1. Analyzed Results of Operating (Outages) Data of Distribution Line

Contents

A. Ranga Reddy District

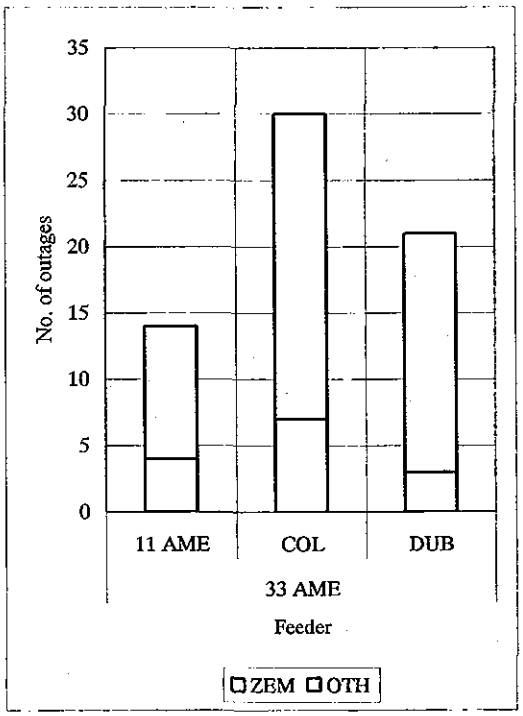
Code of Substation : HKOT

Summary of Outages (HKOT)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
33	AME	11	AME		14										4			10	3,158											745			2,413	
			COL		30										7			23	4,845											1,140			3,705	
			DUB		21										3			18	6,330											365			5,965	
				TIL	65														14,333															

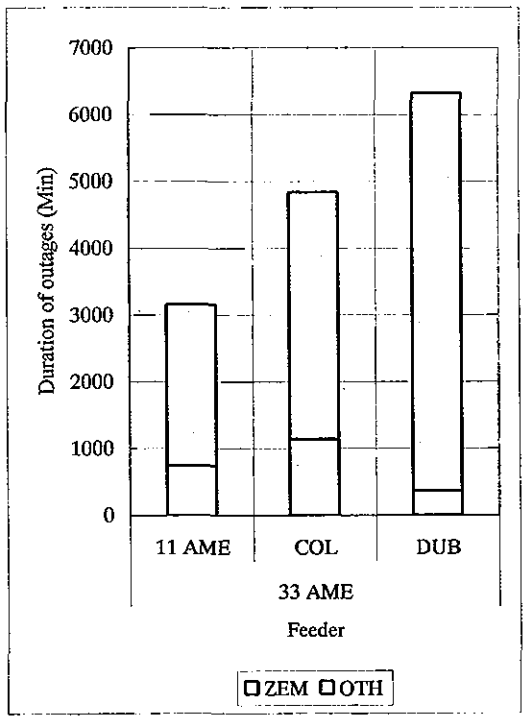
Total number of outages

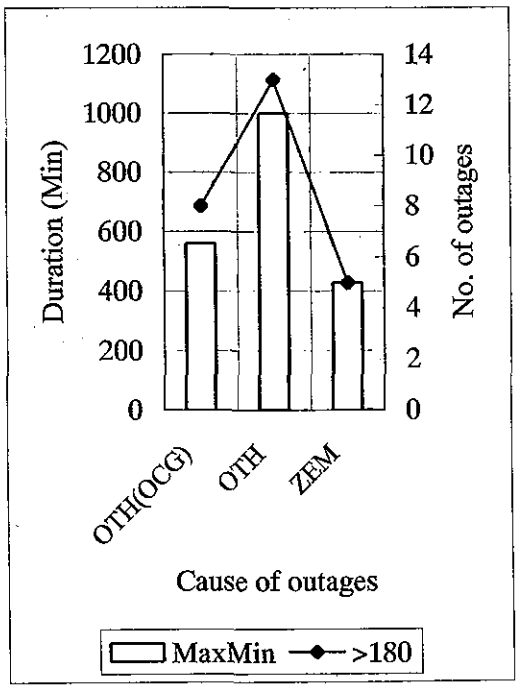
33 kV SS	11 kV feeder	ZEM	OTH
AME	AME	4	10
	COL	7	23
	DUB	3	18



Total duration of outages (Min)

33 kV SS	11 kV feeder	ZEM	OTH
AME	AME	745	2413
	COL	1140	3705
	DUB	365	5965





Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in HKOT system

	OTH(OCG)	OTH	ZEM
MaxMin	560	1000	430
>180	8	13	5

Code of Substation : HRAM

Summary of Outages (HRAM)

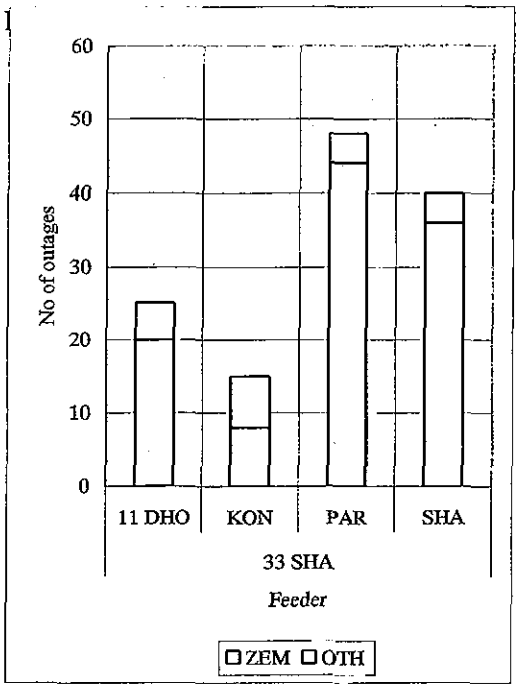
Substation		Feeder/equipment troubled			Number of Interruption														Duration of Interruption (Min)										Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
33	SHA	11	DHO		25										20			5	3,135										1,865			1,270	
			KON		15										8			7	1,720										470			1,250	
			PAR		48										44			4	4,176										3,651			525	
			SHA		40										36			4	2,305										2,065			240	
				TTL	128														11,336														

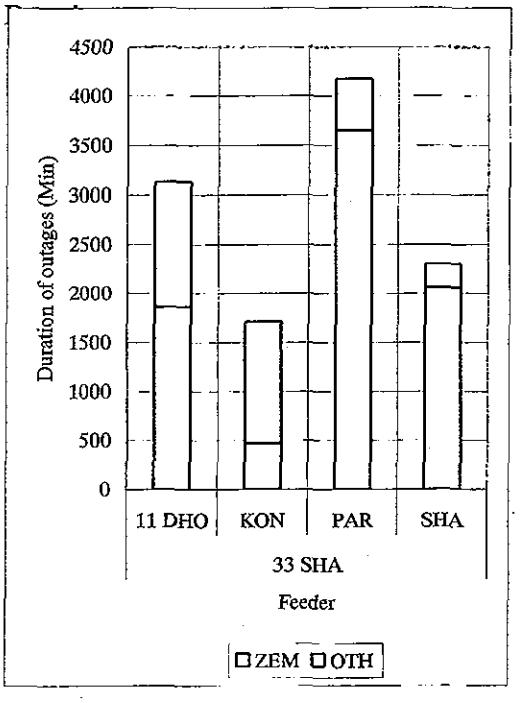
Total number of outages

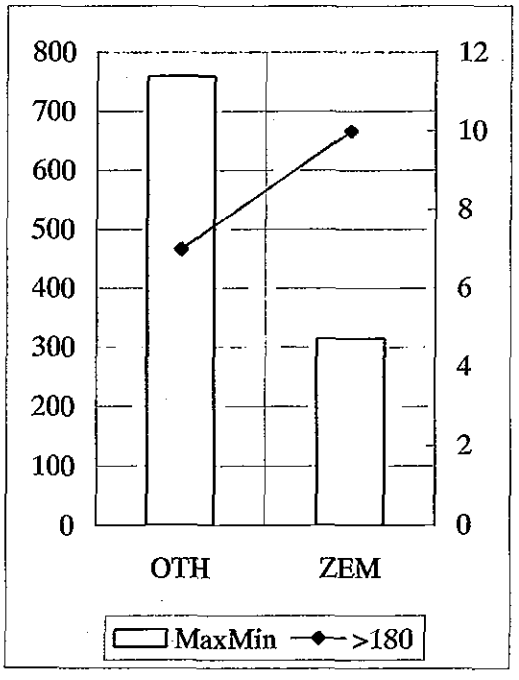
33 kV SS	11 kV feeder	ZEM	OTH
SHA	DHO	20	5
	KON	8	7
	PAR	44	4
	SHA	36	4

Total duration of outages (Min)

33 kV SS	11 kV feeder	ZEM	OTH
SHA	DHO	1865	1270
	KON	470	1250
	PAR	3651	525
	SHA	2065	240







Maximum duration/event (MaxMin) and Number of outages more than *180 minutes (>180) in HRAM system*

	OTH	ZEM
MaxMin	760	315
>180	7	10

Code of Substation : MRAM

Summary of Outages (MRAM)

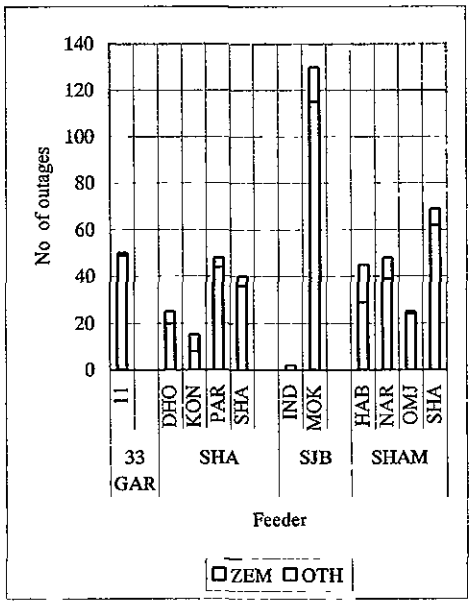
Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)													Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
33	GAR	11	VAN		50										49			1	0														
33	SHA	11	DHO		25										20			5	3,135										1,865			1,270	
			KON		15										8			7	1,720										470			1,250	
			PAR		48										44			4	4,176										3,651			525	
			SHA		40										36			4	2,305										2,065			240	
				TTL	128														11,336														
33	SJB	11	IND		2										2				295										295				
			MOK		130										115			15	12,816										10,907			1,909	
				TTL	132														13,111														
33	SHAM	11	HAB		45										29			16	3,582										1,999			1,583	
			NAR		48										39			9	4,792										3,644			1,148	
			OMJ		25										24			1	2,082										1,962			120	
			SHA		69										62			7	4,637										3,591			1,046	
				TTL	187														15,093														

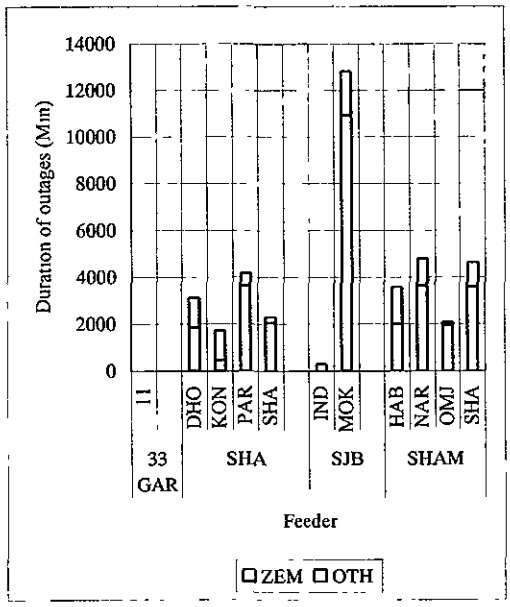
Total number of outages

33 kV SS	11 kV feeder	ZEM	OTH
GAR	VAN	49	1
SHA	DHO	20	5
	KON	8	7
	PAR	44	4
	SHA	36	4
SJB	IND	2	
	MOK	115	15
SHAM	HAB	29	16
	NAR	39	9
	OMJ	24	1
	SHA	62	7

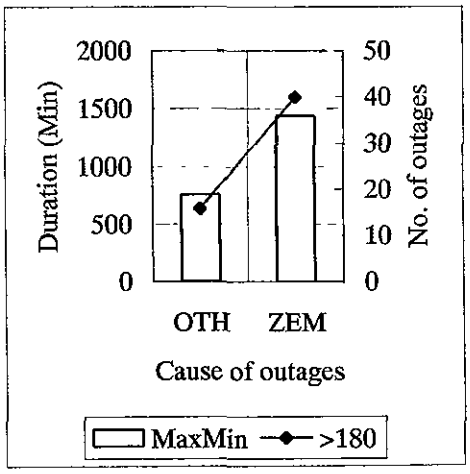
Total duration of outages (Min)

33 kV SS	11 kV feeder	ZEM	OTH
GAR	VAN	-	-
SHA	DHO	1865	1270
	KON	470	1250
	PAR	3651	525
	SHA	2065	240
SJB	IND	295	
	MOK	10907	1909
SHAM	HAB	1999	1583
	NAR	3644	1148
	OMJ	1962	120
	SHA	3591	1046





Note: Except 11 kV VAN



Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in MRAM system

	OTH	ZEM
MaxMin	760	1440
>180	16	40

Note Except 11 kV VAN

Code of Substation : MSAD

Summary of Interruption (MSAD)

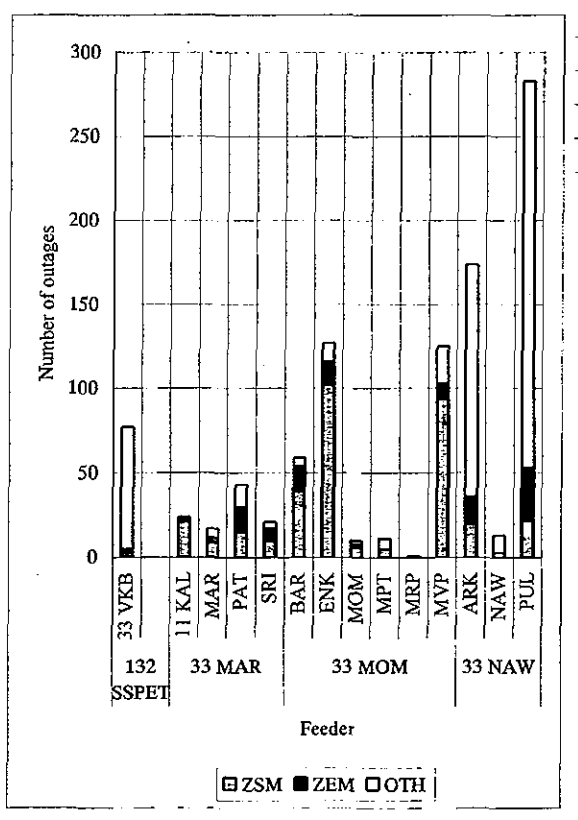
Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
132	SSPET	33	VKB		77										5			72	2,299											700			1,599	
33	MAR	11	KAL		24									21	3				5,755									4,495	1,260				
			MAR		17									9	3			5	1,403									665	660			78	
			PAT		43									15	15			13	6,468									1,895	3,965			608	
			SRI		21									10	7			4	4,254									2,285	1,840			129	
				TTL	105														17,880														
33	MOM	11	BAR		59									39	15			5	7,123									5,030	1,968			65	
			ENK		127									102	14			11	17,296									14,818	1,868			610	
			MOM		10									6	2			2	676									516	115			45	
			MPT		11									5				6	675									435				240	
			MRP		1									1					45									45					
			MVP		125									94	9			22	13,435									10,925	1,405			1,105	
				TTL	333														39,250														
33	NAW	11	ARK		174									20	16			138	5,453									1,610	3,008			835	
			NAW		13									3				10	490									325				165	
			PUL		283									22	31			230	10,588									2,925	4,832			2,831	
				TTL	470														16,531														

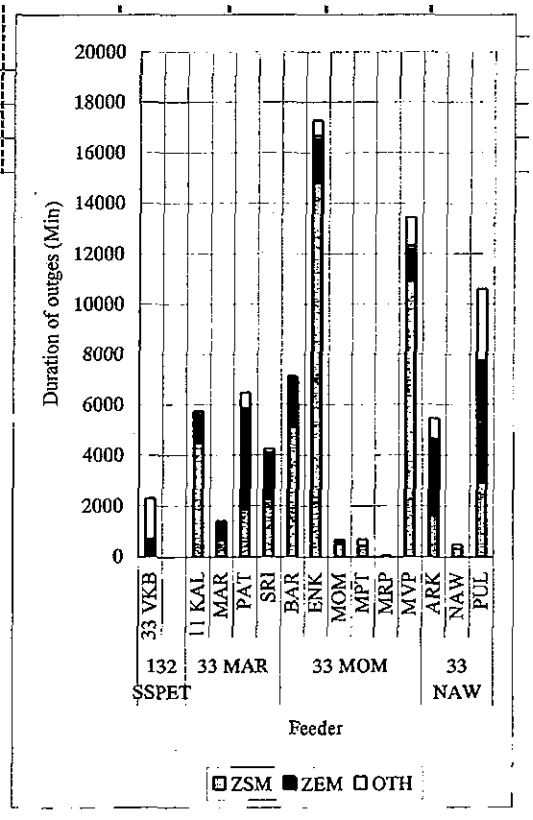
Total number of outages

Substation	Feeder	ZSM	ZEM	OTH
132 SSPET	33 VKB		5	72
33 MAR	11 KAL	21	3	
	MAR	9	3	5
	PAT	15	15	13
	SRI	10	7	4
33 MOM	BAR	39	15	5
	ENK	102	14	11
	MOM	6	2	2
	MPT	5		6
	MRP	1		
	MVP	94	9	22
33 NAW	ARK	20	16	138
	NAW	3		10
	PUL	22	31	230

Total duration of outages (Min)

Substation	Feeder	ZSM	ZEM	OTH
132 SSPET	33 VKB		699.6	1599
33 MAR	11 KAL	4,495	1,260	
	MAR	665	660	78
	PAT	1,895	3,965	608
	SRI	2,285	1,840	129
33 MOM	BAR	5,090	1,968	65
	ENK	14,818	1,868	610
	MOM	516	115	45
	MPT	435		240
	MRP	45		
	MVP	10,925	1,405	1,105
33 NAW	ARK	1,610	3,008	835
	NAW	325		165
	PUL	2,925	4,832	2,831





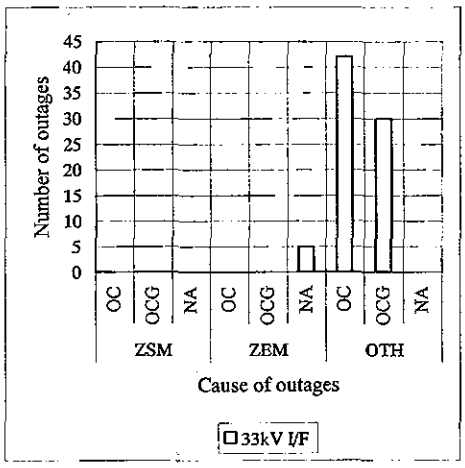
33 kV

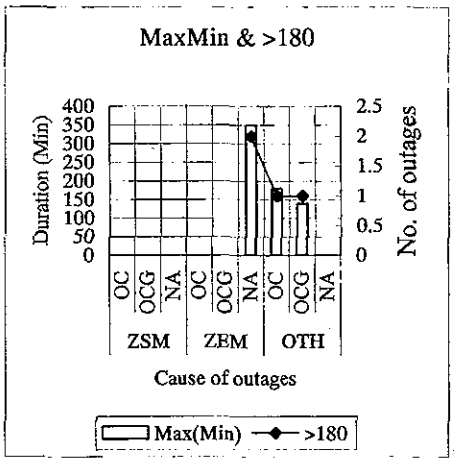
Total number of outages

33 kV	ZSM			ZEM			OTH		
	OC	OCG	NA	OC	OCG	NA	OC	OCG	NA
Incoming feeder						5	42	30	

MaxMin & >180

33 kV	ZSM			ZEM			OTH		
	OC	OCG	NA	OC	OCG	NA	OC	OCG	NA
Max(Min)						350	180	140	
>180						2	1	1	





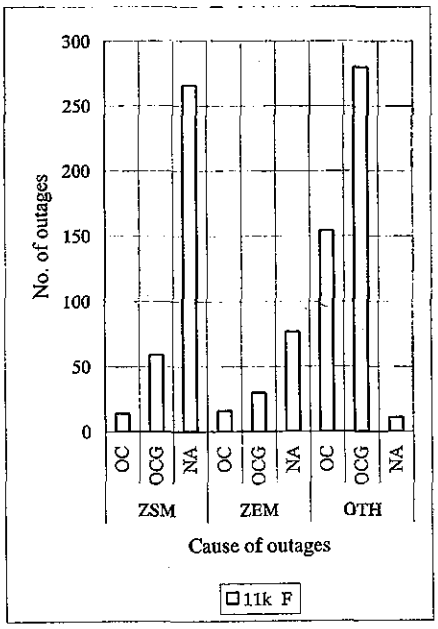
11 kV

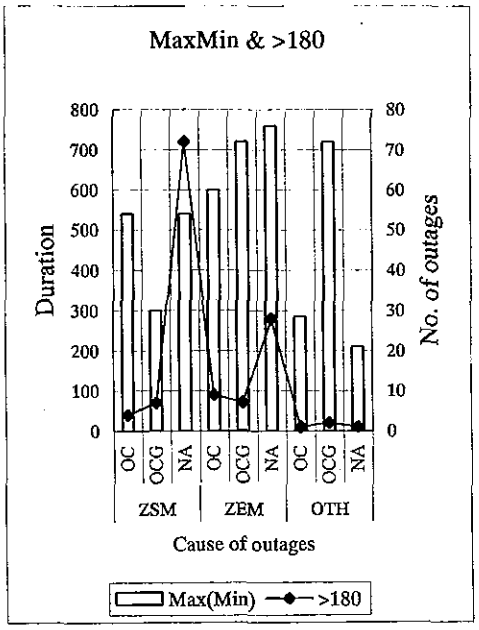
Total number of outages

11 kV	ZSM			ZEM			OTH		
	OC	OCG	NA	OC	OCG	NA	OC	OCG	NA
Feeders	14	59	266	16	30	77	154	280	11

MaxMin & >180

11 kV	ZSM			ZEM			OTH		
	OC	OCG	NA	OC	OCG	NA	OC	OCG	NA
Max(Min)	540	300	540	600	720	760	285	720	210
>180	4	7	72	9	7	28	1	2	1





Code of Substation : RBAN

Summary of Outages (RBAN) (1/5)

Substation		Feeder/equipment troubled		Number of Interruption													Duration of Interruption (Min)										Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	
33	ABD	11	ABD	TR	12													12	960													960	
				OTH	38	1		3	1									33	1,485	120		330	70									965	
				ONS	1			1											120			120										
				JNT	47			20			2							25	1,450			1,140			40							270	
				INS	8			2			3							3	670			180			275							215	
				COND	16	1		3			3							9	1,045	30		290			195							530	
				TTL	122														5,730														
		11	ANA	COND	4						1							3	375						100							275	
				INS	5	1					3							1	340	50					200							90	
				JNT	11			6										5	505			320										185	
				OTH	17	2		2										13	1,340	210		150										980	
				TR	5													5	360													360	
				TTL	42														2,920														
		11	SAB	COND	1			1											950			950											
				TTL	1														930														
		11	SAN	COND	6						3							3	505						225							280	
				INS	5			2			1							2	410			240			20							150	
				JNT	14			2			1							11	475			120			120							235	
				ONS	1			1											120			120										
				OTH	15	3		1			2							9	1,425	250		120			165							890	
				POL	1			1											60			60										
				TR	5						1							4	405						60							345	
				TTL	47														3,400														
		11	PED	COND	6	1		1			1							3	225	15		60			60							90	
33	PED			INS	8			5			2							1	603			453			120							30	
				JNT	17			10										7	658			365										293	
				OTH	19											1		18	373											20		353	
				POL	2													2	100													100	
				TR	5			3			1							1	125			50			60							15	
				TTL	57														2,084														
		11	TAR	COND	3			1										2	180			15										165	
				INS	11	2		6			1							2	408	50		314			22							22	
				JNT	10			5										5	365			310										55	
				OTH	7													7	15													15	
				POL	1						1								20						20								
				TR	1			1											120			120										
				TTL	33														1,108														

Summary of Outages (RBAN) (2/5)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	
33	RFC	11	RFC	COND	2	1		1											110	60		50											
				INS	1			1											5			5											
				JNT	7			4										3	345			180										165	
				OTH	40			1										39	235			50										185	
				TR	1													1	15													15	
				TTL	51														710														
33	VAN	11	BAL	COND	4						4								180						180								
				INS	3			2			1								145			70			75								
				JNT	5			1	1									3	440			105	120									215	
				oth	6													6	255													255	
				TR	1						1								60						60								
				TTL	19														1,080														
		11	INJ	COND	3						3								175						175								
				INS	8			4	4										330			125	205										
				JNT	7			4	2									1	545			335	90									120	
				OTH	12	1				5								6	740	50				370								320	
				POL	1				1										45				45										
				TTL	31														1,835														
		11	NGO	JNT	2			1	1										105			45	60										
				OTH	5					1								4	160					60								100	
				TTL	7														265														
		11	VAN	COND	2						2								85						85								
				INS	5			2	3										190			90	100										
				JNT	6			2										4	435			160										275	
				OTH	14			1		3	2							8	810			60		280	30							440	
				POL	1				1										60				60										
				TTL	42														2,110														
33	BAN	11	ALK	COND	8			2										6	101			5										96	
				INS	13				1		1							11	216			13	2		1							200	
				JNT	14			12			1		1						59			54			3		2						
				OTH	18													18	279													279	
				POL	1						1								5						5								
				PR	1													1	1													1	
				TTL	55														661														
		11	GSI	COND	3			1										2	6			2										4	
				INS	9			4										5	74			17										57	
				JNT	7			7											18			18											
				OTH	17													17	128													128	
				TTL	36														226														

Summary of Outages (RBAN) (3/5)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	
		11	NAG	COND	29			12										17	596			39										557	
				INS	6			1										5	40			3										37	
				JNT	19			17										2	391			42										349	
				OTH	52			1										51	771			4										767	
				TTL	106														1,798														
33	HAY	11	AIR	COND	3			2	1										11			6	5									
				INS	2						1							1	10						7							3	
				JNT	3			3											26			26											
				OTH	16						1							15	156						3							153	
				TTL	24														203														
		11	AUT	COND	3			1			1							1	17			5			7							5	
				INS	4			3			1								25			20			5								
				JNT	14			13			1								227			152			75								
				OTH	17			1										16	113			5										108	
				TTL	38														382														
		11	HAY	COND	2			1										1	9			5										4	
				INS	2				1									1	7				2									5	
				JNT	7			5			2								62			46			16								
				OTH	15													15	70													70	
				TTL	26														148														
		11	HCO	COND	5			1			2							2	85			5			35							45	
				INS	2						1							1	50						10							40	
				JNT	3			3											49			49											
				OTH	2													2	44													44	
				TTL	12														228														
		11	LBN	BUS	1						1								10						10								
				COND	6			4										2	249			49										200	
				INS	6			1	3									2	80			60	12									8	
				JNT	8			7										1	39			29										10	
				OTH	12													12	75													75	
				TTL	33														453														
		11	MAN	COND	1				1										45				45										
				INS	2			1	1										8			5	3										
				JNT	11			9			1							1	88			43			40							5	
				OTH	13			1										12	228													228	
				TR	2			1										1	90			30										60	
				TTL	29														459														

