

TO PLANT 115KV SWITCHYARD
DWG CAES-1-DW-662-206-001

GSU 1
90 MVA / 150 MVA
115/13.8 KV
8.5 %Z

NON-SEG 1A
13.8KV, 8000A

GENERATOR 1
138MW
13.8KV

UAT 1
7.5 MVA / 9.4 MVA
115/4.16 KV
8.5 %Z

CABLE BUS 1
12-1/C 500KCMIL

1200 A

T1
45 MVA / 75 MVA
115/13.8 KV
8.5 %Z

NON-SEG
13.8KV, 4000A

4000 A

FOR STARTING

2SW3

4000 COMPRESSOR
69000 KW

T19
78 MVA / 130 MVA
115/13.8 KV
8.5 %Z

NON-SEG
13.8KV, 8000A

NON-SEG
13.8KV, 6000A

NON-SEG
13.8KV, 6000A

6000A

VFD1

FOR STARTING
COMPRESSOR

FOR STARTING

2SW1

5000 COMPRESSOR
138000 KW

UNIT AUX SWGR 1
4.16KV, 3000A, 50KA

1200 AF

T3 XFMR
2000 KVA
4.16/0.48 KV
5.75 %Z

3200 AF

1200 AF

COOLING TOWER XFMR
1500 KVA
4.16/0.48 KV
5.75 %Z

COOLING TOWER MCC
0.48KV, 3200A, 65KA

1200 AF

600

CIRC WATER
PUMP 1
75.1A

1200 AF

600

CIRC WATER
PUMP 2
75.1A

480V SWGR
0.48KV, 3200A, 65KA

OPEN

2000A

BLACK START
0.48KV
150KW

480V
2666 KVA
MISC LOADS

480V
416 KVA
MISC LOADS

6

250

COOLING TOWER
FAN 1

6

250

COOLING TOWER
FAN 2

6

250

COOLING TOWER
FAN 3

6

250

COOLING TOWER
FAN 4

6

250

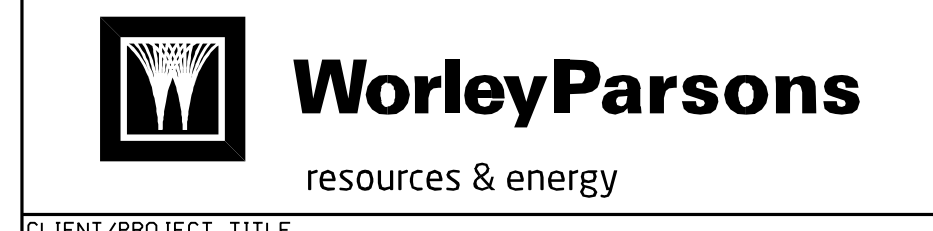
COOLING TOWER
FAN 5

REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	ENGINEER	LEAD DES	PROJECT MANAGER	MH
A	10/19/11	INITIAL ISSUE							

PRELIMINARY STATUS DATE REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.

APPROVED STATUS DATE REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

DRAWN BY TAR	PROFESSIONAL ENGINEER'S SEAL
CHECKED BY	
LEAD DESIGNER B. VOIGT	
ENGINEER/TECH SPECIALIST S. BARKER	
PROJECT ENGINEERING MANAGER	
PROJECT MANAGER M. HOLDRIDGE	

