

Managing Storm Debris from HURRICANE RITA



September 29, 2005

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Managing Storm Debris from HURRICANE RITA

1.0 Purpose

The purpose of this document is to provide clear guidance on options for managing and disposing debris from Hurricane Rita.

Large volumes of storm debris are generated following natural disasters such as hurricanes, floods, and tornados. The Texas Commission on Environmental Quality (TCEQ) has developed the following guidance to assist in managing and disposing debris associated with the cleanup of areas affected by these storms.

During cleanup and recovery efforts following a severe storm, large volumes of various types of storm debris will need to be disposed or burned. Storm debris includes:

- Trees, brush, and other vegetative matter;
- Clean lumber (not including painted, stained or chemically treated wood);
- Construction-demolition waste (sheet rock, roof shingles, treated wood, plastics, etc.);
- Other municipal solid waste (including putrescible waste and special waste); and
- Hazardous waste

2.0 Disaster Declarations

Significant storms are often declared a disaster area either by the Governor of Texas or the President of the United States. Among other considerations, the Declaration will be specific to certain counties and allow those counties to obtain financial and technical assistance for managing the storm debris.

In order to qualify for that assistance, refer to Federal Emergency Management Agency (FEMA) information available on the FEMA website at <http://www.fema.gov>. Applicants who will be requesting federal financial assistance from FEMA need to submit a project worksheet and complete the "Emergency Debris Management Site Certification Form for Hurricane Rita".

3.0 Sorting and Stockpiling Debris Prior to Disposal or Burning

Various state and federal regulations apply to the disposal of specific types of debris. The TCEQ recognizes that under the difficult conditions following a severe storm, full compliance with these regulations may significantly delay the removal of storm debris from affected areas. With this in mind, wastes should be sorted to the maximum extent possible and only vegetation and clean wood waste types should be burned. Stockpiling waste prior to burning is covered by an authorization to burn the waste. Options for disposal of segregated debris that should not be burned are summarized in Attachment A and discussed in later sections of this document.

4.0 Options for Burning Brush and Clean Lumber

4.1 Outdoor Burning

The TCEQ can authorize any public or private entity, including county and municipal governments or independent entities who have been contracted by county or local governments to burn debris from a natural disaster outdoors as outlined in Title 30 Texas Administrative Code §111.215 when no other practical alternative is available. Although the TCEQ authorizes open burning, our preferred method of debris management is the use of Air Curtain Incinerators. Other practical alternative are: mulching, chipping, shredding, or disposal at an authorized facility.

Additional information is available in the TCEQ's Regulatory Guidance (RG-422): Outdoor Burning: A Guide to Local Governments.

What debris can be burned outdoors?

- Brush, trees and other plant growth
- Clean lumber (not painted, stained or pressure treated with chemicals)

Do other general requirements exist?

The general requirements for allowable outdoor burning in 30 TAC §111.219 must be followed. However, the TCEQ recognizes that there may be circumstances in which burning within the provisions of 30 TAC §111.219 may not be practical. In these cases, the TCEQ regional office (Attachment C) should be notified and requests will be reviewed on a case-by-case basis.

The case-by-case reviews must however, be consistent with the following:

- Burning activity may be approved at permitted landfills within permitted boundaries provided that this activity occurs on a portion of the site that has not been landfilled;
- Burning of tires, shingles, paints/solvents, plastics, insulated wire, batteries, appliances, asbestos materials and aerosol or pressurized containers should be avoided and efforts to segregate these materials must be exercised. The following types of materials can not be included in any burn under any circumstances: compressed gas cylinders containing hazardous materials such as propane, acetylene, chlorine or any other hazardous material that may be injurious to public health and safety;
- Distance to neighbors and structures should be evaluated to prevent occurrence of nuisance conditions or fire safety hazards;
- Burning should be authorized only during daylight hours;
- Debris should be separated into small piles, if possible;
- Materials to be burned should be reasonably dry to prevent excessive smoke;
- Burning animal carcasses should be conducted using a trench burner, if possible.
- If the burning activity causes nuisance conditions or a traffic hazard, the burning activity must be immediately halted..

How do I get authorization to burn debris outdoors?

Notify the applicable TCEQ Regional Office listed in Attachment C at least 24 hours prior to conducting burning, or as soon as practicable. Provide the regional office with the following information:

- the general nature of the materials burned;

- the location of the burn site;
- the name, address, and telephone number of the representative to contact concerning the work;
- the anticipated duration of the burning event.

What is the TCEQ doing to expedite processing of outdoor burning requests?

Due to the extensive volume of storm debris in need of disposal, the TCEQ is providing authorization to burn storm debris within the affected areas. Authorization will remain effective while emergency conditions exist. The TCEQ is continuing to monitor the need for ongoing outdoor burning. Please refer to the TCEQ's website at www.tceq.state.tx.us for updates regarding the authorization period.

The TCEQ has provided notification and approval letters to County Judges in Chambers, Galveston, Hardin, Jasper, Jefferson, Liberty, Newton, Orange and Tyler counties. These letters are considered necessary documentation for counties seeking reimbursement from the Federal Emergency Management Association (FEMA) for disposal costs.

Authorization to burn may be revoked by the executive director at any time if the burning causes nuisance conditions, is not conducted in accordance with the specified conditions, violates any provision of an applicable permit, or causes a violation of any air quality standard.

4.2 Trench Burning (Air Curtain Incinerators)

Title 30 Texas Administrative Code §106.496, (Attachment H) authorizes the use of air curtain incinerators (ACIs) in the disposal of debris during emergency clean up operations such as the removal and disposal of debris from a hurricane.

What is an ACI?

An ACI is defined in 30 TAC §106.496(b)(1) as "An incinerator that operates by projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor."

What is trench burning?

Trench burning is the operation of an ACI using a trench and air manifold system.

