X-Ray Generator Start-up & Shut-down Flowchart (MarCCD)

START

Wear Radiation Badge/Ring

Turn knob to 'HAND' on water-circulator P5 or P6

Open the valve in building-chilled water

Press the ON switch in Haskris water chiller

Check flow in both flow-meters

Open the valves in He gas cylinder;
Wait 15 minutes

Flip the handle to ON in circuit breaker box

Enter sample information in log book

He gas cylinder; Ensure flow

Check the He flow in flow-meter at detector

Wait 15 minutes

Press START button on VACUUM panel

Check vacuum-meter reading \(\leq 0.240\)

Press ON button below POWER on X-RAY panel

Check vacuum-meter reading \(\leq 0.170\)

Press ON button below TARGET

Check vacuum-meter reading \(\leq 0.120\)

Press ON button below X-RAY lamp

Check vacuum-meter reading \(\leq 0.240\)

Wait 10 minutes

Increase kV by 2; Increase mA by 4; Never Exceed max limit

Check vacuum-meter reading \(\leq 0.100\)

Check Haskris water temperature

Check Haskris water temperature

Check the He flow in flow-meter at detector

Check Haskris water temperature
Enter instrument information in log book

Proceed with data collection

Finish data collection

Decrease kV by 4; Decrease mA by 6; Stop at 20 kV and 10 mA

Press OFF button below POWER on X-RAY panel

Press STOP button on VACUUM panel

Flip the handle to OFF in circuit breaker box

For R-Axis IIc only
Ensure Right shutter switch is in EXT. position in SHUTTER panel

This shutter switch in OPEN position for marCCD

Close the valves in He gas cylinder; Ensure stoppage

Vacuum Reading
Press the OFF switch in Haskris water chiller

Close the valve in chilled water

Turn knob back to 'OFF' on water-circulator P5 or P6

END