UI Vegetation Management

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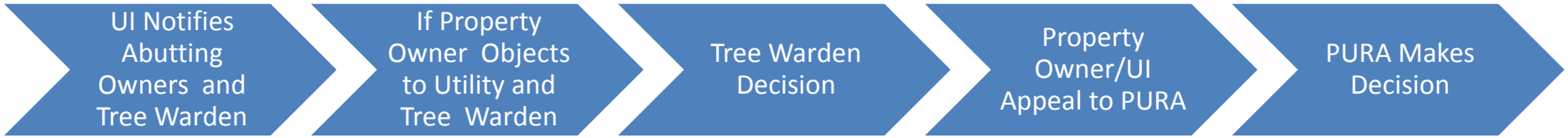
Contents

1. The Process Outlined in the State law

- Public Act 13-298
  - Notification to abutting property owners
  - Objections, consultations and appeals at various stages
- Process allows for discussions of the benefits of trees and benefits of continuous power to occur
  - Property owner and municipal level

Benefits of Trees		Benefits of Reduction in Damage and Outages During Extreme Weather Events
Aesthetics		Heating and Cooling
Energy Savings		Food, medicine and water
Property Value Increase		Medical equipment operation
Storm Water Attenuation		Sewage treatment
Air Quality Improvement		Shelters, fuel
Carbon Dioxide Sequestration		Flood water pumping
Traffic Calming		Emergency Response
Screening		Communications
Shade		Business and school operations
Neighborhood Character		Reduced storm related costs

1. a. The Process Outlined in the State Law



15 days before any work	Within 10 days of receiving notice (can also request consultation)	Within 10 days of receiving objection (may provide consultation if requested)	Within 10 of tree warden decision	60 days to hold hearing and make decision

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2.a. Expectations of Stakeholders

Docket No. (if applicable)	Docket / *Report* Short Name	Initiated By *(On Behalf Of)*	Date of Decision, *Report Issued*
10-03-08	April 2010 Storm Investigation	DPUC	12/1/2010
	Jacobs Consultancy Report	*DPUC*	10/26/2010
	Tropical Storm Irene Legislative Hearings Recommendations	Legislature	11/14/2011
	Witt Report	*Governor*	*12/1/2011*
	Two Storm Panel Report	*Governor*	*1/9/2012*
11-09-09	Utility Company Storm Irene Response	PURA	8/1/2012
	Liberty Consulting Report	*PURA*	*4/16/2012*
	Townsley Consulting Survey	*OCC*	*3/28/2012*
	Coonan / Townsley Report	*OCC*	*4/5/2012*
	Miller / Devito / Townsley Report	*OCC*	*4/11/2012*
	Goodfellow & Townsley Report	*OCC*	*4/17/2012*
12-01-10	Utility Company Tree Trimming Practices	PURA	Open
12-06-09	Performance Standards	PURA	11/1/2012
12-09-13	Utility Company Best Practices	PURA	Open
12-11-07	Storm Sandy Performance	PURA	Open

Common theme: be better prepared, improve communications and storm resiliency

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2.b. Expectations of Stakeholders

Capabilities	Jacobs	Witt	2-Storm	Liberty	Miller, Devito, Townsley	Good-fellow, Townsley	Vallee	State VegMan TF
Provide near real time, accurate updates of restoration information	✓	✓	✓	✓				
Provide timely, accurate ERT's (at varying levels of granularity down to individual customer)			✓	✓				
Enable customer outage reporting using medium of their choice					✓			
Automate info flow from damage assessors to OMS						✓		
Quantify damage assessment info to determine crew resource requirements				✓				
Ensure capability to scale the workforce (at least) 500% in emergency			✓					
Mitigate tree-caused infrastructure damage and outages			✓	✓		✓		✓
Emphasize on hazard tree identification, mitigation			✓			✓		✓
Public education regarding planting trees near power lines		✓	✓			✓		✓
Ensure reliability of pole infrastructure			✓			✓	✓	
Install alternative power sources in selective locations			✓					

