UIL

UIL HOLDINGS CORPORATION

# Connecticut Legislature
# Tropical Storm Irene Hearing
# September 19, 2011

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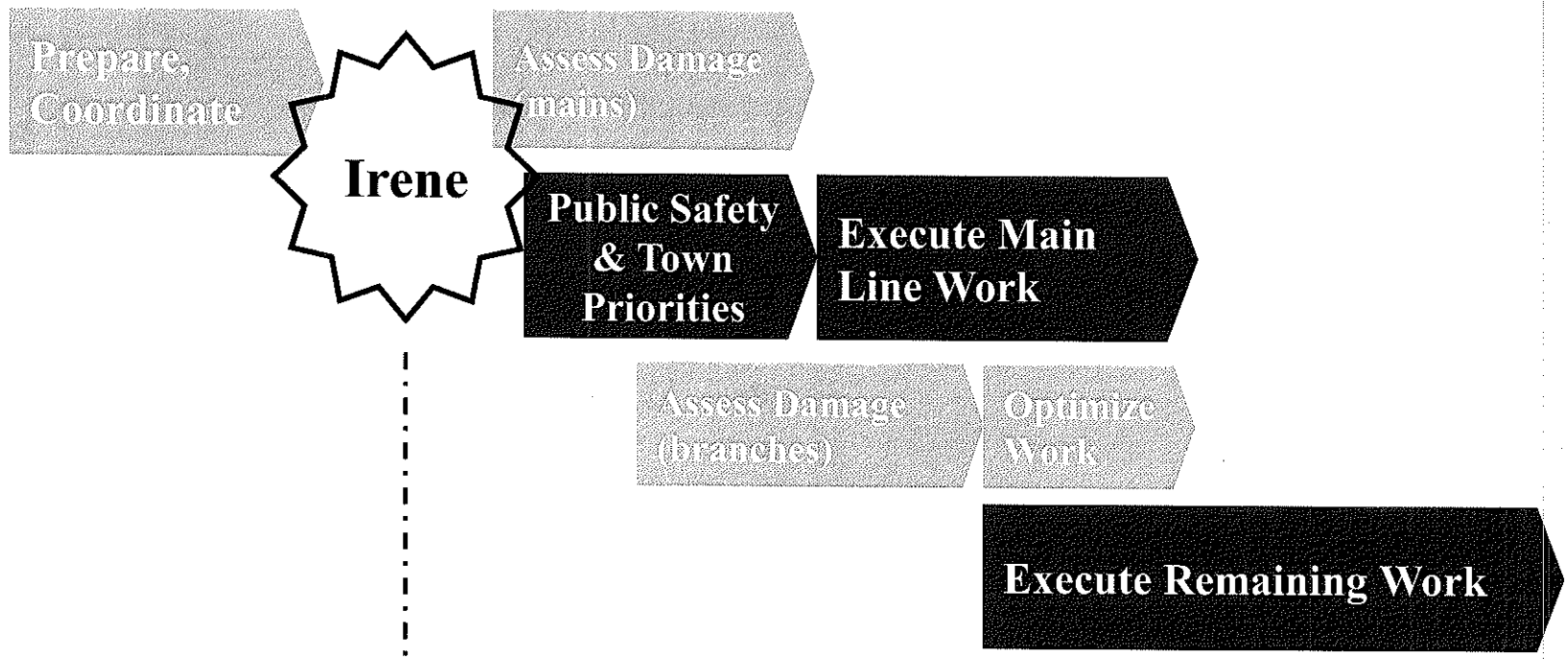
# Restoration & Communications Processes




Prior Week | Su, 8/28 | M | T | W | Th | F | Sa | Su

**Preparations, e.g.:**

- Model predictions
- Mutual assistance coordination
- Communications to government leaders
- Notify towns – 4-7d outages likely

