Item	unit	specification
Excitation Power Transformer		
(1) Applied Standard		
(2) Ambient Conditions		
(a) Altitude (above sea level)	m	
(b) Design ambient temperature	C	
(c) Relative humidity (maximum)	%	
(3) Location		
(4) Type		
(5) Quantity of Power Transformer		
(6) Cooling System		
(7) Panel Configuration		
(a) Panel size (wide×depth×height)	mm	
(b) Painting Color		
- Exterior		
- Interior		
(c) Panel thickness	mm	
- Front door - Rear cover		
- Side panel		
(d) Dust proofing		
(8) Dimension of Power Transformer	mm	
(Wide×Depth×height)		
(9) Rating		
(a) Rated capacity	kVA	
(b) Frequency	Hz	
(c) Rated primary voltage	kV	

ltem .	Unit	specification
(d) Rated secondary voltage	kV	
(e) Phase displacement		un e interprise ditto di cel la
(f) Basic insulation level	kV	
(g) impedance	%	
(h) Insulation class		
(10) Terminal Connection	40.00	
(a) Primary terminals		
(b) Secondary terminals	1. 1. 1.	
(11) Current Transformer		The second secon
(a) Primary side		
(b) Secondary side		
(c) Accuracy	%	
(12) Accessories		
(a) over current relay		
(b) over temperature relay	4 1	
(c) other protection relay		
(13) Weight	kg	
2. Thyristor Rectifier Cubicle		
(1) Applied Standard		
(2) Ambient Conditions		1. 图形是影響的過程
(a) Altitude (above sea level)	m	
(b) Design ambient temperature	℃ , , ,	
(c) Relative humidity (maximum)	%	The Call of the second of the Call
(3) Location		
(4) Type and Composition of Rectifier		

Technical schedule

Item	Unit	specification		
(5) Quantity of Rectifier		200		
(6) Cooling System		The state of the s		
(7) Panel Configuration		Letterproduce out to flower a		
(a) Panel size (wide×depth×height)	mm			
(b) Painting Color - exterior				
- interior				
(c) Panel thickness - front door - rear cover	mm			
- side panel				
(d) Dust proofing				
(8) Rating	300			
(a) Rated output	kW	A STATE OF THE STA		
(b) Output voltage	V DC			
(c) Output current	A DC			
(c) Rated current of thyristor cell	Α			
(d) Rated voltage of thyristor cell	V	<u> </u>		
(9) Redundant design	41564			
(a) Continuous rating (redundancy to permit operation at full excitation power)	100/10			
(b) Short time rating	35, 4			
(10) Weight	kg			
3. Field Circuit Breaker (FCB) Cubicle				
(1) Applied Standard				
(2) Ambient Conditions				

ltem	Unit	specification
(a) Altitude (above sea level)	m	
(b) Design ambient temperature	С	
(c) Relative humidity (maximum)	%	
(3) Location	1.4	
(4) Type of FCB	200	
(5) Quantity		
(6) Panel Configuration	Sec. 2. 4. 6	
(a) Panel size (wide × depth × height)	mm	
(b) Painting Color - exterior - interior		
(c) Panel thickness - front door - rear cover	mm	
- side panel		
(d) Dust proofing		
(7) Rating of FCB	100000	The territory of the constitution of the
(a) Rated voltage	V DC	
(b) Rated current	A DC	to be a stronger to the beginning to be
(c) Rated interrupting current	kA, V	
(d) Control voltage	V DC	in the conference of the conference in
(8) Rating of discharge resister		
(a) Rated current	A, sec	THE SECOND SECOND
(b) Resistance	ohms	
(9) Accessories		
(a) Field ground relay (64)		The control of the applicable states of

ltem.	Unit	specification
(b) Over current relay (51)		
(c) other protection relay		
(10) Weight	kg	
4. Auto Voltage Regulator (AVR) Cubicle		
(1) Applied Standard		
(2) Ambient Conditions	A Christian	
(a) Altitude (above sea level)	m	
(b) Design ambient temperature	°	
(c) Relative humidity (maximum)	%	
(3) Location		
(4) Type of AVR	4 10 6	
(5) Quantity		
(6) Panel Configuration		
(a) Panel size (wide×depth×height)	mm	
(b) Painting Color - exterior - interior		
(c) Panel thickness - front door - rear cover - side panel	mm .	
(d) Dust proofing		
(7) Function for Excitation Control		
(a) Automatic excitation controller		