Summary of Outages (RBAN) (4/5)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	
		11	MOT	COND	7			3	1									3	80			50	5										25	
				INS	8			2	2		3							1	97			65	15		13								4	
				JNT	15			14			1								140			125			15									
				OTH	20													20	146														146	
				TR	1						1								5						5									
				TTL	51														468															
		11	SIR	COND	6			2										4	54			35										19	
				INS	3			2										1	70			65										5	
				JNT	8			8											131			131											
				OTH	17			1										16	464			7										457	
				TTL	34														719															
33	KOT	11	KAM	COND	7	6												1	500	430												70	
				INS	8	5								3					320	205								115					
				JNT	6	4	1							1					690	235	435							20					
				OTH	60	2				2				7				49	1,590	90				95				380				1,025	
				POL	1							1							45							45							
				TR	9	6								2				1	945	790						145						10	
				TTL	91														4,090														
		11	KOT	COND	27	6			1					3				17	935	255			-					30				650	
				INS	18	8								1				9	495	160								15				320	
				JNT	19	5	1		4					3				6	565	130	15		55					265				100	
				OTH	80	13	2		19					6				40	3,620	740	10		360					280				2,230	
				TR	18	1	5							8				4	695	15	80							330				270	
				TTL	162														6,310														
		11	LNR	COND	5	2												3	405	105												300	
				INS	5	2												3	160	25												135	
				JNT	3	1			1									1	50	25			10									15	
				OTH	23	3			4					3				13	1,160	85			130					140				805	
				TR	3									2				1	220									130				90	
				TTL	39														1,995														
		11	MAN	COND	1	1													55	55													
				INS	2	1												1	65	10												55	
				OTH	4	1			2									1	125	30			90									5	
				TTL	7														245														
		11	NOD	COND	5	4												1	70	65												5	
				INS	7	4								3					125	55								70					
				JNT	5	3	1							1					60	25	15							20					
				OTH	24	1								2				21	615	50								35				530	
				POL	1							1							20							20							
				TR	6	3								2				1	180	95								55				30	
				TTL	48														1,070														

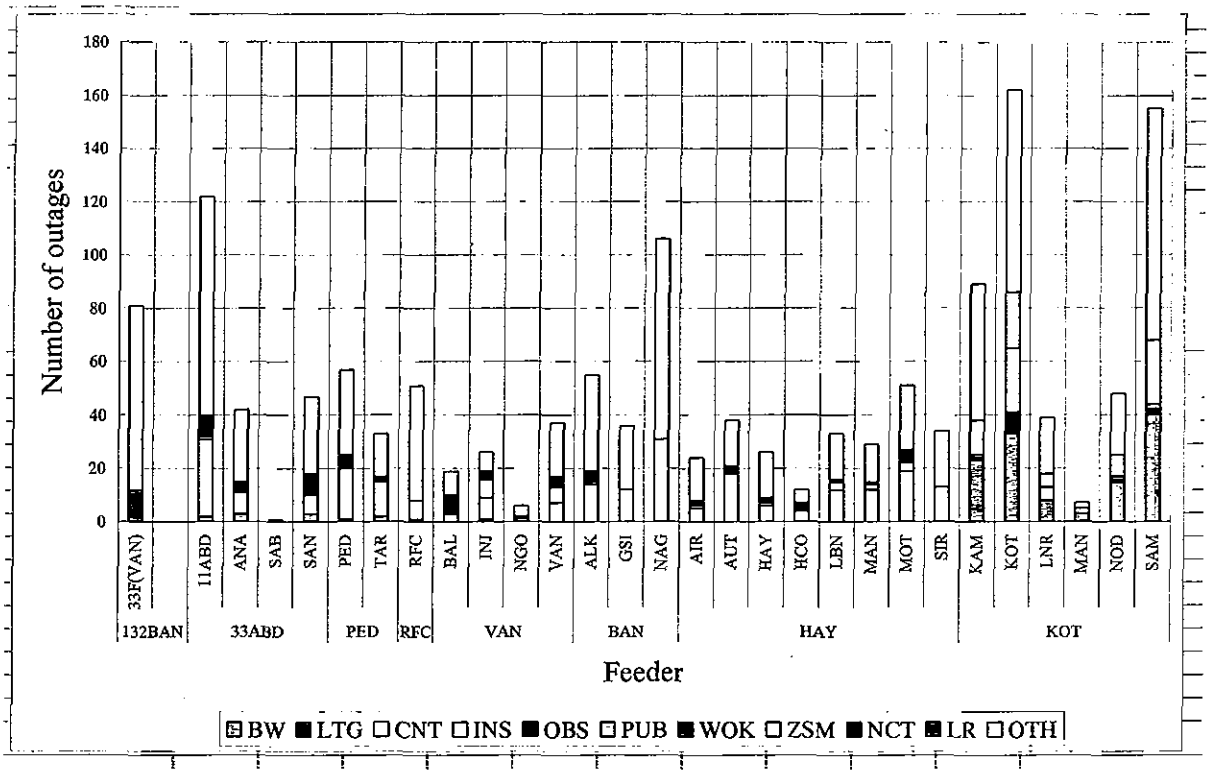
Summary of Outages (RBAN) (5/5)

Substation		Feeder/equipment troubled			Number of Interruption														Duration of Interruption (Min)														Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	NCT	LR	OTH	
		11	SAM	COND	12	10												2	285	250												35	
				INS	15	9								6					375	275								100					
				JNT	12	8	2							2					330	285	25							20					
				OTH	98	4								11				83	3,413	75				155				795				2,388	
				POL	2							2							135							135							
				TR	16	9								5				2	523	263								165				95	
				TTL	155														5,061														
132	BAN	33	F(VAN)	TR	2													2	91													91	
				OTH	79												12	67	3,655												1,068	2,587	
				TTL	81														3,746														

SUMMARY OF OUTAGES

No. of outages

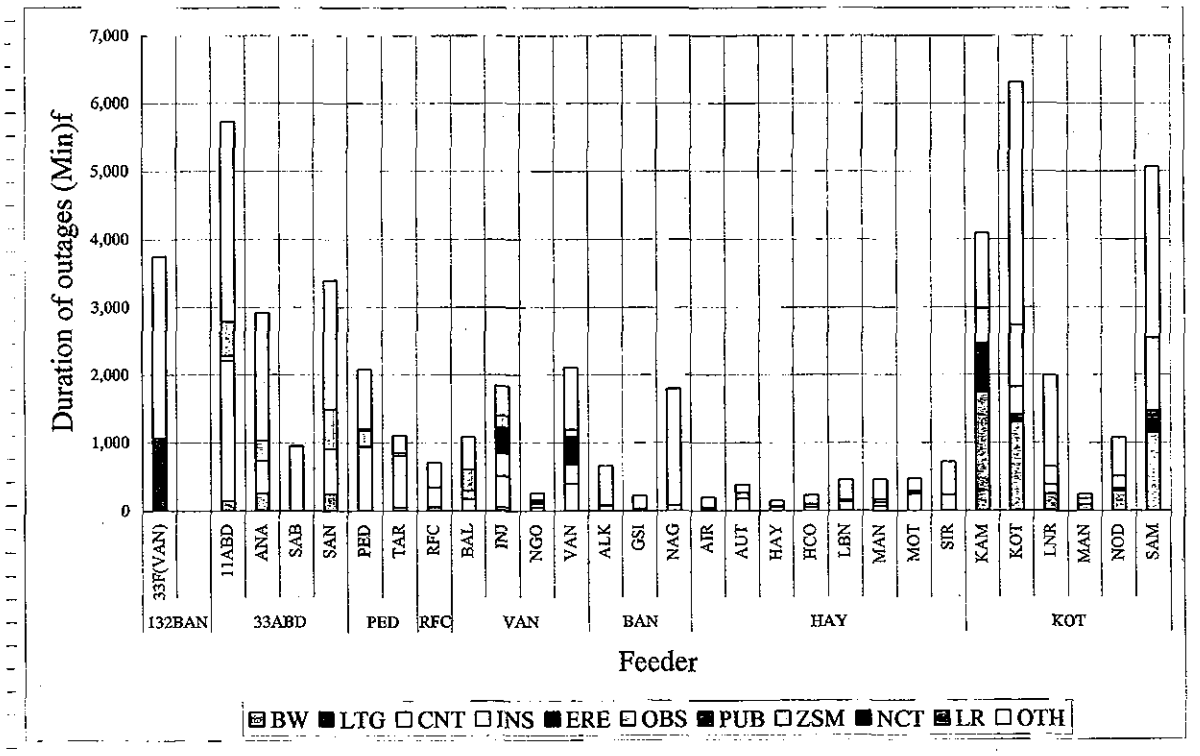
		BW	LTG	CNT	INS	OBS	PUB	WOK	ZSM	NCT	LR	OTH	TTL
132BAN	33F(VAN)	0	0	0	0	0	0	0	0	0	12	69	81
33ABD	11ABD	2	0	29	1	8	0	0	0	0	0	82	122
	ANA	3	0	8	0	4	0	0	0	0	0	27	42
	SAB	0	0	1	0	0	0	0	0	0	0	0	1
	SAN	3	0	7	0	8	0	0	0	0	0	29	47
PED	PED	1	0	19	0	4	0	0	0	1	0	32	57
	TAR	2	0	13	0	2	0	0	0	0	0	16	33
RFC	RFC	1	0	7	0	0	0	0	0	0	0	43	51
VAN	BAL	0	0	3	1	6	0	0	0	0	0	9	19
	INJ	1	0	8	7	3	0	0	0	0	0	7	31
	NGO	0	0	1	1	0	0	0	0	0	0	4	7
	VAN	0	0	7	6	4	0	0	0	0	0	20	42
BAN	ALK	0	0	14	1	3	0	1	0	0	0	36	55
	GSI	0	0	12	0	0	0	0	0	0	0	24	36
	NAG	0	0	31	0	0	0	0	0	0	0	75	106
HAY	AIR	0	0	5	1	2	0	0	0	0	0	16	24
	AUT	0	0	18	0	3	0	0	0	0	0	17	38
	HAY	0	0	6	1	2	0	0	0	0	0	17	26
	HCO	0	0	4	0	3	0	0	0	0	0	5	12
	LBN	0	0	12	3	1	0	0	0	0	0	17	33
	MAN	0	0	12	2	1	0	0	0	0	0	14	29
	MOT	0	0	19	3	5	0	0	0	0	0	24	51
	SIR	0	0	13	0	0	0	0	0	0	0	21	34
KOT	KAM	23	1	0	0	0	1	0	13	0	0	51	91
	KOT	33	8	0	24	0	0	0	21	0	0	76	162
	LNR	8	0	0	5	0	0	0	5	0	0	21	39
	MAN	3	0	0	2	0	0	0	0	0	0	2	7
	NOD	15	1	0	0	0	1	0	8	0	0	23	48
	SAM	40	2	0	0	0	2	0	24	0	0	87	155
	TTL	135	12	249	58	59	4	1	71	1	12	864	1,479



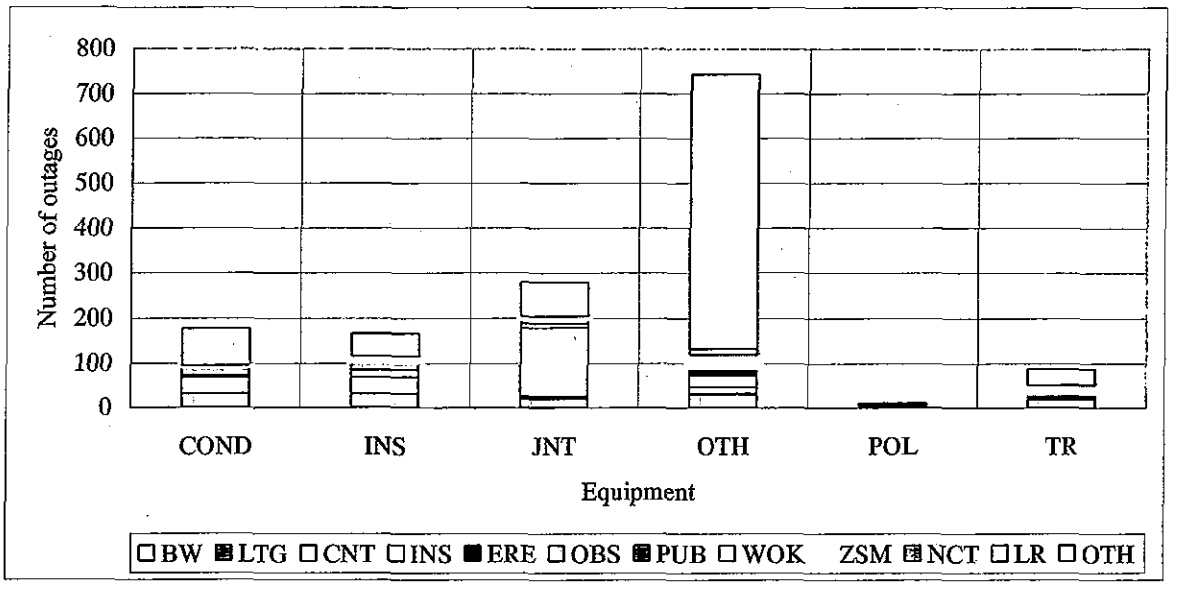
SUMMARY OF OUTAGES

Duration of outages (Min

		BW	LTG	CNT	INS	ERE	OBS	PUB	ZSM	NCT	LR	OTH	TTL
132BAN	33F(VAN)	0	0	0	0	0	0	0	0	0	1,068	2,678	3,746
33ABD	11ABD	150	0	2,060	70	0	510	0	0	0	0	2,940	5,730
	ANA	260	0	470	0	0	300	0	0	0	0	1,890	2,920
	SAB	0	0	950	0	0	0	0	0	0	0	0	950
	SAN	250	0	660	0	0	590	0	0	0	0	1,900	3,400
PED	PED	15	0	928	0	0	240	0	0	20	0	881	2,084
	TAR	50	0	759	0	0	42	0	0	0	0	257	1,108
RFC	RFC	60	0	285	0	0	0	0	0	0	0	365	710
VAN	BAL	0	0	175	120	0	315	0	0	0	0	470	1,080
	INJ	50	0	460	340	370	175	0	0	0	0	440	1,835
	NGO	0	0	45	60	60	0	0	0	0	0	100	265
	VAN	0	0	400	280	400	115	0	0	0	0	915	2,110
BAN	ALK	0	0	72	2	0	9	0	0	0	0	576	661
	GSI	0	0	37	0	0	0	0	0	0	0	189	226
	NAG	0	0	88	0	0	0	0	0	0	0	1,710	1,798
HAY	AIR	0	0	32	5	0	10	0	0	0	0	156	203
	AUT	0	0	182	0	0	87	0	0	0	0	113	382
	HAY	0	0	51	2	0	16	0	0	0	0	79	148
	HCO	0	0	54	0	0	45	0	0	0	0	129	228
	LBN	0	0	138	12	0	10	0	0	0	0	293	453
	MAN	0	0	78	48	0	40	0	0	0	0	293	459
	MOT	0	0	240	20	0	33	0	0	0	0	175	468
	SIR	0	0	238	0	0	0	0	0	0	0	481	719
KOT	KAM	1,750	435	0	0	95	0	190	515	0	0	1,105	4,090
	KOT	1,300	105	0	415	0	0	0	920	0	0	3,570	6,310
	LNR	240	0	0	140	0	0	0	270	0	0	1,345	1,995
	MAN	95	0	0	90	0	0	0	0	0	0	60	245
	NOD	290	15	0	0	0	0	20	180	0	0	565	1,070
	SAM	1,148	25	0	0	155	0	135	1,080	0	0	2,518	5,061
	TTL	*5,658*	*580*	*8,402*	*1,604*	*1,080*	*2,537*	*345*	*2,965*	*20*	*1,068*	*26,193*	*50,454*

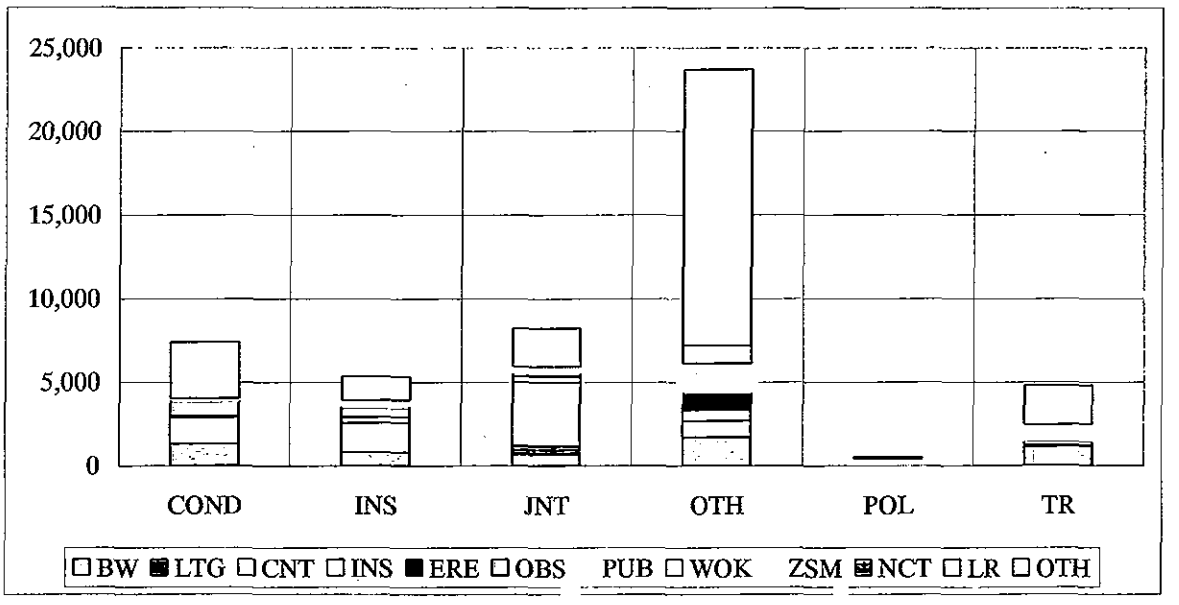


Number of outages



	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	NCT	LR	OTH	TTL
COND	32	0	36	4	0	20	0	0	3	0	0	82	177
INS	32	0	38	15	0	18	0	0	13	0	0	50	166
JNT	21	5	153	9	0	9	0	1	7	0	0	75	280
OTH	31	2	14	26	11	6	0	0	29	1	12	611	743
POL	0	0	1	2	0	2	4	0	0	0	0	2	11
TR	19	5	5	0	0	4	0	0	19	0	0	36	88

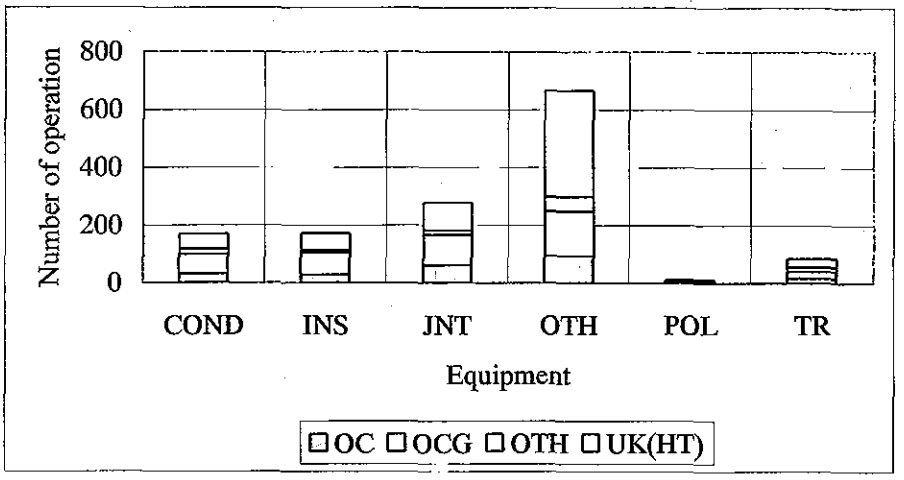
Duration of outages (Min)



	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	NCT	LR	OTH	TTL
COND	1,325	0	1,566	55	0	1,062	0	0	30	0	0	3,355	7,393
INS	830	0	1,725	339	0	748	0	0	300	0	0	1,376	5,318
JNT	700	490	3,795	335	0	309	0	2	325	0	0	2,292	8,248
OTH	1,700	10	966	650	950	208	0	0	1,630	20	1,068	16,528	23,730
POL	0	0	60	105	0	25	200	0	0	0	0	100	490
TR	1,163	80	200	0	0	185	145	0	680	0	0	2,342	4,795

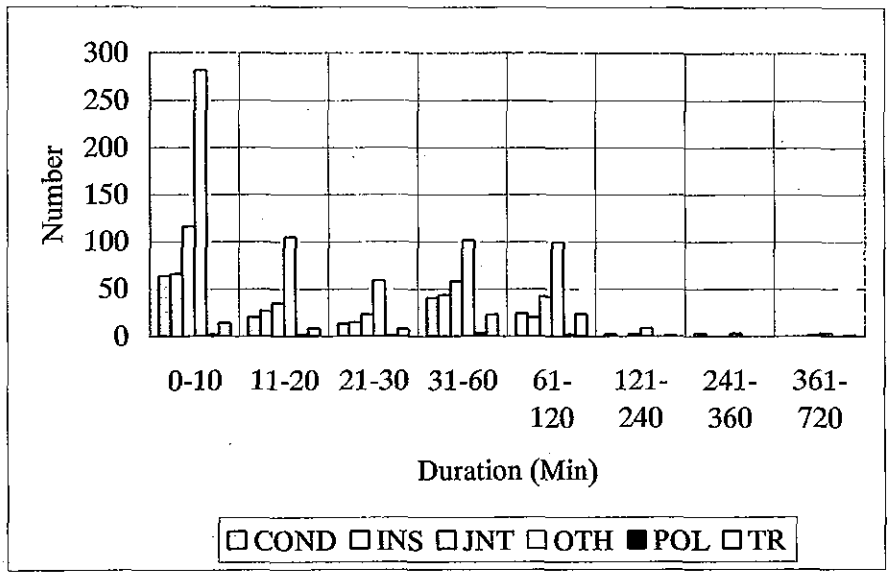
Record of 11 kV protective Relay operation

	COND	INS	JNT	OTH	POL	TR
OC	32	29	62	94	2	18
OCG	69	77	106	155	5	23
OTH	17	8	14	51	0	15
UK(HT)	52	59	98	367	4	30



Distribution of outage time as per equipment

Duration(Min)	COND	INS	JNT	OTH	POL	TR
0-10	64	66	116	282	2	14
11-20	21	27	35	105	2	9
21-30	13	15	23	59	1	8
31-60	41	44	58	102	4	23
61-120	24	20	42	100	2	24
121-240	2	0	2	9	0	1
241-360	3	0	0	3	0	0
361-720	0	0	1	3	0	1
721-1440	0	0	0	0	0	0
>1440	0	0	0	0	0	0



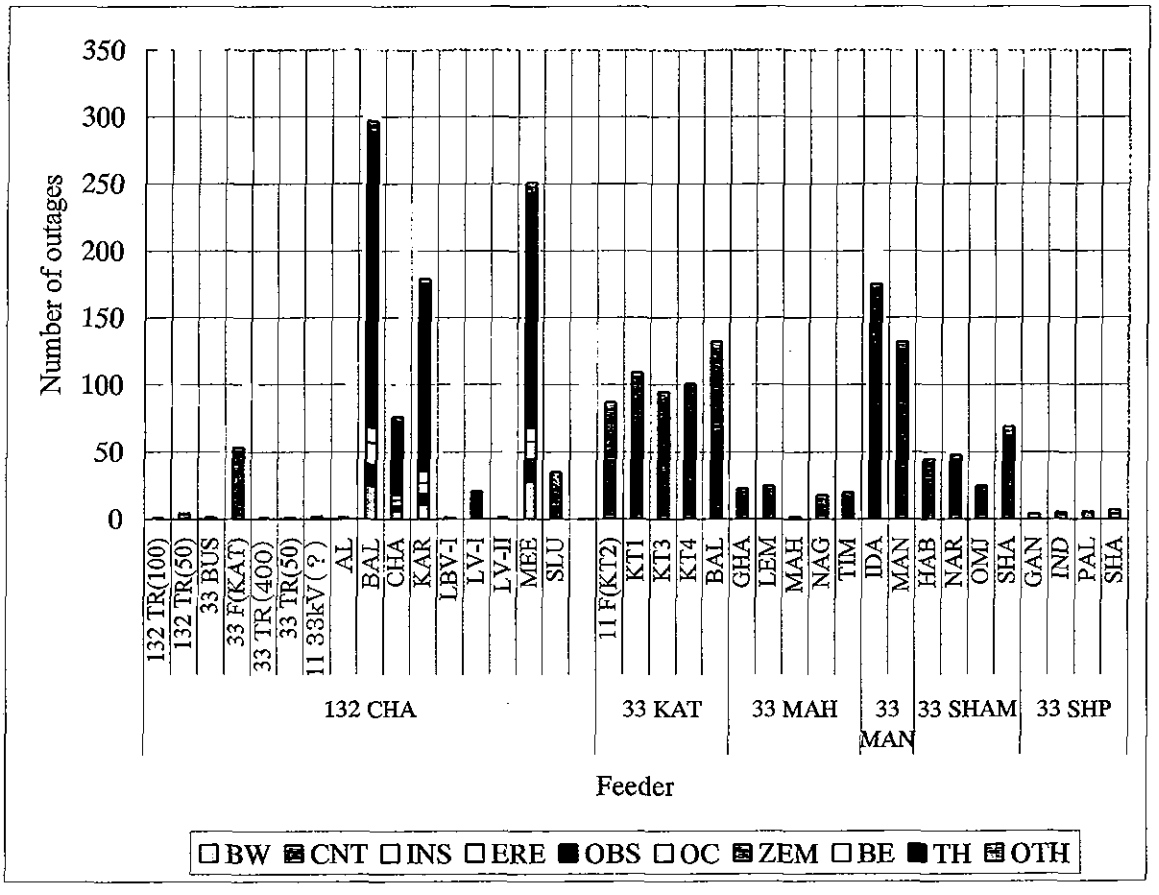
Code of Substation : RCHA

Summary of Ourtages (RCHA)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
132	CHA	132	TR(100)		1													1	18													18	
			TR(50)		4													4	71													71	
132	CHA	33	BUS		1													1	75													75	
			F(KAT)		54										8			46	4,054										1,236			2,818	
			TR(400)		1										1				531										531				
			TR(50)		1													1	24													24	
		11	33kV(?)		2						2								13						13								
			AL		1						1								5						5								
			BAL		297	25		16	16	11	220					1		8	5,185	832		83		426	3,798					3		43	
			CHA		76	6		4	4	4	54							4	863	135		18	73	16	546							75	
			KAR		179	11		8	8	9	138						1	4	2,554	66		174	47	52	2,027						5	183	
			LBV-I		1						1								2						2								
			LV-I		21			2			17							2	134			7			117							10	
			LV-II		1				1										5				5										
			MEE		251	28		17	13	10	173	1					1	8	2,606	254		77	409	701	1,101	5					2	57	
			SLU		35	1		5	2	1								26	386	2		40	17	10								317	
				TTL	926														16,526														
33	KAT	11	F(KT2)	OIH	87										43			44	2,547										1,085			1,462	
			KT1		109										52			57	2,456										992			1,464	OTH incl. OCG
			KT3		95										35			60	2,319										975			1,344	OTH incl. OCG
			KT4		101										55			46	2,553										1,216			1,337	OTH incl. OCG
			BAL		132										69			63	4,151										2,004			2,147	OTH incl. OCG
				TTL	524														14,026														
33	MAH	11	GHA		23										7			16	2,583										870			1,713	OTH incl. OCG
			LEM		25										16			9	2,115										1,065			1,050	OTH incl. OCG
			MAH		2													2	270													270	
			NAG		18										10			8	2,007										1,027			980	
			TIM		20										9			11	2,480										1,020			1,460	OTH incl. OCG
				TTL	88														9,455														
33	MAN	11	IDA		175										60			115	4,895										3,875			1,020	OTH incl. OCG
			MAN		132										37			95	5,579										1,865			3,714	OTH incl. OCG
				TTL	307														10,474														
33	SHAM	11	HAB		45										29			16	5,582										1,999			3,583	
			NAR		48										39			9	4,192										3,044			1,148	
			OMJ		25										24			1	2,082										1,962			120	
			SHA		69										62			7	4,637										3,591			1,046	
				TTL	187														16,493														
33	SHP	11	GAN		4										4				215										215				
			IND		5										4			1	468										348			120	
			PAL		6										6				800										800				
			SHA		7										4			3	2,155										310			1,845	OTH incl. OCG
				TTL	22														3,638														