What debris can be burned in an ACI ?

- Trees, brush and other vegetative matter
- Clean lumber (not including wood that has been painted, stained, or pressure treated with chemicals)

How do I obtain authorization for use of an ACI?

ACIs used in the cleanup of the debris listed above from the disaster are exempt from registration requirements as described in 30 TAC §106.496(h)(2)(C). Instead, verbal notification to your local TCEQ regional office listed in Attachment C prior to burning is encouraged to provide general information on the burning activities for our records. No permit is necessary.

Where can I operate an ACI?

In efforts to reduce the potential of nuisance conditions, ACIs must be operated at least 300' from

the nearest property line and any other facility with an air permit issued under 30 TAC §106.110. If the distance requirement cannot be met, please contact your applicable TCEQ Regional Office listed in Attachment C for a case-by-case review.

How long can I operate a portable ACI?

Portable facilities temporarily located at a site can operate for up to 180 consecutive calendar days or 600 hours, whichever occurs first. Once the ACI is no longer in operation, it must be removed from the site. If operation of the ACI is necessary for a longer period of time, please contact your applicable TCEQ Regional Office listed in Attachment C for a case-by-case review for an extension.

Are there any other operational requirements for ACIs?

ACIs must be operated in accordance with the provisions outlined in 30 TAC §106.496(c)-(h). However, the TCEQ recognizes that there may be circumstances in which operating an ACI within the provisions of 30 TAC §106.496 may not be practical. In these cases, please contact your applicable TCEQ Regional Office listed in Attachment C prior to burning for a case-by-case review.

Ash Disposal

The ash generated from an ACI can be disposed in a Type I or Type I Arid Exempt (Type I AE) MSW Landfill (see Attachments D and E). If a trench burner is used the ash can be disposed of in the burn trench in accordance with 30 TAC §106.496(d). However a separate trench cannot be created for ash disposal.

Record Keeping Requirements

The operation of an air curtain incinerator should be recorded and compliance demonstrated by complying with TAC §106.496(h)(4), including a run time meter, written record or log of the hours of operation, operational or location requirements, and any operating instructions being followed by the operator. Ash from trench burning which is left in place it must be deed recorded.

Federal Requirements

As long as the ACI is temporary in nature and is not a permanent facility, federal requirements do not apply to the ACI.

5.0 Options for Management of Segregated Debris

Numerous options are available for management of segregated storm debris. Attachment A summarizes disposal options for these materials.

5.1 Construction-Demolition Debris Disposal

Construction-demolition waste is defined in TCEQ rules (30 TAC §330.2(28)) as "waste resulting from construction or demolition projects: includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics."

How should construction-demolition waste be disposed?

Construction-demolition waste should be disposed in a permitted Type I, Type I -AE, Type IV, or Type IV-AE MSW landfill. Clean wood can also be recycled or burned.

5.2 Household Hazardous Waste Collection

The TCEQ and the FEMA are working together to implement a collection method for flood victims to safely dispose of household hazardous waste (HHW) that is no longer usable. Counties, cities, businesses and residents in the affected areas can segregate for later collection all potentially hazardous substances. Those normally found in homes include:

- paints, thinners and turpentine, furniture strippers, wood preservatives, stains and finishes;
- pesticides, insecticides, flea collars and sprays, roach and ant killers, rat and mouse poisons, and herbicides;
- oven, toilet, drain, and rug and upholstery cleaners;
- bleaches, disinfectants, mothballs, ammonia-based and powdered cleansers, and swimming pool chemicals (i.e. chlorine tablets, muriatic acid, etc);
- floor and furniture polish;
- household and automobile batteries;
- automotive products, including antifreeze, transmission and brake fluids, motor oil, and gasoline wastes.

This material is usually segregated as residents and businesses gather debris and clean their houses. These HHW should be stored in a safe place for later disposal by the TCEQ Emergency Response Contractor. Normally, municipal landfills are able to accommodate the small quantities of hazardous wastes generated by households without threat to the environment. The extent of the flooding, however, may increase the volume of household hazardous waste to levels that may be unsuitable for landfilling.

Usually counties, cities, businesses and residents collect the household hazardous waste and have a staging area to store the waste for collection and disposal by an emergency response contractor. If this occurs and anyone wishes to have the household hazardous waste collected, a county, city or business can contact their local Disaster District Office (list available at www.txdps.state.tx.us) and inform them that they have a need to arrange for the TCEQ emergency response contractor to pick up the collected household hazardous waste. That information will be forwarded to the State Operations Center and the TCEQ will arrange for collection and disposal. TCEQ will seek reimbursement from FEMA for these activities.

If you have any questions regarding household hazardous wastes issues or you are a public official in one of the affected counties declared eligible for relief and need assistance for household hazardous wastes issues, please contact your local Disaster District Office or the TCEQ.

5.3 Non-Household Hazardous Waste Disposal

The TCEQ and FEMA are working together to conduct disposal of industrial and household hazardous waste. If drums or other containers of hazardous or unknown wastes are identified in any of the affected counties, you can call the TCEQ's 24 hour Spill Response hotline. The

TCEQ's emergency response contractor will arrange for collection and disposal.

5.4 Animal Carcass Disposal

Preferably, dead animals should be buried in pits or trenches, or by mounding. The burial site should not be located in an area with a high water table or with very permeable soils. Animals should be buried far enough from standing, flowing, or ground water to prevent contamination of these waters, and in an area not likely to be disturbed in the near future. The burial setbacks should be at least 300 feet from the nearest drinking water well; at least 300 feet from the nearest creek, stream, pond, lake, or river, and not in a floodplain; and at least 200 feet from adjacent property lines. Pits or trenches should be four to six feet deep with stable slopes, and all dead animals shall be covered the same day of burial with at least three feet of cover. Deed recordation and notification of on-site burial are not required.

