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Title	**Deactivation procedure of mobile RS**	
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Re:	Call for Technical Proposals regarding IEEE project P802.16j	
Abstr act	Propose deactivation procedure of mobile RS for MMR and change the technical tables.	
Purp ose	Adoption of the proposed text and tables	
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Deactivation Procedure of Mobile RS

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1. Introduction

We propose the deactivation procedure of mobile RS (MRS). The deactivation procedure of MRS has an object for MMR BS to decline to accept the network entry procedure.

We consider that this deactivation procedure has two methods for initial ranging and handover.

Finally, we would like to change the technical tables of a parameter of RNG_RSP message encodings and its value.

2. Suggested Remedy

2.1 Usage model

We can use the usage model like the figure-1. We usually assume that RS is fixed RS as a mesh network. But, mobile RS may be moving into the cell which consists of fixed RS and MMR BS.

We consider that MMR BS has a number of fixed RS and the resource allocation of MMR BS has full of resources for fixed RSs. The MMR BS can not be acceptable for additional network entry for mobile RS (MRS). Therefore, the MMR BS has to be declining network entry for MRS. If not, MRS is going to repeatedly request network entry to the MMR BS. As a result, The MMR BS and MRS have lead to increase the power consumption and operational overhead.
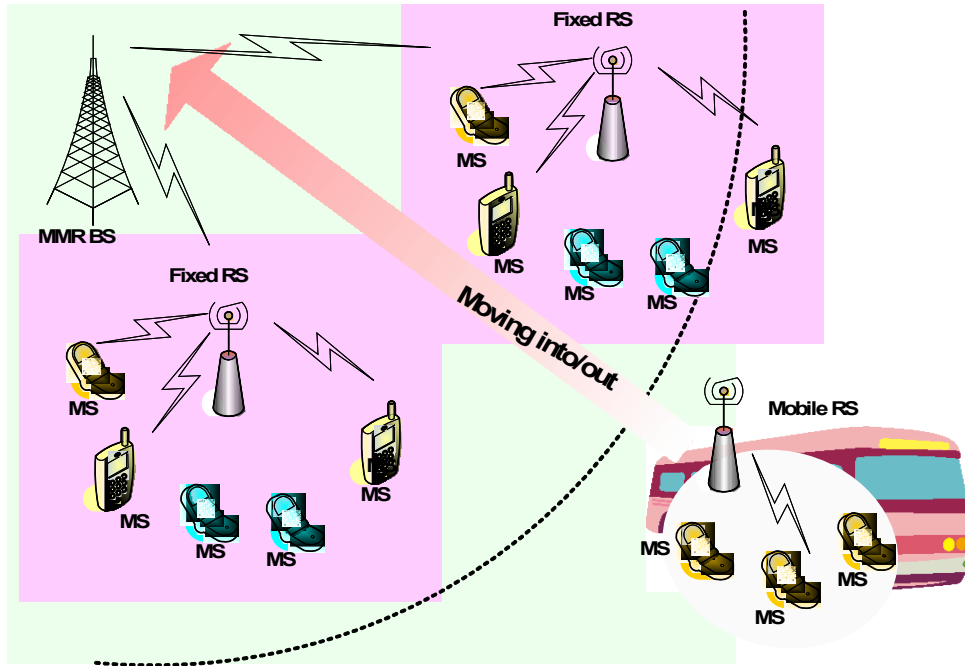
Figure-1. Usage model for network entry of MRS

2.2 Operation scenario

We can be dividing into two methods for deactivation of MRS which are when the MSs initially request for network entry from the MRS group and MRS group is running for hand over (HO).

Firstly, as the figure-2, we can apply deactivation procedure to MSs attempting initial ranging for network entry after PHY and MAC synchronizations. If deactivation=1, MRS is in the deactivation state which is means that the moving MRS not request for network entry procedure any longer until moving into the new cell with MMR BS which is detected by PHY preamble including the its cell ID.

