

**Appendix C – Entergy’s Right-of-Way Clearing Construction Specifications**

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**ENGINEERING & CONSTRUCTION  
CONSTRUCTION STANDARD  
TRANSMISSION LINES**

Title: <b>Right-of-Way Clearing Construction Specification</b>	Standard No.: <b>TO0113, Rev. 02</b>	Effective Date: <b>15 Feb 04</b>
Revised By: H. Steve Kimbrough	Approved By: Paul Olivier, Manager Transmission Design	

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## 1.0 Introduction

### 1.1 Purpose

The purpose of this specification is to provide clearing personnel and primary contractors with additional requirements to be used in conjunction with the Technical Guidelines for Construction Specifications, TO0102. The ultimate objective is to obtain, at minimum cost, a corridor that has been cleared of trees, limbs, vines and other woody plants in preparation for the construction of high-voltage electrical facilities. Additionally, the initial clearing should provide for minimum future maintenance requirements.

This specification is written to be used as either instructions for Entergy personnel or as a part of a clearing contract. Where the specification is to become a part of a clearing contract, the other components of the contract shall be prepared in accordance with the General Guidelines for Construction Specifications, TO0101 and Technical Guidelines for Construction Specifications, TO0102.

### 1.2 Scope

This specification applies to vegetation clearing of transmission corridors within the Entergy system. See Attachment No. 2, Supplementary Instructions for Restrictive Zones, such as urban areas, which the Entergy engineer will define for use in the project description.

## 2.0 Definitions

Clearing - removal of all plant materials (living or dead) that may interfere with the construction or operation of new energized facilities. Methods of clearing may include cutting, shearing, chipping and dozing.

Hazard Tree - A tree, dead or alive, that is leaning, weak, diseased or structurally unsound that poses a threat to the line due to its high probability of falling and hitting the transmission line and/or facilities.

Danger Tree - A tree, which in falling toward the line will not clear the nearest conductor by at least fifteen feet.

Disposal - Getting rid of wood residue. Hauling, burning, wind rowing, burial and chipping are examples.

Mechanized Earthmoving Equipment –Includes dozers, shear blades, backhoes, etc. Does not include Bell saws or other such saws that cut the tree above the ground without disturbing the earth.

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### 3.0 Details

#### 3.1 Area To Be Cleared

3.1.1 The length and width to be cleared on the ground will be stated in the Project Description and in a table captioned Right of Way Status.

3.1.2 The length to be cleared in the air on both sides of the corridor (for side trimming) is the same as the length on the ground. The height of side trimming will be from ground level straight up on the imaginary line at the edge of the right-of-way to the top of the tallest tree standing outside the right-of-way line that has limbs extending into the corridor.

3.1.3 All vegetation in the corridor that is in road right-of-ways, creeks, rivers, swamps, etc., is considered part of the corridor and must be cleared unless specified otherwise in the Project Description. **Vegetation clearing within 50 feet of creeks, rivers, swamps or other surface water bodies must be accomplished using "above-grade" vegetation removal methods. No mechanized earthmoving equipment can be used for vegetation clearing in these areas.** Vegetation clearing debris from these areas may either be chipped and spread on the right-of-way or left in place as specified in the project specifications.

3.1.4 Danger trees shall be removed or treated in a manner that eliminates their risk to the facility.

3.1.5 Situations requiring special provisions (e.g. residential subdivisions, wetlands and government property) will be covered in the Project Description. Any property to be cleared outside the right-of-way and special conditions will also be covered by the Project Description.

3.1.6 Entergy provides the right-of-way and all legal documents supporting the rights to clear and dispose of the vegetation as requested by the company

#### 3.2 Clearing Methods

3.2.1 All vegetation within the corridor will be cleared by the contractor, except as specified in the Project Description. Tree stumps are to be level with the grade. Grubbing of roots is not required unless stated in the Project Description. A variety of motorized machinery is acceptable for clearing vegetation; bulldozers and various types of tree cutters and shredders are commonly used. A detailed plan for clearing and disposal, to include methods, shall be presented to the company with the quotation for approval.

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**3.2.2** Side trimming the edges of the corridor can be done by ground equipment, air saw or other equipment that physically detaches tree limbs.

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### 3.2 Clearing Methods (Continued)

**3.2.3** Areas in the vicinity of streams, ditches, ponds or other erosion prone areas will be cleared in a fashion that will minimize or prevent erosion. The appropriate siltation/erosion control measures will be installed and maintained by the Contractor on all drainage contours where mechanized earthmoving equipment is used for right-of-way clearing. These measures will be specified in the project specifications. Re-seeding with an appropriate ground cover, if required, will be as stated in the Project Description.

**3.2.4** Crossing of streams by machinery must be done without disturbing the stream banks. Any stream banks that are damaged will be repaired at the Contractor's expense. Logs may not be placed into streambeds as crossing structures except with the consent of Entergy, and they must be removed immediately after the need ends. If the Contractor wishes to install culverts, the culvert locations are to be presented with the contractor's proposal. Installation of culverts in waters of the United States (as defined by USACE) will require regulatory permitting before installation.

