

# *Citizen's Guide to Coal Mining and Reclamation in Illinois*

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Office of Mines and Minerals  
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# TABLE OF CONTENTS

## *Coal Mining and Reclamation In Illinois*

<p><b>Introduction . . . . . 3</b></p> <p style="padding-left: 20px;">The Illinois Perspective . . . . . 4</p> <p style="padding-left: 20px;">Public Review . . . . . 5</p> <p><b>Surface Mine Permit Review Process . 5</b></p> <p style="padding-left: 20px;">Pre-Mining Inventory . . . . . 6</p> <p style="padding-left: 40px;">Prime Farmland</p> <p style="padding-left: 40px;">High Capability Land</p> <p style="padding-left: 40px;">Land Use</p> <p style="padding-left: 40px;">Mapping</p> <p style="padding-left: 40px;">Violation Inventories</p> <p style="padding-left: 20px;">Mine Operation Plan . . . . . 9</p> <p style="padding-left: 40px;">Topsoil and Root Medium</p> <p style="padding-left: 60px;">Removal and Storage</p> <p style="padding-left: 40px;">Blasting</p> <p style="padding-left: 40px;">Overburden Removal and</p> <p style="padding-left: 60px;">Placement</p> <p style="padding-left: 40px;">Drainage</p> <p style="padding-left: 40px;">Gob and Slurry</p> <p style="padding-left: 20px;">Mine Reclamation Plan . . . . . 13</p> <p style="padding-left: 40px;">Grading and Soil Replacement</p> <p style="padding-left: 40px;">Soil Quality and Depth</p> <p style="padding-left: 40px;">Land Use</p> <p style="padding-left: 40px;">Productivity</p> <p style="padding-left: 40px;">Drainage</p> <p style="padding-left: 20px;">Experimental Practices . . . . . 16</p> <p style="padding-left: 20px;">Grandfathered Prime Farmland . . 16</p>	<p><b>Performance Bond and Fees . . . . . 17</b></p> <p style="padding-left: 20px;">Bond Release . . . . . 17</p> <p style="padding-left: 40px;">Phase I</p> <p style="padding-left: 40px;">Phase II</p> <p style="padding-left: 40px;">Phase III</p> <p><b>Underground Mines and Subsidence 18</b></p> <p><b>Inspection and Enforcement . . . . . 20</b></p> <p style="padding-left: 20px;">Federal Oversight . . . . . 21</p> <p style="padding-left: 20px;">Mining Prohibitions . . . . . 22</p> <p><b>Channels for Public Involvement . . . 22</b></p> <p style="padding-left: 20px;">Permit Application . . . . . 22</p> <p style="padding-left: 20px;">Exploration . . . . . 24</p> <p style="padding-left: 20px;">Permit Revision and Renewal . . . 25</p> <p style="padding-left: 20px;">Notice of Violation/Cessation</p> <p style="padding-left: 40px;">Order . . . . . 25</p> <p style="padding-left: 20px;">Permit Suspension . . . . . 27</p> <p style="padding-left: 20px;">Citizen’s Request for State</p> <p style="padding-left: 40px;">Inspection . . . . . 27</p> <p style="padding-left: 20px;">Pre-Blasting or Condition Survey 28</p> <p style="padding-left: 20px;">Performance Bond Release . . . . . 29</p> <p style="padding-left: 20px;">Regulation Changes . . . . . 30</p> <p style="padding-left: 20px;">Civil Action . . . . . 30</p> <p style="padding-left: 20px;">Petition for Costs . . . . . 31</p> <p style="padding-left: 20px;">Intervention and Discovery . . . . . 31</p> <p style="padding-left: 20px;">Lands Unsuitable for Mining . . . 32</p> <p><b>Glossary . . . . . -i-</b></p>
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## **Introduction**

*If there is one misconception that exists today, it is in regard to surface mining. Historically, the images of mine spoils and ruined land have been connected with this method of mining. Today, green pastures, productive cropland, fish and wildlife sanctuaries, clear water, forest land and industrial, commercial and residential sites represent the post-mining land uses of surface mined acreage.*

*Illinois landscapes are beginning to reflect more than 35 years of increasingly stringent state regulations for the surface mining of coal. Post-mining land uses so closely approximate pre-mining land uses that it is often impossible to visually recognize that an area was once the site of a surface mining operation.*

*Illinois has long been regarded as a leader in reclamation. Reclaiming cropland soil productivity and the creation of high quality wildlife habitats such as streams and wetlands constitute the highest priority in The Office of Mines and Mineral's review of reclamation plans. Cropland and hay producing success is measured in actual yields on the reclaimed areas. Forest restoration is measured in tree survival. The crop-producing capability of reclaimed soils must be scientifically projected in the permit application, and, unless legally exempt, all prime farmland soils must be reclaimed to the state's stringent prime farmland standards. Soils deemed exempted from this requirement prior to August 1982 still must be reclaimed to high-capability yield standards and 90 percent of their premining productivity. This requirement is unique to Illinois.*

*At the federal level, Public Law 95-87, the 1977 Surface Mining Control and Reclamation Act, was designed to bring stringent regulations to all states while at the same time, allowing them to meet the nation's growing energy needs. Meshing the regulation of land use with the need for affordable fuel is a complex task.*

*This guide is intended to provide the reader with a concise explanation of various aspects of the Illinois Department of Natural Resources, Office of Mines and Mineral's coal regulatory program. It is not intended to be used as an official, authoritative source for any purpose. The reader is advised to consult the State Act and the Department's regulations at 62 Ill. Adm. Code 1700 through 1850 for additional information on the various subjects discussed herein.*

### *The Illinois Perspective*

Illinois, like many other states, had laws to regulate coal mining and the restoration of surface mined lands prior to passage of the 1977 Federal Surface Mine Act.

Illinois' first reclamation law, the Open Cut Land Reclamation Act of 1962, required spoil ridge tops within 600 feet of public roads to be leveled and graded and affected areas seeded or planted when the land was to be used for pasture.

In 1968, requirements were increased under the Surface Mined Land Reclamation act (SMLRA) to include a buffer zone between a mine boundary and a road or building.

The Illinois Surface Mined Land Conservation and Reclamation Act (SMLCRA) of 1971 carried some of the toughest restrictions in the country for the coal mining industry. For example, operators were required to make a public filing of reclamation plans with the county clerk. In addition to reclamation plan approval, a waiting period and a provision for public hearing were required before a permit could be issued.

SMLCRA, as amended in 1975, carried important requirements for potential soil productivity. For example, the state required that land be restored to row cropland capability based on the characteristics of the soil rather than the historic use of the land.

The subsequent Federal Act allowed an exemption from prime farmland restoration standards if the historic use was not for row crop production, even though the capability for such existed.

Because of Illinois' high capability land standards, more acres now are reclaimed to row crop capability in the state than required by federal law. In addition, the buffer zone between a mine and certain adjacent features, although not required by the federal law, is part of the state program.

Illinois' attention to reclamation of the land for productive uses after mining led to many of the federal rules and regulations for implementation of P.L. 95-87 being drawn from the state's program.

Illinois citizens, industry leaders and government officials have worked since passage of the federal law in 1977 to obtain the right to implement reclamation regulations at the state level. Illinois law was redrafted to reflect changes, and new rules and regulations were developed.

The Surface Coal Mining Land Conservation and Reclamation Act was passed on June 1, 1980, to be implemented with adoption of the permanent regulatory program.

In May 1982, the Secretary of the Department of the Interior approved the Illinois program, thus implementing the permanent regulatory program for surface coal mining and reclamation in the state.

With that approval came the task of administering the program; the first step being the repermitting of every surface and underground coal mine in Illinois. By February 1, 1983, all permanent program performance standards were in place for Illinois coal mines, both surface and underground.

Monthly inspections by state reclamation specialists are required at every active mine site. Rigorous performance standards are enforced, and strict abatement deadlines are established when Notices of Violation are issued.

The Federal Office of Surface Mining Reclamation and Enforcement (OSM) also oversees the Illinois permitting and reclamation program to ensure operator compliance. Spot inspections are made and violations are reported to the Office of Mines and Minerals, which must act to enforce the law.

Additionally, operators must comply with a host of other local, state and federal laws and programs to maintain a permit to mine coal in Illinois. These federal laws include the clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Federal Coal Mine Health and Safety Act, Endangered Species Act, Fish and Wildlife Coordination Act, National Historic Preservation Act, the Archaeological and Historic Preservation Act and Executive Order 11593, which relates to protection of both historic and pre-historic sites.

### ***Public Review***

A great deal of planning goes into mining and reclamation in Illinois. A detailed permitting process and a strict enforcement system help to ensure the wise use of limited coal and land resources.

The Illinois permitting process has provisions for extensive citizen involvement, affording an opportunity for the needs of diverse interest groups to be

met in the allocation of the state's resources.

Chapter VI of this handbook details the channels for public involvement.

A state Interagency Committee also reviews permit applications for components applicable to a particular agency's area of expertise. Agencies represented on this committee include:

- Illinois Department of Agriculture
- Illinois Department of Natural Resources/Office of Realty and Environmental Planning
- Illinois Department of Natural Resources/Office of Water Resources
- Illinois Environmental Protection Agency
- Illinois Historic Preservation Agency

Although the U.S. Natural Resources Conservation Service (NRCS) is not on the Interagency Committee, it comments on soil and agricultural aspects of all proposed mining operations.

In addition, a Surface Mining Advisory Council, composed of citizens, educators, industry and government representatives, meets three times a year to review progress on implementation of the regulatory program.

Under the state reclamation act and the state freedom of Information Act, public

***Surface Mine Permit  
Review Process***

records  
a r e  
a v a i l a b l e  
t o  
c i t i z e n s

for review at the Office of Mines and Mineral's (OMM) Springfield and Southern District offices.

The state's active surface mine, underground mine and carbon recovery operators are responsible to obtain a permit to mine coal.

Three major components of a permit application must be submitted to the Department: (1) The pre-mining inventory; (2) the mine operation plan; and (3) the mine reclamation plan. Once approved, the usual term of a permit is five years, with review at mid-term. A partial review may be done if a revision is requested. Upon expiration of a permit the operator has a right to renew the permit for an additional period.

Operators must adhere to detailed performance standards at all phases of mining and reclamation.