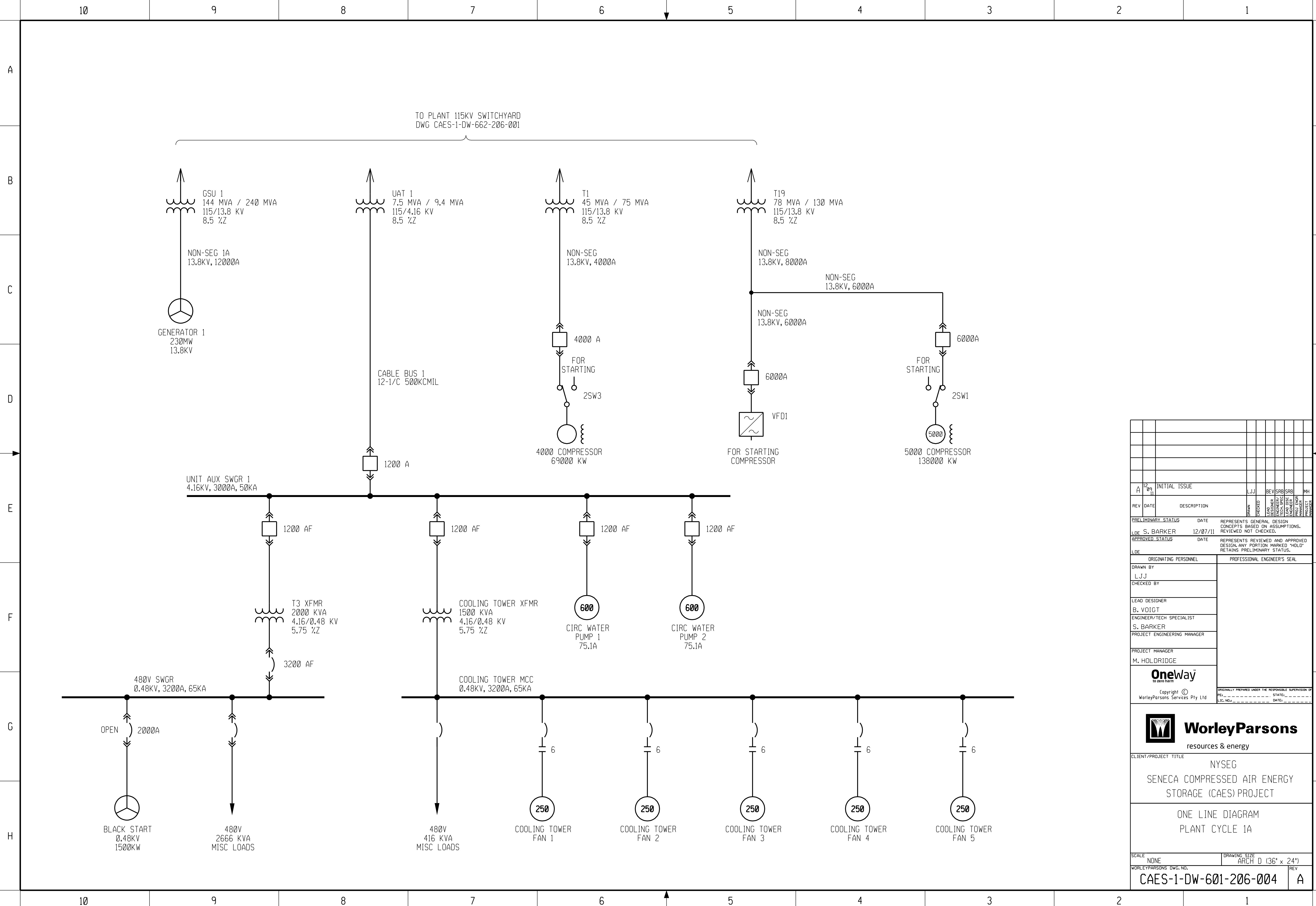


CLIENT/PROJECT TITLE
NYSEG
SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

