Mode	Shutdown	Duration (min)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	375
Step	Procedure																											
Cooling and depressurising units																												
1	Turn off heaters H201 and H202	5	█																									
2	Gradually stop steam feed to reboiler H204	10	█																									
3	Gradually shut hydrogen and liquid feeds	45		█	█	█																						
4	Turn off fan F201 and pump P201	5					█																					
5	Depressurise reactor R201 to 1 atm by venting gas	15					█																					
Pumping out of process fluids																												
6	Drain reactor R201	10						█																				
7	Drain and vent distillation column S201	5							█																			
8	Drain and vent reboiler H204	5							█																			
9	Drain and vent condenser H203 and reflux drum S204	5							█																			
Purging residual materials and water disposal																												
10	Displacement of residual hydrogen with nitrogen	60								█	█	█	█															
11	Gradually stop cooling water feed	30								█	█																	
12	Disposal of cooling water	15										█																
13	Blowout heat exchangers H203 and H204 with nitrogen gas	15											█															
Blinding and opening																												
14	Remove running blinds and install shutdown blinds	45													█	█	█											
Inspection for entering																												
15	Isolation of the unit with physical disconnection	15																█										
16	Inspection of electrical systems and instruments	30																	█									
17	Inspection of the units & atmosphere testing	60																			█	█						
18	Laying up of units if prolonged shutdown period	120																					█	█	█	█	█	█
Studown downstream units																												
19	Complete shutdown of downstream steps	210					█	█	█	█	█	█	█	█	█	█	█	█	█	█								