

SCHEDULE-I- AC Transmission Line / ICT / Static Var Compensator / Series Compensator/HVDC (Back to Back Stations and Bi-Pole Links)/ Line Reactors/ Bus Reactors Outage Details for the FY April-2022- March-2023.

Element Name	Outage		Restoration		Duration of Outage Attributable to				Reason of Outage	Availability (%)
	Date	Time	Date	Time	Inter-State Transmission Licensee	Others	System Constraint/Natural Calamity/ Militancy	Deemed Available		
					Hrs:Min	Hrs:Min	Hrs:Min	Hrs:Min		
Apr-22										
400KV UNOSUGEN-PIRANA	05/Apr/22	21:51	06/Apr/22	02:11	00:00	04:20	00:00	00:00	Hot spot attending work at TPL pirana ss	98.24%
400Kv PIRANA-PIRANA(PG) II	06/Apr/22	03:39	06/Apr/22	06:15	00:00	02:36	00:00	00:00	Hot spot attending work at TPL pirana ss	
400KV UNOSUGEN-PIRANA	16/Apr/22	06:10	16/Apr/22	20:14	14:03	00:00	00:00	00:00	Tripped due to porcelain string insulator flash due at location no: 615	
400KV SUGEN-PIRANA	16/Apr/22	06:40	16/Apr/22	20:26	00:00	00:00	00:00	13:45	Breaker tripped but no cause found and line charge after trial	
400Kv PIRANA-PIRANA(PG) I	16/Apr/22	16:25	16/Apr/22	19:49	03:24	00:00	00:00	00:00	For safety purpose outage taken of 400kv UNO Sugen-pirana line for string replacement work on M/C tower at location 615.	
May-22										
400Kv SUGEN - UNOSUGEN	05/May/22	07:22	05/May/22	11:01	00:00	03:39	00:00	00:00	Line taken out for offline insulator washing job by TPL.	100%
400Kv SUGEN-JHANOR	06/May/22	07:01	06/May/22	11:53	00:00	04:52	00:00	00:00	Line taken out for offline insulator washing job by TPL.	
400KV SUGEN-PIRANA	07/May/22	07:50	07/May/22	14:06	00:00	06:16	00:00	00:00	Off line insulator washing of gantry tower by TPL.	
400Kv PIRANA-PIRANA(PG) I	08/May/22	00:44	08/May/22	05:48	00:00	05:04	00:00	00:00	Hotspot Attending Work at PGCIL Pirana end	
400Kv SUGEN-VAPI	09/May/22	08:32	09/May/22	16:00	00:00	07:28	00:00	00:00	Line taken out for offline insulator washing job by TPL.	
Jun-22										
400KV UNOSUGEN-PIRANA	06/Jun/22	07:41	06/Jun/22	19:45	00:00	12:04	00:00	00:00	Line taken out for Pirana End Maintenance works.	100%
400KV UNOSUGEN-PIRANA	07/Jun/22	07:34	07/Jun/22	16:48	00:00	09:14	00:00	00:00	Line taken out for Pirana End Maintenance works.	
400KV SUGEN-PIRANA	08/Jun/22	07:33	08/Jun/22	19:01	00:00	11:28	00:00	00:00	Line taken out for Pirana End Maintenance works.	
400KV SUGEN-PIRANA	09/Jun/22	07:26	09/Jun/22	14:53	00:00	07:27	00:00	00:00	Line taken out for Pirana End Maintenance works.	
400Kv SUGEN-JHANOR	18/Jun/22	10:03	18/Jun/22	17:06	00:00	07:03	00:00	00:00	Line tripped on distance protection. OPGW cable breakdown between tower 142-143 during opgw installation works by PGCIL (RTAMC).	
400Kv SUGEN-JHANOR	24/Jun/22	13:43	24/Jun/22	20:09	00:00	06:26	00:00	00:00	Line outage taken by PGCIL for removal of PP rope from Y phase conductor between span 141 to 142.	
Jul-22										
400KV SUGEN-PIRANA	01/Jul/22	00:37	01/Jul/22	07:51	00:00	07:14	00:00	00:00	High Voltage Control	100%
400Kv SUGEN-JHANOR	01/Jul/22	02:17	01/Jul/22	04:49	00:00	02:31	00:00	00:00	Gandhar End Breaker Opened Due to Line Reactor Buchholz Relay Operated	
400Kv SUGEN-JHANOR	01/Jul/22	15:22	01/Jul/22	15:53	00:00	00:30	00:00	00:00	Gandhar End Taking Line Reactor In Service After Tripping on Buchholz Relay	
400KV SUGEN-PIRANA	04/Jul/22	03:21	04/Jul/22	08:12	00:00	04:51	00:00	00:00	High Voltage Control	
400Kv SUGEN-JHANOR	09/Jul/22	00:02	09/Jul/22	01:33	00:00	01:30	00:00	00:00	Line Tripped on DTT. Line Tripped due to Gandhar End Line Reactor False Fire Protection Alarm Activated	
400KV SUGEN-PIRANA	10/Jul/22	02:22	10/Jul/22	10:37	00:00	08:15	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	10/Jul/22	23:13	11/Jul/22	09:29	00:00	10:16	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	11/Jul/22	21:54	12/Jul/22	09:59	00:00	12:05	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	13/Jul/22	00:01	13/Jul/22	07:31	00:00	07:30	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	14/Jul/22	01:32	14/Jul/22	08:26	00:00	06:54	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	17/Jul/22	00:27	17/Jul/22	07:32	00:00	07:05	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	18/Jul/22	00:18	18/Jul/22	07:19	00:00	07:01	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	19/Jul/22	23:52	20/Jul/22	08:37	00:00	08:45	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	25/Jul/22	00:00	25/Jul/22	09:31	00:00	09:30	00:00	00:00	High Voltage Control	
400Kv SUGEN-JHANOR	31/Jul/22	21:12	01/Aug/22	00:00	00:00	02:47	00:00	00:00	Line Tripped On Gandhar End Line Line Reactor Prd Operated Alarm	