**3.2.5** All areas where the soil is disturbed by clearing operations shall be protected from erosion in accordance with guidelines furnished by the Entergy engineer in the form of a Storm Water Pollution Prevention Plan (SWPPP). The Contractor will install such protective structures (filter fences, hay-bale barriers, etc.) as the SWPPP describes and shall present his unit cost for such items in the contractor's proposal. These structures must be in place not later than 14 days after the contractor completes clearing of that area.

**3.2.6** All clearing methods must meet Federal, State, and Local environmental laws and regulations. United States Government owned lands may have specifications for clearing and restoration in addition to the Entergy Specifications.

**3.2.7** The Contractor may present feasible alternative vegetation removal means to the company for consideration (example: herbicide treatments).

### 3.3 Wood Waste Disposal

**3.3.1** Brush and debris shall be disposed of according to local, state and federal environmental laws and regulations that apply. Any permits are to be obtained prior to clearing and disposal. The obtaining of permits, whether it is the contractor or Entergy's responsibility, will be decided by the company prior to request for proposals.

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**3.3.2** Brush and debris shall be removed from drainage ditches, roads, ponds, streams, fences, yards and other places where the public would be negatively impacted or where laws regulate. Such brush and debris shall be removed the same day as the occurrence, except that Entergy may grant a 1-day delay in extenuating circumstances. All other brush and debris lying off the right of way shall be either disposed of as specified or moved onto the right of way within 24 hours of occurrence. All other brush and debris, lying on the right of way shall be disposed of without undue delay, as specified, except as otherwise approved by Entergy.

**3.3.3** If burning is used as a disposal method, non-combustible materials will be required to be disposed of by the appropriate means in locations agreed to by the company. If burning is used, forced air fans will be utilized to enhance combustion.

**3.3.4** Chipped or shredded debris left to remain on the ground should be spread evenly over the surface of the ground within the corridor. **Piling of clearing debris in streams or wetlands is prohibited.** On a case-by-case basis, felled trees or branches may be left unplied in wetlands (not streams) for game cover or other reason, with consent of the Entergy engineer.

**3.3.5** Minor amounts of vegetation may be buried on the corridor, provided prior consent is obtained from Entergy. Burying is discouraged because pits become hazards for livestock, right of way mowing machinery and for construction equipment working on transmission lines.

#### **3.4 Fence and Road Construction**

Refer to separate construction specifications for fence construction and road construction on transmission line rights of way.

#### **4.0 References**

##### **4.1 Industry Standards.**

None

##### **4.2 Transmission Line Standards:**

Refer to construction specifications numbered in the TO01—series. Construction packages for each project will contain copies and an index of all applicable specifications. The following specification should be part of every stand-alone contract or General Services Agreement.

TO0102 Technical Guidelines for Construction Specifications

##### **4.3 Drawings:**

Construction packages for each project will contain copies and an index of all applicable drawings.

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#### 5.0 Responsibilities

##### 5.1 Interpretation

Interpretation of this standard is the responsibility of the author and/or reviewers

##### 5.2 Deviation

The **Manager of Transmission Design** and the **Manager of Transmission Construction** are responsible for assuring that transmission line facilities are installed in accordance with this standard. Deviations from this standard may be made with the consent of the **Manager of Transmission Design** and the **Manager of Transmission Construction** or an approved agent thereof. Any deviations granted shall be reported to the **Manager of Transmission Design** and the **Manager of Design Services** for consideration for inclusion in the standard. No other employee is granted independent authority to grant deviations.

#### 6.0 Attachments

Attachment No. 1, Landowner Refusal Form

Attachment No. 2, Supplementary Instructions for Restrictive Zones

#### 7.0 Revisions

Index of Revisions

Revision Number	Revised Sections/Subsections	Date	By
0	Original	12 Sep 95	H. Steve Kimbrough
1	Reformatted document; Revised entire document, added proprietary disclaimers.	22 Nov 99	H. Steve Kimbrough
2	Revised formats of sections 5 thru 8, added attachments 1 & 2, added environmental and debris removal restrictions.	15 Feb 04	H. Steve Kimbrough

#### 8.0 Acknowledgments

Jeff Spillyards and Don Woods have both contributed to this revision and are knowledgeable of the content.

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LANDOWNER REFUSAL FORM

This form to be used for recording landowner refusal for tree cutting and clearing specified in clearing contract documents.

