

Summary of Comments Received to Inquiry of Whether States Allow Landfills to Use Tires as Alternative Daily Cover

STATE	ALLOWS TIRE SHREDS AS ADC	COMMENTS PROVIDED VIA E-MAIL	RESPONDENT
Alabama	Yes	Alabama allows the use of shredded tire as ADC provided it is a 50/50 mix with soil.	Eric Sanderson
Alaska	Yes	Alaska has approved the use of shredded tires as ADC several years ago, but the project ended due to complications with the shredder. While the shredder is back in use, they currently use the shredded tires as bedding for gas piping. Only a couple of our largest landfills accept enough tires to warrant a shredder, most just bury (and rebury) them. One site also has a test project using baled tires for structural reinforcement.	Lori Aldrich
Arizona	Yes	The state of Arizona allows for the use of chopped or shredded tires as ADC, if a landfill submits a Type III amendment request for their permit. Of the approximately 74 permitted landfills in AZ, 16 are approved for the use of chopped or shredded tires as ADC. 2 landfills actually use chopped or shredded tires as ADC in practice. i. Chopped or shredded tire pieces shall be of size less than or equal to four (4) inches. ii. The chopped/shredded waste tire ADC shall be restricted to a minimum compacted thickness of six (6) inches. iii. Chopped or shredded waste tire pieces may not be used for more than two (2) consecutive days at a time. A minimum of six (6) inches of compacted earthen material or other approved ADC, other than waste mining tire pieces, is to be used on the third day. iv. Chopped or shredded waste tire pieces are not to be mixed with and/or used in combination with any other approved ADC at the same working face in the same day. Chopped or shredded tires are permitted for use as ADC pursuant to Arizona Revised Statute 49-701(38):	Lisa Kowalczyk
Arkansas	Yes	The state of Arkansas does allow (with approval) the use of scrap tire shreds as an alternative daily cover. At this time Arkansas has not seen a wide spread use of scrap tire shreds in constructing daily cover systems.	Tammie Hynum
California	Yes	California does allow to us shredded tires as ADC in municipal landfills. See below for your reference: ☐ TIRE SHREDS USED AS ADC ARE REGULATED BY PROPOSED SECTION 20690 OF TITLE 27 OF THE CCR, WHICH STATES THAT: ☐ (A) SHREDDED TIRES USED AS DAILY COVER ALONE OR MIXED WITH SOIL SHALL BE SHREDDED SUCH THAT 50% BY VOLUME IS SMALLER THAN 6 INCHES IN LENGTH AND NO INDIVIDUAL PIECES ARE GREATER THAN 12 INCHES IN LENGTH. ☐ (B) SHREDDED TIRES USED AS ALTERNATIVE DAILY COVER WITHOUT ADMIXED SOIL SHALL NOT BE APPLIED WHEN THERE IS PRECIPITATION OR WHEN THERE IS A LOCAL FORECAST OR GREATER THAN 40% CHANCE OF PRECIPITATION WITHIN 8 HOURS OF APPLICATION TIME IN THE VICINITY OF THE LANDFILL.”	Boxing Cheng
Colorado	Yes	For Colorado, landfills have to request to use ADC at their facilities. Upon approval we amend their engineered plans to allow usage. Most have to mix 50/50 dirt and shredded tires at a size up to 12 inches.	Brian Gaboriau
Connecticut			
Delaware			
Florida			
Georgia	No	I do not believe this is currently in use at any landfills in Georgia.	Allison Webb
Hawaii			
Idaho			
Illinois			
Indiana	Yes	Indiana does allow altered tires to be used as alternate daily cover (adc) with a permit modification. The requirements for adc can be found at 329 IAC 10-20-14.1.	Lori Freeman
Iowa	Yes	The Iowa Dept of Natural Resources has had almost 20 years of experience with the use of tire shreds as ADC; however, it has not become a large-volume request for use at landfills. Our parameters are: 1) at least 50% blend of soil with tire chips (for effective cover to minimize fire risk, odor control, or excessive rainfall permeation); 2) Limitation of ~6” lifts of blended ADC for cover (ensures effective cover without excessive integration of chips, as with a beneficial use designation, the chips don’t pay the state surcharge per ton as would be for disposal of tire chips just as a solid waste); 3) no more than 4” chip size (ensures that proper blending/mixing of soils occur and that the material can be placed and graded somewhat as aggregate or soils would be - also prevents the “noodling” of having the large tire shreds and carcasses from flopping all over and not staying put within the daily cover - large tire shreds seem to suffer from rigor mortis). *Overall, unless a landfill is “dirt poor” for having adequate sources of clay/soil for cover, most have found that the extra efforts and time for receiving, storing, blending, and then integrating the tire chips into ADC doesn’t result in savings of enough measurable value to warrant consistent use of tire chips for ADC. Also, the tire processors have found that once they get down to a <4” chip, they might as well move that material into further processing for higher valued markets, as the ADC market doesn’t really pay much of anything.	Mel Pins
Kansas	Yes	Kansas does allow the use of tire chips as alternate daily cover. They must be small (under 6 inch) and mixed 50% with soil. We have only had one landfill use large quantities that came from a cleanup several years ago. Most have decided that the cost of getting the chips and the hassle of mixing with soil is just not worth the effort. We allow this with an authorization letter just as any other alternate daily cover would be approved.	Ken Powell
