22 NEWPCC Maintenance Schedule												
Maintenance Code	Asset Type	Equipment Type	Maintenance Predictive	Monthly	4 months	6 months	12 months	24 months	36 months			
				Check the pressure gauge and record the reading. Check the oil temp. gauge, winding temperature gauge, and record the readings.			 Check the condition of the bushings, the capacitance, and PF value against the nameplate. Check the operation of cooling flats. 	1. Chock the condition of radiators.	1. Perform full internal isopection of the control cabinets devices (such as heaters, etc.) including OLTC panel, oper test, & ratio check.			
				1. Concet the intervent paper may return a return and the second paper of the readings. 2. Concet the of law paper, surge, which gauge read record the readings. 3. Concet the of law paper and record the reading. 4. Concet and record the trap position and requires with the second and maximum drug hand. 5. Check & record the reading of the OLTC constant. 5. Check & reck & reck & record the reading of the OLTC constant. 5. Check & r			 Chuch dri operine of coding fam. Flyther issued aspective for automatic the endoarse of existences are a flucture. Flyther fam of anopping for distance strength and states ensets. Flyther issue prior for endoard for the flucture of the endoard flucture of the endoar	ather for desicant				
			-	5. Check the condition of control cabinon including OETC panel. 2. Check any leaks around the transformat. 5. Check the conditions of dobylatting brancher.			Channels C., Annier (Colors 2). In Fullyman, mestion, and CD. 5. Denothed for database (Colors 2), for Fullyman, mestion, and CD. 7. Denothed for database and core toget of the DCA non-text (Colors 2) and and from to Warger KARdie for columnia of the master. 8. Challes in sum important of the master in ordered or transmission. 9. Fullyman interpretation of the master in ordered or transmission of the GA non-text (Colors 2) and and the master interpretation. 9. Fullyman interpretation of the master interpretation. 9. Fullyman interpretation of advances in ordered or database interpretation of the master interpretation of the master interpretation of the master interpretation.					
		MV Liquid Transformer	Planned Preventive				 Check for any corresion, paint chen, and other damages around the transformer. Porform visual inspection for insofaron for evidence of contamination or flashover and chan insulators between 66 LV breaker and transformer. Check the correct chents for any sign of damages. 					
							11. Check for grounding consistion. 12. Check for grounding consistion. 12. Check for ground for CTC collects to source recryfting at functioning properly such as softing is boos. Round the counter value. 13. Check OE TC collects to assure it was long request. 14. Check OE TC collects to assure it was long request. 14. Check OE TC collects to assure it was long request.					
			Planned Corrective Predictive				 Check OT. T: to ansare the brancher is in proper condition. Investigate any changes to the test result. 					
			riedicave				 Inspect all exposed surfaces for evidences of tampering, buttered metal, googes, etc. Inspect drain cocks, plags, fine meanings, and evidence for any evidence of insulating liquid scopage around task-wall gadem, scale, etc. 					
							Chail was investor for equipart A table. V and a start of the first the Annual Annua					
							 Check the operation of logist and oil spon anound transformat. Check the operation of vacuum pressure gauge & record the reading. Check the operation of logist turng gauge & record the reading. 					
			Planned Preventive				V Vanily upper to fair of the low as point: V Vanily upper to fair the low as point: C Calculated and the low and the low and the low and the low as an extension of the low and the low					
		MV Padmount Liquid Transformer					Check the callede Padiede. (If pressure) Construction of the calleder Padiede. (If pressure) Check for encoder calles weight or sufficial-to conductors parting upward or downward pressure on the bushinge due to pad suffing. Check for encoders eather weight of Check and Encoders in Education					
		Transformer										
1	Transformer						Charles uses they and related with the strength. Charles uses they and the strength of the strength o					
							 Repair duits cocks, plage, fisse mountage, and witches if there is any ordence of insulating liquid acquege around task-wall garkets, scale, etc. Replace garkets or scale if there is any lask. The insulating liquid is to be lowered to the appropriate level. 					
			Planned Corrective				 Ropice any gauges that new working property. Clean the burkings and samp arrentore. Ropice the damage ones. Tighten any loss connection. 					
			Predictive				 Tightin any house connection. Vivotigati any absence of low for the transformer. Vivotigati any absence of low for the transformer. Replace the instating of if the DGA room is found associations or as per standard. 					
							 Perform insulation resistance tone of the CT. Perform threader (IR) scatt. To Statem are meriant concentration and bands associable decommutation. 					
							 regions may note connected and clock any visitor unsuger. Chan CT at region d. Parform ture ratio test. 					
		Current Transformer	Planned Preventive				6. Puttom polarity not. 7. Puttom vedant rotat. 9. Puttom vedant rotat.					
							9. Partients bardon toot. 10. Crace the condition of the numeriplen. 10. Crace the conduction of the numeriplen.					
			Planned Corrective				A fast subsequences or fact 1 Andre subsequences or fact 1 Andre subsequences or fact 1 Andre subsequences of fact					
			Planned Corrective Predictive									
							Clack the grounding connection. Clack the algobility of the name plane. Clack the algobility of the name plane. Clack the and scenarion.					
							Coach for conflicts of PT Coach for any function decoupted To Coach for product processing and the Coach for product processing and Coach for the coaching and off the coaching and off the coaching and off the coaching and off the coaching and Coaching for coaching and Coaching for coaching and off the coaching and off the coaching and Coaching for coaching and Co					
		Potential Transformer	Planned Preventive				Ventoria invastrate resolution tot. Solution total and total total					
							 Class PT as regard. F. Oran et al. and a noted for fielding. The other strength for complete FOCs maybe including PL, CHE CHM COL and Chris in 64 EVCCVTs. Marcan exploritions and displaying the and strength fielding. Only for 64 EVCCVTs. C. Studie matrixing for EVCVTs. C. Studie matrixing for EVCVTs. Tegling in the communities. 					
			Planned Corrective				 Maarur capacitance and dissparing factor and record the finding. Only for 66 4V CCVTs. Check protective gap for 664 V CCVTs. Tightum any loss connections. 					
			Predictive			1. Check SF6 level in the task and record the reading.						
						. Check 50 6 level in the tank and record the reading.	Visual tapación for ary holan port. Casa and Medicar di Inclando. Chak all control viring and associated find composants. Chak all control articles and associated find composants. Chak all control and the holan in the task Chak all control and the holan in the task Chak all control and the holan in the task Chak all control and the holan in the task Chak all control and the holan in the task		 Perform contact resolution for and synamic resolution measurement. Perform breaker timing test. Nisually inspect the internal condition of breaker control panel. Taxare all components are working properly. 			
2	Circuit Breaker	SF6 Circuit Breaker	Planned Preventive				 Check the appendix of the houters for the tank. Check if there is any lack on the tank using SF9 smiller device. Recel the bundler operation counter reading. 		 Parliem breaker motion analysis test. Parliem breaker control functional test including alarms, pressure switches, limit switches, etc. 			
-					bio chean bicanei					 Record harboard organization converse moling. Viculty on appropriate visioning SPH 1 arXiV hards in ad alarma. Chack manufacture processes radief plans. Chack manufacture processes radief plans. Chack manufacture plans in particular data regregative problems. 		6. Partients power factor or dissipation factor toot on each pole and bushing. 17 Check for any sign of corners, tracking, and freezed damagae. 1. Partients achieved the facility. 9. Partients breaker trip toot (manually and automatically). Visually check the condition of the breaker.
			Planned Corrective			2. Add SF6 as required.	 Classic microbiology in Kan Key instances and managency in generation. Class insufaces (including between disconnects and breaker). 		P. Fitanin (viaki) up tek (namary an antenikasy). Yanary tekk in teknologi u mukki.			
			Predictive			2. Check if there is any leak on the task.	1 Referencies Proceeding For one Annual of these benchmark					
									Petform visual impaction for any damage and class insultators. Petform IR scan for any hot spots.		It Perform both constant solutions: too The Perform both constants solutions: The Perform both constants solutions: The Perform solution and the Perform compared solution The Perform compared solution The Perform solution performs for each singlement which manufact operating the disconsect. The Perform solution The Perform solution is a solution of the Perform solution in the Performance in the Perform solution in the Performance	
3	Switches 72.5 kV Disconnect Switch	Planned Preventive						 Perform overpenential text. Check kirk key operation. Perform visual topoction for ewitch alignment while manually operating the disconnect. 				
5	Switches	72.5 kV Disconnect Switch Plant	Planned Preventive									
									 Chuck for house connections and any concist. Chuck the proper meeting of an additional parameters of control bots human. Chuck draw may empetitive data muchion the drawings and endow. Chuck draw finkely and expensing amounthy and hardware as required. Tertiform are bots and record of the datage. 			
			Planned Corrective Predictive									
							EVinal impection for physical damage E. Inspaction for conclusing B. Inspaction for low concentration termination science)	Parform exerponential too. Parform obied contently too. Parform obied contently too. Parform obied contently too.	Perform invalution resistance test (VLF/TD). Perform PD test.			
		MV Cables	Planned Preventive				Inspacing for loss canactions (translanders point) Inspacing for loss canactions (translanders point) Inspacing af translander and policy Inspacing af translander and policy Inspacing af translander of this instances or juck Inspacing af translander of this instances	Parfam revisions measurement and record the finding. Parfam thermographic survey.				
							6. Inspection for discolvent, canched, or britfu insultions or jacker 7. Inspection for eigns of correction, effectionation, and calcitates of naturalise should 8. Inspect compression-applied connectors for correct cable musch and industation.					
			Planned Corrective									
			Planned Corrective Predictive				 Visual importion for any damages and consoles. Visually import the colls insulation for any damages such as discoleration, care, bunknow, brittle insulation, or burns. 	1. Perform contrastly test for each cable. 2. Check usage contexcities.	1. Perform installation resistance test (VLF/TD). 2. Perform PD test.			
							 Check alignment, straight runs, joint packs and directional change pieces. 	3. Parform shield continuity tost	a. Paramar Parelik.			
							4. Chock supports for any damages and conseine. 5. Chock pand flangue, earth continuity, etc.	4. Purform as-left tone and record the findings.				
		Cable Bus	Planned Preventive				5. Parties ID scan for the cables		-			
5	Cable & Buses						In logical for lossi connections and dissolution. Tightus any lossi connections. A Ramore cuoses surface existes Your administration connection.		<u> </u>			
			Planned Corrective Predictive									
			- readure				 Conduct vienal inspections for any damages and consisten. Visually inspect the cablic insulations for any damages such as discoloration, care, bunknowe, bottle insulation, or burns. 	Parform containing text for each cable. Check torque connections.	 Conduct dielectric withstand test (Hi-pot) for cable insulations using VLF/TD. Perform PD test. 			
							 Check alignment, straight runs, joint packs and directional change pieces. 	3. Parform shield continuity test.				
		Cohlo T	Blower of P				4. Check support for any damages and consists. 5. Check paul flangus, earth continuity stc.	4. Perform an left work and record the findings.	+			
		Cable Tray	Planned Preventive				6. Pution IR scan for the cables. 7. Inspect for losse connections and discoloration Tighten any losse connections.					
							Ramore excess surface order from aluminum connectors. Chack support for any damages and consisten.					
							 Cancer supports for any samages and consistent. Usually inspect any option. 					
			Planned Corrective Predictive									
							Check for physical damage such as cracke, chips, or corrosion. Check the torque on all bolts. Tightma as required.					
							O. Check the proper rating of the arroston. Herein incidence relations of dolls too for lakage current.					
7	Arresters	Surge/Lightning Arrester	Planned Preventive				 Protein moment resonance over and res manager summer. Verify that each cap are grown if and is individually standard to a grown base or grown if electrods. Particles bolid constantion resistance tou: 					
							7. Clean amouter sheds.					
							8. Puttern as-left toots and roomd the findings.					
			Planned Corrective									
			Predictive				Conduct visual impection to the andorstra for any sign of damage. Xang the NSR class of accumulated dust or dation.					
							 Disconnect and Isolate the electrical system being grounded through the NGR and open the connection between the system neutral and Neutral Grounding Resistor. 		+			
9	Neutral Grounding Resistor	Neutral Grounding Resitor	Planned Preventive				Conduct a visu Impection of all the heatings Conduct a visu Impection of all the heatings Conde for conduct Immediate heatings Conde the restories demans the continuity.					
							Check all the internal connections for rightness. Scheck the wiring for signs of damage from hast or overlands.					
I							8: Porteen involution revisiance test.					
							10. Perform resistance tor.					
			Planned Corrective				10. Parlien noisease tot. 11. Parlien as-lift toos and record the findinge.					
			Planned Corrective Predictive				Portient testions undersease and Portient testions under testions Portient testions under and Portient testions under and Portient testions and and and and and and and Portient testions and and and and and and and Portient testions and	1. Teet the grounding teet well. 2. Partners point-spoint teets to discussion the resistance between the main generalize system and all main				
15	Grid	Grid Ground Rod	Planned Corrective Predictive Planned Preventive Planned Corrective				OF To Experimentation OF To Experim	1 Face da generadag una esti. E Face da generadag una esti. E Paciera para espana una te distanziar da traininas berson the una generadag system and all major sharked apoptenes Bases, system sentră, militer darinde asend paras.				