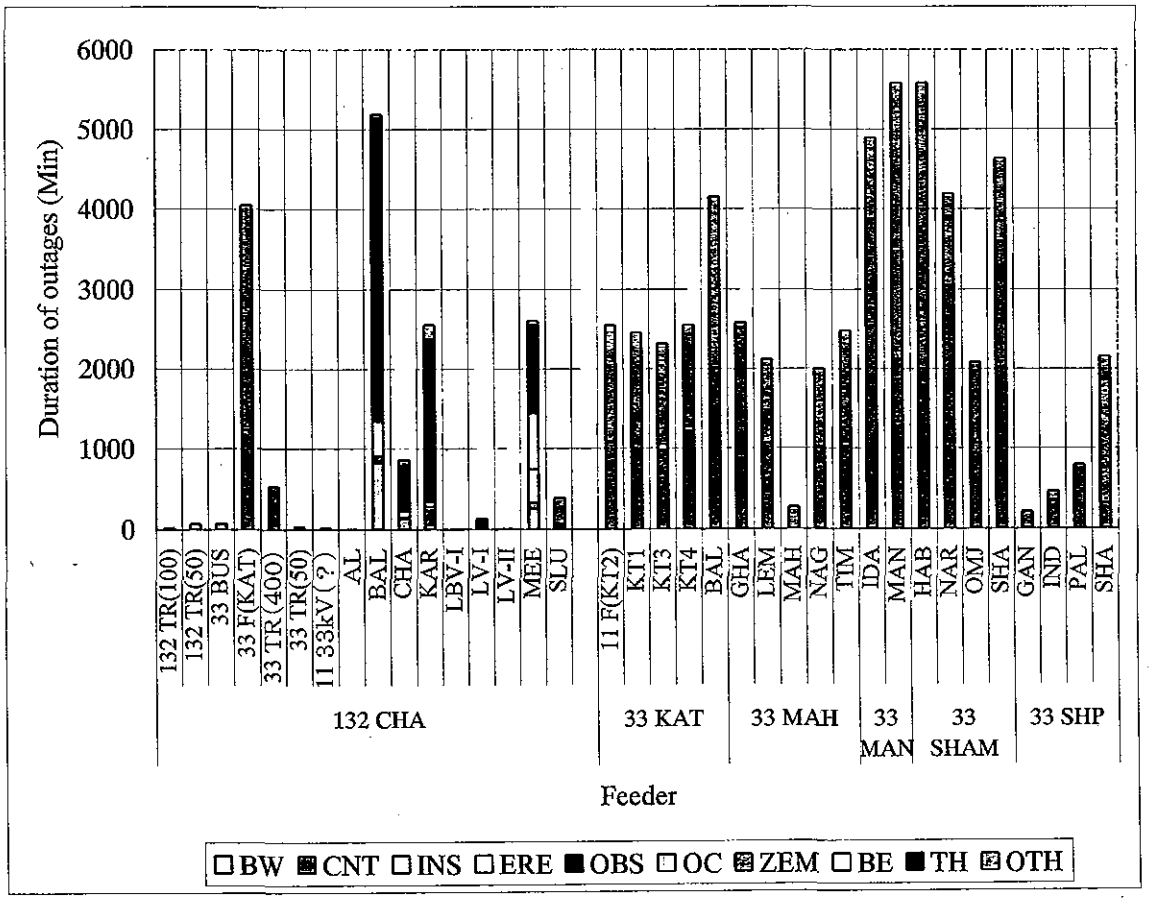
Number of Outages (RCHA)

Substation	Feeder/equip.	BW	CNT	INS	ERE	OBS	OC	ZEM	BE	TH	OTH
132 CHA	132 TR(100)										1
	132 TR(50)										4
	33 BUS										1
	33 F(KAT)							8			46
	33 TR(400)							1			
	33 TR(50)										1
	11 33kV(?)					2					
	AL					1					
	BAL	25	16	16	11	220			1		8
	CHA	6	4	4	4	54					4
	KAR	11	8	8	9	138				1	4
	LBV-I					1					
	LV-I		2			17					2
	LV-II			1							
	MEE	28	17	13	10	173	1			1	8
	SLU	1	5	2	1						26
33 KAT	11 F(KT2)							43			44
	KT1							52			57
	KT3							35			60
	KT4							55			46
	BAL							69			63
33 MAH	GHA							7			16
	LEM							16			9
	MAH										2
	NAG							10			8
	TIM							9			11
33 MAN	IDA							60			115
	MAN							37			95
33 SHAM	HAB							29			16
	NAR							39			9
	OMJ							24			1
	SHA							62			7
33 SHP	GAN							4			
	IND							4			1
	PAL							6			
	SHA							4			3



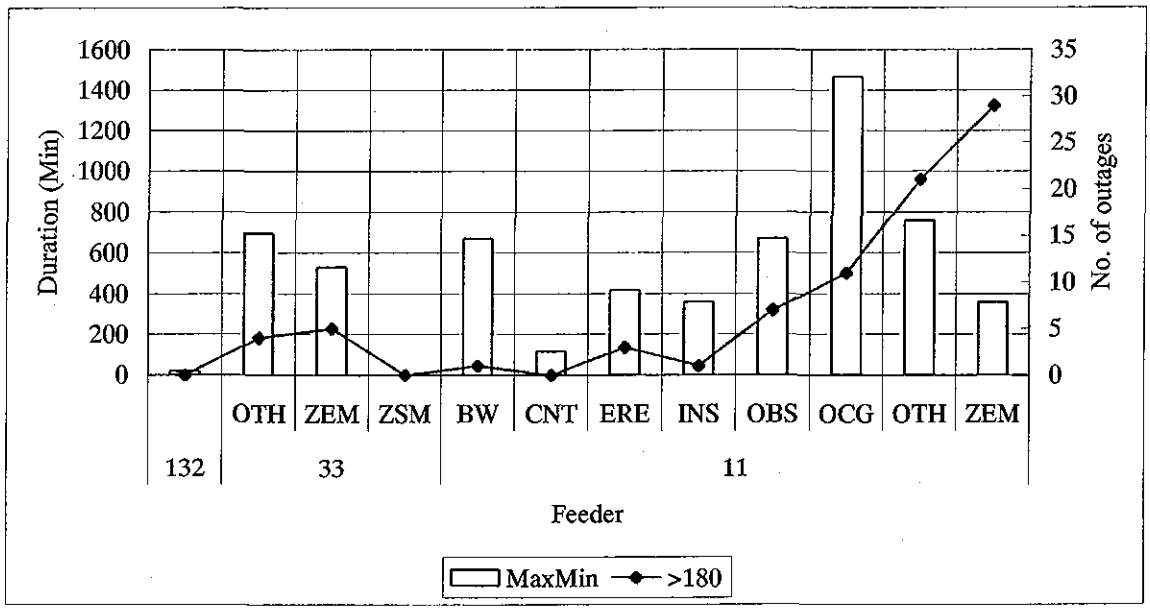
Duration of Outages (RCHA)

Substation	Feeder/equip.	BW	CNT	INS	ERE	OBS	OC	ZEM	BE	TH	OTH
132 CHA	132 TR(100)										18
	132 TR(50)										71
	33 BUS										75
	33 F(KAT)							1236			2818
	33 TR(400)							531			
	33 TR(50)										24
	11 33kV(?)					13					
	AL					5					
	BAL	832	83		426	3798			3		43
	CHA	135	18	73	16	546					75
	KAR	66	174	47	52	2027				5	183
	LBV-I					2					
	LV-I		7			117					10
	LV-II			5							
	MEE	254	77	409	701	1101	5			2	57
	SLU	2	40	17	10						317
33 KAT	11 F(KT2)							1085			1462
	KT1							992			1464
	KT3							975			1344
	KT4							1216			1337
	BAL							2004			2147
33 MAH	GHA							870			1713
	LEM							1065			1050
	MAH										270
	NAG							1027			980
	TIM							1020			1460
33 MAN	IDA							3875			1020
	MAN							1865			3714
33 SHAM	HAB							1999			3583
	NAR							3044			1148
	OMJ							1962			120
	SHA							3591			1046
33 SHP	GAN							215			
	IND							348			120
	PAL							800			
	SHA							310			1845



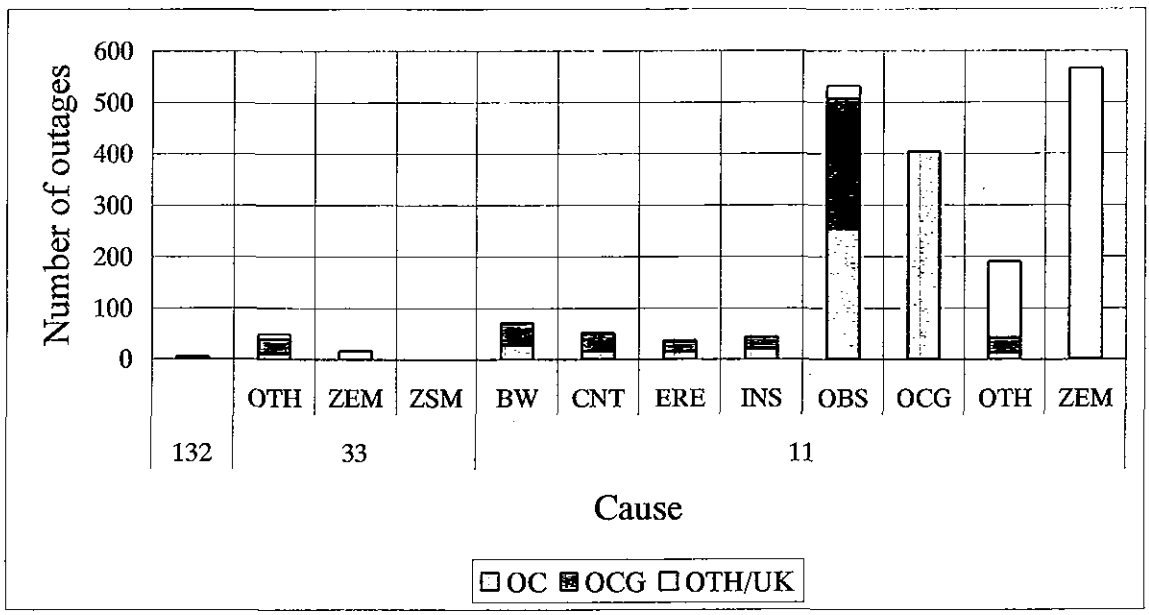
Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180)

	132kV	33kV			11kV							
		OTH	ZEM	ZSM	BW	CNT	ERE	INS	OBS	OCG	OTH	ZEM
MaxMin	20	696	531	0	670	116	420	360	670	1465	760	360
>180	0	4	5	0	1	0	3	1	7	11	21	29



Number of protective device operations as per cause of interruption

	132kV	33kV			11kV							
		OTH	ZEM	ZSM	BW	CNT	ERE	INS	OBS	OCG	OTH	ZEM
OC	0	12	0	0	28	16	15	21	254	404	13	0
OCG	0	28	0	0	42	34	20	23	253	0	30	2
OTH/UK	5	8	17	0	2	2	2	0	25	0	148	563



Code of Substation : RDHA

Summary of Outages (RDHA) (1/2)

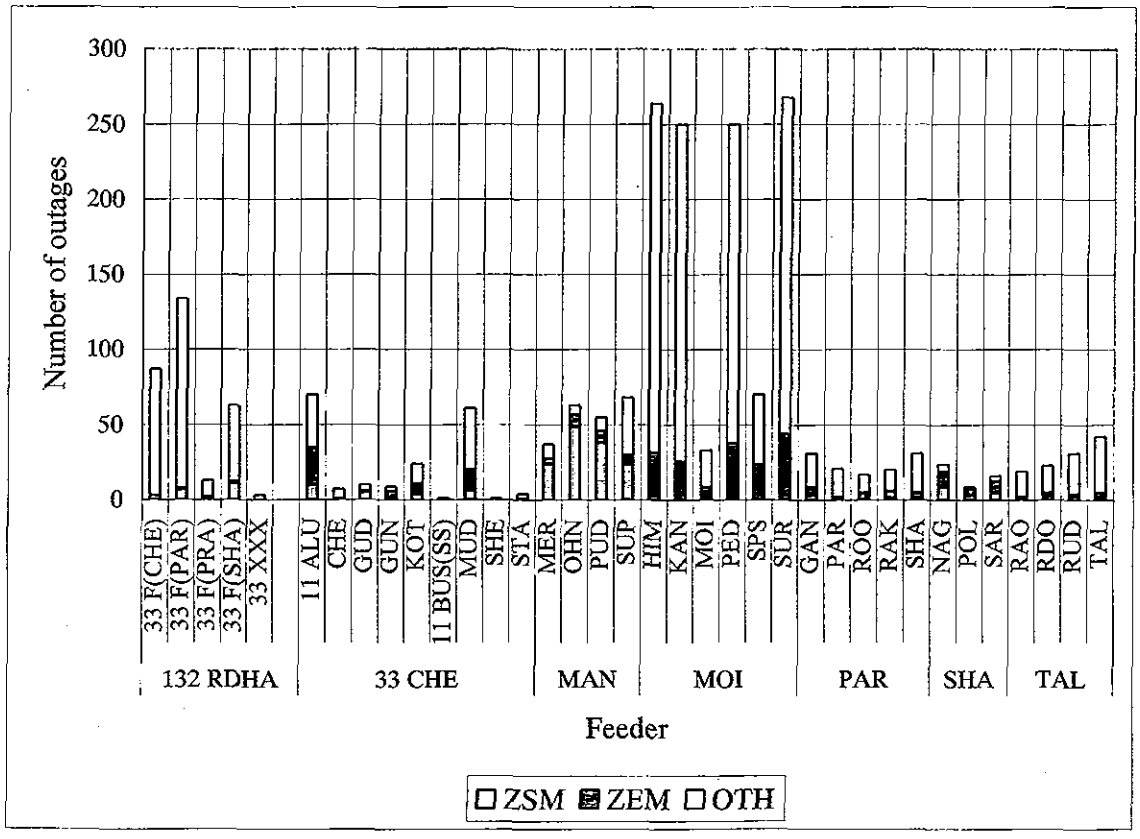
Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
132	RDHA	33	F(CHE)	JNT	1									1					80									40	40				
				OTH	86									2				84	684									50				634	
				TTL	87														0														
																			0														
			F(PAR)	JNT	3									3					65									65					
				OTH	131									4	1			126	1,459									280	190			989	
				TTL	134														2,288														
			F(PRA)		13										2			11											585			97	
			F(SHA)	JNT	1									1					307									307					
				OTH	62									10	1			51	2,497									1,956				541	
				TTL	63														2,804														
			xxx		3													3	10													10	
33	CHE	11	ALU	JNT	4													4	275													275	
				OTH	66									10	25			31	11,638									2,165	6,900			2,573	
				TTL	70														11,913														
			CHE		7										1			6	715										120			595	
			GUD	JNT	1													1	420													420	
				OTH	9									5	1			3	1,605									945	175			485	
				TTL	10														2,025														
			GUN	JNT	1													1	205													205	
				OTH	8										6			2	2,085										1,995			90	
				TTL	9														2,290														
			KOT	JNT	1													1	150													150	
				OTH	23									4	7			12	4,250									390	2,805			1,055	
				TTL	24														4,400														
			BUS(SS)		1													1	120													120	
			MUD	JNT	4									1				3	780									660				120	
				OTH	57									5	14			38	5,350									345	3,105			1,900	
				TTL	61														6,130														
			SHE		1									1					210									210					
			STA		4										1			3	300										60			240	
33	MAN	11	MER		37									24	4			9	3,239									1,265				1,974	
			OHN		63									49	8			6	9,342									7,935	1,295			112	
			PUD		55									38	8			9	8,049									3,735	2,454			1,860	

Summary of Outages (RDHA) (2/2)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
			SUP		68									24	6			38	2,652									1,057	1,260			335	
33	MOI	11	HIM		264										32			232	35,243										2,974			32,269	
			KAN		250										26			224	34,233										2,458			31,775	
			MOI		33										9			24	3,191										449			2,742	
			PED		250										38			212	33,300										4,310			28,990	
			SPS		70										24			46	6,110										1,265			4,845	
			SUR		268										44			224	35,168										3,988			31,180	
33	PAR	11	GAN		31									3	6			22	1,434									440	720			274	
			PAR		21										2			19	261										120			141	
			ROO		17										5			12	431										364			67	
			RAK		20									1	5			14	764									180	425			159	
			SHA		31									1	4			26	942									120	420			402	
33	SHA	11	NAG		24									9	10			5	8,945									4,910	3,740			295	
			POL		9									3	5			1	3,575									580	2,965			30	
			SAR		16									5	8			3	3,955									1,040	2,795			120	
33	TAL	11	RAO		19									1	1			17	284									160	60			64	
			RDO		23									2	3			18	399									180	120			99	
			RUD		31									2	2			27	574									240	180			154	
			TAL		42									2	3			37	568									180	210			178	

Number of Outages (RDHA)

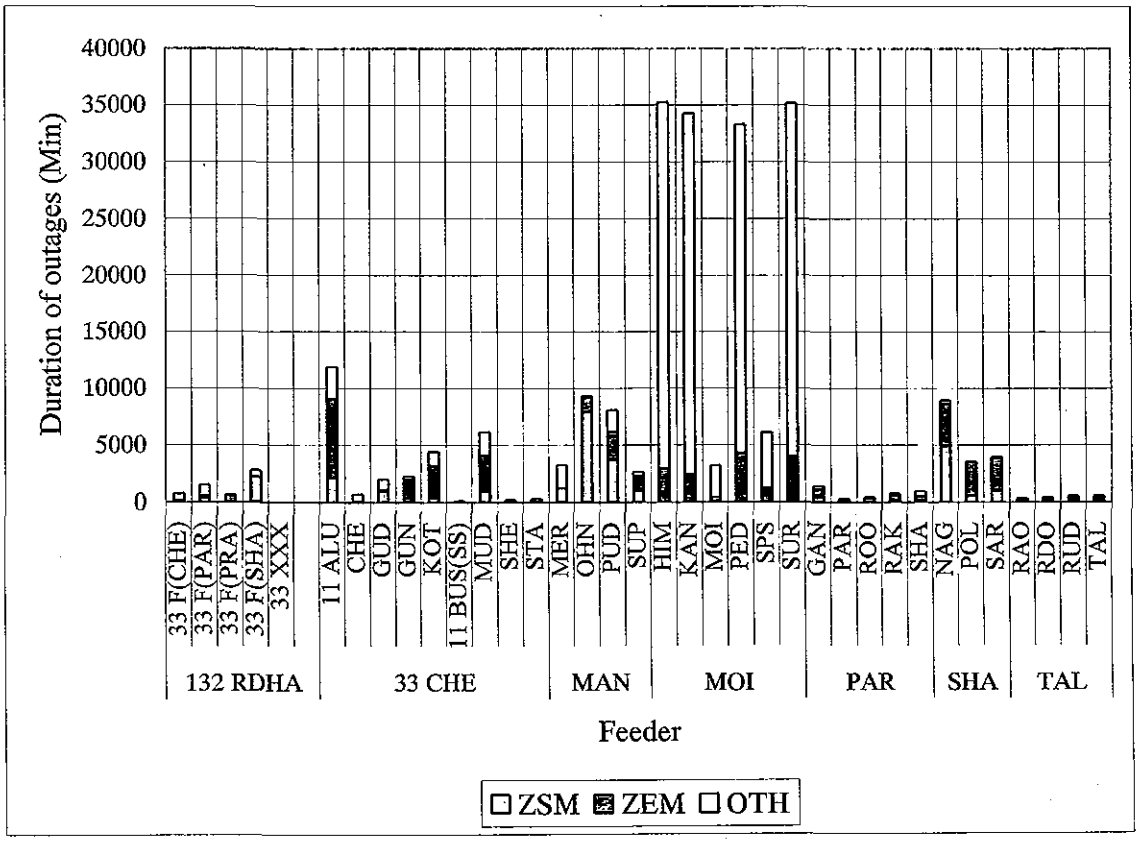
Substation	Feeder/equip.	ZSM	ZEM	OTH
132 RDHA	33 F(CHE)	3		84
	33 F(PAR)	7	1	126
	33 F(PRA)		2	11
	33 F(SHA)	11	1	51
	33 XXX			3
33 CHE	11 ALU	10	25	35
	CHE		1	6
	GUD	5	1	4
	GUN		6	3
	KOT	4	7	13
	11 BUS(SS)			1
	MUD	6	14	41
	SHE	1		
	STA		1	3
MAN	MER	24	4	9
	OHN	49	8	6
	PUD	38	8	9
	SUP	24	6	38
MOI	HIM		32	232
	KAN		26	224
	MOI		9	24
	PED		38	212
	SPS		24	46
	SUR		44	224
PAR	GAN	3	6	22
	PAR		2	19
	ROO		5	12
	RAK	1	5	14
	SHA	1	4	26
SHA	NAG	9	10	5
	POL	3	5	1
	SAR	5	8	3
TAL	RAO	1	1	17
	RDO	2	3	18
	RUD	2	2	27
	TAL	2	3	37



Duration of Outages (RDHA)

Unit : Minutes

Substation	Feeder/equip.	ZSM	ZEM	OTH
132 RDHA	33 F(CHE)	90	40	634
	33 F(PAR)	345	190	989
	33 F(PRA)		585	97
	33 F(SHA)	2263		541
	33 XXX			10
33 CHE	11 ALU	2165	6900	2848
	CHE		120	595
	GUD	945	175	905
	GUN		1995	295
	KOT	390	2805	1205
	11 BUS(SS)			120
	MUD	1005	3105	2020
	SHE	210		
	STA		60	240
MAN	MER	1265		1974
	OHN	7935	1295	112
	PUD	3735	2454	1860
	SUP	1057	1260	335
MOI	HIM		2974	32269
	KAN		2458	31775
	MOI		449	2742
	PED		4310	28990
	SPS		1265	4845
	SUR		3988	31180
PAR	GAN	440	720	274
	PAR		120	141
	ROO		364	67
	RAK	180	425	159
	SHA	120	420	402
SHA	NAG	4910	3740	295
	POL	580	2965	30
	SAR	1040	2795	120
TAL	RAO	160	60	64
	RDO	180	120	99
	RUD	240	180	154
	TAL	180	210	178

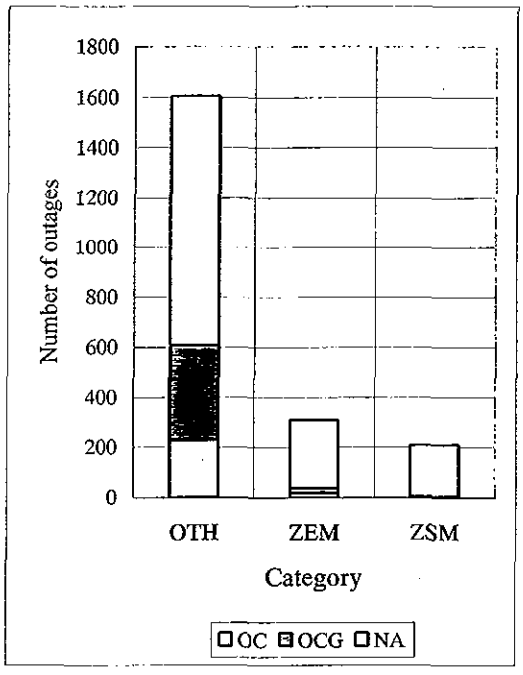


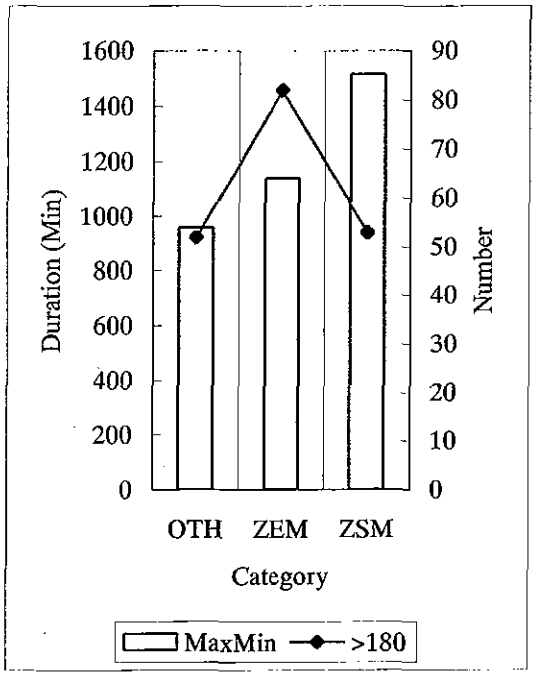
Number of protective device operations as per categories

	OTH	ZEM	ZSM
OC	230	18	4
OCG	380	19	0
NA	995	274	206

Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in RDHA system

	OTH	ZEM	ZSM
MaxMin	960	1140	1515
>180	52	82	53





Code of Substation : RIBR

Summary of Outages (RIBR) (1/5)