**Damage Assessment:** ~ 9500 locations

**Work:** ~ 10,000 locations to sequence & execute work

**Communications** included: resources deployed, restoration glide path, locations of work, restoration times

***Assessment and execution good, but … Recognize customer / stakeholder desire for more information faster.***

# Pre-Event Planning

## *We began planning many days before the storm … here are some examples:*

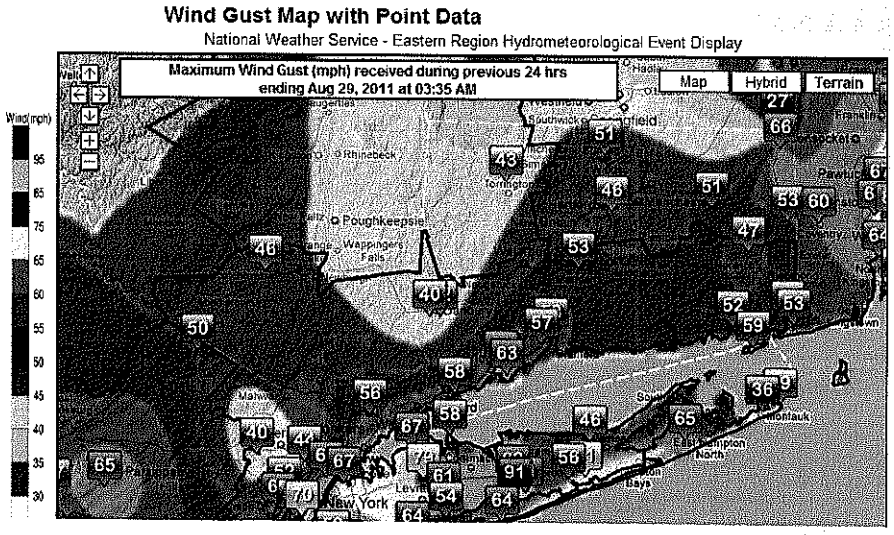
**Operations**

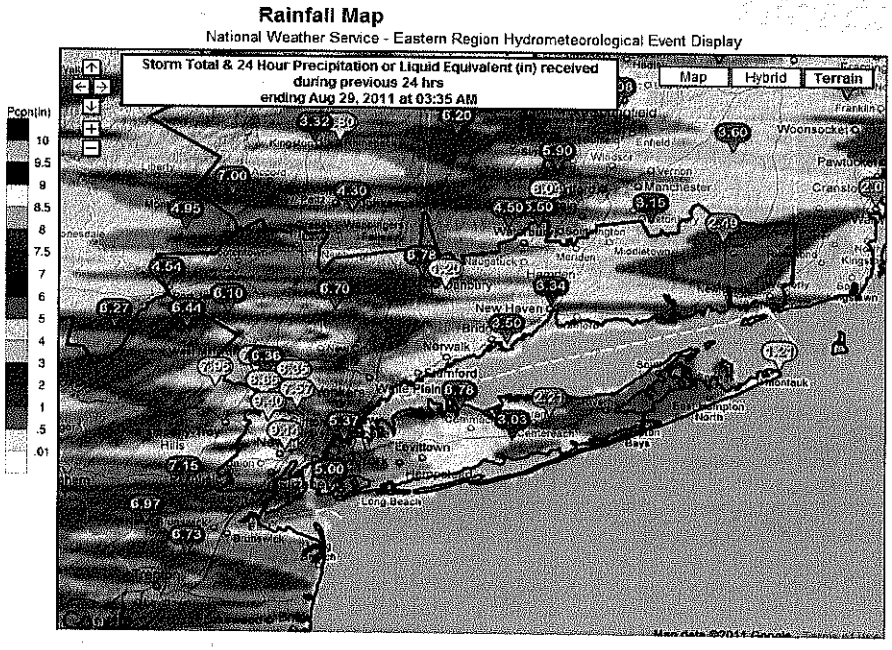
- Mon 8/22: Irene Predicted to Impact UI
- Tue 8/23: UI Activates Storm Plan
- Wed 8/24: State/Local Agencies Notified UI Storm Center Open Impact & Damage Prediction Developed
- Thu 8/25: NEMAG Call No Crews Available
- Fri 8/26: NEMAG Call Acquire KCP&L Line Crews And Lewis Line Clearance Crews
- Sat 8/27: UI Staffs State EOC Storm Preparation Complete
- Sun 8/28: Storm Center Fully Staffed

**Communications**

- 8/25: Towns Notif. to Plan for 4-7 Day Outages
- 8/25: Muni. Liaison at EOC Pre-Storm Prep Meetings
- 8/25: Town Notif. of UI Conting. Plans
- 8/25- Safety training for fire departments
- 8/25-26 UI News Release: Storm & Outage
- 8/25-26 UI Conducts radio/Print/TV interviews
- 8/27: Outbound Calling for Medical Hardship Customers

