
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
SOLID AND HAZARDOUS WASTE DIVISION

SOLID WASTE GUIDELINE #12

Participation in the State Guarantee Trust Account

1.0 Introduction

Chapter 7 (Financial Assurance Requirements) of the Solid Waste Rules and Regulations (SWRR) provides for the voluntary participation of owners/operators 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 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/operators of municipal solid waste disposal facilities will satisfy the financial assurance requirements of the state, as well as the Resource Conservation and Recovery Act (RCRA) Subtitle D landfill regulations.

The purpose of this guideline is to provide direction to the owner/operator of a municipal solid waste disposal facility for the completion of a worksheet that can be used to calculate the annual contribution to the Account. It should be noted that the owner/operator is not required to use the worksheet in developing the appropriate cost figure. Specific requirements regarding the Account may be found in Chapter 7 of the SWRR. Attached to this guideline (Appendix B) is a copy of the worksheet that may be used to develop a municipality's yearly contribution to the Account.

2.0 Calculating the Cost

2.1 General Considerations

2.1.1 Use of Bids in Lieu of Worksheet Costs

In lieu of using the costs in the attached worksheet (Appendix B), the owner/operator of a municipal solid waste disposal facility may elect to use written estimates or bids in order to determine closure/post-closure costs. Written estimates or bids should be prepared for closure/post-closure activities which are described in Chapter 7, Section 3(e)(i) and (ii) of the (SWRR) as applicable. Additional information regarding activities that should be included in the written bids may be found in Appendix A of this guideline. Per Chapter 7, Section 3(e)(i)(C)(I) and Section 3(e)(ii)(C)(I) of the SWRR, if written estimates or bids are used to estimate closure or post-closure costs, the owner/operator shall revise cost estimates on an annual basis.

2.2 Calculating Closure Costs

Closure costs should be calculated by considering the factors described in Chapter 7, Section 3(e)(i) of the SWRR. After summing these items, add an amount equal to 15% of the total closure costs as a contingency amount. Summing the costs plus the 15% contingency amount yields the total closure cost. The resulting figure equals the total closure cost which must be covered by financial assurance.

Financial assurance may include any funds in the State Guarantee Trust Account the owner/operator has on deposit for landfill closure guarantee.

2.3 Calculating Post-Closure Costs

Post-closure costs should be calculated by considering the factors described in Chapter 7, Section 3(e)(ii) of the SWRR. After summing these items, add an amount equal to 15% of the post-closure costs as a contingency amount. Summing the costs plus the 15% contingency amount yields the total post-closure cost. The resulting figure equals the total post-closure cost which must be covered by financial assurance.

Financial assurance may include any funds in the State Guarantee Trust Account the owner/operator has on deposit for landfill post-closure guarantee.

2.4 Calculating the Annual Premium

1. Calculate the annual amount to be paid to the account using the following procedure:
 - a. Calculate three percent (3%) of the sum of the closure and post-closure costs estimated above.
 - b. Calculate the balance due to the account by deducting the total of previous payments to the account from 3% of the sum of closure and post-closure costs.
2. Calculate the remaining usable disposal capacity of the facility, expressed as years, using information from the facility permit application; and
3. Calculate annual payments to the account by dividing the balance due by the years of remaining disposal capacity. Annual payment = Balance due / years of remaining disposal capacity.

3.0 Compliance Dates

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

- **Type I** sanitary landfills should have complied 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.
- **Type II** sanitary landfills should have complied with the financial assurance requirements of Chapter 7 on **October 9, 1997**, unless the facility ceased receipt of waste by October 9, 1997 and closure was certified by October 9, 1998.

Note: Although the SWRR may require the redesignation of a given facility from Type I to Type II or vice-versa, the financial assurance annual compliance date will remain the same as related to a facility's designation when first covered by the Account.

Participating facility owners/operators will receive notice from the Wyoming Department of Environmental Quality (Department) approximately ninety (90) days prior to the anniversary of the initial effective date of financial assurance. On the four-year anniversaries of the initial effective date, the notice will include a copy of the current Account cost calculation worksheet. In the three years between the four-year anniversary dates, participants will receive an invoice requesting payment of the annual premium. If an owner/operator elects to use bids rather than Department cost estimates, the owner/operator shall submit annual cost estimates with payment at least ninety (90) prior to the anniversary of the initial effective date. Those owners/operators electing to no longer participate in the Account shall notify the Department of said intent prior to the financial assurance compliance date and shall provide appropriate documentation that an approved financial assurance instrument(s), per Chapter 7 of the SWRR, has been obtained to provide adequate financial assurance.

