



RISK & RECLAMATION BONDING

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RA HAS THE **RESPONSIBILITY** TO BOND AS ACCURATELY AS PRACTICAL

- meet the statute and regulations
- meet the approved reclamation plan
- make the landowner(s) whole



ILLINOIS CURRENTLY USES A "FULL COST" BONDING METHOD

- Inspection staff handled bond calculations pre-SMCRA and early in the permanent program
- Moved to standardized costs & calculation methods
 - **Consistency & transparency**
- Currently have a dedicated bond calculation and bond release program staff

RECLAMATION STANDARD	ACRES COST \$	GRADING \$	SOIL REPL. \$/AC.	REVEG. \$/AC.	SUBTTL. \$/AC.	SUBTTL. \$
Prime Farm (Mined)	0.00	\$ 0	\$ 0	\$ 1,500	\$ 0	\$ 0
High Capbl.(Crop) Mined	0.00	\$ 0	\$ 0	\$ 1,500	\$ 0	\$ 0
High Capbl. (Non Crop) Mined	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
Limited Capbl.(Crop) Mined	0.00	\$ 0	\$ 0	\$ 1,500	\$ 0	\$ 0
Limited Capbl.(Non Crop) Mined	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
Incline & Highwall	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
Unaffected Lands	0.00	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Placeland	0.00	\$ 0	\$ 0	\$ 1,500	\$ 0	\$ 0
Boxcut(s)	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
Water (Mined)	0.00	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
RDA	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
Gob/Slurry Incised	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
Support Facilities	0.00	\$ 0	\$ 0	\$ 1,700	\$ 0	\$ 0
BOND RATES CALCULATED						
DEMOLITION						0
SUBSIDENCE REPAIR						\$0
SLURRY WALL						\$0
CONSTRUCTION OF PERMANENT DITCH/CHANNEL(S)						\$0
GMZ WATER TREATMENT						\$0
BACKFILL OF TEMPORARY DITCH/CHANNEL(S)						\$0
ROUGH GRADING**	0.00				0	0
ROOT MEDIUM***	0.00				\$ 0	0
BASE RATE	0.00				\$ 0	0

ALL BOND CALCULATIONS ARE RISK BASED

- There is no perfect bond calculation with zero risk
- No approved reclamation plan will be an exact replica of the final "as built"
- A perfect calculation would involve calculating every possible scenario (all the "what ifs") ... unrealistic and not what SMCRA intended.



CALCULATION IMPROVEMENTS ARE AN EVER EVOLVING PROCESS & ARE INFLUENCED BY:

- Available staff & staff time
- Regulatory changes
- Unit cost changes
- Extent of site information and operation plans
- Changes on mining technology
- What we learned from bond forfeitures
- What we learn from active mining & reclamation operations

Rev 5 added a plug calculation in intergrad

Rev 6 added a road construction feature in INTERGRAD

Rev 7 added a calculation for synthetic liners for gob piles above and below grade. This will be the top cover only, no charge associated with liners under piles or in ditches that are permanent

BC2013 was updated to add a riprap cost. Soil and reveg did not change

BC2016 was updated to add a highwall blasting feature, a pond backfill or structure removal feature, a shrinkage/compaction yardage adjustment on refuse covering

BC2916r1 was updated to correct an error in concrete demolition and to add a blasting upcharge for silos >125 feet high

BC2016r2 was updated to add a shrink factor for hauled soil cover

BC2016r3 was updated to update shaft filling costs and to adjust soil shrink factors and added a tab for ibr and iprs

BC2017 was updated to update shaft filling costs

BC2017r1 was updated to refine the shaft filling costs plus add a refuse capping cost for slurry before soil cover

BCR2017r2 was updated to correct a formula error in the shaft calculations

BC2018 was updated to correct the capping costs and to include both elevated and incised slurry

BC2018r1 was updated to revise the charge for all three areas for gob pile sloping to be the same at 1 foot for piles/impoundments built to grade.

BC2018R2 was updated to account for more than one silo>125ft and to rename the tab "Water" to "INC&HW"

BC2019R1 was updated to include tabs for Subsidence drainage repair, Slurry Wall construction, Ditch construction or Backfill, Compacted Engineering cover was also included in the RDA tab (formerly known as Gob Pile). Horse

BC2020R1 was updated to include Interior grading for Dozer/truck on 01/03/2020

BC2020R2 was updated to include line item on the summary page for NON-CROP High & Limited capbl costs, Line item for Unaffected acres with \$0 on the summary pages, renaming of the Impounding Incised structure tab to the

BC2021R1 was updated to collect the GMZ cost on the summary page

NON-COAL PROGRAMS MAY HAVE **MORE LIMITATIONS** ON ADEQUATE BONDING

- May be regulatory limitations on the maximum amount of bond that can be required
- Not uncommon for reclamation costs to exceed these maximums to ensure the best reclamation possible, or even to achieve the approved reclamation plan.
- May be no statutory authority to adjust costs over the life of a permit
- Reclamation calculations exceeding regulatory maximums obviously increases your risk.



Image retrieved from: <https://mapio.net/pic/p-3311002/>

BOND CALCULATIONS MUST BE DEFENSIBLE

- Defensible and justifiable to the operator, in case of administrative review, and still meet our responsibility to the landowner and to the environment.
- No operator ever complained that a bond calculation was “too low”, often complain they are “too high”
- Explaining to a landowner who leased their land that you do not have enough money to fully reclaim their property is never comfortable.