# *Irene was an extreme event …*




**Storm Severity:**

- 3-6" of rain
- Wind gusts > 60 mph (2 am to 2pm Su.)
- Tidal Flooding

**Communications During the Event:**

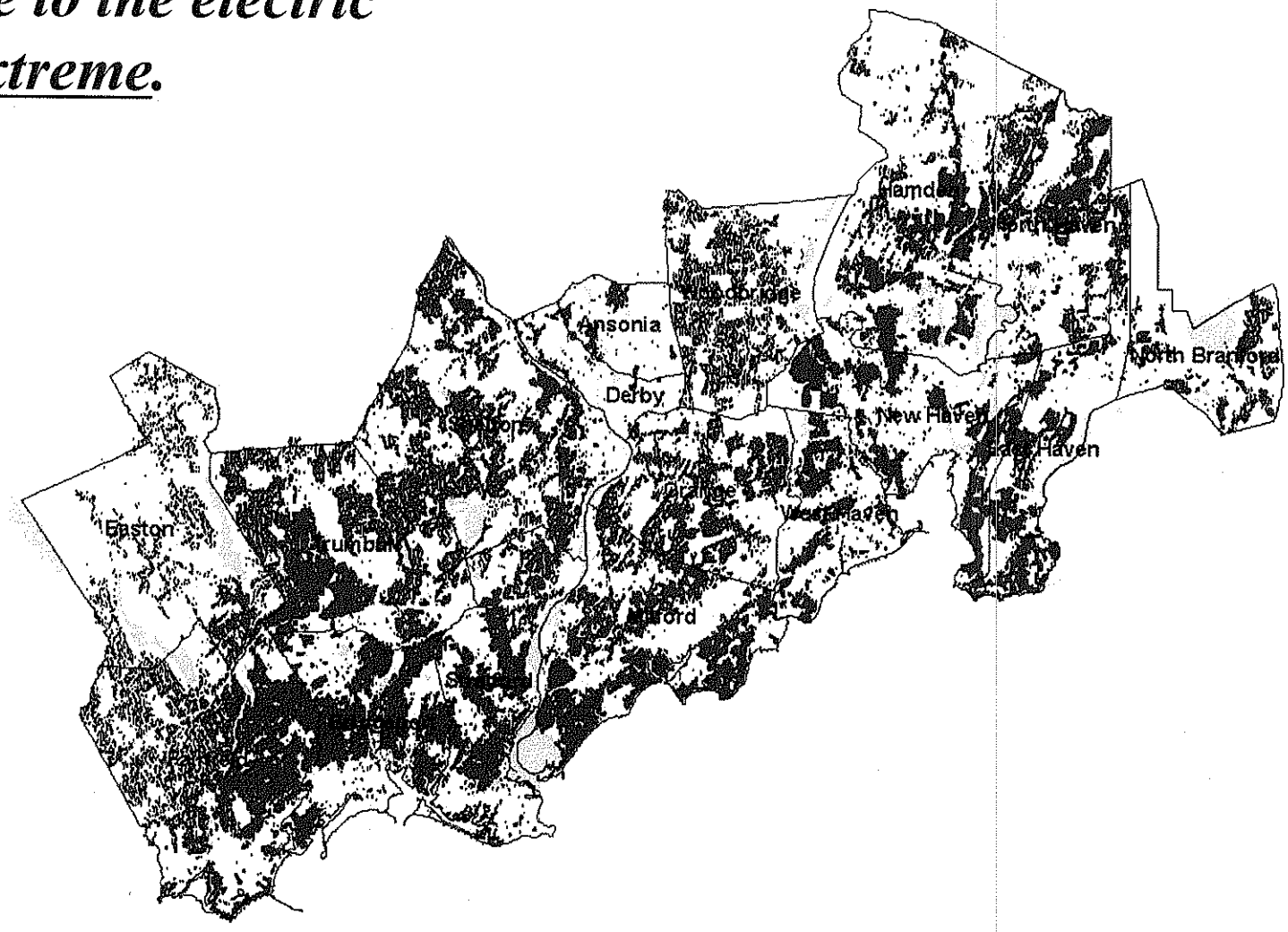
- Storm updates every few hours to Selectman/Mayors/Legislators and EOC Directors. The Company began using social media to disseminate information.
- Multiple news releases per day:
  - Status of electric system
  - Updates on restoration progress and goals.
- UI personnel gave 106 separate interviews with electronic, print, radio and television outlets – local, regional and national.

# Damage Across UI's Electric System

***... and the damage to the electric system was also <u>extreme</u>.***

## Damage:

- 263 circuits w/ outages
- 10,300 locations worked by crews
- 9,700 locations visited to assess damage
- 158,000 peak customers out