Element Name	Outage		Restoration		Duration of Outage Attributable to				Reason of Outage	Availability (%)
	Date	Time	Date	Time	Inter-State Transmission Licensee	Others	System Constraint/Natural Calamity/ Militancy	Deemed Available		
					Hrs:Min	Hrs:Min	Hrs:Min	Hrs:Min		
Aug-22										
400KV SUGEN-PIRANA	01/Aug/22	22:02	02/Aug/22	00:44	00:00	02:42	00:00	00:00	Hotspot attending work at R Phase of CT at TPL Pirana SS	100%
400Kv SUGEN-JHANOR	05/Aug/22	16:27	05/Aug/22	17:23	00:00	00:56	00:00	00:00	For line reactor in service at Gandhar SS	
400KV SUGEN-PIRANA	11/Aug/22	12:33	11/Aug/22	14:25	00:00	01:52	00:00	00:00	High Voltage Control	
400KV UNOSUGEN-PIRANA	11/Aug/22	13:37	12/Aug/22	07:49	00:00	18:12	00:00	00:00	Line Tripped on DTT (Over Voltage) at SUGEN end	
400Kv SUGEN-JHANOR	11/Aug/22	13:37	11/Aug/22	14:45	00:00	01:08	00:00	00:00	Line Tripped on Overvoltage at 440kv with Breaker Open Sugen end	
400Kv SUGEN-VAPI	11/Aug/22	13:37	11/Aug/22	14:53	00:00	01:16	00:00	00:00	Line Tripped on Overvoltage at 440kv with Breaker Open Sugen end	
400Kv SUGEN - UNOSUGEN	11/Aug/22	13:37	11/Aug/22	15:01	00:00	01:24	00:00	00:00	Line Tripped on Overvoltage at 440kv with Breaker Open Sugen end	
400KV SUGEN-PIRANA	11/Aug/22	16:28	12/Aug/22	08:50	00:00	16:22	00:00	00:00	High Voltage Control	
400KV SUGEN-PIRANA	15/Aug/22	01:01	16/Aug/22	07:54	00:00	06:53	00:00	00:00	High Voltage Control	
400Kv PIRANA-PIRANA(PG) II	16/Aug/22	23:36	17/Aug/22	04:23	00:00	04:47	00:00	00:00	414 Tie Bay BCU relay replacement work at Pirana (PGCIL-Kamod) end	
Sep-22										
400KV UNOSUGEN-PIRANA	11/Sep/22	18:14	11/Sep/22	18:14	00:00	00:00	00:00	00:00	Auto Reclose Operated Successfully	100%
Oct-22										
400KV SUGEN-PIRANA	03/Oct/22	17:18	03/Oct/22	20:23	00:00	03:05	00:00	00:00	Hotspot Attending Work	100%
400KV SUGEN-PIRANA	23/Oct/22	21:17	25/Oct/22	18:06	00:00	00:00	00:00	20:49	High Voltage Control	
400KV SUGEN-PIRANA	26/Oct/22	02:07	27/Oct/22	08:53	00:00	00:00	00:00	06:46	High Voltage Control	
400KV SUGEN-PIRANA	30/Oct/22	21:23	31/Oct/22	06:43	00:00	00:00	00:00	09:20	High Voltage Control	
400KV UNOSUGEN-PIRANA	03/Oct/22	17:17	03/Oct/22	20:23	00:00	03:06	00:00	00:00	HOT SPOT ATTENDING JOB BY PIRANA SUBSTATION ON R PH OF 89-T ISOLATOR.	
400Kv SUGEN-VAPI	14/Oct/22	12:06	14/Oct/22	22:02	00:00	09:56	00:00	00:00	LINE TRIPPED ON DISTANCE PROTECTION WITH FAULT AT TOWER : 333. AFTER FAULT RECTIFICATION BY PGCIL, LINE TAKEN BACK IN OPERATION.	
Nov-22										
400kv PIRANA-PIRANA(PG) I	02/Nov/22	08:49	02/Nov/22	18:29	00:00	09:40	00:00	00:00	Wave trap connection providing work + Isolator tightness work done by TPL.	100%
400kv PIRANA-PIRANA(PG) I	02/Nov/22	22:27	03/Nov/22	04:04	00:00	05:37	00:00	00:00	B-PH CT current zero checking work on CT secondary side done by TPL.	
400kv PIRANA-PIRANA(PG) II	04/Nov/22	08:58	04/Nov/22	19:52	00:00	10:54	00:00	00:00	Wave trap connection providing work + Isolator tightness work done by TPL.	
400KV SUGEN - UNOSUGEN	14/Nov/22	10:55	19/Nov/22	13:24	00:00	02:29	00:00	00:00	For annual maitenance, PSD installation & offline washing job by SUGEN TPL.	
400kv UNOSUGEN-PIRANA	21/Nov/22	09:06	23/Nov/22	17:50	00:00	08:44	00:00	00:00	PSD Installation at TPL-SUGEN GIS end.	
400KV SUGEN-PIRANA	28/Nov/22	09:20	28/Nov/22	18:06	00:00	08:46	00:00	00:00	400kv SUGEN-Pirana line transfer isolator maintenance work by SUGEN TPL	
400KV SUGEN-JHANOR	29/Nov/22	09:54	29/Nov/22	17:59	00:00	08:05	00:00	00:00	For annual maitenance & offline washing job done by SUGEN TPL	
400kv SUGEN-VAPI	30/Nov/22	09:36	30/Nov/22	18:38	00:00	09:02	00:00	00:00	For annual maitenance & offline washing job done by SUGEN TPL	