Substation		Feeder/equipment troubled			Number of Interruption												Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	OTH	
33	BOD	11	BOD	TR	9											9	180											180	
				OTH	86											86	1,052											1,052	
				JNT	28											28	332											332	
				INS	31				31								436				436								
				COND	4						4						48						48						
				TTL	158												2,048												
		11	YEL	POL	4	4											220	220											
				OTH	72											72	833											833	
				JNT	31											31	239											239	
				INS	41			4	37								426			48	378								
				COND	10						10						100						100						
				TTL	158												1,818												
33	DAN	11	DAN	TR	12											12	168											168	
				OTH	37											37	594											594	
				JNT	12											12	128											128	
				INS	55				55								919				919								
				TTL	116												1,809												
		11	MUK	OTH	34											34	413											413	
				JNT	8											8	160											160	
				INS	33				33								564				564								
				TTL	75												1,137												
		11	NER	TR	3											3	36											36	
				OTH	67											67	900											900	
				JNT	12											12	60											60	
				INS	43		4		39								532		128		404								
				COND	8						8						96						96						
				TTL	133												1,624												
33	IBR	11	ELM	OTH	32											32	520											520	
				JNT	5											5	100											100	
				INS	4		4										280		280										
				COND	16						16						128						128						
				TTL	57												1,028												
		11	IBA	TR	5											5	350											350	
				OTH	47					4						43	590					80						510	
				JNT	9											9	120											120	
				INS	69		4	8	53						4		1,304		140	120	784						260		
				COND	4						4						84						84						
				TTL	134												2,448												

Summary of Outages (RIBR) (2/5)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM		OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM		OTH	
33	IBR	11	RAP	TR	4												4	48												48	
				OTH	57					8							49	897					112							785	
				JNT	24												24	260												260	
				INS	46			14	32									550			263	287									
				COND	4	4												180	180												
				TTL	135													1,935													
		11	SHE	OTH	13												13	146												146	
				JNT	9												9	85												85	
				INS	64				50						14			1,761				851						910			
				COND	4	4												180	180												
				TTL	90													2,172													
33	KAN	11	BAC	OTH	49												49	633												633	
				JNT	32												32	312												312	
				INS	25				25									214				214									
				TTL	106													1,159													
		11	GUD	OTH	24					4							20	408					68							340	
				JNT	16												16	160												160	
				INS	20			4	16									300			84	216									
				TTL	60													868													
		11	KAN	OTH	20					8							12	280					160							120	
				JNT	8												8	40												40	
				INS	33				33									414				414									
				COND	8						8							80						80							
				TTL	69													814													
		11	MUC	TR	4												4	88												88	
				POL	8	8												560	560												
				OTH	33					4							29	419					68							351	
				INS	33				33									412				412									
				COND	12						12							132						132							
				TTL	90													1,611													
		11	NED	TR	4												4	48												48	
				OTH	116					24							92	1,620					408							1,212	
				JNT	25												25	252												252	
				INS	76				76									1,219				1,219									
				TTL	221													3,139													
		11	PUL	TR	7												7	69												69	
				OTH	25												25	430												430	
				JNT	16												16	210												210	
				INS	8				8									128				128									
				COND	8						8							168						168							
				TTL	64													1,005													

Summary of Outages (RIBR) (3/5)

Substation		Feeder/equipment troubled			Number of Interruption												Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM	OTH	
33	MAL	11	KOT	TR	8											8	32											32	
				OTH	58											58	1,056											1,056	
				JNT	30											30	399											399	
				INS	44				36						8		935				415						520		
				COND	16	4					12						340	220					120						
				TTL	156												2,762												
		11	MAL	OTH	34											34	347											347	
				JNT	49				41							8	898				754							144	
				COND	12	4					8						252	180										72	
				TTL	95												1,497												
			NAL	OTH	51					4						47	805					80						725	
				JNT	17											17	145											145	
				INS	33			4	29								684			68	616								
				COND	22	5					17						395	225					170						
				TTL	123												2,029												
33	MAN	11	ARU	TR	4											4	60											60	
				OTH	31					8						23	483					136						347	
				JNT	9											9	144											144	
				INS	25				25								404				404								
				TTL	69												1,091												
		11	JAP	OTH	28					4						24	580					68						512	
				JNT	9											9	45											45	
				INS	49		4		45								944		180		764								
				TTL	86												1,569												
		11	MAN	TR	3											3	15											15	
				OTH	16											16	200											200	
				JNT	8											8	88											88	
				INS	38			4	25						9		1,263			60	348						855		
				TTL	65												1,566												
		11	MOM	TR	3											3	24											24	
				OTH	31					3						28	439					51						388	
				JNT	33											33	309											309	
				INS	32		4	4	24								476		180	20	276								
				COND	12						12						132						132						
				TTL	111												1,380												
		11	TAL	TR	12											12	180											180	
				OTH	40											40	524											524	
				JNT	10											10	57											57	
				INS	80			4	76								1,229			60	1,169								
				TTL	142												1,990												

Summary of Outages (RIBR) (4/5)

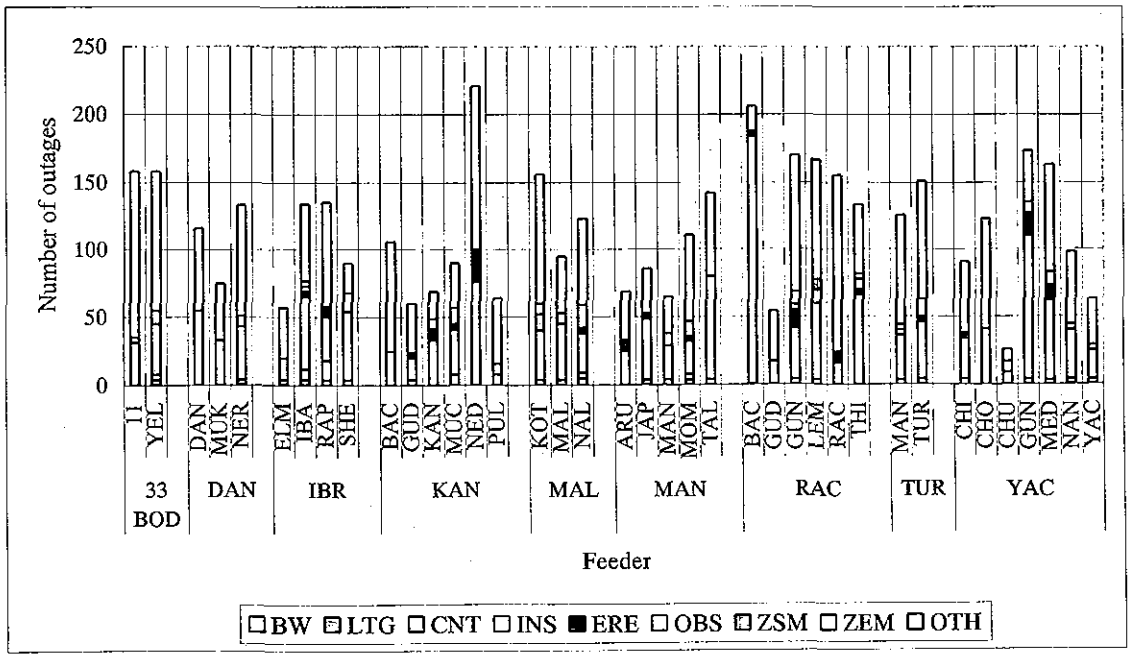
Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM			OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM			OTH	
33	RAC	11	BAC	OTH	12					4								8	180					56								124	
				JNT	10													10	110													110	
				INS	184				184										184				184									
				TTL	206														474													
		11	GUD	OTH	29													29	478													478	
				JNT	8													8	100													100	
				INS	17				17										343				343									
				TTL	54														921													
		11	GUN	TR	16													16	280													280	
				OTH	74					13								61	851					221								630	
				JNT	24													24	464													464	
				INS	52			4	38						10				1,471			84	537						850			
				COND	4						4								40						40								
				TTL	170														3,106													
		11	LEM	OTH	48									8				40	1,010									520				490	
				JNT	49													49	333													333	
				INS	56				56										685				685									
				COND	14	4					10								230	180					50							
				TTL	167														2,258													
		11	RAC	TR	17													17	85													85	
				OTH	79					8								71	1,094					136								958	
				JNT	43													43	457													457	
				INS	16				16										214				214									
				TTL	155														1,850													
		11	THI	TR	3													3	60													60	
				OTH	30					4								26	508					68								440	
				JNT	22													22	234													234	
				INS	70				66						4				1,220				960						260			
				COND	8						8								168						168							
				TTL	133														2,190													
33	TUR	11	MAN	OTH	22													22	376													376	
				JNT	60													60	698													698	
				INS	40			3	33						4				660			30	370						260			
				COND	4						4								40						40							
				TTL	126														1,774													
		11	TUR	OTH	45					4								41	548					80								468	
				JNT	47													47	432													432	
				INS	55				42						13				1,497				652						845			
				COND	4	4													144	144												
				TTL	151														2,621													

Summary of Outages (RIBR) (5/5)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM			OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	PUB	WOK	ZSM	ZEM			OTH	
33	YAC	11	CHI	TR	9													9	288													288	
				OTH	44					4								40	496					68								428	
				INS	38			4	30									4	668			44	564									60	
				TTL	91														1,452														
		11	CHO	TR	8													8	72													72	
				OTH	40													40	744													744	
				JNT	34													34	424													424	
				INS	41				41										621				621									
				TTL	123														1,861														
		11	CHU	OTH	9													9	45													45	
				INS	9				9										270				270									
				COND	8						8								80						80							
				TTL	26														395														
		11	GUN	TR	9													9	180													180	
				OTH	46					17								29	579					206								373	
				INS	114				106						8				1,684				1,164						520			
				COND	4	4													140	140												
				TTL	173														2,583														
		11	MED	OTH	60					11								49	765					187								578	
				JNT	31													31	249													249	
				INS	62			3	59										826			45	781									
				COND	10						10								129						129							
				TTL	163														1,969														
		11	NAN	OTH	39													39	410													410	
				JNT	15													15	265													265	
				INS	36				36										508				508									
				COND	8	4					4								268	220					48							
				TTL	98														1,451														
		11	YAC	TR	4													4	80													80	
				POL	4	4													300	300												
				OTH	30													30	381													381	
				INS	21				21										299				299									
				COND	4						4								84						84							
				TTL	63														1,144														

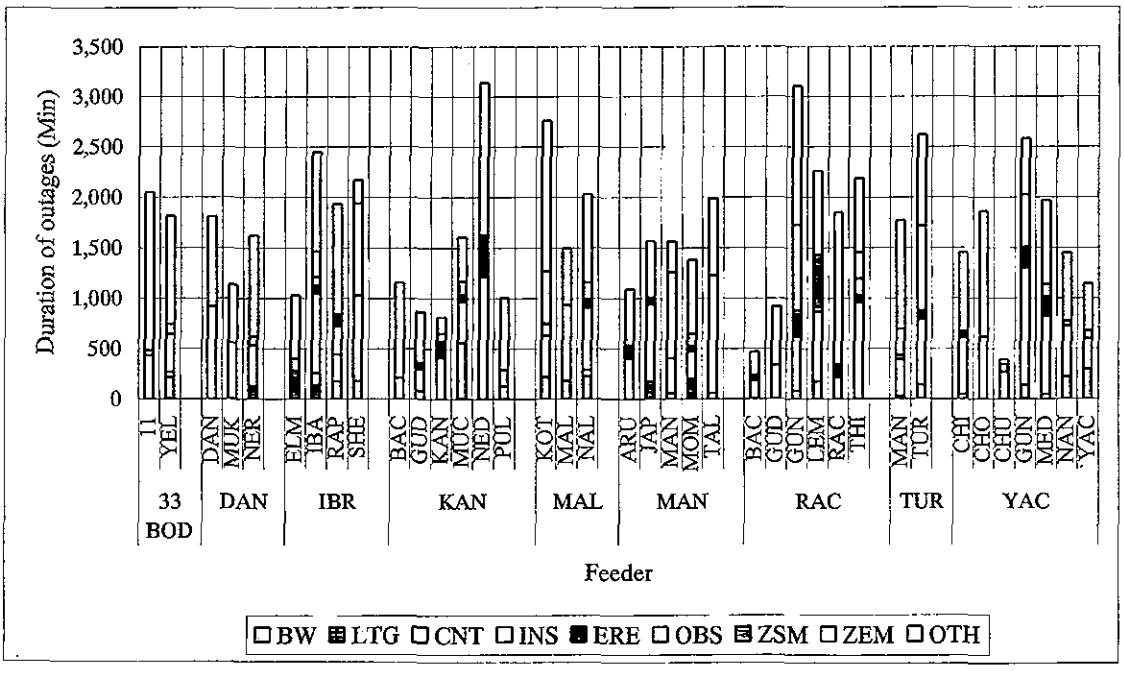
Number of Outages (RIBR)

		BW	LTG	CNT	INS	ERE	OBS	ZSM	ZEM	OTH	TTL
33 BOD	11 BOD	0	0	0	31	0	4	0	0	123	158
	YEL	4	0	4	37	0	10	0	0	103	158
DAN	DAN	0	0	0	55	0	0	0	0	61	116
	MUK	0	0	0	33	0	0	0	0	42	75
	NER	0	4	0	39	0	8	0	0	82	133
IBR	ELM	0	4	0	0	0	16	0	0	37	57
	IBA	0	4	8	53	4	4	0	4	57	134
	RAP	4	0	14	32	8	0	0	0	77	135
	SHE	4	0	0	50	0	0	0	14	22	90
KAN	BAC	0	0	0	25	0	0	0	0	81	106
	GUD	0	0	4	16	4	0	0	0	36	60
	KAN	0	0	0	33	8	8	0	0	20	69
	MUC	8	0	0	33	4	12	0	0	33	90
	NED	0	0	0	76	24	0	0	0	121	221
	PUL	0	0	0	8	0	8	0	0	48	64
MAL	KOT	4	0	0	36	0	12	0	8	96	156
	MAL	4	0	0	41	0	8	0	0	42	95
	NAL	5	0	4	29	4	17	0	0	64	123
MAN	ARU	0	0	0	25	8	0	0	0	36	69
	JAP	0	4	0	45	4	0	0	0	33	86
	MAN	0	0	4	25	0	0	0	9	27	65
	MOM	0	4	4	24	3	12	0	0	64	111
	TAL	0	0	4	76	0	0	0	0	62	142
RAC	BAC	0	0	0	184	4	0	0	0	18	206
	GUD	0	0	0	17	0	0	0	0	37	54
	GUN	0	0	4	38	13	4	0	10	101	170
	LEM	4	0	0	56	0	10	8	0	89	167
	RAC	0	0	0	16	8	0	0	0	131	155
	THI	0	0	0	66	4	8	0	4	51	133
TUR	MAN	0	0	3	33	0	4	0	4	82	126
	TUR	4	0	0	42	4	0	0	13	88	151
YAC	CHI	0	0	4	30	4	0	0	0	53	91
	CHO	0	0	0	41	0	0	0	0	82	123
	CHU	0	0	0	9	0	8	0	0	9	26
	GUN	4	0	0	106	17	0	0	8	38	173
	MED	0	0	3	59	11	10	0	0	80	163
	NAN	4	0	0	36	0	4	0	0	54	98
	YAC	4	0	0	21	0	4	0	0	34	63
		53	20	60	1,576	136	171	8	74	2,314	4,412



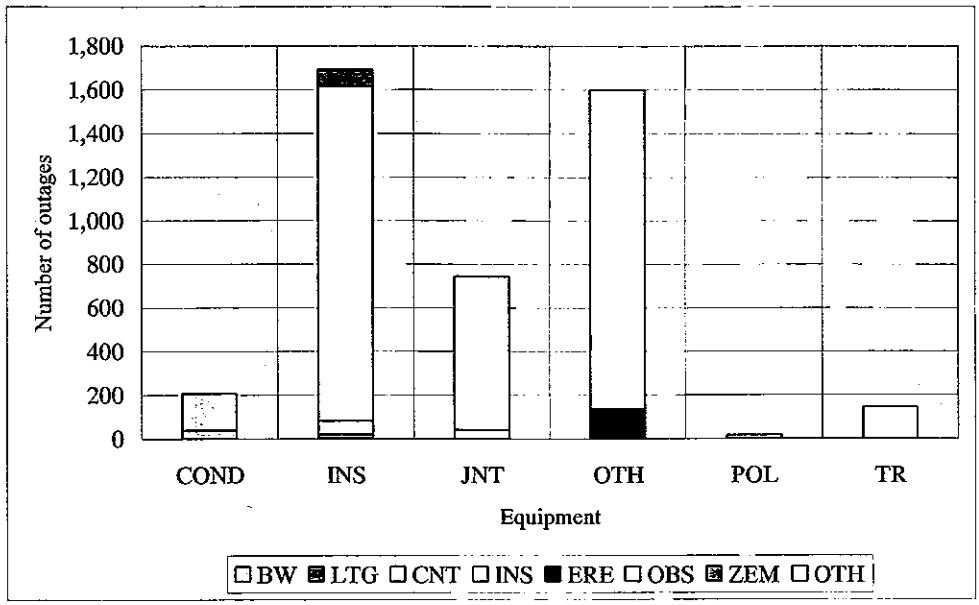
Duration of Outages (RIBR)

		BW	LTG	CNT	INS	ERE	OBS	ZSM	ZEM	OTH	TTL
33 BOD	11 BOD	0	0	0	436	0	48	0	0	1,564	2,048
	YEL	220	0	48	378	0	100	0	0	1,072	1,818
DAN	DAN	0	0	0	919	0	0	0	0	890	1,809
	MUK	0	0	0	564	0	0	0	0	573	1,137
	NER	0	128	0	404	0	96	0	0	996	1,624
IBR	ELM	0	280	0	0	0	128	0	0	620	1,028
	IBA	0	140	120	784	80	84	0	260	980	2,448
	RAP	180	0	263	287	112	0	0	0	1,093	1,935
	SHE	180	0	0	851	0	0	0	910	231	2,172
KAN	BAC	0	0	0	214	0	0	0	0	945	1,159
	GUD	0	0	84	216	68	0	0	0	500	868
	KAN	0	0	0	414	160	80	0	0	160	814
	MUC	560	0	0	412	68	132	0	0	439	1,611
	NED	0	0	0	1,219	408	0	0	0	1,512	3,139
	PUL	0	0	0	128	0	168	0	0	709	1,005
MAL	KOT	220	0	0	415	0	120	0	520	1,487	2,762
	MAL	180	0	0	754	0	0	0	0	563	1,497
	NAL	225	0	68	616	80	170	0	0	870	2,029
MAN	ARU	0	0	0	404	136	0	0	0	551	1,091
	JAP	0	180	0	764	68	0	0	0	557	1,569
	MAN	0	0	60	348	0	0	0	855	303	1,566
	MOM	0	180	20	276	51	132	0	0	721	1,380
	TAL	0	0	60	1,169	0	0	0	0	761	1,990
RAC	BAC	0	0	0	184	56	0	0	0	234	474
	GUD	0	0	0	343	0	0	0	0	578	921
	GUN	0	0	84	537	221	40	0	850	1,374	3,106
	LEM	180	0	0	685	0	50	520	0	823	2,258
	RAC	0	0	0	214	136	0	0	0	1,500	1,850
	THI	0	0	0	960	68	168	0	260	734	2,190
TUR	MAN	0	0	30	370	0	40	0	260	1,074	1,774
	TUR	144	0	0	652	80	0	0	845	900	2,621
YAC	CHI	0	0	44	564	68	0	0	0	776	1,452
	CHO	0	0	0	621	0	0	0	0	1,240	1,861
	CHU	0	0	0	270	0	80	0	0	45	395
	GUN	140	0	0	1,164	206	0	0	520	553	2,583
	MED	0	0	45	781	187	129	0	0	827	1,969
	NAN	220	0	0	508	0	48	0	0	675	1,451
	YAC	300	0	0	299	0	84	0	0	461	1,144
		2,749	908	926	20,124	2,253	1,897	520	5,280	29,891	64,548



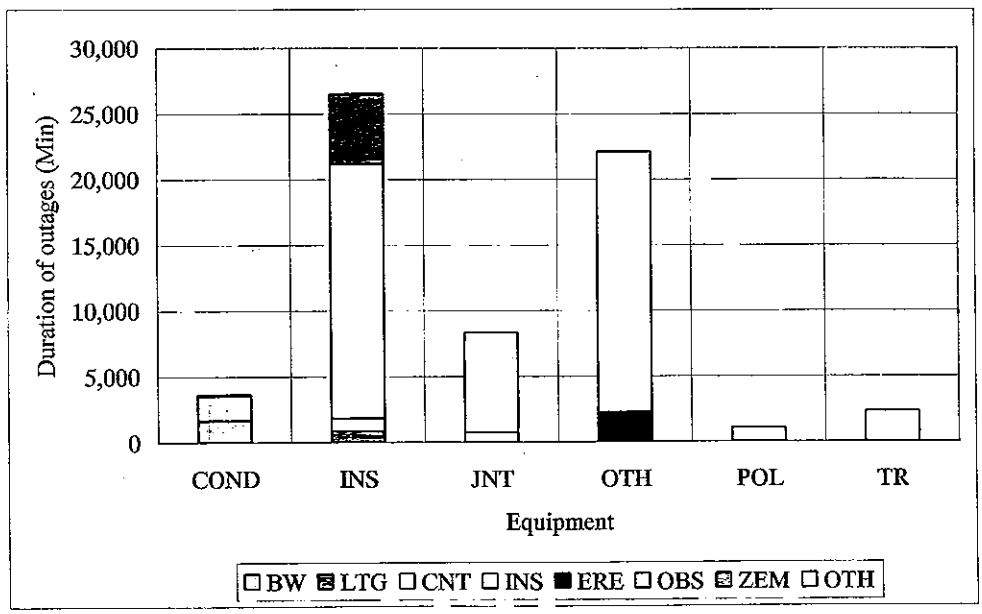
Number of Outages (RIBR)

	BW	LTG	CNT	INS	ERE	OBS	ZEM	OTH	TTL
COND	37	0	0	0	0	171	0	0	208
INS	0	20	60	1,535	0	0	74	4	1,693
JNT	0	0	0	41	0	0	0	702	743
OTH	0	0	0	0	136	0	0	1,464	1,608
POL	16	0	0	0	0	0	0	0	16
TR	0	0	0	0	0	0	0	144	144



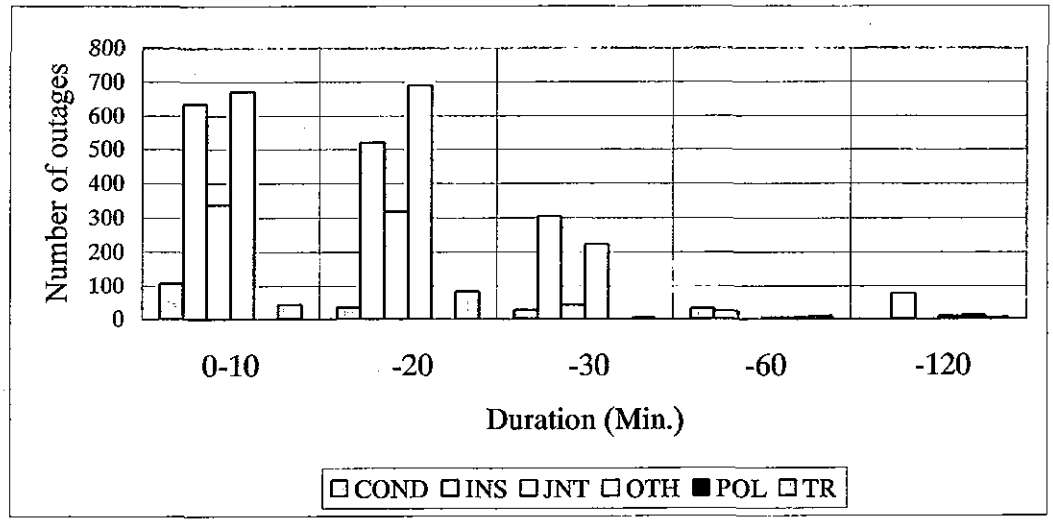
Duration of outages

	BW	LTG	CNT	INS	ERE	OBS	ZEM	OTH	TTL
COND	1,669	0	0	0	0	1,897	0	72	3,638
INS	0	908	926	19,370	0	0	5,280	60	26,544
JNT	0	0	0	754	0	0	0	7,555	8,309
OTH	0	0	0	0	2,253	0	0	19,861	22,634
POL	1,080	0	0	0	0	0	0	0	1,080
TR	0	0	0	0	0	0	0	2,343	2,343



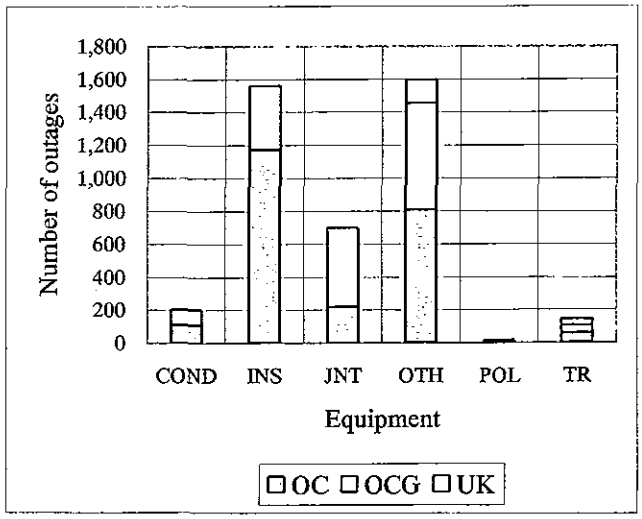
Distribution of Outage time as per Equipment

Duration (	COND	INS	JNT	OTH	POL	TR	TTL
0-10	108	635	340	672	0	43	1,798
-20	36	521	319	690	0	83	1,649
-30	27	304	42	224	0	4	601
-60	32	24	0	4	4	9	73
-120	0	78	0	8	12	4	102
TTL	203	1,562	701	1,598	16	143	4,223



Record of 11 kV protective relay operation

	OC	OCG	UK	TTL
COND	111	92	0	203
INS	1,174	388	0	1,562
JNT	220	481	0	701
OTH	812	645	141	1,598
POL	0	16	0	16
TR	61	46	36	143
TTL	2,378	1,668	177	4,223



Code of Substation : RPUT

Summary oy Outages (RPUT)

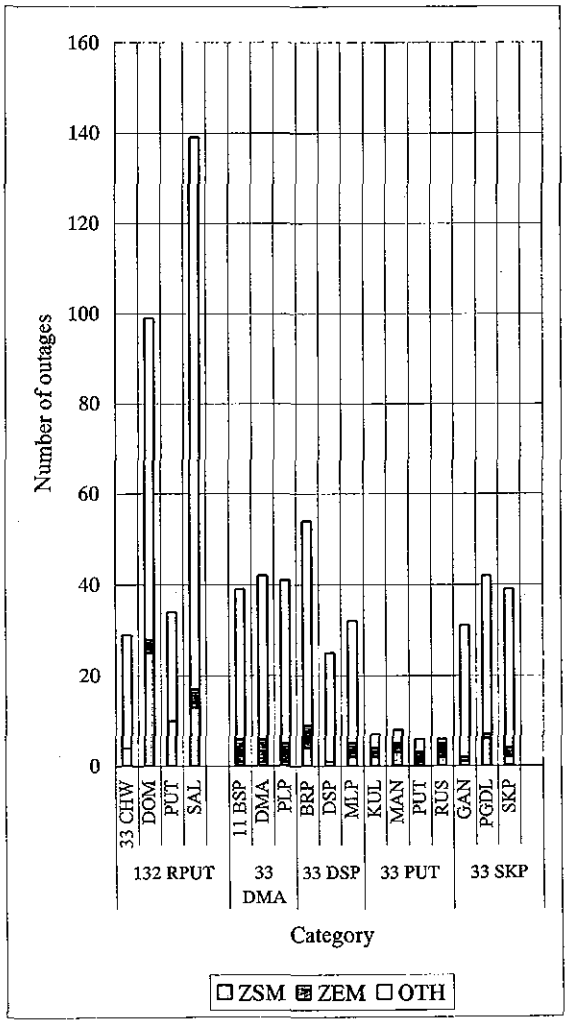
Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	LR	OC	OCG	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	LR	OC	OCG	ZSM	ZEM	BE	TH	OTH	
132	RPUT	33	CHW		29									4				25	684									315				369	
			DOM	TR	2									2					135									135					
			DOM	OTH	97									23	3			71	4,209									1,675	1,740			794	
			PUT	TR	2									2					370									370					
			PUT	OTH	32									8				24	1,180									835				345	
			SAL		139									13	4			122	4,743									1,310	1,615			1,818	
				TTL	301														11,321														
33	DMA	11	BSP		39										6			33	279										162			117	
			DMA		42										6			36	716										600			116	
			PLP		41										5			36	353										237			116	
				TTL	122														1,348														
33	DSP	11	BRP		54									4	5			45	1,128									384	250			494	
			DSP		25									1				24	310									120				190	
			MLP		32									2	3			27	433									160	101			172	
				TTL	111														1,871														
33	PUT	11	KUL		7									2	2			3	408									240	68			100	
			MAN		8									3	2			3	960									660	255			45	
			PUT		6										3			3	875										840			35	
			RUS		6									2	3			1	1,290									260	1,020			10	
				TTL	27														3,533														
33	SKP	11	GAN		31									1	1			29	252									60	30			162	
			PGDL		42									6	1			35	659									421	30			208	
			SKP		39									2	2			35	366									90	120			156	
				TTL	112														1,277														