	(0 d	P .(
	60 months	Reference		
C panel, operating OLTC for full range, performing insulation	1. Perform winding resistance test.			
	2. Perform insulation resistance test (Polarization Indec). 3. Perform tan 5 test.			
	4. Perfera SFRA. 5. Perfera Power factor test.			
	6. Perform tum ratio tast. 7. Clum the bushings.	CSA Z463-18 P86-87, P177-179		
	 Perform as-left tests and record the findings. Perform megger cons² core-ground test. 	NETA MTS- 2019 P34-37 NFPA 70B P56, P111, P165		
		NFPA 70B P56, P111, P165		
	1. Chack the condition of radiators. 2. Perform as-kilt tests and necord the findings.			
	2. Verterin as-set tests and accord the initiality. 3. Perform tain ratio test.			
	4. Perform winding resistance test. 5. Perform insulation resistance test (PI).			
	6. Perfera tan 3 ton. 7. Perfera SFRA.			
	8. Perform power factor test. 9. Perform megger core/ core-gound test			
	 Parform megger core i core-pound surt Parform full stormal inspection of the control cabinets devices (each as heatens, etc.) including LTC pand, operating LTC for full mage, performing insulation to the control cabinets devices (each as heatens, etc.) including LTC pand, operating LTC for 			
		CSA Z463-18 P86-87, P177-179		
		CSA Z463-18 P96-87, P177-179 NETA MTS- 2019 P34-37 NFPA 70B P56, P111, P165		
	1. Investignt any changes to test result.			
		CSA Z463-18 P194-198		
		NETA MTS- 2019 P109-111 NFPA 70B P159		
		NFPA 70B P159		
		CSA 7463 19 8112		
		CSA Z463-18 P112 NETA MTS- 2019 P112-114 NFPA 70B P159		
		NFPA 70B P159		
ready.				
		CSA Z463-18 P182-187 NETA MTS- 2019 P62-64 NFPA 70B P152-154		
		NETA MTS- 2019 P62-64 NEPA 2019 P152 154		
		10100 001 00000		
		CGA 7463 18 B109 100		
		CSA Z463-18 P188-190 NETA MTS- 2019 P49-61 NFPA 70B P156		
		NFPA 70B P156		
		CSA Z463-18 - 2018 P185-186		
		CSA Z463-18 - 2018 P185-186 NETA MTS- 2019 P41-43 NFPA 70B-2013 P112-113		
		NPPA /0B-2013 P112-113		
		2452-18 P180-181 NETA MTS-2005 P44-45 NFPA 70B-2013 P109		
		NFPA 708-2013 P109		
		NETA MTS- 2019 P44-45 NFPA 70B-2013 P110		
		NFPA 70B-2013 P110		
		CSA Z463-18 P98 NETA MTS- 2019 P177-180 NFPA 708 P94		
_				
		CSA Z463-18 P133-135		
		CSA Z463-18 P133-135 NETA MTS- 2019 P94-97 NFPA 70B P83-84		
		CSA Z463-18 P199 NETA MTS- 2019 P137-138		
		OLD MAR 2017 P137-138		