Element Name	Outage		Restoration		Duration of Outage Attributable to				Reason of Outage	Availability (%)
	Date	Time	Date	Time	Inter-State Transmission Licensee	Others	System Constraint/Natural Calamity/ Militancy	Deemed Available		
					Hrs:Min	Hrs:Min	Hrs:Min	Hrs:Min		
Dec-22										
400kV SUGEN-PIRANA	01/Dec/22	10:57	01/Dec/22	13:31	00:00	02:34	00:00	00:00	Tripped with Bus tripping at Sugan end	100%
400kV SUGEN - UNOSUGEN	01/Dec/22	10:57	01/Dec/22	15:12	00:00	04:15	00:00	00:00	Spurious trip due to islanding plc malfunction at Sugan.	
400kV SUGEN-VAPI	01/Dec/22	10:57	01/Dec/22	11:13	00:00	00:16	00:00	00:00	Spurious trip due to islanding plc malfunction at Sugan.	
400kV SUGEN-JHANOR	01/Dec/22	10:57	01/Dec/22	11:12	00:00	00:15	00:00	00:00	Spurious trip due to islanding plc malfunction at Sugan.	
400kV SUGEN-JHANOR	05/Dec/22	11:21	05/Dec/22	12:58	00:00	01:37	00:00	00:00	Line tripped due to Gandhar end dc convertor failure.	
400kV SUGEN-PIRANA	16/Dec/22	08:57	16/Dec/22	17:20	00:00	08:23	00:00	00:00	Isolator M&R work + HVWS M&R work+ Reactor M&R work at TPL Pirana end	
400kV PIRANA-PIRANA(PG) II	20/Dec/22	09:05	20/Dec/22	19:09	00:00	10:04	00:00	00:00	Isolator M & R work + EHV breaker M&R work at TPL Pirana end	
400kV PIRANA-PIRANA(PG) II	21/Dec/22	08:48	21/Dec/22	18:11	00:00	09:23	00:00	00:00	Isolator M & R work + EHV breaker M&R work at TPL Pirana end	
400kV SUGEN-PIRANA	22/Dec/22	14:33	22/Dec/22	15:24	00:00	00:50	00:00	00:00	Sugan end breaker tripped on DTT at instant when breaker made OFF from Pirana end after transferring on TBC	
Jan-23										
400kV PIRANA-PIRANA(PG) II	09/Jan/23	18:20	09/Jan/23	20:24	00:00	00:00	00:00	02:04	Tripped with ICT-4 (Kite thread on B-phase LA to Bushing)	100%
400kV SUGEN - UNOSUGEN	14/Jan/23	09:22	14/Jan/23	10:12	00:00	00:00	00:00	00:50	Line tripped on distance protection (Kite thread between tower No. 168 & 169)	
400kV SUGEN-PIRANA	14/Jan/23	09:22	14/Jan/23	10:22	00:00	00:00	00:00	01:00	Line tripped on distance protection (Kite thread between tower No. 168 & 169)	
400kV SUGEN-PIRANA	14/Jan/23	11:25	14/Jan/23	12:07	00:00	00:00	00:00	00:42	Line tripped on distance protection (Kite thread between tower No. 478)	
400kV SUGEN-PIRANA	14/Jan/23	13:04	14/Jan/23	14:02	00:00	00:00	00:00	00:58	Line tripped on distance protection (Kite thread between tower No. 440 & 441)	
400kV SUGEN-PIRANA	14/Jan/23	16:28	14/Jan/23	17:19	00:00	00:00	00:00	00:51	Line tripped on distance protection (Kite thread between tower No. 384 & 385)	
400kV SUGEN-PIRANA	14/Jan/23	18:24	15/Jan/23	21:54	00:00	00:00	00:00	03:30	Linetaken out for voltage control	
400kV UNOSUGEN-PIRANA	15/Jan/23	22:03	16/Jan/23	03:10	00:00	05:07	00:00	00:00	Line taken out for hot spot attending job on bus Isolator	
400kV UNOSUGEN-PIRANA	16/Jan/23	03:10	16/Jan/23	08:38	00:00	00:00	00:00	05:28	Linetaken out for voltage control	
400kV SUGEN-PIRANA	16/Jan/23	14:31	16/Jan/23	16:30	00:00	00:00	00:00	01:59	Line tripped on distance protection (Kite thread between tower No. 486 & 487)	
400kV SUGEN-PIRANA	16/Jan/23	19:14	16/Jan/23	21:53	00:00	02:39	00:00	00:00	Line taken out for hot spot attending job at far end (R Phase CT pad to pipe connection)	
400kV SUGEN-PIRANA	17/Jan/23	15:41	17/Jan/23	18:25	00:00	02:44	00:00	00:00	Line tripped on distance protection	
400kV SUGEN-VAPI	19/Jan/23	11:16	19/Jan/23	19:27	00:00	08:11	00:00	00:00	Line tripped on distance protection	
400kV SUGEN-PIRANA	21/Jan/23	02:59	21/Jan/23	17:49	00:00	14:50	00:00	00:00	Line taken out for hot spot attending job at SUGEN end R phase wave trap .	
400kV PIRANA-PIRANA(PG) II	27/Jan/23	09:41	27/Jan/23	16:11	00:00	06:30	00:00	00:00	Line taken out for EHV breaker M&R + Isolator M&R work + CT + PT testing work + 400 kV Isolator alignment work	
400kV SUGEN-PIRANA	27/Jan/23	18:50	27/Jan/23	22:07	00:00	03:17	00:00	00:00	Line taken out for Hot Spot attending job (Y Phase 89B BUS-2 Isolator)	
Feb-23										
400kV UNOSUGEN-PIRANA	10/Feb/23	08:45	10/Feb/23	19:31	00:00	00:00	00:00	10:46	Reactor Online DGA Commissioning work+ 400 KV Isolator Alignment work	
400kV UNOSUGEN-PIRANA	11/Feb/23	06:47	11/Feb/23	09:10	02:23	00:00	00:00	00:00	Tripping:Kite thread on tower no. 612	
400kV SUGEN-PIRANA	11/Feb/23	09:31	11/Feb/23	17:32	00:00	00:00	00:00	08:01	Reactor Online DGA Commissioning work	

