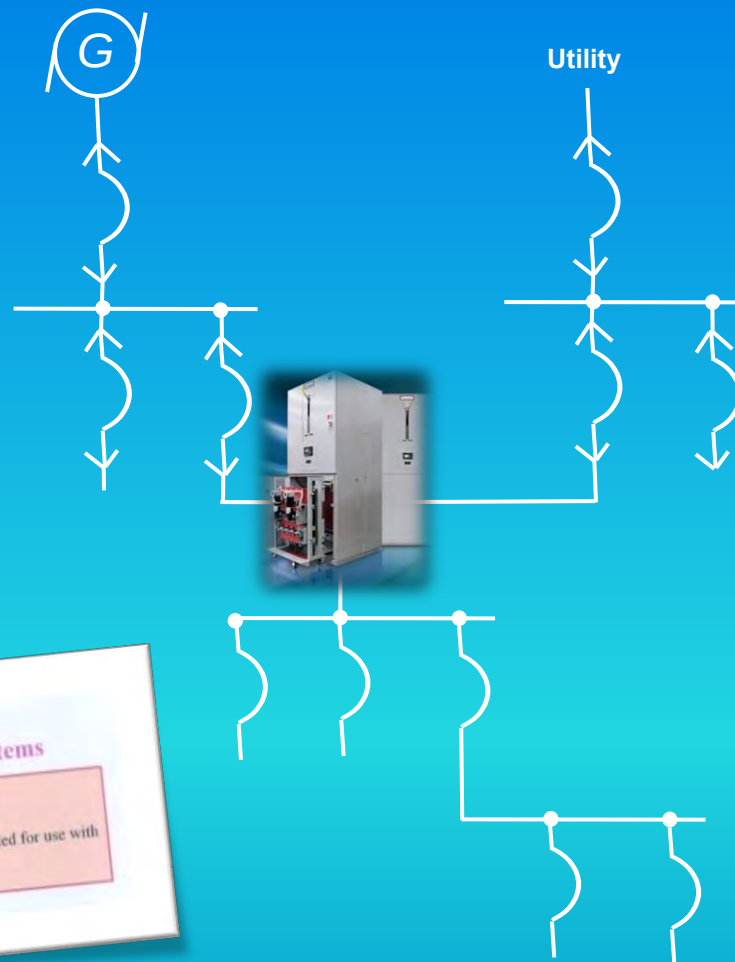




Most Complete
Range of
Engineered 30
Cycle Rated, UL-
1008 Listed and
Labeled Transfer
Switches to
Simplify Selective
Coordination



NEC Article 701, now sees transfer switches as an integral part of selective coordination requirements.



ARTICLE 701
Legally Required Standby Systems

Summary of Changes
• 701.7(C) Revised to require that automatic transfer switches rated 600 volts and below be listed for use with legally required standby systems.

Russelectric RATINGS

Switch Size and Configuration	Ratings for 3 Cycle (480V)	Ratings for 30 Cycle (480V)
100-400A	42ka, 3 Cycles	42ka, 3 Cycles 30ka, 30 Cycles
600-800A	65ka, 3 Cycles	65ka, 3 Cycles 42ka, 30 Cycles
1000-1200A	85ka, 3 Cycles	85ka, 3 Cycles 65ka, 30 Cycles
1600-3000A	100ka, 3 Cycles	100ka, 3 Cycles 85ka, 30 Cycles
4000A	100ka, 3 Cycles	125ka, 3 Cycles 100ka, 30 Cycles

Russelectric withstand ratings are good for any manufacturer's circuit breakers.

External Manual Operator (E.M.O.) standard on all
Russelectric Open Transition Transfer Switches (non
bypass type).



Russelectric External Manual Operator Standard on all non-bypass ATSs & MTSs

With the External
Manual Operator, all
Russelectric open
transition ATS's may be
safely manually
operated under load.





Internal view

Bypass/Isolation ATS's
Russelectric offers the most varieties.



- Open/Closed Transition
- Load break/No load break
- 3 or 30 cycle rated
- Low or medium voltage



Bypass/Isolation Functions

Variations on the Theme

Russelectric offers the most variations, beginning with 2 major considerations:

1. Bypass feature used mainly for maintenance of the automatic transfer switch portion of the unit
(no load break bypass)
 2. Bypass feature used mainly in emergency situations
(load break bypass)
- ATS Portion of unit may be open transition or closed transition, regardless of no load or load break bypass

Bypass/Isolation Functions

1. No load break bypass

Where maintenance of the ATS with no interruption in service is the priority

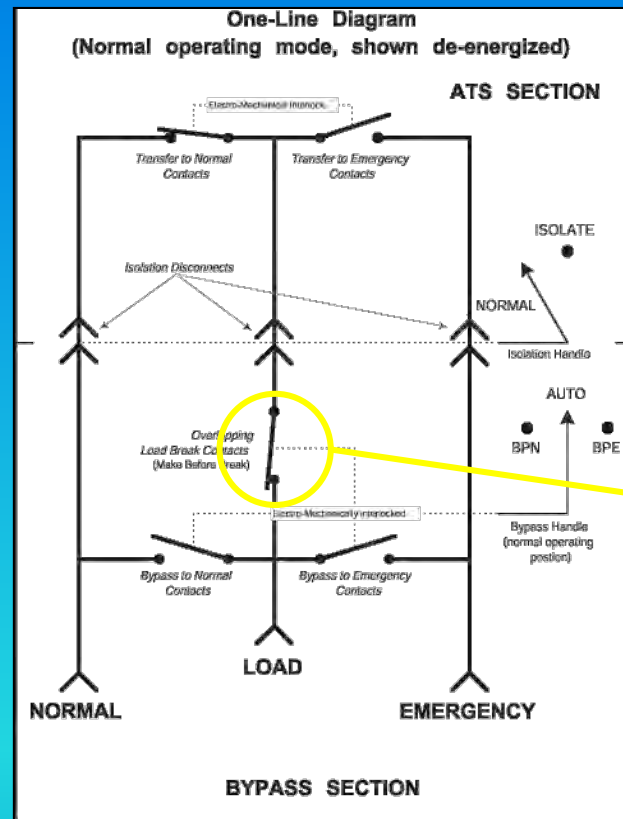
2. Load break bypass

Where simplicity of operation is critical during an emergency condition

No-Load Break Bypass Switches

Pros:

- Allows for maintenance bypass with no load interruption.



Cons:

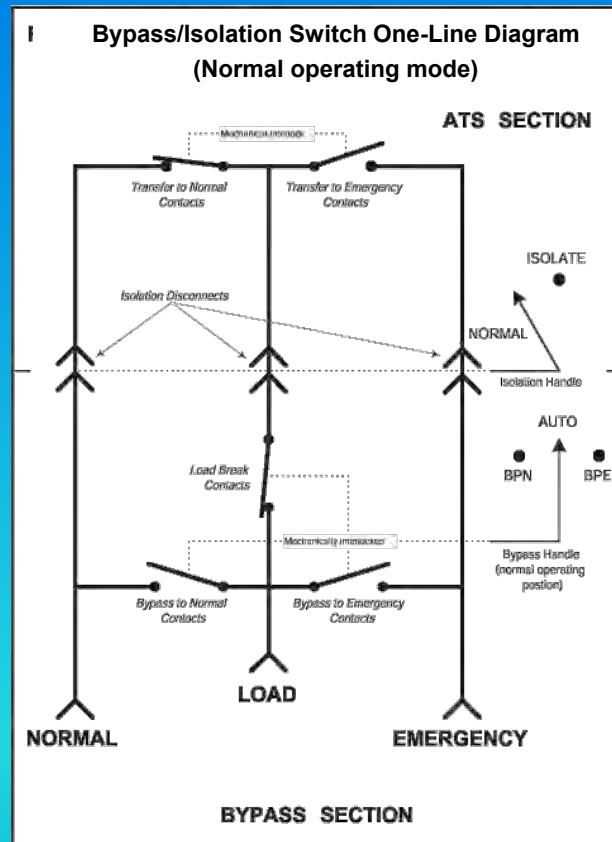
- More complex electrical interlocking required.
- More steps required to operate in an emergency situation.

Overlapping Load-Break Contacts (Make before break)

Load Break Bypass Switches (Only Russelectric offers this)

Pros:

- Provides a means of bypassing the ATS (to either source, regardless of the position or condition of the ATS) for maintenance and emergency
- No elaborate system of electrical solenoids or electro-mechanical interlocks. Just simple reliable mechanical interlocks
- Fast, simple, easy operation

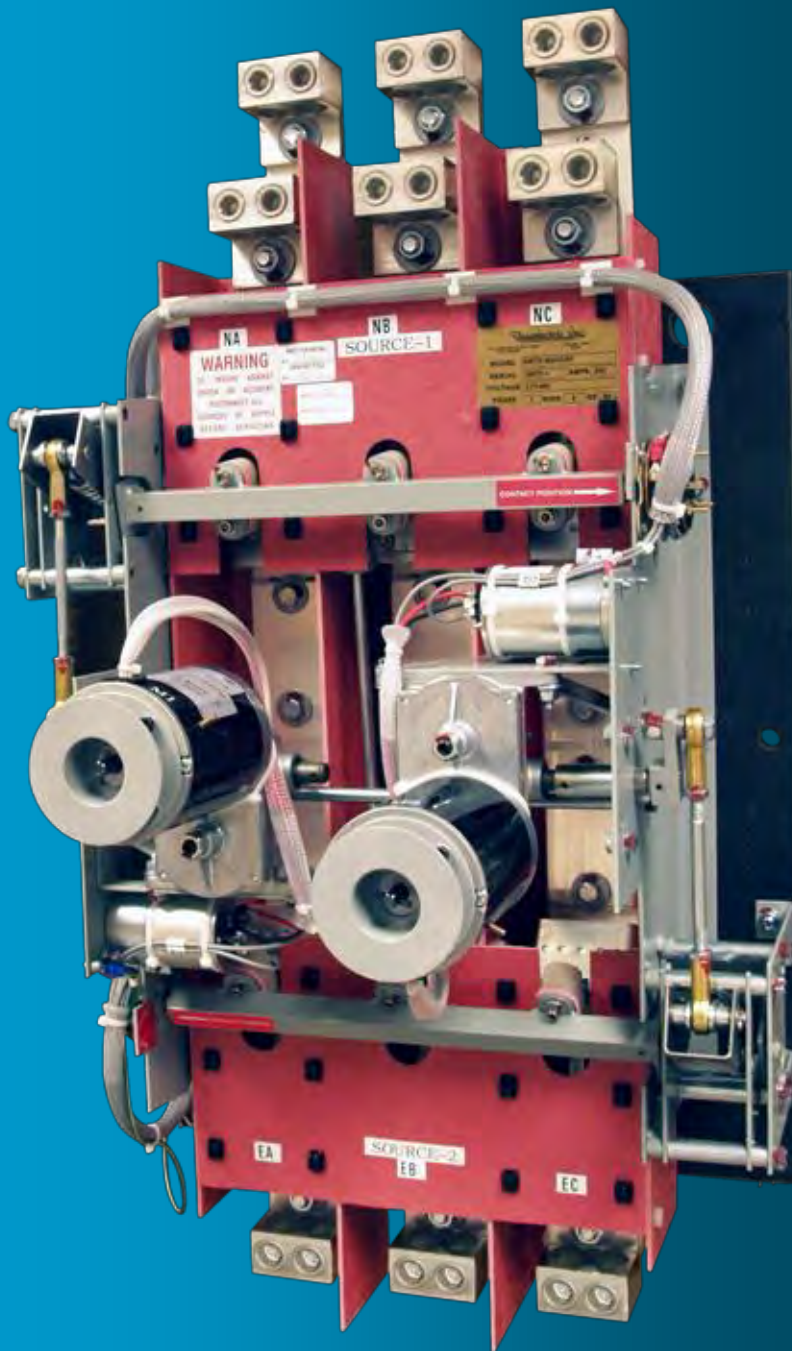


Cons:

