

# WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

## SOLID AND HAZARDOUS WASTE DIVISION

### SOLID WASTE GUIDELINE #12

#### PARTICIPATION IN THE STATE TRUST ACCOUNT

##### **I. Introduction**

Chapter 7 (Financial Assurance Requirements) of the solid waste rules provides for the voluntary participation of owners of municipal solid waste disposal facilities in the state guarantee trust account (Account). The Account was created by the Wyoming Legislature to provide a state guarantee that adequate monies would be available to adequately close and conduct post-closure care and monitoring at municipal solid waste disposal facilities in the event of unanticipated closure. Participation in the Account by owners of municipal solid waste disposal facilities will satisfy the financial assurance requirements of the state, as well as the Resource Conservation and Recovery Act Subtitle D landfill regulations.

The purpose of this guideline is to provide guidance to the owner/operator of a municipal solid waste disposal facility on the completion of a worksheet that can be used to calculate the annual contribution to the Account. It should be noted that the operator is not required to use the worksheet in developing the appropriate cost figure. Specific requirements regarding the state guarantee trust account may be found in Chapter 7 of the solid waste rules. Attached to this guideline is a copy of the worksheet that may be used to develop a municipality's yearly contribution to the Account.

This revision of Guideline #12 is being issued to change the effective date for Type I and Type II landfills to comply with the financial assurance requirements. This change is noted in Section III of the Guideline.

##### **II. Calculating the Cost**

###### **A. General Considerations**

###### **1. Use of Bids in Lieu of Worksheet Costs**

In lieu of using the format described below in subsections II(B-D) and in the attached worksheets, the owner of a municipal solid waste disposal facility may elect to use written bids in order to determine closure/post-closure costs. Written bids should be prepared for closure/post-closure activities which are described in Chapter 7, Section 3(e) (i) and (ii) of the solid waste regulations. Additional information regarding activities that should be included in the written bids may be found in Exhibit A of this guideline.

###### **2. Accounting for Inflation**

Closure and post-closure cost estimates prepared in any calendar year subsequent to 1993 are required to be inflated by multiplying the calculated closure and post-closure cost figure by an inflation factor. The inflation factor will be derived from the most recent implicit price deflator for the gross national product published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year(s). SHWD will provide the appropriate inflation factor to the owner upon request. Adjustments for inflation must be made to the closure and post-closure costs once every four years.

## B. Calculating Closure Costs

Closure costs should be calculated by summing the costs for each item described in Chapter 7, Section 9(d)(i)(A-G) of the solid waste rules and regulations. After summing these items, add an amount equal to 15% of the total closure costs for items A-G as a contingency amount. Summing together the costs from A-G and the 15% contingency amount yields the total closure cost.

In order to adjust the closure cost for inflation, multiply the total cost figure by the inflation factor that is provided by the department.

## C. Calculating Post-Closure Costs

Post-closure costs should be calculated by summing the costs for each item described in Chapter 7, Section 9(d)(ii)(A-F) of the solid waste rules and regulations. After summing these items, add an amount equal to 15% of the post-closure costs for items A-F as a contingency amount. Summing together the costs from A-F and the 15% contingency amount yields the total post-closure cost.

In order to adjust the post-closure cost for inflation, multiply the total cost figure by the inflation factor that is provided by the department.

## D. Calculating the Annual Premium

Sum the total closure cost (adjusted for inflation) and the total post-closure cost (adjusted for inflation) to calculate the total closure/post-closure cost.

If the usable capacity (i.e. remaining site life) has already been calculated as part of the owner's Chapter 2 permit application, the permit application usable capacity value should be used in calculating the annual premium. If the usable capacity has not previously been calculated, the owner can use the following procedure.

Determine the number of acres that are available within the permitted boundary of the facility for landfilling activities. This value is the remaining unused disposal area.

Determine the average number of people served by the facility, on an annual basis.

Insert these values into the following formula:

$$\text{Usable capacity} = \frac{\text{number of acres of remaining unused disposal area} \times 4240}{\text{number of people served}}$$

Note: 4240 is a conversion factor used to convert the number of acres of remaining unused area to the number of years of remaining disposal capacity.