All premium payments will be due on or before the effective dates of the financial assurance requirements noted above or, in extenuating circumstances, within sixty (60) days following receipt of the Department's final approval of financial assurance cost estimates and an invoice for payment to the account. 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

4.0 Refund Procedures

Following the certification of closure by a registered professional engineer, the owner/operator 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/operator 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/operator may 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.

5.0 Combination of Financial Assurance Mechanisms

The Account may be used by the owner/operator to satisfy financial assurance requirements for only closure costs, post-closure costs, or both of the requirements. In the event an owner/operator elects to participate in the Account for only the closure, or for only the post-closure cost requirements, the owner/operator is required to use another financial assurance mechanism per Chapter 7 of the SWRR (i.e., self-bond, surety bond, government backed securities, etc.) to satisfy the rest of the financial assurance obligation.

6.0 Further Information

Please be advised that the procedures and guidelines outlined above for calculating state guarantee 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:

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

Signed

Alan E Edwards

Alan Edwards
Acting Administrator
Solid and Hazardous Waste Division

October 28, 2013

Date

Attachments

- Appendix A: Closure/Post-Closure Cost Estimate Explanation
- Appendix B: State Guarantee Trust Account Worksheet

Guideline History

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|------------------|---|
| January 22, 1997 | Original issue |
| October 7, 2013 | Inclusion of additional details in the explanation of cost estimates. Addition of a new, interactive financial assurance calculation worksheet. |

Solid Waste Guideline #12: Appendix A

“Closure/Post-Closure Cost Estimate Explanation”

The following information is provided to aid the owner/operator in preparing the closure/post-closure cost estimate worksheet. Additional explanation is provided for closure/post-closure activities in the event that the owner/operator elects to develop his/her own site specific cost estimates. Should the owner/operator elect to submit site specific closure/post-closure cost figures, the owner/operator should provide written justification/documentation (i.e., written estimates or 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 Appendix B, unless local site-specific cost information is available. Reclamation costs should be calculated for the area of land that is expected to be disturbed during the upcoming four years 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 installing a thirty (30) ml (minimum) flexible membrane liner (FML) to cover all areas where waste has been disposed and reclamation has not yet been completed;
- The cost of installing a twelve (12) inch gas collection layer underneath the FML.
- The cost of installing a twelve (12) inch drainage layer of sand over the top of the FML cover.
- The cost of applying an eighteen (18) inch soil cover over the drainage layer.
- The cost to conduct quality control measurements on the installation of the cap materials.
- The cost of applying a minimum six (6) 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. To calculate this cost, multiply the total square footage of structures at the landfill by \$6.00 per square foot. If the facility owner/operator wishes to save any structures for alternative uses they must supply 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 building 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 buildings may not be used to reduce the building demolition cost estimate.

GROUNDWATER WELL CONSTRUCTION: The closure cost estimate for installation of groundwater 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 groundwater monitor wells to be installed by \$2,400. If all required monitor wells have been installed, then enter \$0 for this item. If your landfill does not have a permit issued under Chapter 2 of the SWRR, then assume that four groundwater monitor wells will need to be installed and enter \$9,600 for this item (4 x \$2,400). Alternately, if you have submitted a permit application, you may use the number of groundwater 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, 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 \$1,300. 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 SWRR, then assume that four (4) methane monitor wells will need to be installed and enter \$5,200 for this item (4 x \$1,300). 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.).

MANAGEMENT OF STORED WASTES: The cost estimate for the management (disposal) of stored wastes should be calculated using \$10.00/yd³ and needs to be completed only if the solid waste 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 the wastes that are in temporary storage at a facility. The third party should base their bid on maximum waste volumes which have been authorized to be stored at the facility.

INSTALL PERIMETER FENCE: The cost estimate for the construction of a perimeter fence around the facility needs to be completed only if the construction of a perimeter fence has not yet been completed. To calculate this cost, multiply the facility's perimeter linear footage total by \$13.00 per foot. If local, site-specific information is used, it should reflect the cost to hire a third party to install a perimeter fence at a facility.

FINAL SITE SURVEY: The closure cost estimate for performing a final facility survey (finished contours, etc.) needs to be completed only if the final survey has not yet been performed or will not be part of the final cover QA/QC. To calculate this cost, add \$3,600 to the facility's closure costs. 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 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 structures at the facility by \$1.00 per linear foot. Total linear 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 as issued under Chapter 2 of the SWRR, measure the longest dimension of one side of the boundary of the facility and multiply this distance by \$1.00 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, reseeding, 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 (30) 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 (30) years.