		Μ	V Liquio	l Transfo	rmer			
Tag ID: Asset location:	Asse	et Type :_		N	lanufactu	rer:		Model:
Company: Personnel:	Initial: Date:							
KVA: Voltage LTC Taps:	Ir	sulating	Fluid Ty	pe:	Ga	llons:		
Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	60 months	Remark
1. Check the pressure gauge and record the reading.								To be performed by the City personnel/ optional.
2. Check the oil temp. gauge, winding temperature gauge and record the readings.								To be performed by the City personnel/ optional.
3. Check the oil level gauge and record the reading.								To be performed by the City personnel/ optional.
4. Check and record the tap position along with the actual and maximum drag hand.								To be performed by the City personnel/ optional.
5. Check & record the reading of the OLTC counter .								To be performed by the City personnel/ optional.
6. Check the condition of control cabinets including OLTC panel.								To be performed by the City personnel/ optional.
7. Check any leaks around the transformer.								To be performed by the City personnel/ optional.
8. Check the condition of dehydrating breather.								To be performed by the City personnel/ optional.
9. Check the condition of the bushings, the capacitance and PF value against the nameplate.								To be performed at the beginning and at the end of the warranty. Perform IR scan on yearly basis after the warranty
10. Check the operation of cooling fans.								
11. Perform visual inspection for insulators for evidence of contamination or flashover.								
12. Test the oil sample for dielectric strength and water content.								
13. Test oil sample for complete DGA (including H2, C2H2, C2H4, CO, and CH4).								Include taking separate oil sample where required from the DGA tank and checking breather for desiccant replacement.
14. Check DGA monitor (Calisto 2) for hydrogen, moisture, and CO.								
15. Download the databank and event log of the DGA monitor (Calisto 2) and send them to Morgan Schaffer for evaluation of the monitor.								Include the Contract Administrator when sending the databank and event log to Morgan Schaffer. Include the analysis result to the maintenance reports.
16. Check for any corrosion, paint chips, and other damages around the transformer.								
		C	ontinue	on Next	Page			•

Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	60 months	Remark		
17. Perform visual inspection for insulators for evidence of contamination or flashover and clean insulators.								Including between 66 kV breaker and the transformer.		
18. Check the control cabinets for any sign of damages.								including between oo k v breaker and the transformer.		
19. Check the grounding connections.										
20. Conduct inspection inside the OLTC cabinet to ensure everything is functioning properly such as nothing is loose.								Record the OLTC counter value.		
21. Check OLTC cabinet to ensure it has proper oil level.										
22. Check OLTC to ensure the motor is working properly.										
23. Check OLTC to ensure the cabinet heater is working properly.										
24. Check OLTC to ensure the breather is in proper condition.										
25. Check the condition of radiators.										
26. Perform full internal inspection of the control cabinets devices (such as heaters, etc.) including OLTC panel, operating OLTC for full range, performing insulation test, & ratio check. 27. Perform winding resistance test.								Performed at the end of the warranty and 3 years after that. Performed at the end of the warranty and 5 years after that.		
28. Perform insulation resistance test (PI).								Performed at the end of the warranty and 5 years after that.		
29. Perform tan δ test.								Performed at the end of the warranty and 5 years after that.		
30. Perform SFRA.								Performed at the end of the warranty and 5 years after that.		
31. Perform Power factor test.								Performed at the end of the warranty and 5 years after that.		
32. Perform turn ratio test.								Performed at the end of the warranty and 5 years after that.		
33. Clean the bushings.								Performed at the end of the warranty and 5 years after that.		
34. Perform megger core/ core-ground test.								Performed at the end of the warranty and 5 years after that.		
35. Perform as-left tests and record the findings.								Performed at the end of the warranty and 5 years after that.		
Liquid level gauge reading:										
Pressure gauge reading:										
Oil temperature gauge reading:										
Winding temperature gauge reading:										
		C	ontinue	on Next	Page					