ltern	Unit	specification
(b) Manual excitation controller	1.00	
(c) Voltage setter		
(d) Under excitation limiter		
(e) Over excitation limiter		
(f) Volt per frequency limiter		
(g) Automatic follow-up	100	
(h) Self diagnostic function	4.00	
(i) Data recording function	A. A. A. A. A. A.	
(j) Other function		
(8) Redundant design for AVR and Manual Controller		
(9) Performance		
(a) Voltage control range		
(b) Accuracy	% .	
(c) Ceiling voltage	V (P.U.)	
(10) Characteristics		
(a) Sensitivity		
(b) Regulation		
(c) Range of control		
(d) Stability and Damping	1	
(e) Low and high frequency operation	Hz	
	and the	
5. Patch Panel		
(1) Applied Standard		
(2) Ambient Conditions		
(a) Altitude (above sea level)	Mm	

ltem	Unit	specification
(b) Design ambient temperature	℃	
(c) Relative humidity (maximum)	%	
(3) Location		
(4) Function of Patch Panel		
(a) Selection of control point		
(b) Selection of control mode		
(c) Adjustment of AVR controller setting		
(d) Adjustment of Manual controller setting	11111111	
(e) Adjustment of Reactive power controller		
(f) Operation of FCB		
(5) Indication		
(a) Generator field voltage	1000	
(b) Generator field current		
(6) Patch Panel Configuration	V 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
(a) Panel size (wide×depth×height)	21,337.1	
(b) Painting Color		
(c) Panel thickness		
(d) Dust proofing		
(7) Instrumentation	4.72	
(8) Alarm Window		
(9) Accessories	N 12	
	1 1 1	
6. Measuring voltage transformer	1 4 2 1 1	
(1) Primary side		
(2) Secondary side		
(3) Accuracy		

ltem	unit	specification
7. Maintenance Tool and Accessories		
(1) Hardware		for all the gradients of Section and American Section (1997).
(2) Software		
(3) Interface module	1.1.1	
8. Spare Parts	1,2 3,71	Carlotte Control Control His Marry (March 1994)
(1) AVR controller	4.4.1	
(a) Type		
(b) Quantity	l Alang	
(2) Thyristor		
(a) Type		
(b) Quantity	44 24	
(3) Thyristor ventilation fan	Market 1	
(a) Type		
(b) Quantity	0.000	The latest the second of the s
(4) Thyristor fuse		
(a) Type		
(b) Quantity	1 1 1 1 1	
(5) Power supply unit		
(a) Type		
(b) Quantity		
(6) Interface unit		
(a) Type	1 1 1 1	
(b) Quantity		
	10 10 10	
to the second of the section of the	1,000	

Item		unit	specification
(7) Analogue I/O unit	4 7 7 7 7 7		
(a) Type		2000	
(b) Quantity			n jana jalon kun dia kina da
(8) Digital I/O unit		1.5	The Australian section is a second of the
(a) Type			
(b) Quantity			
(9) Measuring voltage transf	ormer	1000	
(а) Туре			
(b) Quantity			
(10) Other necessary spare	parts		

Technical schedule

ltem .	Document
Document covers overall estimate design data, technical information, system configuration, characteristics, test facilities, operation and maintenance introductions for static excitation system	
2. Thyristor excitation system with Duplex digital AVR	
3. Outline of AVR cubicle	
4. Outline of thyristor rectifier cubicle	Appleating the PROPERTY AND
5. Outline of FCB cubicle	
	mantines as the absence
Palled Andrew British Barrier	

Attachment - A BID FORM "A"

Technical schedule (Nominated Manufacturer List)

Name of Goods	Manufacturer	Country		
Excitation Transformer				
2. Static excitation system Cubicles				
3. Field Circuit Breaker (FCB)				
Instrumentation and Protection devices for each items				
5. Maintenance Tool and Accessories for each items				
8. Spare Parts for each items				

Technical schedule

(Supervisors for Erection Work)

	Occupation	1 2	Man-month	1.
1 ST UNIT				
2 ND UNIT				
3 ^{RO} UNIT				
4 [™] UNIT				

Attachment - A BID FORM "A"

Technical schedule

(Delivery Schedule after Effective Date of Contract in Months)

Delivery No.	.	Delivery Date after Effective Date of Contract in Months
1. Delivery 1 (1st Unit)		
2. Delivery 2 (2 nd Unit)		
3. Delivery 3 (3 rd Unit)		
4. Delivery 4 (4 th Unit)		