### ***Pre-Mining Inventory***

A coal company's first step in compiling a surface mining permit application is to gather data in a pre-mining inventory from the site, including facts regarding:

- surface and groundwater quality and quantity
- alternative water supplies
- soil depth, type, and quality
- p h y s i c a l / c h e m i c a l characteristics of strata including coal seam
- existing land uses
- prime farmland
- high capability land
- major plant communities
- archeological sites

A Small Operator's Assistance Program (SOAP) exists to aid operators producing less than 300,000 tons of coal annually in gathering hydrologic and geologic data to determine probable hydrologic consequences of mining.

Some of the more detailed data-gathering requirements for operators are outlined below.

***Prime Farmland*** - A coal company must gather data on prime farmland to determine the amount of such acreage at the mining site. The first step in the process is to obtain a soils map prepared to the specifications of the Natural Resources Conservation Service (NRCS). The NRCS has established a list of prime farmland soils for Illinois. Prime farmland is classified as soil having the best combination of physical and chemical properties for producing food, feed, forage, fiber and oilseed crops. As a general rule, this includes Class I and II land under the NRCS classification system.

If a prime farmland soil exists, but the land has not been used as cropland for five out of the last 10 years before acquisition for mining (or if the soil floods during the growing season and crop yields are reduced more than once in two years), an operator may submit a request for negative determination. This means the land would not have to be reclaimed to prime farmland standards if the request were granted, but would be subject to reclamation specifications for high capability land.

Also, prior to obtaining a permit to mine prime farmland, the operator must demonstrate the technical capability to

restore the land to its pre-mining productivity.

**High Capability Land** - Land that is capable of growing row crops, but which does not have all the physical and chemical characteristics of prime farmland must be identified by operators.

requirements somewhat similar to prime farmland. However, the operator does not necessarily have to restore row crop vegetation if another use existed previously and it has been approved for post-mining land use.

This requirement for high capability land has existed in Illinois since 1976. (The

**Prime Farmland**

**Illinois Acres**

Total Acres of Land in Illinois	35,661,000
Total Prime Farmland Acres	21,381,000
Prime Farmland in Crops	19,075,000
Prime Farmland in Pasture	1,139,000
Prime Farmland in Forest	602,000
Prime Farmland in Other Uses	565,000

*U.S. Department of Agriculture, Soil Conservation Service, Champaign, Illinois. U.S. National Erosion Inventory 1977.*

**Coal Reserves**

Strippable Coal Reserves	944,000
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*IL. State Geological Survey Circular 504, 1978 and updated by Illinois Department of Mines and Minerals to July 1992*

**Coal Reserves and Prime Farmland**

Stripable Coal Reserves	544,000
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*Illinois Department of Mines and Minerals, unpublished report, 1992 revision.*

High capability land presently is identified as Class I, II and III land under the NRCS classification system with slopes generally less than 12 percent. Class IV land also is eligible where slope is less than five percent.

This land must be restored to the capability of growing row crops according to topsoil and rooting medium depth

federal regulatory program alone would not have required this land be restored to row crop capability.)

Due to Illinois' high capability land requirements, many additional acres are reclaimed to row cropland capability in this state.

**Land Use** - Existing land uses must be identified in the pre-mining inventory, including a statement of the condition and productivity of the land to be mined.

A map must be provided showing land uses at the time of application. And, if the use was changed within five years of the proposed mining, historic use also must be described.

The capability of the land to support a variety of uses must be analyzed according to soils, topography, vegetative cover and hydrology of the area. Productivity prior to mining must be given in terms of yield at a high level of management.

If the area had been previously mined, a description must be given of the mining and extent of reclamation, as well as land uses preceding the mining.

The following land use categories exist for classification: cropland, pastureland, grazing land, forestry, residential, industrial/commercial, recreation, fish and wildlife habitat, developed water resources and undeveloped land.

The Department also makes a comprehensive check for any part of the proposed permit area which may have been designated unsuitable for mining, whether by petition or congressional designation.

Also, other government agencies review the permit for fragile, historic, archaeological, recreational or scenic lands that may not be mined, but yet could be affected by nearby surface coal mining operations.

**Mapping** - A modern soil survey must be conducted for the entire proposed mining site. Other maps are required that show locations and descriptions of:

- surface and sub-surface land boundaries
- ownership boundaries of the proposed mine
- locations of all structures
- pre-mined land use
- public roads within 100 feet
- boundaries of parks, public lands, historical or cultural sites, cemeteries and Indian burial grounds
- coal test bores and core samples
- monitoring stations for water quality
- dams, embankments, impoundments
- surface water bodies
- geologic cross-sections
- coal seam depth, thickness and outcrops
- active, inactive or underground mines and surface openings
- waste disposal areas
- pre-mining land slopes
- oil, gas and water wells

**Violation Inventories** - Prior to permit issuance, the department reviews the applicant's violation record on OSM's Applicant Violator System. A Permit cannot be issued to an applicant who controls or has controlled a mining operation that has a demonstrated pattern of willful violations which have resulted in irreparable damage to the environment and have indicated and intent not to comply with the law.



### ***Mine Operation Plan***

As part of the permit application, the operator must submit an operation plan detailing:

- the type of mining
- the direction of mining
- access roads
- the facilities for coal processing
- waste disposal areas
- buildings and structures
- water impoundments
- stream diversions
- water and air pollution control facilities
- overburden and topsoil handling and storage areas

Topsoil removal and storage, blasting and overburden removal must be accomplished in a way that will aid reclamation.

All water affected by the mining operation must be passed through siltation structures prior to leaving the permit area. Water quality leaving the site must be in compliance with all applicable state and federal water quality laws.

### **Topsoil and Root Medium Removal and Storage**

- Before mining begins, operators must plan for the replacement of topsoil after the coal is removed. Operators must detail in the mine operation plan how topsoil will be removed and protected from wind and water erosion. Topsoil storage locations also must be approved.

All existing topsoil on prime farmland must be removed in a separate layer from areas to be disturbed. All existing topsoil, or a minimum of eight inches of topsoil, must be removed from high-capability

land, and a minimum of six inches from other lands.

If these required topsoil depths do not exist, then subsoil immediately below must be removed as well or a substitute approved. The total soil profile on prime farmland and high-capability cropland must be a minimum of 48 inches, including topsoil and subsoil.

In addition, a topsoil substitute may be used where it is determined selected overburden materials are equal or more suitable chemically and physically for sustaining revegetation than the existing topsoil.

The topsoil is usually removed with scraper machinery and stockpiled. It is then seeded and stabilized to prevent wind and water erosion and marked as topsoil to prevent mixing with any other stored soil material.

A small berm of subsoil or small fence of hay bales is usually built around the base of the stockpile to prevent soil losses through wind or water erosion. Operators may transport topsoil directly to replaced and graded mined overburden or replaced root medium (subsoil).

Prime farmland topsoil must be marked as such. Subsoil or an approved substratum material is typically, concurrently removed and replaced on graded overburden to form the root medium. Occasionally root medium may need to be stockpiled to meet total soil depth and quality requirements for a selected post-mining land use. Root medium is handled with a variety of equipment including scrapers, trucks, bucket wheel excavators and draglines.

Careful handling of the topsoil and root medium is crucial to reclamation for this is the medium in which the success of plant growth, revegetation and restored productivity is determined.

***Blasting*** - To get to the coal seam after topsoil layers have been removed, rock layers may have to be fractured with explosives.

The mine operator must submit a blasting plan with each permit application when blasting is planned explaining how the applicant will comply with the Department's regulation. The plan shall included:

- a copy of the proposed blasting schedule and a list of persons to whom the schedule will be distributed.
- a copy of the format used to notify persons within one-half mile of the proposed permit area as to how to obtain a pre-blasting or condition survey.
- a brief description of procedures to be used to perform pre-blasting or condition surveys and for distributing copies to owners/residents and the Department.
- a copy of the blasting report form.
- the names and addresses of the owners of all dwellings or other structures within one-half mile of the proposed permit area and the distance to them.
- information setting for the methods to be applied in controlling the adverse effects of blasting.

- a description of any system to be used to monitor compliance with air blast or ground vibration limits.

A proposed blast design shall be submitted if blasting operations will be conducted within (a) 1,000 feet of any building used as a dwelling or any other structure requiring protection; or (b) within 500 feet of an active or abandoned underground mine.

The blast design may either be presented as part of the permit application or approved by the Department prior to the blast. The blast design shall be prepared and signed by a certified blaster.

The blasting schedule for a surface mine must be published in a local newspaper at least 30 days but not more than 60 days before beginning a blasting program. The person who conducts the surface mining activities shall republish and redistribute the schedule at least every 12 months.

All blasting shall be conducted from sunrise to sunset at times announced in the blasting schedule. Unscheduled blasting may be conducted only when required for the health and safety of the operator or the public.

Warning and all-clear signals audible within one-half mile must be sounded before and after each blast. Access to the blasting area shall be controlled to prevent the presence of livestock or unauthorized personnel.

Flyrock, including blasted material traveling in the air or along the ground, shall not be cast: (a) beyond the permit boundaries; (b) beyond the area of

regulated access; or (c) more than one-half the distance to the nearest dwelling or other occupied structure.

There are limits on the location of blasting. It cannot be conducted unless a waiver is obtained within 300 feet of a school, church, hospital nursing facility or occupied dwelling. A 100-foot limit is placed on some disposal, storage and transmission facilities.

Specific limits also are placed on ground vibration and air blast levels produced by blasting. The measurement for ground vibrations is peak particle velocity. There are three ground vibration limits, each of which is determined by the distance from the blast to the protected structure.

**Ground Vibration Limits**

<u>Distance to protected structure</u>	<u>Maximum peak particle velocity</u>
less than 300'	1.25 inches per second
300' to 5,000'	1.00 inch per second
greater than 5,000'	0.75 inches per second

Lower limits may be required under unusual or exception conditions to help ensure against drainage.

Air blast levels or limits are measured in decibels (dB). There are three air blast limits, each of which is determined by the measuring characteristics of the monitoring system being used.

**Air Blast Limits**

<u>Lower frequency limits in Hertz (Hz) of measuring system (+3dB)</u>	<u>Maximum Air Blast Limit</u>
0.1 or lower flat response	134 dB
2.0 or lower flat response	133 dB
6.0 or lower flat response	129 dB

Records must be kept for three years of all blasts, including required seismograph recordings and reports. These must be made available for public inspection.

An individual who believes an operator may be in violation of air blast or ground vibration limits can request a seismograph from the Department to monitor blasts on his/her property. The Department operates and maintains the seismograph as a public service to check for operator compliance with the law.

Damages believed to be incurred must be sought directly from the operator or through litigation.

**Overburden Removal and Placement** -

After unconsolidated soil materials are taken away, rocky overburden loosened by blasting is removed, usually with a dragline or shovel to expose the coal seam below.