Calculate the annual premium by using the following formula:

$$\text{annual amount to be paid in} = \frac{0.03 \times (\text{closure cost} + \text{post-closure cost})}{\text{usable capacity}}$$

## III. Compliance Dates

Compliance with the financial assurance requirements of Chapter 7 is required on the following dates:

1. **Type I** sanitary landfills must comply with the financial assurance requirements of Chapter 7 on **April 9, 1997**, unless the facility ceased receipt of wastes by October 9, 1993 and closure was certified by October 9, 1994. If closure was certified after October 9, 1994 but before April 9, 1997, the facility need only comply with the financial

assurance requirements applicable to post-closure care.

2. **Type II** sanitary landfills must comply with the financial assurance requirements of Chapter 7 on **October 9, 1997**, unless the facility ceases receipt of wastes by October 9, 1997 and closure is certified by October 9, 1998.

All city and county owners of landfills will receive a letter from the department, approximately four months prior to the initial effective dates of the financial assurance requirements. The letter will request that the landfill owner notify the department of its intent to participate in the Account, and that the landfill owner provide completed worksheets showing the calculated closure and post-closure costs, and the annual premium payment. Upon receipt of a notice that a city or county owner of a landfill intends to participate in the Account, the department will send the owner an invoice requesting payment of the annual premium.

Initial premium payments will be due on or before the effective dates of the financial assurance requirements, noted above. Payment should be made by check payable to the Department of Environmental Quality, and mailed to:

Administrator  
Solid and Hazardous Waste Division  
Department of Environmental Quality  
122 W. 25th Street  
Cheyenne, WY 82002

To allow for delays in processing of payments by local governments, the department will allow a 90-day grace period for receipt of payments. For any facility from which the department has received notice of the owner's intent to participate in the Account, the department will not consider the facility to be in violation of the financial assurance requirements if payment is received no later than 90 days following the effective dates of the financial assurance requirements.

Chapter 7 requires participants in the Account to make annual payments, in order to remain in compliance with the financial assurance requirements. Participants will receive annual invoices from the department, approximately four months prior to the anniversary of their initial payment. In order to remain in compliance with the financial assurance requirements, the department must receive payment no later than the anniversary of the facility's initial payment. The 90-day grace period will also be allowed for subsequent payments to the Account.

#### **IV. Refund Procedures**

Following certification of closure by a registered professional engineer, the owner may apply to the department for a refund of the annual amount that was paid into the Account for closure guarantee costs. If it is determined that closure activities have been adequately completed, the department will authorize a refund in the amount of ninety percent (90%) of the total amount paid by the owner into the Account for closure activities, less any expenditures from the account which have not been recovered.

Following certification of the proper completion of the post-closure period by a registered professional engineer, the owner may also apply to the department for a refund of the annual amount that was paid into the Account for post-closure guarantee costs. The post-closure refund procedure is the same as that previously described for the closure refund.

#### **V. Combination of Financial Assurance Mechanisms**

The state trust pool may be used by the owner to satisfy financial assurance requirements for only closure costs, post-closure costs or both of the requirements. In the event an owner elects to participate in the Account for only the closure or post-closure cost requirements, the owner is required to use another financial assurance mechanism (i.e., self bond, surety bond, government backed securities etc.) to satisfy the rest of the financial assurance obligation.

## VI. Further Information

Please be advised that the procedures and guidelines outlined above for calculating state trust account costs are only recommendations from the department. Other formats may be submitted to the department for consideration and approval. Further information can be obtained from the following Solid and Hazardous Waste Division offices. Comments and suggestions for improvements are always appreciated.

Casper : (307) 473-3450 / Cheyenne : (307) 777-7752 / Lander : (307) 332-6924

Signed

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David A. Finley  
Administrator  
Solid and Hazardous Waste Division

January 22, 1997  
Date

### Attachments:

"STATE GUARANTEE TRUST ACCOUNT WORKSHEETS"  
Exhibit A: Closure/Post-Closure Cost Estimate Explanation

## EXHIBIT A

The following information is provided as a supplement to aid the owner in preparing the closure/post-closure cost estimate worksheet. Additional explanation is provided for closure/post-closure activities in the event that the owner elects to develop and submit his/her own site specific cost estimates. Should the owner elect to submit site specific closure/post-closure cost figures, the owner should provide written justification/documentation (i.e., written bids etc.) to substantiate the proposed cost figures.