Attachment - B Bid Drawings

Drav	wing Number	
1.	MON-K-0-01	Implementing Schedule
2.	MON-K-0-02	Start-up Dates of Boiler and Turbine/Generator
3.	MON-K-0-05	Example of Daily Load Distribution Curve during Lower Electric Power Demands (Summer Season)
4.	MON-K-0-06	Example of Daily Load Distribution Curve During Higher Electric Power Demands (Winter Season)
5.	MON-K-0-09	General Layout
6.	MON-K-0-10	Boiler-Turbine House : Section
7.	MON-K-0-11	Boiler Turbine Layout
8.	MON-K-0-13	Main Steam Flow Diagram
9.	MON-K-4-01	System Diagram for the Existing Excitation System and its Replacement Areas
10.	MON-K-4-02	Configuration for the Existing AC Exciter and Generator in External View
11.	MON-K-4-03	Configuration and Arrangement of the Existing Excitation Control Panel in the Unit #1 Local Control Room in Plane View
12.	MON-K-4-04	Configuration and Arrangement of the Existing Excitation Control Panel in the Unit #2 to #4 Local Control Rooms in Plane View
13.	MON-K-4-05	Cable Schedule for the Existing Excitation System and its Related Control Areas
14.	MON-K-4-06	Cable List for the Existing Excitation System and its Related Control Areas
15.	MON-K-4-07	Configuration and Arrangement of the Existing Electrical Central Control Room in Plane View

16.	MON-K-4-08	Configuration and Arrangement of the Existing Turbine/Generate Control Desk in Plane and External View	or
17.	MON-K-4-09	Configuration and Arrangement of the Existing Turbine/Generate Control Panel in Front View	or
18.	MON-K-4-10	Capability Curve of the Existing Generators for Unit #1 to Unit #	4
19.	MON-K-4-11	System Diagram for the Existing Excitation System and i Replacement Areas (Alternative -1)	ts
20.	MON-K-4-12	System Diagram for the Existing Excitation System and i Replacement Areas (Alternative -2)	ts
		Neplacement Aleas (Alternative -2)	
		이 문화 2017년 전환 전환 사람들이 하나 나는 전환 10년 등	. 3
		ા કુકારમાં આ ગામું જાતાનું કર્યું કહે. ે વસ્તુનો મામ ક	
		· 1987年 - 19874年 - 1987年 - 19874年 - 1987年 - 1987年 - 19874年 - 19874年 - 1987年 - 1987年 - 1987年 -	
		그리고 되는 이번 후에 가는 말리고 있다. 다른다.	
		하는데 모든 이 경기를 한번 방법을 하고 있는데 일이 되었다.	
		하다 그 생기들은 사람이 바퀴를 받아 하는데 되었다.	
		<u>เขาติดติดติดติดติดติดติดติดติดติดติดติดติดต</u>	
		general editor, Cherical Saray (1905) (1907) and significan	
			į.
		and the first of the property of the property of the contract	
		한 번 하 때 보통 그릇들은 하셨다면서 하는 그는 보면 사람이다.	

