

CHAPTER 69-05.2-21

PERFORMANCE STANDARDS - BACKFILLING AND GRADING

Section

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69-05.2-21-01. Performance standards - Backfilling and grading - Timing requirements.

1. **Area surface mining with thin overburden.** Rough backfilling and grading must occur according to the time schedule approved by the commission on the basis of the materials submitted under subsection 3 of section 69-05.2-09-11.
2. **Area surface mining.** Rough backfilling and grading must be completed within one hundred eighty days following coal removal and may not be more than four spoil ridges behind the pit being worked, the spoil from the active pit being considered the first ridge. The commission may grant additional time or distance for rough backfilling and grading if the permittee can demonstrate, through a detailed written analysis under subsection 3 of section 69-05.2-09-11, that additional time or distance is necessary.

History: Effective August 1, 1980; amended effective May 1, 1990; July 1, 1995.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24

69-05.2-21-02. Performance standards - Backfilling and grading - Grading requirements.

1. All disturbed areas must be backfilled and graded according to subsection 3 of North Dakota Century Code section 38-14.1-24 so that they support the approved postmining land use, except that the commission may approve a different contour or topography if:
 - a. The different contour or topography is a lesser contour or topography consistent with the approximate original contour, with all highwalls, spoil piles, and depressions eliminated (unless small depressions are needed in order to retain moisture to assist vegetation or as otherwise authorized pursuant to North Dakota Century Code chapter 38-14.1 or this article);
 - b. The permittee affirmatively demonstrates in the permit application that the lesser contour or topography is necessary to better achieve the postmining land use; and
 - c. All applicable performance standards of North Dakota Century Code section 38-14.1-24 and this article will be met.
2. In order to conserve soil moisture, ensure stability, and control erosion on final graded slopes, cut-and-fill terraces may be allowed if approved by the commission and if the terraces are compatible with the approved postmining land use and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces must meet the following requirements:
 - a. The width of the individual terrace bench must not exceed twenty feet [6.10 meters], unless specifically approved by the commission as necessary for stability, erosion control, or roads included in the approved postmining land use plan.

- b. The vertical distance between terraces must be as specified by the commission.
 - c. The slope of the terrace outslope may not exceed 1v:2h (fifty percent). Highwalls may not be left as part of terraces.
 - d. Culverts and underground rock drains must be used on the terrace only when approved by the commission.
3. Small depressions may be constructed, if the depressions:
- a. Are approved by the commission to minimize erosion, conserve soil moisture, or promote vegetation;
 - b. Do not restrict normal access over the area;
 - c. Are not inappropriate substitutes for lower grades on the reclaimed lands; and
 - d. Do not adversely affect the intended postmining land use.
4. Disturbed areas must be backfilled and graded to minimize erosion and water pollution both on and off the site.
5. All final grading, spoil preparation, and suitable plant growth material placement must be conducted to minimize erosion and provide a minimum slippage surface for suitable plant growth material replacement.

History: Effective August 1, 1980; amended effective June 1, 1983; May 1, 1990.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24

69-05.2-21-03. Performance standards - Backfilling and grading - Covering coal and toxic-forming materials.

All exposed coal seams and toxic-forming and combustible materials exposed, used, or produced during mining must be adequately covered with nontoxic and noncombustible materials, or treated, to control the impact on surface and ground water in accordance with chapter 69-05.2-16, to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.

History: Effective August 1, 1980; amended effective January 1, 1987; May 1, 1990.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24

69-05.2-21-04. Performance standards - Backfilling and grading - Thin overburden.

The provisions of this section apply only to mining activities where the final thickness of all available spoil and waste materials over the permit area is less than 0.8 of the initial thickness of the overburden and the coal prior to coal removal. The final thickness is the product of the overburden thickness prior to coal removal times the overburden swell factor. When the demonstration is made that thin overburden exists over the permit area, in addition to meeting subdivision b of subsection 3 of North Dakota Century Code section 38-14.1-24, the operator shall:

- 1. Transport, backfill, and grade, using all available spoil and suitable waste materials from the entire permit area, to attain the lowest practicable stable grade, to achieve a static safety factor of 1.3 to provide adequate drainage and long-term stability of the regraded areas, and to cover all toxic-forming materials.

2. Eliminate highwalls by grading or backfilling to stable slopes not exceeding thirty-five percent, or lesser slopes as the commission may specify to reduce erosion, maintain the hydrologic balance, or achieve the approved postmining land use.
3. Transport, backfill, grade, and revegetate to achieve an ecologically sound land use compatible with the prevailing use in unmined areas surrounding the permit area.
4. Transport, backfill, and grade to ensure that impoundments are constructed only where:
 - a. It has been demonstrated to the commission that all requirements of chapter 69-05.2-16 have been met; and
 - b. The impoundments have been approved by the commission as suitable for the approved postmining land use and meet the requirements of this article and all other applicable state laws and regulations.

History: Effective August 1, 1980; amended effective June 1, 1983; May 1, 1990.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24

69-05.2-21-05. Performance standards - Backfilling and grading - Slippage and piping zones.

The commission may require the operator to use current research findings and the best technology currently available to minimize subsurface piping in the spoil and slippage at the suitable plant growth material spoil interface.

History: Effective August 1, 1980; amended effective May 1, 1990.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24

69-05.2-21-06. Performance standards - Backfilling and grading - Slope measurements.

1. The permittee shall submit a postmining contour map to the commission for approval before spreading suitable plant growth materials. Along with the contour map, the permittee shall specify the thickness of topsoil and subsoil to be respread over the graded area.
2. The commission will approve or disapprove the postmining topography within thirty days and notify the permittee in writing of the decision along with reasons for any disapproval.

History: Effective August 1, 1980; amended effective June 1, 1983; May 1, 1990.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24

69-05.2-21-07. Performance standards - Backfilling and grading - Stabilizing rills and gullies.

When rills and gullies form in areas that have been regraded, the rills and gullies must be filled, graded, or otherwise stabilized as required by the commission prior to resspreading suitable plant growth material or when necessary to minimize erosion of the regraded spoil.

History: Effective August 1, 1980; amended effective May 1, 1990.

General Authority: NDCC 38-14.1-03

Law Implemented: NDCC 38-14.1-24