### CLOSURE COSTS

**RECLAMATION:** Reclamation costs are to be calculated using the \$10,200/acre cost figure contained in Chapter 7, unless local site-specific cost information is available. Reclamation costs should be calculated for only the area of land that is expected to be disturbed during the upcoming four year permit term and for all other areas of the landfill that have previously been disturbed and not yet reclaimed. If local site-specific information is used, it should reflect the cost to hire a third party to conduct the reclamation activities. Reclamation includes but may not be limited to the following activities:

- the cost of applying a two-foot soil cover over all areas where wastes have been disposed;
- the cost of compacting the two-foot soil cover to meet either a minimum permeability specification of  $1 \times 10^{-5}$  cm/sec, the permeability of the bottom soils or the permeability specification contained in the permit, whichever is lower;
- the cost to conduct quality control measurements to monitor the soil's compaction during placement of the compacted soil cover;
- the cost of applying a minimum six-inch lift of topsoil, either from on-site topsoil stockpiles or from an off-site location; and
- the cost of seeding, fertilizing and mulching using either the specifications in the permit or, if not available, a seed mix from a local land management professional.

**BUILDING DEMOLITION:** The costs to demolish any site buildings are to be included in the closure cost estimate, unless the waste management facility owner supplies written evidence to the Department that upon closure of the landfill, the site buildings will be used for another purpose. Landowner consent must be included in the written evidence, and the Department must concur that the proposed use of the site buildings is reasonable and consistent with the expected post-closure uses of the landfill. If local site-specific information is used, it should reflect the cost to hire a third party to conduct the building demolition activities. Salvage value of any site buildings may not be used to reduce the building demolition cost estimate.

**GROUND WATER WELL CONSTRUCTION:** The closure cost estimate for installation of ground water monitor wells needs to be completed only if your facility is required by a permit condition to install monitor wells, but those wells have not yet been installed. To calculate this cost, multiply the total number of ground water monitor wells to be installed by \$2400. If all required monitor wells have already been installed, then enter \$0 for this item. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, then assume that four ground water monitor wells will need to be installed and enter \$9600 for this item (4 x \$2400). Alternately, if you have submitted a permit application, you may use the number of ground water wells proposed in your permit application to calculate the costs for this item. If local site specific information is used, the cost estimate should include mobilization/demobilization of the drilling rig, well installation costs, materials to adequately construct the wells (i.e., PVC casing, grouting materials, protective surface casing, gravel/sand pack etc.) and proper development of the well.

**METHANE WELL CONSTRUCTION:** The closure cost estimate for installation of methane monitor wells needs to be completed only if your facility is required by a permit condition to install methane monitor wells, but those wells have not yet been installed. To calculate this cost, multiply the total number of methane monitor wells to be installed by \$1300. If all required methane monitor wells have already been installed, then enter \$0 for this item. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, then assume that four methane monitor wells will need to be installed and enter \$5200 for this item (4 x \$1300). Alternately, if you have submitted a permit application, you may use the number of methane monitoring wells proposed in your permit application to calculate

the costs for this item. If local site specific information is used, the cost estimate should include mobilization/demobilization of the drilling rig (if necessary), well installation costs, materials to adequately construct the wells (i.e., pvc casing, grouting materials, protective surface casing, gravel/sand pack etc.).

**DISPOSAL COSTS:** The disposal cost estimate should be calculated using \$10/cubic yard and needs to be completed only if the SHWD permit authorizes the temporary storage of wastes at your facility. Wastes that may be temporarily stored at a facility include, but are not limited to used oil, scrap tires, lead acid batteries, petroleum contaminated soils and white goods. If local site-specific information is used, it should reflect the cost to hire a third party to remove and properly dispose of all of the wastes that are stored at the facility. The third party should base their bid on maximum waste volumes which have been authorized to be stored at the facility.

**PERIMETER FENCING:** The closure cost estimate for installation of perimeter fencing needs to be completed only if your facility is required by a permit condition to install perimeter fencing, but the fencing has not yet been installed. If fencing as described in the permit application has already been installed, then enter \$0 for this item. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, measure the actual permitted perimeter boundaries (less any access roads) of your facility and multiply this distance by \$13 per foot. If local site-specific information is used, it should reflect the cost to hire a third party to install fenceposts, gates, rails and fencing around the entire perimeter of the facility. The fencing must be designed and constructed in such a manner as to prevent access to the landfill by the general public, wildlife and livestock. Salvage value of any fence materials may not be used to reduce the perimeter fence cost estimate.