Included in the estimate should be costs for roundtrip mileage to the site, inspection labor charges, supplies, and inspection report preparation.

CONDUCT TYPE I GROUNDWATER MONITORING: The post-closure cost estimate for groundwater monitoring needs to be completed unless your facility has been relieved of the requirement to perform groundwater monitoring. If monitoring is required and your facility has been designated by the Department as a Type I facility (per the SWRR) and all required monitor wells have already been installed, multiply the number of wells installed by \$12,000 per well (based on 30 years of annual post-closure sampling). If your landfill does not have a permit issued under Chapter 2 of the SWRR, then assume that four (4) groundwater wells will need to be monitored bi-annually for a period of thirty (30) years at a total cost of \$48,000 (\$12,000 per well). 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 SWRR.

CONDUCT TYPE II GROUNDWATER MONITORING: The post-closure cost estimate for groundwater monitoring needs to be completed unless your facility has been relieved of the requirement to perform groundwater monitoring. If monitoring is required and your facility has been designated by the Department as a Type II facility (per the SWRR) and all required monitor wells have already been installed, multiply the number of wells installed by \$4,500 per well (based on 30 years of annual post-closure sampling). If your landfill does not have a permit issued under Chapter 2 of the SWRR, then assume that four (4) groundwater wells will need to be monitored bi-annually for a period of thirty (30) years at a total cost of \$18,000 (\$4,500 per well). 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 SWRR.

METHANE MONITORING: The post-closure cost estimate for methane monitoring needs to be completed unless your facility has been relieved of the requirement to perform methane monitoring. If monitoring is required and all required methane monitor wells have been installed, multiply the number of wells installed by \$7,200/well 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 SWRR, then assume that four (4) methane monitor wells will need to be monitored quarterly for a period of thirty (30) years at a total cost of \$28,800 (\$7,200 per well). 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 SWRR.

MAINTAIN PERIMETER FENCE: The post-closure cost for the maintenance and replacement of the facility perimeter fence should be calculated by multiplying the linear footage of the facility perimeter by \$12.00/linear 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.

REMOVE PERIMETER FENCE (Unless the facility's permit allows the fence to remain in place at the end of the post-closure period): The post-closure cost for the removal of the facility perimeter fence at the conclusion of the post-closure period should be calculated by multiplying the linear footage of the facility perimeter by \$2.00/linear 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 fence.

MAINTAIN SURFACE WATER STRUCTURES: Post-closure surface water diversion structure maintenance costs are to be calculated by multiplying the total linear feet of diversion structures at the facility by \$1 per lineal foot. Total linear 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 SWRR, 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).

Solid Waste Guideline #12: Appendix B
“State Guarantee Trust Account Worksheet”

Appendix B - Financial Assurance Calculations

Facility:	SHWD #:	Date:			
Closure Cost Calculations					
ACTIVITY	UNIT	COST/UNIT	# of UNITS	COST (\$)	LINE
Reclaim Disturbed Areas	Acre	\$10,200		\$0	1
Demolish Buildings	Ft ²	\$6		\$0	2
Install Groundwater Wells	Well	\$2,400		\$0	3
Install Methane Wells	Well	\$1,300		\$0	4
Manage Stored Wastes	Yds ³	\$10		\$0	5
Install Perimeter Fence	Linear Foot	\$13		\$0	6
Final Site Survey	Survey	\$3,600		\$0	7
Construct Surface Water Structures	Linear Foot	\$1		\$0	8
SUB-TOTAL Closure Costs				0.00	9
15% Contingency Amount				0.00	10
TOTAL Closure Costs				0.00	11
Net Assets Earmarked for Closure				0.00	13
TOTAL Closure Costs Applied to FA Calc				0.00	14
FA TOTAL - Closure Costs (Line 14 x 3%)				0.00	15

Post-Closure Cost Calculations					
ACTIVITY	UNIT	COST/UNIT	# of UNITS	COST (\$)	LINE
Conduct Annual Inspections (30 years)	Facility	\$22,000		\$0	16
Conduct Type I Groundwater Monitoring (30 years)	Well	\$12,000		\$0	17
Conduct Type II Groundwater Monitoring (30 years)	Well	\$4,500		\$0	18
Conduct Methane Monitoring (30 years)	Well	\$7,200		\$0	19
Maintain Perimeter Fence (30 years)	Linear Foot	\$12		\$0	20
Remove Perimeter Fence	Linear Foot	\$2		\$0	21
Maintain Surface Water Structures (30 years)	Linear Foot	\$1		\$0	22
SUB-TOTAL Post-Closure Costs				\$0	23
15% Contingency Amount				0.00	24
TOTAL Post-Closure Costs				0.00	25
Net Assets Earmarked for Post-Closure				0.00	26
TOTAL Post-Closure Costs Applied to FA Calc				0.00	27
FA TOTAL - Post-Closure Costs (Line 27 x 3%)				0.00	28