All tests shall proceed according to NETA MTS standard. Please refer to NETA MTS, CSA Z463, NEPA 70B for Pass /Fail criteria.
Remarks (Record action when inspection data or tests are out of limits):
Report for Conditions Found:
Recommended Repairs/Replacement:
Estimated Cost for the Repair/Replacement:

		MV Padı	nount Li	quid Tra	nsformer			
Tag ID: Asset location:	Asse	t Type :		M	anufacture	er:	Model:	
Company: Personnel:		Initial:		D				
KVA: Voltage LTC Taps:	Insulating Fluid Type: Gallons:							
Maintenance Items	Monthly	4 months	6 months	12 months	24 months	60 months	Remark	
 Inspect all exposed surfaces for evidence of tampering, battered metal, gouges, etc. 								
 Inspect drain cocks, plugs, fuse mountings, and switches for any evidence of insulating liquid seepage around tank-wall gaskets, seals, etc. Check tank exterior for signs of a leak. 								
 4. Walk around unit and listen for abnormal noises. 								
 5. Verify that transformer is not tilted more than 5 degree from horizontal. 6. Check if there is unusual odors and oil spots around transformer. 								
7. Check the operation of vacuum pressure gauge & record the reading.								
8. Check the operation of liquid temp. gauge & record the reading.								
9. Visually inspect the fuses if the fuses are present.								
10. Check for paint chips and eligibility of nameplate.								
11. Check the cable connections. If there are signs of overheating, check for loose connections or discolored spades (paddles).								
12. Check condition of the HV and LV bushings. Observe for any indication of dirt, leakage, breakage, general damage, heat damage or flashover, and clean the bushings.								
13. Check the cubicle Padlock. (if present).								
14. Check for excessive cable weight or stiff cable conductors putting upward or downward pressure on the bushings due to pad settling.								
15. Check the operation of pressure Relief valve and for dirt & debris.								
16. Test oil sample for complete DGA (iincluding H2, C2H2, C2H4, CO, and CH4).								
17. Check ground connection.								
18. Check the operation of winding temp. gauge & record the reading.								
19. Perform turn ratio test.							Performed at the end of the warranty and 5 years after that.	
20. Perform winding resistance test.							Performed at the end of the warranty and 5 years after that.	
		Со	ntinue o	n Next P	age	-	•	