3. a The Risks of Extreme Weather

Extreme Weather	Customers Affected	Days to Restore	Characteristics
Tropical Storm (Irene and Sandy)	50% - 70%	7 to 9	50 - 73 mph sustained winds
Category 1 Hurricane	70% - 90%	9 to 14	74 - 95 mph sustained winds
Category 2 Hurricane	90% - 100%	>14	96 - 110 mph sustained winds
Major Ice Storm	50% - 70%	7 to 9	1.5 to 2 inches of ice
October Snow Storm (Alfred)	70% - 90%	9 to 14	12 inches of snow with full tree canopy

3. b The Risks of Extreme Weather

Extreme Weather will Return

CATEGORY	WINDS	Return Period	Last Occurred
Category 1	74-95 MPH	17 Years	1985 (Gloria)
Category 2	96-110 MPH	39 Years	1954 (Carol)
Category 3	111-130 MPH	69 Years	1938 (New England Hurricane)
Category 4	131-155 MPH	155 Years	<1851
Category 5	> 155 MPH	400 Years	<1851

DISCUSSION: WINDS LIGHTER ON WEDNESDAY WITH THE STORM TRACKING FURTHER SOUTH, BUT ICING STILL A LARGE CONCERN. 0.2 TO 0.5 INCHES FOR COASTAL AREAS AND 0.1 TO 0.2 FOR INLAND. SNOW AND SLEET ACCUMULATIONS WILL BE OVER 6 INCHES.

VALID: MONDAY FEBRUARY 3, 2014 0900 DST

3. c The Risks of Extreme Weather

- “It’s a pretty difficult situation in Connecticut right now; we have more power outages than at any time in our history. A large percentage of the trees had extensive foliage; that’s what brought these trees down. A snowfall of anywhere from 2 to 18 inches in the middle of the winter would not produce the kind of damage that this storm is producing.” - Governor Malloy

- "At one point during the height of the storm, we had over 300 state roads closed, all as a result of tree problems, trees in the roadway,” Department of Transportation spokesperson Kevin Nursick said.

- "The significant impact of these storms has served as a wake-up call to Connecticut. Our state must do more to prevent, plan for, and respond to emergencies and natural disasters. – CT Two Storm report"

3. c The Risks of Extreme Weather

- **Our experience is that mature, tall trees become a risk during Tropical storms, Super Storms, Ice Storms and October Snow Storms. Studies have shown this to be the case**
  - **Reference, Managing Tree-caused Electric Service Interruptions, Siegfied Guggenmoos**

- **The process outlined in the State law allows discussions to occur as to the risk of an individual tree failing, the benefits of the tree and the risk to the electric system**

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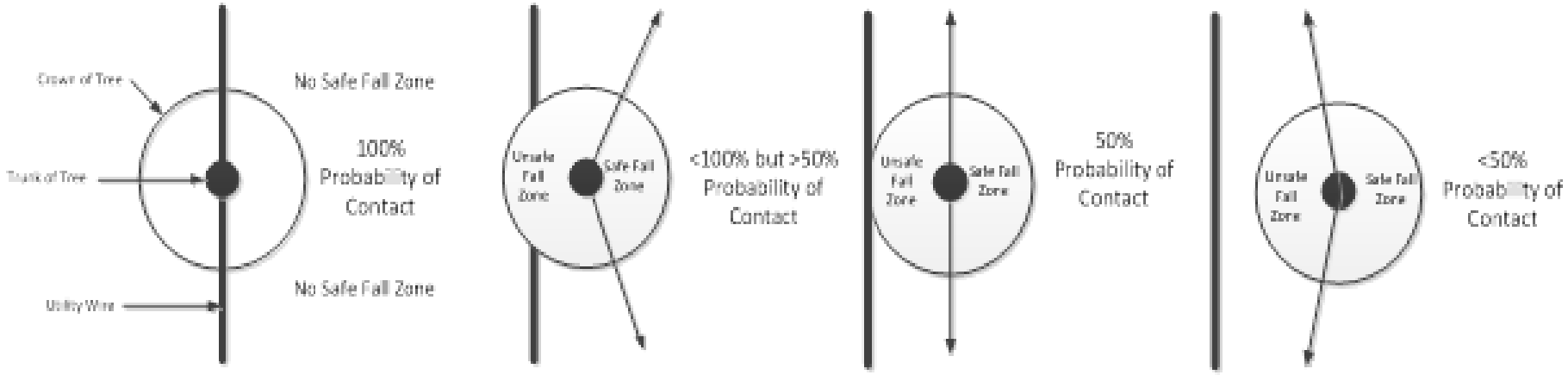
4. Utility Protection Zone