Element Name	Outage		Restoration		Duration of Outage Attributable to				Reason of Outage	Availability (%)
	Date	Time	Date	Time	Inter-State Transmission Licensee	Others	System Constraint/Natural Calamity/ Militancy	Deemed Available		
					Hrs:Min	Hrs:Min	Hrs:Min	Hrs:Min		
400kV PIRANA-PIRANA(PG) II	12/Feb/23	13:15	12/Feb/23	15:10	00:00	00:00	00:00	01:55	Hot spot attending work (Y Phase 89B BUS-2 Isolator)	99.84%
400kV SUGEN-VAPI	17/Feb/23	09:51	22/Feb/23	23:28	00:00	00:00	00:00	133:37	SUGEN-VAPI Line Tower diversion Work due to NHAI (between Loc 32 and 34)	
400kV SUGEN-JHANOR	24/Feb/23	09:12	28/Feb/23	23:33	00:00	00:00	00:00	110:21	SUGEN-JHANOR/Gandhar API Line Tower diversion Work due to NHAI (between Loc 9A,10A&10B)	
Mar-23										
400kV SUGEN-PIRANA	08/Mar/23	08:00	09/Mar/23	07:53	00:00	00:00	00:00	23:53	Line taken out for voltage control	100%
400kV UNOSUGEN-PIRANA	17/Mar/23	05:54	17/Mar/23	07:53	00:00	01:59	00:00	00:00	Line tripped from UNOSUGEN end only & it was charged from TPL Pirana end up to UNOSUGEN. No fault on line.	
400kV PIRANA-PIRANA(PG) I	17/Mar/23	15:38	17/Mar/23	18:55	00:00	03:17	00:00	00:00	Hot spot attending work by TPL Pirana SS (Y Phase 89A BUS-1 Isolator)	
400kV SUGEN-PIRANA	18/Mar/23	09:05	25/Mar/23	00:24	00:00	00:00	00:00	159:19	Line modification work for NHAI's Vadodara-Mumbai Expressway project (Approved in 564 OCC meeting).	
400kV UNOSUGEN-PIRANA	18/Mar/23	09:06	25/Mar/23	00:46	00:00	00:00	00:00	159:40	Line modification work for NHAI's Vadodara-Mumbai Expressway project (Approved in 564 OCC meeting).	
400kV SUGEN-JHANOR	02/Mar/23	12:05	02/Mar/23	16:50	00:00	00:00	00:00	00:00	Shutdown taken by NTPC, Jhanor for their work at their end.	

