

THE ILLINOIS EXPERIENCE WITH ELECTRONIC PERMITTING

by

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Abstract. The Illinois Office of Mines and Minerals is a multifaceted electronic office. A relational database is used for application tracking, permit record keeping, bond management and automated report output to meet both OSM and state information needs. A document imaging system for documents and maps is used primarily as an archiving tool to reduce paper storage. Two workshop have been held with the industry and consultants to encourage electronic submittal of applications, including the maps. To date the information flow for maps has been mostly one way, from the state to the industry. Progress has been slowed by competing demands on staff time, large scale personnel changes in the industry, and software compatibility. Advances in ArcView and AutoCad MAP are making the translation of AutoCad files from the industry easier into the state's ArcInfo GIS. Future plans include imaging paper applications when submitted, working more with the industry to encourage electronic applications, more use of the GPS, and making ArcView available at the desktop for all inspectors.

Additional Key Words: electronic permitting, GIS

Introduction

Many different things come to mind when electronic permitting comes is mentioned. The simplest idea is storing permit data and producing related correspondence electronically. Today that concept can be expanded to include receiving, processing and recording application information in some type of electronic format. This would be the true paperless office. Most of us are somewhere in between with plans to shift away from paper permitting as much as possible in the future.

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Current Status

Permit Databases and Word Processing

The Illinois Office of Mines and Minerals, Land Reclamation Division currently maintains a relational database "COALDATA" for:

1. Permit application tracking
2. Issued permit record keeping, including;
 - A. Acreage and bond management.
 - B. Revisions
 - C. Enforcement actions.

This system also can generate reports to meet annual reporting requirements for the state and OSM. All form letters are available in word processing format. Many have been converted to a form with merge capabilities Annual aerial photography is available in digital format as well.

GIS System

Currently a number of permit maps are redrawn into the OMM GIS system. The coverages include:

1. Permit boundary
2. Approved post mining land use/capability map
3. Incremental bonded areas
4. Annual affected acreage map for surface disturbances.
5. Bond release status map.
6. Ground water well location

Imaging and Archiving

In addition to the GIS system, the division has an ongoing imaging program to archive reports from the operators as well as all maps and permit applications for closed mines and older information from mines which are still inspectable. Archived images are available at each desktop workstation.

Web site - <http://dnr.state.il.us/mines.html>

A web site is maintained for the public and the industry to view and print the following:

1. Statute
2. Regulations
3. Forms
4. General agency information
5. Many outside mining links

The above systems provide for the tracking and storage of data which has to be manually entered or drawn into an electronic media. Although there are significant advantages to possessing this information in that format, obtaining the information in an electronic medium directly from the operator when possible would be an obvious improvement. The division is encouraging operators to submit their applications and reports electronically, since most permit applications and reports are prepared in this format and then converted to paper for submittal to the agency.

Workshop Experiences

In an attempt to make progress on this initiative, the division has held two workshops with the industry and its consultants. To date the experiences from the workshops has shown that the transition to electronic permit submittals is more difficult than anticipated. The first workshop, held in 1994 revealed several problems.

These included:

1. We did not target the correct audience. Many permitting people came, but had neither the technological background to understand all the concepts nor had the authority to make commitments to making the required changes to the way they prepared permit applications.
2. We did not have sufficient background on the technology status of the individual operators. There was a wide range of technological capability between companies and the presentations were not tailored to meet those capabilities.
3. The available technology was not advanced enough to deal with different software compatibility. The division uses ArcInfo for all its mapping, whereas the industry predominantly uses AutoCad.

As a result the workshop did not result in any electronic applications.

To have an effective second workshop the lessons from the first were addressed. First, we did an advance survey to outline our goals and objectives and to obtain sufficient background about operator software and georeferencing coordinate system. This was done to ensure that:

1. There was sufficient interest in the issue.
2. Persons with both the computer mapping (technical) skills and with administrative (policy) authority over permitting must both be in the audience. This is necessary because some differences will be inevitable between the way permits are prepared and the way they need to be received.
3. The division staff could prepare answers to questions that would be asked at the workshop.
4. Issues where differences occur between software and systems would be identified.
5. The meeting location would be of adequate size and have audio/visual capabilities.