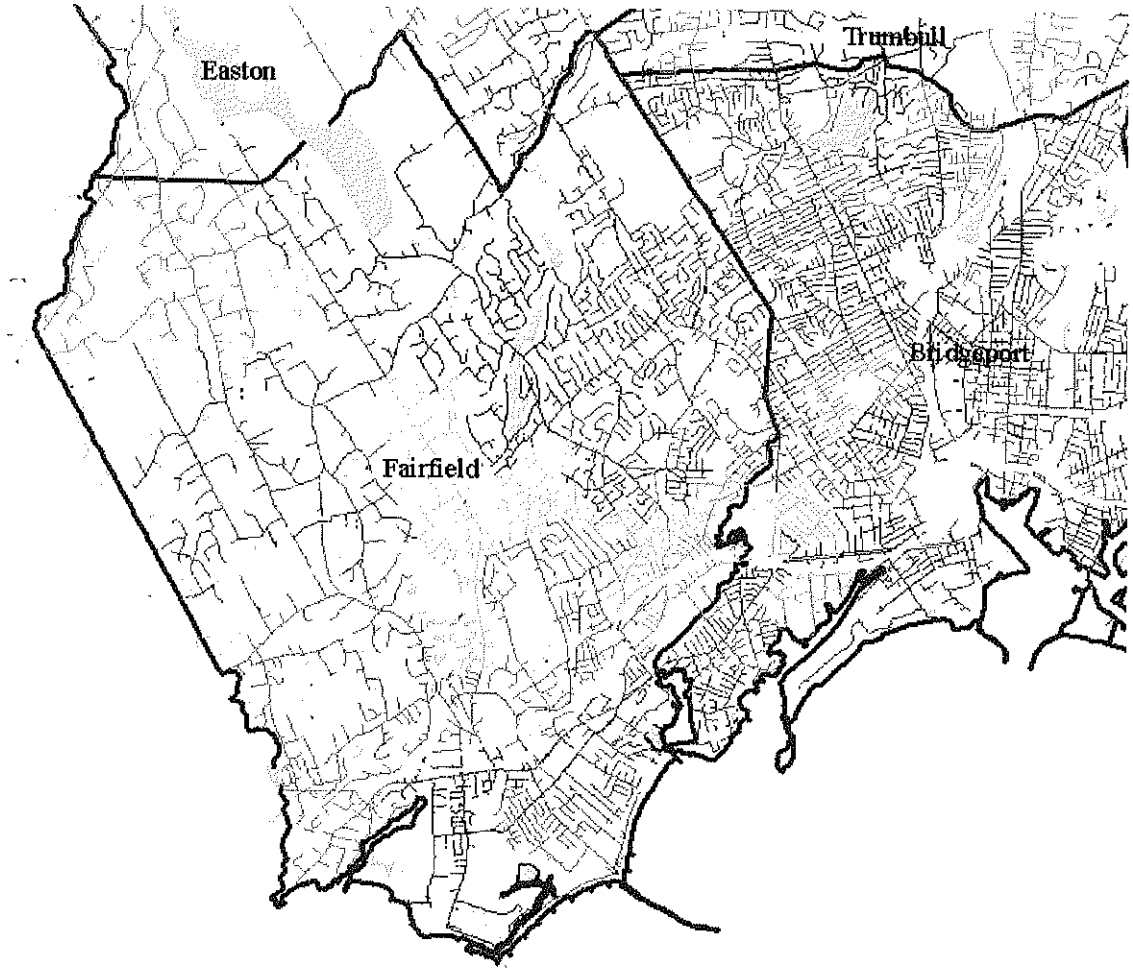



## UI's Distribution System Outages*

**(UI's System: 443 circuits, 3,275 miles of O/H lines)**

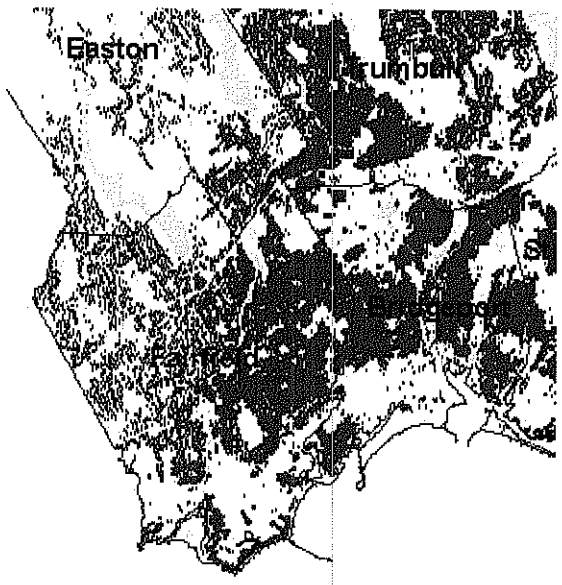
* Total outages shown – includes all over duration of storm and recovery/restoration period.

# Damage – An Example in One Town




## UI's Distribution System in Fairfield

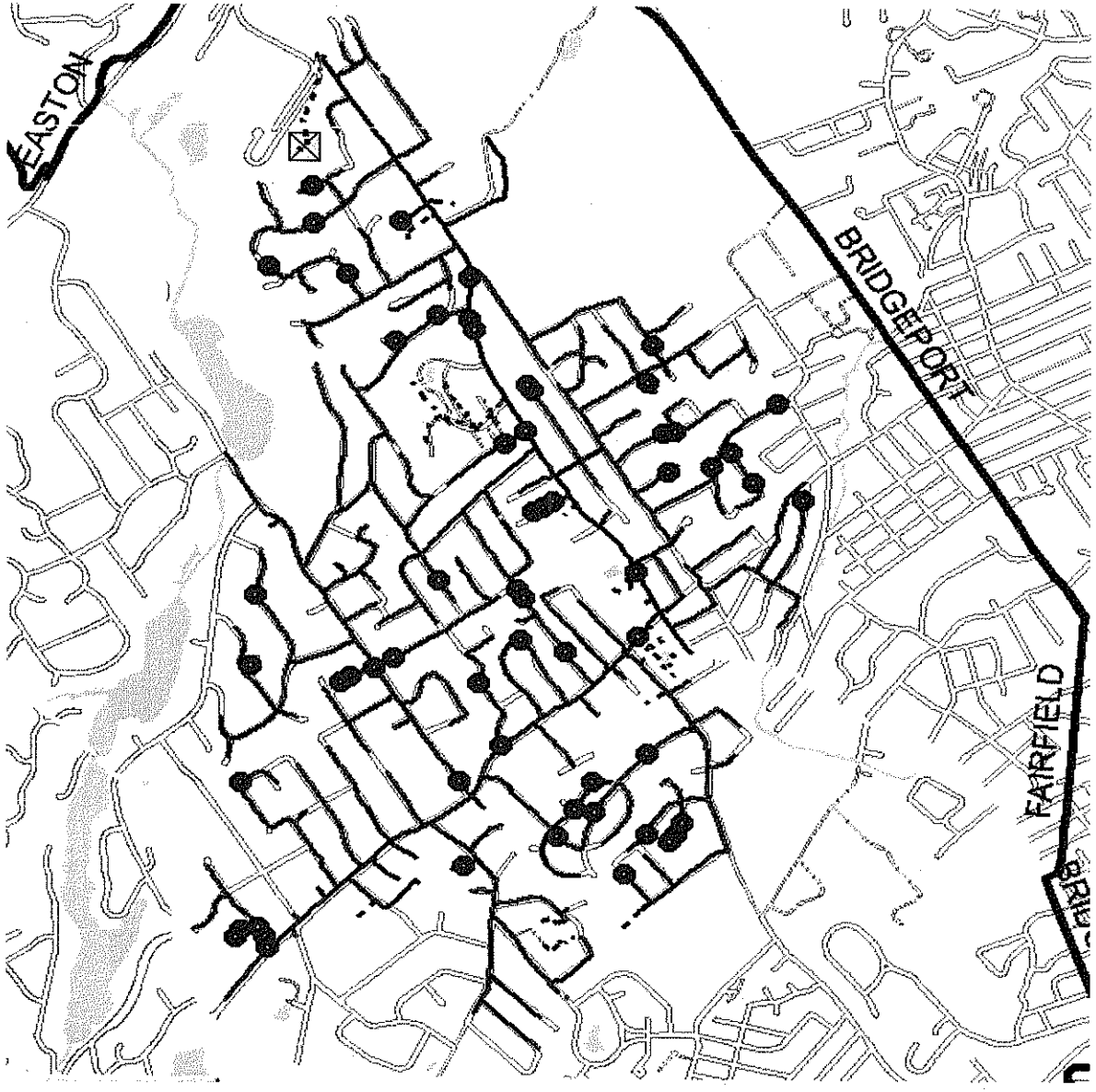
(Fairfield is served by numerous circuits - see colors above)