Monthly	4 months	6 months	12 months	24 months	60 months	Remark					
						Performed at the end of the warranty and 5 years after that.					
						Performed at the end of the warranty and 5 years after that.					
						Performed at the end of the warranty and 5 years after that.					
						Performed at the end of the warranty and 5 years after that.					
						Performed at the end of the warranty and 5 years after that.					
						Performed at the end of the warranty and 5 years after that.					
h						Performed at the end of the warranty and 5 years after that.					
						Performed at the end of the warranty and 5 years after that.					
to NETA MI	S, CSA Z463	3, NEPA 701	B, for Pass /	Fail criteria.							
Remarks (Record action when inspection data or tests are out of limits):											
1	Image: Control of the second	Image: Constraint of the second sec	Image: Constraint of the second sec	Image: Constraint of the second se	Image: Constraint of the second se	Image: Solution of the second state					

Current Transformer									
Tag ID:	Asset location:		Ass	set Type :		N	Manufactur	rer: Model:	
Company:	Personn	el:	: Initial:]	Date:		
Ratio:									
Maintena	nce Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remark	
1. Conduct visual inspection	for any damage.								
2. Perform insulation resistan	nce test of the CT.								
3. Perform thermal (IR) scan.									
4. Tighten any loose connecti damages.	ion and check any visible								
5. Clean CT as required.									
6. Perform polarity test.									
7. Perform turn ratio test.									
8. Perform winding resistance	e test.								
9. Perform excitation test.									
10. Perform burden test.									
11. Check the condition of th	e nameplate.								
12. Perform as-left tests and 1	record the findings.								
All tests shall proceed accord	ling to NETA MTS standard	. Please refe	to NETA M	TS, CSA Z4	63, and NEP	A 70B for Pas	ss /Fail criteria	à.	
Remarks (Record action takes	n when inspection data or te	sts are out of	f limits):						
Report for Conditions Found:	:								
Recommended Repairs/Repla	acement:								
Estimated Cost for the Repair	r/Replacement:								

Potential Transformer														
Tag ID:	Asset location:	Asset location: Asset Type :					Manufacturer: Model:							
Company:	Personnel:	_ Initial: Date:												
Ratio:														
	Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remark						
	n of PT. Check for any phycical damages.													
2. Check the grounding	ng connection.													
3. Check the eligibilit	y of the name plate.													
4. Tighten any loose c	connection.													
5.Check the fuse cond	lition and verify the size.													
6. Perform IR scan for	r hot spots.													
7. Perform insulation	resistance test.													
8. Perform turns ratio	test.													
9. Clean PT as require	ed.													
10. Test oil sample fo C2H4, CO, and CH4)	r complete DGA analysis (iincluding H2, C2H2,							Only for 66 kV CCVTs.						
11. Measure capacitat	nce & dissipation factor and record the finding.							Only for 66 kV CCVTs.						
12. Check for oil leak	, read and record pressure gauge reading.							Only for 66 kV CCVTs.						
13. Check protective	gap.							Only for 66 kV CCVTs.						
14. Perform as-left tes	sts and record the findings.													
-	according to NETA MTS standard. Please refer to NI		SA Z463, a	nd NEPA 7	0B for Pass	/Fail criteria.	-							
Remarks (Record acti	on taken when inspection data or tests are out of limit	s):												
Report for Conditions	Found:													
Recommended Repair	rs/Replacement:													
-														
Estimated Cost for the	e Repair/Replacement:													

		S	SF6 Circ	uit Brea	ker			
Tag ID:	Asset location: Ass	et Type :						
Company:	Personnel: Init	tial:		Date:				
Manufacturer:	Model: I	Rating: V	olts:		Amper	es:		
	Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remarks
1. Check SF6 level gauge and r	record the reading.							To be performed by the City personnel/ optional.
 Visual inspection for any bro linkages. 	oken parts. Clean and lubricate all mechanical							
3. Check all control wirings and	d associated fitted components.							
4. Check mechanical operation	15.							
5. Check the operation of the h	neaters for the tank.							
6. Check if there is any leak on	n the tank using SF6 sniffer device.							
7. Record the breaker operation	n counter reading.							
8.Verify/ test gas pressure swit alarms.	tch setting (SW1 to SW3) and the 63X function and							
9. Clean insulators.								Including between disconnects and breaker.
10. Check interrupter pressure	relief plates.							
11. Check functionality of kirk	key interlock and emergency trip button.							
 12. Perform contact resistance 13. Perform breaker timing test 	test and dynamic resistance measurement. .t.							At the end of warranty and every 3 years after that. At the end of warranty and every 3 years after that.
14. Visually inspect the interna components are working prope	al condition of breaker control panel. Ensure all erly.							
15. Perform breaker motion and	alysis test.							
16. Perform breaker control fur limit switches, etc.	nctional test including alarms, pressure switches,							
17. Perform power factor or dis	ssipation factor test on each pole and bushing.							
18. Check for any sign of coror	na, tracking, and thermal damages.							
19.Perform breaker trip test (m condition of the breaker.	nanually and automatically). Visually check the							
20. Perform as-left tests and re-	cord the findings.							
			Continuo	us Next Pa	ge			1