- When performing routine testing or maintenance, special consideration must be given to the momentarily interrupting load or the "blink".
- Maintenance will probably need to be scheduled and coordinated so there are no ill effects on the load that the ATS is feeding.
- (Note, when combined with UPS, this situation is mitigated.)

Russelectric construction and design philosophy





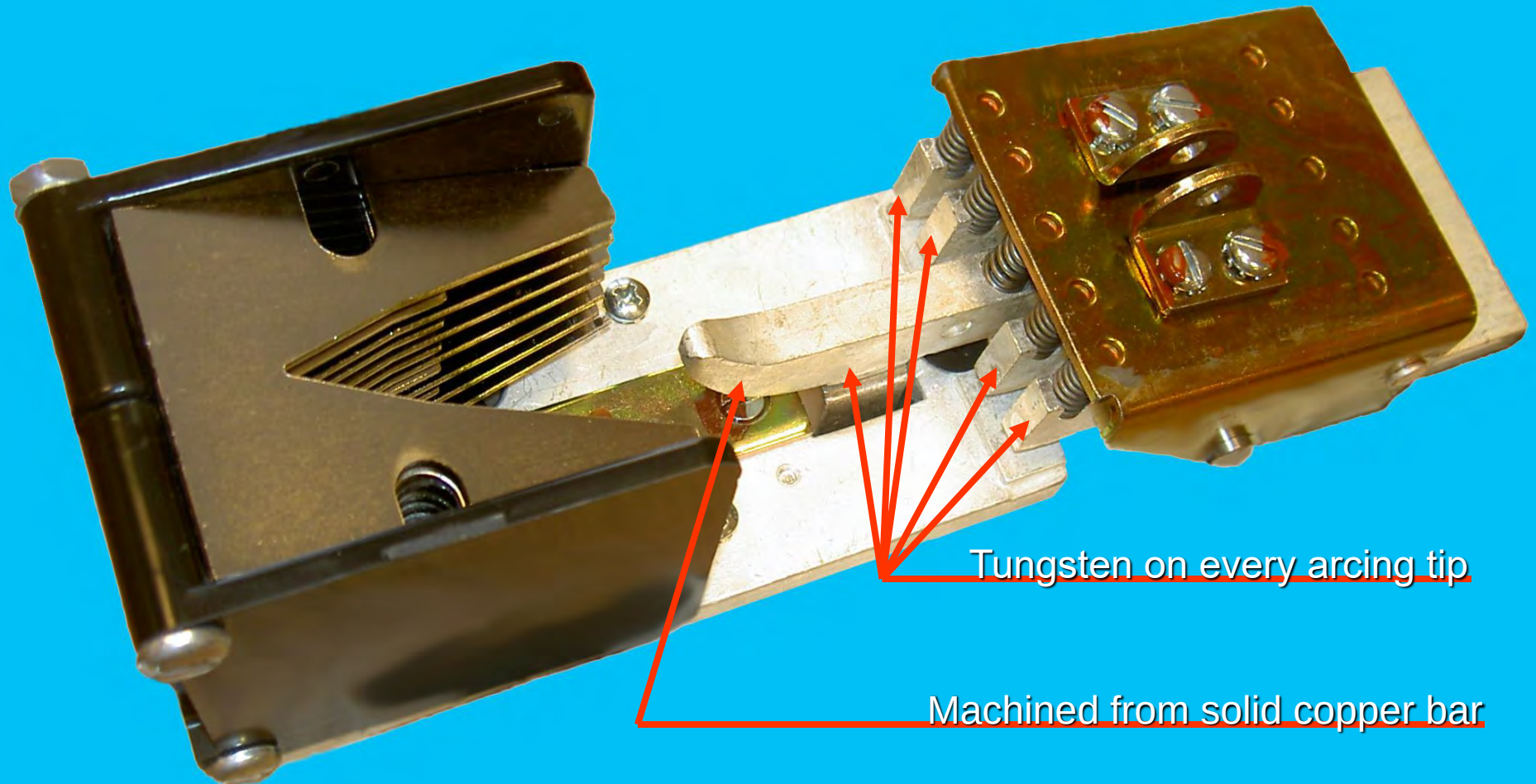
Russelectric Transfer Switches Offer superior construction methods and uncompromising design philosophy

- Made in the USA
- Largely Integrated Manufacturing; less than 10% content outsourced (minor componentry such as motors, fasteners, etc.)
- Most superior materials
- More material used
- Philosophy of exceeding requirements, not merely meeting them.



Superior Mechanical Design, Most Rugged Construction...