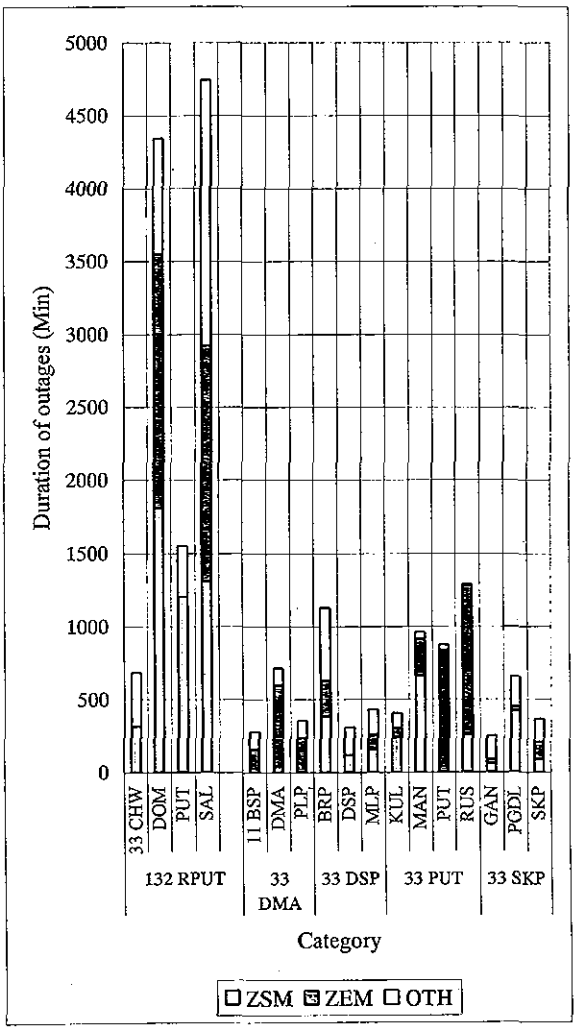
Number of Outages

		ZSM	ZEM	OTH
132 RPUT	33 CHW	4		25
	DOM	25	3	71
	PUT	10		24
	SAL	13	4	122
33 DMA	11 BSP		6	33
	DMA		6	36
	PLP		5	36
33 DSP	BRP	4	5	45
	DSP	1		24
	MLP	2	3	27
33 PUT	KUL	2	2	3
	MAN	3	2	3
	PUT		3	3
	RUS	2	3	1
33 SKP	GAN	1	1	29
	PGDL	6	1	35
	SKP	2	2	35

Duration of Outages

		ZSM	ZEM	OTH
132 RPUT	33 CHW	315		369
	DOM	1810	1740	794
	PUT	1205		345
	SAL	1310	1615	1818
33 DMA	11 BSP		162	117
	DMA		600	116
	PLP		237	116
33 DSP	BRP	384	250	494
	DSP	120		190
	MLP	160	101	172
33 PUT	KUL	240	68	100
	MAN	660	255	45
	PUT		840	35
	RUS	260	1020	10
33 SKP	GAN	60	30	162
	PGDL	421	30	208
	SKP	90	120	156





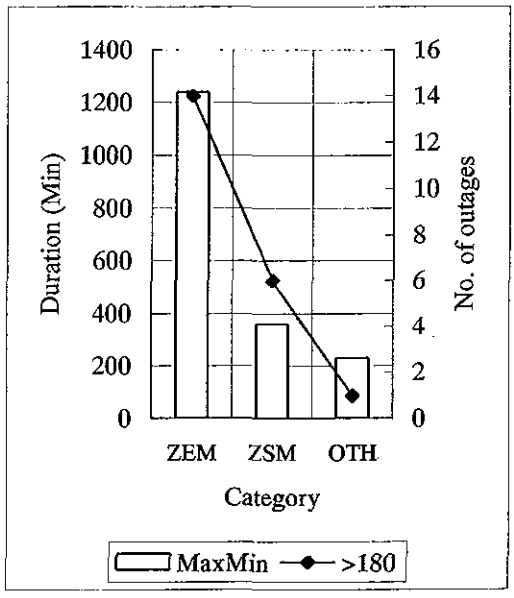
Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in RPUT system

	ZEM	ZSM	OTH
MaxMin	1240	360	230
>180	14	6	1

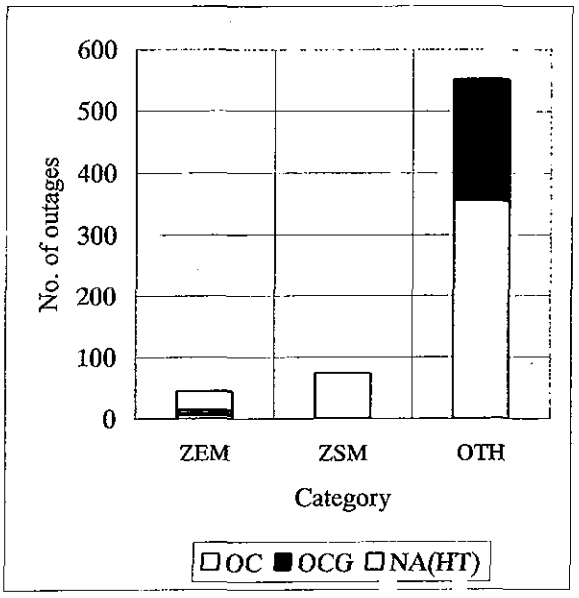
Number of protective device operations as per categories

	ZEM	ZSM	OTH
OC	5	1	356
OCG	10	0	196
NA(HT)	30	73	0

33+11 kV



33+11 kV



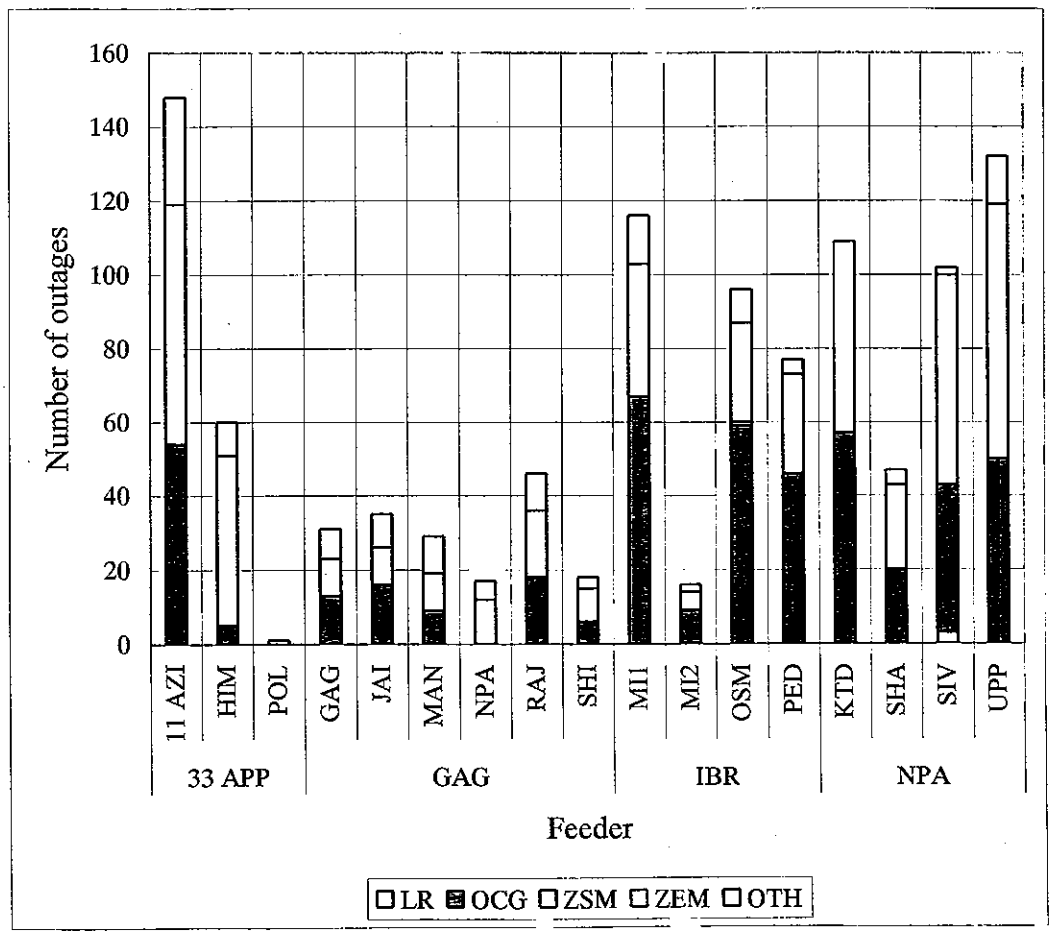
Code of Substation : RSHI

Summary of Outages (RSHI)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	LR	OC	OCG	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	LR	OC	OCG	ZSM	ZEM	BE	TH	OTH	
33	APP	11	AZI		148								54		65			29	10,977								2,385		5,849			2,743	
			HIM		60								5		46			9	3,665								95		2,425			1,145	
			POL		1										1				30										30				
				TTL	208														14,642														
33	GAG	11	GAG		31								13	10				8	150								72		43			35	
			JAI		35								16	10				9	1,033								192		362			479	
			MAN		29								9	10				10	636								176		155			305	
			NPA		17										12			5	419										169			250	
			RAJ		46								18		18			10	565								163		282			120	
			SHI		18								6		9			3	276								43		220			13	
					176														3,079														
33	IBR	11	MI1		116								67		36			13	5,955								2,391		2,089			1,475	
			MI2		16								9		5			2	901								239		105			557	
			OSM		96								59	1	27			9	4,124								1,634	35	1,705			750	
			PED		77								46		27			4	2,236								932		1,039			265	
				TTL	305														13,216														
33	NPA	11	KTD		109								57		52				2,456								1,464		992				
			SHA		47								20		23			4	0								0		0			0	
			SIV		102						3		40		57			2	2,429						270		802		1,076			281	
			UPP		132								50		69			13	4,151								1,312		2,004			835	
				TTL	390														9,036														

Number of Outages (RSHI)

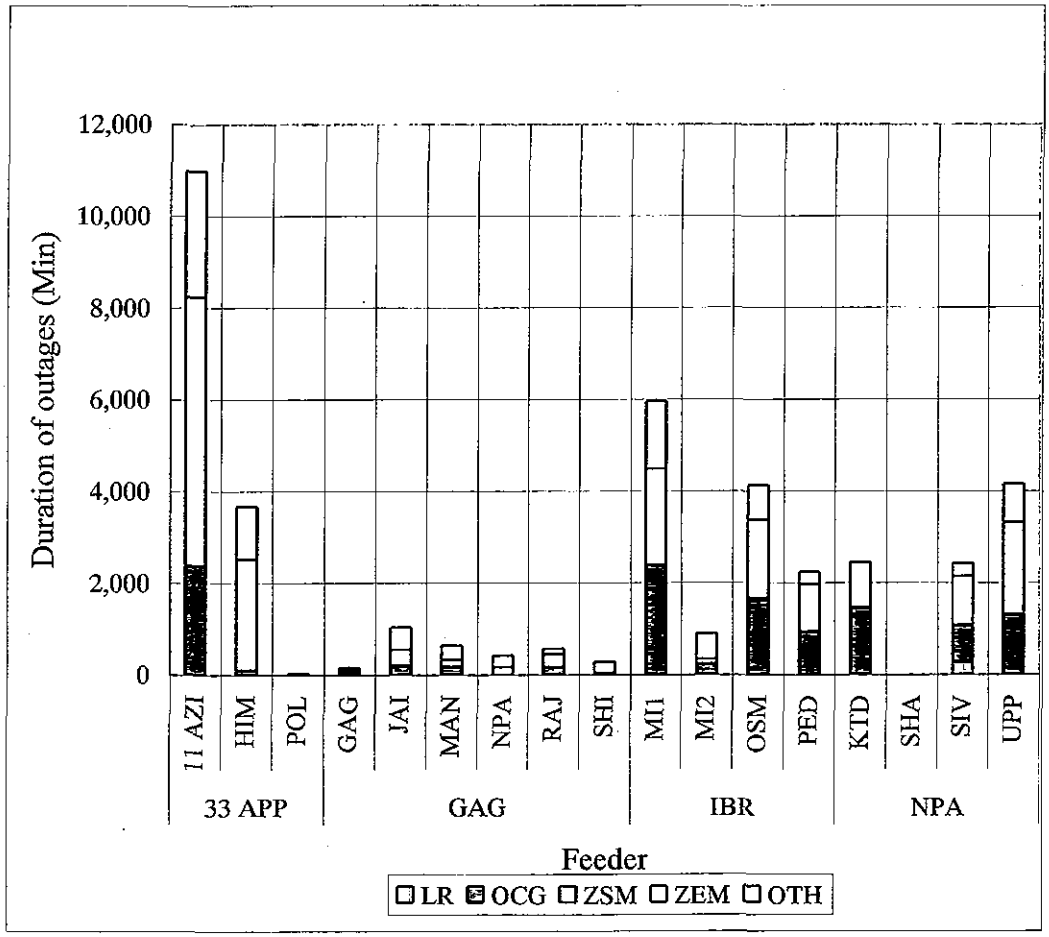
Substation	Feeder	LR	OCG	ZSM	ZEM	OTH
33 APP	11 AZI		54		65	29
	HIM		5		46	9
	POL				1	
GAG	GAG		13	10		8
	JAI		16	10		9
	MAN		9	10		10
	NPA				12	5
	RAJ		18		18	10
	SHI		6		9	3
IBR	MI1		67		36	13
	MI2		9		5	2
	OSM		59	1	27	9
	PED		46		27	4
NPA	KTD		57		52	
	SHA		20		23	4
	SIV	3	40		57	2
	UPP		50		69	13



Duration of Outages (RSHI)

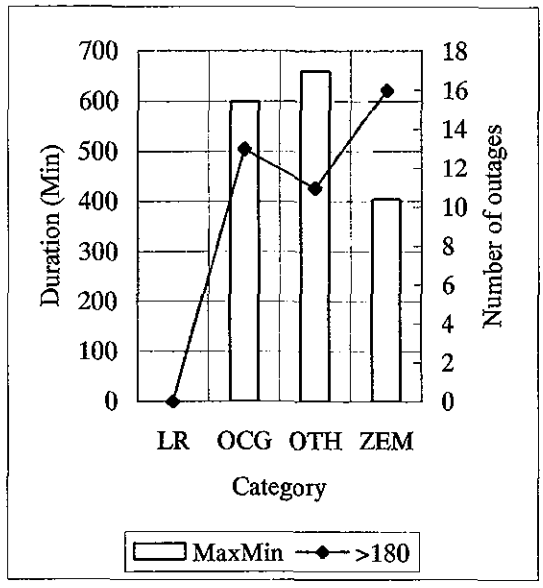
Duration of outages (Min) Unit : Min

Substation	Feeder	LR	OCG	ZSM	ZEM	OTH
33 APP	11 AZI		2,385		5,849	2,743
	HIM		95		2,425	1,145
	POL				30	
GAG	GAG		72		43	35
	JAI		192		362	479
	MAN		176		155	305
	NPA				169	250
	RAJ		163		282	120
	SHI		43		220	13
IBR	MI1		2,391		2,089	1,475
	MI2		239		105	557
	OSM		1,634	35	1,705	750
	PED		932		1,039	265
NPA	KTD		1,464		992	
	SHA		0		0	0
	SIV	270	802		1,076	281
	UPP		1,312		2,004	835



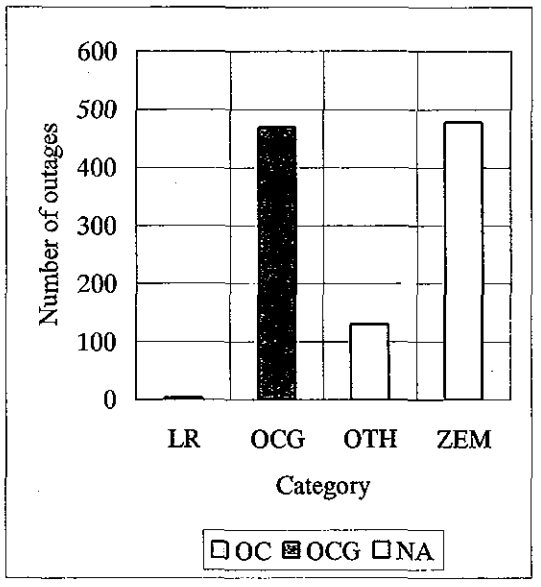
Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in RSHI system

	LR	OCG	OTH	ZEM
MaxMin	-	600	660	405
>180	-	13	11	16



Number of protective device operations as per categories

	LR	OCG	OTH	ZEM
OC	0	0	0	0
OCG	0	469	0	0
NA	3	0	130	478



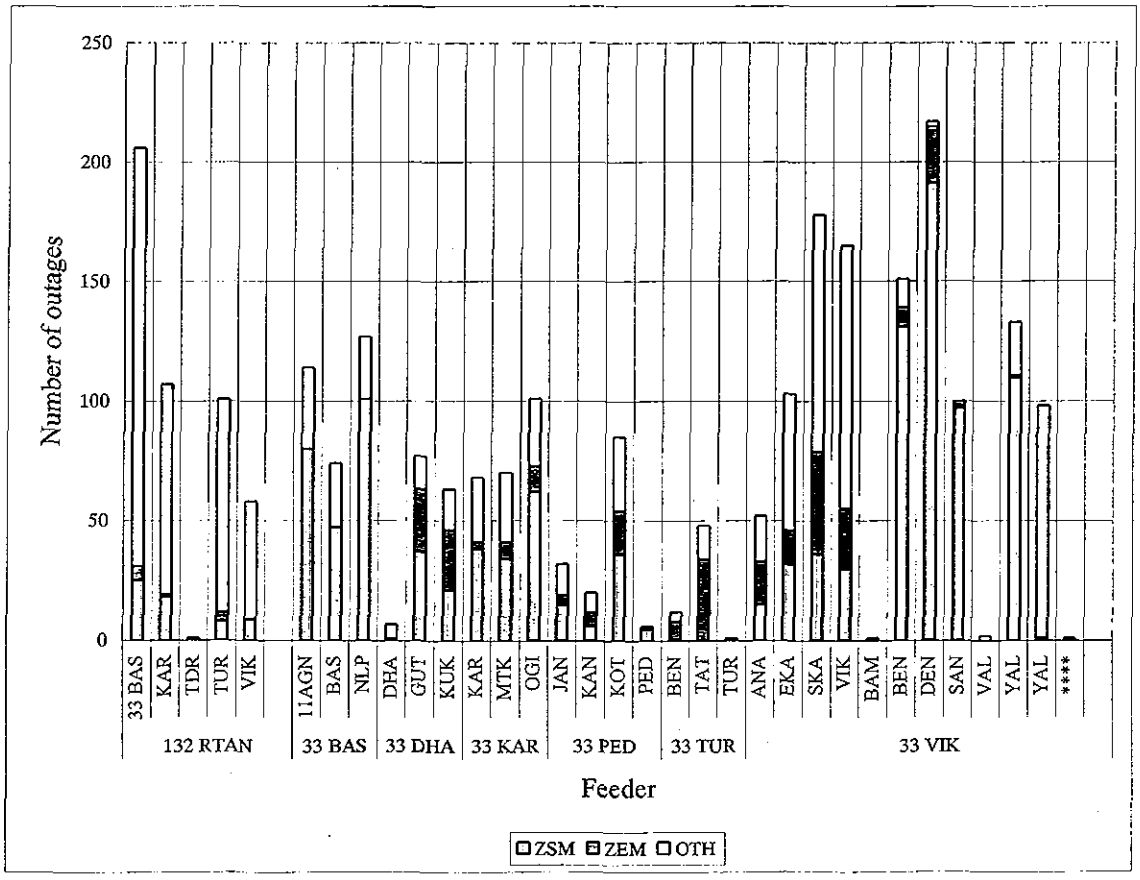
Code of Substation : RTAN

Summary of Outages (RTAN)

Substation		Feeder/equipment troubled			Number of Interruption													Duration of Interruption (Min)												Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
132	RTAN	33	BAS		206									25	6			175	8,822									4,055	440			4,327	
			KAR		107									18	1			88	6,137									3,220	230			2,687	
			TDR		1													1	10													10	
			TUR		101									8	4			89	3,084									1,070	405			1,609	
			VIK		58									9				49	3,850									3,175				675	
				TTL	473														21,903														
33	BAS	11	AGN		114									80				34	8,005									5,420				2,585	
			BAS		74									47				27	2,758									2,588				170	
			NLP		127									101				26	14,051									13,134				917	
				TTL	315														24,814														
33	DHA	11	DHA		7									1				6	58									30				28	
			GUT		77									37	26			14	15,863									4,965	10,452			446	
			KUK		63									21	25			17	14,531									3,885	10,360			286	RTAN1526 neglected
				TTL	147														30,452														
33	KAR	11	KAR		68									38	3			27	4,111									2,923	943			245	
			MTK		70									34	7			29	7,381									4,555	2,391			435	
			OGI		101									62	11			28	7,840									5,750	1,830			260	
				TTL	239														19,332														
33	PED	11	JAN		32									15	4			13	2,894									1,485	1,285			124	
			KAN		20									6	6			8	3,357									585	2,685			87	
			KOT		85									36	18			31	8,828									4,015	4,514			299	
			PED		6									5				1	430									300				130	
				TTL	143														15,509														
33	TUR	11	BEN		12										8			4	1,865										1,820			45	
			TAT		48										34			14	6,700										6,531			169	
			TUR		1									1					60									60					
				TTL	61														8,625														
33	VIK	11	ANA		52									15	18			19	4,451									1,875	2,175			401	
			EKA		103									32	14			57	7,761									4,085	3,150			526	
			SKA		178									36	43			99	11,899									2,775	7,880			1,244	
			VIK		165									30	25			110	6,034									3,069	2,090			875	
			BAM		1									1					110									110					
			BEN		151									131	8			12	9,797									7,312	2,355			130	+DEN
			DEN		217									191	24			2	30,970									18,340	12,605			25	
			SAN		100									97	3				11,155									9,210	1,945				
			VAL		2													2	15													15	+BEN,DEG,SAG
			YAL		133									110	1			22	8,709									8,433	180			96	
			YAL+		98										1			97	1,155										760			395	+SAG,DEN,Others
			****		1													1	5													5	
				TTL	1,201														92,061														

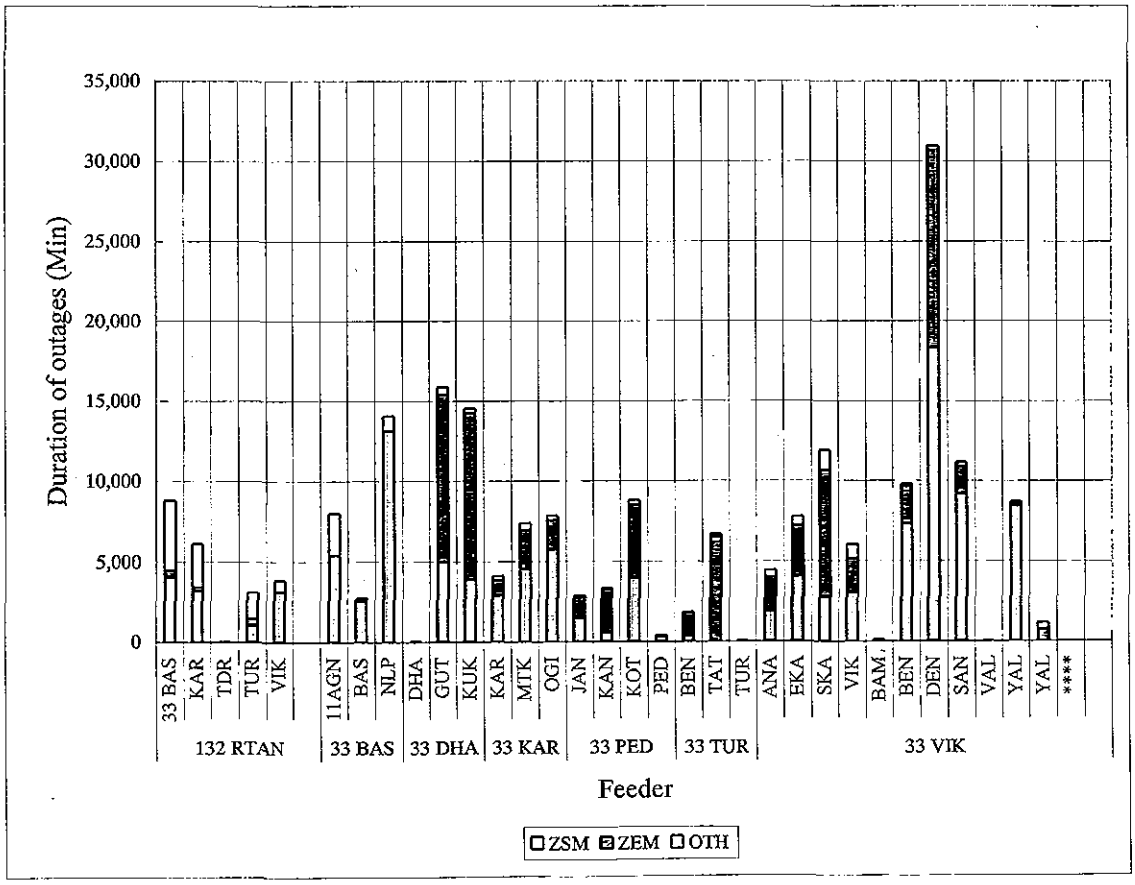
Number of Outages (RTAN)