## Damage in Fairfield:

- 570 interrupting devices reported open (circuit breakers, fuses, transformers)
- Each may have required 1 or more work locations to resolve.

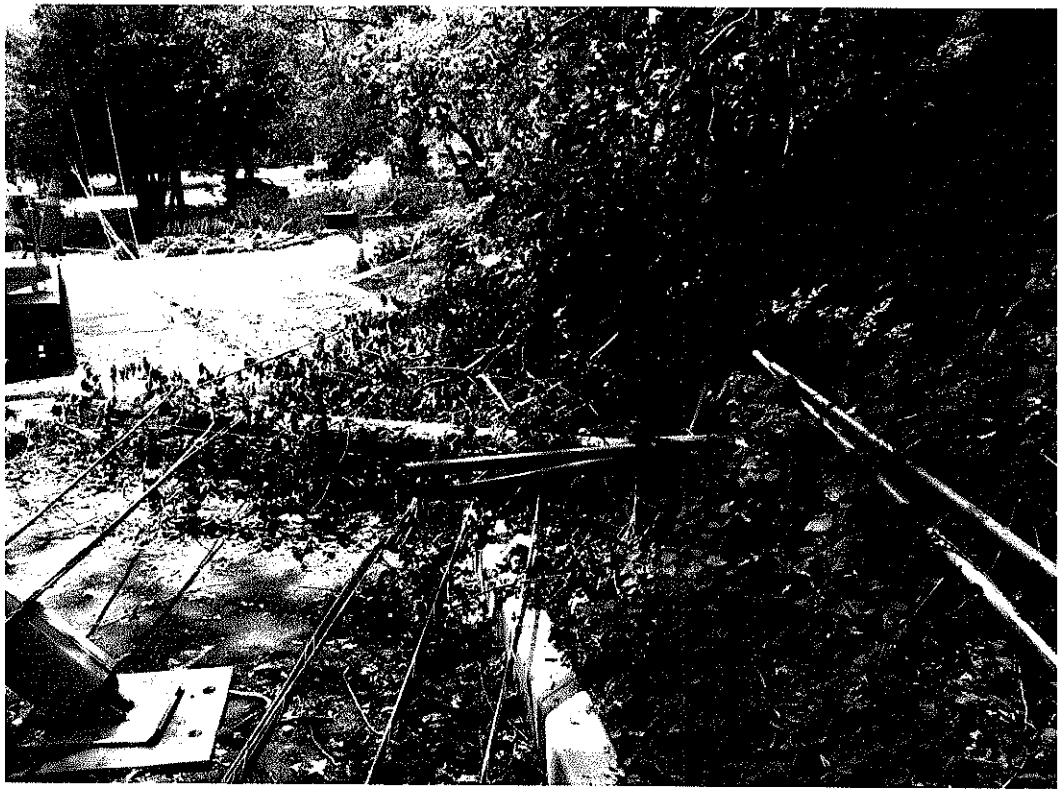
# Damage – One Circuit, in One Town




## Damage On One Circuit:

- In Eastern Fairfield
- Circuit 2686
- 70 Isolating devices reported open
- 113 work locations

# Damage – Single Locations



**Example:**

- Ferncliff Rd., Fairfield, CT
- Pole down
- Electric wires down
- Phone/Com wires down
- UG service to house damaged

