**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **Proposal of scenario for routing recovery time** | |
| Date Submitted | 30 July, 2014 | |
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| Re: | [Scenario to evaluate routing recovery time] | |
| Abstract | [This document provides a proposal scenario for routing recovery time to extend #0489 – performance metrics for proposal evaluation] | |
| Purpose | [To discuss] | |
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**Proposal**:

To evaluate routing recovery time as one of the performance metrics for proposal evaluation, we assume that it will need some common scenario that links go down and come back to check if routing recovery works and to check how long it takes.

We use 3 square grid units radius as radio range for each node. When the nodes in the area larger than 5x3 go down, the neighbors have to change route drastically. The figure shows an example for the 11x11 topology. For the larger topology, disabled area may be larger like 6x6 for 33x33 and 20x20 for 100x100.

These nodes are unavailable for a certain period of time. (e.g. 1 hours – 2 intervals of packet birth rate) After the certain time, all nodes get available. We observe re-routing at 2 timings. This unavailable area prevents some node to use candidate of parent nodes which has low path cost or which is closer and the node needs to change the route. Red directional line shows the node cannot use candidate of parents.

Figure 1: An example route recovery scenario for 11x11