

**NCMGC Working Session Notes**  
A National Discussion about Coal Mining Geospatial Issues

2008 Geospatial Conference  
Atlanta, GA  
March 26, 2008

The afternoon working session provided an opportunity for SMCRA Geospatial Data Stewards, their managers, and all attendees to ask questions, provide comments, and discuss issues presented at the morning NCMGC business meeting. Topics offered for discussion included training, recruitment, public outreach, possible meeting with MSHA on coal mining geospatial data coordination, small SMCRA programs assistance, and the coal mining spatial datasets approved for standards development at the business meeting. Bill Card, Chairman of the NCMGC, served as session moderator.

All discussion during this session concerned coal mining spatial datasets approved during the business meeting for which standards will be developed by the Coal Mining Spatial Data Standards ASTM Task Group. This task group was formed about two years ago, and they have now produced two approved standards: coal surface mining boundaries and coal underground mining boundaries. Developing standards for the coal mining spatial datasets approved in the business meeting will support Title 4 (Abandoned Mine Lands) and Title 5 (Regulatory) programs.

Discussion

Larry Lewis (IL AML program) – The proposed future AML datasets appeared to be oriented more towards pre-reclamation concerns and data vs. post-reclamation information. This future dataset seems to be focusing on what AMLIS focuses on and even though this is important data and information for the public, he thought that post reclamation uses of land were more important for the public to know. He thought that the public would be more interested in post reclamation. He proposed adding this type of post reclamation data: sealed mine openings, covered mine refuse, high wall backfill, AMD backfill, etc. He stated these would provide more desirable information to the public.

Nick Schaer (WV DEP) – For example, AML refuse sites are not part of the data that is provided in AMLIS. The states would have to create all this data for these refuse and slurry sites on their own. Is that something we can ask of them? Is it reasonable to ask them for this data? He commented that the pre-reclamation data is very useful for future land use.

Len Meier (OSM Mid-Continent Region) – Agreed with the concern that Illinois had. There have been and are issues in the Midwest where houses were built on regraded mine spoil, and now those families are dealing with very high levels of CO<sub>2</sub> in their homes. This is a health issue and because it affects the public's health it is an important issue to address.

Mike Sharp (OK AML program) – The issue being discussed can be solved through the attributes of the data layer and that project polygons may cover the above feature concerns.

Kathy Rossmann (OH) – We already have an AML project area and an AML problem site area identified as two possible data layers for standards development. She recommended specifying the reclamation information as attributes: how it was reclaimed, the kind of reclamation... etc in the AML project area layer. This would address this concern.

Larry Lewis – AMLIS is a planning orientation tool and it is general by nature. AMLIS captures and takes advantage of reclamation work that is going on so people will know what went on at that site. We should give the public an opportunity to take advantage of the layer and the data. He has concerns that the Project Area polygons will be too generalized. We need to capture and take advantage of the engineering efforts going on that has corrected the AML problems.

Bill Card (OSM Knoxville Field Office) – The narrative descriptions given during the business meeting for the proposed datasets are a “first draft” approximation of what the final product will be. Descriptions and attributes may change as the ASTM data standards task group works on developing standards for these datasets. The task group will need assistance from subject matter experts to help them address and resolve concerns. Also, there is no connection at this time between development of these standards and future AMLIS modernization efforts.

Roger Calhoun (Director of OSM Charleston Field Office) – Asked whether the AML datasets planned to include hydrologic planning unit boundaries. Someone in the audience said – yes, they are in the plans.

Larry Evans (WV DEP) – Pointed out that WV spends money to replace water systems affected by AML sites. The public probably wants to know where these public water supplies are located. He also wanted to see a layer that located the AML underground mine fires because of global warming concerns.

Kathy Rossmann – Who has a layer that shows where the public water supplies are located? This information is in the public domain and should be kept with the state/city/local municipality.

Joe Taranto (PA DEP) – Everyone has a feature or a layer that they want a standard written for. What is the driver for creating these standards? Why are we creating them? Public use is a high priority. OSM has a handle on where these sites are since they are the ones funding the states. Joe wasn't sure how much the public would be using some of these datasets (recommended in the morning session for which standards will be developed), for example, bonding increments. What is the priority of the committee?

Bill Card - Technology is moving SMCRA organizations towards a digital office. In that type of working environment, we will use very little if any paper. We need standardized spatial data formats for the efficient management, exchange, and reuse of our coal mining spatial data. There is a growing public expectation that we should be able to provide public access to government data resources. Bill briefly discussed Executive Order 12906 and OMB Circular A-16.

The following point summary is from a conversation between Bill Card and Joe Taranto.

- Standardized coal mining spatial data will provide better data transfer among industry, the regulatory authority, other government organizations, and the public.
- We should identify coal mining spatial datasets for standards development that are common to most of the state programs.
- Developing coal mining spatial data standards is an important step towards a digital office.
- But is the natural next dataset for standards development bonded increments?
- If bonded increments is not the next natural step, which dataset would be more beneficial to look at next?

Bill Card to Joe Taranto – You are a Title 5 guy, but you also do Title 4?

Joe said he does both and that when looking at the next natural step for the next dataset he was looking at the whole situation from a use standpoint. Who is going to use these standards? Who will they help the most? How much use will the Title 4 layers vs. the Title 5 layers get? Joe sees more use in addressing and creating data layers from AMLIS Title 4 issues- than he does from Title 5 regulatory issues.

Bill Card – For the moment, there has been no decision on which datasets will be worked on first or which projects/standards have priority.

Ken Eltschlager (OSM Appalachian Region office) – We need to document where the footprints are with regard to coal, coal mining and coal mining problems. We need to figure this out so we can see where potential CO<sub>2</sub> problems might occur, where public safety issues might occur ... etc. We need to ask the states- what is the interest for each state or area in these issues? When we have all that covered, then we might have an easier time setting our priorities.