This rocky material is placed in the bottom of the previously mined-out pit. However, material from the initial pit or box cut may be placed on the unmined land surface.

Some dragline operators use selective handling of the overburden to allow placement of the more productive subsoil materials on the surface. The unconsolidated (rock free) subsoil layers are placed on top of rocky overburden to ensure that a suitable root medium is available for achieving cropland capability during reclamation.

Mining with a combination of hydraulic excavators and large trucks has become more common for removal and replacement of overburden. The bucket-wheel excavator is an effective machine for replacement of root medium as it handles only the unconsolidated layers, placing them on the coarse overburden. However, their use is limited to sites with thick unconsolidated deposits.

Overburden can contain layers with pyrite, which produce acid when exposed to air and water. These layers are buried in the bottom of the pit, or must be covered with a minimum of four feet of nontoxic, noncombustible earthen material.

***Drainage*** - During mining, all drainage from disturbed areas must pass through sediment ponds or other siltation structures before leaving the mining site.

**Base effluent limitations for runoff from the structures during mining and reclamation\***

	Total Daily Maximum	30 Day Average
Iron	7	3.5
Manganese	4	2.0
Total suspended solids	70	35.0
pH (6-9)		

\*Measured in Milligrams/liter

The mine operation plan must indicate the routing of drainage and the location and design of sediment ponds. It must also include sizing for sediment and water loads, and provide embankment and spillway details.

Applicable state and federal effluent limits vary considerably, depending upon several factors, including:

- source of water
- design of sediment ponds (state limits)
- amount and duration of precipitation (federal limits)
- quality of water prior to treatment
- type of mining operation or facility

In regard to the amount and duration of precipitation, not only can effluent limits vary, but so can the parameters for which limits apply. The situations are referred to by OSM and the U.S. Environmental Protection Agency (USEPA) as “rainfall exemptions.”

Sediment ponds must provide adequate sediment storage volume and detention time to allow the effluent from the ponds to meet state and federal limits. If ponds fill with sediment during the mining process, they must be dredged to ensure limits are met.

Operators also may be required to monitor groundwater levels and quality throughout the mining and reclamation process. Additionally, an operator may be required to furnish an alternate water supply when the existing water supply is

affected by contamination, diminution or is interrupted due to mining activities.

***Gob and Slurry*** -The operation plan must detail where coal will be stockpiled, as well as how and if it will be cleaned and processed. Coal processing waste (gob and slurry), which are coarse and fine waste, respectively, from the coal cleaning process, can be potentially acid-forming and/or toxic.

The plan must outline how gob and slurry will be disposed. The material must be treated or covered with a minimum of four feet of nontoxic, noncombustible earthen material to prevent production of acid water.

Maintenance of good runoff water quality and revegetation of the disposal site ensure that no problems will arise from coal processing waste. Presently there is much interest in reclaiming slurry ponds to wetland, wildlife areas. When done properly, good water quality can be produced to support high-quality wetlands.

### ***Mine Reclamation Plan***

How an operator has carried out placement of rocky overburden greatly determines the success of reclamation. The material must be shaped carefully to guarantee proper grade, slope and contour design.

A mine reclamation plan must be prepared to show how overburden will be graded, subsoiled if needed, topsoiled and revegetated; post-mining land uses accomplished; and pre-existing streams restored. Detailed requirements must be met throughout the reclamation process.

### ***Grading and Soil Replacement*** -

Operators must plan to provide rough grading of rocky, mined overburden within 180 days of coal removal and must have no more than four ungraded spoil ridges behind the active pit.

This grading is done before subsoil or topsoil is replaced. Water that accumulates between spoil ridges should be diverted and drained prior to grading to aid drying and limit compaction with machinery.

The replaced overburden must be shaped to result in adequately drained land with its approximate original contour. Pre existing streams must be replaced. Material from the initial pit or box cut must be graded to blend with unmined land and have a maximum outslope of 25 percent.

Along the sides of the pit where overburden has been replaced, material must be blended with unmined land, providing a maximum outslope of 15 percent, if compatible with the reclamation plan.

Final grading must be completed by the fall of the year following each year's mining. Final grading includes any root medium replacement, topsoil replacement and installation of erosion control measures such as terraces, diversions, grass waterways and drains.

Roughening the ground surface, particularly on steep slopes, before applying soil ensures cohesion, prevents slippage and limits erosion. Operators also grade replaced soil during dry periods to limit compaction.

Usually topsoil is applied with rubber tired scraper machinery and sometimes is spread with low ground pressure bulldozers. Deep tillage methods are being used to remove compaction.

**Soil Quality and Depth** - Operators must show in the reclamation plan how soil quality and depth requirements on prime farmland and high-capability cropland will be met after final grading.

The total soil profile, including subsoil and topsoil, must be a minimum of 48 inches for prime farmland and high-capability land, including fragipan soils. Operators must guarantee the replacement of topsoil to a depth that will ensure the development of the selected post-mining land use.

All previously existing topsoil must be replaced on prime farmland. In the case of high-capability land, all previously existing topsoil must be replaced with a minimum of eight inches of topsoil. For other land capabilities, a minimum of six inches of topsoil is required.

Unless they existed before mining, no rocks may be present in prime farmland topsoil. Subsoil, or root medium, must be equivalent to or better than that which existed before mining.

No coarse fragments greater than 10 inches may be present in root medium of high-capability lands. The volume of coarse fragments in the root medium must be less than 20 percent, and clay content cannot exceed 40 percent.

After the root medium (or subsoil) is replaced on prime farmland and high-capability land, OMM reclamation

specialists dig a series of pits to check the soil for quality and proper thickness. Should the replaced root medium not pass inspection, the operator must cover the deficient area with an adequate depth of acceptable root medium.

Topsoil is checked for depth and proper reclamation. Topsoil removal operations before mining also are monitored to ensure complete removal and proper storage.

A topsoil substitute may be used when existing topsoil is eroded on sloping land, when it is thin or chemically deficient or where it is unsafe for equipment to operate. However, the substitute must either equal or exceed the quality of existing topsoil.

**Land Use** - Post mining land uses generally are similar to the pre-mining land uses. When determining use, consideration is given to citizen and landowner preferences and local government policies and plans. Any change from the pre-mining land use must be approved by the Department.

Comments from the surface owners and the state and local government agencies that are responsible for initiating, implementing, approving or authorizing the resulting land use must be submitted in the operator's reclamation plan.

Additionally, facts regarding the reclaimed land's capability of supporting alternative uses must be included since the soil's capability is the single most important consideration.

For example, if, before mining, a parcel of forest land meets all the soil

characteristics of high-capability land, it must be restored according to soil reconstruction specifications for restoring high-capability lands. Although the ability of the land to grow row crops must be restored, post mining vegetation may correspond to the approved land use such as grasses for a pasture or trees for forest land.

The same vegetation does not have to be restored when a new land use is approved, except in the case of prime farmland where row crop land use must be returned regardless of previous land use.

***Productivity*** - Reclamation plans must detail any chemical analysis of topsoil that will be performed to aid the establishment of vegetation. Fertilizers or soil amendments are applied as needed.

Most plans provide for a nurse crop of wheat or oats on reclaimed land followed by a grass-legume mix for several years to prevent erosion of soils and to restore soil structure, organic matter, tilth and porosity.

Before the company's reclamation responsibility ends, vegetation is to be established consistent with the post-mining land use plan. For cropland and hayland, crop and hay production must be achieved for the reclaimed areas. A count of the vegetation covering the ground is used on land uses other than cropland and hayland.

A vegetation liability period begins at the stage when all grading is completed and the land is planted to a crop capable of supporting the post-mining land use.

In order to meet the required reclamation standard for prime farmland, the operator must show productivity equivalent to comparable unmined areas using row crops for three years. The post-mining land use for prime farmland must be cropland.

For row crops, (high-capability cropland) other than on prime farmland, the operator must show productivity equivalent to 90 % of comparable unmined areas using row crops for two years to meet the required reclamation standard.

For hayland/pasture, production equivalent to 90 percent of a comparable unmined area must be shown for two years. A 90 percent ground cover is needed to meet the required reclamation standard.. Remained areas must have a minimum of 70 percent ground cover, and all erosion must be stabilized.

For forest/wildlife land use, a stocking rate must be met the last year of the five-year liability period. A stocking rate exists for forest of 450 live trees per acre and 250 trees per acre for land used and wildlife habitat. In addition a 70 percent groundcover is required to prevent erosion. For wetlands land use the minimum area extent must be 30 % with approved wetland species.

Presently, the Agricultural Land Productivity Formula (ALF) is being used to establish crop and hay yield targets to measure post-mining productivity on hayland and cropland. The formula adjusts the targets each year to reflect local weather conditions.

***Drainage*** - Siltation structures on the site must be maintained until a permanent

stand of vegetation has been established on the watershed of the structures. Water quality coming into them must meet effluent limitations.

Ponds not approved for retention after mining must be removed. Dams must be taken out, sediment graded or disposed of and the land seeded before reclamation is complete. Operators must show how this will be accomplished in the reclamation plan.

A water impoundment is allowed in the final cut or pit of the mined area if an alternative land use proposal has been approved or if sufficient water acreage was present previously. The operator must detail the size, sideslips and revegetation of the sideslips of a water impoundment.

### ***Experimental Practices***

Sometimes an operator believes a certain mining or reclamation practice can be used in lieu of the required practice to achieve equal or better reclamation at a lower cost.

Innovative efforts to improve mining and reclamation technology are encouraged. However, before an operator can engage in an alternative mining or reclamation practice on an experimental basis or for research, he must apply to the Department for a variance under either a permit revision request or a new permit application.

The application must:

- indicate the nature of the experimental practice
- explain how it encourages technological advances or

- allows a post-mining land use not feasible under the regulatory program
- specify that no larger area than necessary is used to show the effectiveness and economic feasibility of the practice
- document that the experimental practice is as effective or more effective in meeting performance standards than approved practices
- explain that it will not reduce protections for public health and safety
- ensure that special monitoring will be conducted.

The federal Office of Surface Mining (OSM) also must approve a variance for an experimental practice. Such permits must be reviewed every two and one-half years or at least once prior to the middle of the permit term.

When submitting a permit to the Department to seek a variance for an experimental practice, an operator must place notice in a local newspaper once a week for four consecutive weeks.

Required notifications are identical to those for filing a permit application. (See Chapter VI , “Channels for Public Involvement.”) Anyone who is or might be adversely affected by the practice may request a public hearing.

