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Re:	802.16e/D5
Abstract	This supplementary contents for MSS offline management in PKM message
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## Enhancement of PKM message for MSS offline management

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### 1. Introduction

PKM doesn't consider the MSS offline management in IEEE 802.16e/D5a. In this contribution, we suggest some contents needed to be supplemented so that the PKM is fully operated for the MSS offline management.

### 2. Proposed changes

#### 6.3.2.3.9 Privacy key management (PKM) messages (PKM-REQ/PKM-RSP)

[Insert the following rows into Table 26 in section 6.3.2.3.9, and change the last line in the table:]

**Table 26 - PKM message codes**

Code	PKM message type	MAC Management message name
0-2	reserved	-
3	SA Add	PKM-RSP
4	Auth Request	PKM-REQ
5	Auth Reply	PKM-RSP
6	Auth Reject	PKM-RSP
7	Key Request	PKM-RSP
8	Key Reply	PKM-RSP
9	Key Reject	PKM-RSP
10	Auth Invalid	PKM-RSP
11	TEK Invalid	PKM-RSP
12	Auth Info	PKM-REQ
13	EAP Transfer	PKM-REQ/PKM-RSP
14	EAP Establish-Key Request	PKM-RSP
15	EAP Establish-Key Reply	PKM-REQ
16	EAP Establish-Key Reject	PKM-REQ
17	EAP Establish-Key Confirm	PKM-RSP
18	Pre-Auth-Request	PKM-REQ
19	Pre-Auth-Reply	PKM-RSP
20	Pre-Auth-Reject	PKM-RSP
21	PKMv2 Auth Request	PKM-REQ
22	PKMv2 Auth Reply	PKM-RSP
23	Key Update Command	PKM-RSP
24	Offline-notification	PKM-REQ
25~255	Reserved	-

**6.3.2.3.9.22 Offline notification message**

The MSS transmits the offline notification message in order to notify BS that the connection between the MSS and the BS shall be broke down. This message is defined only in a MSS. If the BS receives the offline notification of the MSS, all information for the MSS should be eliminated in the BS.

Code: 24

Attributes are shown in Table 371.

**Table 371—Offline Notification attributes**

<b>Attribute</b>	<b>Contents</b>
MSSID	The ID of MSS which sends offline notification message to its serving BS.
HMAC Tuple	Message Digest calculated using HMAC_KEY

The MSSID attribute is the ID of MSS which sends the offline notification message to its serving BS.

The HMAC Tuple attribute shall be the final attribute in the message's attribute list.

Inclusion of the keyed digest allows the receiving BS to authenticate the offline notification.