ONE LINE DIAGRAM
PLANT CYCLE 1

SCALE NONE	DRAWING SIZE ARCH D (36' x 24')
WORLEYPARSONS DWG. NO. CAES-1-DW-601-206-001	REV A

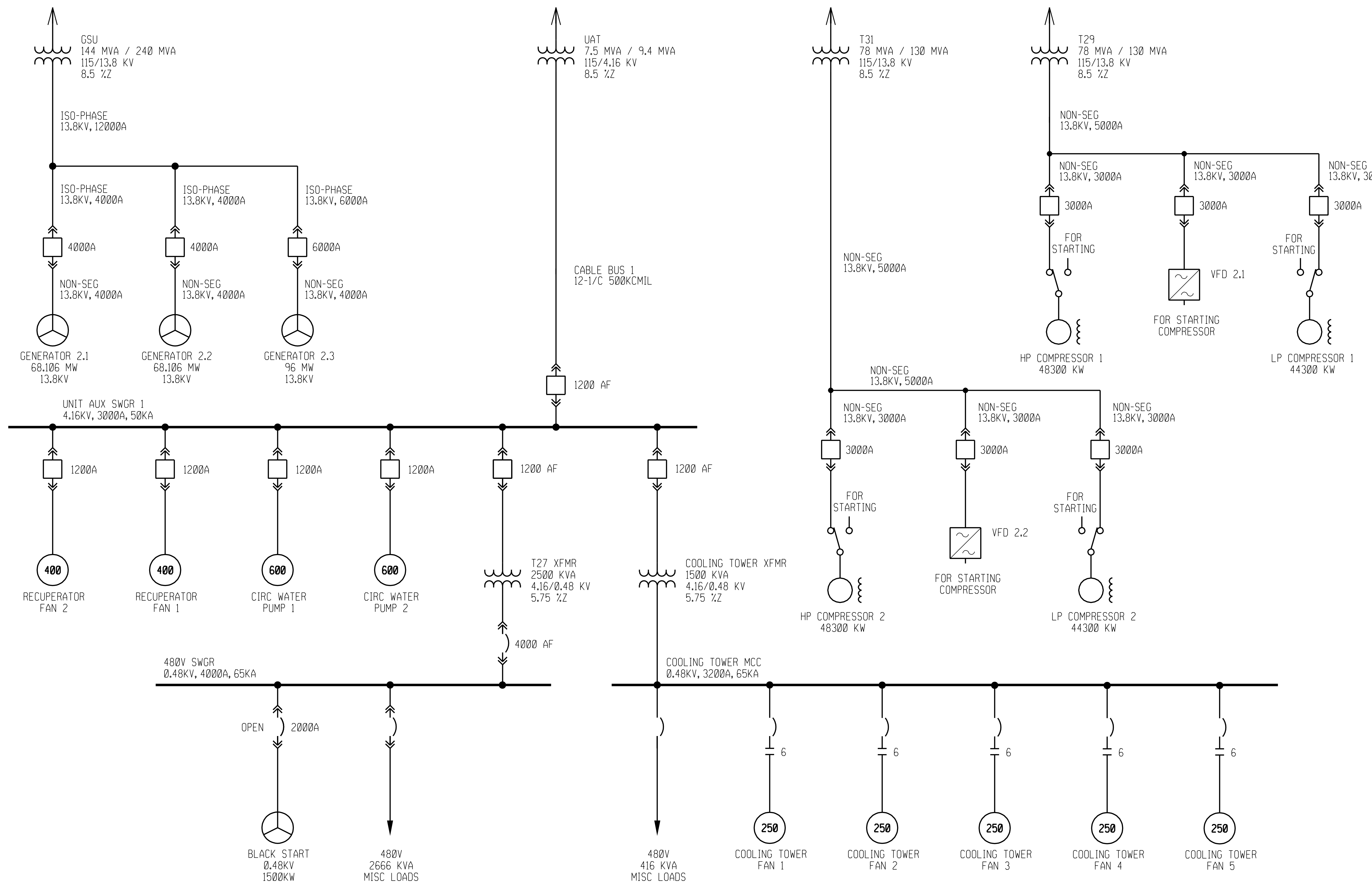
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REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	ENGINEER/LEAD	ENGINEER/LEAD	PROJECT MANAGER
A	12/09/11	INITIAL ISSUE	LJJ	BEV	SRB	SRB		MH
PRELIMINARY STATUS			DATE			REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.		
APPROVED STATUS			DATE			REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.		
LDE S. BARKER			12/07/11					
DRAWN BY				PROFESSIONAL ENGINEER'S SEAL				
LJJ								
CHECKED BY								
LEAD DESIGNER								
B. VOIGT								
ENGINEER/TECH SPECIALIST								
S. BARKER								
PROJECT ENGINEERING MANAGER								
PROJECT MANAGER								
M. HOLDRIDGE								
				<small>ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF REL. - STATE, LIC. NO. _____ DATE: _____</small>				
				resources & energy				
CLIENT/PROJECT TITLE								
NYSEG SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT								
ONE LINE DIAGRAM PLANT CYCLE 1A								
SCALE				DRAWING SIZE				
NONE				ARCH D (36' x 24')				
WORLDWIDE PARSONS DWG. NO.				REV				
CAES-1-DW-601-206-004				A				

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TO PLANT 115KV SWITCHYARD
DWG CAES-1-DW-601-206-001