### ***Grandfathered Prime Farmland***

Coal mine operators were required to meet many stringent new regulations when the 1977 Federal Act was passed. To help ease the transition, operators were allowed to “grandfather” or exempt some prime farmland acres from certain regulations.



In Illinois, approximately 26,000 acres of land permitted for coal mining before August 3, 1977, or which are considered part of a revised or renewed permit existing before that time, may be grandfathered.

Approximately one-half of these acres were grandfathered before August 1, 1982. The remaining 13,000 acres of land were required to meet the requirements of prime-farmland.

Criteria used to determine if lands are eligible for grandfathering include; (1) a legal right to mine before August 3, 1977, through ownership, contract or lease; and (2) the lands must be part of a single continuous surface mining operation.

In carrying out reclamation, soil on grandfathered lands must be replaced using high-capability land standards. A minimum total of 48 inches of soil must be replaced, including at least eight inches of topsoil.

There are approximately 21 million acres of prime farmland in Illinois. Only 26,000 acres are eligible for grandfathering, with 19,000 acres being grandfathered to date.

### ***Performance Bond and Fees***

After the Department has completed review of a permit and approved it, but before it is issued, the operator must provide the Department with a surety bond to insure the performance of reclamation. If the permittee does not complete reclamation, the state will have sufficient money available to accomplish the task.

The bond rate is calculated based on the land use planned after mining and the techniques and time used to reclaim the land according to the approved reclamation plan.

For example, bond could be lower if soil removal and replacement for revegetation were handled with the same machine, such as a bucket wheel excavator or a dragline during general overburden removal. No root medium would need to be hauled in after storage.

If scrapers or trucks are used to transport the root medium to the reclamation site after storage, costs can be significantly higher with the added equipment use and labor.

Typically for high-capability cropland or prime farmland where root medium is hauled, the cost of reclaiming mined land (bond rate) exceeds \$10,000 per acre. For any permit a minimum of \$600 per acre bond must be set aside and not less than \$10,000 for a permit.

Additionally, the state charges a one-time permitting fee of \$125 per surface-mined acre and \$5 per acre per year for unmined land used for support facilities during the five year permit term.

An abandoned mined lands reclamation fee of \$0.35 per ton of surface-mined coal and \$0.15 per ton of underground-mined coal is charged operators by the OSM to restore abandoned mine sites. If these fees are not paid, the state can not issue new permits or permit renewals.

### ***Bond Release***

As reclamation is performed, bond is released in three phases. When requesting

release, an operator must submit a bond release application detailing the area requested for release and how the area has been reclaimed.

***Phase I*** - When all backfilling, rough and final grading, topsoil replacement and drainage and erosion control measures are in place, up to 60 percent of the bond may be released.

***Phase II*** - An additional amount of bond, usually 25 percent, can be released when:

- vegetation is established in accordance with the approved reclamation plan
- lands are not contributing suspended solids to stream flow or run off outside the permit area
- prime farmland soil productivity is returned to equivalent levels of yield as non-mined land of the same soil type
- provision for sound future maintenance of permanent impoundments has been made through proper design and construction and rehabilitation of the impoundment.

***Phase III*** - The remaining bond may be released when: (1) all reclamation is complete in accordance with the reclamation plan; (2) the land is capable of supporting the approved post-mining land use; and (3) the vegetation liability period has expired.

Operators can choose to apply for bond release on all three phases of reclamation at once or for one phase at a time. If the Department determines the operator has

not met reclamation obligations, bond forfeiture can result. (See “Permit Suspension” in Chapter VI.)

## ***Underground Mines and Subsidence***

Underground mine operators must apply

for a permit to mine. The permit application must contain similar components of a surface mine permit application where surface disturbance will occur. Areas such as mine portals, refuse disposal areas and access roads must be permitted and bonded. A pre-mining inventory, a mine operation plan and a reclamation plan are submitted for approval of the surface facilities

Underground mine operators are subject to the same performance bond obligation and fees for surface facilities as are surface mine operators. Bond obligation for surface facilities is released on a similar reclamation schedule.

A mine subsidence control plan is also provided part of the mine operation plan which must be detailed and examined by the state for all active mines operating on or after February 1, 1983. Areas undermined after February 1, 1983, and proposed areas to be mined in the future are termed “shadow areas.”

Operators must demonstrate that good mining and engineering standards and practices are proposed that either maximum mine stability is being provided in the mining operation to prevent subsidence, to the extent technologically and economically feasible, or that mining will be carried out to produce planned subsidence. Planned subsidence involves

nearly total seam extraction and results in immediate surface subsidence in a predictable and controlled manner.

Besides extensively mapping the mine, operators must give information on the technique of coal removal, percentage of coal extraction, pillar sizes, extraction dimensions, and secondary extraction, geologic strata above and below the mine and groundwater systems. The subsidence control plan must include a survey of all structures and surface features. This is largely a general description of the land and surface features in the area.

If planned subsidence is proposed, operators are required to define its extent and location, damage expected to occur and measures to be taken to mitigate any material damage to land and structures.

Monitoring to measure ongoing effects of mining is required under circumstances where the Department determines it may be necessary to protect the surface with the particular mining methods used.

When damage to surface structures is attributed to a mining operation where active mining took place on or after February 1, 1983, the mine operator must compensate the owner at pre-subsidence value by repairing or replacing structures or paying for the damage or buying the structure.

Damage to land must be repaired to its full pre-subsidence capability. Such repairs may require subsurface drains or surface ditching to carry away water collecting in depressions that were created. Low areas also can be filled to help restore them.

In the past, waivers were granted to operators by landowners absolving them of any responsibility for subsidence damage.

However, the operator must now repair subsidence damage to land and structures regardless of any waiver. This requirement is applicable to all underground mining occurring after February 1, 1983.

Under present departmental policy, repairs made to structures and land are not required until the subsidence movements have stabilized. Mitigation carried out before the area is stable would only have to be repeated later.

The operator must also mail mining notifications to property owners and residents of the surface property and structures above an underground mine at least six months prior to mining. The notices must identify specific areas where mining will take place, dates when the area will be undermined, the type of mining to be employed and measures to be taken to prevent or mitigate subsidence damage that may occur.

Anyone suspecting subsidence damage should contact the mining company for compensation. If no satisfaction is obtained, the Department should be contacted. If the company is found liable, it is required by regulation to take remedial action to restore damaged areas.

Operators must also provide for reclamation of the land disturbed while mining. Coal cleaning wastes (gob and slurry) must be properly disposed. This material usually is buried or stabilized on the surface.

When coal extraction is complete, mine shafts must be refilled for safety and to avoid accumulation of toxic drainage. Roads and other surface structures, such as parking lots, buildings, etc., must be reclaimed according to the approved reclamation plan.

***Inspection and Enforcement***

Besides regular review of approved permits, reclamation and blasting specialists ensure enforcement of detailed performance standards at all phases of mining and reclamation.

A minimum of at least one partial inspection per month must be made at each mining and reclamation operation. And, a minimum of one complete inspection of the entire mine must be made every three months.

Inspectors examine the area surrounding a mine to look for indications of an off-site violation. For example, sediment occurring in a stream nearby could be traced to a violation of erosion control or water quality standards at the permitted area.

If an inspector finds a violation of performance standards at a mine that does not create an imminent danger to public health or safety or significant, imminent environmental damage to lands, air or water resources, a Notice of Violation is written.

The notice must list the violation, where it occurred at the mine, and, most importantly, the specified action the operator must take to abate the violation.

A deadline is given for remedying the infraction.

An operator may be granted up to 90 days, including extensions, to abate a violation. More time may be allowed if, despite extraordinary efforts, it was not possible to abate the violation because of reasons beyond the operator's control. Examples could possibly include legal proceedings, labor disputes, adverse climatic conditions or when abatement in 90 days would cause imminent danger to the public or harm to the environment.

If a violation is causing an imminent danger to public health or safety or significant, imminent environmental damage to lands, air or water resources, a Cessation Order can be issued to stop operation of that part of the mine.

A Cessation Order also must be issued when the abatement action specified in a Notice of Violation is not taken in the specified time period.

When a pattern of violations is caused willfully or through unwarranted failure to comply with the law, a Show-Cause Order may be issued requiring the operator to show why the permit and the right to mine should not be suspended or revoked.

A pattern of violations exists if a violation is repeated or a related violation occurs during at least three state inspections in a year. However, the Department may decline to issue a Show-Cause Order, or vacate an outstanding Show-Cause Order, if it finds that, taking into account exceptional factors present in a particular case, it would be demonstrably unjust to issue or fail to vacate the Show-Cause Order.

A Show-Cause Order review must be conducted when an operator fails to abate a violation specified in a Notice of Violation or a Cessation Order within the specified time period.

If a permit is revoked, reclamation must be completed by the operator in the time specified in the order revoking the right to mine. If the right to mine is suspended, the operator must abate all violations and unlawful practices, as specified in the Suspension Order.

Should an operator fail to comply with reclamation orders, the Department may begin bond forfeiture proceedings to collect bond to complete the unfinished reclamation.

Abating a violation can cost the operator a great deal of money if a production process such as blasting must be stopped to take care of the illegal practice or when equipment is shifted from the production process. A mine producing 4 million tons of coal a year can lose \$16,000 an hour or close to \$400,000 a day when shut down.

A maximum \$5,000 fine per day may be levied per violation. In assessing a monetary fine, the Department considers the history of previous violations, seriousness of the violation, negligence and good faith in attempting to achieve compliance.

The OMM may assess a monetary fine for each day from the issuance of the Notice of Violation or Cessation Order to the date set for abatement. In addition, a penalty for not less than \$750 per day must be assessed for each day the violation is not abated after the abatement period set in the notice or order.

If a fine under a Notice of Violation exceeds \$1,100, the Department must collect it. Under a Cessation Order, a fine must be assessed and collected regardless of its amount. All violations appear on an operator's record whether or not a fine is involved.

The Department must make certain that abatement occurs within 90 days. Payment of the penalty must be made within 30 days of receiving the assessment. If an operator wishes to contest the fine, the total amount must be deposited with the Department for deposit in an escrow account during administrative or judicial review.

In addition, to obtain a permit in Illinois a coal operator must show that all violations at the company's mines across the country are being satisfactorily remedied.

### ***Federal Oversight***

The department's program also is constantly monitored by the OSM which acts in an oversight capacity to the state's regulatory authority. OSM inspectors conduct spot checks of mine operation.