800 Ampere ATS Contact with Arc Chute Assembly

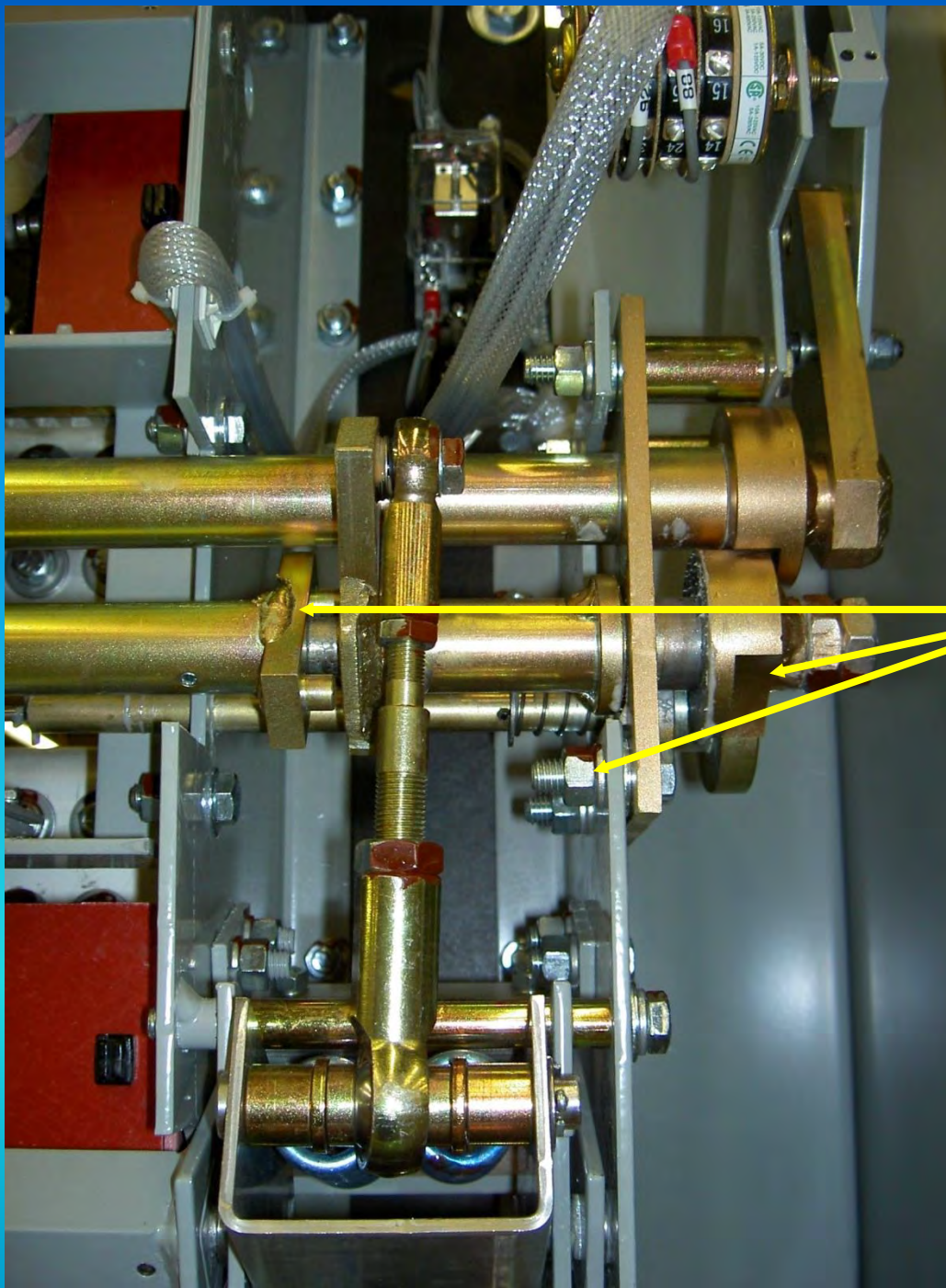


Tungsten on every arcing tip

Machined from solid copper bar

Then Silver Plated

Russelectric



**Close-up of
Russelectric's
uncompromising quality**

- Best materials
- Welding
- Machining
- Robust fasteners

Russelectric Machining and Welding

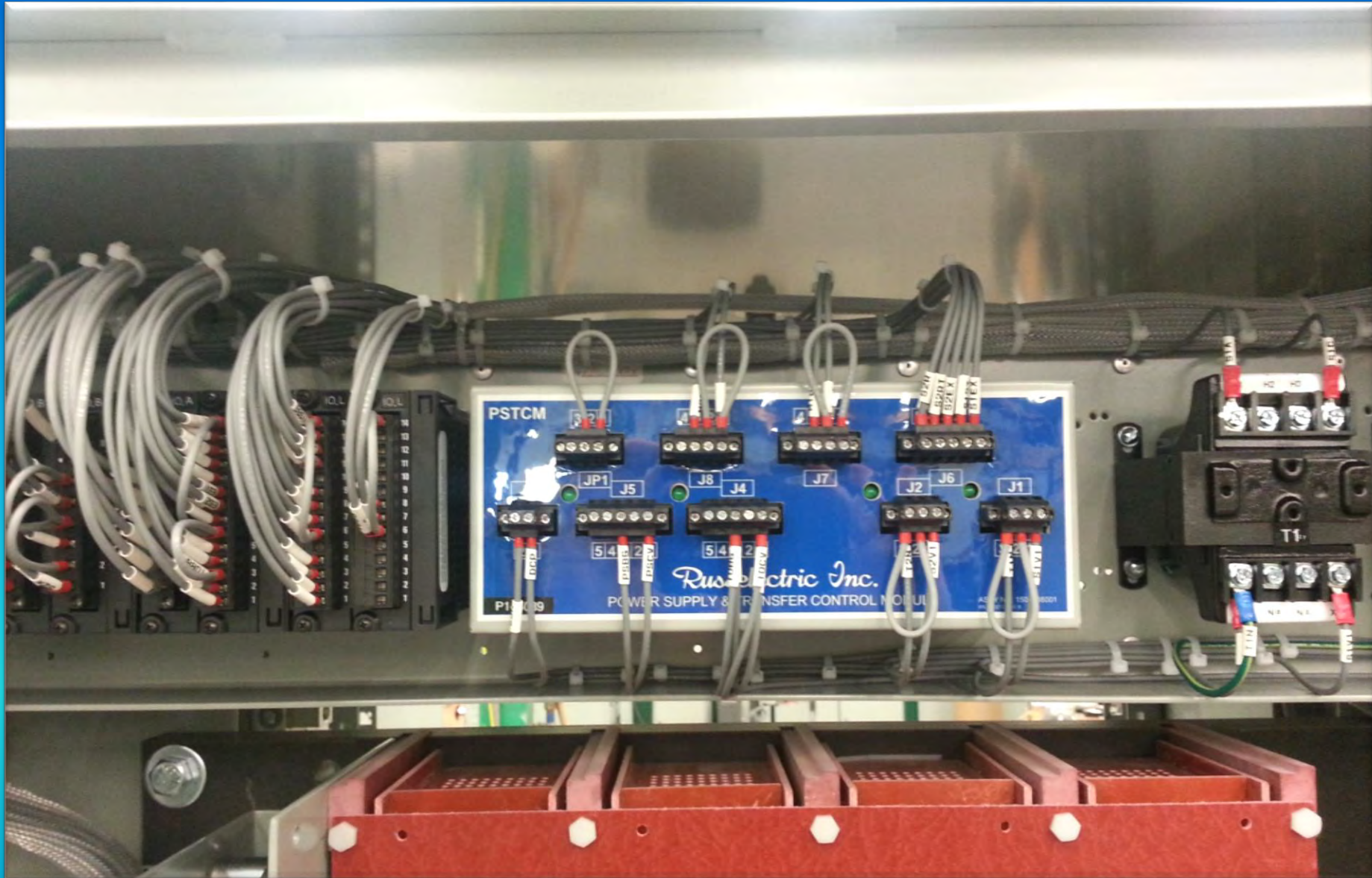
Russelectric switches are welded in areas where other manufacturers use fasteners and no welding.

Vital parts are machined from hardened steel. No crucial mechanical parts are stamped or outsourced. No aluminum, cast metal or even plastics are relied upon for mechanical integrity.



Russelectric

Russelectric, Serviceable Connections,
Hand-wired with every connection broken out in a service loop





Sophisticated ATS Controls

- Full Color Display
- Messages Automatically prioritized. Status display updated real time
- Displays English language vs numeric transposition codes
- Compact, reliable
- Power quality reporting capability, including wave form capture and other electrical values
- Mod Bus compatible



All ATS Systems can be web enabled



Russelectric Utility Paralleling and Generator Control Switchgear



**Low & Medium
Voltage**

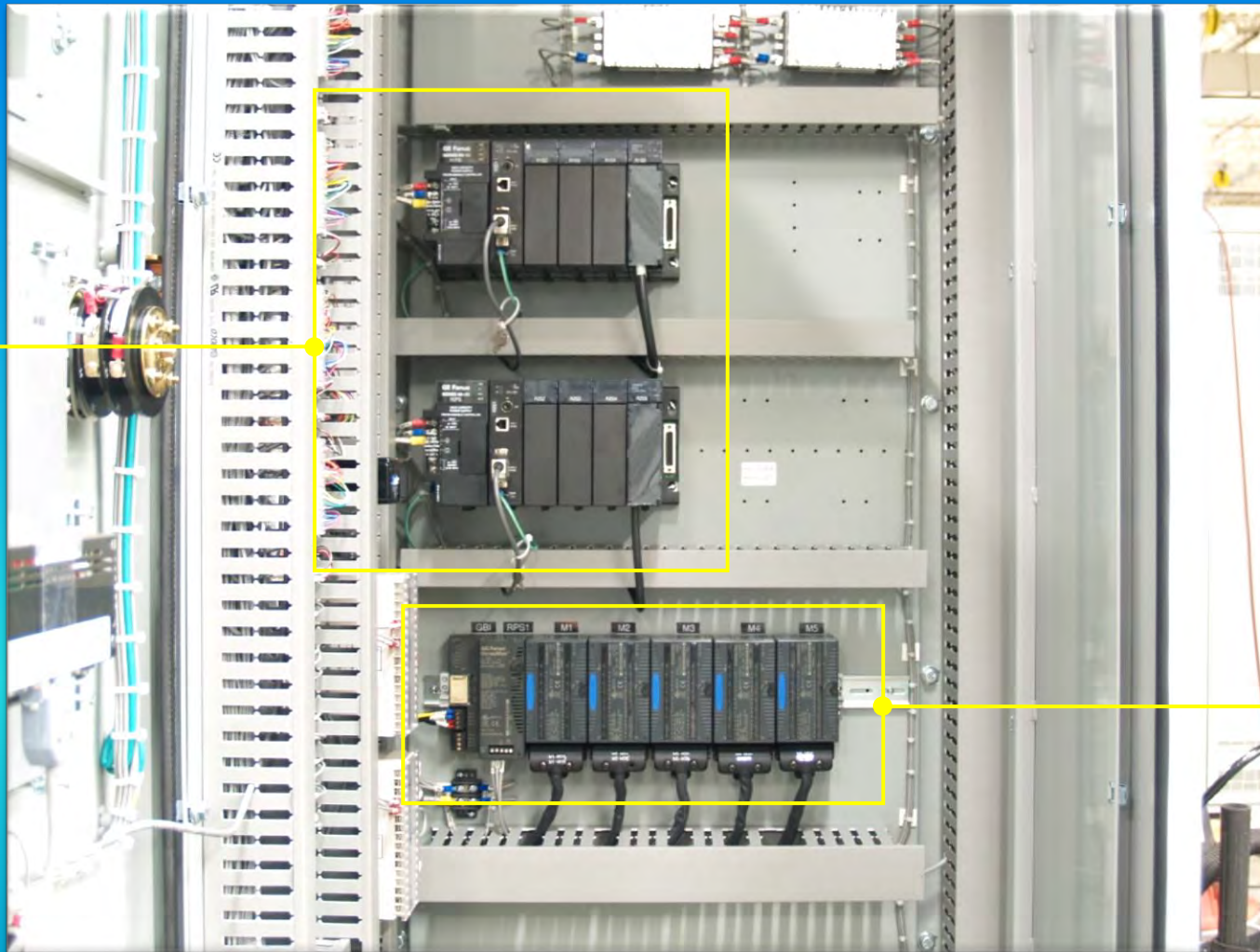


Although Russelectric offers the latest in digital control, we also provide full manual back-up to insure a means for controlling the system in the event of complete PLC failure.



Dual Redundant PLC's, running in tandem (Hot Back-up, Commander and Subordinate, Swapable)

With Separate and Distributed I/O Rack in the Master Cubicle



Full Manual Back-up is extremely important.



In the unlikely event that you are reduced to relying on pure manual control, you need an isolated, hardwired fully independent means to be able to perform all functions manually.

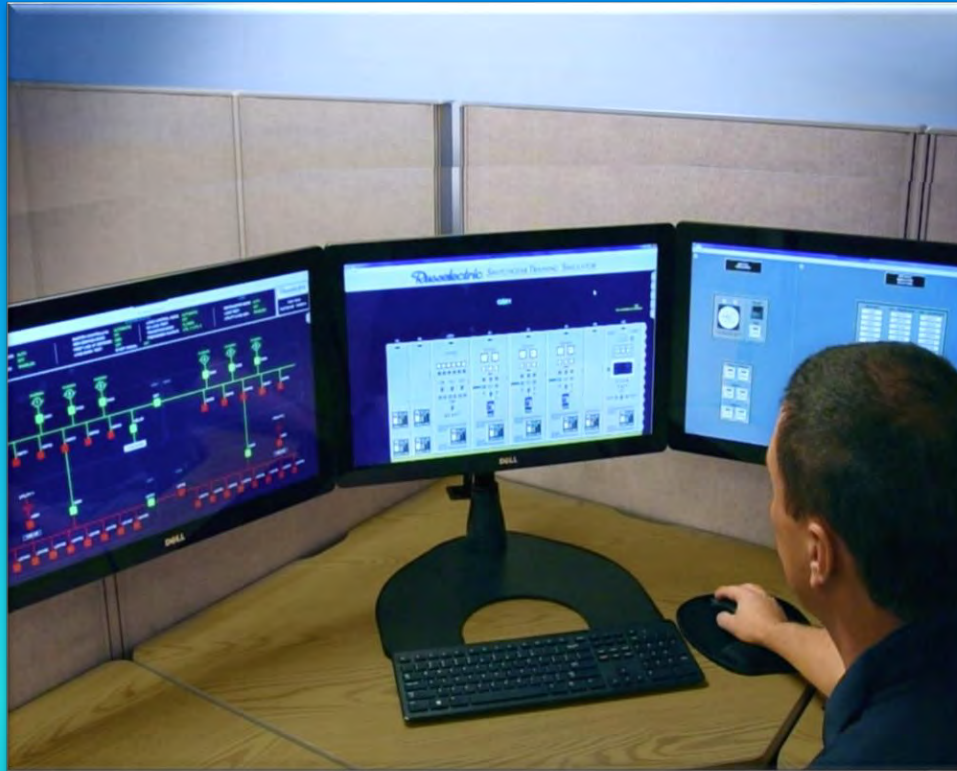


Base Package Digital Control With Full Manual Back-up

- Navigation Screen
- System Oneline
- System Legend
- ATS Oneline
- Transfer Controls
- Transfer Control Help
- Generator Setpoints and Status
- Generator Setpoints and Status Help
- Generator Metering
- Generator Demand
- Generator Demand Help
- Load Control Setpoints
- Load Control Setpoints Help
- Load Priorities
- Load Priorities Help
- System Information
- Programmed Alarms

