1) Replace definitions of two ProcessTimestamp functions (OLT and ONU) with one common function:

ProcessTimestamp (Timestamp)

This function takes the PLID and the timestamp value from a received MPCPDU and checks whether the timestamp drift has exceeded the predefined device-specific threshold *DRIFT_THOLD*. In the ONU, this function sets the *LocalTime* variable to the value of the received *Timestamp* field (see 144.3.1.1). This function also measures the RTT value when the first timestamped MPCPDU is received on a given PLID link. Note that in the ONU, the measured RTT value is always zero. The *ProcessTimestamp* function is defined as follows:

```
ProcessTimestamp( Plid, Timestamp )
{
    if( FirstTimestamp[Plid] )
    {
        // The following line is executed only in the ONU
        LocalTime = Timestamp;

        Rtt[Plid] = LocalTime – Timestamp;
        TimestampDrift[Plid] = false;
        FirstTimestamp[Plid] = false;
    }
    else
        TimestampDrift[Plid] = abs(LocalTime – Timestamp) > DRIFT_THOLD
}
```

Note that the *LocalTime* value in this function represents the MPCP local time latched when the Envelope Start Header (ESH) containing the given MPCPDU was received, and not the time at which the *ProcessTimestamp(…)* function was executed. See 144.3.1.1 for more details.

2) Update the definition of *DRIFT_THOLD* constant.

144.2.1.1 Constants

DRIFT_THOLD

Type: Integer

Description: This constant holds the maximum amount of drift allowed for a timestamp received at the given device. Exceeding this drift causes ONU deregistration (either self-deregistration or deregistration by the OLT).

Value: 2 (for the receive channels operating at 25 Gb/s) or 3 (for the receive channels operating at 10 Gb/s)

Unit: EQT

3) Add definition of *FirstTimestamp[Plid]* variable.

FirstTimestamp[Plid]

Type: Boolean

Description: This variable indicates whether any MPCPDU with the given PLID value has been seen before or not. The *FirstTimestamp[Plid]* is initialized to true for any PLID value. After an MPCPDU is received from MAC instance corresponding to the given PLID, the *FirstTimestamp[Plid]* is reset to false and does not change for the given PLID anymore.

4) Update Control Parser and Control Multiplexor SDs as shown:

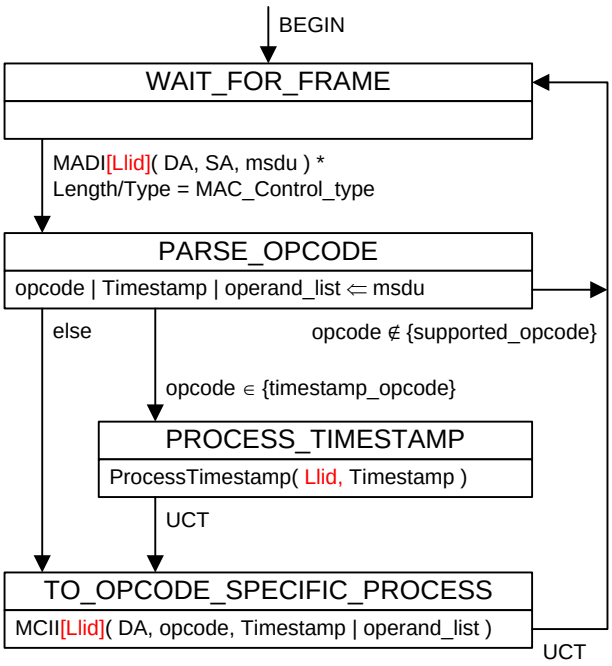

Figure 144–5—Control Parser state diagram

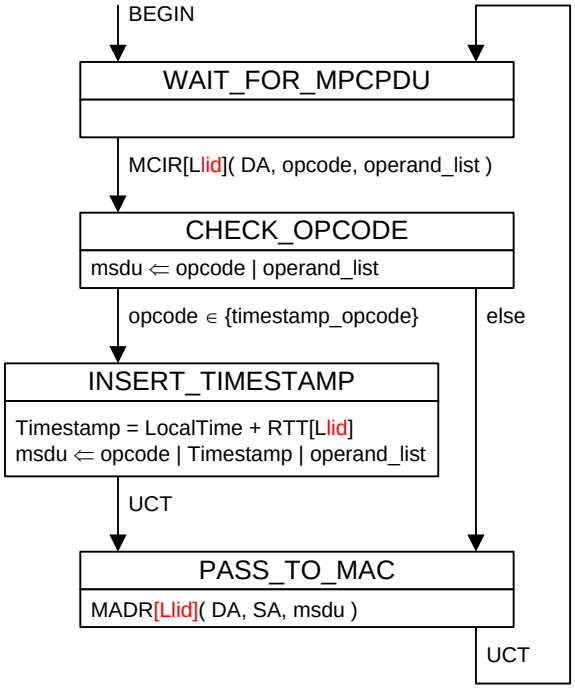

Figure 144–6—Control Multiplexer state diagram