Kentucky	maybe	All - Kentucky does not specifically prohibit the use of tire shreds for ADC, but 401 KAR 48:090 (http://www.lrc.state.ky.us/kar/401/048/090.pdf) requires approval by the cabinet for any material other than soil. Our agency now requires an ignitability test prior to giving approval, effectively prohibiting tire shreds. Several years back, before my time in the agency, we had a major landfill fire associated with improper use of tire shreds as ADC. Since then the agency has been skittish about this application.	Gary Logsdon
Louisiana			
Maine	No	We do not use tire shreds as ADC in Maine. Most of our waste tires are used as tire derived fuels in 2 of our paper mills boilers.	Randy McMullin
Maryland	No	Maryland does not allow scrap tire chips to be used as alternate daily cover, in part because one of the purposes of ADC is to prevent fires. Tire chips are flammable.	Abigail Pascual
Massachusetts			

Michigan	Yes	Michigan allows the use of shredded tires as ADC. It would have to be authorized in the operating license for the landfill and shown in their operating record.	Rhonda Oyer
		The numbers below may be a combination of tires disposed and tires utilized as ADC. Reported to Michigan for calendar year 2017: <ul style="list-style-type: none"> • 3,574 tons or • 208,086 passenger tire equivalents (Michigan uses a conversion factor of 89 passenger car tires per ton) 	Kirsten Clemens
Minnesota			
Mississippi	No	MS has not allowed use of processed waste tires as ADC at municipal solid waste landfills. It's also not a request we've received a lot in the past, I imagine, due to a lot of the issues brought up by others	Charles Brock
Missouri	Yes	Missouri is nearly identical to Iowa. We require a max 6" chip mixed with 50% dirt for ADC. We also have one landfill who used 2" chips for leachate collection and for a small layer of the "fluff" layer on their liner.	Dan Fester
Montana	Yes	Montana has allowed the use of tire shreds for ADC in the past on an individual basis for landfills that request permission to do so. No facility is currently using it though, as they all had negative experiences with the material. The primary negative was the cost of tire shreds in comparison to other commercially available ADC or natural soil.	Rick Thompson
Nebraska	Yes	Here in Nebraska we have four landfills that are approved to use shredded waste tires as ADC. One of those landfills is currently not using their approval. Currently, if a landfill wants to use shredded waste tires as ADC, they need to conduct a 180-day demonstration project, requiring documentation of the project in a simple weekly form and they need to include photos with the form and submit a monthly report. We also require a soil/waste tire ratio around 50% soil to 50% waste tires. Most are able to achieve a 50/50 ratio or higher (higher in soil than waste tires) without any issues. One of the landfills was approved a number of years ago to use 100% shredded waste tires (no soil required). Due to the concern of possible fires, we changed the requirements to the 50/50 ratio. However, this landfill was not required to change. The approval of shredding waste tires as ADC has been a large avenue for the management of waste tires for the state.	Michael Behrens
Nevada			
New Hampshire	No	Currently in New Hampshire, scrap tire sheds are not an approved alternative daily cover	Don Watson
New Jersey			
New Mexico	Yes	New Mexico does allow the use of tire shreds as ADC, but the permit must be modified.	William Myers
New York			
North Carolina			
North Dakota	case by case basis	North Dakota will allow for the use of tire shreds as a alternative daily cover if a landfill requests it, and it would have to be approved on a case by case basis. Currently, there are no ND permitted landfills that use tire shreds for alternative daily cover. There is one landfill operated by a company that picks up waste tires, and he shreds them and buries them within his permitted inert landfill.	Kirk Johnson
Ohio	No	Due to significant potential as fire hazard	Annette DeHavilland
Oklahoma	Yes	Oklahoma allows the use of scrap tire shreds as alternative daily cover. However it's not being used currently by the landfills. It was in use about 4-5 years ago.	Mebin Mathew
Oregon			
Pennsylvania			
Rhode Island			
South Carolina	No	At this time, we do not due to the potential fire hazard	Juli Blalock
South Dakota			
Tennessee	No	Tennessee does not allow the use of scrap tire shreds as ADC. The waste tire shreds does not prevent water from getting in the landfill and it will not retain the landfill gas.	Bob Fletcher
Texas	No	Scrap tire shreds are not used as ADC in Texas. We spoke with our Municipal Solid Waste Permits group, as far as it being allowed, the main concern is flammability/combustibility of the materials.	Gene Muller
Utah			
Vermont	No	Vermont doesn't allow shredded tires as ADC. I'll be curious if any State does as the Part 258 Landfill Rules require ADC to "...control... fires...".	James Surwilo