If federal inspectors believe they have found a violation, or if a citizen reports such a violation to OSM, OSM can issue a 10 day notice to the department requiring that an operator be issued a Notice of Violation or that the department supply documentation as to why no violation should be cited.

OSM monitors the program to ensure adequate permitting, inspection and enforcement operations. All permits, inspection reports and correspondence to operators are reviewed, and an annual

review of the permitting process is conducted by OSM.

If OSM believes the state program is not being implemented properly, or if the federal program is amended in such a manner that the state program is no longer as effective as the federal program, OSM may require the Department to amend its program or may withdraw program approval in whole or in part.

Periodic audits also are conducted to determine if federal grant monies are being spent properly. The Department receives 50% matching grant funds from OSM.

### ***Mining Prohibitions***

There are certain areas where mining may not be conducted, except in cases where an operator can show that valid existing rights (VER) to mine existed before August 3, 1977. Unless VER are established, permits to mine will not be issued for land within:

- 300 feet of an occupied dwelling unless allowed by the owner.
- 300 feet of any public building, public park, school, church, community or institutional building.
- 100 feet of a cemetery.
- 100 feet of a public road, except in cases where a public hearing has been conducted and the Department has determined that the public interest will be protected.
- the boundaries of the National Parks, the National Wildlife Refuges, the National System of Trails, the National Wilderness

Preservation System, the Wild and Scenic Rivers System and National Recreation Areas designated by Congress.

- the boundaries of any national forest without approval by the Secretary of Interior.
- publicly owned parks or publicly owned places on the National Register of Historic Places that would be adversely affected, unless approved jointly by the Department and the agency with jurisdiction over the lands.

Lands designated unsuitable for mining by Congress may not be mined except where an operator can show Valid Existing Rights. However, the Secretary of the U.S. Department of the Interior is empowered to acquire these lands to prevent mining.

Coal exploration may be allowed by OSM on lands designated unsuitable for mining if stringent permitting requirements are met.

## ***Channels for Public Involvement***

### ***Permit Application***

Coal companies must file 11 copies of a permit application with the state for distribution to reclamation specialists, the Illinois Environmental Protection Agency (IEPA), Illinois Department of Agriculture (IDOA), the National Resources Conservation Service (NRCS), and OSM. They must also file a copy with the head of the county board and a copy with the

county clerk for public review in the county or counties where mining will be done.

The Department also notifies the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the U.S. Mine Safety and Health Administration, governmental planning agencies and local water supply and sewage treatment authorities in the proposed permit area that an application has been filed. Copies are made available for review and copying at reasonable cost at the Department's Springfield and Benton Offices.

The company also is required to publish legal notice of the application submittal with a site description in a local newspaper once a week for four consecutive weeks. The notice must inform the public of the opportunity to submit comments and to request an informal conference and/or a public hearing. The notice must reference any mining activities proposed within 100 feet of a public road.

Public entities and citizens may file written comments and/or request an informal conference on the proposed mining within 30 days of the last newspaper notice, while a public hearing may be requested within 80 days of the first newspaper notice. An officer or head of a government agency or anyone whose interests are or may be adversely affected may file written objections, request an informal conference and/or request a public hearing.

An informal conference must be held within 75 days of the first newspaper notice. It must be advertised in a local newspaper at least two weeks before it is

scheduled. And, if requested in writing, the Department may grant parties to the conference access to the mine plan area to gather relevant information.

Such conferences are informal discussions between the requester and the permit applicant in an attempt to resolve the requester's concerns. Participation is limited to these parties. If, however, a public hearing is requested before the last date to request an informal conference, the conference will be canceled and a public hearing scheduled. Persons having requested an informal conference may participate in the public hearing. Further, the public hearing may not be canceled without the consent of those having previously requested the informal conference.

In addition, after an informal conference is held, if citizens or representatives of government agencies believe their complaint has not been resolved, a public hearing can be requested, providing the request is made within 80 days of the first newspaper notice.

The Department must advertise a public hearing locally at least two weeks before it is held and must notify the county board and other interested persons in the county in which mining is to take place.

A pre-hearing conference may be held by the hearing officer to bring all parties together to simplify issues, schedule witnesses and to receive evidence. (If all parties that have requested a hearing withdraw their requests, then the hearing need not be held.)

At the hearing, the hearing officer may rule on motions and requests, examine and

cross examine witnesses, admit or exclude data, direct witnesses to testify and hear oral arguments.

Within 60 days after the public hearing, the Department must issue, deny or request modification of a permit. If no public hearing is held, the Department must make its decision within 120 days of filing the application.

When the Department grants or denies a permit, copies of its decision must be given to the county board and to each person and government official who filed an objection or commented on the application or was party to an informal conference or a public hearing.

The permit may be issued at the time of the final decision provided that fee and bond have been submitted by the permittee. The written requirements under a modification request and the applicant's reply are placed on file in the county clerk's office with the Departments' decision findings and a copy of the issued permit.

Within 10 days after the issuance of the final decision, the Department must notify the local government officials in the political subdivision in which the permit area is located that a permit has been issued. A description of the location of lands within the permit area must be included.

Within 30 days of the applicant being notified of a final decision, anyone whose interests are or may be adversely affected can request an administrative review hearing on the decision. If administrative review of the Department's decision is requested, and operator or person that is or

may be adversely affected by the Department's decision may request and be granted temporary relief from the decision. All parties to the administrative review must be informed of any temporary relief request.

The Department must hold an adjudicatory or administrative review hearing within 30 days of the administrative review request. No person who presided at an informal conference or public hearing may preside at the administrative review hearing.

At an adjudicatory hearing, the hearing office may administer oaths and affirmations, subpoena witnesses, gather evidence, compel attendance of witnesses and production of materials, compel discovery and conduct site inspections of the proposed operation. A decision must be rendered within 30 days of the conclusion of the proceedings. The administrative review decision may be appealed in accordance with administrative review law.

### ***Exploration***

When exploration of more than 250 tons of coal is undertaken, an individual must file an application for approval including a reclamation plan with the Department. Within five days of the filing, the applicant must publish a public notice in a local newspaper.

The public may comment for at least 30 days, and anyone adversely affected may file written comments on the application for approval of coal exploration. The Department publishes its decision of approval or denial of the exploration application in a local newspaper. Anyone



adversely affected may request an administrative review hearing.

No coal exploration approval given by the Department may be interpreted by an operator as a permit to mine coal.

An operator must also file a written notice of intent to explore with the Department where less than 250 tons of coal will be removed, and the notice must be placed on file for public review.

### ***Permit Revision and Renewal***

An operator must seek a permit revision when changes in mining or reclamation operations constitute a significant departure from originally approved procedures. The only changes not included are:

- a change in the direction of mining or location of mining equipment in the permit area.
- substitution of mining equipment if not detrimental to final reclamation
- any change in mining or reclamation operations allowed by the Department on a case-by-case basis not detrimental to final reclamation or involving a significant delay or major change in land use.
- a temporary delay or change in operations caused by unanticipated weather or other conditions beyond the control of the operator.

Citizen participation avenues for a significant revision are identical to those for filing a permit application. If, however, an operator is not departing significantly from approved procedures, a

request for insignificant revision may be approved. There are no public participation requirements for an insignificant revision, however, the insignificant request and the approval are filed with the other permit documents at the county clerk's office where they are available to the public. Also, an operator requesting a minor land use change must consult with the landowner of the property.

Incidental boundary revisions can be used to add minor acreage, a maximum of 20 acres per incidental boundary revision, to an existing permit. As with insignificant permit revision, there are no public participation requirements, but the approval is filed with the county clerk's office.

A permit must be renewed when an original permit term expires and each time the term expires and each time the term expires thereafter so long as the permittee conducts mining operation. A permit need not be renewed if only reclamation operations are being conducted. Renewal applications must be filed with the Department 180 days before the permit term expires. Citizen participation channels for permit renewal applications are identical to those for filing the original permit application.

### ***Notice of Violation/Cessation Order***

When a Notice of Violation or Cessation Order is issued to a mining company, the notice or order must be filed, along with the inspection report, with the county clerk as part of the public record.

A Notice of Violation is written when an inspector finds a violation that does not create an imminent danger to public health

or safety or to the environment. A Cessation Order is issued to stop operation of the part of a mine that is causing an imminent danger.

When a Notice of Violation or Cessation Order has been issued, formal review may be requested within 30 days by the company or anyone who is or may be adversely affected by the issuance, modification, vacation or termination of such notice or order.

Upon the receipt of a timely request for administrative review of a notice or order, a pre-hearing conference will be scheduled. Subsequent to the pre-hearing conference, a formal administrative hearing will be scheduled.

Within 30 days after the close of the hearing record, the hearing officer must issue a proposed decision on the hearing request consisting of findings of fact and conclusions of law. Parties may then file written exceptions with the Director.

Any party to the administrative review proceeding may appeal the Department's final administrative decision to circuit court in accordance with the Administrative Review Law.

If mining is stopped under a Notice of Violation or a Cessation of Mining Order, informal review (an informal public hearing) may be held. The hearing must be conducted promptly by the Department.

This allows a quick review of the operator's situation when mine closure is threatened imminently. Notice of the informal hearing must be given to the operator and anyone who filed a report leading to the cessation of mining. Notice

must also be posted at the Department's field office nearest the mine site and when practicable, published in a local newspaper.

Within five days after the close of the informal public hearing, the Department must affirm, modify or vacate the notice or order in writing. Parties not satisfied with the decision may pursue formal review.

Pending completion of formal or informal review, and operator may request temporary injunctive relief from any notice or order and its provisions. Unless the time limits are waived, the Department must reach a decision within five days of receipt of the request if mining was ordered to be stopped.

Relief may be granted if: (1) a hearing was held on the request in the area where mining takes place; (2) the outcome of the review will likely favor the applicant; and (3) relief will cause no harm to public health or safety or the environment. The permittee or any affected person may seek judicial review of the Department's final temporary relief decision in accordance with the Administrative Review Law.

The operator also has 15 days from the issuance of a Notice of Violation or a Cessation Order to submit information to the Department that may lessen the fine. Within 30 days of issuing the notice or order, the Department must assess the fine.

The operator must pay the fine within 30 days of receiving the assessment. If the operator requests a hearing, the fine will be placed into an escrow account pending the outcome of the proceedings.

If a hearing is held, the Department may thereafter affirm, vacate or modify the penalty. Such decision may be appealed to circuit court in accordance with the Administrative Review Law.

### ***Permit Suspension***

If a pattern of willful violations exists at a mining operation, the Department can issue a Show-Cause Order to require the company to explain why its permit and the right to mine should not be revoked.