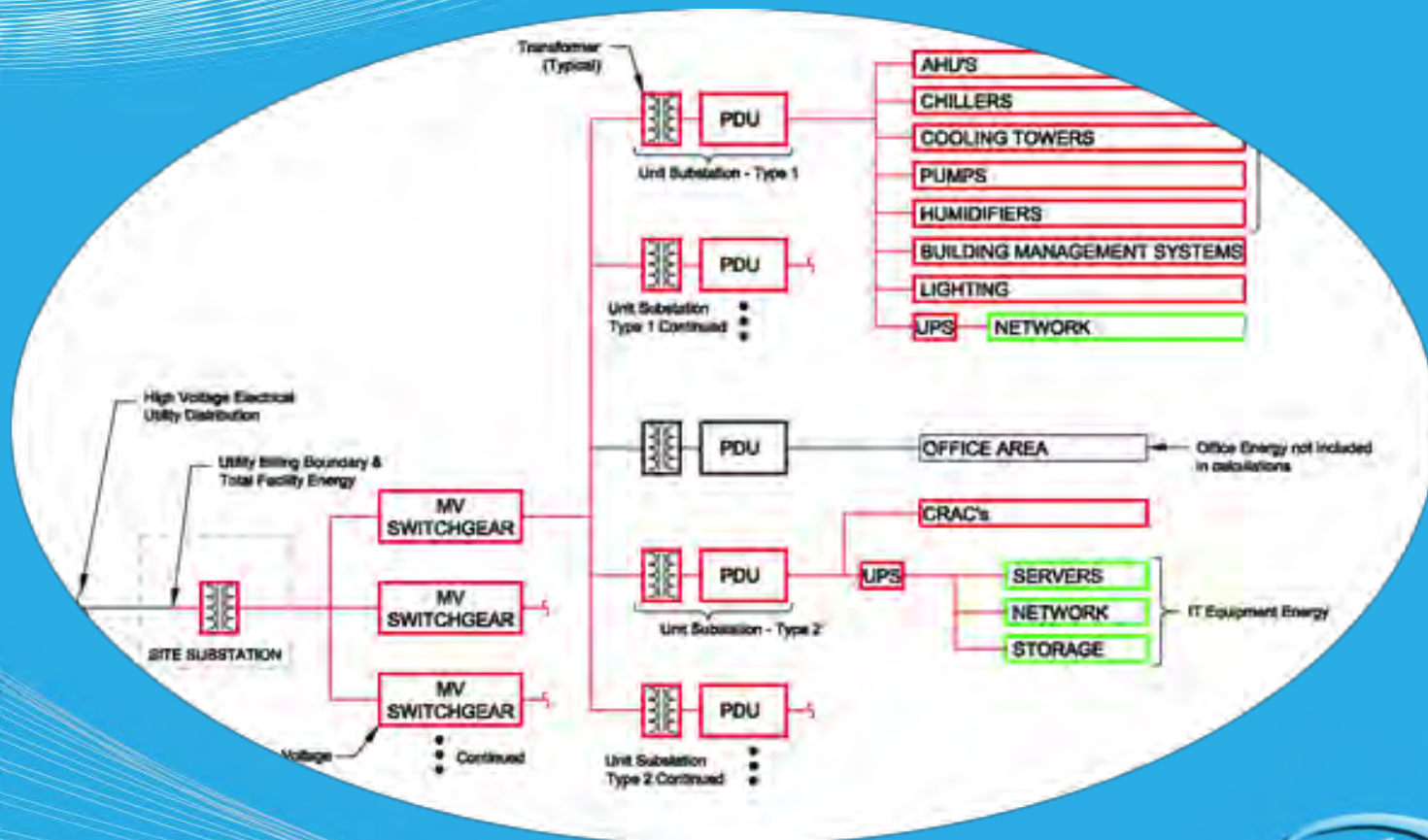
Systems Training Simulators

Russelectric also offers optional Training Simulators, custom to the specific power control system.



For more info and videos on Training Simulators, go to: russelectric.com

Emergency Power for Enterprise Data Centers



The Largest, most critical and most complex data centers trust Russelectric to get it right - from start to finish.



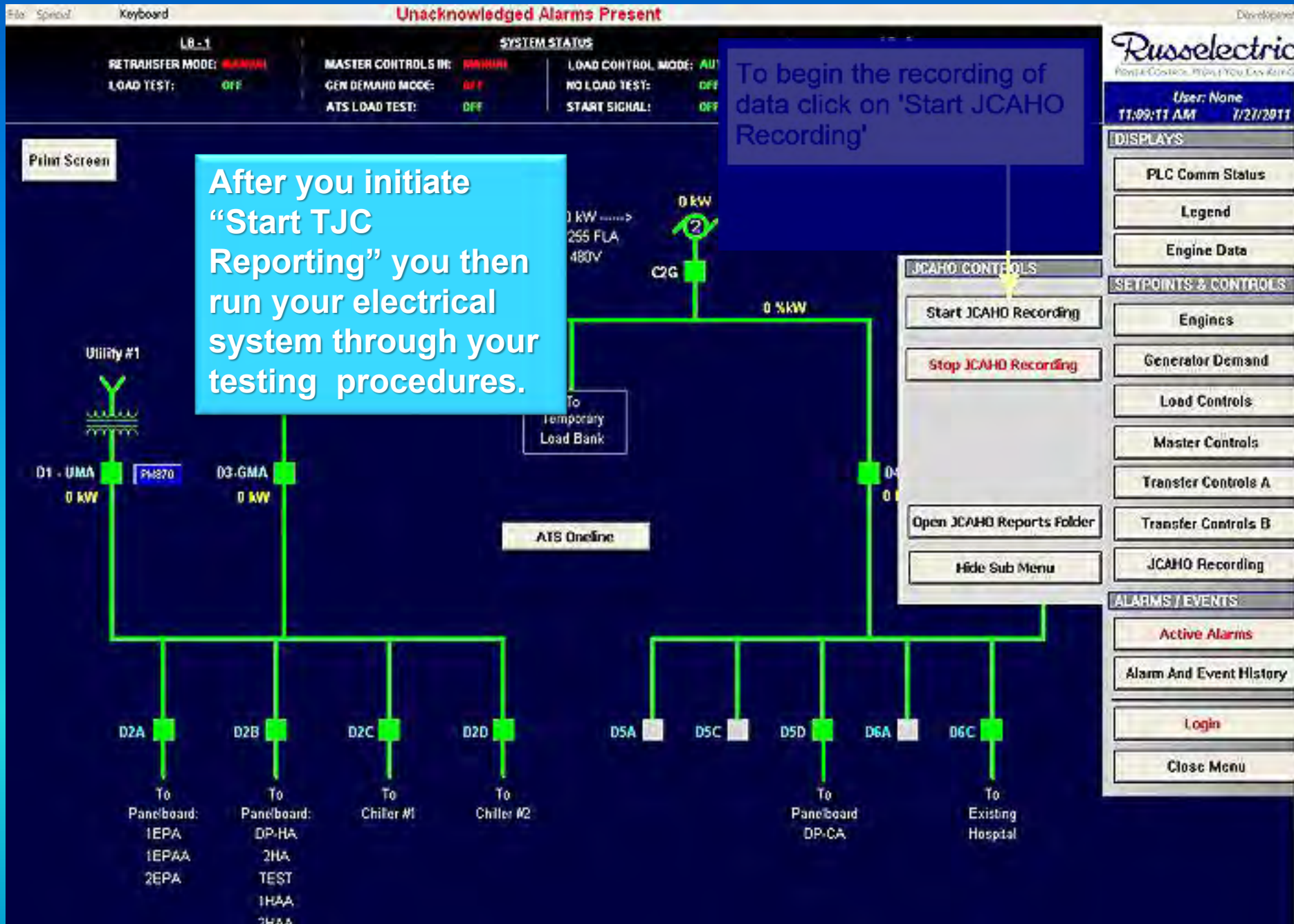
Russelectric
POWER CONTROL PEOPLE YOU CAN RELY ON



TJC report generating feature

(The Joint Commission, AKA - JCAHO)





LB-1

RETRANSFER MODE: MANUAL

LOAD TEST: OFF

SYSTEM STATUS

MASTER CONTROLS BY: MANUAL

GEN DEMAND MODE: OFF

ATS LOAD TEST: OFF

LOAD CONTROL MODE: AUTOMATIC

NO LOAD TEST: OFF

START SIGNAL: OFF

LB-2

RETRANSFER MODE: MANUAL

LOAD TEST: OFF

Ruselectric

Power Controls. Protect Your Cash Flow.