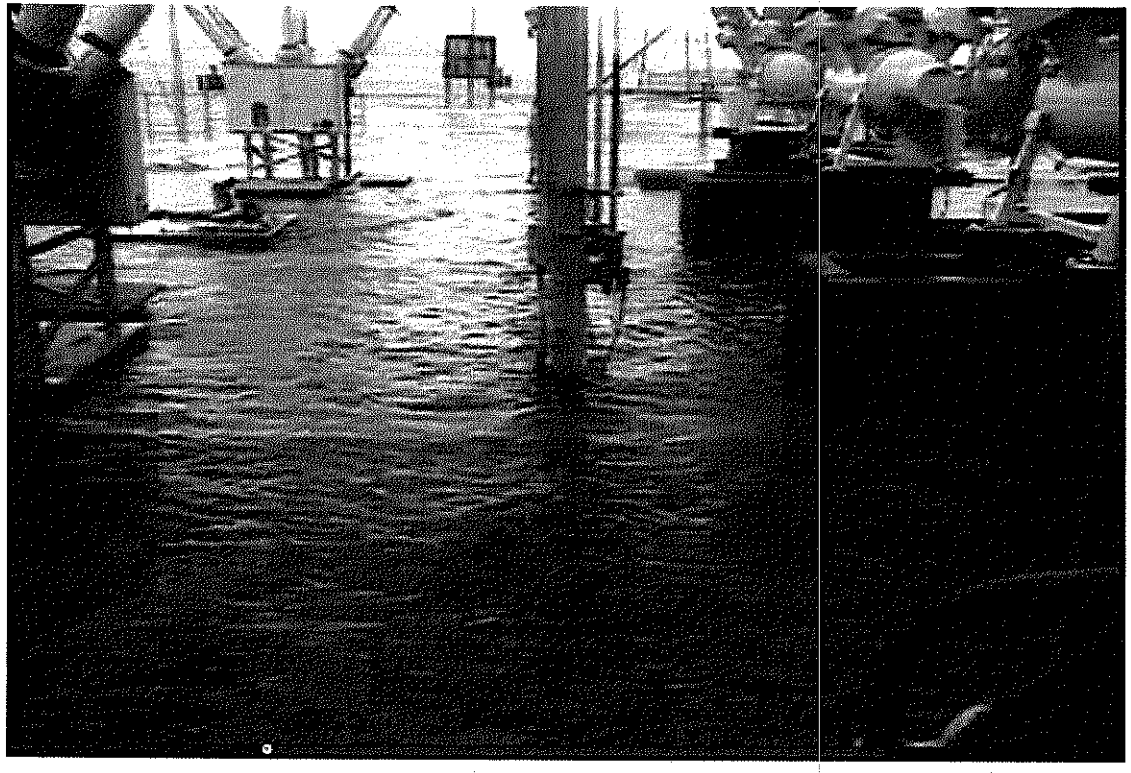
**Example:**

- Catamount Rd., Fairfield, CT
- In addition to the damage …
- Note how completely the tree canopy blankets the area.

# Damage – Single Locations

**Examples:**

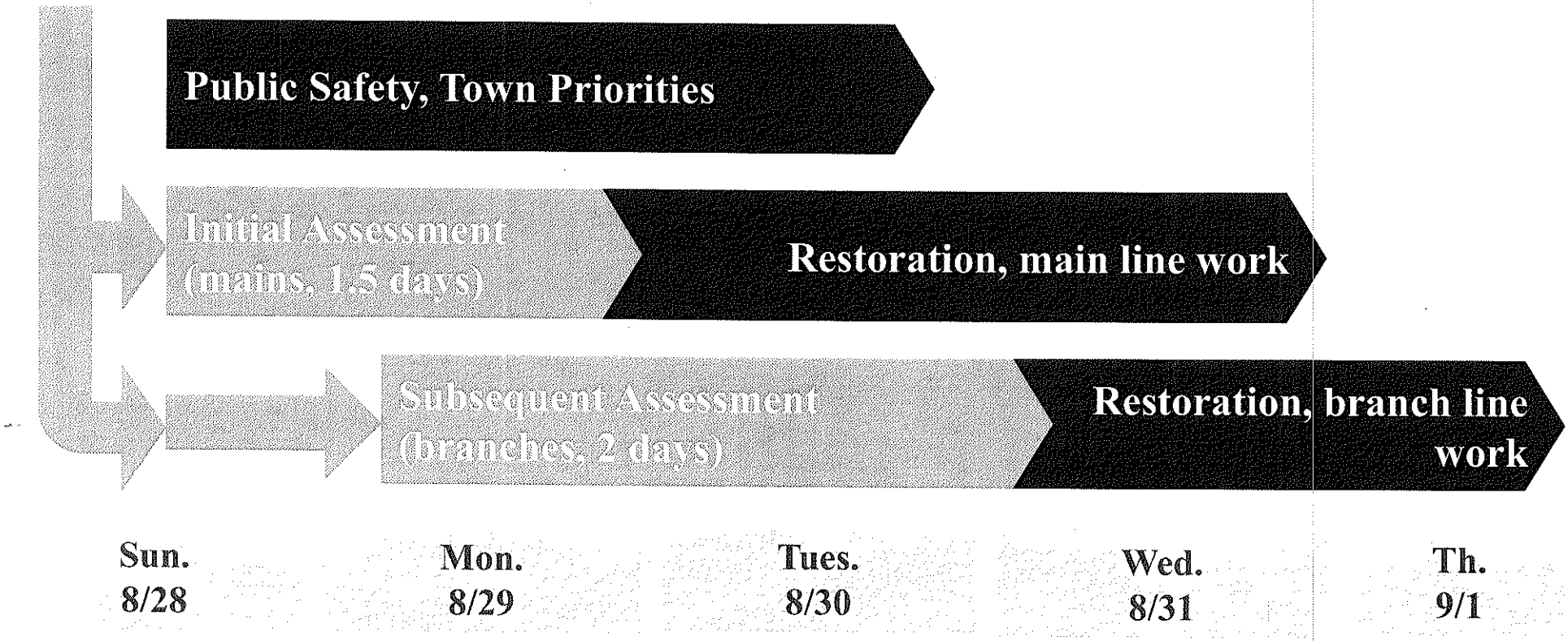
- Peak of storm roughly coincidental with high tide.
- Extensive flooding at two substation properties
- One of two flooded substations taken off line as a precautionary measure.
- Put back in service quickly