Animals may also be disposed of in a Type I landfill. If unable to bury or landfill animals, then outdoor burning is allowed, and nuisance conditions should be avoided. Burning of animal carcasses is the most effective means of controlling the spread of disease. If an animal is suspected to have died from a disease, then on-site burning is the preferable option. A trench burner (ACI) may be used, if available.

Attachment A - Options for Management of Segregated Storm Debris

Waste Type	Examples of Waste Type	Disposal/Burn Option
Vegetation	Trees, Brush	Preferred: Recycle Option: Outdoor burn Option: Type IV MSW Landfill Option: Type I MSW Landfill
Clean Lumber	Lumber, siding, plywood and similar wood materials that have not been painted, stained or chemically treated	Preferred: Recycle Option: Outdoor burn Option: Type IV MSW Landfill Option: Type I MSW Landfill
Animal Carcasses	Non-diseased Poultry, cattle, domestic animals	Preferred: On-site Burial/mounding Preferred: MSW Type I Landfill Option: Outdoor burn
	Diseased poultry, cattle	Preferred: Outdoor burn
Household/Commercial Waste	Putrescible waste	MSW Type I Landfill
	Garbage, refuse, rubbish	MSW Type I Landfill
Construction Demolition Waste	Asbestos containing debris -shingles, siding, insulation, tiles	MSW Type I Landfill w/ Special Waste Authorization
	Painted/stained/treated wood	Preferred: MSW Type IV Landfill Option: MSW Type I Landfill
	Roof shingles	Preferred: Fuel source for cement kilns with appropriate air authorization Option: MSW Type IV Landfill Preferred: MSW Type I Landfill
	Sheet rock	Preferred: MSW Type IV Landfill Option: MSW Type I Landfill
White Goods	Refrigerators	Preferred: Recycle Option: MSW Type I Landfill
	Stoves	Preferred: Recycle Option: MSW Type I landfill

Waste Type	Examples of Waste Type	Disposal/Burn Option
	Washer/Dryers	Preferred: Recycle Option: MSW Type I landfill
	Batteries	Preferred: Recycle (Lead acid batteries are not allowed in MSW landfills). Option: Utilize an HHW Collection Event
Household Hazardous Waste	Cleaning products	Option: HHW Collection Event Option: MSW Type I Landfill Option: Permitted HW facility
	Paints, Solvents	Option: HHW Collection Event Option: MSW Type I Landfill Option: Permitted HW facility
	Pesticides	Pesticide Collection Event
	Automotive products	Option: HHW Collection Event Option: MSW Type I Landfill Option: Permitted HW facility
	Electronics: VCRs, Computers, TVs, etc.	Option: Recycle HHW Collection Event Option: MSW Type I Landfill Permitted HW facility
Compressed Gas Containers		Recycle
Tires		Pick-up by authorized Scrap Tire Transporter or delivery to authorized processing or end-use facilities.

*Please see Attachments D through G for a current list of permitted MSW Landfills in Texas.

Attachment B - TCEQ Contacts for Hurricane Rita

Name	TCEQ Region Office or Program Area	Phone Number
Frank Espino	Region 4 - Dallas/Fort Worth	817/588-5900
Leroy Biggers	Region 5 -Tyler	903/535-5100
Anna Dunbar	Region 9 - Waco	254/751-0335
Georgie Volz	Region 10 - Beaumont	409/896-2174
Pat Harris	Region 10 - Beaumont	512/239-7680 (pager)
Don Thompson	Region 12 - Houston	713/767-3510
Dwight Sitta	Event Coordination - HHW	512/239-4794
Richard Carmichael	MSW Permits	512/239-6784
Katherine Nelson	IHW Permits	512/239-6082

Attachment C - TCEQ Region Offices



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)

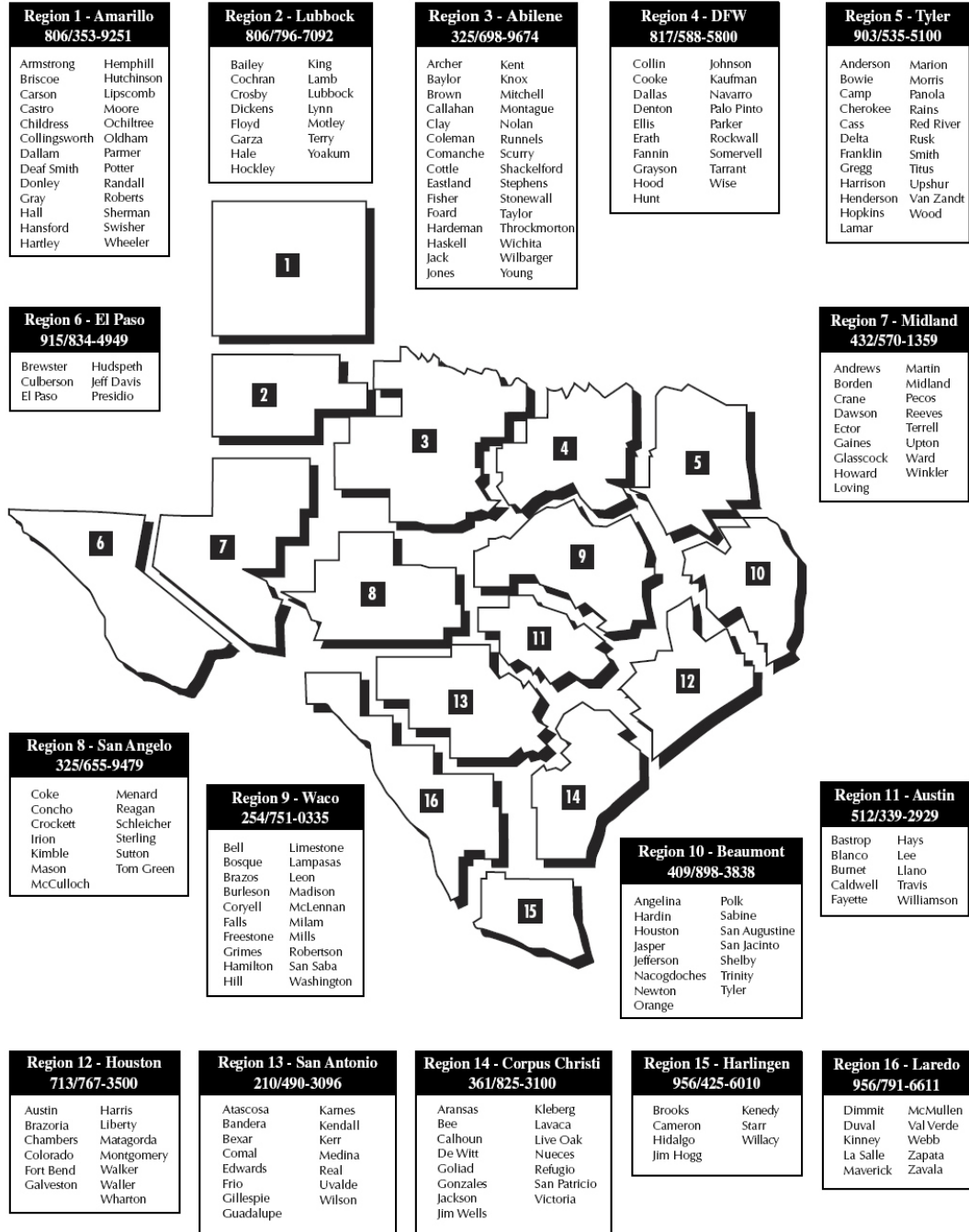
P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000