Substation	Feeder	ZSM	ZEM	OTH
132 RTAN	33 BAS	25	6	175
	KAR	18	1	88
	TDR			1
	TUR	8	4	89
	VIK	9		49
33 BAS	11AGN	80		34
	BAS	47		27
	NLP	101		26
33 DHA	DHA	1		6
	GUT	37	26	14
	KUK	21	25	17
33 KAR	KAR	38	3	27
	MTK	34	7	29
	OGI	62	11	28
33 PED	JAN	15	4	13
	KAN	6	6	8
	KOT	36	18	31
	PED	5		1
33 TUR	BEN		8	4
	TAT		34	14
	TUR	1		
33 VIK	ANA	15	18	19
	EKA	32	14	57
	SKA	36	43	99
	VIK	30	25	110
	BAM	1		
	BEN	131	8	12
	DEN	191	24	2
	SAN	97	3	
	VAL			2
	YAL	110	1	22
	YAL		1	97
	****			1



Duration of Outages (RTAN)

Substation	Feeder	ZSM	ZEM	OTH
132 RTAN	33 BAS	4,055	440	4,327
	KAR	3,220	230	2,687
	TDR			10
	TUR	1,070	405	1,609
	VIK	3,175		675
33 BAS	11AGN	5,420		2,585
	BAS	2,588		170
	NLP	13,134		917
33 DHA	DHA	30		28
	GUT	4,965	10,452	446
	KUK	3,885	10,360	286
33 KAR	KAR	2,923	943	245
	MTK	4,555	2,391	435
	OGI	5,750	1,830	260
33 PED	JAN	1,485	1,285	124
	KAN	585	2,685	87
	KOT	4,015	4,514	299
	PED	300		130
33 TUR	BEN		1,820	45
	TAT		6,531	169
	TUR	60		
33 VIK	ANA	1,875	2,175	401
	EKA	4,085	3,150	526
	SKA	2,775	7,880	1,244
	VIK	3,069	2,090	875
	BAM	110		
	BEN	7,312	2,355	130
	DEN	18,340	12,605	25
	SAN	9,210	1,945	
	VAL			15
	YAL	8,433	180	96
	YAL		760	395
	****			5



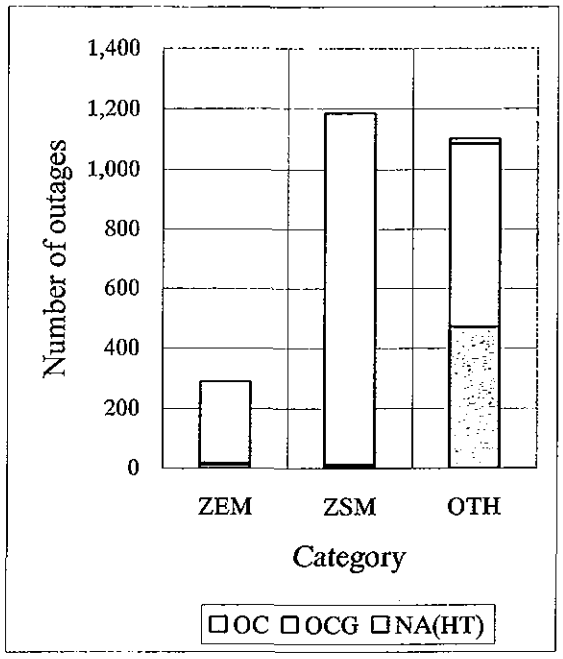
Number of protective device operations as per categories

	ZEM	ZSM	OTH
OC	11	9	473
OCG	7	2	612
NA(HT)	272	1,176	17

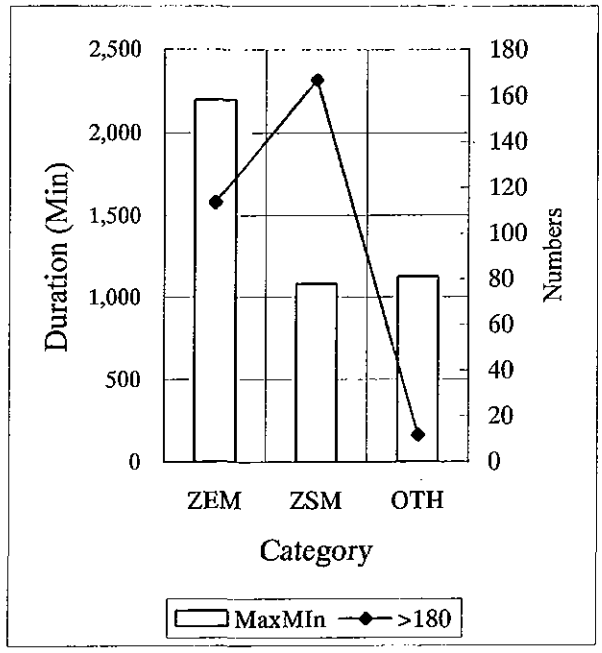
Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in RTAN system

	ZEM	ZSM	OTH
MaxMIn	2,200	1,080	1,125
>180	114	167	12

(33+11 kV)



(33+11 kV)



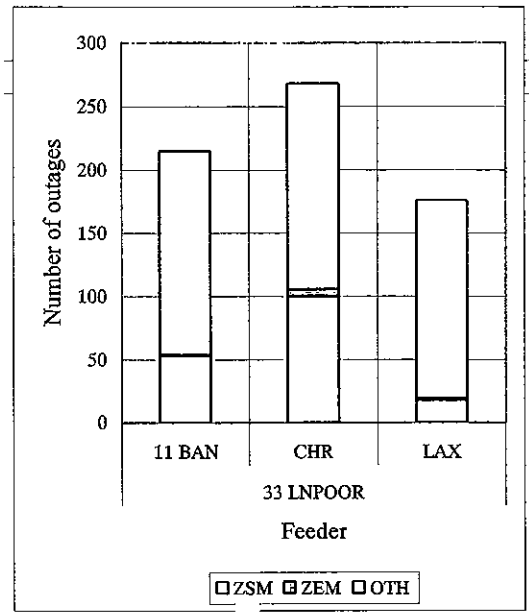
Code of Substation : ROTH

Summary of Outgaes (ROTH)

Substation		Feeder/equipment troubled			Number of Interruption														Duration of Interruption (Min)														Remarks
Voltage	Name	Voltage	Name	Equipment	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	TTL	BW	LTG	CNT	INS	ERE	OBS	OC	WOK	ZSM	ZEM	BE	TH	OTH	
33	LNPOOR	11	BAN		215									53	1			161	6,267									5,060	15			1,192	
			CHR		268									100	6			162	10,801									8,536	1,165			1,100	
			LAX		176									18	1			157	1,609									708	60			841	
				TTL	659														18,677														

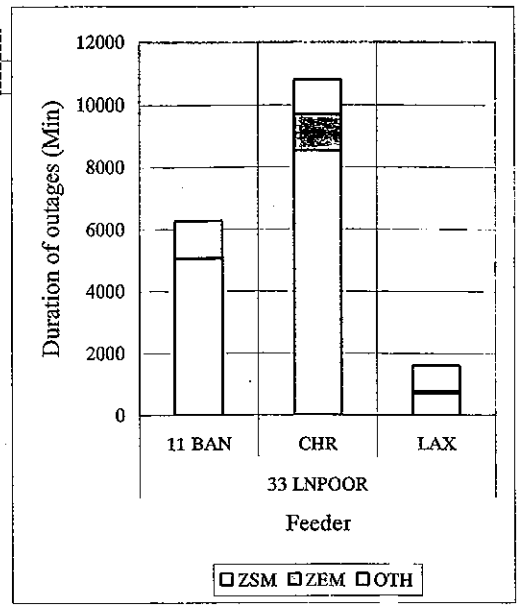
Number of Outages (ROTH)

Substation	Feeder	ZSM	ZEM	OTH
33 LNPOOR	11 BAN	53	1	161
	CHR	100	6	162
	LAX	18	1	157



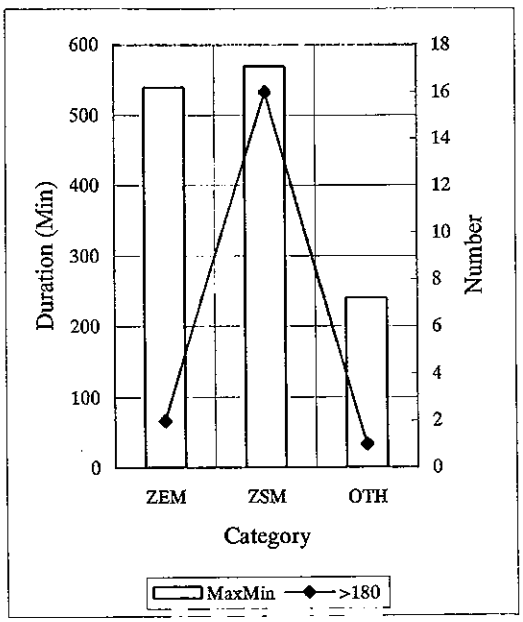
Duration of Outages (ROTH)

Substation	Feeder	ZSM	ZEM	OTH
33 LNPOOR	11 BAN	5060	15	1192
	CHR	8536	1165	1100
	LAX	708	60	841



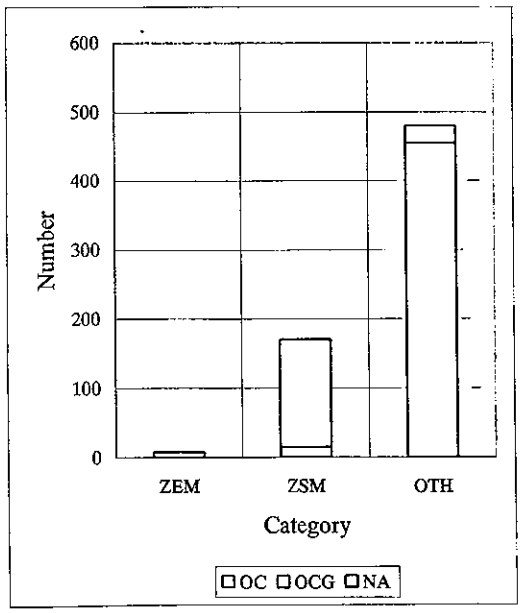
Maximum duration/event (MaxMin) and Number of outages more than 180 minutes (>180) in ROTH system

	ZEM	ZSM	OTH
MaxMin	540	570	240
>180	2	16	1



Number of protective device operations as per categories

	ZEM	ZSM	OTH
OC	0	0	0
OCG	0	15	455
NA	8	156	25



B. Medak District

Code of Substation : MAL (MKAN)

Summary of Outages (33/ 11 kV Malkapur)

Y	M	33 kV Incoming														Remarks
		E/L			O/L			L/R			L/C			Interruption			Total		
		Nos.	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos.	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4													15	508	315	15	508	
	5													2	15	8	2	15	
	6													2	8	5	2	8	
	7													32	3,384	120	32	3,384	
	8													36	3,946	120	36	3,946	
	9													33	4,093	180	33	4,093	
	10													60	8,260	210	60	8,260	
	11													58	7,320	150	58	7,320	
	12													61	7,225	125	61	7,225	
3	1													57	6,850	125	57	6,850	
	2													55	6,565	125	55	6,565	
	3													33	3,680	180	33	3,680	
TTL		0	0		0	0		0	0		0	0		444	51,854		444	51,854	

Y	M	11 kV MAL																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	8	44	7	0	0	0	30	10,500	360	1	240	240	0	0	0	39	10,784	
	5	17	85	5	3	15	5	31	11,160	360	0	0	0	0	0	0	51	11,260	
	6	12	60	5	8	40	5	30	10,320	360	4	770	300	2	180	120	56	11,370	
	7	12	60	5	4	20	5	31	10,980	540	0	0	0	0	0	0	47	11,060	
	8	10	50	5	6	30	5	15	4,740	360	3	9	300	1	360	360	35	5,189	
	9	14	65	8	5	25	5	13	3,780	360	1	180	180	0	0	0	33	4,050	
	10	10	50	5	7	35	5	30	8,580	420	0	0	0	0	0	0	47	8,665	
	11	8	40	5	3	15	5	30	7,080	420	2	350	240	0	0	0	43	7,485	
	12	4	20	5	2	10	5	30	7,200	300	0	0	0	1	60	60	37	7,290	
3	1	15	75	5	4	20	5	30	7,560	360	1	60	60	0	0	0	50	7,715	
	2	7	35	6	5	25	5	27	7,080	300	1	180	180	0	0	0	40	7,320	
	3	10	50	5	4	20	5	31	9,300	420	0	0	0	1	60	60	46	9,430	
TTL		127	634		51	255		328	98,280		13	1,789		5	660		524	101,618	

Y	M	11 kV MUN																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	22	125	8	0	0	0	29	9,960	360	6	1,380	540	2	245	180	59	11,710	
	5	30	150	5	1	5	5	29	10,440	360	1	300	300	2	240	180	63	11,135	
	6	31	155	5	9	45	5	30	10,260	360	4	340	180	4	1,260	600	78	12,060	
	7	31	70	10	9	50	8	31	9,240	540	1	360	360	0	0	0	72	9,720	
	8	22	110	5	6	30	5	14	4,140	360	10	1,140	300	1	540	540	53	5,960	
	9	13	65	5	11	55	5	14	1,620	300	13	2,580	360	1	60	60	52	4,380	
	10	11	55	5	7	35	5	30	7,680	540	0	0	0	1	60	60	49	7,830	
	11	11	55	5	8	40	5	30	7,740	420	4	300	120	1	60	60	54	8,195	
	12	13	75	5	7	40	10	30	7,020	300	1	180	180	0	0	0	51	7,315	
3	1	16	80	5	4	20	5	30	7,620	360	0	0	0	0	0	0	50	7,720	
	2	10	50	5	5	25	5	27	6,780	300	3	420	240	3	180	120	48	7,455	
	3	10	50	5	5	25	5	31	9,780	420	0	0	0	0	0	0	46	9,855	
TTL		220	1,040		72	370		325	92,280		43	7,000		15	2,645		675	0	

Y	M	11 kV TWN																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos	Duration		Nos.	Duration		Nos.	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4																0	0	
	5																0	0	
	6																0	0	
	7																0	0	
	8																0	0	
	9																0	0	
	10																0	0	
	11																0	0	
	12	0	0	0	1	5	5	0	0	0	1	60	60	0	0	0	2	65	
3	1	3	15	5	2	10	5	1	120	120	0	0	0	0	0	0	6	145	
	2	2	10	5	0	0	0	0	0	0	1	60	60	1	120	120	4	190	
	3	19	90	8	7	35	5	0	0	0	0	0	0	1	120	120	27	245	
TTL		24	115		10	50		1	120		2	120		2	240		39	645	

Note) Unit of duration = Minute

Summary of Outages (33/ 11 kV Malkapur)

Y	M	11 kV KOT																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	-			-			30	5,400	180	0	0	0	0	0	0	30	5,400	
	5	-			-			31	6,180	360	1	120	120	1	360	360	32	6,660	
	6	-			-			6	1,800	300	2	120	60	4	1,020	480	12	2,940	
	7	-			-			17	2,940	300	1	300	300	2	420	240	20	3,660	
	8	-			-			15	1,800	120	0	0	0	3	660	360	18	2,460	
	9	1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	1	5	
	10	0	0	0	0	0	0	0	0	0	2	120	60	0	0	0	2	120	
	11	-			-			0	0	0	2	300	180	0	0	0	2	300	
	12	0	0	0	1	5	5	16	3,660	300	1	60	60	0	0	0	18	3,725	
3	1	4	20	5	5	25	5	31	7,740	420	1	60	60	0	0	0	41	7,845	
	2	7	35	5	3	15	5	27	7,080	300	1	120	120	1	300	300	39	7,550	
	3	16	80	5	2	10	5	31	9,900	420	2	540	300	1	60	60	52	10,590	
TTL		28	140		11	55		204	46,500		13	1,740		12	2,820		268	51,255	

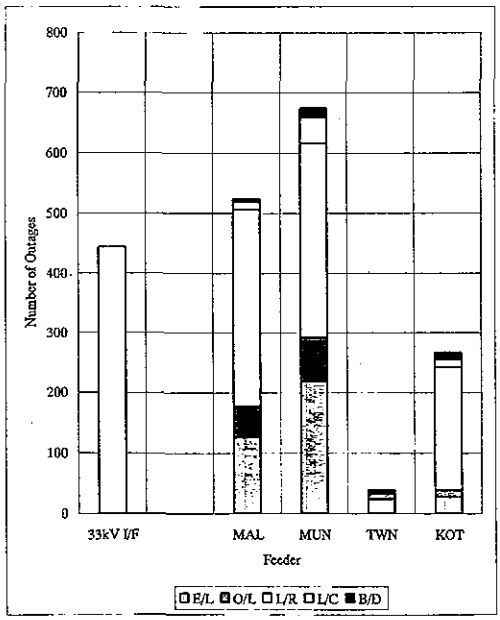
Note) Unit of duration = Minute

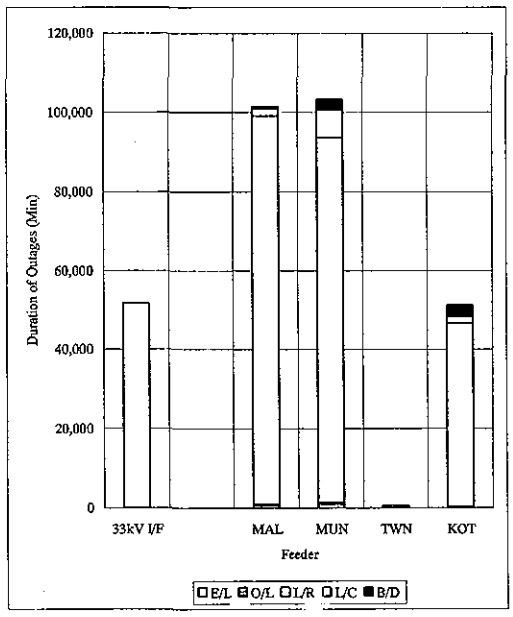
Number of Outages

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	444	0	0
MAL	127	51	328	13	5
MUN	220	72	325	43	15
TWN	24	10	1	2	2
KOT	28	11	204	13	12

Duration of Outages (Min)

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	51,854	0	0
MAL	634	255	98,280	1,789	660
MUN	1,040	370	92,280	7,000	2,645
TWN	115	50	120	120	240
KOT	140	55	46,500	1,740	2,820





Code of Substation : KON (MKAN)

Summary of Outages (33/ 11 kV Kondapur)

33 kV Incoming

Y	M	E/L			O/L			L/R			L/C			Interruption			Total		Remarks
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4													5	489	315	5	489	
	5													5	128	59	5	128	
	6													6	35	17	6	35	
	7													18	3,494	255	18	3,494	
	8													17	3,309	247	17	3,309	
	9													19	4,119	360	19	4,119	
	10													30	7,739	360	30	7,739	
	11													30	7,177	240	30	7,177	
	12													30	7,170	265	30	7,170	
3	1													58	7,062	263	58	7,062	
	2													54	6,256	267	54	6,256	
	3													7	262	120	7	262	
TTL		0	0		0	0		0	0		0	0		279	47,240		279	47,240	

11 kV KON

Y	M	E/L			O/L			L/R			L/C			B/D			Total		Remarks
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	17	399	185	6	30	5	0	0	0	2	480	420	2	480	420	27	1,389	
	5	14	231	47	0	0	0	0	0	0	7	1,380	420	1	180	180	22	1,791	
	6	9	107	34	4	40	15	0	5,100	360	6	780	180	1	360	360	20	6,387	
	7	5	30	10	0	0	0	0	0	0	0	0	0	0	0	0	5	30	
	8	9	74	10	2	10	5	15	4,320	360	1	60	60	0	0	0	27	4,464	
	9	5	25	5	3	40	25	13	3,600	360	4	300	120	0	0	0	25	3,965	
	10	6	47	15	5	45	20	29	7,980	420	0	0	0	1	120	120	41	8,192	
	11	1	5	5	2	20	15	30	7,380	420	0	0	0	0	0	0	33	7,405	
	12	3	20	10	2	10	5	16	3,420	300	0	0	0	0	0	0	21	3,450	
3	1	20	100	5	2	10	5	0	0	0	3	83	36	0	0	0	25	193	
	2	10	46	5	3	15	5	0	0	0	4	340	145	1	300	300	18	701	
	3	22	110	5	9	45	5	57	7,560	120	4	405	225	0	0	0	92	8,120	
TTL		121	1,194	336	38	265	105	160	39,360	2,340	31	3,828	1,606	6	1,440	1,380	356	5,767	

11 kV TER

Y	M	E/L			O/L			L/R			L/C			B/D			Total		Remarks
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4																0	0	
	5																0	0	
	6																0	0	
	7	2	10	5	1	40	40	29	10,020	420	0	0	0	0	0	0	32	10,070	
	8	10	83	15	1	5	5	14	4,380	360	2	180	120	2	300	180	29	4,948	
	9	4	35	22	2	35	25	13	3,600	360	3	540	240	1	60	60	23	4,270	
	10	5	38	15	6	62	20	30	8,100	660	0	0	0	0	0	0	41	8,200	
	11	1	5	5	3	25	15	30	420	420	1	180	180	0	0	0	35	630	
	12	4	25	10	2	10	5	0	6,900	300	0	0	0	0	0	0	6	6,935	
3	1	-	-	-	-	-	-	31	7,500	300	0	0	0	0	0	0	31	7,500	
	2	-	-	-	-	-	-	27	7,320	300	4	675	190	0	0	0	31	7,995	
	3	-	-	-	-	-	-	31	13,140	540	2	230	190	0	0	0	33	13,370	
TTL		26	196		15	177		205	61,380		12	1,805		3	360		261	63,918	

11 kV MAR

Y	M	E/L			O/L			L/R			L/C			B/D			Total		Remarks
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	15	542	215	3	15	5	0	9,480	540	3	165	85	1	240	240	22	10,442	
	5	15	227	47	0	0	0	31	11,160	360	1	60	60	2	420	240	49	11,867	
	6	12	91	20	4	35	10	30	10,800	360	2	180	120	1	60	60	49	11,166	
	7	5	30	10	4	60	40	31	11,400	540	1	60	60	3	360	120	44	11,910	
	8	6	75	15	2	10	5	16	4,680	360	2	180	120	0	0	0	26	4,945	
	9	6	45	22	3	40	25	13	3,600	260	1	240	240	1	60	60	24	3,985	
	10	3	23	15	2	10	5	29	7,980	540	1	180	180	1	180	180	36	8,373	
	11	4	20	5	1	5	5	30	7,680	420	0	0	0	1	240	240	36	7,945	
	12	5	45	20	2	25	20	30	7,020	300	0	0	0	0	0	0	37	7,090	
3	1	15	75	8	2	10	5	30	7,620	300	6	175	50	0	0	0	53	7,880	
	2	8	40	5	3	15	5	27	7,320	300	2	345	265	0	0	0	40	7,720	
	3	21	105	5	7	35	5	31	13,740	540	1	65	65	1	120	120	61	14,065	
TTL		115	1,318		33	260		298	102,480		20	1,650		11	1,680		477	0	

Note) Unit of duration = Minute

Summary of Outages (33/ 11 kV Kondapur)

Y	M	11 kV GAN																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	15	126	15	5	30	10	29	13,500	600	1	400	400	0	1,020	660	50	15,076	
	5	14	190	47	0	0	0	30	10,200	360	0	0	0	4	1,500	540	48	11,890	
	6	6	80	30	3	30	10	28	9,840	360	3	300	180	2	1,500	960	42	11,750	
	7	3	20	10	3	55	40	31	11,700	540	0	0	0	0	0	0	37	11,775	
	8	7	72	15	2	10	5	16	4,680	360	2	180	120	0	0	0	27	4,942	
	9	6	47	22	3	40	25	13	3,420	360	6	1,080	360	1	360	360	29	4,947	
	10	4	28	15	2	10	5	29	8,100	540	1	180	180	0	0	0	36	8,318	
	11	3	20	10	1	5	5	30	128	420	0	0	0	0	0	0	34	153	
	12	5	45	20	1	5	5	30	7,200	300	0	0	0	0	0	0	36	7,250	
3	1	-	-	-	-	-	-	30	7,620	300	2	450	330	0	0	0	32	8,070	
	2	-	-	-	-	-	-	27	7,080	300	1	360	360	0	0	0	28	7,440	
	3	-	-	-	-	-	-	31	13,740	540	0	0	0	0	0	0	31	13,740	
TTL		63	628		20	185		324	97,208		16	2,950		7	4,380		430	105,351	

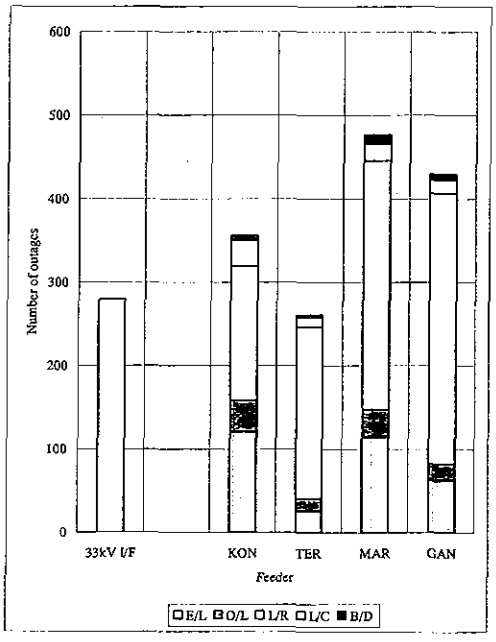
Note) Unit of duration = Minute

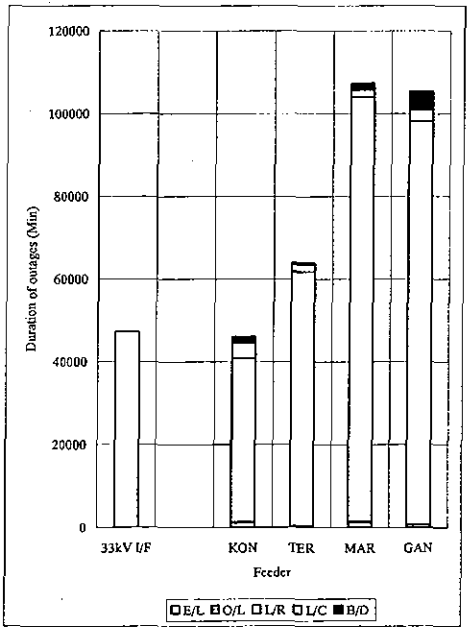
Number of outages

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	279	0	0
KON	121	38	160	31	6
TER	26	15	205	12	3
MAR	115	33	298	20	11
GAN	63	20	324	16	7

Duration of outages (Min)

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	47240	0	0
KON	1,194	265	39,360	3,828	1,440
TER	196	177	61,380	1,805	360
MAR	1,318	260	102,480	1,650	1,680
GAN	628	185	97208	2950	4380





Code of Substation : BOR (MNAR)

Summary of Outages (33/ 11 kV Borancha)

Y	M	33 kV Incoming																Remarks
		E/L			O/L			L/R			L/C			Interruption			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4													60	6,103		60	6,103	
	5													42	3,554		42	3,554	
	6													32	1,537		32	1,537	
	7													94	9,228		94	9,228	
	8													34	2,853		34	2,853	
	9													43	4,326		43	4,326	
	10													93	9,388		93	9,388	
	11													66	7,290		66	7,290	
	12													70	8,642		70	8,642	
3	1													58	8,430		58	8,430	
	2													60	6,506		60	6,506	
	3													27	2,605		27	2,605	
TTL		0	0		0	0		0	0		0	0		679	70,462		679	70,462	

