1. **Valve positions on DM Plant during Normal operation**
   1. ACF - Service Mode,
   2. Strong Acid Cation - Service Mode,
   3. Strong Base Anion – A1 position(service mode)
   4. Mixed Bed – M2 and M13 Open
2. **Back Wash Activities & Valve Position**
   1. **Activated carbon Filter (ACF) –**
      1. To put Multi port valve on Back wash and give back wash for 10-15 minute
      2. To put valve on rinse mode and rinse for 5-10 minutes. Then Put valve on Service mode.
   2. **Cation Exchanger (SAC)–**
      1. To put valve in rinse mode and rinse for 10-15 minutes.
      2. To put valve in service mode, Open valve C6 to flush for 5-10 minutes and close the valve C6.
   3. **Anion Exchanger (SBA)-** 
      1. Set multi-port valve A4 position. Then back wash for 10-15 minutes
   4. **Mixed Bed exchanger (MB)-**
      1. Open valve M3, M5.
      2. Back wash for 20-25 minutes.
      3. After back wash stop the DM plant by closing feed pump.
3. **Regeneration Activities & Valve Position**
   1. **Cation Regeneration—** Record inFormat A/AN2/ENG/010/00
      1. Start feed pump to DM plant and record start time
      2. To put valve in Regeneration Mode.
      3. Open ejector Valve to suck HCl Solution prepared for SAC.
      4. To adjust valve to maintained suction for 20-25 Minutes.
      5. Close ejector valve & Continues for 10-15 Minutes.
      6. To stop feed pump temporary for putting multiport valve in rinse mode.
      7. Flush water for 5-10 minutes and then Close C6. Record stop time.
      8. pH on litmus paper should be 4-5.
   2. **Anion Regeneration**— Record inFormat A/AN2/ENG/010/00
      1. Record Start time & Open Ejector valve A6 to suck NaOH solution prepared for SBA.
      2. To adjust valve to maintained suction for 25-30 Minutes.
      3. Close Ejector valve A6 and rinse for 10-15 Min.
      4. Set valve on A4 position to fast rinse for 25-30 min.
      5. After that for flushing set valve to A1 position & Water is flushed for 10-15 minutes.
      6. Check pH in litmus pH should be between 5-7.
   3. **Mix Bed Regeneration—** Record inFormat A/AN2/ENG/010/00
      1. **Far Caustic treatment** 
         1. To Open valve M1, M11 and M08 to suck/charge the caustic solution.
         2. After charging caustic solution close valve M11 and continue slow rinse for 10-15 minutes.
         3. For fast rinse close valve M1, open valve M2 and allow it drain from M8 for 15-20 minutes.
         4. Close M2 and M8.
      2. **For acid treatment** 
         1. Open valve M6, M10 & M8 to charge/suck the acid solution .
      3. After charging acid close valve M10 and continue slow rinse for 10-15 minutes.
      4. Close M6 and M8.
      5. To fast rinse open valve M7 & M9 for 15 to 20 minutes
      6. Close all valves once pH is found between 5-7.
   4. **Air Mixing**
      1. Air Inlet (M12) and Air Outlet (M4) is to be opened and ensure all Close other valves is closed.
      2. After that air is charged, continues for 15-20 Minutes.
      3. Open M2 and M9 & close all other valves.
      4. Start feed pump.
      5. For 10-15min water is to be drained out through the mix bed outlet drain (M9).
      6. Once Conductivity goes down below 5.0 µs/cm Open M13 and close M09 and start collecting water.
      7. Any deviation to be recorded in Format A/AN2/ENG/010/00 and to inform production supervisor.