Implementing Schedule

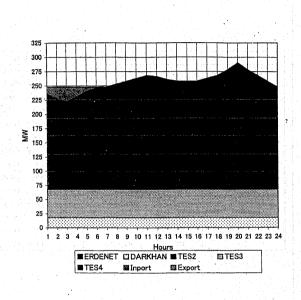
			01	_	_				20	02			87.			4			- 2	200	3					T					. 7	20	04					1						21	00	5						Г	_			٠,	00		-	_	_	_	Т	_	-	_	_	_	~~	-	_					_
	9	10	11	12	ılı	2	3 4	1 5	6	7	8 8	10	11	12	1 2	2 3	1 4	1 5	5	61:	7 1	8	راو	0	iil	12	1	7	3	4	5	6	7	8	9	10	11	12	1	,	13	Ta	1 5	Ta	Ţ.	,T	۰T	٦	10		12	,	0	1		Ť	T.	Τ,	T	1,,	1.	J.,	t.	Τ.	1		ī	7	200	-		-1	Τ.,		J.	-
Main Schedule	P) Invi	a66/	Clo	146	923		d Cle	•		J.	1		1		1	1	1	1:	Vo k	- 1	- 1	5 I	1	٠. ١	Ste	- 1	- 1	- 1	- 1	1	- 1		Ĭ	-	_										- 1	- 1	- 1	ł	t I	etic	ŧ I		1				1		ľ		ľ				3	1	5	0	1	8	9		0	1	
nplementing Schedule	2	Ţ.		Τ	T			T	П		1	T	П	Ť	†	T	t	t	†	1	1	1	†	1	1	1	1				7	1	7	1			H	Н	H		t	t	t	t	t	+	+			Н	Н	ŕ	H	+	+	+	+	+	╁	t	t	t	t	+	+	+	+	+	+	+	+	-	ŀ	+	ł	ŀ
Prequalification 1) (Package 1 only)			-	$\overline{+}$	•							T	П	T	1	T	T	T	T	1	1	Ť	1	1	1	1	1			7				7	-	-	H		Н		t	t	t	t	†	+	1		H	Н	H	Н		+	†	+	\dagger	\dagger	+	+	t	t	t	+	t	+	+	1	+	+	1	_	H	+	t	į
2) Tendering		-				\blacksquare	•	I						ŀ	ψ,	1	Fac		eg p	5 0	oney	,	1	1	1	7	1									-					1	t	t	t	t	1	1				П	П	Н	1	†	†	†	t	t	t	t	†	t	\dagger	+	†	1	+	+	1	1		t	+	t	
3) Tendering Evaluation							+	1													5 0		0	T							4		ς.						Г	_	T	T	T	T	Ť	1	1						П	1	1	1	†	Ť	ŀ	t	t	t	t	†	†	†	1	7	1					1	1	
Contract Negotiation			L	1	1			1	ı	>	1	1			1		41	1	(Fa	cka	aga	5	ore	0															Г	Г	T	T	T		T	1	1			П	П		П	T	1		T	†	T	T	T	T	T	T	1	1	1	1	1		7	T	t	-		
) Design & Engineering			Ŀ.	1	1	L		1	Ц	1	1	#		1	٠,	1		l	1				I								.2											T		T											1	1	T	1	1	T	T	T	T	T	T	1	1		1			Г	T		•	
) Manufacturing	_	p 5	L	+	1	\downarrow	4	1			1	1		4	+	‡	1	+	1	+	1	1	1	1										_		E		>				I	I				. •										1					T	T		Ī	1		1	٦			Г	T	_		
> Transportation			L	Ł	+	\perp	4	1	L	Н	4	1	Ц	4	4	1	1	1	1	1	4	-	1						å				4	•			L		L		L																I		I	I	I	I	I		I							Γ	Ī	_		
) Removal & Civil Works	_		H	+	+	+	4	+	H	Н	4	1	Н	4	+	+	1	1	1	1	-	+	7	1				_	2n	ľ	et			3	4	Init	L	L	L	4	۳	Ųn.	1	1	1					L	L	L			1	1		-	1	1	1		1	1	I	I		_								
) Erection & Installation			-	+	+	H	\dashv	+	\vdash	Н	\dotplus	+	H	+	+	+	+	+	+	4	4	1	4	1		Ħ	1	L		Ś			Ц	٠,	L	4	L		ļ	L	L	ľ	1	‡	•	Ц				L	L	L		Ц		4	1	1	1	1	1	1	1	1	1	1						L	1	_		
)) Test & Commissioning		-	H	+	+	+	Н	4	+	L	4	+	H	+	4	+	+	+	+	+	4	4	1	1			4		_		L		4		L	-		L	4	L	t	1	1	1	1	4		•	9	inc	udi	ß	02	ď	pat	chir	2	•	1	1	1	1	1	1	_	1						L	ŀ			
Warranty Period 1) (Package-4)				L	1	L	Ц	1	L			L	Ц	1	1	1						-	1	7	7						1	Г		1	F	F	F	F	F	F	ŧ	Ŧ	ŧ	ŧ	Ŧ	1		-	H	F	H	F	-	H	+	+	+	+	+					1												
	_		L	\perp	1	1	Ц	1	L		1	1	Ц	1	1	1	1	1		1	I																Γ	-	Γ		T	T	T	T	1	1				l	l	Ī	Ī	П		1	1	7	T	Ť	T	Ť	Ť	1	1	1					Γ	r	t	***	•	
chedule for Package-4			L	L	4	1	Ц	1	L			1	Ц	1	1	1	1			1	1																		Γ		T	T	T	T	1						Γ	T	Γ		-		1	1	1	1	1	1	1	1	1	1					Г	Γ	1		•	
") Transportation	-	_	L	+	+	1	Ц	4	L		4	1	Ц	1	1	1	1	st.	20	4	1	1 21		1				L	L	3r	1	١.				Ι.					I	I	I	I	,							L	Γ			-					T	T	1	1	1						Г		T		٠	
) Removal, Civil Works,) Erection & Installation			L	100	1	L		1	L								1		Ī	1	7	- 1	20											3,	4		1					I	ſ	Ţ							Γ					T		T			T	T	-	Ţ							Γ	Γ	T	~	•	
D') Test & Commissioning					\perp											I				1	Ť	1	4									7	Г	•			T	l	T		T	T	†	t	1			-	l		t	T	T	H		1	1	1	†	t	1	†	1	1	1	1	-			H		r	t	_	•	

Rehabilitation Project of the 4th Power Plant
in ULAANBAATAR, MONGOLIA (Phase-II)