All tests shall proceed according to NETA MTS standard. Please refer to NETA MTS, CSA Z463, and NEPA 70B for Pass /Fail criteria.	
Remarks (Record action when inspection data or tests are out of limits):	
Report for Conditions Found:	
Recommended Repairs/Replacement:	
Estimated Cost for the Repair/Replacement:	

72.5 kV Disconnect Switch									
Tag ID:	Asset location: Asset Type :			Manufacture:					
Company:	Personnel: In	Initial:			Date:			_	
Manufacturer:	Model:	Rating	: Volts:		Amp	peres:			
	Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remarks	
1. Perform visual inspection	on for any damages and clean insulators.								
2. Perform IR scan for any	v hot spots.								
3. Perform contact resistan	nce test.								
4. Perform bolted connecti	ion resistance test.								
5. Perform visual inspection damages.	on for any sign of any corona, tracking, and thermal								
6. Perform overpotential te	est.								
7. Check kirk key operatio	n.								
8. Perform visual inspection disconnect.	8. Perform visual inspection for switch alignment while manually operating the disconnect.								
9. Exercise the disconnect.									
10. Check for loose connect									
11. Check the proper opera	ation of auxiliary switches and control box heater.								
12. Check that the namepla	ate data matches the drawings.								
13. Check drive linkage an	nd operating assembly and lubricate as required.								
14. Perform as-left tests an	nd record the findings.								
All tests shall proceed acco	ording to NETA MTS standard. Please refer to NETA	MTS, CSA				or Pass /Fa	il criteria.		
			Continu	e on Next	Page				

Remarks (Record action when inspection data or tests are out of limits):
Report for Conditions Found:
Recommended Repairs/Replacement:
Estimated Cost for the Repair/Replacement:

Medium Voltage Cables												
Tag ID:	Asset location:	Asset Type :										
Company:	Personnel:	Initial: Date:										
Manufacturer:	Model: Rating:											
	Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remarks				
1. Visual inspection for pl	hysical damage.											
2. Inspection for overheat	ing.											
3. Inspection for loose con	nnections (termination points).											
4. Inspection for shield gr	ounding and cable support.											
5. Inspection of termination	ons and splices.											
6. Inspection for discolore	ed, cracked, or brittle insulation.											
7. Inspection for signs of shield.	corrosion, discoloration, and oxidation of metallic											
indentation.	oplied connectors for correct cable match and											
9. Perform overpotential t												
10. Perform shield continu												
11. Perfom thermographic												
	asurement and record the finding.											
13. Perform insulation res	sistance test (VLF/TD).							Optional.				
14. Perform PD test.								Optional.				
All tests shall proceed ad	ccording to NETA MTS standard. Please refer to	o NETA M	TS, CSA Z	463 and NE	EPA 70B s	tandards fo	r Pass /Fail o	criteria.				
Remarks (Record action	when inspection data or tests are out of limits):											
Report for Conditions Fo	ound											
Report for Conditions IV	ound.											
Recommended Renairs/	Recommended Repairs/Replacement:											

			Cal	ole Tray								
Tag ID:	Asset location: As	sset Type	:									
Company:	Personnel: In	Initial: Date:										
Manufacturer:	Model: Rati	_ Rating:										
	Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remarks				
1. Conduct visual inspecti	ion for any damages and corrosion.											
2. Visually inspect the cal cuts, breakdown, brittle in	ble insulation for any damages such as discolouration, isulation, or burns.											
3. Check alignment, straight runs, joint packs and directional change pieces.												
4. Check supports for any												
5. Check panel flanges, ea	arth continuity, etc.											
6. Perforn IR scan for the												
connections.	ctions and discoloration. Tighten any loose											
	oxides from aluminum connectors.											
9. Check supports for any												
10. Visually inspect any s	-											
11. Perform continuity tes												
12. Check torque connects	ions.											
13. Perform shield continu	uity test.											
14. Perform as-left tests an	nd record the findings.											
15. Conduct dielectric wit	thstand test for cable insulations using VLF/TD.							Optional				
16. Perform PD test.								Optional				
All tests shall proceed ac	ccording to NETA MTS standard. Please refer to NE	TA MTS, C	SA Z463 an	d NEPA 7	0B standar	ds for Pass /	Fail criteria					
Remarks (Record action	when inspection data or tests are out of limits):											
Report for Conditions Fo	ound:											
Recommended Repairs/	Replacement:											
1	•											
Estimated Cost for the R	Repair/Replacement:											
<u> </u>												