- Substations affect large numbers of customers
- Permanent damage limited, but …
- Impractical to work in station during the event (if that had been necessary)

# Assessment & Commencement of Repair

## *Assessment is critical ...and was performed exceptionally quickly ...*




## *... It must be complete to:*

- *Identify quantity, location, nature of work*
- *Assign resources efficiently*
- *Provide information, predict restoration times*

# Coordinate the Work, Ensure Safety

***Much of the work required extensive coordination both within the company and among companies***

Approximately **9,700 locations** were investigated by damage assessment crews

**Example - Replace Broken Pole:**

**Example - Wires Down/Make Safe:**

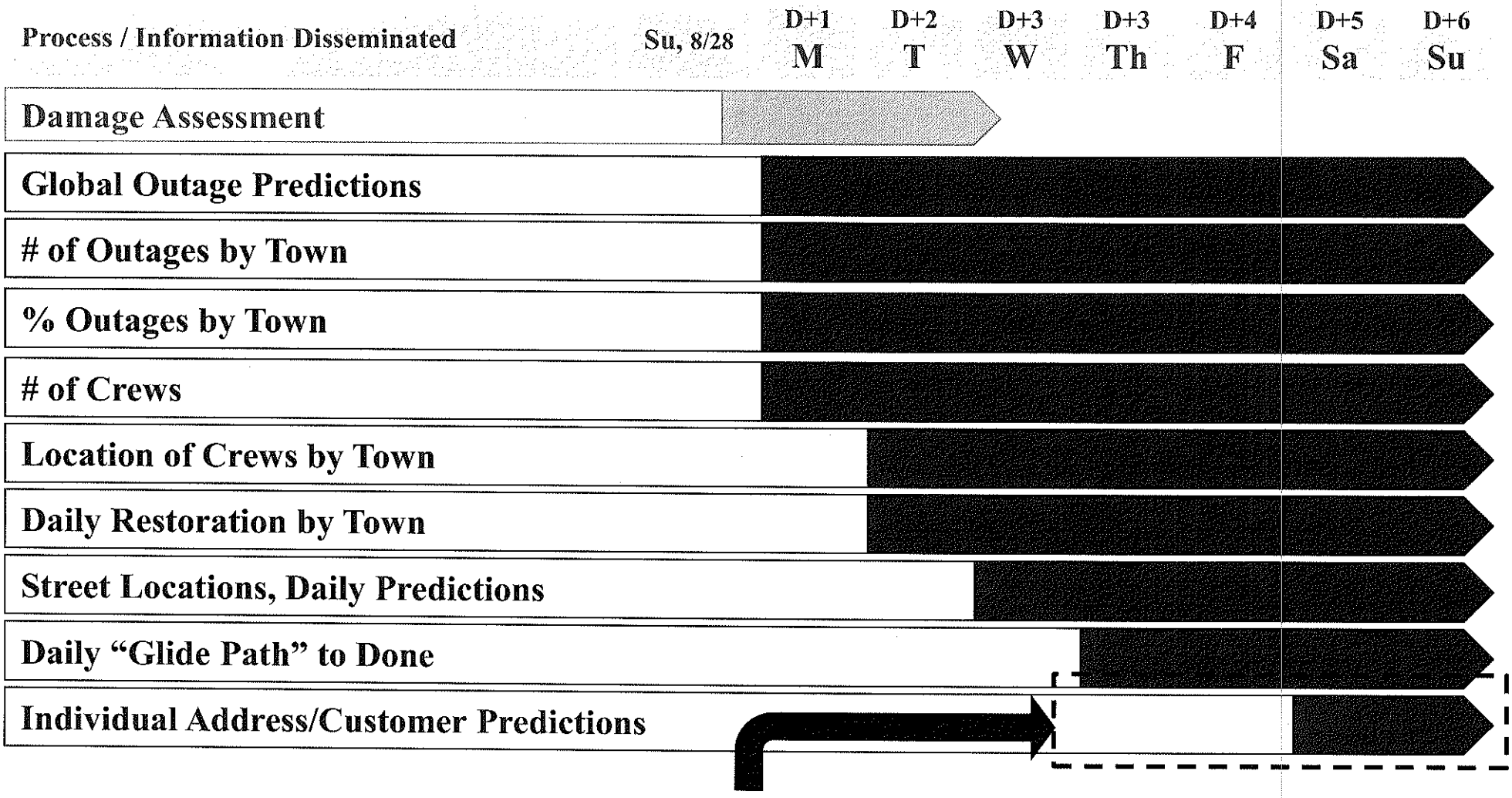
***Safety is job-one*** *– until we can fix it, we need to protect the public, and we cannot sacrifice safety for speed.*