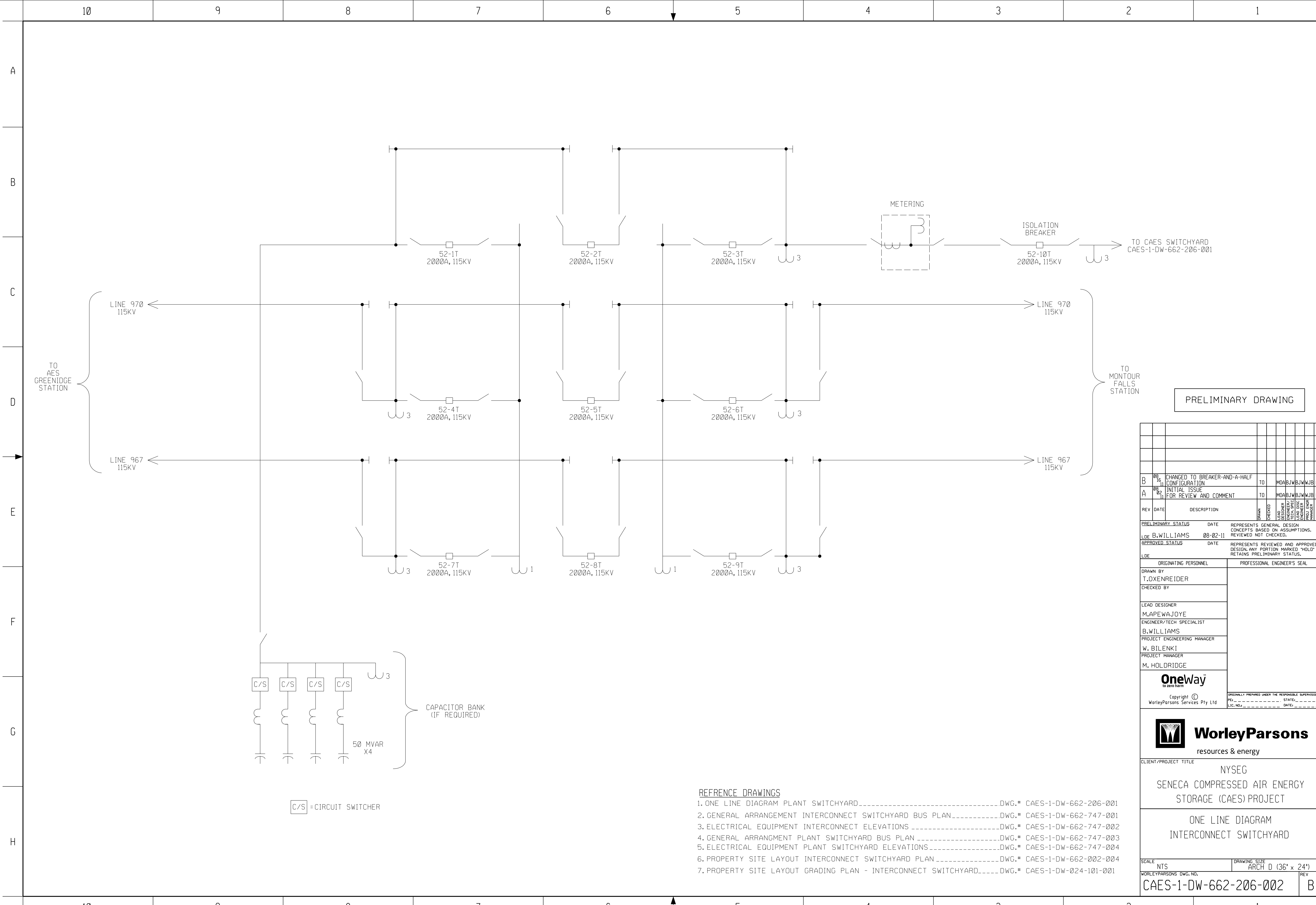


REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	ENGINEER/TECH	LEAD DESIGNER	PROJECT MANAGER
D	10/25/11	ISSUED FOR INFORMATION	TAR	BEV	SRB	SRB	MH	
C	10/24/11	ISSUED FOR INFORMATION	TAR	BEV	SRB	SRB	MH	
B	10/20/11	REVISE AS INDICATED	TAR	BEV	SRB	SRB	MH	
A	10/19/11	INITIAL ISSUE	TAR	BEV	SRB	SRB	MH	

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE	S. BARKER	10/19/11
ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL	
DRAWN BY	TAR	
CHECKED BY		
LEAD DESIGNER	B. VOIGT	
ENGINEER/TECH SPECIALIST	S. BARKER	
PROJECT ENGINEERING MANAGER	M. HOLDRIDGE	
PROJECT MANAGER	M. HOLDRIDGE	