Implementing Schedule

	Unit No.	Capacitiy	Start-up Date
Boiler	#1	420t/h	30 8 1983
	#2	420t∕h	16 - 1 - 1984
	#3	420t∕h	9 - 12 - 1984
	#4	420t∕h	25 - 12 - 1985
	#5	420t∕h	27 - 12 - 1986
	#6	420t/h	31 - 10 - 1987
	#7	420t∕h	7 - 2 - 1990
	#8	420t∕h	23 - 12 - 1991
Turbine generator	#1	80 MW	18 - 10 - 1983
	#2	100 MW	26 - 11 - 1984
	#3	100 MW	27 - 12 - 1985
	#4	100 MW	27 - 12 - 1986
	#5	80 MW	17 - 2 - 1990
	#6	80 MW	25 - 12 - 1991

Rehabilitation project of the 4th Power Plant in ULAANBAATAR MONGOLIA (Phase-II) Start-up Dates of Boiler and Turbine/Generator Dwg. No. MON-K-0-02 | August 20'01

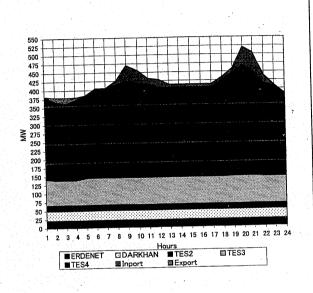


Rehabilitation Project of the 4th Power Plant in ULAANBAATAR, MONGOLIA (Phase-II)

Example of Daily Load Distribution Curve during Lower Electric Power Demands(Summer season)

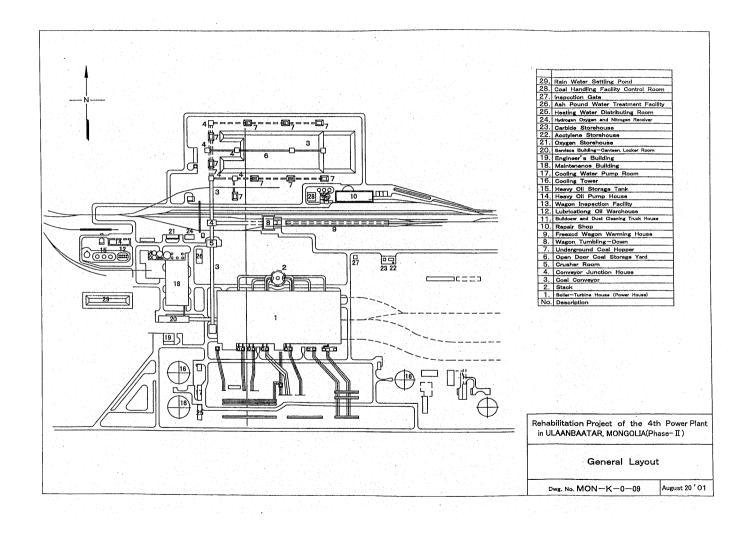
Dwg.No.MON-K-0-05

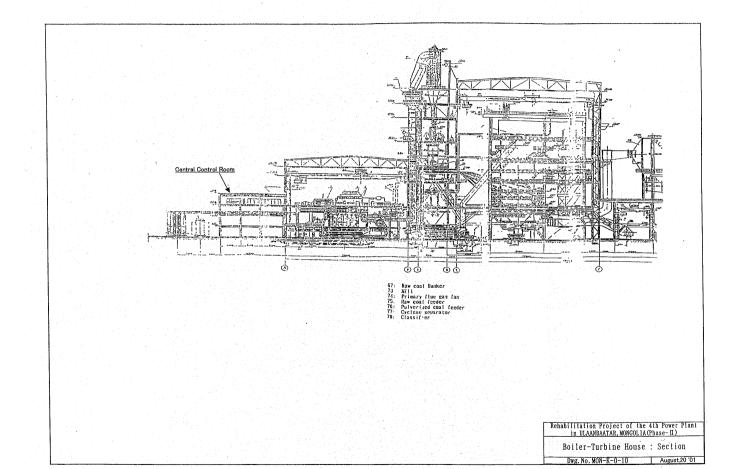
ugust_20 '01

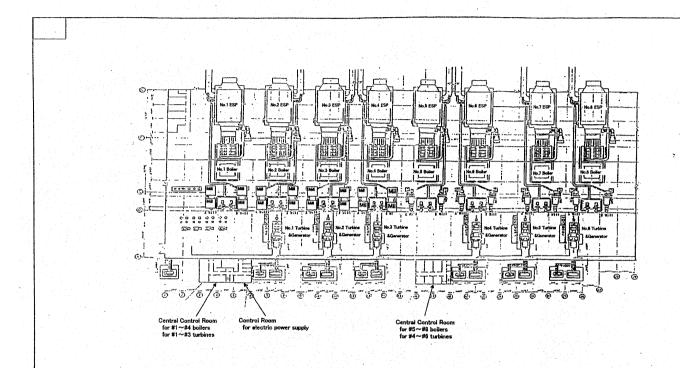


Rehabilitation Project of the 4th Power Plant in ULAANBAATAR, MONGOLIA (PHASE-II) Example of Daily Load Distribution Curve during Higher Electric Power Demands(Winter season)