REGIONAL OFFICES

1 – AMARILLO	2 – LUBBOCK	3 – ABILENE
<p>Regional Director - Brad Jones 3918 Canyon Dr. Amarillo, TX 79109-4933 806/353-9251 FAX: 806/358-9545</p> <p>Perryton Office 511 South Main, Perryton, TX 79070 806/435-8059 FAX: 806/434-8443</p>	<p>Regional Director - Randy Ammons 3113 34th St. Lubbock, TX 79410-3227 806/796-7092 FAX: 806/796-7107</p>	<p>Regional Director - Winona Henry 1977 Industrial Blvd. Abilene, TX 79602-7833 325/698-9674 FAX: 325/692-5869</p>
4 – DALLAS/FORT WORTH	5 – TYLER	6 – EL PASO
<p>Regional Director - Frank Espino 2309 Gravel Dr. Fort Worth, TX 76118-6951 817/588-5800 FAX: 817/588-5700</p> <p>Stephenville (Confined Animal Feeding Operations) 580-D W. Lingleville Rd., Stephenville, TX 76401 254/965-9200 or 1-800-687-7078</p>	<p>Regional Director - Leroy Biggers 2916 Teague Dr. Tyler, TX 75701-3756 903/535-5100 FAX: 903/595-1562</p>	<p>Regional Director - Archie Clouse 401 E. Franklin Ave., Ste. 560 El Paso, TX 79901-1206 915/834-4949 FAX: 915/834-4940</p>
7 – MIDLAND	8 – SAN ANGELO	9 – WACO
<p>Regional Director - Jed Barker 3300 North A St., Bldg. 4-107 Midland, TX 79705-5451 432/570-1359 FAX: 432/570-4795</p>	<p>Regional Director - Ricky Anderson 622 S. Oakes, Ste. K San Angelo, TX 76903-7013 325/655-9479 FAX: 325/658-5431</p>	<p>Regional Director - Anna Dunbar 6801 Sanger Ave., Ste. 2500 Waco, TX 76710-7826 254/751-0335 FAX: 254/772-9241</p>
10 – BEAUMONT	11 – AUSTIN	12 – HOUSTON
<p>Regional Director - Georgie Volz 3870 Eastex Fwy. Beaumont, TX 77703-1892 409/898-3838 FAX: 409/892-2119</p>	<p>Regional Director - Patty Reeh 1921 Cedar Bend Dr., Ste. 150 Austin, TX 78758-5336 512/339-2929 FAX: 512/339-3795</p>	<p>Regional Director - Don A. Thompson 5425 Polk Ave., Ste. H Houston, TX 77023-1486 713/767-3500 FAX: 713/767-3520</p>
13 – SAN ANTONIO	14 – CORPUS CHRISTI	15 – HARLINGEN
<p>Regional Director - Richard Garcia 14250 Judson Rd. San Antonio, TX 78233-4480 210/490-3096 FAX: 210/545-4329</p>	<p>Regional Director - Susan Clewis NRC Bldg., Ste. 1200 6300 Ocean Dr., Unit 5839 Corpus Christi, TX 78412-5839 361/825-3100 FAX: 361/825-3101</p>	<p>Regional Director - Carlos Rubinstein 1804 West Jefferson Ave. Harlingen, TX 78550-5247 956/425-6010 FAX: 956/412-5059</p>
16 – LAREDO		15 – HARLINGEN
<p>South Texas Watermaster Office 210/490-3096 FAX: 210/545-4329 1-800-733-2733</p>		<p>Rio Grande Watermaster Office 956/430-6056 or 1-800-609-1219 FAX: 956/412-5059</p> <p>Eagle Pass Office 1152 Ferry St., Ste. H, Eagle Pass, TX 78852 830/773-5059 FAX: 830/773-4103</p>
WORLD WIDE WEB		
<p>TCEQ rules, publications, agendas and highlights of Commission meetings and other environmental information are available from the convenience of your computer by accessing the TCEQ World Wide Web Home Page over the Internet at: www.tceq.state.tx.us</p>		

TCEQ REGIONS

(including counties in each region)



