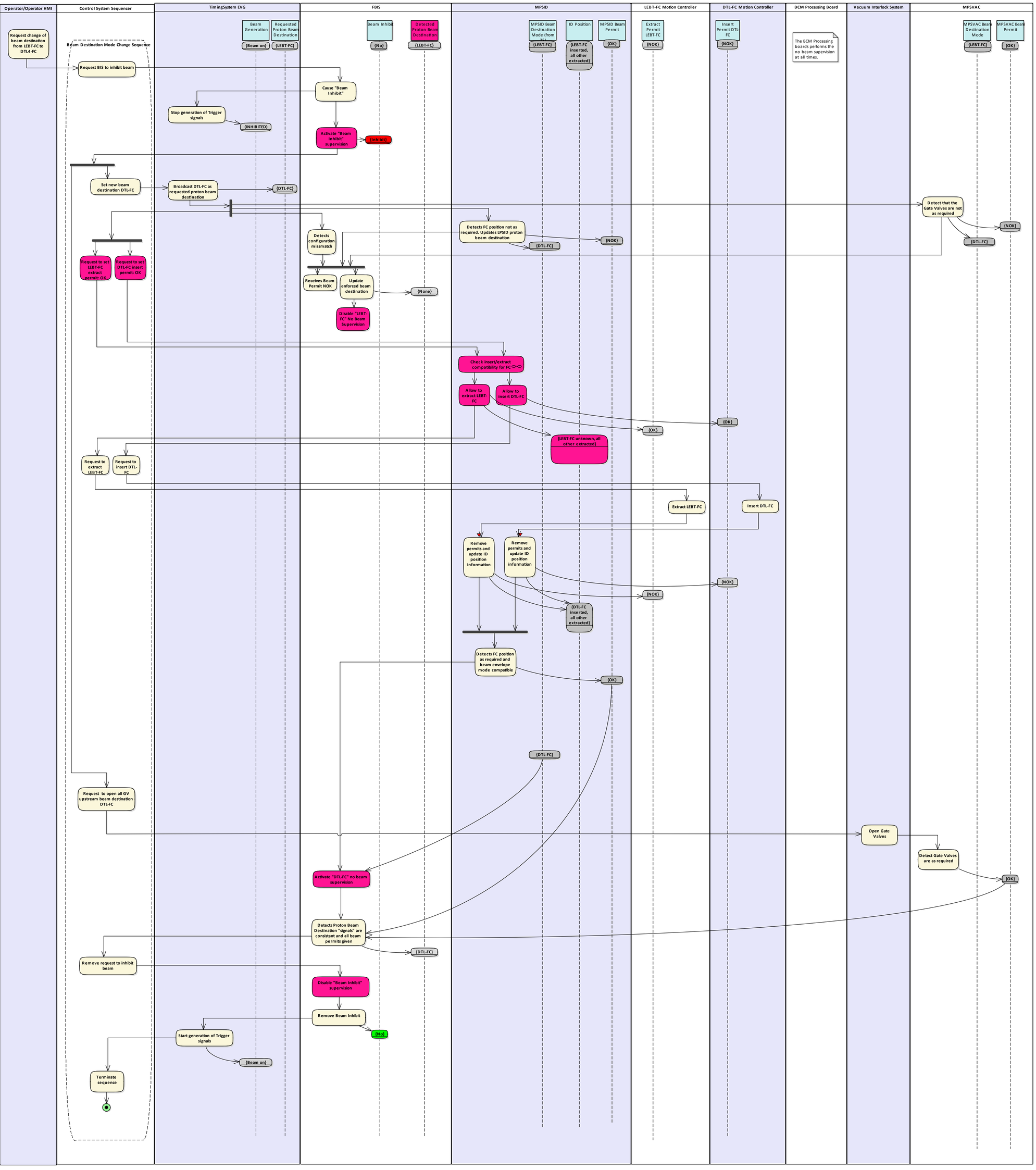
Operator/Operator HMI
Control System Sequencer
TimingSystem EVG
FBIS
MPSID
LEBT-FC Motion Controller
DTL-FC Motion Controller
BCM Processing Board
Vacuum Interlock System
MPSVAC
Request change of beam destination from LEBT-FC to DTL4-FC
Beam Destination Mode Change Sequence
Request BIS to inhibit beam
Beam Generation
Requested Proton Beam Destination
{Beam on}
{LEBT-FC}
Beam Inhibit
{No}
Detected Proton Beam Destination
{LEBT-FC}
MPSID Beam Destination Mode (from FC)
{LEBT-FC}
ID Position
{LEBT-FC inserted, all other extracted}
MPSID Beam Permit
{OK}
Extract Permit LEBT-FC
{NOK}
Insert Permit DTL-FC
{NOK}
The BCM Processing boards performs the no beam supervision at all times.
MPSVAC Beam Destination Mode
{LEBT-FC}
MPSVAC Beam Permit
{OK}
Cause "Beam Inhibit"
Stop generation of Trigger signals
{INHIBITED}
Activate "Beam Inhibit" supervision
{Inhibit}
Set new beam destination DTL-FC
Broadcast DTL-FC as requested proton beam destination
{DTL-FC}
Detect that the Gate Valves are not as required
{NOK}
{DTL-FC}
Detects FC position not as required. Updates LPSID proton beam destination
{DTL-FC}
{NOK}
Detects configuration missmatch
Request to set LEBT-FC extract permit: OK
Request to set DTL-FC insert permit: OK
Receives Beam Permit NOK
Update enforced beam destination
{None}
Disable "LEBT-FC" No Beam Supervision
Check insert/extract compatibility for FC
Allow to extract LEBT-FC
Allow to insert DTL-FC
{OK}
{OK}
{LEBT-FC unknown, all other extracted}
Request to extract LEBT-FC
Request to insert DTL-FC
Extract LEBT-FC
Insert DTL-FC
Remove permits and update ID position information
Remove permits and update ID position information
{NOK}
{NOK}
{DTL-FC inserted, all other extracted}
Detects FC position as required and beam envelope mode compatible
{OK}
{DTL-FC}
Request to open all GV upstream beam destination DTL-FC
Open Gate Valves
Detect Gate Valves are as required
{OK}
Activate "DTL-FC" no beam supervision
Detects Proton Beam Destination "signals" are consistant and all beam permits given
{DTL-FC}
Remove request to inhibit beam
Disable "Beam Inhibit" supervision
Remove Beam Inhibit
{No}
Start generation of Trigger signals
{Beam on}
Terminate sequence