Date: \_\_\_\_\_  
Line Name: \_\_\_\_\_  
CEA Number: TL \_\_\_\_\_  
Structure Number or Survey Station Number: \_\_\_\_\_  
Landowner or Representative: \_\_\_\_\_  
Landowner Telephone Number: \_\_\_\_\_  
Brief Description of Complaint or Situation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Form Completed by: Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_

ENERGY FOLLOWUP

Date: \_\_\_\_\_  
Name: \_\_\_\_\_  
Description: \_\_\_\_\_  
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Attachment No. 1 to TO0113, Landowner Refusal Form

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Attachment No. 2, Supplementary Instructions for Restrictive Zones, is provided for use in areas which cannot be cleared in the usual way of rural areas. Such restrictive areas must be defined by the Entergy engineer before a project is sent out for request for bids. To accomplish this method of clearing may require special equipment not needed for rural projects, and it may require special marking of the area to guide the workmen. It may also require a fulltime inspector or right of way agent to be present.

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**Attachment No. 2, Supplementary Instructions for Restrictive Zones**

**SUPPLEMENTARY INSTRUCTIONS FOR RESTRICTIVE ZONES**  
 (Urban areas, cemeteries, parks, public use areas, lawns, etc.)

**Table of Contents**

- 1.0 Clearance Requirements**
- 2.0 Tree Removal**
- 3.0 Wood Waste Disposal**
- 4.0 Use of Herbicides**

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**Attachment No. 2, Supplementary Instructions for Restrictive Zones**

**1.0 Clearance Requirements**

**1.1** Tree trimming and pruning shall be performed in accordance with modern arboricultural standards. Drop-crotching, directional trimming and "collar" cuts will be utilized at all times to minimize stubbing, round-overs and flat top trimming practices.

**1.2** Mechanized equipment operators shall adhere to the same standards as above to the greatest extent possible. Stubs created using mechanized equipment shall generally not exceed 18" in length.

**1.3** Trees shall be removed or trimmed as provided in the attached drawings that specify areas and zones to describe the limitations of clearing and trimming

**1.4** Generally, all trees shall be removed in a corridor extending 15' on both sides of the line of poles, except that low growing species such as dogwood, redbud, fruit, landscape, and cedar shall not be removed any place they occur along the length of the transmission line. These exceptions may be removed within a circumference of each pole location to provide workspace for setting the poles.

**1.5** Exceptions to these provisions will be allowed where (I) there is a customer refusal where procedures outlined in the attached drawings and specifications have been followed; or (II) regulatory agencies mandate exception. Such exceptions, however, shall not result in unsafe conditions or jeopardize reliability and provisions of the National Electrical Safety Code.

**1.6 Overhang.** All overhanging limbs within 40 feet of the transmission conductor(s) shall be removed. All Mechanical Tree Saw (i.e. Jarraff) trimming shall be performed to full height of the highest overhang. All dead, broken, or diseased limbs that could hinge into the conductor(s), regardless of height, shall be removed .

**1.7 Other Facilities.** No clearing for distribution laterals or service drops outside the provisions of the attached drawings is required, regardless of the condition of vegetation conflict with those lines. All clearing shall be limited to the requirements of the transmission line construction.

**2.0 TREE REMOVAL**

**2.1** All removals shall be as close to ground level as possible. Stumps remaining in residential yards shall be shredded to a minimum of 6" below ground line. Stumps along other parts of the route shall not be shredded except by approval of the operations coordinator and right of way agent upon request by the landowner.

**2.2** All vegetation shall be removed from the property in accordance with the attached drawings and instructions.

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**Attachment No. 2, Supplementary Instructions for Restrictive Zones****2.0 TREE REMOVAL (Continued)**

**2.3** For all trees where removal is required but cannot be obtained due to a property owner refusal, contractor shall trim the trees in accordance with CLEARING GUIDELINES FOR AREAS MARKED IN RED and complete a Landowner Refusal Form. If the landowner refuses that, notify the operations coordinator or right-of-way agent immediately.

**2.4** In addition to removals required by specifications, trees meeting the following criteria shall be removed:

Dead, dying, diseased, decayed, or leaning trees which endanger the safe operation and maintenance of energized transmission conductors.

**3.0 WOOD WASTE DISPOSAL**

**3.1** Brush and debris from public and private landscaped property shall be removed and disposed of on the day in which it was trimmed or in accordance with desires of the public authorities or property owners. Brush or wood shall not remain on public thoroughfares or on lawns overnight unless permission has been obtained by the crew foreman with the authorities or property owners and the brush piles are properly marked for safety.

**3.2** Chipped and/or shredded material, in areas approved by the Entergy engineer, operations coordinator, or the right of way agent, shall be blown onto right of way and left no more than 4 inches deep so as not to hold water or to spoil and form excessive alcohol and tannic acid. This practice must be done in a manner that does not adversely affect drainage, access to the Right-of-Way or leave debris in nearby roads.

**3.3** Contractor shall locate and use dumping facilities that meet state, federal and local requirements.

**4.0 USE OF HERBICIDES AND OTHER METHODOLOGY**

The use of herbicides is NOT APPROVED for this contract. Other methods (e.g., mowing, manual, grubbing, burying, dozing, burning, etc.) should only occur in areas where preferred method is prohibited due to site restrictions, customer refusal, and/or size of the brush restricts access for normal approved methods. Alternative methods shall only be done upon approval by operations coordinator and right of way agent.

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