Attachment D - Type I Landfills - Authorized as of September, 2005

TYPE I LANDFILLS

County	MSW Number	Facility Name	City
ANDREWS	171	CITY OF ANDREWS LANDFILL	ANDREWS
ANGELINA	2105A	ANGELINA COUNTY LANDFILL	LUFKIN
BELL	692A	CITY OF TEMPLE LANDFILL	TEMPLE
BEXAR	1410C	TESSMAN ROAD LANDFILL	SAN ANTONIO
BEXAR	2093A	COVEL GARDENS RECYCLING PROCESSING AND DISPOSAL	SAN ANTONIO
BOWIE	1898	LONE STAR ARMY AMMUNITION PLANT LANDFILL	HOOKS
BOWIE	576B	NEW BOSTON LANDFILL	NEW BOSTON
BRAZORIA	1539A	SEABREEZE ENVIRONMENTAL LANDFILL	ANGLETON
BRAZOS	1444C	ROCK PRAIRIE ROAD LANDFILL	COLLEGE STATION
BROWN	1562A	REGIONAL LANDFILL OF BROWNWOOD	BROWNWOOD
CAMERON	1273A	CITY OF BROWNSVILLE LANDFILL	BROWNSVILLE
CAMERON	2131	CITY OF HARLINGEN LANDFILL	HARLINGEN
CHAMBERS	1502	CHAMBERS COUNTY LANDFILL	MONROE CITY
CHEROKEE	1614A	ROYAL OAKS LANDFILL	JACKSONVILLE
COLLIN	568A	NORTH TEXAS MUNICIPAL WATER DISTRICT LANDFILL	MCKINNEY
COLLIN	2294	121 REGIONAL DISPOSAL LANDFILL	DALLAS
COLORADO	203	ALTAIR DISPOSAL SERVICES LLC LANDFILL	ALTAIR
COMAL	66A	COMAL COUNTY RECYCLING AND DISPOSAL FACILITY	NEW BRAUNFELS
CORYELL	1866	FORT HOOD LANDFILL	FORT HOOD
DALLAS	42C	SKYLINE LANDFILL & RECYCLING FACILITY	FERRIS
DALLAS	1394A	HUNTER FERRELL LANDFILL	IRVING
DALLAS	1895A	GARLAND HINTON LANDFILL	ROWLETT
DALLAS	62	MCCOMMAS BLUFF LANDFILL	DALLAS
DALLAS	996B	CITY OF GRAND PRAIRIE LANDFILL	GRAND PRAIRIE
DAWSON	517A	CITY OF LAMESA LANDFILL	LAMESA
DENTON	1390A	CITY OF DENTON LANDFILL	DENTON
DENTON	1025B	DFW RECYCLING AND DISPOSAL FACILITY	LEWISVILLE
DENTON	1312A	CAMELOT LANDFILL	LEWISVILLE
ECTOR	2158	CHARTER WASTE LANDFILL	PENWELL
EL PASO	1422	FORT BLISS LANDFILL	EL PASO
EL PASO	1482	CLINT LANDFILL	CLINT
EL PASO	2284	CLINT MUNICIPAL LANDFILL	EL PASO
ELLIS	1745B	ECD LANDFILL	ENNIS
ELLIS	1209B	CSC DISPOSAL AND LANDFILL	AVALON
FORT BEND	2270	FORT BEND REGIONAL LANDFILL	NEEDVILLE
GALVESTON	1721A	COASTAL PLAINS RECYCLING AND LANDFILL FACILITY	ALVIN
GALVESTON	1149A	GALVESTON COUNTY LANDFILL TX LP	ALTA LOMA
GILLESPIE	1995	CITY OF FREDERICKSBURG LANDFILL	FREDERICKSBURG
GRAY	589A	CITY OF PAMPA LANDFILL	PAMPA
GRAY	2238	CITY OF PAMPA LANDFILL	PAMPA
GRAYSON	523B	HILLSIDE LANDFILL AND RECYCLING CENTER	SHERMAN
GRAYSON	2290	TASWA SOLID WASTE DISPOSAL AND RECYCLING FACILITY	WHITESBORO
GREGG	1327B	PINE HILL FARMS LANDFILL TX LP	KILGORE
HALE	2157	CITY OF PLAINVIEW LANDFILL	PLAINVIEW
HARDIN	2214A	HARDIN COUNTY LANDFILL	KOUNTZE
HARRIS	1193	WHISPERING PINES LANDFILL	HOUSTON
HARRIS	1505	BLUE RIDGE LANDFILL	FRESNO
HARRIS	1335B	BAYTOWN LANDFILL FACILITY	BAYTOWN
HARRIS	1307C	ATASCOCITA LANDFILL	HUMBLE
HARRIS	261A	MCCARTY ROAD LANDFILL	HOUSTON
HIDALGO	151	C & T LANDFILL	LINN
HIDALGO	956B	CITY OF EDINBURG LANDFILL	EDINBURG
HIDALGO	1948A	RIO GRANDE VALLEY LANDFILL	DONNA
HILL	241C	ITASCA LANDFILL	ITASCA
HOWARD	288A	CITY OF BIG SPRINGS LANDFILL	BIG SPRING