Bill Card – Some states are already capturing underground coal mining boundaries and other types of coal mining impact areas such as slurry and refuse impoundments, fills, etc.

Daniel Kestner (VA DMME) – These standards are only setting the minimum requirements for a coal mining spatial dataset. These minimum requirements will apply to all/most of the state programs. In the end, the states can have any attributes they want in their data layers. The point here is to look at the issues in a big picture framework.

Mike Dunn (OSM Appalachian Region office) – Suggested changing the name of the “acid mine drainage” (AMD) dataset to “mine drainage” to include all types of mine drainage whether acidic or not. There was a consensus in the audience.

Nick Schaer – We may be missing underground mine areas that are proposed but not approved. Proposed underground mining areas are of great importance and intense interest to the public.

Bill Card – All comments concerning these future datasets should be sent to either him, Daniel Kestner, or Tom Galya.

Len Meier - Which states are ready to develop datasets for these standards?

Doug Mullins (VA DMME) – A lot of the states don’t have this data prepared in a format that is available to other people and the public. What is their motivation to get this data together and organized? Who is paying for these extra man hours?

Bill Card – As SMCRA organizations move towards a digital office, they need to have a way to deal with coal mining spatial data that will be coming in to them from industry as electronic files. Electronic permitting also will be dependent on electronic file transfer. We all need to be preparing for this digital working environment. To get ready for this change, the states need to move in that direction. Many states will need to review and upgrade their business processes. The future modicum of data exchange will be digital. Accountability issues regarding our management of coal mining regulatory programs and stewardship of the land will require us to rely on coal mining spatial data for answers. We will be expected to have this spatial data available as part of our regular business processes to fulfill our obligations. The funding question I can’t answer right now, but it will be addressed at some point.

Chad Kopplin (WY) – As our office has started this transition, we’ve had a complete IT implementation. We have brought together all our different divisions in the process of going through this change so everyone is on the same page. Our challenge was to get people to cooperate with the project. Some divisions were very resistant to the project, but GIS seems to have brought a sense of optimism from those who were resistant. We have had great success from the cooperation of the IT group to everyone within the process being developed working smoothly together. As this transition spreads out and touches all the offices, and not just in OSM, all the agencies are going to share their data together. We might have problems because there will always be those groups who don’t want to share their data with others. But as everyone else becomes all digital and all electronic and they see how fast it takes to turn projects and reports and data around, they will probably want to join everyone else and they will start sharing their data.

Larry Evans – The Bragg litigation in WV revealed at great expense (\$4 million in litigation and associated costs) that enterprise GIS could have answered a lot of hard questions raised by the mountain top mining issue that existing non-spatial information

systems were unable to answer. We should make sure that in the process of sharing our data with the public, we can defend against threats.

Len Meier – It is equally important to identify the important datasets for the future.

Nick Schaer – Expressed concerns about the AMD point dataset.

Roger Calhoun – In response to Nick Schaer's concerns about including information that the RA was not required to collect relating to water quality, Roger pointed out that bond release standards require background water data prior to final bond release. But the main point of having some way to show if a permit requires water treatment is because the inventory of permits and forfeitures will show some very old sites still on the books as active or unreclaimed decades after mining or forfeiture. In the east, one of the main reasons for this delay is water quality issues. Therefore, having some attribute related to water quality or even a simple "yes/no" block on the need for treatment would go a long way to explaining what may initially look like anomalies in the database.

Catherine Dreesbach (MT) – These standards are not set in stone and can be discussed. Nothing is final. We need everyone's inputs. The east and the west coal mining industries have different interests and different concerns with regard to, for example, public health and safety and even places of interest. Montana might be more interested in seeing a data layer depicting the locations of raptor nests while the biggest concern in Pennsylvania may be subsidence. We have to find the standards that are common and stick with those. These standards are voluntary and the states don't have to follow them. MT is now developing its own data standards for internal use.

Joe Taranto – Which states are developing datasets for surface and underground mining boundaries? Most states do not have these boundaries. WV and VA are the minority, not the majority. We need to find this out because this will help guide us to which standards we should do next. Money is tight in the Title 5 program. This might help to guide us as well.

Unknown speaker – Attendees were reminded of our goal to create minimum, voluntary standards for sharing coal mining spatial data with others at a national level. We don't need to get so detailed right now.

Goran Radinovic (OK) – NCMGC had provided funding to attend the ESRI training course "QA/QC for GIS Data". He has built a geodatabase for OK containing more than 80 permit boundaries. OK has about 400 permits. Their digitizer broke down, and he is requesting technical assistance to get it repaired so he can continue work. Len Meier will contact Goran for getting repairs to the digitizing board.

Russell Kirkham (AK) – Wants the standards process to move as fast as possible to promote sharing of coal mining datasets.

Chad Kopplin – TIPS had conducted customized GIS training in Casper and it was a great success. The course provided exactly what WY needed. 26 people were trained.

Alan Wilhelm (OSM Western Region office) – TIPS had developed and provided custom training to deliver to WY and it proved to work out really well.

Debb Bell (CO) – CO has definitely benefited from TIPS training and, after receiving vendor training, they have now created geodatabases.

Guy Welch (ND) – Once you start using GIS for coal mining regulatory work, you won't go back to the old way to of doing things. GIS is a valuable tool, and we use it daily during our reviews of permit applications, revisions, bond release applications, annual mine maps reviews, etc. We do not use paper maps anymore during mine inspections! We use ArcPAD, NAIP imagery, and GPS with tablet computers during mine inspections. It's great!

Mike Dunn (OSM Appalachian Region office) – Who are the small program states? Someone in the audience responded OH, IA, MS, AK, (+ 4 more)