Y	M	11 kV BOR																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4																0	0	
	5																0	0	
	6	17	85	5	2	10	5				4	625	240	3	2,160	1,140	26	2,880	
	7	11	55	5	0	0	0				2	480	265	0	0	0	13	535	
	8	19	95	5	1	5	5				1	30	30	0	0	0	21	130	
	9	8	45	10	2	15	10				0	0	0	0	0	0	10	60	
	10	11	75	20	4	30	10				0	0	0	0	0	0	15	105	
	11	8	45	10	2	20	10				1	30	30	0	0	0	11	95	
	12	10	50	5	1	5	5				0	0	0	0	0	0	11	55	
3	1	9	70	25	0	0	0				0	0	0	0	0	0	9	70	
	2	14	70	5	3	15	5				0	0	0	0	0	0	17	85	
	3	19	110	20	2	10	5				0	0	0	0	0	0	21	120	
TTL		126	700		17	110		0	0		8	1,165		3	2,160		154	4,135	

Y	M	11 kV DHA																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	10	55	10	1	5	5				0	0	0	2	1,200	780	13	1,260	
	5	26	130	5	1	5	5				2	240	120	2	660	360	31	1,035	
	6	17	85	5	2	10	5				2	245	180	2	685	495	23	1,025	
	7	11	55	5	0	0	0				1	120	120	5	2,625	780	17	2,800	
	8	19	95	5	3	15	5				2	99	69	6	1,380	360	30	1,589	
	9	8	45	10	2	15	10				5	808	225	0	0	0	15	868	
	10	10	70	10	4	30	10				0	0	0	1	165	165	15	265	
	11	8	45	10	2	20	10				1	30	30	0	0	0	11	95	
	12	10	50	5	1	5	5				0	0	0	0	0	0	11	55	
3	1	9	65	25	0	0	0				0	0	0	0	0	0	9	65	
	2	14	70	5	3	15	5				0	0	0	0	0	0	17	85	
	3	18	110	20	2	10	5				0	0	0	1	20	20	21	140	
TTL		160	875		21	130		0	0		13	1,542		19	6,735		213	0	

Y	M	11 kV NAP																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	10	55	10	1	5	5				0	0	0	0	0	0	11	60	
	5	27	135	5	1	5	5				2	960	480	1	240	240	31	1,340	
	6	17	85	5	2	10	5				2	245	180	1	264	264	22	604	
	7	11	55	5	0	0	0				0	0	0	0	0	0	11	55	
	8	19	95	5	3	15	5				1	30	30	0	0	0	23	140	
	9	8	45	10	2	15	10				0	0	0	0	0	0	10	60	
	10	10	80	20	4	30	10				0	0	0	0	0	0	14	110	
	11	8	45	10	2	20	10				1	30	30	0	0	0	11	95	
	12	10	50	5	1	5	5				0	0	0	0	0	0	11	55	
3	1	9	7	25	0	0	0				0	0	0	0	0	0	9	7	
	2	14	70	5	3	15	5				0	0	0	0	0	0	17	85	
	3	19	110	20	2	10	5				0	0	0	0	0	0	21	120	
TTL		162	832		21	130		0	0		6	1,265		2	504		191	2,731	

Note) Unit of duration = Minute

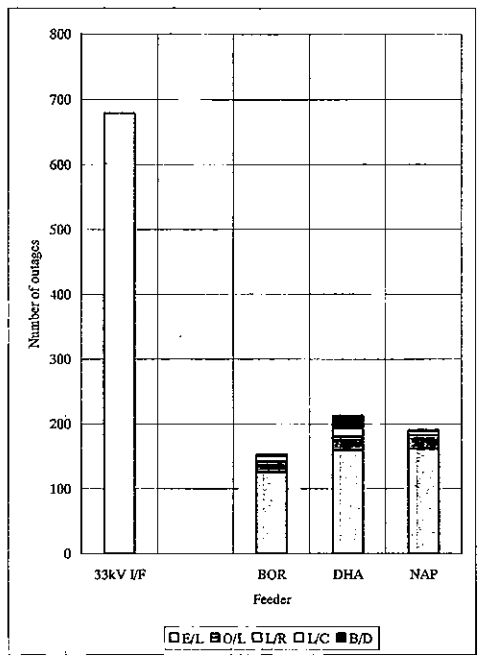
Summary of Outages (33/ 11 kV Borancha)

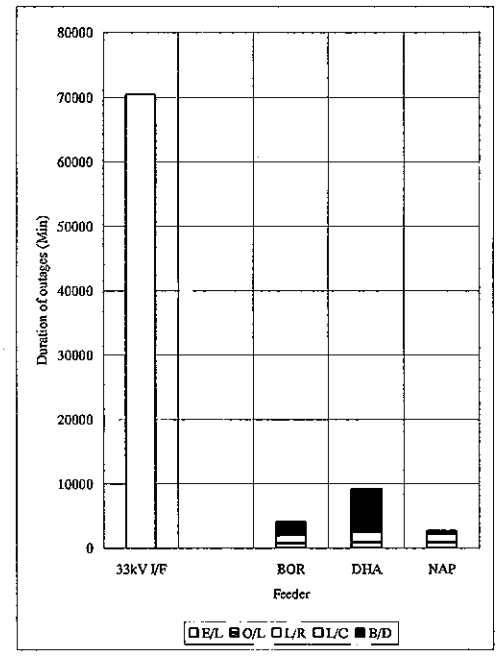
Number of outages

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	679	0	0
BOR	126	17	0	8	3
DHA	160	21	0	13	19
NAP	162	21	0	6	2

Duration of outages (Min)

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	70462	0	0
BOR	700	110	0	1,165	2,160
DHA	875	130	0	1,542	6,735
NAP	832	130	0	1,265	504





Code of Substation : POO (MNAR)

Summary of Outages (33/ 11 kV Poosalpahad)

Y	M	33 kV Incoming																Remarks
		E/L			O/L			L/R			L/C			Interruption			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4													52	6,495		52	6,495	
	5													36	2,387		36	2,387	
	6													21	1,185		21	1,185	
	7													92	9,543		92	9,543	
	8													29	2,640		29	2,640	
	9													45	5,080		45	5,080	
	10													69	8,694		69	8,694	
	11													65	7,418		65	7,418	
	12													59	7,502		59	7,502	
3	1													56	8,848		56	8,848	
	2													51	6,198		51	6,198	
	3													24	2,585		24	2,585	
TTL		0	0		0	0		0	0		0	0		599	68,575		599	68,575	

Y	M	11 kV MAN																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	18	194	58	13	69	10				1	135	135	2	540	420	34	938	
	5	22	115	8	10	50	5				10	3,480	780	2	670	300	44	4,315	
	6	31	155	5	3	15	5				19	2,929	550	10	4,455	1,440	63	7,554	
	7	14	68	5	2	10	5				10	1,698	315	1	125	125	27	1,901	
	8	10	168	65	5	40	10				14	1,937	695	5	2,200	750	34	4,345	
	9	15	100	15	13	66	10				10	1,715	255	4	850	365	42	2,731	
	10	39	208	11	16	105	15				9	2,245	515	7	1,960	680	71	4,518	
	11	42	217	8	13	56	7				1	325	325	4	410	220	60	1,008	
	12	26	1,561	450	18	82	6				4	755	345	10	950	305	58	3,348	
3	1	21	93	5	6	28	5				7	1,230	235	0	0	0	34	1,351	
	2	13	64	5	5	20	5				0	0	0	0	0	0	18	84	
	3	17	85	8	4	18	5				8	1,109	187	4	524	205	33	1,736	
TTL		268	3,028		108	559		0	0		93	17,558		49	12,684		518	33,829	

Y	M	11 kV SHA																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	32	138	5	12	60	5				0	0	0	3	1,080	540	47	1,278	
	5	11	705	220	10	47	5				7	2,460	660	9	1,620	420	37	4,832	
	6	14	70	5	0	0	0				18	5,098	525	7	4,195	1,440	39	9,363	
	7	14	70	5	2	10	5				10	2,135	300	2	215	185	28	2,430	
	8	5	64	25	1	45	45				10	2,050	480	7	1,055	300	23	3,214	
	9	10	55	10	9	55	10				9	1,870	495	3	630	260	31	2,610	
	10	25	123	5	11	128	38				5	670	225	3	880	660	44	1,801	
	11	19	85	6	10	51	10				5	1,184	310	2	185	145	36	1,505	
	12	10	179	125	6	56	16				9	1,295	330	2	345	310	27	1,875	
3	1	13	62	5	2	10	5				6	1,920	735	1	5	5	22	1,997	
	2	8	40	5	4	19	5				3	400	175	0	0	0	15	459	
	3	12	55	5	4	14	14				7	1,135	300	1	600	600	24	1,804	
TTL		173	1,646		71	495		0	0		89	20,217		40	10,810		373	33,168	

Y	M	11 kV GUD																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4																0	0	
	5																0	0	
	6																0	0	
	7																0	0	
	8																0	0	
	9																0	0	
	10																0	0	
	11																0	0	
	12																0	0	
3	1																0	0	
	2																0	0	
	3	11	58	5	1	5	5				3	530	255	6	2,700	990	21	3,293	
TTL		11	58		1	5		0	0		3	530		6	2,700		21	3,293	

Note) Unit of duration = Minute

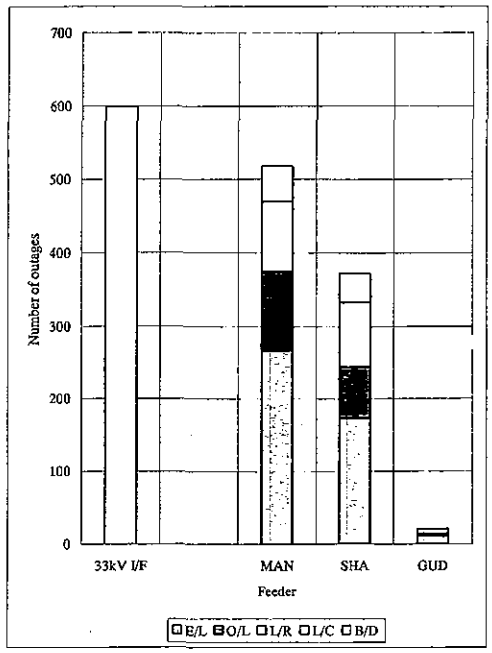
Summary of Outages (33/ 11 kV Poosalpahad)

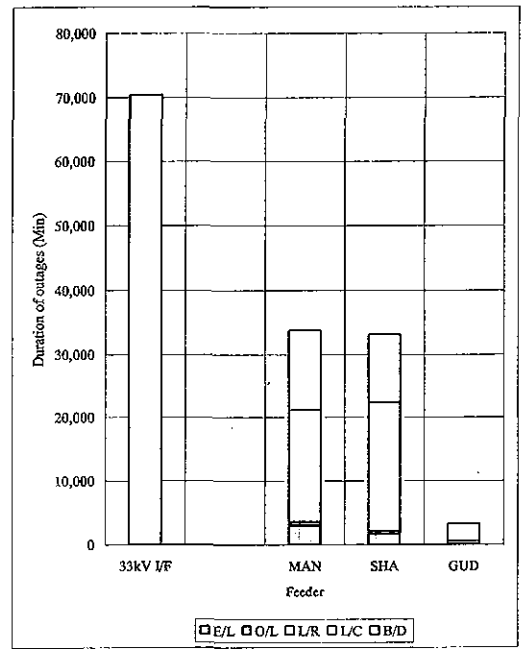
Number of outages

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	599	0	0
MAN	268	108	0	93	49
SHA	173	71	0	89	40
GUD	11	1	0	3	6

Duration of outages (Min)

	E/L	O/L	L/R	L/C	B/D
33kV I/F	0	0	70,462	0	0
MAN	3,028	559	0	17,558	12,684
SHA	1,646	495	0	20,217	10,810
GUD	58	5	0	530	2,700





Code of Substation : KAL (MNAR)

Summary of Outages (33/11 kV Kalher)

Y	M	11 kV F(MAR)																				Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	50	5,205	200	2	8	5	0	0	0	25	8,100	480				2	145	125	79	13,458	
	5	32	4,740	960	0	0	0	0	0	0	28	9,120	420				6	1,180	375	66	15,040	
	6	11	735	360	1	2	2	0	0	0	29	8,700	300				7	2,290	555	48	11,727	
	7	63	8,135	300	0	0	0	0	0	0	30	6,900	300				2	425	300	95	15,460	
	8	11	1,335	240	0	0	0	0	0	0	17	4,470	300				6	1,245	685	34	7,050	
	9	49	5,770	545	0	0	0	0	0	0	12	3,060	300				1	540	540	62	9,370	
	10	50	5,880	240	0	0	0	0	0	0	30	6,180	360				7	1,070	420	87	13,130	
	11	30	3,945	180	1	5	5	0	0	0	30	6,660	240				3	300	180	64	10,910	
	12	31	5,250	180	0	0	0	0	0	0	31	6,420	240				2	190	180	64	11,860	
3	1	31	5,260	450	0	0	0	0	0	0	31	6,480	360				2	280	160	64	12,020	
	2	30	4,030	215	0	0	0	0	0	0	26	6,420	360				4	450	180	60	10,900	
	3	34	2,355	140	0	0	0	0	0	0	31	8,700	360				2	200	110	67	11,255	
TTL		422	52,640		4	15		0	0		320	81,210		0	0		44	8,315		790	142,180	

Y	M	11 kV F(KAL)																				Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	50	5,205	200	2	10	5	0	0	0	28	8,340	480				0	0	0	80	13,555	
	5	32	4,740	960	0	0	0	0	0	0	29	8,760	360				4	445	270	65	13,945	
	6	11	735	360	0	0	0	0	0	0	28	8,400	300				4	1,450	675	43	10,585	
	7	63	8,135	300	0	0	0	0	0	0	29	8,160	300				4	605	420	96	16,900	
	8	11	1,335	240	0	0	0	0	0	0	18	5,100	360				3	425	270	32	6,860	
	9	49	5,770	545	0	0	0	0	0	0	10	2,580	360				2	170	120	61	8,520	
	10	50	5,880	240	0	0	0	0	0	0	30	6,120	360				0	0	0	80	12,000	
	11	30	3,945	180	0	0	0	0	0	0	29	6,060	240				2	300	240	61	10,305	
	12	31	5,250	180	0	0	0	0	0	0	30	6,360	240				0	0	0	61	11,610	
3	1	31	5,260	450	0	0	0	0	0	0	28	5,820	360				6	1,170	360	65	12,250	
	2	30	4,030	215	0	0	0	0	0	0	27	7,860	360				1	720	720	58	12,610	
	3	34	2,355	140	0	0	0	0	0	0	29	8,640	360				5	1,400	540	68	12,395	
TTL		422	52,640		2	10		0	0		315	82,200		0	0		31	6,685		770	141,535	

Y	M	11 kV F(KAN)																				Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	50	5,205	200	4	16	5	0	0	0	28	7,440	480				2	305	185	84	12,966	
	5	32	4,740	960	0	0	0	0	0	0	29	8,760	360				4	445	270	65	13,945	
	6	11	735	360	0	0	0	0	0	0	29	8,700	300				4	2,065	840	44	11,500	
	7	63	8,135	300	0	0	0	0	0	0	30	8,280	300				7	1,390	360	100	17,805	
	8	11	1,335	240	0	0	0	0	0	0	19	5,460	360				0	0	0	30	6,795	
	9	49	5,770	545	0	0	0	0	0	0	10	2,580	360				1	65	65	60	8,415	
	10	50	5,880	240	0	0	0	0	0	0	29	5,820	360				3	1,605	1,140	82	13,305	
	11	30	3,945	180	1	5	5	0	0	0	27	5,580	240				9	1,530	380	67	11,060	
	12	31	5,250	180	0	0	0	0	0	0	31	6,600	240				1	120	120	63	11,970	
3	1	31	5,260	450	0	0	0	0	0	0	31	6,660	240				1	540	540	63	12,460	
	2	30	4,030	215	0	0	0	0	0	0	27	4,800	420				1	180	180	58	9,010	
	3	34	2,355	140	0	0	0	0	0	0	31	9,240	360				1	280	280	66	11,875	
TTL		422	52,640		5	21		0	0		321	79,920		0	0		34	8,525		782	141,106	

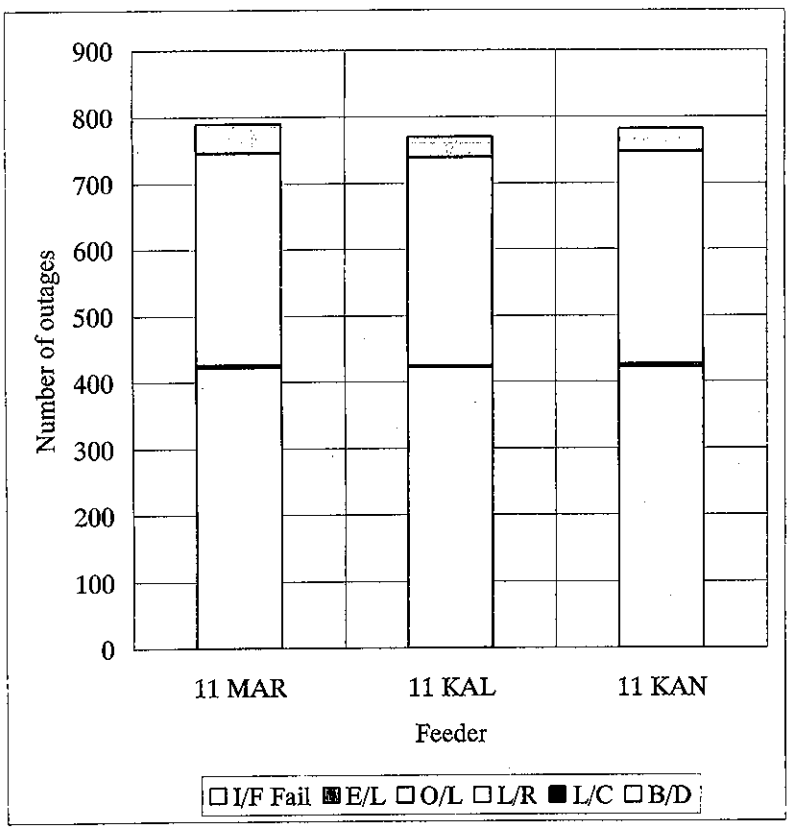
Summary of Outages (33/11 kV Kalher)

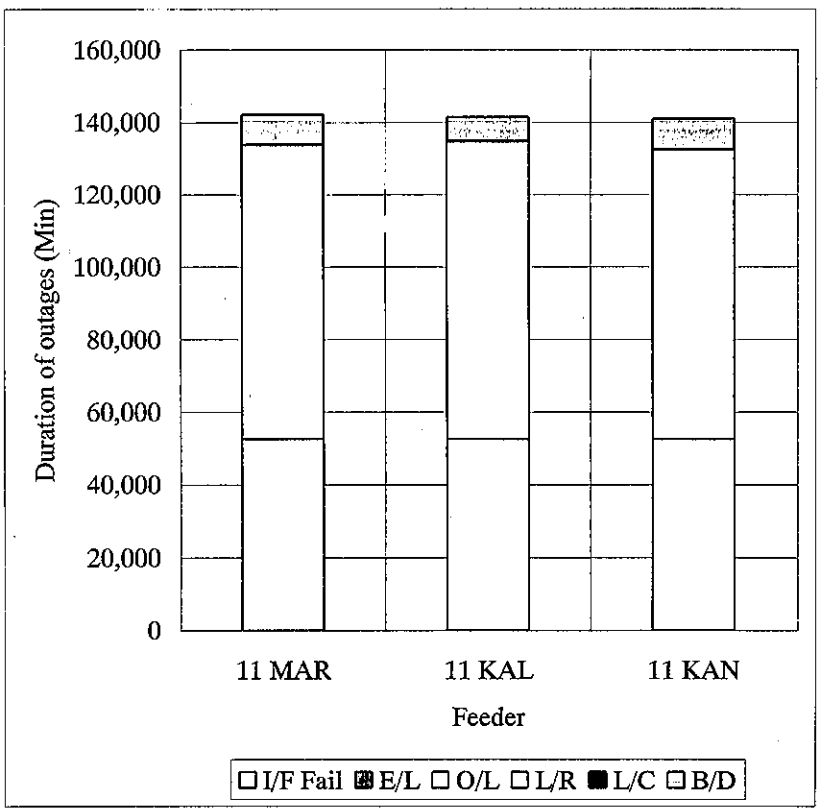
Number of outages

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 MAR	422	4	0	320	0	44
11 KAL	422	2	0	315	0	31
11 KAN	422	5	0	321	0	34

Duration of outages (Min)

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 MAR	52,640	15	0	81,210	0	8,315
11 KAL	52,640	10	0	82,200	0	6,685
11 KAN	52,640	21	0	79,920	0	8,525





Code of Substation : MSAD (MSAD)

Summary of Outages (132/33/11 kV Sadasivpet)

Y	M	Incoming (132 kV)															Remarks
		E/L			O/L			L/R			L/C			Interruption			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4																		
	5																		
	6																		
	7													1	10	10	1	10	P.S.M.L
	8													1	117	120	1	117	Jog, Koh,
	9																		Mun
	10																		
	11																		
	12																		
3	1													1	65	65	1	65	Koh
	2																		
	3																		
TTL		0	0		0	0		0	0		0	0		3	192		3	192	

Y	M	33 KV F(JOG)															Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	0	0	0	0	0	0	3	310	135	0	0	0	0	0	0	3	310	
	5	4	30	10	0	0	0	3	630	130	2	345	225	2	835	770	11	1,840	
	6	3	85	55	4	251	251	1	45	45	3	456	381	0	0	0	11	837	
	7	3	25	15	1	30	30	35	5,415	240	0	0	0	0	0	0	39	5,470	
	8	5	60	15	9	100	15	15	1,930	120	0	0	0	0	0	0	29	2,090	
	9	2	20	15	0	0	0	17	1,195	180	2	315	265	0	0	0	21	1,530	
	10	4	30	10	0	0	0	18	1,900	120	1	240	240	0	0	0	23	2,170	
	11	0	0	0	0	0	0	2	240	120	0	0	0	0	0	0	2	240	
	12	2	20	15	0	0	0	5	600	120	0	0	0	0	0	0	7	620	
3	1	1	20	20	0	0	0	3	360	120	0	0	0	0	0	0	4	380	
	2	1	15	15	1	15	15	8	780	120	0	0	0	0	0	0	10	810	
	3	2	40	20	4	100	45	3	360	180	0	0	0	0	0	0	9	500	
TTL		27	345		19	496		113	13,765		8	####		2	835		169	16,797	

Y	M	33 kV F(KOH)															Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max /event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	0	0	0	0	0	0	1	55	55	0	0	0	0	0	0	1	55	
	5	3	65	30	0	0	0	7	610	155	0	0	0	0	0	0	10	675	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7	7	70	20	0	0	0	10	1,307	177	0	0	0	0	0	0	17	1,377	
	8	12	140	25	0	0	0	0	0	0	1	####	1,290	1	745	745	14	2,175	
	9	5	55	20	0	0	0	16	2,110	195	1	80	80	0	0	0	22	2,245	
	10	2	25	10	1	10	10	33	3,700	155	1	360	360	0	0	0	37	4,095	
	11	1	10	10	0	0	0	17	1,860	120	0	0	0	0	0	0	18	1,870	
	12	1	10	10	0	0	0	5	600	120	1	40	40	0	0	0	7	650	
3	1	2	25	20	1	47	47	7	840	120	0	0	0	0	0	0	10	912	
	2	2	20	10	1	180	180	10	1,020	120	0	0	0	0	0	0	13	1,220	
	3	3	55	35				4	450	180	0	0	0	0	0	0	7	505	
TTL		38	475		3	237		110	12,552		4	####		1	745		156	15,779	

Y	M	33 kV F(MRT)															Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	2	80	60	0	0	0	0	0	0	0	0	0	1	545	545	3	625	
	6	0	0	0	0	0	0	0	0	0	1	30	30	0	0	0	1	30	
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	3	625	530	0	0	0	3	625	
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10	0	0	0	0	0	0	10	1,150	120	0	0	0	0	0	0	10	1,150	
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12	1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	1	5	
3	1	1	10	10	0	0	0	0	0	0	1	335	335	0	0	0	2	345	
	2	1	10	10	0	0	0	0	0	0	0	0	0	0	0	0	1	10	
	3	0	0	0	0	0	0	0	0	0	0	0	0	1	35	35	1	35	
TTL		5	105		0	0		10	1,150		5	990		2	580		22	2,825	

Summary of Outages (132/33/11 kV Sadasivpet)

Y	M	33 kV F(P.S.M.L)																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5	0	0	0	1	50	50	0	0	0	0	0	0	0	0	0	1	50	
	6	1	20	20	0	0	0	0	0	0	0	0	0	0	0	0	1	20	
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10	1	5	5	0	0	0	14	960	360	0	0	0	0	0	0	15	965	
	11	1	20	20	1	5	5	0	0	0	0	0	0	0	0	0	2	25	
	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	1	1	10	10	0	0	0	0	0	0	0	0	0	0	0	0	1	10	
	2	0	0	0	0	0	0	0	0	0	2	130	95	0	0	0	2	130	
	3	2	20	15	0	0	0	0	0	0	0	0	0	0	0	0	2	20	
TTL		6	75		2	55		14	960		2	130		0	0		24	1,220	

Y	M	33 kV F(MAN)																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	1	10	10	0	0	0	0	0	0	0	0	0	0	0	0	1	10	
	5	4	65	30	0	0	0	0	0	0	0	0	0	2	750	510	6	815	
	6	2	20	15	0	0	0	0	0	0	1	15	240	1	240	240	4	275	
	7	12	175	40	2	80	50	0	0	0	0	0	0	0	0	0	14	255	
	8	8	93	40	4	50	20	0	0	0	1	117	117	0	0	0	13	260	
	9	5	40	10	0	0	0	0	0	0	1	265	265	0	0	0	6	305	
	10	7	95	25	1	70	70	12	1,395	120	1	360	360	0	0	0	21	1,920	
	11	6	45	15	0	0	0	0	0	0	1	10	10	0	0	0	7	55	
	12	4	30	10	1	5	5	0	0	0	1	255	255	[illegible]			6	290	
3	1	6	75	20	1	10	10	0	0	0	0	0	0	0	0	0	7	85	
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	2	45	60	0	0	0	0	0	0	0	0	0	2	45	
TTL		55	648		11	260		12	1,395		6	1,022		3	990		87	4,315	

Y	M	33 kV F(MUN)																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	0	0	0	0	0	0	4	440	140	0	0	0	0	0	0	4	440	
	5	2	25	15	2	90	45	5	430	120	0	0	0	0	0	0	9	545	
	6	2	35	25	5	95	55	0	0	0	1	150	150	0	0	0	8	280	
	7	4	30	10	3	35	15	6	865	185	0	0	0	0	0	0	13	930	
	8	7	56	15	2	25	15	2	225	120	0	0	0	1	120	120	12	426	
	9	1	15	15	2	20	15	12	1,165	120	0	0	0	0	0	0	15	1,200	
	10	2	30	25	0	0	0	15	1,765	120	1	360	360	0	0	0	18	2,155	
	11	0	0	0	0	0	0	2	240	120	0	0	0	0	0	0	2	240	
	12	1	10	10	1	10	10	4	480	120	0	0	0	0	0	0	6	500	
3	1	0	0	0	1	10	10	5	610	130	0	0	0	0	0	0	6	620	
	2	1	10	10	2	25	15	4	300	120	6	272	95	1	140	140	14	747	
	3	3	20	10	3	25	15	2	780	660	3	165	85	1	100	100	12	1,090	
TTL		23	231		21	335		61	7,300		11	947		3	360		119	9,173	