Attachment E - Type I-AE Landfills - Authorized as of September, 2005

TYPE I AE LANDFILLS

County	MSW Number	Facility Name	City
BAILEY	2291	CITY OF MULESHOE LANDFILL	MULESHOE
BREWSTER	2197	CITY OF ALPINE LANDFILL	ALPINE
CARSON	1164	CITY OF PANHANDLE MUNICIPAL SOLID WASTE LANDFILL	PANHANDLE
CASTRO	445A	CITY OF DIMMITT MUNICIPAL SOLID WASTE LANDFILL	DIMMITT
CHILDRESS	2263	CITY OF CHILDRESS MUNICIPAL SOLID WASTE LANDFILL	CHILDRESS
COLLINGSWORTH	955	CITY OF WELLINGTON LANDFILL	WELLINGTON
DALLAM	1038	CITY OF DALHART LANDFILL	DALHART
DIMMIT	2225	CITY OF CARRIZO SPRINGS LANDFILL	CARRIZO SPRINGS
FLOYD	2207	CITY OF FLOYDADA LANDFILL	FLOYDADA
GAINES	39	CITY OF SEMINOLE LANDFILL	SEMINOLE
GARZA	2227	CITY OF POST LANDFILL	POST
GLASSCOCK	2154	GLASSCOCK COUNTY LANDFILL	GARDEN CITY
GRAY	570	CITY OF MCLEAN LANDFILL	MC LEAN
HALL	2266	CITY OF MEMPHIS LANDFILL	MEMPHIS
HASKELL	1604B	CITY OF HASKELL LANDFILL	HASKELL
HIDALGO	1727	PENTAS LANDFILL	PENTIAS
HUDSPETH	495	HUDSPETH COUNTY LANDFILL	DELL CITY
HUDSPETH	957A	SIERRA BLANCA LANDFILL	SIERRA BLANCA
IRION	1270	BARNHART LANDFILL	BARNHART
LAMB	2274	LITTLEFIELD MUNICIPAL LANDFILL	LITTLEFIELD
LAMB	583	CITY OF OLTON LANDFILL	OLTON
LIPSCOMB	1943	CITY OF BOOKER LANDFILL	BOOKER
MARTIN	2189	CITY OF STANTON LANDFILL	STANTON
MCMULLEN	571	MCMULLEN COUNTY LANDFILL	TILDEN
MOTLEY	549A	CITY OF MATADOR LANDFILL	MATADOR
PRESIDIO	1737	CITY OF PRESIDIO LANDFILL	PRESIDIO
REAGAN	86B	CITY OF BIG LAKE LANDFILL	BIG LAKE
SCHLEICHER	2264	CITY OF ELDORADO LANDFILL	ELDORADO
STARR	1762	STARR COUNTY LANDFILL	RIO GRANDE CITY
STARR	954	CITY OF ROMA LANDFILL	ROMA
SWISHER	1409A	CITY OF TULLIA MUNICIPAL SOLID WASTE LANDFILL	TULLIA
TERRY	2293	CITY OF MEADOW LANDFILL	MEADOW
WARD	772	CITY OF MONAHANS LANDFILL	MONAHANS
WHEELER	2281	CITY OF SHAMROCK MUNICIPAL LANDFILL	SHAMROCK
YOAKUM	2217	YOAKUM COUNTY LANDFILL	PLAINS
ZAPATA	783	ZAPATA COUNTY LANDFILL	SAN YGNACIO

Attachment F - Type IV Landfills Authorized as of September, 2005

COUNTY	MSW NUMBER	FACILITY NAME	CITY
ARMSTRONG	414	ARMSTRONG County landfill	CLAUDE
BRAZORIA	1708	HILL SAND LANDFILL	PEARLAND
BROOKS	379	BROOKS COUNTY LANDFILL	FALFURRIAS
COLLIN	2278	CONSTRUCTION RECYCLING AND WASTE LANDFILL	MCKINNEY
DENTON	1749B	LEWISVILLE LANDFILL	LEWISVILLE
FORT BEND	1797A	FORT BEND COUNTY LANDFILL	RICHMOND
GALVESTON	1849A	NORTH COUNTY LANDFILL	LEAGUE CITY
GUADALUPE	1848	BECK READY MIX LANDFILL	SCHERTZ
HARRIS	1403	CASCO HAULING AND EXCAVATION LANDFILL	HOUSTON
HARRIS	1578	HARDY ROAD LANDFILL	HOUSTON
HARRIS	2276	APPLEROCK LANDFILL	HOUSTON
HARRIS	1448A	TANNER ROAD LANDFILL	HOUSTON
HARRIS	1540A	GREENSHADOW LANDFILL	PASADENA
HARRIS	1565A	FAIRBANKS LANDFILL	HOUSTON
HARRIS	1586A	OLSHAN LANDFILL	HOUSTON

COUNTY	MSW NUMBER	FACILITY NAME	CITY
HARRIS	1599A	GREENHOUSE ROAD LANDFILL	HOUSTON
HARRIS	1921A	COUGAR LANDFILL	HOUSTON
HARRIS	2240	RALSTON ROAD LANDFILL	HOUSTON
HARRISON	307	HALLSVILLE LANDFILL	HALLSVILLE
LAMB	363	CITY OF AMHERST LANDFILL	AMHERST
LUBBOCK	2323	ZAHN ENTERPRISES	LUBBOCK
STARR	1033	CITY OF LA GRULLA LANDFILL	LA GRULLA
TARRANT	1983B	IESI FORT WORTH C AND D LANDFILL	FORT WORTH
TRAVIS	1841	TRAVIS COUNTY LANDFILL	AUSTIN

