Clause 64 and Coexistence Annex

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Background

1. The 802.3av project's scope is "to amend IEEE Std 802.3 to add physical layer specifications and management parameters…"

2. Accordingly, we have made some specific enhancements to MAC functionality for 10G management.
   - These are evident from the changed text in Draft 0.9 clause 64

3. Let's briefly consider possibilities for how to best include the 10G MAC functionality in the draft
   - By "MAC functionality" we include MPCP enhancements

Option 1: 10G MAC functionality is a superset of the 1G MAC

If the 10G MAC functionality is a *superset* of the 1G MAC, then:

- Unified clause includes functionality/state diagrams for all device types (ie. usual list):
  - Also should describe: 10G/1G OLT with legacy 1G ONU support
  - Also: Dual mode 10G/1G + 10G/10G ONU w/ dynamic US rate selection
  - Some of these state diagrams would go into the coexistence annex no doubt

- Two options for treatment of device state diagrams for 1G ONUs:
  a) Define unified state diagrams and make legacy devices a "special case" of these (and remove the 802.3ah state diagrams)
     - could accidentally make existing devices non-compliant

  b) Leave 802.3ah clause 64 text/diagrams (as in draft 0.91)
     - "1G ONUs do this but 10G ONUs do that"
     - this could get unwieldy because of multiple state diagrams for different devices
     - Still exists a possibility of making existing 1G devices non-compliant with the revised clause 64

Option 2: 10G MAC functionality coexists with the 1G MAC

If the 10G MAC functionality is a *revision* that coexists with the 1G MAC, then:

- 1G compliant ONUs and OLTs have zero interest in the 802.3av standard
  - No risk that compliant 1G device suddenly becomes non-compliant
- Clause describing 10G/10G and 10G/1G MAC and MPCP functionality should not include 1G ONU state diagrams
  - Suggests that Clause 64 should remain as is – and a new 10G MAC clause would refer back to it.
- Coexistence issues (ie. within a PON, or within a dual mode OLT) would be described in the coexistence annex
  - If we do things right, annex can be mostly informative, as we have already assured coexistence in our functional definitions