ION SOURCE LAB

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [X] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [ ] - WITH GRD. BAR | PANEL 1IONLAB1 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 100 A 10000 A.I.C. | VOLTAGE: [ ] -120 / 208 [X] -277 / 480 [ ] 480 /
100 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1			TRANSFORMER	10000						SPACE			2
3	50	3	1IONSOURCET1		10000					SPACE			4
5			30kVA			10000				SPACE			6
7			SPACE							SPACE			8
9			SPACE							SPACE			10
11			SPACE							SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21			SPACE							SPACE			22
23			SPACE							SPACE			24
25			SPACE							SPACE			26
27			SPACE							SPACE			28
29			SPACE							SPACE			30
31													32
33													34
35													36
37													38
39													40
41													42

	A	B	C
PHASE TOTALS COL. #1	10000	10000	10000
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	10000	10000	10000

TOTAL 3 PHASE CONNECTED 30 KVA 36 AMPS

file: panelsch_116_2b

ME LAB

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [X] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [ ] - WITH GRD. BAR | PANEL 1IONLAB2 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 100 A 10000 A.I.C. | VOLTAGE: [X] -120 / 208 [ ] -277 / 480 [ ] 480 /
100 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1			SPACE							SPACE			2
3			SPACE							SPACE			4
5			SPACE							SPACE			6
7			SPACE							SPACE			8
9			SPACE							SPACE			10
11			SPACE							SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21			SPACE							SPACE			22
23			SPACE							SPACE			24
25			SPACE							SPACE			26
27			SPACE							SPACE			28
29			SPACE							SPACE			30
31													32
33													34
35													36
37													38
39													40
41													42

	A	B	C
PHASE TOTALS COL. #1	0	0	0
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	0	0	0

TOTAL 3 PHASE CONNECTED 0 KVA 0 AMPS

file: panelsch_117_2a2b

FOIL LAB

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [X] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [ ] - WITH GRD. BAR | PANEL 1FOILLAB1 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 225 A 25000 A.I.C. | VOLTAGE: [ ] -120 / 208 [X] -277 / 480 [ ] 480 /
100 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1			TRANSFORMER	10000						SPACE			2
3	50	3	1FOILLABT1		10000					SPACE			4
5			30kVA			10000				SPACE			6
7			SPACE							SPACE			8
9			SPACE							SPACE			10
11			SPACE							SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21			SPACE							SPACE			22
23			SPACE							SPACE			24
25			SPACE							SPACE			26
27			SPACE							SPACE			28
29			SPACE							SPACE			30
31			SPACE							SPACE			32
33			SPACE							SPACE			34
35			SPACE							SPACE			36
37			SPACE							SPACE			38
39			SPACE							SPACE			40
41			SPACE							SPACE			42

	A	B	C
PHASE TOTALS COL. #1	10000	10000	10000
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	10000	10000	10000

TOTAL 3 PHASE CONNECTED 30 KVA 36 AMPS

file: panelsch_118_2a2b

ALIGNMENT LAB

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [X] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [ ] - WITH GRD. BAR | PANEL 1FOILLAB2 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 100 A 10000 A.I.C. | VOLTAGE: [X] -120 / 208 [ ] -277 / 480 [ ] 480 /
100 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1				4160						SPACE			2
3	50	3	PANEL 1ALIGLAB1		4160					SPACE			4
5						4160				SPACE			6
7			SPACE							SPACE			8
9			SPACE							SPACE			10
11			SPACE							SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21			SPACE							SPACE			22
23			SPACE							SPACE			24
25			SPACE							SPACE			26
27			SPACE							SPACE			28
29			SPACE							SPACE			30
31													32
33													34
35													36
37													38
39													40
41													42

	A	B	C
PHASE TOTALS COL. #1	4160	4160	4160
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	4160	4160	4160

TOTAL 3 PHASE CONNECTED 12 KVA 35 AMPS

file: panelsch_119_2a2b

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [X] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [ ] - WITH GRD. BAR | PANEL 2VACUUMLAB1 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 225 A 14000 A.I.C. | VOLTAGE: [ ] -120 / 208 [X] -277 / 480 [ ] 480 /
225 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1			TRANSFORMER	25000						SPACE			2
3	100	3	2VACUUMLABT1		25000					SPACE			4
5			75kVA			25000				SPACE			6
7										SPACE			8
9	70	3	SPARE							SPACE			10
11										SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21			SPACE							SPACE			22
23			SPACE							SPACE			24
25			SPACE							SPACE			26
27			SPACE							SPACE			28
29			SPACE							SPACE			30
31			SPACE							SPACE			32
33			SPACE							SPACE			34
35			SPACE							SPACE			36
37			SPACE							SPACE			38
39			SPACE							SPACE			40
41			SPACE							SPACE			42