- *1115 workers safety trained during the event.*
- *39,000 restoration crew hours of work without a lost-time accident.*

Approximately **10,300 locations** were visited by overhead line crews, line clearance crews, and service crews

# Communications – Irene Performance, Future Objective

***The ultimate objective: provide accurate status & predictions earlier … both to government leaders and individuals.***




*Customers & government leaders want this to commence sooner, and our customers want us to advise them "we know you're out" so they're not wondering.*

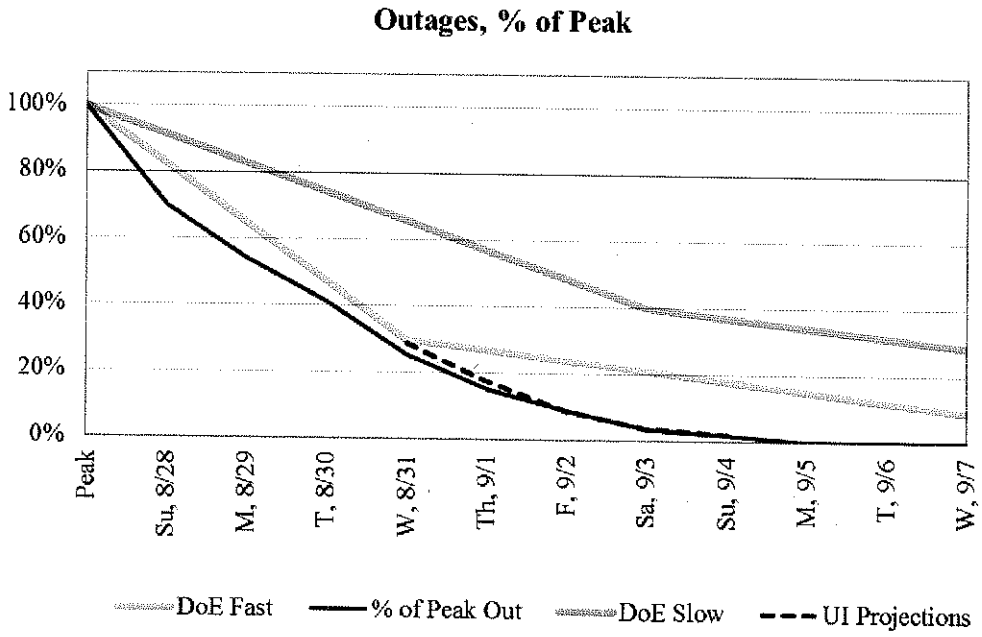
# Best Practices, Enablers, Plan for the Future

***Ultimate Objectives: (1) restore faster, (2) preserve current level of safety, (3) provide earlier, accurate status & predictions to individual customers & government leaders.***

| | | March 2010 Storm | Irene (Today) | Short Term (<1 yrs) | Ult. Goal (1-3 yrs) |
|---|---|---|---|---|---|
| Best Practices (examples) | Incident Command Structure* | ✓ | ✓ | ✓ | ✓ |
| | Pessimistic Storm Damage Predictions* | ✓ | ✓ | ✓ | ✓ |
| | State & Municipal Communication Plan* | | ✓ | ✓ | ✓ |
| | Rapid Determination of Global Restoration Times* | ✓ | ✓ | ✓ | ✓ |
| | Optimal Restoration Strategy | ✓ | ✓ | ✓ | ✓ |
| | Consistent & Correct Communications* | ✓ | ✓ | ✓ | ✓ |
| Enabling Technologies (examples) | OMS & Call Center Upgrade & Integration | ✓ | ✓ | ✓ | ✓ |
| | Mobility in Trucks | | | ✓ | ✓ |
| | Extend Two-Way Meter Deployment | | ✓ | ✓ | ✓ |
| | External Outage Reporting Tools | | ✓ | ✓ | ✓ |
| | Technology Enabled Damage Assessment | | | | ✓ |

**Included Recommendations from October 2010 Jacobs Report to DPUC*

# *Communications expectations are rising – we'll respond.*




## Lessons Learned

- As well as we did, restoration could be shorter if damage can be reduced ...
  - *More aggressive tree management*
- We didn't always meet the information-expectations of our customers and government leaders …
  - *Need to further develop and add methods & processes for conveying useful information.*

## Lessons Learned, Continued

- Event revealed some technology-related weaknesses.
- We need to continue to improve communication & coordination with towns, especially during the early stages of the event.

## Plan, Next Steps

- Conduct customer survey(s)
- Meet with each of our towns/cities
- Complete our after action assessment
- Accelerate UI's technology implementation plans (see slide 14).
  - During future event(s), at completion of the assessment phase, accelerate conversion of results/data to useful information and disseminate more rapidly.