**FINAL SURVEY:** The closure cost estimate for performing a final facility survey needs to be completed only if the final survey has not yet been performed. If the final survey has already been completed, then enter \$0 for this item. If local site-specific information is used, the cost estimate should include for performance of the facility survey by a Wyoming licensed land surveyor and preparation of a signed and monumented legal plat.

**SURFACE WATER DIVERSION STRUCTURES:** Surface water diversion structure construction costs are to be calculated by multiplying the total lineal feet of diversion structure at the facility by \$1 per foot. Total lineal feet may be arrived at by measuring the total length of diversion structures as shown on the facility plot plan of the permit application. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, measure the longest dimension of one side of the boundary of the facility and multiply this distance by \$1 per foot. If local site-specific information is used, the cost estimate should reflect the cost to hire a third party contractor to construct the diversion structures, construct erosional controls (i.e., straw bales, matting, riprap, reseeded etc.), compact soils within the diversion structure, and provide additional materials (i.e., culverts, concrete chutes etc.) as necessary.

#### POST-CLOSURE COSTS

**ANNUAL INSPECTIONS:** The post-closure cost for performing annual inspections of the facility for thirty years is \$22,000. If local site-specific information is used, the cost estimate should reflect the cost to hire a third party contractor to perform at a minimum, one inspection of the facility on an annual basis for thirty years. Included in the estimate should be costs for roundtrip mileage to the site, inspection labor charges, supplies (camera, film, photo processing etc.) and inspection report preparation.

**GROUND WATER MONITORING:** The post-closure cost estimate for ground water monitoring needs to be completed only if your facility has not been relieved of the requirement to perform ground water monitoring. If monitoring is required and all required monitor wells have already been installed, multiply the number of wells installed by: Type I facility - \$12,000 or Type II facility - \$4500 to provide for annual monitoring costs for a period of thirty (30) years. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, then assume that four ground water monitor wells will need to be monitored annually for a period of thirty (30) years at a cost of \$48,000 - Type I facility or, \$18,000 - Type II facility. If local site-specific information is used, the cost estimate should reflect the cost to hire a third party contractor to perform the required sampling and analysis as described in Chapter 2, Section 6 of the solid waste regulations.

**PERIMETER FENCE MAINTENANCE:** The post-closure cost for the maintenance and replacement of the facility perimeter fence should be calculated by multiplying the facility perimeter, in feet, by \$12/lineal foot. If local site-

specific information is used, the cost estimate should reflect the cost to hire a third party contractor to visually inspect (annually), maintain and replace the entire perimeter fence once during the thirty (30) year post-closure period.

**PERIMETER FENCE REMOVAL AND DISPOSAL:** The post-closure cost for the removal and disposal of the facility perimeter fence should be calculated by multiplying the facility perimeter, in feet, by \$2/lineal foot. If local site-specific information is used, the cost estimate should reflect the cost to hire a third party contractor to remove and dispose of the entire perimeter fencing, gates, rails and other related materials. Salvage value of any fence materials may not be used to reduce the cost estimate.

**METHANE MONITORING:** The post-closure cost estimate for methane monitoring needs to be completed only if your facility has not been relieved of the requirement to perform methane monitoring. If monitoring is required and all required methane monitor wells have already been installed, multiply the number of wells installed by \$7200 to provide for quarterly monitoring costs for a period of thirty (30) years. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, then assume that four methane monitor wells will need to be monitored quarterly for a period of thirty (30) years at a cost of \$28,800. If local site-specific information is used, the cost estimate should reflect the cost to hire a third party contractor to perform the required sampling and analysis as described in Chapter 2, Section 6 of the solid waste regulations.

**SURFACE WATER DIVERSION STRUCTURES MAINTENANCE:** Post-closure surface water diversion structure maintenance costs are to be calculated by multiplying the total lineal feet of diversion structure at the facility by \$1 per foot. Total lineal feet may be arrived at by measuring the total length of diversion structures as shown on the facility plot plan of the permit application. If your landfill does not have a permit issued under Chapter 2 of the solid waste rules, measure the longest dimension of one side of the boundary of the facility and multiply this distance by \$1 per foot. If local site-specific information is used, the cost estimate should reflect the cost to hire a third party contractor to inspect (annually) the diversion structures and perform repairs as necessary to prevent erosional problems, and to maintain the structural integrity of the diversion structures (assume 3.3% of the ditches will be repaired each year for thirty (30) years).