When a Show-Cause Order is issued, notice of such order must be posted at the Department's field office closest to the operation and published in a newspaper of general circulation in the area.

The person to whom a Show-Cause Order is issued has 30 days after its issuance in which to file and answer and request a hearing. Notice of show cause hearings is given to all parties. The notice also is posted at the Department's office closest to the operation and, where practicable, published in a newspaper circulating in the area of the operation.

If the operator fails to file a timely answer or request a hearing on a Show-Cause Order, the permit can be suspended or revoked. The Department's decision to suspend or revoke a permit may be appealed in accordance with the Administrative Review Law.

If the right to mine is suspended, the operator must abate all violations and unlawful practices as specified in the suspension order. If a permit is revoked, reclamation must be completed by the operator as ordered by the Department. (See Chapter V, Inspection and Enforcement.)

Should the operator fail to comply with a Show-Cause Order, bond forfeiture proceedings are initiated to provide the Department with funds to complete reclamation.

### ***Citizen's Request for State Inspection***

A citizen may request a state inspection by furnishing to the Department a signed written statement (or an oral report followed by a signed written statement giving the authorized representative of the Department reason to believe that a violation exists at a mine site. The request must include a phone number and the address where the citizen can be contacted.

The citizen has the right to request confidentiality or to accompany the Department's authorized representative during the inspection of the mine site.

If a state inspection is made as a result of the supplied information, a written report will be sent to the citizen as well as the mine operator within 10 days of the inspection detailing any enforcement action being taken.

If no inspection results from the citizen's request, the Department is required to issue the citizen a written explanation within 15 days of receipt of the written request.

Any person who is or may be adversely affected by a coal exploration or surface coal mining and reclamation operation may ask the Director to review informally an authorized representative's decision not to inspect or take appropriate enforcement action with respect to the violation alleged in the citizens' request for state inspection. The request for

review must be in writing and must include a statement of how the person is or may be adversely affected and why the decision merits review.

The Department must inform the person in writing of the results of the informal review within 30 days of receipt of the request.

A citizen not satisfied with the results of informal review may pursue civil action in accordance with Section 8.05 of the State Act. Additionally, any person having an interest which is or may be adversely affected by the issuance, modification, vacation or termination of a Notice of Violation or Cessation Order may apply for review of the notice or order within 30 days after receipt. The review process must include an opportunity for a public hearing.

Also, a citizen can report a violation to OSM and request a federal inspection. If OSM believes the State has not handled the citizens' request for state inspection in compliance with the state's approved program, it may order a federal inspection and initiate federal enforcement action. Informal and formal review of OSM's decisions may be made as well.

Finally, anyone adversely affected by a surface coal mining and reclamation operation may also notify the Department in writing of failure to make adequate periodic inspections. Within 15 days the Department must determine if inspections are being conducted in accordance with the regulations. If noncompliance is found, a state inspection must be conducted immediately. The citizen must also be furnished a written statement of

the determination and actions to be taken to remedy the noncompliance.

### ***Pre-Blasting or Condition Survey***

At least 30 days before blasting in a permit area, the operator shall notify all residents or owners of structures located within one-half mile of the permit area how to request a pre-blasting or condition survey.

A condition survey is identical to a pre-blasting survey, but is conducted after the start of blasting. Any surveys requested more than 10 days prior to the scheduled beginning of blasting shall be completed by the operator before the start of blasting.

Upon written request to the Department and the mine operator by a resident or owner of a dwelling or other structure that is located within one-half mile of the permitted area or by the owner of a dwelling or structure between one-half mile and one mile of the blasting area and within an area determined by the Department to be appropriate in a particular situation, the mine operator shall promptly conduct a pre-blasting or condition survey of the dwelling or structure.

The survey shall determine the condition of the dwelling or structure and document any pre-blasting or existing damage and other physical factors that could reasonably be affected by blasting. A written report shall be prepared and copies of the report shall be provided to the person requesting the survey and to the Department within 30 days of the date the survey was conducted.

Condition of a structure may be documented by written descriptions,

photographs or other methods that indicate the location and severity of cracks. Wells and cisterns must also be checked. A report on the survey must be filed with the requestor and the Department within 30 days of when the survey was conducted.

If an individual disagrees with the results of the survey, notification of the areas of disagreement may be made in writing to the operator and the Department.

The pre-blast or condition survey is important in documenting any damage to structures which may occur during mining.

An operator must meet air blast and ground vibration limits and contain flyrock within the permit area.

If a citizen believes any of these requirements has been violated, the occurrence should be reported to the Department and an inspection requested. The company must make blasting records available for citizen inspection.

Audible warning schedules must be adhered to and the meaning of signals explained by the operator to everyone residing or working within one-half mile of the blasting area, via the blasting notice.

An individual who believes an operator may be in violation of ground vibration or air blast limits may request a seismograph from the Department to monitor blasts on his property.

The Department maintains and operates the seismograph as a public service and as an independent means of checking ground

vibration and air blast level compliance by the operator.

Damages believed to be incurred must be sought directly from the company or through litigation.

### ***Performance Bond Release***

To obtain release of performance bond, a coal company must submit an application to the Department for each phase of reclamation and publish notice in a local newspaper once a week for four consecutive weeks. The notice shall contain the location of the release request area, the number of acres requested and a summary of the reclamation performed.

The notice must also state that written comments, objections and requests for a public hearing on the application for bond release may be made by anyone adversely affected. An address for filing objections and requests with the Department must be given along with a statement that they must be filed within 30 days of the last notice.

The coal company shall also send letters to owners of adjoining property, local governmental agencies, planning agencies, sewage and water treatment authorities and water companies in the locality in which the mining operation took place, notifying them of the intention to seek release from the bond.

The Department must conduct an on-site inspection of the release request area within 30 days of receipt of the application for bond release, or as soon after as weather permits. The surface owner or lessee may participate.

If a hearing is requested, it must be held within 30 days of the request and notice of the hearing shall be published in a local newspaper for two weeks prior to the hearing. Hearing proceedings are recorded and maintained for public access.

The Department shall issue its decision on the release application within 30 days of the hearing if a hearing is held or within 60 days of the filing of the release application if no hearing is held.

The permittee or any affected person may request judicial review of the Department's decision in accordance with the Administrative Review Law.

### ***Regulation Changes***

Any person can file a written petition with the Director of the Department to amend, adopt or repeal any rule under the State Act. The petition must include a concise statement of the facts, technical justification and law which require issuance, amendment or repeal of a regulation under the State Act and must indicate whether the petitioner desires a public hearing.

The Director must determine if the petition presents a reasonable basis for issuance, amendment or repeal of a regulation. Within 90 days after receipt of a petition, the Department must initiate a rulemaking proceeding or deny the petition with a written explanation.

Before the adoption, amendment or repeal of any rule, the Department must give 45 days notice beginning with publication of the text of the proposed rule, amendment or repealer, the authorizing statute citation, a description of the subject and

issues involved, and the manner in which comments may be presented.

Notice of any rulemaking must be made in the Illinois Register in accordance with the Illinois Administrative Procedure Act. Also, anyone who has filed a request with the Department for advance notice of rulemaking proceedings must be notified.

Any interested person may submit oral or written data, views, arguments or comments on the proposed rulemaking during the first notice period. If requested, the Department must hold a public hearing before a rule is adopted, amended or repealed. After the hearing, a response to each comment is made by the Department, and a second notice of rulemaking is filed with the State's Joint Committee on Administrative Rules.

If the committee finds no objection to the rule, it can be adopted at the conclusion of the second notice period. All Department rules are on file with the Secretary of State and published in the Illinois Administrative Code.

### ***Civil Action***

Any person having an interest that is or may be adversely affected can commence a civil action on his own behalf to compel compliance with the State Act against any governmental agency which is alleged to be in violation of the State Act or regulations.

A person intending to initiate this type of civil action must give the Department 60 days written notice in accordance with 62 Ill. Adm. Code 1700.13 before initiating the action. If the state is diligently pursuing a civil action to require compliance, a citizen suit cannot be

initiated. If the action complained of constitutes an imminent threat to the health or safety of the plaintiff or would immediately affect a legal interest of the plaintiff, the civil action may be brought immediately after notification to the Department.

The court may award costs of litigation, including attorney and expert witness fees, to any party to a civil action depending on the importance of the proceeding and the participation of the party in effective enforcement of the State Act.

Any person who is injured or property damaged through violation of the law or regulations may seek damages, including reasonable attorney and expert witness fees. Any action must be brought in the county in which the mining operation is located, and the Department may intervene.

#### ***Petition for Costs***

Any person may file a petition for costs and expenses reasonably incurred as a result of the person's participation in an administrative proceeding under the State Act that results in a final order being issued by the Department.

The petition must be filed within 45 days of the order and must include the name of the person from whom costs are sought and a detailed affidavit setting forth an accounting of costs and receipts or other evidence of the expenses.

When attorney fees are claimed, the petition must contain evidence concerning hours spent on the case, the customary commercial rate in the area and the experience and reputation of the attorney. The petition must be answered in 30 days.

An award of costs and expenses may be made from a permittee to an individual who initiates administrative review of an enforcement action and shows that a violation occurred or an imminent danger existed.

Also, an award may be made from a permittee to anyone who makes a substantial contribution to a full and fair determination of issues in any proceeding. An award may be made from the Department to a permittee if it can be shown an enforcement measure was issued in bad faith or to harass or embarrass the permittee.

An award may be made from an individual to a permittee and/or the Department if it can be shown the person initiated and enforcement review proceeding in bad faith or to harass or embarrass the permittee or the Department.

#### ***Intervention and Discovery***

Any person, including the state, may petition to intervene in or become a formal party to any proceeding under the State Act. The petitioner must show why his interest is or may be adversely affected.

The Department must grant intervener status where an individual has the statutory right to initiate the proceeding or when that individual may be adversely affected by the outcome of the proceeding.

Lacking these criteria, in granting intervention the Department must consider the nature of the issues involved, whether existing parties to the proceeding represent the petitioner's interests, the ability of the petitioner to present relevant argument and evidence, and the effect of

intervention on the Department's implementation of its statutory mandate.

Any party to an administrative hearing may use discovery methods to substantiate a case. Discovery methods include oral and written depositions, written interrogatories, subpoena of documents or things, inspection of real estate and requests for admissions. The hearing officer may limit the scope and manner of discovery conducted in a particular proceeding.

Failure to comply with discovery rules or orders can result in, among other things, dismissal of the action and punitive measures against the disobedient party.