Annual Closure Cost FA Payment Calculation	
FA SUB-TOTAL - Closure Costs (Line 15)	\$0.00
Total of Previous FA Closure Contributions (Subtract)	\$0.00
FA TOTAL - Remaining Closure Balance Due	0.00
Remaining Lifespan of Facility (in years)	
Annual FA Closure Payment	#DIV/0!

Annual Post-Closure Cost FA Payment Calculation	
FA SUB-TOTAL - Post-Closure Costs (Line 28)	0.00
Total of Previous Post-Closure FA Contributions (Subtract)	\$0.00
FA TOTAL - Remaining Post-Closure Balance Due	0.00
Remaining Lifespan of Facility (in years)	
Annual FA Closure Payment	#DIV/0!

Total Annual FA Payment - Closure & Post-Closure	#DIV/0!
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Appendix B - Financial Assurance Calculations

Facility: _____ **SHWD #:** _____ **Date:** _____

Closure Cost Calculations

ACTIVITY	UNIT	COST/UNIT	# of UNITS	COST (\$)	LINE
Reclaim Disturbed Areas	Acre	\$10,200		\$0	1
Demolish Buildings	Ft ²	\$6		\$0	2
Install Groundwater Wells	Well	\$2,400		\$0	3
Install Methane Wells	Well	\$1,300		\$0	4
Manage Stored Wastes	Yds ³	\$10		\$0	5
Install Perimeter Fence	Linear Foot	\$13		\$0	6
Final Site Survey	Survey	\$3,600		\$0	7
Construct Surface Water Structures	Linear Foot	\$1		\$0	8
SUB-TOTAL Closure Costs				0.00	9
15% Contingency Amount				0.00	10
TOTAL Closure Costs				0.00	11
Net Assets Earmarked for Closure				0.00	13
TOTAL Closure Costs Applied to FA Calc				0.00	14
FA TOTAL - Closure Costs (Line 14 x 3%)				0.00	15

Post-Closure Cost Calculations

ACTIVITY	UNIT	COST/UNIT	# of UNITS	COST (\$)	LINE
Conduct Annual Inspections (30 years)	Facility	\$22,000		\$0	16
Conduct Type I Groundwater Monitoring (30 years)	Well	\$12,000		\$0	17
Conduct Type II Groundwater Monitoring (30 years)	Well	\$4,500		\$0	18
Conduct Methane Monitoring (30 years)	Well	\$7,200		\$0	19
Maintain Perimeter Fence (30 years)	Linear Foot	\$12		\$0	20
Remove Perimeter Fence	Linear Foot	\$2		\$0	21
Maintain Surface Water Structures (30 years)	Linear Foot	\$1		\$0	22
SUB-TOTAL Post-Closure Costs				\$0	23
15% Contingency Amount				0.00	24
TOTAL Post-Closure Costs				0.00	25
Net Assets Earmarked for Post-Closure				0.00	26
TOTAL Post-Closure Costs Applied to FA Calc				0.00	27
FA TOTAL - Post-Closure Costs (Line 27 x 3%)				0.00	28

Annual Closure Cost FA Payment Calculation

FA SUB-TOTAL - Closure Costs (Line 15)	\$0.00
Total of Previous FA Closure Contributions (Subtract)	\$0.00
FA TOTAL - Remaining Closure Balance Due	0.00
Remaining Lifespan of Facility (in years)	
Annual FA Closure Payment	#DIV/0!

I certify, under penalty of perjury, that the information presented is correct to the best of my knowledge and understand that this certification is subject to audit.

Signature _____

Date _____

Annual Post-Closure Cost FA Payment Calculation

FA SUB-TOTAL - Post-Closure Costs (Line 28)	0.00
Total of Previous Post-Closure FA Contributions (Subtract)	\$0.00
FA TOTAL - Remaining Post-Closure Balance Due	0.00
Remaining Lifespan of Facility (in years)	
Annual FA Closure Payment	#DIV/0!

Title _____

The above attestation shall be signed by the head of the governmental entity or ranking elected official.

Total Annual FA Payment - Closure & Post-Closure	#DIV/0!
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