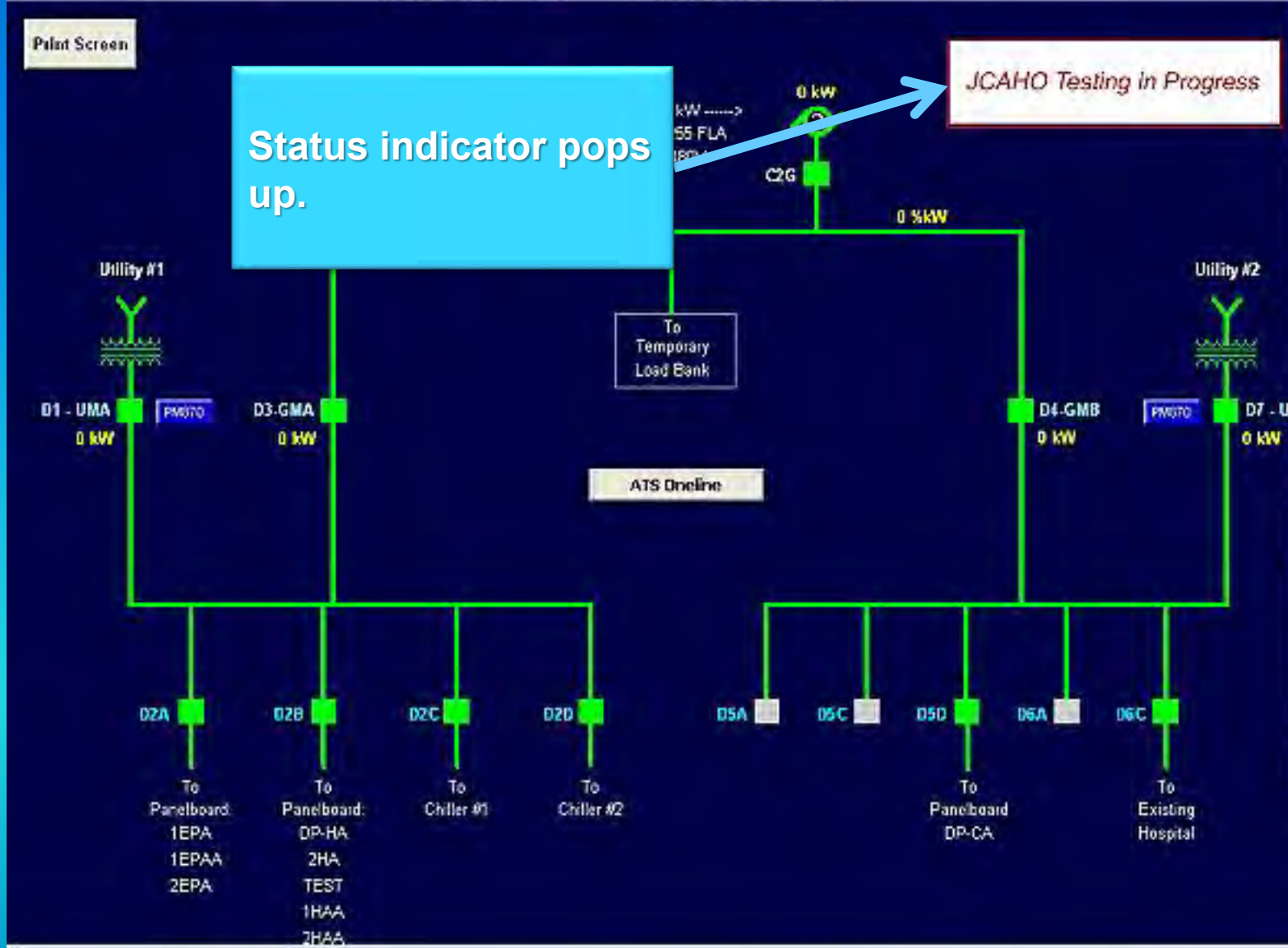
User: None

11:21:41 AM 7/27/2011

Pilot Screen

Status indicator pops up.

JCAHO Testing in Progress



DISPLAYS

PLC Comm Status

Legend

Engine Data

SETPOINTS & CONTROLS

Engines

Generator Demand

Load Controls

Master Controls

Transfer Controls A

Transfer Controls B

JCAHO Recording

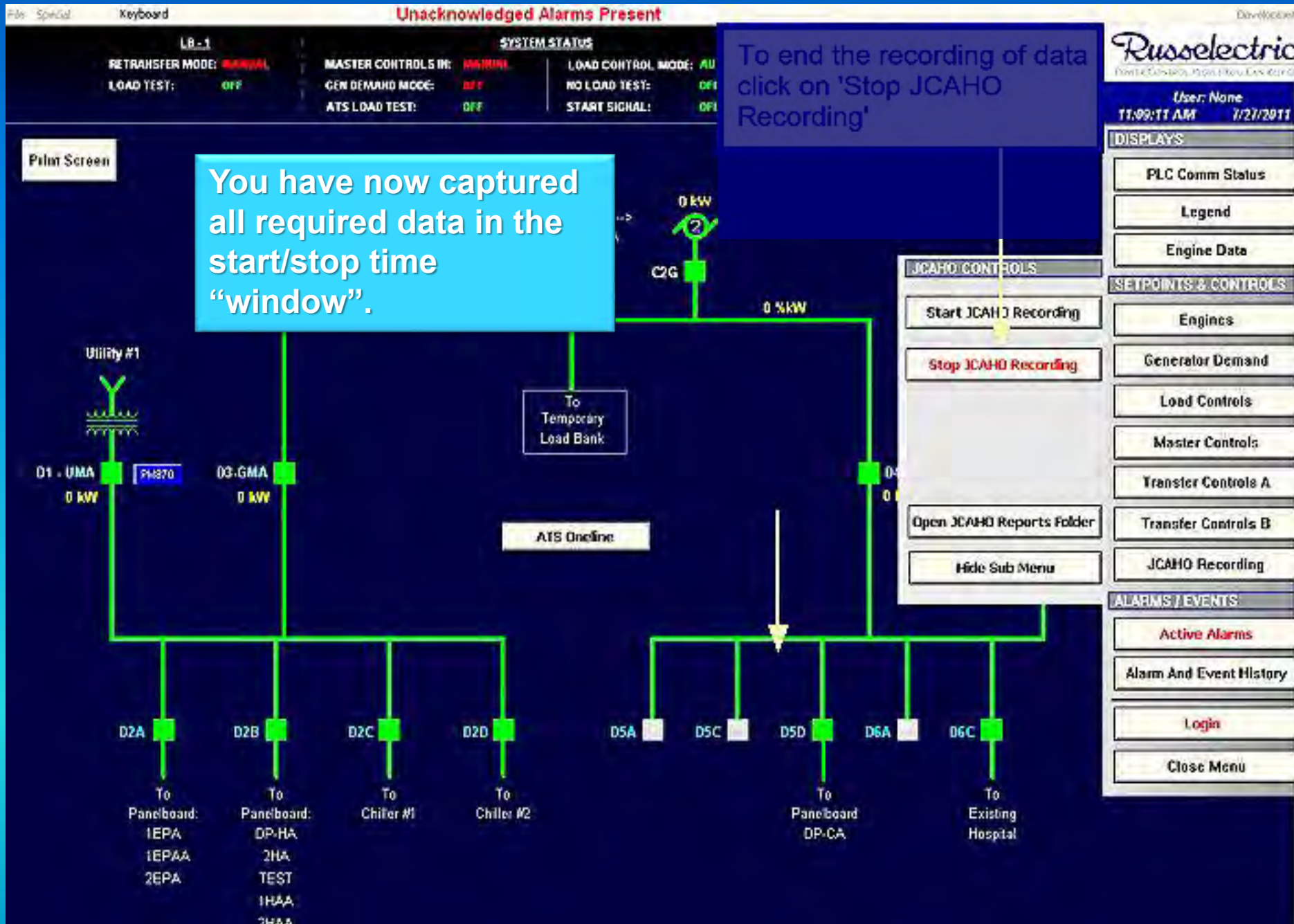
ALARMS / EVENTS

Active Alarms

Alarm And Event History

Login

Close Menu



LB-1

RETRANSFER MODE: **MANUAL**LOAD TEST: **OFF**

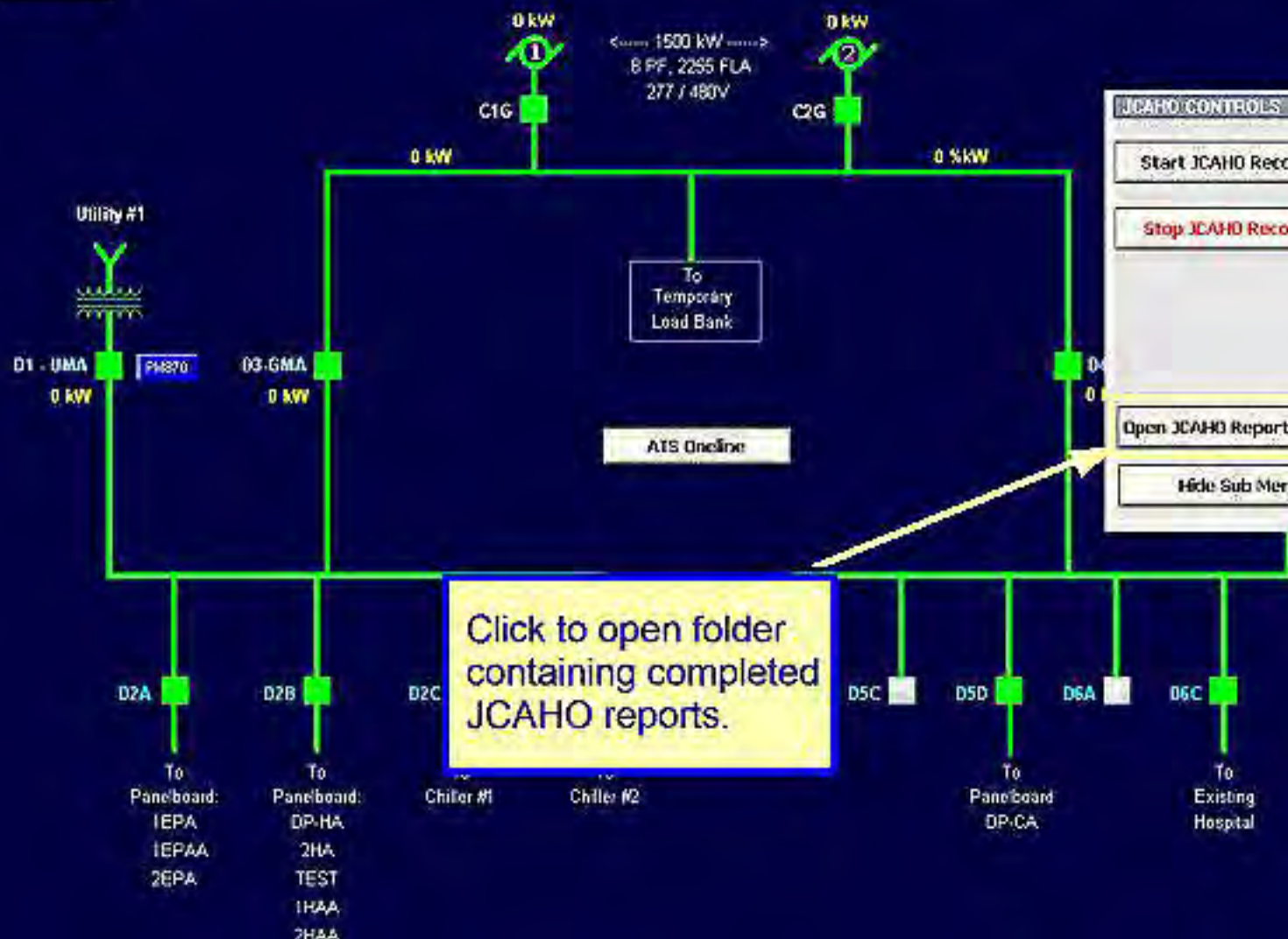
SYSTEM STATUS

MASTER CONTROLS IN: **MANUAL**GEN DEMAND MODE: **OFF**ATS LOAD TEST: **OFF**LOAD CONTROL MODE: **AUTOMATIC**NO LOAD TEST: **OFF**START SIGNAL: **OFF**

LB-2

RETRANSFER MODE: **MANUAL**LOAD TEST: **OFF****Russelectric**
POWER CONTROL SOLUTIONS ENGINEERUser: None
11:09:11 AM 7/27/2011

Print Screen



Click to open folder
containing completed
JCAHO reports.