Dwg,No_MON-K-0-06 August.20 '01



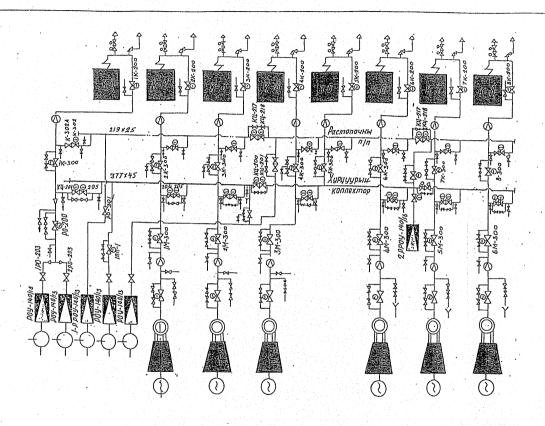




Rehabilitation Project of the 4th Power Plant in ULAANBAATAR, MONGOLIA (Phase-II)

Boiler Turbine Layout

Dwg.No.MON-K-0-11 August.20 '01

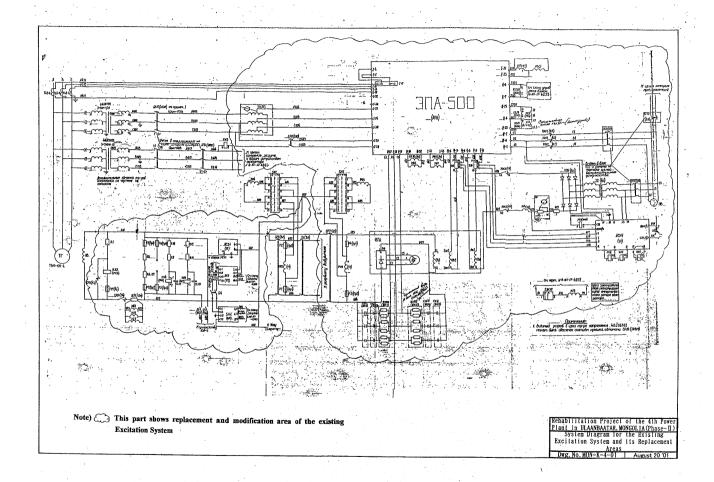


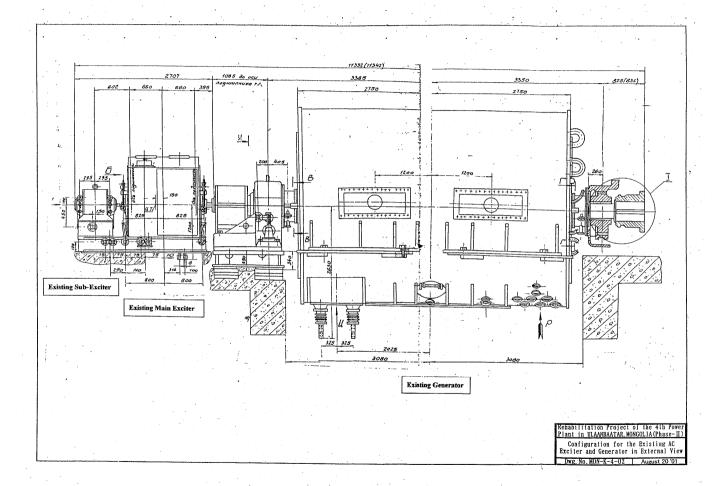
Rehabilitation Project of the 4th Power Plant in ULAANBAATAR, MONGOLIA(Phase-II)