Y	M	33 kV F(VIK)																Remarks
		E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	1	20	20	0	0	0	2	240	120	0	0	0	0	0	0	3	260	
	5	5	85	40	15	300	55	3	305	125	0	0	0	0	0	0	23	690	
	6	8	198	50	9	115	20	1	75	75	0	0	0	3	670	230	21	1,058	
	7	2	30	20	2	35	20	13	1,640	205	3	390	140	0	0	0	20	2,095	
	8	3	75	40	6	85	20	10	1,080	120	0	0	0	0	0	0	19	1,240	
	9	6	425	375	1	55	55	17	1,945	180	2	465	385	0	0	0	26	2,890	
	10	1	25	25	3	100	65	9	985	155	0	0	0	0	0	0	13	1,110	
	11	1	10	10	0	0	0	7	840	120	0	0	0	0	0	0	8	850	
	12	0	0	0	0	0	0	2	240	120	0	0	0	0	0	0	2	240	
3	1	2	20	15	1	15	15	6	720	120	0	0	0	0	0	0	9	755	
	2	1	15	15	1	180	180	8	840	120	3	390	290	0	0	0	13	1,425	
	3	2	35	20	4	48	20	4	375	180	0	0	0	0	0	0	10	458	
TTL		32	938		42	933		82	9,285		8	####		3	670		167	13,071	

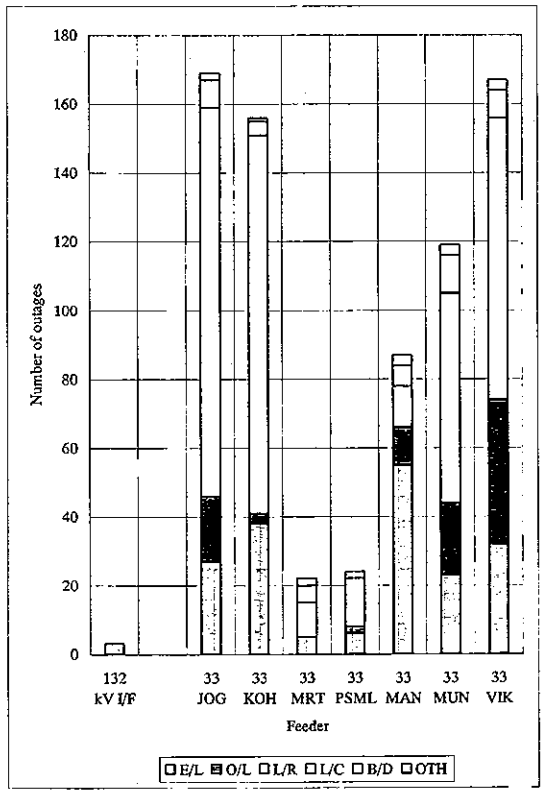
Note) Unit of duration = Minute

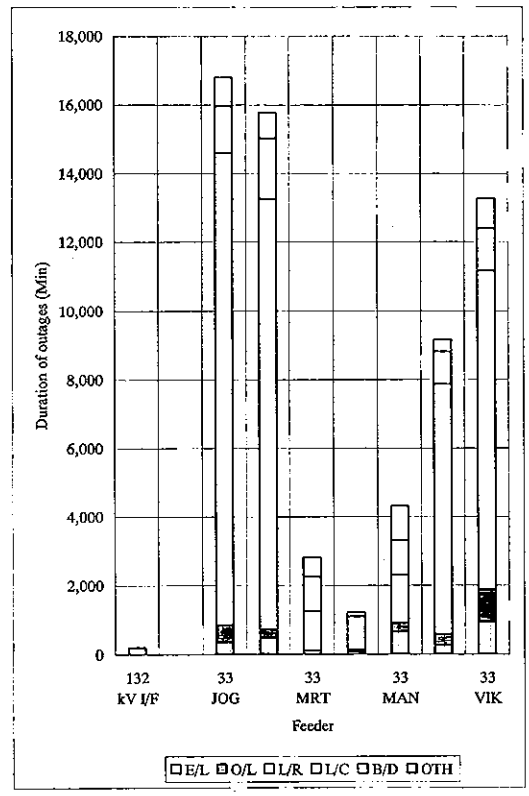
Number of outages

	E/L	O/L	L/R	L/C	B/D	OTH
132 kV I/F	0	0	0	0	0	3
33 JOG	27	19	113	8	2	
33 KOH	38	3	110	4	1	
33 MRT	5	0	10	5	2	
33 PSML	6	2	14	2	0	
33 MAN	55	11	12	6	3	
33 MUN	23	21	61	11	3	
33 VIK	32	42	82	8	3	

Duration of outages (Min)

	E/L	O/L	L/R	L/C	B/D	OTH
132 kV I/F	0	0	0	0	0	192
33 JOG	345	496	13,765	1,356	835	
33 KOH	475	237	12,552	1,770	745	
33 MRT	105	0	1,150	990	580	
33 PSML	75	55	960	130	0	
33 MAN	648	260	1,395	1,022	990	
33 MUN	231	335	7,300	947	360	
33 VIK	938	933	9,285	1,245	870	





Summary of Outages (132/33/11 kV Sadasivpet)

Y	M	11 kV F(SAD)																				Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event			(Total)	
2	4	8	120	80	1	5	5	24	516	135	45	4,070	120	3	145	95	1	109	109	82	4,965	O/L includes Others.
	5	2	35	25	0	0	0	9	77	12	50	4,720	120	0	0	0	0	0	0	61	4,832	
	6	6	90	25	2	15	10	14	113	15	0	0	0	4	177	105	0	0	0	26	395	
	7	5	480	210	5	30	10	14	202	30	0	0	0	3	125	70	0	0	0	27	837	
	8	8	552	140	2	20	15	2	15	10	0	0	0	2	120	100	0	0	0	14	707	
	9	7	560	370	5	40	10	1	5	5	14	240	180	0	0	0	0	0	0	27	845	
	10	18	1,975	195	4	30	10	1	15	15	13	1,565	130	3	105	50	0	0	0	39	3,690	
	11	8	292	65	10	63	10	2	15	10	22	2,640	120	1	35	35	0	0	0	43	3,045	
	12	6	410	95	5	65	30	7	97	30	20	2,400	120	2	110	60	0	0	0	40	3,082	
3	1	1	20	20	2	20	10	5	45	15	0	0	0	4	190	50	0	0	0	12	275	
	2	0	0	0	1	8	8	0	0	0	17	2,040	120	3	125	110	0	0	0	21	2,173	
	3	3	205	155	6	53	25	8	114	50	47	5,600	120	10	685	200	1	223	223	75	6,880	
TTL		72	4,739		43	349		87	1,214		228	23,275		35	1,817		2	332		467	31,726	

Y	M	11 kV F(BUD)																				Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event			(Total)	
2	4	7	205	90	1	5	5	4	90	40	0	0	0	1	180	180	0	0	0	13	480	
	5	2	35	25	13	162	45	9	131	45	0	0	0	0	0	0	1	60	60	25	388	
	6	6	93	25	21	318	60	1	25	25	0	0	0	0	0	0	5	720	285	33	1,156	
	7	5	330	115	4	75	30	2	20	10	0	0	0	2	70	35	1	130	130	14	625	
	8	7	584	140	5	45	15	2	40	30	0	0	0	0	0	0	0	0	0	14	669	
	9	7	592	370	4	40	15	6	65	15	0	0	0	1	50	50	1	370	370	19	1,117	
	10	10	2,150	360	22	210	25	5	62	20	0	0	0	1	60	60	1	240	240	39	2,722	
	11	8	292	65	8	55	10	2	20	10	1	180	180	0	0	0	0	0	0	19	547	
	12	6	350	190	5	40	10	7	42	10	0	0	0	3	185	75	1	675	675	22	1,292	
3	1	1	20	20	2	25	15	0	0	0	0	0	0	2	210	135	0	0	0	5	255	
	2	0	0	0	7	82	15	1	10	10	1	15	15	2	115	60	1	190	190	12	412	
	3	4	225	155	6	38	10	3	30	15	0	0	0	4	610	340	0	0	0	17	903	
TTL		63	4,876		98	####		42	535		2	195		16	1,480		11	2,385		232	10,566	

Y	M	11 kV F(TSM)																				Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event			(Total)	
2	4	7	205	90	0	0	0	29	509	100	0	0	0	1	40	40	1	45	45	38	799	
	5	2	35	25	0	0	0	19	249	35	0	0	0	0	0	0	1	220	220	22	504	
	6	6	93	25	5	36	15	30	276	35	0	0	0	3	170	70	1	55	55	45	630	
	7	5	330	115	0	0	0	6	65	20	0	0	0	2	180	145	0	0	0	13	575	
	8	7	584	140	0	0	0	8	57	12	0	0	0	2	240	175	0	0	0	17	881	
	9	7	592	370	2	6	5	3	20	10	0	0	0	3	35	15	0	0	0	15	653	
	10	10	2,150	360	1	5	5	7	65	15	6	720	120	1	40	40	0	0	0	25	2,980	
	11	8	292	65	4	55	35	5	221	190	0	0	0	2	290	190	2	1,470	1,345	21	2,328	
	12	6	350	190	5	27	13	1	10	10	0	0	0	1	140	140	0	0	0	13	527	
3	1	1	20	20	1	10	10	5	45	15	0	0	0	3	70	45	2	840	280	12	985	
	2	0	0	0	5	40	10	2	15	10	0	0	0	3	205	110	0	0	0	10	260	
	3	4	225	155	4	30	10	11	108	35	0	0	0	5	240	105	0	0	0	24	603	
TTL		63	4,876		27	209		126	1,640		6	720		26	1,650		7	2,630		255	11,725	

Summary of Outages (132/33/11 kV Sadasivpet)

Y	M	11 kV F(NAN) : Nandikandi																		Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total	
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	8	220	90	1	15	15	11	108	35	29	6,530	360	2	30	20	0	0	0	51	6,903	O/L includes Others.
	5	2	35	25	3	17	10	23	375	45	29	5,220	180	0	0	0	0	0	0	57	5,647	
	6	6	90	25	3	63	40	12	358	215	11	1,920	180	2	120	90	3	752	655	37	3,303	
	7	4	300	115	19	87	7	31	315	40	26	4,680	360	5	150	35	6	1,163	278	91	6,695	
	8	8	839	380	10	103	30	28	545	120	19	2,280	120	3	425	205	1	95	95	69	4,287	
	9	7	562	370	25	385	65	23	775	130	22	5,760	360	2	170	130	1	370	370	80	8,022	
	10	18	2,090	365	18	897	585	10	85	20	53	12,120	360	0	0	0	2	930	580	101	16,122	
	11	7	277	65	7	180	125	3	40	25	52	22,620	360	0	0	0	0	0	0	69	23,117	
	12	6	410	190	12	140	25	3	25	10	50	11,820	420	2	130	90	3	685	385	76	13,210	
3	1	1	20	20	4	65	25	6	60	15	59	13,560	420	2	425	335	3	580	320	75	14,710	
	2	0	0	0	10	80	10	5	35	10	53	11,725	420	1	60	60	0	0	0	69	11,900	
	3	4	225	155	4	45	15	16	175	35	56	9,645	210	5	495	200	0	0	0	85	10,585	
TTL		71	5,068		116	####		171	2,896		459	107,880		24	2,005		19	4,575		860	124,501	

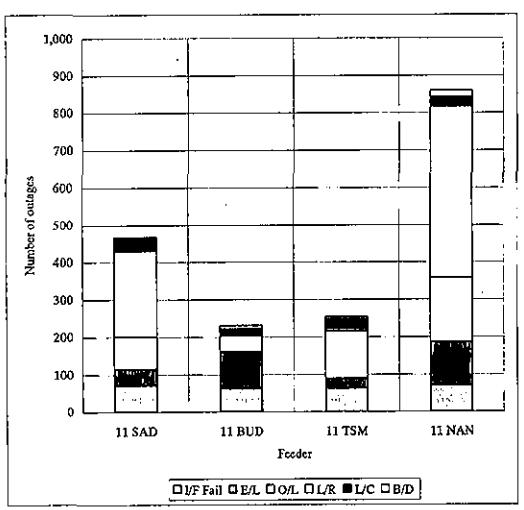
Note) Unit of duration = Minute

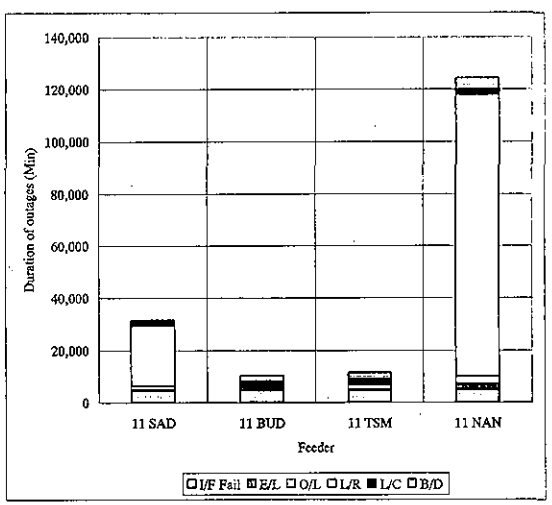
Number of outages

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 SAD	72	43	87	228	35	2
11 BUD	63	98	42	2	16	11
11 TSM	63	27	126	6	26	7
11 NAN	71	116	171	459	24	19

Duration of outages (Min)

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 SAD	4,739	349	1,214	23,275	1,817	332
11 BUD	4,876	1,095	535	195	1,480	2,385
11 TSM	4,876	209	1,640	720	1,650	2,630
11 NAN	5,068	2,077	2,896	107,880	2,005	4,575





Code of Substation : NIZ (MSAD)

Summary of Outages (33/11 kV Nizampur Substation)

Y	M	11 kV F(NIZ)																		Remarks
		I/C Failure			E/L + O/L						L/R			L/C			B/D			Total		
		Nos.	Duration		Nos	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos	Duration
			Total	Max./event		Total	Max./event		Total	Max /event		Total	Max./event		Total	Max /event		Total	Max./event		(Total)	
2	4	9	700	165	11	80	30							2	85	55				22	865	
	5	6	580	145	15	90	10							5	770	240				26	1,440	
	6	1	20	20	10	90	15													11	110	
	7	9	920	140	8	165	125							2	190	120				19	1,275	
	8	1	125	125	11	100	35							1	300	300				13	525	
	9	17	2,320	525	19	135	25							2	235	140	1	645	645	39	3,335	
	10	20	1,895	130	11	70	10							6	725	230				37	2,690	
	11	24	2,525	125	5	30	10							5	465	190				34	3,020	
	12	11	1,320	120	4	25	10							5	400	110				20	1,745	
3	1	4	385	120	4	25	10							4	180	70				12	590	
	2	9	870	180	12	115	20							4	220	115				25	1,205	
	3	2	180	125	9	105	30							0	0	0				11	285	
TTL		113	11,840		119	1,030		0	0		0	0		36	3,570		1	645		269	17,085	

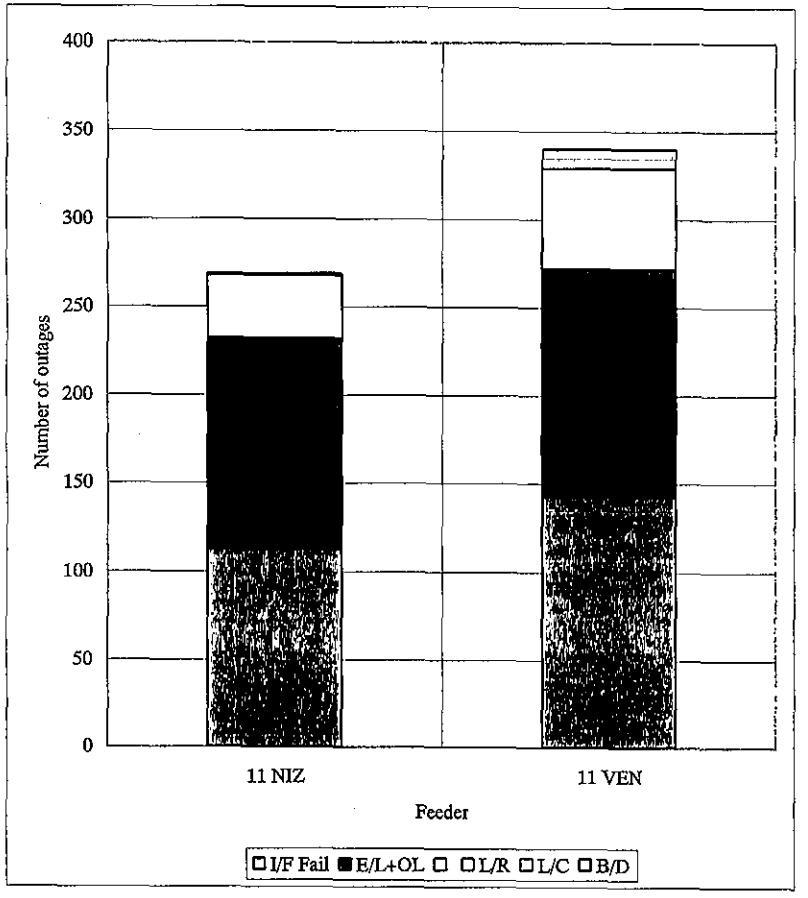
Y	M	11 kV F(VEN)																		Remarks
		I/C Failure			E/L + O/L						L/R			L/C			B/D			Total		
		Nos	Duration		Nos.	Duration		Nos	Duration		Nos.	Duration		Nos	Duration		Nos.	Duration		Nos	Duration
			Total	Max /event		Total	Max /event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max /event		(Total)	
2	4	9	890	155	7	220	170							3	320	200	1	60	60	20	1,490	
	5	3	870	780	16	100	15							2	205	145				21	1,175	
	6	4	525	245	10	75	20							5	1,125	480	2	80	60	21	1,805	
	7	9	945	155	3	55	45							3	220	120	1	240	240	16	1,460	
	8	10	755	130	16	140	30							2	235	190				28	1,130	
	9	9	1,250	270	15	80	10										1	500	500	25	1,830	
	10	20	2,440	360	5	35	15							7	715	190	4	1,050	600	36	4,240	
	11	10	1,230	150	9	50	10							1	60	60				20	1,340	
	12	23	2,750	145	12	65	10							5	1,005	375				40	3,820	
3	1	27	3,335	380	13	100	15							7	2,035	395				47	5,470	
	2	17	1,590	135	10	90	15							15	1,555	320	1	120	120	43	3,355	
	3	2	160	100	13	125	30							7	1,485	520	1	150	150	23	1,920	
TTL		143	16,740		129	1,135		0	0		0	0		57	8,960		11	2,200		340	29,035	

Note) Unit of duration = Minute

Summary of Outages (33/11 kV Nizampur Substation)

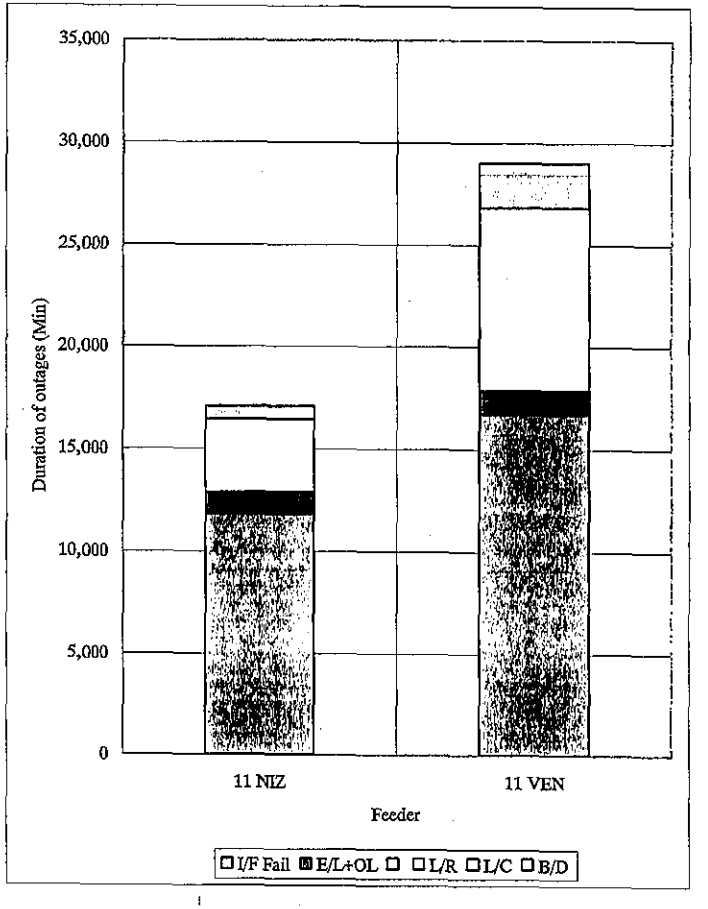
Number of outages

	I/F Fail	E/L+OL	L/R	L/C	B/D
11 NIZ	113	119		36	1
11 VEN	143	129		57	11



Duration of outages (Min)

	I/F Fail	E/L+OL	L/R	L/C	B/D
11 NIZ	11,840	1,030		3,570	645
11 VEN	16,740	1,135		8,960	2,200



Code of Substation : MUN (MSAD)

Summary of Outages (33/11 kV Munipally)

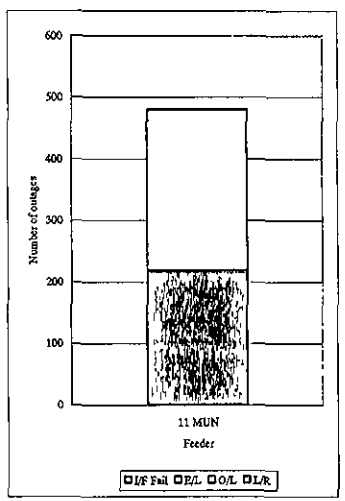
Y	M	11 kV F(MUN)																		Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos.	Duration		Nos	Duration		Nos.	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max /event		Total	Max./event		(Total)	
2	4	38	2,326	175	24	155	15													62	2,481	
	5	16	943	195	23	167	10													39	1,110	
	6	18	420	97	27	278	40													45	698	
	7	21	1,539	150	24	260	90													45	1,799	
	8	10	685	140	36	373	97													46	1,058	
	9	19	1,509	410	19	135	10													38	1,644	
	10	27	3,079	360	23	225	45	1	5	5										51	3,309	
	11	28	3,190	180	11	63	10													39	3,253	
	12	23	2,405	155	14	82	10													37	2,487	
3	1	3	180	140	15	85	10													18	265	
	2	9	798	203	22	144	30													31	942	
	3	8	430	110	22	281	120													30	711	
TTL		220	17,504		260	2,248		1	5		0	0		0	0		0	0		481	19,757	

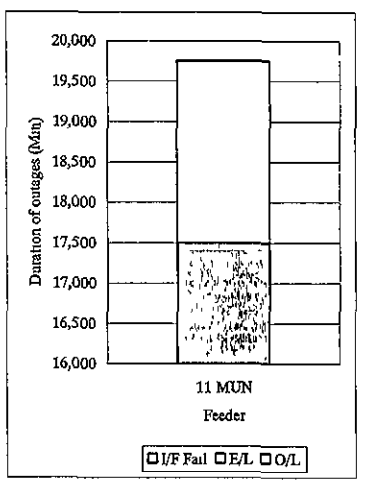
Number of outages

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 MUN	220	260	1			

Duration of outages (Min)

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 MUN	17,504	2,248	5			





Code of Substation : CHA (MOTH)

- 90 -

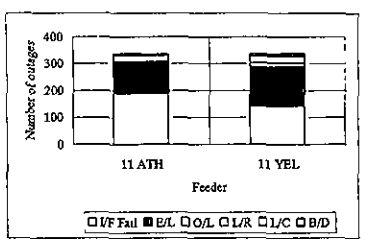
Summary of Outages (33/11 kV Chandapoor)

Y	M	11 kV F(ATH) Athmakur																			Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos.	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4																			0	0	Some data missng
	5																			0	0	
	6	2	265	170	4	30	10	1	5	5				3	555	285	0	0	0	10	855	
	7	6	640	130	3	40	20	0	0	0				6	887	305	1	80	80	16	1,647	
	8	6	575	135	26	205	15	1	5	5				5	895	210	1	120	120	39	1,800	
	9																			0	0	
	10	30	3,718	360	25	255	45	0	0	0				5	165	60	1	270	270	61	4,408	
	11	27	2,975	140	5	90	30	0	0	0				0	0	0	0	0	0	32	3,065	
	12	26	2,930	130	2	25	15	0	0	0				0	0	0	0	0	0	28	2,955	
3	1	32	3,770	130	19	125	15	0	0	0				0	0	0	0	0	0	51	3,895	
	2	31	3,715	165	10	155	45	1	15	15				4	440	175	1	525	525	47	4,850	
	3	30	3,845	150	20	231	20	2	25	25				0	0	0	1	105	105	53	4,206	
TTL		190	22,433		114	1,156		5	50		0	0		23	2,942		5	1,100		337	27,681	

Y	M	11 kV F(YEL) Yellarm																			Remarks
		I/C Failure			E/L			O/L			L/R			L/C			B/D			Total		
		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration		Nos	Duration	
			Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		Total	Max./event		(Total)	
2	4	38	2,465	125	15	115	20	2	10	5				4	470	240	3	570	240	62	3,630	
	5	12	1,450	625	4	20	5	0	0	0				1	85	85	0	0	0	17	1,555	
	6	3	155	60	4	20	5	4	35	15				2	155	135	0	0	0	13	365	
	7	15	1,598	345	12	90	10	1	5	5				5	325	180	1	840	840	34	2,858	
	8	5	90	60	14	155	45	0	0	0				0	0	0	0	0	0	19	245	
	9	12	1,693	130	36	310	15	3	20	10				7	590	140	0	0	0	58	2,613	
	10	18	2,123	360	29	201	80	0	0	0				3	150	90	2	675	420	52	3,149	
	11	11	1,322	127	5	80	60	2	10	5				1	60	60	0	0	0	19	1,472	
	12	10	1,505	390	6	50	25	0	0	0				0	0	0	0	0	0	16	1,555	
3	1	2	240	120	3	25	15	0	0	0				0	0	0	0	0	0	5	265	
	2	3	465	195	14	165	20	0	0	0				2	35	30	1	100	100	20	765	
	3	15	1,850	150	2	20	15	2	20	10				2	105	60	2	590	510	23	2,585	
TTL		144	14,956		144	1,251		14	100		0	0		27	1,975		9	2,775		338	21,057	

Number of outages

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 ATH	190	114	5		23	5
11 YEL	144	144	14		27	9



Duration of outages (Mn)

	I/F Fail	E/L	O/L	L/R	L/C	B/D
11 ATH	22,433	1,156	50		2,942	1,100
11 YEL	14,956	1,251	100		1,975	2,775