JCAHO CONTROLS

Start JCAHO Recording

Stop JCAHO Recording

Open JCAHO Reports Folder

Hide Sub Menu

DISPLAYS

PLC Comm Status

Legend

Engine Data

SETPOINTS & CONTROLS

Engines

Generator Demand

Load Controls

Master Controls

Transfer Controls A

Transfer Controls B

JCAHO Recording

ALARMS / EVENTS

Active Alarms

Alarm And Event History

Login

Close Menu

File Special

Development!

SYSTEM STATUS

PLC IN CONTROL:

MASTER CONTROLS IN: **MANUAL**GENERATOR NO LOAD TEST: **YES**ALARM STATUS: **NO ALARM**LOAD CONTROL MODE: **MANUAL**PH2-EEQ-04/05 LOAD TEST: **YES**LOAD DEMAND MODE: **OFF**SYSTEM TRANSITION MODE: **OPEN**MASTER ATS LOAD TEST: **YES**ATS START SIGNAL SUMMARY: **YES****Russelectric**
POWER CONTROL PEOPLE YOU CAN RELY ONUser: **russ**

DISPLAYS

PLC Comm Status

ENGINE DATA

All Engines

SETPOINTS

Engine

5 kV Unit Sub Control

Load Controls

15 kV Transfer Controls

ATS Data & Controls

Gen Demand

Save / Restore Setpoints

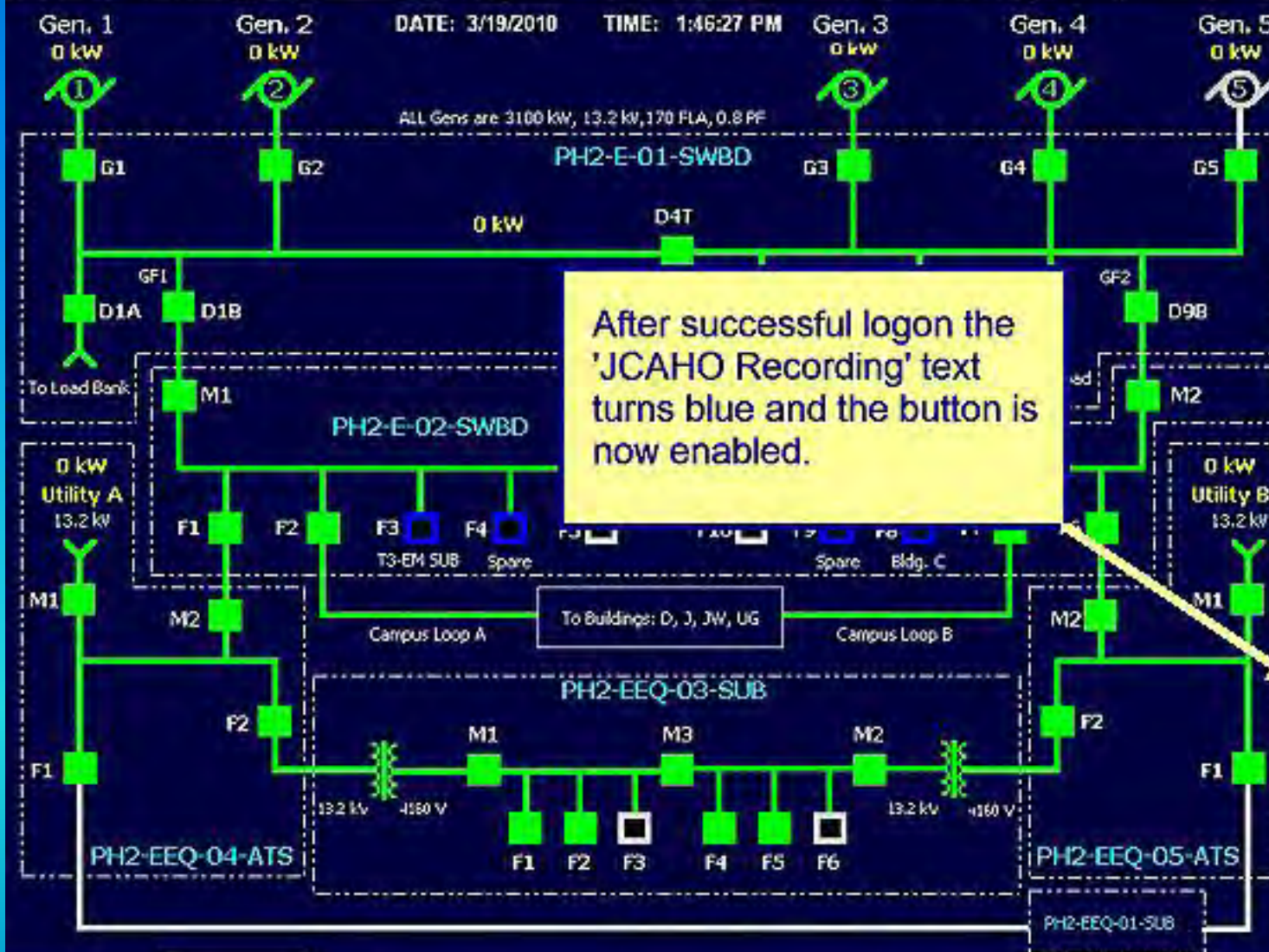
JCAHO Recording

ALARMS / EVENTS

Active Alarms

Alarm & Event History

Log Off



File Special

Development!

SYSTEM STATUS

PLC IN CONTROL:

MASTER CONTROLS IN: **MANUAL**GENERATOR NO LOAD TEST: **OK**PH2-EEQ-04/05 LOAD TEST: **OK**MASTER ATS LOAD TEST: **OK**RT SIGNAL SUMMARY: **OK**ALARM STATUS: **ALL OK**LOAD DEMAND MODE: **OFF**

SYSTEM

DATE: 3/1/2011

ALL Gens are

2. Enter Uname & Pwrd containing the proper security level.

LOG ON WINDOW

Name:

Password:

Close

1. Click to Logon

Russelectric

POWER CONTROL PEOPLE YOU CAN RELY ON

User: **None**

DISPLAYS

PLC Comm Status

ENGINE DATA

All Engines

SETPOINTS

Engine

5 kV Unit Sub Control

Load Controls

15 kV Transfer Controls

ATS Data & Controls

Gen Demand

Save / Restore Setpoints

JCAHO Recording

ALARMS / EVENTS

Active Alarms

Alarm & Event History

Log On

TODAY'S DATE: 12/01/2010

Recording Start Time: 12-01-2010 04:36:01 AM

Recording Stop Time: 12-01-2010 06:34:37 AM

Alarm & Event Chronology

Time Stamp	Alarm State	Description	Value
12-01-2010 04:36:24 AM	UNACK_AL	Auto. Gen Bus 2 Engine Start Signal	Present
12-01-2010 04:36:24 AM	UNACK_AL	Auto. Gen Bus 1 Engine Start Signal	Present
12-01-2010 04:36:24 AM	UNACK_AL	C0-EEQ-01 Start Signal	On
12-01-2010 04:36:32 AM		Engine/Gen.02 Rated Voltage and Frequency	On
12-01-2010 04:36:32 AM		Engine/Gen.01 Breaker - Status	Closed
12-01-2010 04:36:32 AM		Engine/Gen.04 Rated Voltage and Frequency	On
12-01-2010 04:36:32 AM		Engine/Gen.03 Rated Voltage and Frequency	On
12-01-2010 04:36:32 AM		Engine/Gen.01 Rated Voltage and Frequency	On
12-01-2010 04:36:36 AM		C0-EEQ-01-ATS Load Add Relay	On
12-01-2010 04:36:36 AM		Engine/Gen.02 Breaker - Status	Closed
12-01-2010 04:36:45 AM		Engine/Gen.03 Breaker - Status	Closed
12-01-2010 04:36:46 AM		Engine/Gen.04 Breaker - Status	Closed
12-01-2010 04:37:00 AM		C0-ELS-01 Normal Position Contacts	Open
12-01-2010 04:37:00 AM		C0-ELS-01-ATS Load Add Relay	On
12-01-2010 04:37:01 AM		C0-ELS-01 Emergency Position Contacts	Closed
12-01-2010 04:37:06 AM	UNACK_AL	C0-ECR-02 Start Signal	On
12-01-2010 04:37:06 AM	UNACK_AL	C0-ELS-01 Start Signal	On
12-01-2010 04:37:06 AM		C0-ECR-02-ATS Load Add Relay	On
12-01-2010 04:37:07 AM		C0-ECR-02 Normal Position Contacts	Open
12-01-2010 04:37:08 AM		C0-ECR-02 Emergency Position Contacts	Closed
12-01-2010 04:37:11 AM	UNACK_AL	C0-ECR-01 Start Signal	On
12-01-2010 04:37:11 AM		C0-ECR-01 Normal Position Contacts	Open
12-01-2010 04:37:11 AM		C0-ECR-01-ATS Load Add Relay	On
12-01-2010 04:37:12 AM		C0-ECR-01 Emergency Position Contacts	Closed
12-01-2010 04:38:35 AM	UNACK_AL	C0-EFP-01 Start Signal	On
12-01-2010 04:38:36 AM		C0-EFP-01-ATS Load Add Relay	On
12-01-2010 04:38:38 AM		C0-EFP-01 Emergency Position Contacts	Closed
12-01-2010 04:38:38 AM		C0-EFP-01 Normal Position Contacts	Open
12-01-2010 04:41:33 AM	UNACK_AL	T3-EEQ-02 Start Signal	On
12-01-2010 04:41:34 AM		T3-EEQ-02-ATS Load Add Relay	On
12-01-2010 04:41:36 AM	UNACK_AL	T3-EEQ-01 Start Signal	On
12-01-2010 04:41:38 AM		T3-EEQ-01-ATS Load Add Relay	On
12-01-2010 04:41:39 AM	UNACK_AL	T3-ECR-02 Start Signal	On
12-01-2010 04:41:39 AM		T3-ECR-02 Normal Position Contacts	Open
12-01-2010 04:41:39 AM		T3-ECR-02-ATS Load Add Relay	On
12-01-2010 04:41:40 AM		T3-ECR-02 Emergency Position Contacts	Closed
12-01-2010 04:41:44 AM	UNACK_AL	T3-ELS-01 Start Signal	On
12-01-2010 04:41:44 AM		T3-ELS-01 Emergency Position Contacts	Closed
12-01-2010 04:41:44 AM		T3-ELS-01 Normal Position Contacts	Open
12-01-2010 04:41:44 AM		T3-ELS-01-ATS Load Add Relay	On
12-01-2010 04:41:49 AM	UNACK_AL	T3-ECR-01 Start Signal	On
12-01-2010 04:41:49 AM		T3-ECR-01-ATS Load Add Relay	On

Manually initiated
Start time: 4:46, end
time: 6:34. The test ran
approx. two hours.