#### ***Lands Unsuitable for Mining***

Any person having an interest which is or may be adversely affected may petition under the state regulations to have an area not presently being mined declared unsuitable for mining, or to have an existing unsuitable designation terminated.

A petition for unsuitable designation must include, at a minimum, the petitioner's name, address, telephone number, how the petitioner's interest is or may be adversely affected, the location and size of the area involved, allegations of fact and supporting evidence establishing that the area is unsuitable for mining, and a description or supporting evidence of how mining would adversely affect the public or natural resources.

In presenting allegations and supporting evidence to establish that an area is unsuitable for mining, one must gear information to at least one of the state criteria used by the Department to decide

whether an area should receive this designation.

According to state criteria, an area must be declared unsuitable for mining if reclamation is not technologically and economically feasible. In addition, the area may be declared unsuitable for mining if operations would:

- Be incompatible with existing state or local land use plans or programs.
- Affect fragile or historic lands and damage important historic, cultural, scientific, or esthetic values or natural systems.
- Affect renewable resource land and result in a substantial loss or reduction of long-range productivity of water supply or of food or fiber products.
- Affect natural hazard lands, endangering life and property and lands subject to frequent flooding and of unstable geology.

When the information required by the Department's regulations at 62 Ill. Adm. Code 1764.13 has been provided in the petition, the Department may declare the petition complete, and a 12-month period for fact gathering and public comment begins.

There are several instances, however, when processing a petition may be delayed or precluded. The petitioner must be notified in these instances.

A petition cannot be considered if it is received after the first newspaper has been run for a permit application on the same area.



Frivolous or incomplete petitions will be returned to the petitioner.

Once a petition has been declared complete, any person may petition to intervene in the proceeding, either supporting or opposing the petition, by filing allegations of facts, supporting evidence, and the person's name, address and telephone number. Intervention is possible until three days before a public hearing is held on the petition.

Within three weeks after determining the petition is complete, the Department must circulate copies and request relevant information from the petitioner, intervener, property owners and interested government agencies. The general public must also be notified by newspaper advertisement in the region covered by the petition once a week for two consecutive weeks.

A complete petition must immediately be sent to the appropriate office within IDNR for preparation of a land report. IDNR must evaluate the effects of mining on natural resources in the area under the state criteria used by the Department for designating lands unsuitable.

The report must also include information detailing the potential resources of the area, the economy, the impact of unsuitable designation on the environment and the supply and demand for coal.

The land report must be completed not later than eight months after a request for its preparation and must be available to the public for review at least 30 days before a public hearing on the petition.

IDNR must distribute copies of the land report to the petitioner, intervener, the operator, the county clerk, OMM, each office of the Department and to persons who have requested a copy. A draft land report may be made available by IDNR for a 30-day written comment period prior to IDNR's distribution of the final land report.

Written comments on the final land report may be filed with the Department until three days before the public hearing. Comments should be geared to the state criteria for determining if an area should be declared unsuitable for mining.

IDNR must develop a data base and an inventory system of the natural resources in areas covered by petitions. The system includes information on coal resources and supply and demand, as well as information from other government agencies such as the U.S. Fish and Wildlife Service, the State Historic Preservation Officer and the Clean Air Act administrator. This information is available to the public from IDNR.

A public hearing must be held within 10 months after a petition has been declared complete. A public hearing is waived only if all parties and interveners agree it is not needed.

Notice of the time, date and place of the public hearing must be sent by certified mail to petitioners and interveners and by regular mail to all other interested parties. The notice must also give the locations where the land report may be inspected.

The general public must be notified of the hearing by newspaper advertisement in the area during the fourth and fifth weeks

before the hearing date and during the week prior to the hearing. In addition, prior to a hearing, a petition may be withdrawn if all petitioners and interveners agree.

The public hearing itself is adjudicatory in nature and provides for presentation of data, subpoena of witnesses and testimony by the petitioner and intervening parties. An opportunity for persons who are not parties to the petition also is provided to present factual information, views or opinions.

Individuals may be represented by legal counsel. Testimony presented at the hearing is subject to questioning and cross-examination by the Department, the petitioner and intervenor.

A final decision on the unsuitability petition must be made by the Department within 60 days after the close of the public hearing record. If no public hearing is held, then the decision must be made 12 months after receipt of a complete petition.

The Department may decide to designate the petitioned areas as unsuitable in whole or in part, not to designate the petitioned area as unsuitable, or to place conditions on future operations that would mitigate adverse impacts.

In making its decision, the Department must use information in the data base and inventory system, information provided by other government agencies, the land report and any other relevant information submitted during comment periods.

Notification of the decision must be sent by certified mail to the petitioner and

intervenor and by regular mail to other parties to the proceeding and to OSM. The decision is subject to judicial review in accordance with the Administrative Review Law. (735 ILCS 5/301 through 5/3-112.)

A petition that has been unsuccessful in obtaining an unsuitable for mining designation for an area may be resubmitted to the Department. However, if the new petition does not present significant new allegations of fact with supporting evidence, the Department will not consider the petition, and it will be returned to the petitioner.

The petition process may also be used to have an unsuitable designation terminated. The petitioner must include in the petition the size and location of the area and factual evidence detailing how natural resources in the area would no longer be affected by mining. This factual evidence must be presented according to state criteria for designating lands unsuitable for mining.

Finally, once an area has been designated unsuitable for mining, coal exploration operations may be conducted if done in accordance with the State Act and the Department's regulations.

## *Glossary*

**Acid drainage** - water with a PH of less than 6.0 and in which total acidity exceeds total alkalinity, discharged from an active, inactive or abandoned surface mine and reclamation operation or from an area affected by surface coal mining and reclamation operations.

**Acid-forming materials** - earthen materials that contain sulfide minerals or other materials which, if exposed to air, water or weather processes, form acids that may create acid drainage.

**Adjacent area** - land located either outside the permit area or shadow area, depending on the context in which adjacent area is used, where air, surface or groundwater, fish, wildlife, vegetation or other resources protected by the State Act may be adversely impacted by surface coal mining and reclamation operations.

**Affected area** - with respect to surface mining activities, any land or water upon or in which those activities are conducted or located. With respect to underground mining activities, affected area means any water or surface land upon which those activities are conducted or located.

**Agricultural use** - the use of any tract of land for the production of animal or vegetable life. The uses include but are not limited to the pasturing, grazing and watering of livestock, and the cropping, cultivating and harvesting of plants.

**Applicant** - any person seeking a permit from the Department to conduct surface coal mining and reclamation operations

pursuant to the state program, or in the case of coal exploration, a person who seeks to obtain exploration approval.

**Application** - the documents and other information filed with the Department, under regulations and the regulatory program for the issuance of exploration approval or a coal mining permit.

**Approximate original contour** - that surface configuration achieved by backfilling and grading of the mined areas so that the reclaimed area, including any terracing or access roads, closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain, with all highwalls, spoil piles and coal refuse piles eliminated. Permanent water impoundments may be permitted where the Department has determined that they comply with the regulations.

**Box cut** - the first open cut that results in the placing of overburden on unmined land adjacent to the initial pit and normally outside of the area to be mined.

**Carbon recovery** - the reprocessing of coal waste, gob and slurry, to extract the carbon or coal remaining.

**Coal** - combustible carbonaceous rock, classified as anthracite, bituminous, sub-bituminous or lignite.

**Coal exploration** - the field gathering of: (a) surface or subsurface geologic, physical or chemical data by mapping, trenching, drilling, geophysical or other techniques necessary to determine the quality and quantity of overburden and coal of an area or (b) the gathering of

environmental data to establish the conditions of an area before beginning surface coal mining and reclamation operations under the requirements of the regulations.

**Coal mining operation** - the business of developing, producing, preparing or loading bituminous coal, sub-bituminous coal, anthracite or lignite, or of reclaiming the areas upon which such activities occur.

**Coal processing plant** - a collection of facilities where run-of-the-mine coal is subjected to chemical or physical processing and separated from its impurities.

**Coal processing waste (gob and slurry)**-combustible, physically unstable, acid-forming or toxic-forming materials that are separated from coal during processing.

**Coal reserves** - 44 billion tons of Illinois coal resources and 6 billion tons of coal resources that have a high potential for underground mining and surface mining respectively. (ISGS Circ. 504.527)

**Combustible material** - organic material capable of burning, either by fire or through oxidation, in the presence of heat and a significant temperature rise.

**Compaction** - increasing the density of a material by reducing the voids between the particles from repeated application of wheel, tract or roller loads from heavy equipment.

**Department** - the Illinois Department of Natural Resources, Office of Mines and Minerals, the regulatory authority for surface mining and reclamation operations in Illinois.

**Diversion** - a channel, embankment or other man-made structure constructed to divert water from one area to another.

**Federal Act** - the Surface Mining Control and Reclamation Act of 1977 (P.L. 95-87).

**Final cut** - the last pit created in a surface-mined area.

**Fragile lands** - geographic areas containing important natural, ecological, scientific or esthetic resources that could be significantly damaged or destroyed by surface coal mining operation. Examples of fragile lands include valuable habitats for fish or wildlife, critical habitats for endangered or threatened species of animals or plants, uncommon geologic formations, National Natural Landmark sites, areas where mining may cause flooding, environmental corridors containing a concentration of ecologic and esthetic features, areas of recreational value due to high environmental quality and buffer zones adjacent to the boundaries of areas where surface coal mining operations are prohibited under Section 522 (e) of the Federal Act and Part 1761 of the State regulation.

**Groundwater** - subsurface water that fills available openings in rock or soil materials to the extent that they are considered water saturated.

**High-capability land** - land other than prime farmland that the regulatory authority determines is capable (1) of being reclaimed for row crop agricultural purposes based on U.S. Natural Resources Conservation Service soil survey classifications of the affected land prior to mining; and (2) of having the optimum

future use is for row crop agricultural purposes.

**Historically used for Cropland** - (1) lands that have been used for cropland for any five years or more out of the 10 years immediately preceding the acquisition, including purchase, lease or option, of the lands for the purpose of conducting or allowing through resale, lease or option, the conduct of surface coal mining and reclamation operations; (b) lands that the Department determines, on the basis of additional cropland history of the surrounding lands and the lands under consideration, that the permit area is clearly cropland but falls outside the specific 5 years-in-10 criterion, in which case the regulations for prime farmland may be applied to include more years of cropland history only to increase the prime farmland acreage to be preserved; or (3) lands that would likely have been used as cropland for any five out of the last 10 years, immediately preceding such acquisition but for the same fact of ownership or control of the land unrelated to the productivity of the land.