Utility protection zone" means any rectangular area extending horizontally for a distance of eight feet from any outermost electrical conductor or wire installed from pole to pole and vertically from the ground to the sky;

A utility may perform vegetation management within the utility protection zone to secure the reliability of utility services by protecting overhead wires, poles, conductors or other utility infrastructure from trees and shrubs, parts of trees and shrubs or other vegetation located within the utility protection zone

5. How the New Vegetation Program Addresses the Risk

- Reduction in the likelihood of damage to the electric system by the direct threat to the electric system during extreme weather events
- Reduction in outages (25-50%)
- Increased public safety through reduction in downed wires
- Reduction in blocked roads



- How much risk is acceptable varies from person to person and municipality to municipality

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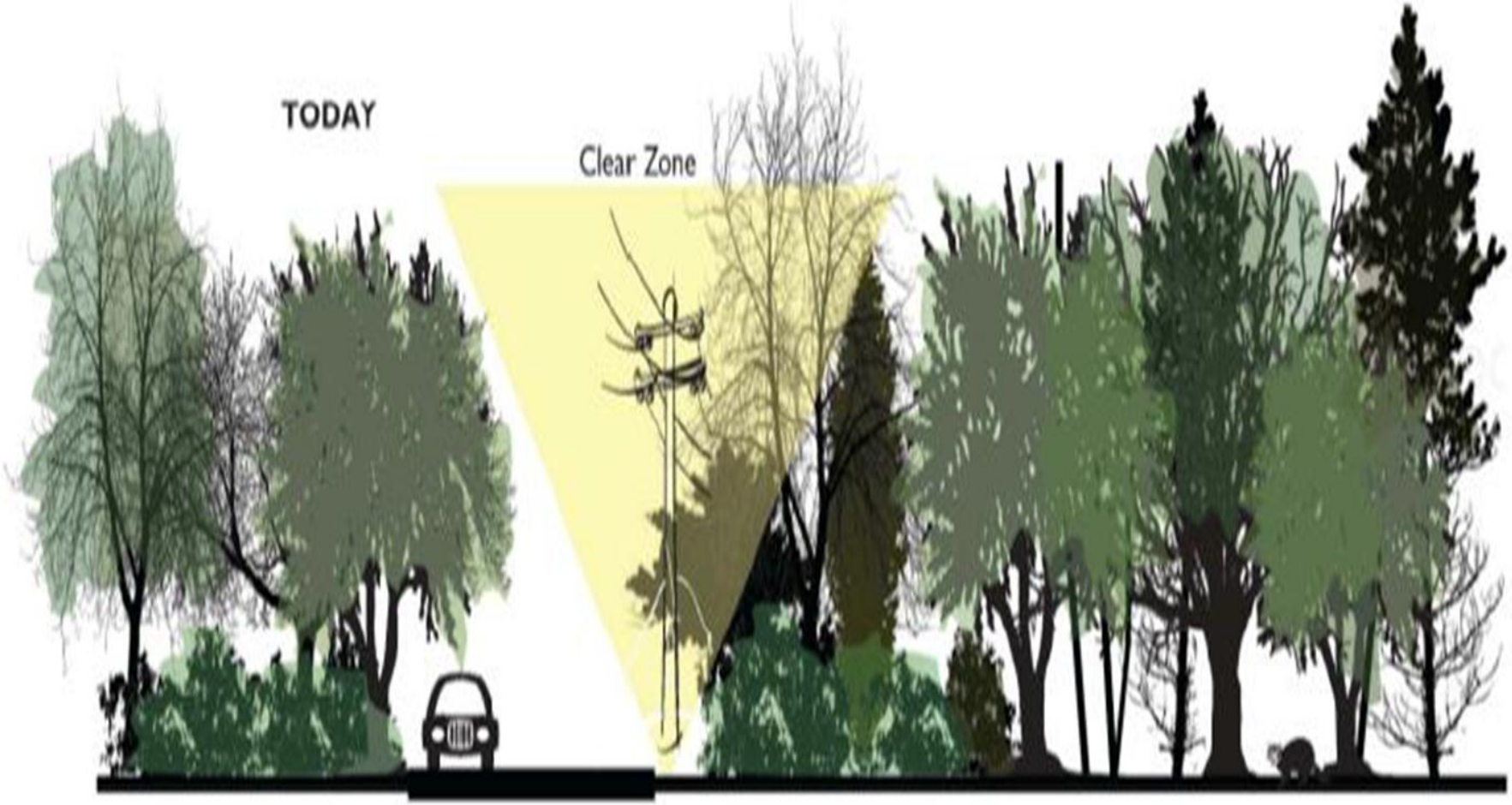
The Condition of Roadside Forest Today