Attachment G - Type IV-AE Landfills - Authorized as of September, 2005

TYPE IV AE LANDFILLS

County	MSW Number	Facility Name	City
BAILEY	564	CITY OF MULESHOE LANDFILL	MULESHOE
COCHRAN	2268	MORTON MUNICIPAL SOLID WASTE LANDFILL	MORTON
COKE	614	CITY OF ROBERT LEE LANDFILL	ROBERT LEE
COLEMAN	1302	CITY OF COLEMAN LANDFILL	COLEMAN
DEAF SMITH	215A	CITY OF HEREFORD MUNICIPAL SOLID WASTE LANDFILL	HEREFORD
DUVAL	1481	DUVAL COUNTY LANDFILL	SAN DIEGO
ERATH	884	CITY OF STEPHENVILLE LANDFILL	STEPHENVILLE
HARTLEY	797	HARTLEY COUNTY LANDFILL	CHANNING
HOCKLEY	1733	CITY OF SUNDOWN LANDFILL	SUNDOWN
KIMBLE	26	CITY OF JUNCTION LANDFILL	JUNCTION
LAMB	1298	CITY OF LITTLEFIELD LANDFILL	LITTLEFIELD
MAVERICK	1918	CITY OF EAGLE PASS AND MAVERICK LANDFILL	EAGLE PASS
MENARD	1404	CITY OF MENARD LANDFILL	MENARD
MOORE	2285	CITY OF DUMAS LANDFILL	DUMAS
NOLAN	50B	CITY OF SWEETWATER TYPE IV-AE LANDFILL	SWEETWATER
OLDHAM	791	CAL FARLEYS BOYS RANCH LANDFILL	BOYS RANCH
STERLING	1325A	STERLING COUNTY LANDFILL	STERLING CITY
TERRELL	673	TERRELL COUNTY LANDFILL	SANDERSON
UPTON	566	CITY OF MCCAMEY LANDFILL	MCCAMEY
UPTON	691	UPTON COUNTY LANDFILL	RANKIN
UVALDE	630	CITY OF SABINAL LANDFILL	SABINAL
ZAPATA	1528	ZAPATA COUNTY LANDFILL	ZAPATA
ZAVALA	1308A	CITY OF CRYSTAL CITY LANDFILL	CRYSTAL CITY

**Attachment H -Excerpt of TCEQ Rules Regarding Trench Burners (Air
Curtain Incinerators - (ACIs)
Title 30 Texas Administrative Code, Chapter 106 - Exemptions from Permitting,
Subchapter V: Thermal Control Devices**

...§106.496. Air Curtain Incinerators.

(a) **Applicability.** The commission encourages the recycling of the materials specified in this section. Composting, mulching, or other processing to produce a useable material can be authorized by §332.8 of this title (relating to Air Quality Requirements). This section authorizes any air curtain incinerator used for the burning of trees, clean lumber, and brush from land-clearing as referenced in 40 Code of Federal Regulations §60.2245, right-of-way maintenance, emergency clean-up operations, noncommercial industrial sites, and municipal solid waste sites, if operated in accordance with this section.

(b) **Scope and terms.** The following terms apply only to this section.

- (1) **Air curtain incinerator (ACI)** - An incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor.
- (2) **Clean lumber** - Wood or wood products that have been cut or shaped and includes wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate, copper arsenate, pentachlorophenol, or creosote.
- (3) **Emergency cleanup** - The removal and disposal of wastes resulting from events such as high winds, floods, and other events of nature that are necessary to protect public health and safety.
- (4) **Land-clearing** - The removal of trees, brush, and other vegetative matter from agriculture, forest management, or land development.
- (5) **Municipal solid waste sites** - Landfills that may burn on- or off-site generated waste as specifically authorized by the executive director under §330.4 of this title (relating to Permit Required).
- (6) **Noncommercial industrial sites** - Locations at which on-site generated waste resulting from the processing or manufacturing of products may be burned. These industrial sites must be noncommercial, as limited by §335.2(d)(1) of this title (relating to Permit Required), and burn only on-site generated waste that results from the processing or manufacturing of products, and do not include sites that accept off-site generated waste for disposal or destruction.
- (7) **Site** - One or more contiguous or adjacent properties that are under common control of the same person, or persons under common control.

(c) **Operational limits.**

- (1) **Distance limitations.** The ACI must be operated at least 300 feet from the closest property line and any other facility with an air permit authorization under §116.110 of this title (relating to Applicability), or any ACI operating under this section.

(2) Facility locations. ACIs may not be operated at a given site more than the following.

- (A) All facilities may operate up to a total of 600 hours in any rolling 12-month period.
- (B) Portable facilities temporarily located at a site may operate up to 180 consecutive calendar days or 600 hours, whichever occurs first. The ACI must be removed from the site after ceasing operation.
- (C) Permanent facilities may process materials for municipal solid waste or noncommercial industrial sites only.

(3) Daily operation.

- (A) Daily burning must not commence earlier than one hour after sunrise.
- (B) Burning must be completed on the same day, not later than one hour before sunset. At the end of the burn, embers must not be flaming or smoking, and no additional fuel may be added to the ACI.
- (C) Material must not be added to the ACI in such a manner as to be stacked above the air curtain.
- (D) An operator shall remain with the ACI at all times when it is operating.
- (E) The ACI blower must remain on at the end of daily burning until enough material is consumed so that any remaining material in the trench does not flame or cause smoke that exceeds the requirement of this section when the blower is turned off.
- (F) Material not being worked, and material being stockpiled to be burned at a later date, must be kept at least 75 feet from the trench or firebox.

(4) Visible emissions.

- (A) Visible emissions from an ACI, stockpiles, work areas, and any in-plant roads associated with the facility must not leave the property for a period exceeding 30 seconds in any six-minute period as determined by United States Environmental Protection Agency Test Method 22.
 - (B) Best management practices must be used to ensure that the ACI blower is operated in a manner to minimize smoke and ash becoming airborne.
- (5) Emissions from products of combustion. Products of combustion (sulfur dioxide, nitrogen oxides, and carbon monoxide) and volatile organic compounds are authorized if the facility is operated in compliance with this section.
- (6) Compliance. Upon notification by a representative of the commission or any local air pollution control program having jurisdiction that the ACI is not complying with the conditions of this section, additional material must not be added to the ACI until the facility returns to compliance.

(d) Trench burning. An ACI operation using a trench and air manifold system must meet the following conditions.

- (1) At all times, trench dimensions must not exceed 12 feet in width, 35 feet in length, and be no less than ten feet in depth, such that the combustion of the materials within the trench is maintained.

(2) The length of the trench must not exceed the length of the air blower manifold.