Secondly, if some MSs within the MRS group is running for HO, we can use parameter of SLP(service level prediction) by setting the value (=no service for this MRS) to 1 as shown by figure-3. This means that HO service for MSs of MRS group retains while declining the other MSs except for HO servicing MSs to request network entry.

```
                              ┌─────────────┐
                              │    start    │
                              └─────────────┘
                                     │
                                     ▼
                  ┌──────────────────────────────────────┐
                  │  MS within MRS group is requesting for │
                  │             network entry              │
                  └──────────────────────────────────────┘
                                     │
                                     ▼
                  ┌──────────────────────────────────────┐
                  │   MRS is required to initially send the │
                  │    RNG_REQ message to MMR BS           │
                  └──────────────────────────────────────┘
                                     │
                                     ▼
                              ╱───────────────╲
                             ╱   Deactivate ?  ╲
                             ╲                 ╱
                              ╲───────────────╱
                                     │  yes
                                     ▼
                  ┌──────────────────────────────────────┐
                  │  MMR BS is required to send parameter  │
                  │ (deactivation=1) through the initial ranging │
                  │        response (RNG_RSP)              │
                  └──────────────────────────────────────┘
                                     │
                                     ▼
                  ┌──────────────────────────────────────┐
                  │  The MRS retains deactivation states Until │
                  │       cell is changed to another one   │
                  └──────────────────────────────────────┘
                                     │
                                     ▼
                              ┌─────────────┐
                              │   The end   │
                              └─────────────┘
```
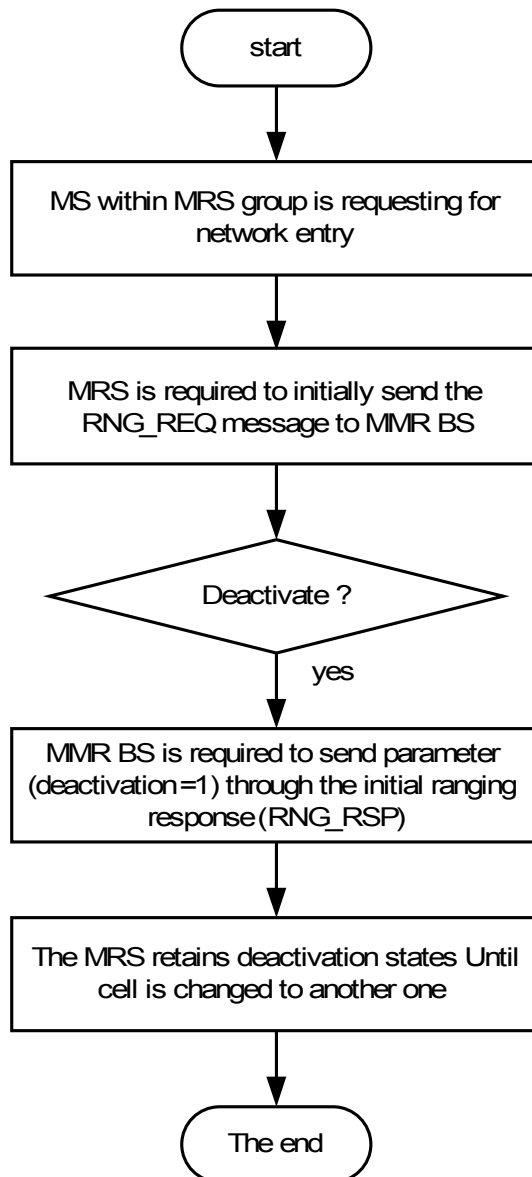
Figure-2. Deactivation procedure of MRS when initially requesting for ranging

start

MS within MRS group is requesting for network entry

MRS is required to send the RNG_REQ message to MMR BS for HO

Deactivate ?

yes

MMR BS is required to send no service for this MRS of SLP parameter through the ranging response (RNG_RSP)