Automatic or
situational automatic
initiation of the JCAHO
reporting feature is
also available.

JCAHO CONTENTS

Start JCAHO Recording

Stop JCAHO Recording

Open JCAHO Reports Folder

Hide Sub Menu

TODAY'S DATE: 12/01/2010

Recording Start Time: 12-01-2010 04:38:01 AM

Recording End Time: 12-01-2010 06:34:37 AM

ATS Testing

Item Name	Time Stamp	Description	Status
A1-ECR-A	12-01-2010 04:55:20 AM	A1-ECR-A Start Signal	On
A1-ECR-A	12-01-2010 04:55:33 AM	A1-ECR-A Emergency Position Contacts	Closed
A1-ECR-A	12-01-2010 04:55:33 AM	A1-ECR-A Normal Position Contacts	Open
A1-ECR-A	12-01-2010 06:19:44 AM	A1-ECR-A Emergency Position Contacts	Open
A1-ECR-A	12-01-2010 06:19:44 AM	A1-ECR-A Normal Position Contacts	Closed
A1-ECR-A	12-01-2010 06:19:45 AM	A1-ECR-A Start Signal	Off
A1-ELS-A	12-01-2010 04:55:17 AM	A1-ELS-A Normal Position Contacts	Open
A1-ELS-A	12-01-2010 04:55:18 AM	A1-ELS-A Start Signal	On
A1-ELS-A	12-01-2010 04:55:18 AM	A1-ELS-A Emergency Position Contacts	Closed
A1-ELS-A	12-01-2010 06:20:05 AM	A1-ELS-A Emergency Position Contacts	Open
A1-ELS-A	12-01-2010 06:20:07 AM	A1-ELS-A Normal Position Contacts	Closed
A1-ELS-A	12-01-2010 06:20:07 AM	A1-ELS-A Start Signal	Off
A2-ECR-02	12-01-2010 04:50:33 AM	A2-ECR-02 Start Signal	On
A2-ECR-02	12-01-2010 04:50:35 AM	A2-ECR-02 Normal Position Contacts	Open
A2-ECR-02	12-01-2010 04:50:41 AM	A2-ECR-02 Emergency Position Contacts	Closed
A2-ECR-02	12-01-2010 06:13:50 AM	A2-ECR-02 Emergency Position Contacts	Open
A2-ECR-02	12-01-2010 06:13:55 AM	A2-ECR-02 Normal Position Contacts	Closed
A2-ECR-02	12-01-2010 06:13:55 AM	A2-ECR-02 Start Signal	Off
Auto. Gen Bus 1 Engine	12-01-2010 04:36:24 AM	Auto. Gen Bus 1 Engine Start Signal	Present
Auto. Gen Bus 1 Engine	12-01-2010 06:28:08 AM	Auto. Gen Bus 1 Engine Start Signal	Off
Auto. Gen Bus 2 Engine	12-01-2010 04:38:24 AM	Auto. Gen Bus 2 Engine Start Signal	Present
Auto. Gen Bus 2 Engine	12-01-2010 06:28:08 AM	Auto. Gen Bus 2 Engine Start Signal	Off
C0-ECR-01	12-01-2010 04:37:11 AM	C0-ECR-01 Start Signal	On
C0-ECR-01	12-01-2010 04:37:11 AM	C0-ECR-01 Normal Position Contacts	Open
C0-ECR-01	12-01-2010 04:37:12 AM	C0-ECR-01 Emergency Position Contacts	Closed
C0-ECR-01	12-01-2010 06:06:53 AM	C0-ECR-01 Emergency Position Contacts	Open
C0-ECR-01	12-01-2010 06:06:55 AM	C0-ECR-01 Normal Position Contacts	Closed
C0-ECR-01	12-01-2010 06:06:55 AM	C0-ECR-01 Start Signal	Off
C0-ECR-02	12-01-2010 04:37:06 AM	C0-ECR-02 Start Signal	On
C0-ECR-02	12-01-2010 04:37:07 AM	C0-ECR-02 Normal Position Contacts	Open
C0-ECR-02	12-01-2010 04:37:08 AM	C0-ECR-02 Emergency Position Contacts	Closed
C0-ECR-02	12-01-2010 06:06:50 AM	C0-ECR-02 Emergency Position Contacts	Open
C0-ECR-02	12-01-2010 06:06:51 AM	C0-ECR-02 Normal Position Contacts	Closed
C0-ECR-02	12-01-2010 06:06:51 AM	C0-ECR-02 Start Signal	Off
C0-EEQ-01	12-01-2010 04:36:24 AM	C0-EEQ-01 Start Signal	On
C0-EEQ-01	12-01-2010 04:48:38 AM	C0-EEQ-01 Emergency Position Contacts	Closed
C0-EEQ-01	12-01-2010 04:48:38 AM	C0-EEQ-01 Normal Position Contacts	Open
C0-EEQ-01	12-01-2010 06:06:46 AM	C0-EEQ-01 Emergency Position Contacts	Open
C0-EEQ-01	12-01-2010 06:06:49 AM	C0-EEQ-01 Normal Position Contacts	Closed
C0-EEQ-01	12-01-2010 06:06:50 AM	C0-EEQ-01 Start Signal	Off
C0-EFP-01	12-01-2010 04:38:38 AM	C0-EFP-01 Emergency Position Contacts	Closed
C0-EFP-01	12-01-2010 06:06:41 AM	C0-EFP-01 Emergency Position Contacts	Open

Same approx.
two hour
window.

TODAY'S DATE: 12/01/2010

Recording Start Time: 12-01-2010 04:36:01 AM

Recording End Time: 12-01-2010 06:34:37 AM

ENGINE 1 TESTING DATA

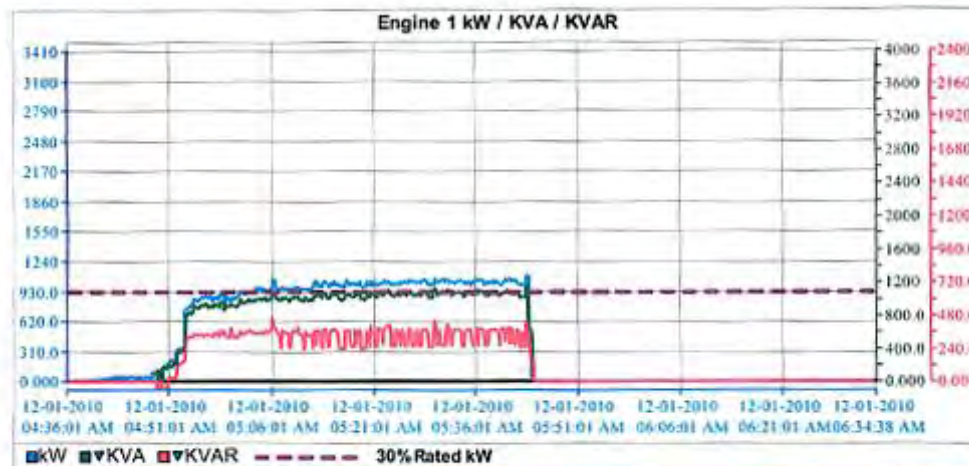
Engine Start History

Time Stamp	Description	Status
12-01-2010 04:36:32 AM	Engine/Gen.01 Rated Voltage and Frequency	On
12-01-2010 05:49:35 AM	Engine/Gen.01 Rated Voltage and Frequency	Off

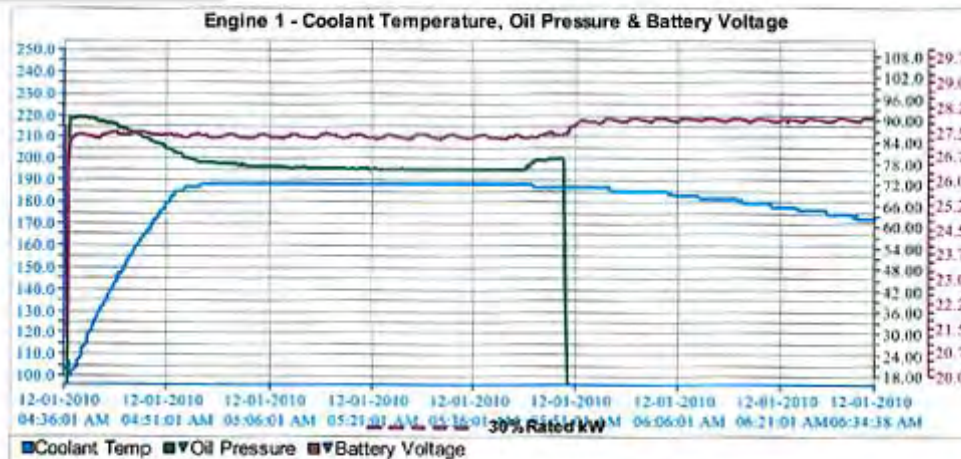
JCAHO Minimum Load Requirement

Time Stamp	Description	Status
12-01-2010 05:01:29 AM	Engine/Gen.01 - JCAHO kW Loading	Above 30%
12-01-2010 05:01:39 AM	Engine/Gen.01 - JCAHO kW Loading	Below 30%
12-01-2010 05:02:59 AM	Engine/Gen.01 - JCAHO kW Loading	Above 30%
12-01-2010 05:03:09 AM	Engine/Gen.01 - JCAHO kW Loading	Below 30%
12-01-2010 05:03:29 AM	Engine/Gen.01 - JCAHO kW Loading	Above 30%
12-01-2010 05:04:39 AM	Engine/Gen.01 - JCAHO kW Loading	Below 30%
12-01-2010 05:04:49 AM	Engine/Gen.01 - JCAHO kW Loading	Above 30%
12-01-2010 05:05:19 AM	Engine/Gen.01 - JCAHO kW Loading	Below 30%
12-01-2010 05:05:39 AM	Engine/Gen.01 - JCAHO kW Loading	Above 30%
12-01-2010 05:43:49 AM	Engine/Gen.01 - JCAHO kW Loading	Below 30%

Example of Engine Data TJC screens.