(3) The walls of the trench must be maintained such that they remain sufficiently vertical to maintain the air curtain.

(4) Upon removal of the ACI from the burn site, ash may be left in the trench, subject to the conditions of this section, and the trench must be completely filled with incombustible material and covered with soil.

(e) Firebox burning. An ACI operation using a manufactured aboveground container and blower system must meet the following requirements and operational limits.

(1) The interior dimensions of the firebox must not exceed eight feet in width, 35 feet in length, and be no less than six feet in depth.

(2) The walls of the ACI must be maintained such that they remain sufficiently vertical to maintain the air curtain and the combustion of the materials within the ACI.

(3) The air blower manifold length must be equal to the length of the burning area.

(4) Firebox facilities, which are equipped with refractory walls and above-fire air supply, may operate up to a total of 750 hours in any rolling 12-month period.

(f) Ash processing.

(1) Handling. All ash generated as a result of the operation of an ACI must be handled in accordance with the following requirements.

(A) Ash must be removed from the ACI during burning as necessary to maintain efficient combustion.

(B) Ash must be removed from the ACI in such a manner as to minimize the ash becoming airborne.

(C) All material removed from the ACI must be completely extinguished before being disposed of or placed in contact with combustible material, and must be stored in a manner that does not constitute a fire hazard or allow the material to smolder or burn outside of the ACI.

(2) Disposal. The ash generated from an ACI operated under this section must be disposed of by one of the following methods:

(A) buried on-site in an ACI trench, if deed recorded and a copy of the document is provided to the executive director as required by §330.7 of this title (relating to Deed Recordation);

(B) sent to a Type I landfill, if the ash is containerized and no hot coals are present; or

(C) beneficially used, if the use is determined to be acceptable by the executive director in accordance with §330.8 of this title (relating to Notification Requirements).

(g) Other requirements.

(1) Local restrictions. This section does not exempt ACIs from any local government regulations or other local government requirements, permits, registrations, or other authorizations required by local

authorities.

(2) State air regulations. This section does not exempt ACIs from compliance with any additional state air regulations.

(3) Federal air requirements. Registrations for permanent ACIs must address the applicability of 40 Code of Federal Regulations (CFR) Part 60, Subpart CCCC, Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 (as published in the December 1, 2000 issue of the *Federal Register*). If determined to be applicable, commercial and industrial solid waste incinerators must demonstrate compliance with this federal regulation, including initial stack sampling, opacity readings, reporting, and recordkeeping.

(4) State waste regulations.

(A) Landfill sites:

(i) ACIs located at a landfill require separate authorization by the executive director in accordance with §330.4 of this title (relating to Permit Required); and

(ii) below-ground ACIs must be located in undisturbed soil not previously excavated, built up, compacted, or used in any type of active landfill operation.

(B) Ash disposal. For materials authorized to be burned under this section and the resulting ash from ACIs, categorized as municipal solid waste as defined in §330.2 of this title (relating to Definitions), compliance with this section serves as a commission authorization to store, process, remove, and/or dispose of the ash resulting from the operation of ACIs as required by §330.4(a) of this title.

(5) State water regulations. Nothing in this section removes the responsibility of the owner/operator from obtaining any necessary authorization under Chapter 308 of this title (relating to Criteria and Standards for the National Pollutant Discharge Elimination System).

(h) Administrative.

(1) Multiple locations at a single site. Multiple ACIs at a given site may be combined into a single registration if individual ACI locations at the site are in compliance with all design requirements and operating restrictions. Operations for all ACIs under common control at a given site must cumulatively meet the annual hourly limitations as listed.

(2) Registration.

(A) ACIs must be initially registered with the executive director using the Core Data Form and Form PI-7.

(B) Re-registration is required when any notice of enforcement is issued by the commission, or delegated representative, to the owner or operator of an ACI facility or every five years, whichever occurs first.

(C) Any ACI used for emergency clean-up operations does not require registration, but the owner or operator shall meet the notification requirements of this section except for the 14-day prior notice

requirement.

(D) Registration reviews will include site approval and a compliance history evaluation in accordance with Chapter 60 of this title (relating to Compliance History).

(3) Notification. Notifications are not subject to the requirements of §106.50 of this title (relating to Registration Fees for Permits by Rule) or Chapter 60 of this title.

(A) The owner or operator of an ACI that has previously been registered with the executive director in accordance with this section and is being relocated to a new site, other than a landfill, shall notify the appropriate regional office and any local air pollution control agency having jurisdiction over the site.

(B) Notifications must be in writing using the Regional Standard Permit/Permit by Rule Relocation Form, include a return receipt, and be received by the regional director and any local air pollution control agency having jurisdiction over the site at least 14 calendar days prior to locating at the site.

(4) Records. To demonstrate compliance with this section and §106.8 of this title (relating to Recordkeeping), owners or operators of ACIs shall, at a minimum, meet the following requirements.

(A) The ACI must be equipped with a run time meter. A written record or log of the hours of operation of the ACI must be maintained at the site and made available at the request of personnel from the commission or any air pollution control program having jurisdiction. This run time record or log must be organized such that compliance with the requirements of this section can be readily determined.

(B) Records must be kept to demonstrate compliance with all operational or location requirements of this section. These records must include a copy of the return receipt demonstrating notification to the appropriate regional office and local air pollution control programs having jurisdiction, and plot plans showing distance limits are met. For portable facilities, once relocated to a new site, records must be maintained at a central location for a two-year rolling period.

(C) A copy of this section and any operating instructions must be kept at the burn site, followed by owners or operators, and made available at the request of personnel from the commission or any local air pollution control program having jurisdiction.

(D) The ACI must be clearly and permanently marked with the regulated entity (preferred) or account identification number on the fan manifold or aboveground unit.

Adopted June 9, 2004 Effective June 30, 2004