REQUESTED REVISION:

STANDARD: 802.3-2015
CLAUSE NUMBER: 33
CLAUSE TITLE: Data Terminal Equipment (DTE) Power via Media Dependent Interface (MDI)

PROPOSED REVISION TEXT:

This MR pertains to Figure 33-16, page 657, the PD state machine.
Change the entry arc condition into IDLE to read:
(Vpd < Vreset) * mdi_power_required * !pd_reset

RATIONALE FOR REVISION:

The entry arc into IDLE reads "[(Vpd < Vreset) + !power_received] * mdi_power_required * !pd_reset"
The effect is that at ANY voltage below Vport_pd min, this condition will apply and reset the state machine to IDLE.
The intent is to allow a global override to reset the SM to IDLE when the PI voltage drops below Vreset, but this has been done incorrectly.
See comment #213 against D1.5 for P802.3bt

IMPACT ON EXISTING NETWORKS:

None.
21.5.3 State transitions

Any open arrow (an arrow with no source block) represents a global transition. Global transitions are evaluated continuously whenever any state is evaluating its exit conditions. When a global transition becomes true, it supersedes all other transitions, including UCT, returning control to the block pointed to by the open arrow.

In other words: unless a PD is powered, the SM will continuously flip back to the IDLE state. This entry arrow into IDLE has existed since 802.3at