BUILDING GLOBAL COMMUNICATIONS

TR-42 – Engineering Committee on User Premises Telecommunications Infrastructure

Date: June 11, 2004

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From: Bob Jensen, Chair TIA TR-42 (robert.jensen@flukenetworks.com)

Subject: TR-42 Liaison Response to IEEE 802.3 on Augmented Category 6 Cabling

Thank you for your request for feedback on the cabling objectives identified in the March liaison letter to TR42. In our June 2003 liaison, we had informed IEEE of our plans to develop augmented category 6 cabling to be published as an addendum to the TIA/EIA-568-B.2 Cabling Standard.

The purpose of this letter is to inform IEEE 802.3 of the results of our development work on augmented category 6 cabling, which will provide the basis for the feedback requested in your March liaison.

Our initial results are that augmented category 6 cabling shall meet, as a minimum, the recommendations of draft 1.0 TSB-155 (enclosed) and the transmission requirements of ANSI/TIA/EIA-568-B.2-1 category 6 and ISO/IEC 11801 Ed2:2002 Class E channels with additional enhancements as follows:

1. Channel Insertion Loss (IL) shall meet ISO/IEC 11801 Ed2:2002 Class F channel specification

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2. Channel Power Sum Alien Near End Crosstalk (PSANEXT) shall meet:
   $PSANEXT \geq 60 - 10\log(f), \quad 1 \leq f \leq 100$ MHz
   $PSANEXT \geq 60 - 15\log(f), \quad 100 < f \leq 625$ MHz

TIA TR-42 is continuing the development work on augmented category 6 cabling; including test procedures for alien crosstalk measurements and validation of the transmission performance at extended frequencies up to 625 MHz. We will inform you of future developments on a timely basis. It is anticipated that the first draft addendum on augmented category 6 cabling should be available following our next scheduled meeting of TR-42 in October 2004. The intent is to have an approved standard coincident with the development schedule for IEEE 802.3an 10GBASE-T.

We request that IEEE 803.3an adopt augmented category 6 cabling as a media objective. Augmented category 6 cabling specifications shall support the proposed IEEE 802.3an 10GBASE-T application over a worst-case 100 meter, 4-connection topology.