Comment:
The proposed specification of PS ANEXT is unnecessarily complex and should not involve the duplication of standardised cabling parameters, specifically insertion loss. 802.3an should define the requirements for a single, worst-case channel (as agreed at the November 2004 802.3an meeting) and then simply state how this may be met by different media.

SuggestedRemedy:
Refer to supporting presentation for details.
Replace the existing formula and text for PSANEXT (page 314 lines 12-21) with the following:

$$PSANEXT \geq ((28.6 + IL_{(250)})/1.04) - 10\log_{10}(f/100)\ dB \qquad 1 \leq f \leq 100\ MHz$$
$$\geq ((28.6 + IL_{(250)})/1.04) - 15\log_{10}(f/100)\ dB \qquad 100 \leq f \leq 500\ MHz$$

where $IL_{(250)}$ is the cabling channel insertion loss at 250 MHz

The above equations accommodate a minimum insertion loss to alien crosstalk ratio and allow PSANEXT requirements to be scaled with insertion loss. Insertion loss reduction can be achieved with shorter link segments and/or the use of larger cable conductors.

The following cabling implementations may be supported:

Channel Class	***Channel Length***	***Horizontal Cable***	***Total Cordage***	***Total Connectors***	***Channel IL $_{(250)}$***
Class F	*100m*	*90m Category 7*	*10m Category 7 @ 50% IL premium*	*four Category 7*	*33.8dB*
Class E	*100m*	*90m Category 6*	*10m Category 6 @ 50% IL premium*	*four Category 6*	*35.9dB*
Category 6	*55m*	*45m Category 6*	*10m Category 6 @ 20% IL premium*	*four Category 6*	*20.3dB*
Category 6 Augmented	*100m*	*90m Category 6A*	*10m Category 6A @ 20% IL premium*	*four Category 6A*	*33.8dB*

Delete subclause 55.7.3.2.2 PS ANEXT loss to insertion loss ratio requirements

Delete subclause 55.7.3.2.4 insertion loss for Class F channel

Delete subclause 55.7.3.2.5 insertion loss for Augmented Category 6 channel

Delete subclause 55.7.3.2.6 insertion loss for Category 6 channel of 55m