WHAT IS A **REASONABLE/ACCEPTABLE** RISK?

- May have thought mining companies were "Too Big to Fail" & Protections of AVS system under SMCRA would help solve issues
- Bond calculations under these assumptions became somewhat of an administrative exercise
- Some companies are better than other integrating reclamation costs into their business model



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WHAT IS A REASONABLE/ACCEPTABLE RISK?

- Forfeitures can be based on cyclical demand/value for the minerals. This significantly affects the amount of risk various alternative bonding mechanisms.
 - Self-bonding, collateral bonding and bond pools are higher risk than sureties.
- Carbon Recovery ventures have carried more risk than anticipated
- Reclamation Schedules as acceptable risk
- Some situations require a “case by case” evaluation of when/how to ask for additional bond



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CRITICAL COMPONENTS OF MINIMIZING RISK

- If possible, have a dedicated bonding staff to ensure quality & consistency
 - Bond release staff *MUST* be educated in how initial bond requirements are calculated
- Field staff involvement
 - An unrealistic reclamation or operation plan will doom a calculation before the permit is issued
- Field monitoring of operational commitments for maintenance
 - concurrent grading, sediment pond maintenance are assumed in initial calculations
 - Reduced spoil grading commitment
 - Grading extensions
- Potential surface or groundwater quality issues

CRITICAL COMPONENTS OF MINIMIZING RISK

- Is the operator planning ahead?
 - No amount of bond will provide for lack of required suitable soil material
- Engineering staff involvement
 - Help to evaluate and assist in with reviewing permit application information
 - Evaluating field conditions

PERIODIC, SYSTEMATIC REVIEW OF:

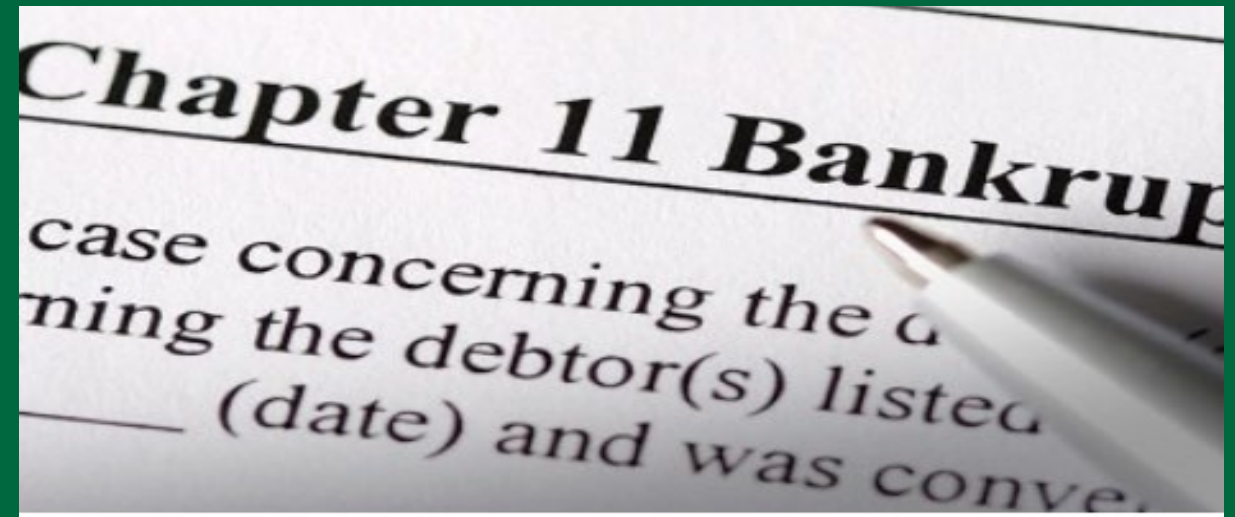
- 1) BOND ADEQUACY FOR EXISTING PERMITS
- 2) UNIT COSTS



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RARE FOR **BOND FORFEITURE** TO OCCUR IN MOST STATE PROGRAMS

- Illinois has completed several thousand bond calculations over the 60 year program history (coal & other minerals)
- Historically, the forfeiture rate was 2-3%
- 2 additional forfeitures in the last 2 years, two more imminent, with 2 large surface mines in jeopardy
- 3 surety companies have failed during program history



IN THE EVENT OF FORFEITURE THESE EXTERNAL FACTORS MAY COMPLICATE YOUR LIFE

- Overlapping agency jurisdictions, indecisiveness, and policy changes
 - NPDES permitting
 - Enforcement proceedings with state OAG
- State procurement process, bid letting, and site degradation
- Lack of emergency action authority
- Limited staff to allocate for coordinating infrequent forfeiture projects
- Uncooperative or multiple landowners



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IN THE EVENT OF FORFEITURE THESE EXTERNAL FACTORS MAY COMPLICATE YOUR LIFE

- Delays due to Chapter 11 bankruptcy
 - MUST have attorney experienced in bankruptcies to ensure reclamation liabilities are identified and reclamation bonds/premiums are provided for in fast moving timelines
- Delays due to potential to a new company/operator
 - How long do you wait while an operator searches for a new buyer?
 - Will the existing bond amount suffice?
 - Compliance timeline or increase in bond?
- Cumulative national exposure by a limited number of bonding companies



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QUESTIONS?

“Don’t ask me...I’m retired, it’s too risky!” – **Dean Spindler**