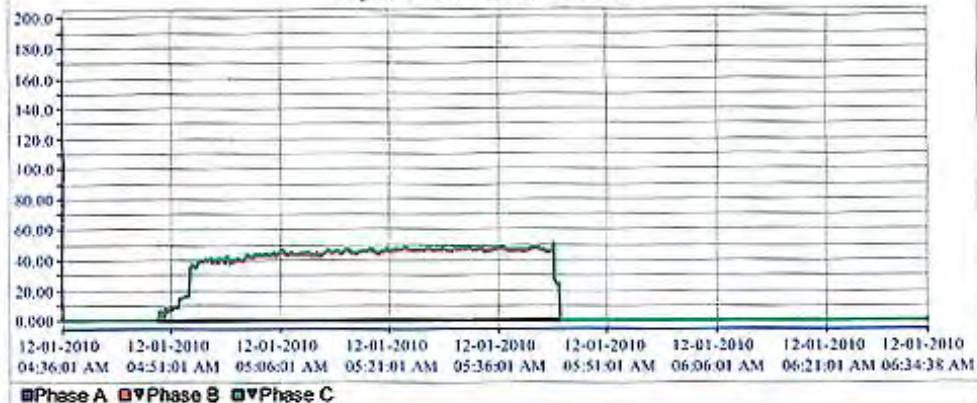


kW, kVA, kVAR		
Engine 1	Runtime Maximum	Runtime Average
	1098.6 kW	750.8 kW
	1178.5 kVA	775.7 kVA
	457.1 kVAR	251.7 kVAR



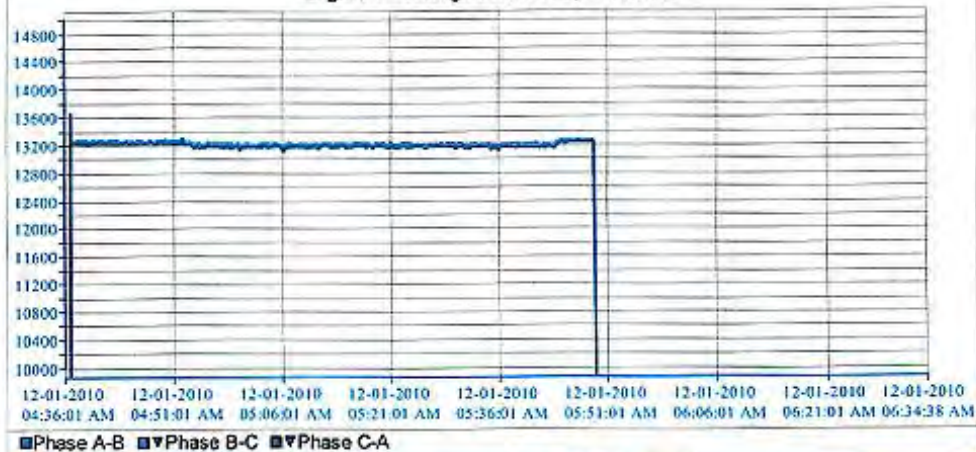
Coolant Temp, Oil Pressure & Battery Voltage		
Engine/Generator 1	Runtime Maximum	Runtime Average
Coolant Temp.	188.3 F°	178.3 F°
Oil Pressure	91.1 PSI	79.2 PSI
Battery Voltage	27.5 VDC	27.3 VDC

Engine 1 - Current Phase A, B & C

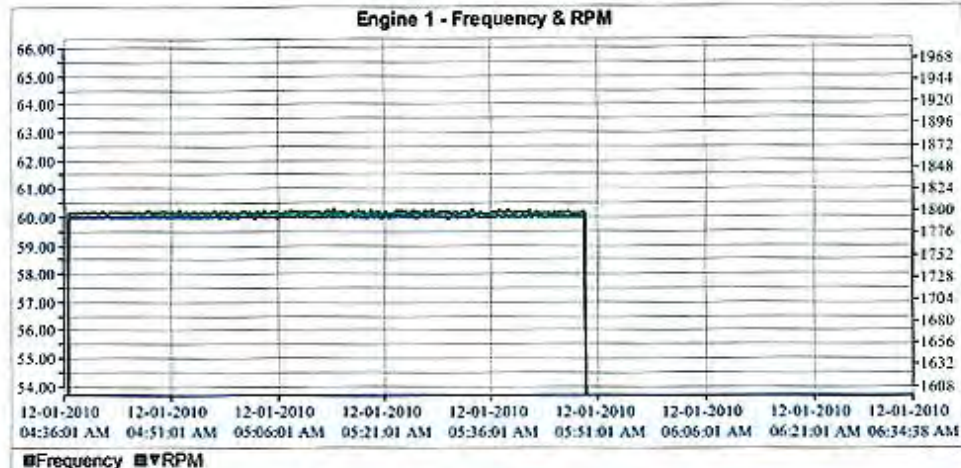


Current Phase A, B & C		
Engine/Generator 1	Runtime Maximum	Runtime Average
Phase A	51.0 A	33.9 A
Phase B	51.0 A	33.8 A
Phase C	52.0 A	34.6 A

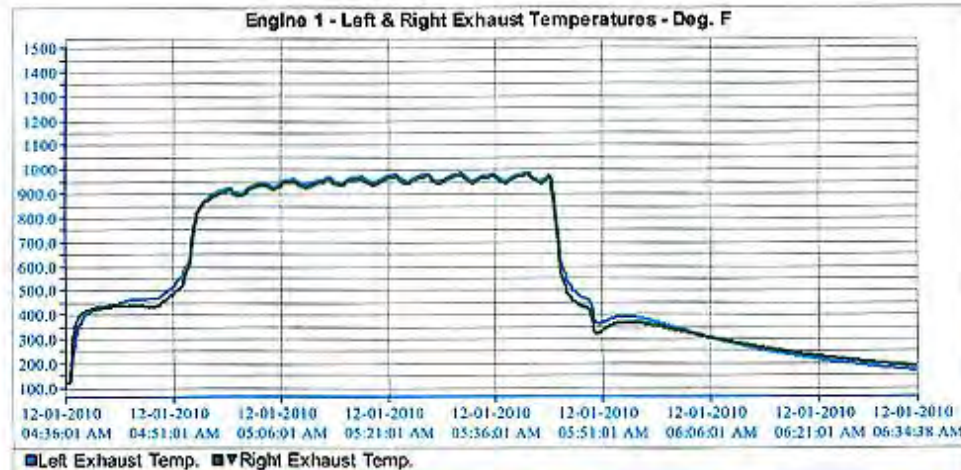
Engine 1 - Voltage Phase A-B, B-C & C-A



Voltage Phase A-B, B-C & C-A		
Engine/Generator 1	Runtime Maximum	Runtime Average
Phase A-B	13666.0 V	13225.1 V
Phase B-C	13627.0 V	13211.3 V
Phase C-A	13607.0 V	13188.0 V



Frequency & RPM	
Engine/Generator 1	Runtime Average
Frequency	60.01 Hz
RPM	1798



Exhaust Temperatures		
Engine/Generator 1	Runtime Maximum	Runtime Average
Left Exhaust Temp.	966 F°	823 F°
Right Exhaust Temp.	979 F°	815 F°

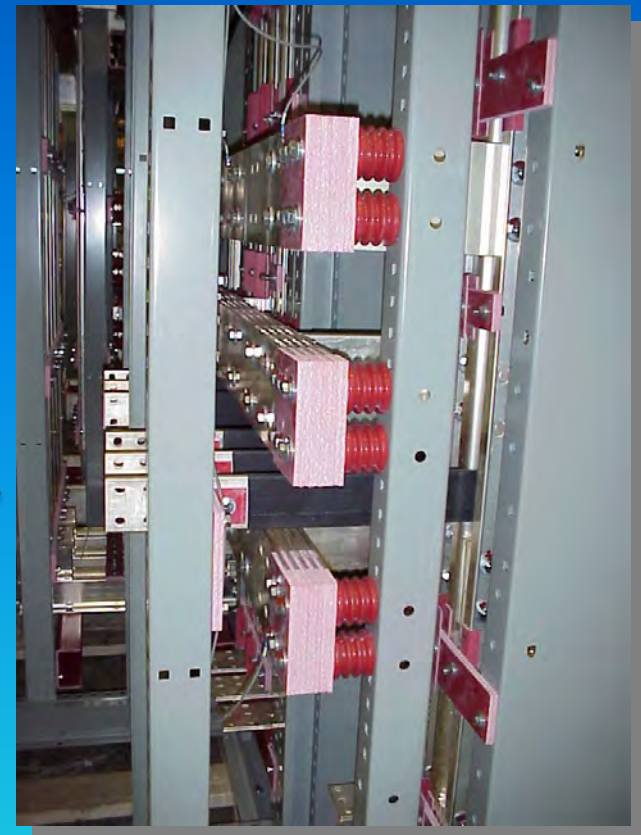
Low Voltage Switchgear Bus Work Comparison

Russelectric Bus Work is Designed, Manufactured and Plated In House to
UL-1558 Standards only.

Russelectric's bus work is the most robust in the industry. Bracing and Craftsmanship Unmatched.



Russelectric



Example 4000A Rated Bus - UL 891
(Others might use)

4000A Rated Bus - UL 1558
(Russelectric)

Switchgear Bus Construction

- Built To UL Std. 891
- Less Robust Construction
- Rated (but not tested) For 65,000 AIC Short Circuit Withstand

UL 1558 Switchgear Construction

- Built To UL Std. 1558
- The Most Robust In Terms Of Bus Work, Bracing, Insulation, And Short Circuit Withstand
- Rated & Tested For 200,000 AIC Short Circuit Withstand



Thank you!

Russelectric
POWER CONTROL PEOPLE YOU CAN RELY ON