The second workshop, held in 1998, had the following agenda:

1. Sell the idea to the industry by discussing the benefits. The benefits include cost and time savings for the industry both in initial preparation and even more significant savings for subsequent revisions. Another benefit is the potential for shortening review time by the reviewing agency.
2. Explain what the division does with its current electronic mapping data.
3. Discuss the issues and minimum standards for data.

These issues include accuracy of reference points, coordinate systems and data layering.

4. Discuss solutions to differences in industry data, map georeferencing, layers and software formats.
5. Discuss word processing formats and legal issues, such as engineering seals and original signatures.
6. OSM was brought in to discuss a national perspective.
7. Bring in other agencies that have electronic information which is available to the industry:

- A. Geological Survey - DRG
- B. NRCS - soil maps
- C. Cultural information
- D. DNR - National Wetland Inventory

Those items which assisted the effectiveness of the workshop included:

1. Having a working lunch to keep the audience talking and maximizing the contact time.
2. Preparing a list of attendees for future audience interaction.
3. Have some handouts, applicable freeware, and copies of aerial photography if available.
4. Identify agency contact people for resource information.
5. Sending a follow up memo to the attendees with notes on the items learned or resolved.

The results of the second workshop are mixed. The text issues appear to be the easiest to resolve as all companies use the common word processing software. Mapping and drawings appear to be the major hurdles to overcome. Although initially software compatibility was a problem, the structure of data layers between companies appears to be a recurring problem.

Several companies are working to come up to speed since they were farther behind in their electronic information development. In order to assist these companies the division has provided its own GIS data layers to each company. After they verify and accept its accuracy with company records, they then use this information as a base for future submittals. This is particularly useful if the permit has a substantial life for future submittals. A number of permits in the system are sufficiently close to final bond release that the companies are not expending any efforts to bring them into electronic format or changing the data to be compatible with the division system.

Although the number of new sites has significantly decreased due to the decline in coal mining in the state, those permits that are submitted are being

prepared electronically with consideration for the issues identified at the second workshop.

Work In Progress

Additional efforts to work one on one between division staff and individual companies to solve specific issues are ongoing. This is having very positive results in getting companies on board with electronic submittals. Also as the problems of software compatibility lessen, the industry will be informed of changes in data guidelines. Computer upgrades and ArcView and image viewing software installation at each desktop workstation are ongoing to ensure the data is available to all staff. Also we are adding hardware and allocating staff to increase archiving efforts to scan older data to be ready for new submittals.

Future Plans

A major effort will be to shift the current emphasis on using the electronic media for permit monitoring to using it for application review in the near future. In order to ensure that electronic data flows through the system, the division will be assessing work flow software and network capabilities. An "in the door scanning" project is being planned for those operators who cannot or choose not to participate in electronic permitting. This will entail scanning the paper copy received and making it available to staff via their workstation.

We hope to work with other reviewing agencies to resolve their concerns and accelerate their capability to receive electronic permits. This will also include the receipt of electronic copies of surface and groundwater monitoring reports.

The incorporation of our GPS capability into the GIS system is also planned. The division will also evaluate the need for laptops by the field inspection staff.

In addition, a major data entry effort for cultural resource information has been made and modeling efforts are being refined in the hope it can be a tool to decide if a Phase I archeological survey is needed and/or where to concentrate survey efforts.

The areas that have been undermined, or "shadow area," since the beginning of the permanent regulatory program was developed as a GIS layer under a pilot project. A plan to maintain this data is under development.

Conclusion

The concept of the electronic office and electronic permitting is an ever changing concept as technological changes occur. It has the potential to be a huge asset to government, the industry, and the public. It enhances the ability of the preparer and reviewer to present and evaluate information in very understandable format. It also facilitates the ability for reviewers to tap outside electronic resource and environmental data to make better decisions. It also expedites the review by agencies and allows for rapid modification of data should revisions be required. It can also ensure that agencies and the industry have exact matches to text and line work on maps.

The electronic permitting process also has a large learning curve that has to be accepted by agency reviewers who must deal with the shift from large paper maps to map scales that are practical using a computer monitor. This acceptance must also carry over to the legal and engineering profession when dealing with the issues of unalterable data, signatures and seals. These last issues will take a major effort on the part of the regulatory agency staff, both legal and technical, to ensure confidence between agencies, the industry and the public as to what impacts will occur when mining is proposed.