**Historic lands** - important historic or cultural districts, places, structure or objects, including archaeological and paleontological sites, National Historic Landmark sites, sites listed on a State or National Register of Historic Places, sites having religious or cultural significance to native Americans or religious groups or sites for which historic designation is pending.

**Hydrologic balance** - the relationship between the quality and quantity of water inflow to, water outflow from and water storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake or

reservoir. It encompasses the dynamic relationships among precipitation, runoff, evaporation and changes ground and surface water storage.

**Imminent danger to the health and safety of the public** - the existence of any condition or practice, or any violation of a permit or other requirements of the Act in a surface coal mining and reclamation operation, which could reasonably be expected to cause substantial physical harm to persons outside the permit area before the condition, practice or violation can be abated.

**Impoundment** - a closed basin, naturally formed or artificially built, which is dammed or excavated for the retention of water, sediment or waste.

**Interagency Committee** - the Interagency committee on Surface Mining Control and Reclamation created by the State Act.

**Land capability** - the soil's physical and chemical potential and limits for sustained production of common cultivated crops or for the production of permanent vegetation. Premining land capabilities are based on the NRCS classification system (USDA Agriculture Handbook No. 210) and are interpreted from the soils map.

**Land use** - specific uses or management-related activities, rather than the vegetation or cover of the land. Land uses may be identified in combination when joint or seasonal uses occur. Changes of land use or uses from one of the following categories to another are considered changes to alternative land uses which are subject to approval by the Department.

(a) cropland-land used for the production of adapted crops for harvest, alone or in rotation with grasses and legumes, and includes row crops, small grain crops, hay crops, nursery crops, orchard crops and other similar specialty crops. Land use for facilities in support of cropland farming operations which is adjacent to or an integral part of these operations is also included for purposes of these land use categories.

(b) Pasture land or land occasionally cut for hayland used primarily for the long-term production of adapted, domesticated forage plants to be grazed by Livestock or occasionally cut and cured for livestock feed. Land used for facilities in support of pasture land or land occasionally cut for hay that is adjacent to or an integral part of these operations is also included.

(c) Grazing land - includes both grasslands and forest lands where the indigenous vegetation is actively managed for grazing, browsing or occasional hay production. Land used for facilities in support of ranching operations that are adjacent to or an integral part of these operations also is included.

(d) Forestry - land used or managed for the long-term production of wood, wood fiber or wood derived products. Land used for facilities in support of forest harvest and management operations that is adjacent to or an integral part of these operations is also included.

(e) Residential - includes single and multiple-family housing, mobile home parks and other residential lodgings. Land used for facilities in support of residential operations that is adjacent to or an integral part of these operations also is included. Support facilities include, but are not limited to, vehicle parking and open space that directly relate to the residential use.

(f) Industrial/commercial-land used for:

(1) extraction or transformation of materials for fabrication of products, wholesaling of products or for long term storage of products. This includes all heavy and light manufacturing facilities, such as lumber and wood processing, chemical manufacturing, petroleum refining and fabricated metal products manufacture. Land used for facilities in support of these operations which is adjacent to or an integral part of that operation is also included. Support facilities include, but are not limited to, all rail, road and other transportation facilities.

(2) retail or trade of goods or services including hotels, motels, stores, restaurants and other commercial establishments. Land used for facilities in support of commercial operations that is adjacent to or an integral part of these operations also is

included. Support facilities include, but are not limited to, parking, storage or shipping facilities.

(g) Recreation - land used for public or private leisure time use, including developed recreation facilities such as parks, camps and amusement areas, as well as areas for less intensive uses such as hiking, canoeing and other underdeveloped recreational uses.

(h) Fish and wildlife habitat-land dedicated wholly or partially to the production, protection or management of species of fish or wildlife.

(i) Developed water resources- includes land used for storing water for beneficial uses such as stock ponds, irrigation, fire protection, flood control and water supply.

(j) Undeveloped land or no current use or land management-land that is undeveloped, or, if previously developed, land that has been allowed to return naturally to an undeveloped state or has been allowed to return to forest through natural succession.

**NRCS** - United States Natural Resources Conservation Service.

**Natural hazards lands** - geographic areas in which natural conditions exist that pose or, as a result of surface coal mining operations, may pose a threat to the health, safety or welfare of people, property or the environment, including areas subject to land slides, cave-ins, large or encroaching

sand dunes, severe wind or soil erosion, frequent flooding, avalanches and areas of unstable geology.

**Operator** - any person engaged in coal mining who removes or intends to remove more than 250 tons of coal from the earth or from coal refuse piles by mining within 12 consecutive calendar months in any one location, or any person engaged in coal mining, to include political subdivisions, units of local government and instrumentalities of the State of Illinois and public utilities.

**OSM** - U.S. Office of Surface Mining Reclamation and Enforcement.

**Performance bond** - a surety bond, collateral bond or self-bond or a combination by which a permittee insures faithful performance of all the requirements of the Federal Act, the State Act and regulations and requirements of the permit and reclamation plan.

**Permit** - a permit to conduct surface coal mining and reclamation operations issued by the Department under the State program.

**Permit area** - the area of land and water within the boundaries of the permit that are designated on the permit application maps, as approved by the Department. This area shall include all areas that are or will be affected by the surface coal mining and reclamation operations during the term of the permit.

**Prime farmland** - those lands defined by the U.S. Secretary of Agriculture that historically have been used for cropland.

**Reclamation** - as required by regulations, actions taken to restore mined land to a post-mining land use approved by the Department.

**Regulatory program** - any approved state or federal program.

**Renewable resource lands** - aquifers and areas for the recharge of aquifers and other underground waters, areas for agricultural or silvicultural production of food and fiber and grazing lands.

**Row crops** - typical agricultural crops such as corn, soybeans and wheat.

**Sedimentation pond** - a primary sediment control structure designed, constructed and maintained in accordance with regulations and including but not limited to a barrier, dam or excavated depression that slows down water runoff to allow sediment to settle out.

**Shadow area** - any area beyond the limits of the permit area in which underground mine workings are located. This area includes all resources above and below the coal that are protected by the State Act that may be adversely impacted by underground mining operations including impacts of subsidence.

**SOAP** - The Small Operators' Assistance Program is Federally funded and State administered to assist coal mine operators who produce less than 300,000 tons of coal annually in determining the probable hydrologic consequences and statement of test bores required for a coal mine permit application under the State Act. Information includes sample collection and analysis of overburden strata and collection and evaluation of existing

surface and groundwater conditions. Data is collected through a qualified laboratory.

**Soil horizons** - contrasting layers of soil parallel or nearly parallel to the land surface. The three major soil horizons are:

(a) A horizon - the uppermost mineral layer, often called the surface soil, is the part of the soil in which organic matter and leaching of suspended particles is typically the greatest.

(b) B horizon - the layer that typically is immediately beneath the A horizon often called the subsoil, which commonly contains more clay, iron or aluminum than the A or C horizons.

(c) C horizon - the deepest layer of soil profile consisting of loose material or weathered rock that is relatively unaffected by biologic activity.

**Soil survey** - a field and other investigation resulting in a map showing the geographic distribution of different kinds of soils and accompanying report that describes, classifies and interprets such soils for use. Soil surveys must meet the standards of the National Cooperative Soil Survey.

**Slope** - average inclination of a surface measured from the horizontal, generally expressed as the ratio of a unit of vertical distance to a given number of units of horizontal distance.

**Spoil** - overburden that has been removed during surface coal mining operations.



**Stabilize** - to control movement of soil, spoil piles or areas of disturbed earth by modifying the mass or by modifying physical or chemical properties as in providing a protective surface coating.

**State Act** - the Illinois Surface Coal Mining Land Conservation and Reclamation Act (225 ILCS 720)

**State program** - a program established by the state and approved by the Secretary of the Interior pursuant to Section 503 of the Federal Act to regulate surface coal mining and reclamation operations on non-Indian and non-federal lands.

**Strippable coal resources and reserves** - of Illinois' 181 billion tons of coal resources, around 20 billion tons are considered potentially strippable and constitute Illinois strippable coal resources. Around 6 billion tons have a high potential for surface mining, economically and legally, and constitute Illinois strippable coal reserves. (ISGS Cir. 504)

**Surface Mining Advisory Council** - the group of citizens, educators, government and industry representatives formed to advise the Department on surface mining and land reclamation issues and to monitor enforcement of reclamation programs. The body meets a minimum of three times per year. Members are nonsalaried and are appointed by the Governor with the advise and consent of the Illinois State Senate.

**Surface mining operations** -

(a) activities conducted on the surface of lands in connection with a surface coal mine or surface

operations. Such activities include excavation for the purpose of obtaining coal including such common methods at contour, strip, auger, mountain top removal, box cut, open pit and area mining, coal recovery from coal waste disposal areas, the use of explosives and blasting; and in situ distillation or retorting, leaching or other chemical or physical processing, and the cleaning, concentrating or other processing or preparation, loading of coal at or near the mine site, and

(b) the areas on which such activities occur or where such activities disturb the natural land surface. Such areas include any adjacent land the use of which is incidental to any such activities, all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to the site of such activities and for haulage and excavations, workings, impoundments, dams, refuse banks, dumps, stock-piles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, processing areas, shipping areas and other areas, upon which are sited structures, facilities or other property or materials on the surface, resulting from or incident to such activities.

**Suspended solids (milligrams per liter)** - organic or inorganic materials carried or held in suspension in water that are retained by a standard glass fiber filter in the procedure outlined by the U.S. Environmental Protection Agency's regulations for waste water and analysis.

**Temporary relief** - a request made by the affected party to a legal action to relieve that party from a portion of the action until completion of the review process. In permit denial proceedings, temporary relief cannot consist of a request that the permit be issued.

**Topsoil** - the A (upper) soil horizon layer of the three major soil horizons.

**Toxic-forming materials** - earthen materials or waste acted on by air, water, weathering or microbial processes, to produce chemically or physically damaging conditions to biota in soils or water.

**Underground mining activities** - the underground excavation of coal and (a) surface operations incident to the underground extraction of coal, such as construction, use, maintenance and reclamation of roads, above ground repair areas, storage areas, processing areas, shipping areas, areas on which support facilities, equipment storage areas, and (b) underground operations incident to underground excavation of coal, such as underground construction, operation and reclamation of shafts, adits, underground support facilities, in situ processing and underground mining, hauling, storage or blasting.

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P R O T E C T I O N   A G E N C Y** - United States Environmental Protection Agency