OneWay to zero team		Copyright © WorleyParsons Services Pty Ltd	ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF REL - LIC.ND. DATE:
WorleyParsons resources & energy			
CLIENT/PROJECT TITLE NYSEG SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT			
ONE LINE DIAGRAM PLANT CYCLE 2			
SCALE NONE	DRAWING SIZE ARCH D (36' x 24')		
WORLEYPARSONS DWG. NO. CAES-1-DW-601-206-002	REV D		

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PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	ENGINEER	PROJECT MANAGER
B	08/16	CHANGED TO BREAKER-AND-A-HALF CONFIGURATION	TO	MO	AB	BJ	WJ
A	08/02	INITIAL ISSUE FOR REVIEW AND COMMENT	TO	MO	AB	BJ	WJ

PRELIMINARY STATUS DATE REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
 LDE B.WILLIAMS 08-02-11

APPROVED STATUS DATE REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
 LDE

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY T.OXENREIDER	
CHECKED BY	
LEAD DESIGNER M.APEWAJOYE	
ENGINEER/TECH SPECIALIST B.WILLIAMS	
PROJECT ENGINEERING MANAGER W. BILENKI	
PROJECT MANAGER M. HOLDRIDGE	

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resources & energy

CLIENT/PROJECT TITLE
 NYSEG
 SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

ONE LINE DIAGRAM
 INTERCONNECT SWITCHYARD

SCALE: NTS DRAWING SIZE: ARCH D (36' x 24')
 WORLEYPARSONS' DWG. NO.: CAES-1-DW-662-206-002 REV: B

- REFERENCE DRAWINGS**
- ONE LINE DIAGRAM PLANT SWITCHYARD.....DWG.# CAES-1-DW-662-206-001
 - GENERAL ARRANGEMENT INTERCONNECT SWITCHYARD BUS PLAN.....DWG.# CAES-1-DW-662-747-001
 - ELECTRICAL EQUIPMENT INTERCONNECT ELEVATIONSDWG.# CAES-1-DW-662-747-002
 - GENERAL ARRANGEMENT PLANT SWITCHYARD BUS PLANDWG.# CAES-1-DW-662-747-003
 - ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONS.....DWG.# CAES-1-DW-662-747-004
 - PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLAN.....DWG.# CAES-1-DW-662-002-004
 - PROPERTY SITE LAYOUT GRADING PLAN - INTERCONNECT SWITCHYARD.....DWG.# CAES-1-DW-024-101-001

