27ᵗʰ March 2006

Mesh Logix Inc.
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To,

MSHA,
Office of Standards,Regulations, and Variances,
1100 Wilson Blvd., Room 2313,
Arlington, Virginia 22209-3939.

Sub: RIN 1219-AB44 (Underground Mine Rescue Equipment and Technology)

     This information is submitted in response to MSHA's RFI "Underground Mine Rescue Equipment and Technology" dated January 25ᵗʰ 2006. Mesh Logix Inc. has a product under development 'MeshNet', which is better suited for harsh environments like Underground Mines. MeshNet provides a Wireless Infrastructure that can be used for two-way communication, real-time miner location information, real-time sensory information and also safe exit indication during emergency situation. The attached onepager gives the detailed information about our MeshNet. Please feel free to contact Mesh Logix Inc. for more information.

Best Regards,
Mesh Logix Inc.

AB44-COMM-82

MeshNet Feature List

- Completely Wireless Infrastructure
- Easy to Deploy, Extend and Maintain
- Forms a Self Configuring and Self Healing Network
- Hand held Wireless Devices for two-way paging communication with Control Center
- Gateway to connect Wireless Infrastructure to Customer's intranet
- Ability to get real-time location information of the Miner using the hand held device.
- Ability to get real-time sensor data from the sensors(temperature/pressure/Gas etc.) attached to Network Elements.
- Ability to use the Network Element's visual indication for safe exit in case of emergencies.
- MeshNet Infrastructure Elements with Explosion Proof Casing.

MeshNet In Use:

Communication:
Mesh Net provides two-way communication between Miner and Control Center. Miner can use the hand-held device's keypad to send an alpha numeric message to Control Center. Similarly Control center can also send a message to a specific Miner which will be displayed on hand held device. Miner and Control Center can send/receive specific emergency codes in order to reduce the response time. Since MeshNet is self configuring and self healing network, it is tolerant to certain level of infrastructure damage and the communication will be alive as long as the message can find an alternate path between Miner and Control Center.

Sensory Information:
MeshNet's infrastructure elements can be equipped with various sensors to monitor variety of physical information(depending on the Mine type) like temperature, light, pressure and Gases etc.. Control Center can query this information to get the real-time sensor information. And also the MeshNet infrastructure elements can be programmed with predetermined thresholds and send alert messages to Control Center if any of these thresholds exceed. This MeshNet's Early Warning System capability gives Control Center and insight in to the Mine and take appropriate action if required like warning Miners to evacuate or remote shutdown of equipment or calling for emergency services etc..

Location Information:
MeshNet's infrastructure elements maintain the physical location of a Miner using the Miner worn MeshNet hand held device. Control Center can query a specific Miner location(using the hand held device) and also will get notified of any major changes to his location. This gives an ability to Control Center to keep track of Minor's last known location in case of rescue operations.

Safe Exit Indication:
MeshNet's infrastructure elements provide a visual indicators for safe exit in case of emergencies. MeshNet will turn on these visual indicators appropriately during emergencies and also Control Center can override with its own settings.