	A	B	C
PHASE TOTALS COL. #1	25000	25000	25000
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	25000	25000	25000

TOTAL 3 PHASE CONNECTED 75 KVA 90 AMPS

file panelsch_142_2b

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [X] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [X] - WITH GRD. BAR | PANEL 2VACUUMLAB2 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 225 A 10000 A.I.C. | VOLTAGE: [X] -120 / 208 [ ] -277 / 480 [ ] 480 /
225 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1				4160			1200			GENERAL RECEPTACLE	1	20	2
3	60	3	PANEL 2HPWRLAB1		4160			1200		GENERAL RECEPTACLE	1	20	4
5						4160			1200	GENERAL RECEPTACLE	1	20	6
7				4160						SPACE			8
9	60	3	PANEL 2PHYSICSSTUFFLAB1		4160					SPACE			10
11						4160				SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21			SPACE							SPACE			22
23			SPACE							SPACE			24
25			SPACE							SPACE			26
27			SPACE							SPACE			28
29			SPACE							SPACE			30
31			SPACE							SPACE			32
33			SPACE							SPACE			34
35			SPACE							SPACE			36
37			SPACE							SPACE			38
39			SPACE							SPACE			40
41			SPACE							SPACE			42

	A	B	C
PHASE TOTALS COL. #1	8320	8320	8320
PHASE TOTALS COL. #2	1200	1200	1200
PHASE TOTAL VA	9520	9520	9520

TOTAL 3 PHASE CONNECTED 29 KVA 79 AMPS

file panelsch_143_2b

ALL WORK WITHIN THIS AREA IS PART OF ALTERNATE BID 1D

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [ ] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [ ] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [X] - WITH GRD. BAR | PANEL 2PHYSICCSSTUFFLAB1 | MOUNTING [ ] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 60 A 10000 A.I.C. | VOLTAGE: [X] -120 / 208 [ ] -277 / 480 [ ] 480 /
60 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1			SPACE							SPACE			2
3			SPACE							SPACE			4
5			SPACE							SPACE			6
7			SPACE							SPACE			8
9			SPACE							SPACE			10
11			SPACE							SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42

	A	B	C
PHASE TOTALS COL. #1	0	0	0
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	0	0	0

TOTAL 3 PHASE CONNECTED 0 KVA 0 AMPS

file panelsch_144_2b

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [ ] - RECEPT. [ ] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [X] - WITH GRD. BAR | PANEL 2HPWRLAB1 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 60 A 10000 A.I.C. | VOLTAGE: [X] -120 / 208 [ ] -277 / 480 [ ] 480 /
60 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1			SPACE							SPACE			2
3			SPACE							SPACE			4
5			SPACE							SPACE			6
7			SPACE							SPACE			8
9			SPACE							SPACE			10
11			SPACE							SPACE			12
13			SPACE							SPACE			14
15			SPACE							SPACE			16
17			SPACE							SPACE			18
19			SPACE							SPACE			20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42

	A	B	C
PHASE TOTALS COL. #1	0	0	0
PHASE TOTALS COL. #2	0	0	0
PHASE TOTAL VA	0	0	0

TOTAL 3 PHASE CONNECTED 0 KVA 0 AMPS

file panelsch_145_2b

SUPPLY: [ ] - BOTT. [X] - TOP [ ] - LUGS [X] -MAIN BKR. | [ ] - LTG. [X] - RECEPT. [ ] -POWER NEMA 1
TYPE: [ ] - 3P3W [X] - 3P4W [X] - WITH GRD. BAR | PANEL SEE NOTE 1 | MOUNTING [X] -SURFACE [ ] - FLUSH [ ] -COLUMN
MAINS: 100 A 10000 A.I.C. | VOLTAGE: [X] -120 / 208 [ ] -277 / 480 [ ] 480 /
60 A. MAIN BKR. WITH: [ ] - SHUNT TRIP [ ] - ADJ. TRIP [ ] -G.F.P.