Cable Bus											
Tag ID:	Asset location:	Asset	Type :								
Company:	Personnel:	Initia	l:	Date:							
Manufacturer:	Model:	Rating:									
	Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remarks			
1. Visual inspection for any	y damages and corrosion.										
	le insulation for any damages such as down, brittle insulation, or burns.										
3. Check alignment, straight runs, joint packs, and directional change pieces.											
4. Check supports for any c	damages and corrosion.										
5. Check panel flanges, ear	th continuity, etc.										
6. Perforn IR scan for the c	ables.										
7. Inspect for loose connect connections.	tions and discoloration. Tighten any loose										
8. Remove excess surface of	oxides from aluminum connectors.										
9. Perform as-left tests and	record the findings.										
10. Perform continuity test	for each cable.										
11. Check torque connection	ons.										
12. Perform shield continui	ity test.										
13. Conduct dielectric with VLF/TD.	nstand test (Hi-pot) for cable insulations using							Optional			
14. Perform PD test.								Optional			
All tests shall proceed acc	cording to NETA MTS standard. Please refer	to NETA N	ATS, CSA Z	Z463 and N	EPA 70B	standards f	or Pass /Fail	criteria.			
Remarks (Record action v	when inspection data or tests are out of limits):									
	1										
Report for Conditions For	Report for Conditions Found:										
Recommended Repairs/R	enlacement.										
Keconiniended Kepairs/K	epiacement.										
1											

Surge/Lightning Arrester											
Tag ID: Asset location:		Asset	Type :								
Company: Personnel:		Initial	Date:								
Manufacturer: Model:		Ra	ating:								
Maintenance Items	Monthly	4 months	6 months	12 months	24 months	36 months	Remarks				
1. Check for physical damage such as cracks, chips, or corrosion.											
2. Check the torque on all bolts. Tighten as required.											
3. Check the proper rating of the arresters.											
4. Perform insulation resistance/ doble test for leakage current.											
5. Verify that each surge arrester ground lead is individually attached to a ground bus or ground electrode.											
6. Perform bolted connection resistance test.											
7. Clean arrester sheds.											
8. Perform as-left tests and record the findings.											
All tests shall proceed according to NETA MTS standard. Pleas	e refer to N	ETA MTS	, CSA Z46	3, and NEI	PA 70B star	ndards for Pa	ass /Fail criteria.				
Remarks (Record action when inspection data or tests are or	ut of limits):									
Report for Conditions Found:											
Recommended Repairs/Replacement:											
Estimated Cost for the Repair/Replacement:											

Neutral Grounding Resitor													
Tag ID:	Asset location:	Asset Type :											
Company:	Personnel:	Initi	al:		Date:								
Manufacturer:	Model:												
Maintenance Items			4 months	6 months	12 months	24 months	36 months	Remarks					
1. Conduct visual inspection	on to the enclosure for any sign of damage.												
2. Keep the NGR clean of	accumulated dust or debris.												
the NGR and open the con Neutral Grounding Resisto													
4. Conduct a visual inspec	tion of all the parts for any sign of damages.												
5. Check for cracked insul	ators or bushings.												
6. Check the resistive elem	nent for continuity.												
7. Check all the internal co	onnections for tightness.												
8. Check the wiring for sig	gns of damage from heat or overloads.												
9. Perform insulation resis	stance test.												
10. Perform resistance test	t.												
11. Perform as-left tests an	nd record the findings.												
	ording to NETA MTS standard. Please refer to		S, CSA Z46	63, and NEI	PA 70B for	r Pass /Fail	criteria.						
Remarks (Record action	when inspection data or tests are out of limit	ts):											
Report for Conditions Fo	bund:												
Recommended Repairs/F	Replacement:												
Estimated Cost for the R	Estimated Cost for the Repair/Replacement:												

Ground Grid													
Tag ID:	Asset location	ı:	A	sset Type :_									
Company:	Personnel:]	Initial:		Date:							
	nance Items	Monthly	4 months	6 months	12 months	24 months	60 months	Remark					
1. Visual inspection of the													
2. Inspect expose groundinand no corrosion.	ng to ensure nothing is loose												
3. Test the grounding test	well.												
4. Perform point-to-point tresistance between the ma major electrical equipmen and/or derived neutral point	in grounding system and all trames, system neutral,												
	ording to NETA MTS standar			M18, CSA Z46	3, and NEPA	/0B for Pass /	Fail criteria.						
Remarks (Record action	when inspection data or test	s are out of	f limits):										
Penart for Conditions Fo	yund												
Report for Conditions FC	Report for Conditions Found:												
Recommended Repairs/F	Replacement:												
1	1												
Estimated Cost for the R	epair/Replacement:												