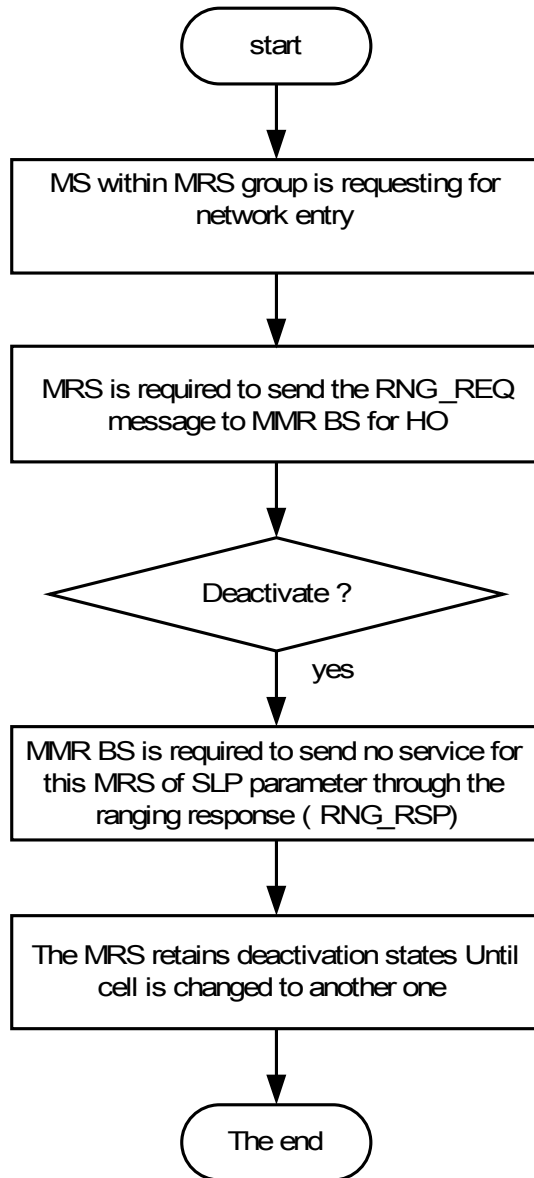The MRS retains deactivation states Until cell is changed to another one

The end

Figure-3. Deactivation procedure of MRS when running for HO

Figure-4 shows you comprehensive flow diagram of deactivation procedure for MRS. There is MRS between the MMR BS of target cell and serving cell. Then, we consider that MRS may be moving into the target cell out of the serving cell. Initially network entry is not counting on serving cell which is just regarding to running for HO procedures.
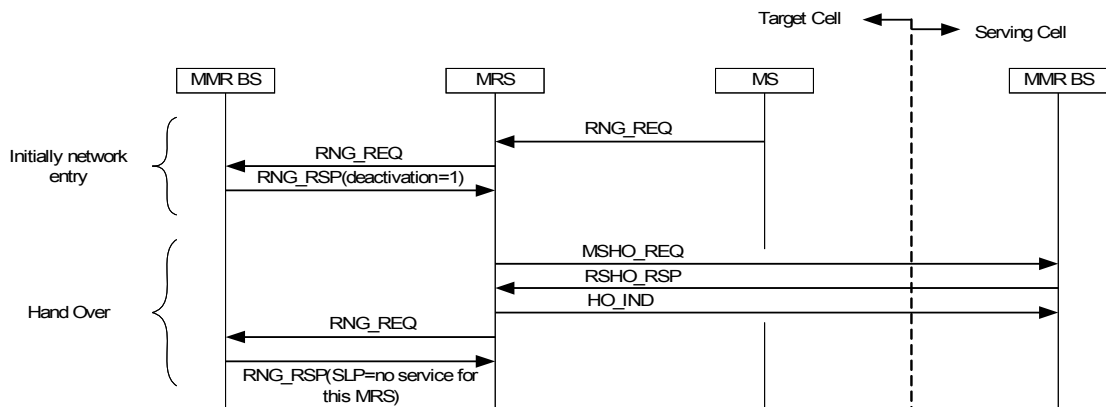
Target Cell   Serving Cell

| MMR BS | MRS | MS | MMR BS |

RNG_REQ

Initially network entry

RNG_REQ
RNG_RSP(deactivation=1)

MSHO_REQ
RSHO_RSP
HO_IND

Hand Over

RNG_REQ

RNG_RSP(SLP=no service for this MRS)

Figure-4. flow diagram of deactivation procedure for MRS

3. Proposed Text Change

Change the followings rows in Table 367 as indicated:

Table 367-RNG-RSP message encodings

Name	Type (1byte)	Length	Value (variable-length)	PHY Scope
MRS_deactivation	1	1	1=deactivation mode	All

Insert the following rows to Table 367:

Table 367-RNG-RSP message encodings

Name	Type (1byte)	Length	Value (variable-length)	PHY Scope
Service Level Prediction	17	1	This value indicates the level of service the MS can expect from this BS. The following encodings apply: 0=No service possible for this MS 1=some service is available for one or several service flows authorized for the MS. 2=For each authorized service flow, a MAC connection can be established with QoS specified by the Authorized QoS Parameter Set. 4=No service possible for this RS	All