C/S = CIRCUIT SWITCHER

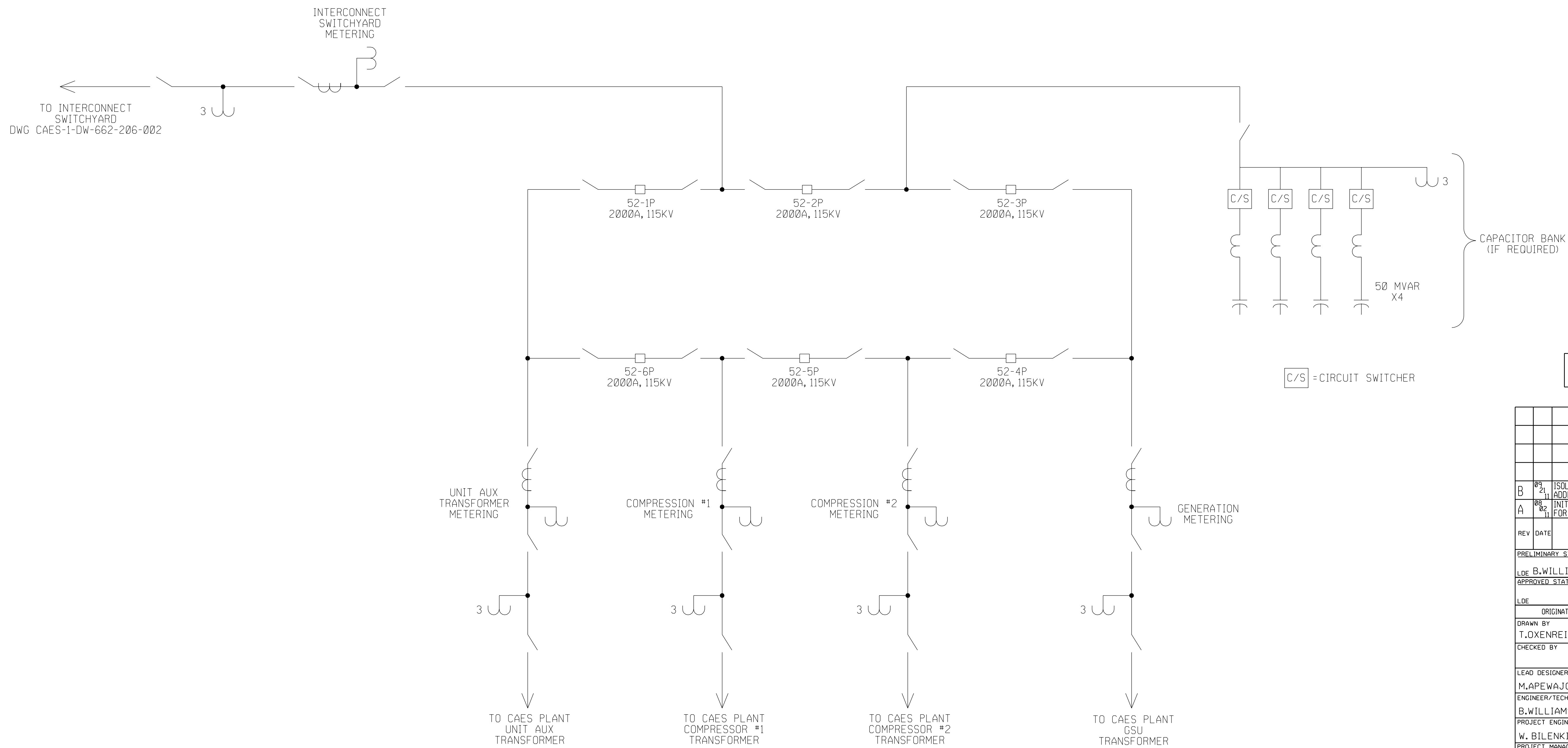
CAPACITOR BANK
(IF REQUIRED)

50 MVAR
X4

TO CAES SWITCHYARD
CAES-1-DW-662-206-001

TO MONTOUR
FALLS STATION

TO AES
GREENIDGE STATION



PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	DRAWN	CHECKED	DESIGNED	ENGINEER	PROJECT MANAGER
B	09/21	ISOLATION BKR MOVED TO THIS DWG. ADDED SECOND COMPRESSION FEED	TO	MO	A	B	J
A	08/02	INITIAL ISSUE FOR REVIEW AND COMMENT	TO	MO	A	B	J

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 APPROVED STATUS DATE REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY T.OXENREIDER	
CHECKED BY	
LEAD DESIGNER M.APEWAJOYE	
ENGINEER/TECH SPECIALIST B.WILLIAMS	
PROJECT ENGINEERING MANAGER W. BILENKI	
PROJECT MANAGER M. HOLDRIDGE	

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CLIENT/PROJECT TITLE
 NYSEG
 SENECA COMPRESSED AIR ENERGY STORAGE (CAES) PROJECT

ONE LINE DIAGRAM
 PLANT SWITCHYARD

SCALE: NTS DRAWING SIZE: ARCH D (36' x 24')

WORLDWIDE DWG. NO. CAES-1-DW-662-206-001 REV B

REFERENCE DRAWINGS

- ONE LINE DIAGRAM INTERCONNECT SWITCHYARDDWG.# CAES-1-DW-662-206-002
- GENERAL ARRANGEMENT INTERCONNECT SWITCHYARD BUS PLANDWG.# CAES-1-DW-662-747-001
- ELECTRICAL EQUIPMENT INTERCONNECT ELEVATIONSDWG.# CAES-1-DW-662-747-002
- GENERAL ARRANGEMENT PLANT SWITCHYARD BUS PLANDWG.# CAES-1-DW-662-747-003
- ELECTRICAL EQUIPMENT PLANT SWITCHYARD ELEVATIONSDWG.# CAES-1-DW-662-747-004
- PROPERTY SITE LAYOUT INTERCONNECT SWITCHYARD PLANDWG.# CAES-1-DW-662-002-004
- PROPERTY SITE LAYOUT GRADING PLAN - INTERCONNECT SWITCHYARDDWG.# CAES-1-DW-024-101-001

NYSEG/CAES-1-DW-662-206-001 7/20/2011