SCHEDULE-II- Elements where restoration time has exceeded the standards specified in Regulation 5(b)

Element Name	Restoration time as specified in Regulation 5 (b) (in days)	Actual restoration time (in days)
NIL	NIL	NIL

SCHEDULE-III- Details of compesation paid by the inter-state Transmission Licensee

Annexure IV: Details of compensation paid by the Inter State Transmission Licensee					
Element Name	Violation of Regulation 5 (a)		Violation of Regulation 5 (b)		Compensation paid (in Rs.)
	% Availability prescribed	Actual % Availability	Restoration time prescribed (in days)	Actual restoration time (in days)	
NIL					
Total					

SCHEDULE-V Data to be compiled by the Inter-State Transmission Licensees

Sl. No.	Types of Failure	Restoration Time (Days)		
A. Elements of the Transmission Line for Single Circuit (S/C), Double Circuit (D/C) and Multi-Circuit (M/C) towers for each kV class seperately				
	Particulars	Terrain Type		
		Plain	River Bed	Hilly
1	Insulator failure			
	(i) Insulator failure in Single Phase _ 400kV		NA	NA
	(a)April 2022 -400 kV Unosugen Pirana Line - Location No. 615	0.73		
	(ii) Insulator failure in two Phases	NIL	NA	NA
	(iii) Insulator failure in three Phases	NIL	NA	NA
2	Tower after collapse by Emergency Restoration System (ERS) for S/C, D/C and M/C separately	NIL	NA	NA
3	Tower after collapse without Emergency Restoration System (ERS) for S/C, D/C and M/C separately	NIL	NA	NA
4	Tower damage (not collapse)			
	One arm damage	NIL	NA	NA
	Two arms damage	NIL	NA	NA
5	Snapping of phase condcutor			
	Conductor snapping in Single phase	NIL	NA	NA
	Conductor snapping in two phase	NIL	NA	NA
	Conductor Snapping in three phases	NIL	NA	NA
6	Failure of earth wire	NIL	NA	NA
7	Insulator failure with conductor snapping	NIL	NA	NA
8	Any other combination of failures	NIL	NA	NA
B. Elements of the sub-station for each kV class separately				
1	Failure of Inter Connecting Transformers (ICTs)			
	Restoration of the failed ICT			
	Other major failures in ICTs	Single Phase unit	Three Phase unit	
	(i) Replacement of faulty bushings	NA	NA	NA
	(ii) Replacemen of failed /blasted bushings	NA	NA	NA
	(iii) Replacement of faulty tap chargers	NA	NA	NA
2	Failure of Reactors			
	Restoration of the failed reactor	NA	NA	NA