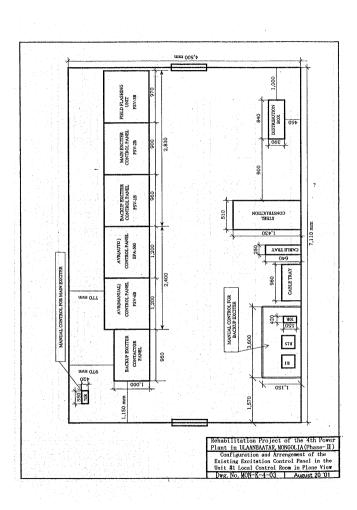
Main Steam Flow Diagram

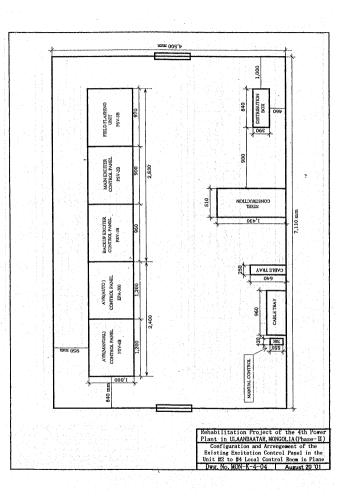
Z. NO, MUN-K-U-13

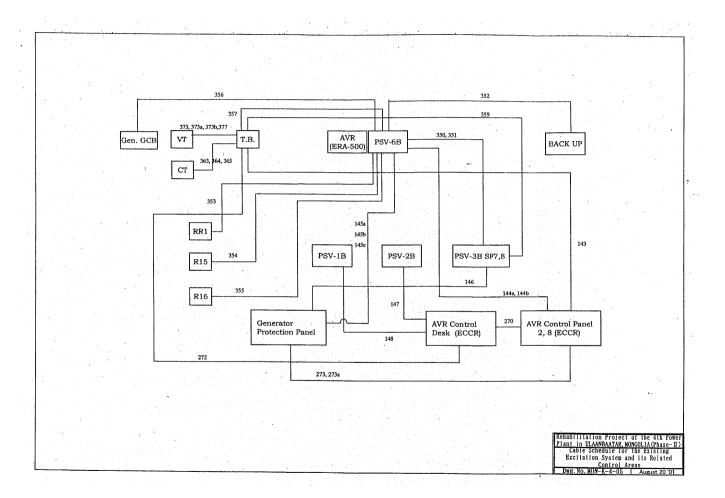
August.20 01





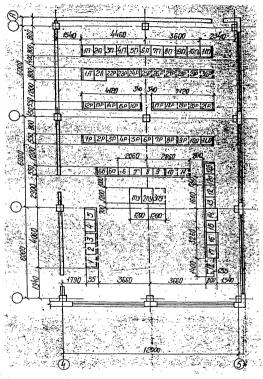






	То Т	Tag	Core	Size(mm²)	Length(m)	Туре
From PSV-6B(Manual AVR)		352	10	1.5	15	KBBG.
		351	10	1.5	15	KBBG
PSV-6B(Manual AVR)		350	14	1.5	15	KBBG
PSV-6B(Manual AVR)		144a	37	2.5	105	KBBG
PSV-6B(Manual AVR)			27	2.5	105	KBBG
PSV-6B(Manual AVR)		144b 145a	27	1.5	100	KBBG
	Panel N2(generator protection)		27	1.5	100	KBBG
	Panel N2(generator protection)	145b	27	1.5		KBBG
	Panel N2(generator protection)	145c	1.22		100	
PSV-3B(SF8)	Terminal box	143a	37	1.5	20	KBBG
PSV-6B(Manual AVR)		358	27	1.5	10	KBBG
PSV-3B(SF8)	Terminal box	359	5	4	20	KBBG
PSV-6B(Manual AVR)	Resistance RR1	353	.10	1.5	15	KBBG
PSV-6B(Manual AVR)	Resistance R15	354	5	1.5	15	KBBG
PSV-6B(Manual AVR)	Resistance R16	355	5	1.5	15	KBBG
PSV-6B(Manual AVR)	Terminal box	357	10	1.5	20	KBBG
PSV-6B(Manual AVR)	Generator contact	356	4	1.5	35	KBBG
PSV-1B	AVR control desk	148	. 14	1.5	105	KBBG
PSV-2B	AVR control desk	147	10	1.5	105	KBBG
PSV-3B	Panel N2(generator protection)	146	. 7	1.5	100	KBBG
TA3(CT A)	Terminal box	363	5	4	25	KBBG.
TA3(CT B)	Terminal box	364	- 5	4	25	KBBG
TA3(CT C)	Terminal box	365	- 5	4	25	KBBG
VT(4Gi01F01)	Terminal box	373a	4	1.5	25	KBBG
VT	Terminal box	373	4	1.5	25	KBBG
ν̈́τ	Terminal box	373b	4	1.5	25	KBBG
ντ	Power box 220V	377	4	1.5	55	KBBG
AVR control desk	Terminal box	272	19	1.5	55	KBBG
AVR control desk	Panel 8 (ECCR)	270	14	1.5	20	KBBG
Panel N2	Panel 8 (ECCR)	273a	37	1.5	15	KBBG
Panel N2	Panel 8 (ECCR)	273	37	1.5	15	KBBG
	Panel 2 (ECCR)	143	37	1.5	100	KBBG
Terminal box	JPanel 2 (ECCR)	143	3/	1.5	100	INDEA