CKT. NO.	TRIP	NO. OF POLES	USED FOR	COL. #1 VOLT - AMPS A	B	C	COL. #2 VOLT - AMPS A	B	C	USED FOR	NO. OF POLES	TRIP	CKT. NO.
1	20	1	WIREMOLD RECEPTACLE	1200			1200			WIREMOLD RECEPTACLE	2	20	2
3	20	1	WIREMOLD RECEPTACLE		1200			1200					4
5	20	1	SPARE							SPARE	2	20	6
7	20	1	SPARE										8
9	20	1	SPARE							SPARE	1	20	10
11	20	1	SPARE							SPARE	1	20	12
13	20	1	SPARE							SPARE	1	20	14
15	20	1	SPARE							SPARE	1	20	16
17	20	1	SPARE						1200	LAB FUME HOOD	1	20	18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42

	A	B	C
PHASE TOTALS COL. #1	1200	1200	0
PHASE TOTALS COL. #2	1200	1200	1200
PHASE TOTAL VA	2400	2400	1200

TOTAL 3 PHASE CONNECTED 6 KVA 7 AMPS

file panelsch_146_2b

ALL WORK WITHIN THIS AREA IS PART OF ALTERNATE BID 1A AND 1B

NOTE 1: TYPICAL SCHDULE FOR LAB PANELS: 2LAB3 THROUGH 2LAB19
2LAB25 THROUGH 2LAB38
3LAB1 THROUGH 3LAB21

108031400-E8E-8600-A161

Knight/Jacobs Joint Venture
701 Scarboro Road, MS 8253
Oak Ridge, TN 37830
865-241-9433
fax 865-241-3400

KNIGHT
Knight Advanced Technology
4710 East Elwood, Suite #9
Phoenix, AZ 85040

UT-BATTELLE
Oak Ridge National Laboratory
managed for the DEPARTMENT OF ENERGY under
U.S. GOVERNMENT contract DE-AC05-00OR22725
UT-BATTELLE, LLC, Oak Ridge, Tennessee

PROJECT NAME:
SPALLATION NEUTRON SOURCE

CENTRAL LAB AND OFFICE BUILDING PANEL SCHEDULES

DSN	D.DANIELSON	5/15/01
DRW	S. BARNETT	5/15/01
CHK	R.LENNIG	5/15/01
DEPT		
PE	C.GARREN	10/1/01
PJ	J. STELLERN	8/21/01
REQ		
UTB	J.LAWSON	10/8/01

DRAWING APPROVALS

RPE: VICTOR G. STEFFEL, REGISTERED ENGINEER, AGRICULTURE, COMMERCE, No. 00106009, STATE OF TENNESSEE — 12-17-01
REV. 1 DATE 12-17-01

1 3	48 E	49 X	50 X	PLANT 8	BLDG 8600	FL	SH. 1	OF 1	TYPE S	CLASS U
51 NC	52 NA	53	WBS 1.8.3.14	E9.21.58	REV 1					

REV	CHANGE TYPE	CHANGE CONTROL SYSTEM	CHANGE REQUEST NUMBER	DESCRIPTION	DSN	CHK	DEPT	DATE	PE	DATE	PJ	DATE	REQ	DATE	UTB	DATE	RPE	RPE NO	DATE	ST	CV	EC	EE	EM	IE	M	PD	SE	AR
1				CERTIFIED FOR CONSTRUCTION - 12/20/01	DD	RL				12/01		12/01				12/20/01	VGS	106009	12/20/01	RW	AW	BWJ	PD	BWJ	BWJ	--	BWJ	--	ED
0	-	-	-	CERTIFIED FOR CONSTRUCTION - 05/15/2001	DD	RL			CLG	10/1/01	JS	08/21/01			JRL	10/8/01	VGS	106009	5/15/01	SC	AW	WRS	RL	WRS	BWJ	--	WRS	--	WAS

REVISION OR ISSUE PURPOSE — REVISION APPROVALS — SQUAD CHECK

THIS DOCUMENT CONTROLLED BY
CHANGE CONTROL SYSTEM 4
ENGINEERING PROCEDURE SNS-ENG-G001

SECTION AND DETAIL KEY: NUMBER OF SECTION OR DETAIL; DRAWING ON WHICH SECTION OR DETAIL IS SHOWN OR TAKEN

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF ANY INFORMATION, APPARATUS, METHOD, OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR INFORMATION TO BIDDER ARE NOT TO BE USED FOR OTHER PURPOSES AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

AutoCAD

Date: 05/07/2001 Time: 14:54:43 Username: GARCIAG