



OSM and Virginia share technology on Mobile Applications! by Jonathan Middleton, GIS Technician, OSM

Over the past year, the State of Virginia's Department of Mines, Minerals, and Energy (DMME) has been working to finish development of a new field application which allows their staff the ability to view permit information outside the office. This application is called the MMEGIS and programmers used ESRI ArcObjects for development. The application operates remotely with the help of ArcEngine, also an ESRI product. DMME paid for a contractor to develop this application, however needed financial assistance with the acquisition of the ArcEngine licenses necessary for field use. DMME asked TIPS for assistance, and TIPS was able to fund the purchase of 35 licenses of ArcEngine for the Virginia program.

In January of 2009, DMME shared this application with OSM's Knoxville Field Office (KFO), with the goal of allowing their personnel access to mine permit data while working in the field. KFO conducted a successful mobile GIS test of the MMEGIS during field work on September 15th, 2009.

The first step of the field test was to connect a GPS receiver to a laptop by using wireless Bluetooth. With this connection, the field personnel were able to receive GPS coordinates from the receiver and display the location in ArcPad and in the MMEGIS.

Displaying the locations in ArcPad went off without a hitch and field personnel were able to use the laptop in the same way as you would a PDA. The MMEGIS viewer also worked in the field, but it encountered some difficulties at first when attempts were made to start the GPS inside the viewer. This problem was corrected when the viewer was configured correctly so it connected to the setup file and would load in the coordinates file. The viewer required a file that showed it where to store GPS coordinates. Configurations were made to the viewer so that following this discovery; personnel were able to display the current site location on the laptop screen inside the viewer. The test was also successful in accessing KFO's geodatabase and adding in datasets such as permit boundaries, basins, and monitoring

points. Once the configuration was complete and the map was saved, the configure steps would not have to be performed again.

Overall, the MMEGIS can be used in the field to display GIS datasets and also AutoCAD drawing files. Field personnel will have the ability to view not only the data associated with their permits, but all the data for the entire TN Coalfield. Joy Keegan, a KFO mine site inspector, expressed that she liked the fact that she could see data from other permits on her laptop. Having data for the entire coalfield is beneficial because inspectors are able to have the data at their finger tips and can assist other inspectors at other mine sites. The viewer can be used by anyone that currently has a laptop with wireless Bluetooth capability.