Rehabilitation Project of the 4th Power Plant in ULAANBAATAM, MONGOLIA (Phase-II) Cable List for the Existing Excitation System and its Related Control Areas Dwg, No. MON-K-4-08 | August 20'01



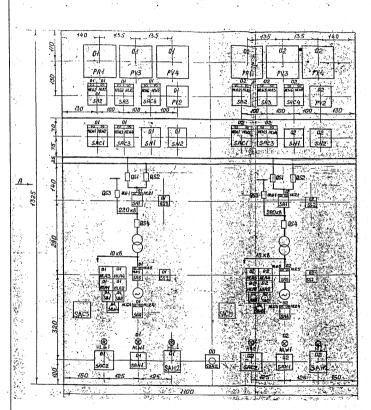
Note)

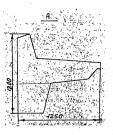
Note)
3P to 5P : #1 Generator (including Excitation system) Protection Panel
6P to 8P : #2 Generator (including Excitation system) Protection Panel
19P to 21P: #3 Generator (including Excitation system) Protection Panel

or to or : #2 Generator (including Excitation system) Protection Panel 19P to 21P: #3 Generator (including Excitation system) Protection Panel 6 :#1 to #2 Truthine/Generator Control Panel 10 #4 Turbine/Generator Control Panel 10 #4 Turbine/Generator Control Panel 10 #2 Turbine/Generator Control Desk 10 #4 Turbine/Generator Control Desk 10 #4

Rehabilitation Project of the 4th Power Plant in ULAANBAATAR, MONGOLIA (Phase-II) Configuration and Arrengement of the Existing Excitation Electrical Central Control Room in Plane Yiew

Dwg. No. MON-K-4-07 | August 20 '01

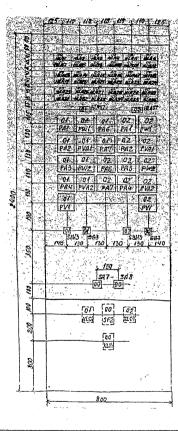




INSTRUMENTUST

YMBOL	ITEM	SPECIFICATION
SA1	110 kV Main circuit breaker control s/w	
SA2	Main Exciter circuit breaker control s/w	1
SA3	Backup Exciter circuit breaker control s/w	
SA4	Field flashing circuit breaker control s/w	
SA5	10.5kV Main circuit breaker control s/w	
SB1	Generator on PB	
SB2	Generator off PB	
SAC1	AVR Control s/w	
SAC2	Set point for Backup Exciter s/w	T
SAC3	Manual Control PB	
SAC4	Selection of Auto-Manual control s/w	
SAC5	Selector s/w for Backup Exciter	
SN1	Chacking Isolation of Main Exciter circuit s/w	
SN2	Chacking Isolation of Backup Exciter circuit s/w	
SS1	220 kV Synchronization s/w	1
SS2	110 kV Synchronization s/w	
SAH1	Auto-Manual section of Synchronization s/w	
SAH2	Synchronization adjustment s/w	T :
SBH2	Acknowledge PB	1
HLW1	Power Supply Control (Indicator)	
HLA1	Generator ON (Indicator)	
HLA2	Generator OFF (Indicator)	
HLA3	Generator in danger	
HLA4	Generator ready to start up	
PA1	Generator roter current	1.5 class, 0-2kA DC, Type M300
PV2	Set point for AVR	2.5 class, 0-250V AC
PV3	Main Exciter voltage	1.5 class, 0-600V DC, Type M330
PV4	Backup Exciter voltage	1.5 class, 0-600V DC, Type M331
HLG1	Minimum set point for Backup Exciter (Indicator)	
HLI	Ready for synchronization (Indicator)	

Rehabilitation Project of the 4th Power Plant in ULAANBAATAR, MONGOLIA (Phase—ID) Conliguration and Arrengement of the Existitiong Turbine/Generator Control Desk in Plane and External Yiew DWE. No. MON-K-4-US | August 20:01



ALARM LIST OF EXCITATION SYSTEM

ALARM	ITEM	REMARKS
HLA5	Exciter Rectifier fuse fault	
HLA6	Rectifier unit fault	
HLA15	VT transformer fault	
HLA17	Excitor Field Earth Fault -	
HLA22	Changeover from Auto to Manual for AVR	
HLA23	Loss of Excitation	
HLA24	Excitation System Failure	
HLA25	Decreasing load of rotor	
HLA26	Interlock for ceiling	
HLA28	AVR control circuit fault	
HLA29	Manual control circuit fault	<u> </u>

Rehabilitation Project of the 4th Power
Plant in ULANBANTAR MONGOLIA (Phase—II)
Contiguration and Arrengement of the
Existions Turbine/Generator Control
Panel in Front Vier
DWG. NO. MON-K-4-US August 20 '01