A typical road surrounded by forested land—the branches overarch the roadway and interfere with existing utility lines. Trees are crowded and growing together with narrow silhouettes and small root balls—creating unstable trees along the road opening.

From the State Vegetation Management Task Force report

Condition of the Roadside Forest after UI's 8 year Program

That same road with selective clearing around utility lines and overhanging trees. Understory trees and shrubs are permitted to flourish. Trees that have expanded into the Clear Zone are either trimmed or removed/replanted.

From the State Vegetation Management Task Force report

6. The Program and the Results of the Pilot

Overall Program

- Program to be implemented over an eight year period
- Based on worst performing circuits and those with critical state and municipal facilities
- Program scheduled to start June 1, 2014

Pilot

- A 40 mile pilot is underway in Bridgeport, Hamden, Orange and Shelton
- Bridgeport work in planning phase

Pilot Town	Private tree Consent	# of Contested Public Trees
Shelton	96%	0
Orange	88%	0
Hamden	91%	Not Started

Pilot Circuit: 1290 customers, one priority facility, 19 medically coded customers, potential for blocked road

Total Risk Percentage	Additional Risk Percentage due to overhang
78%	28%

Just one tree

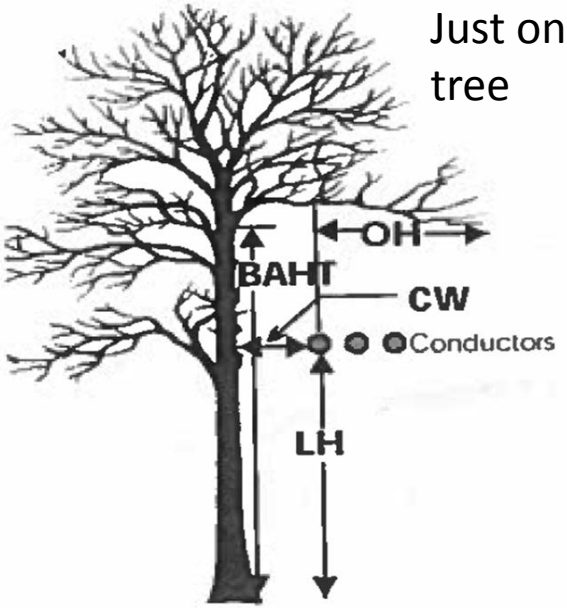


Fig. 2. Branches Overhanging Conductors
BAHT = branch attachment height
CW = clear width
LH = line height
OH = overhang

Reference, Increased Risk of Electric Service Interruption Associated with Tree Branches Overhanging Conductors, Siegfried Guggenmoos

Questions