Project	**IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16>
Title	**Mandatory Hybrid Automatic Repeat Request (HARQ)**
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Re:	Re: MAC: Data/Control Plane; in response to the TGm Call for Contributions and Comments 802.16m-08/040 for Session 58
Abstract	This contribution proposes the requirement of mandatory HARQ
Purpose	To be discussed and adopted by TGm for use in the IEEE 802.16m SDD
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Mandatory Hybrid Automatic Repeat Request (HARQ)

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1. Introduction

HARQ (Hybrid Automatic Repeat Request) mechanism is employed to enhance the system performance under a low signal strength environment by retransmitting the unsuccessfully received packets. Currently, HARQ is an optional mechanism on the transport and control connections. This proposal is to suggest HARQ as a mandatory requirement for these connections.

2. Problem Definition

Currently, HARQ is an optional mechanism for error recovery on the transport and control connections, when in fact, HARQ performs better than ordinary ARQ in poor signal conditions. Having a combination of HARQ and non-HARQ bursts adds complexity and overhead to allocation and processing for the air interface, and is unjustified given that HARQ improves the link budget with fairly minimal increased overhead to the air link.

3. Proposed Solution

Require all terminals and base stations to include HARQ as a standard for transport and control connections. With HARQ as a default standard, SS network entry will be simplified and improved.

Minimum agreed upon initial parameters will need to be defined.

4. Proposed Text

Modify 10.2 in the SDD as:

> **10.2 HARQ Functions**
> HARQ is mandatory for both downlink and uplink unicast data traffic at both BS and MS. Minimum agreed HARQ initial parameters are FFS and are mandatory for BS and MS. The exact configuration of HARQ for management messages is FFS.