Virginia	Yes	Virginia's solid waste regulations include several "pre-approved" uses for tire chips/shred material. 9VAC20-81-95. Identification of Solid Waste. . . . the following materials are not solid wastes for the purpose of this chapter: 7. The following materials and uses listed in this part are exempt from this chapter as long as they are managed so that they do not create an open dump, hazard, or public nuisance. These materials and the designated use are considered a beneficial use of waste materials: i. Tire chips and tire shred when used as a sub-base fill for road base materials or asphalt pavements when approved by the Virginia Department of Transportation or by a local governing body; j. Tire chips, tire shred, and ground rubber used in the production of commercial products such as mats, pavement sealers, playground surfaces, brake pads, blasting mats, and other rubberized commercial products; k. Tire chips and tire shred when used as backfill in landfill gas or leachate collection pipes, recirculation lines, and drainage material in landfill liner and cover systems, and gas interception or remediation applications; l. Waste tires, tire chips or tire shred when burned for energy recovery or when used in pyrolysis, gasification, or similar treatment process to produce fuel; m. Waste tires, tire chips or tire shred used as alternate daily cover, the common usage allowed as 6" lifts of tire shreds mixed with soil in a 1:1 ratio. **Our annual reporting for solid waste facilities doesn't require reporting materials used as alternate daily cover; however, they are required to report the quantity by weight of whole tires received, thus some facilities do report tires used as ADC because the shredding/chipping occurs onsite. I can only provide numbers for what was reported, so the totals are not likely to be all-inclusive for activity in Virginia. From 2017 data, about 6,700 tons of tires recycled on site/used as ADC was reported at active landfills. Approximately another additional 15,700 tons were chipped/shredded at a Tire Materials Recovery Facility and likely used as landfill ADC, but may have been used for other purposes (reporting only indicates the material was made into shred/chips for off-site uses). *** I don't have documented issues with use of tires as ADC, but our group has discussed issues in the past when tire chips/shred are used w/o soil for backfill and landfill liner construction purposes due to compaction. Since tire chips are mixed with soil when placed as ADC, I'm not aware of any real issues observed.	Kathryn Perszyk
Washington			
West Virginia			
Wisconsin	Yes	Wisconsin does allow scrap tire shreds to be used as ADC if the landfill gets a low hazard exemption to do so. We have not had a lot of landfills do this. Jack Connelly from our program did an informal survey of our landfill techs about four years ago before he retired about this, and out of 10 respondents, 2 had landfills that had approvals to use tire shreds as ADC. There were concerns about tire chips washing away, clogging storm water ditches and sedimentation ponds; and concerns about fires.	Daniel Werner

Wyoming	Yes	Wyoming has agreed to use scrap tire shreds as ADC on a few occasions I am aware of (Craig McOmie may have more details). I recall it was a temporary period of about 8 weeks; was a tire shreds/soil mix and didn't see any significant problems or environmental impacts on top of materials already placed in landfill.	Bob Bruer
		Wyoming also didn't require any minor or major permit amendments for using scrap tire shreds with cover. . . just approved term use with a letter. We probably would have if someone had enough of a steady source of shreds to use consistently for ADC but that hasn't been the case yet. Then we'd have to worry about permit provisions to prevent tire mountains that may start to accumulate far beyond needs of daily cover.	Bob Bruer
		To dovetail on Bob's comments, WY did allow for the use of tire shreds at one Wyoming facility as a ADC pilot project. If successful, the goal was to issue a Beneficial Use exemption from a permit for long term use of the media. The landfill that was utilizing the shreds was essentially taking them to assist with the clean up of a large (million plus) tire pile. Initially, the Department put some parameters on the project such as mixture of shreds and soil percentages, but ultimately decided to allow the operator to experiment with the waste tire shreds to determine what percentages worked best for them. Long story short, because the shreds were not uniform in size, they ranged from 6 inch to 2.5 foot long strips, the landfill determined that they were not working out as ADC and ultimately agreed to take them for a negotiated price for burial. I believe that if sized properly, tires have merit as ADC so long as they are properly calibrated with soil to minimize fire issues, etc., but as Bob pointed out in his email, we lack enough tires in most of our landfills (no, please don't send us your tires :) to warrant the cost of mobbing a shredder in to shred to a usable size, and therefore most of WY's landfills either bury their tires or ship them to Liberty for disposal. Thanks for all the responses folks, it's always good to hear what other states are doing and as stated by several, WY would appreciate the opportunity to receive any report you compile from your survey.	Craig McOmie
Consultant		The short answer is that I do not have a list of states that allow or disallow the use of tire shreds as an alternative daily cover. To the best of my knowledge I am not aware of any state that bans this use. On a scale of one to ten, ADC using tire shreds is as close to landfilling them as you get, while still counting this as a beneficial use (it does replace clean fill). The good news is that it can use significant amounts of rough shreds and does keep garbage in the landfill. It is not effective keeping odors in, so most places mix tires shreds with dirt at a 50/50 mix. Landfill operators have experienced some problems when compacting the working face of the landfill; tire shreds get caught in the compactor's tracks. The biggest down side would be if there was a landfill fire: the tire materials would make the fire worse. However, I am unaware whether that has ever happened.	Michael Blumenthal