

Mutual Assistance for District Energy

Sixth Annual Tabletop Exercise



December 18, 2018

Welcome and Introduction



International District Energy Association (IDEA)

Len Phillips, Director of Business Development

Welcome to the IDEA Webinar Series

- ❑ The webinar will **start promptly at 2:00 pm EST (Boston time) and is scheduled to last about 60 minutes--including time for responding to your questions.**
- ❑ All lines will be muted by IDEA for most of this exercise. We will unmute lines during the exercise to enable MADE members to participate. To prevent overwhelming background noise, please **mute your phones unless you are speaking..**
- ❑ If you are having problems with video or audio, please send a note via the Chat Box function on the right side. Click the Chat box and choose – **“Chat privately to Cheryl Jacques (host)”**. Or call IDEA at **+1-508-366-9339**.
- ❑ **Audience Questions for Presenters:** Please enter your **Questions** in the **Q&A** box at the lower right of the screen. Your questions will be moderated and addressed at two points: just before the exercise begins and at the conclusion of the presentation.
- ❑ **Webinar Download or Streaming:** The webinar will be recorded and available via download or streaming. Links will be sent to all registrants. Slides will be posted in pdf format. Please share among colleagues who may have attended as a group, but did not register individually.
- ❑ **Survey:** Your feedback is vital to our effort to constantly improve these exercises. We will email all registrants a link to a brief survey following the webinar.

Background

- The International District Energy Association (IDEA) is a nonprofit trade association founded in 1909 to facilitate the exchange of best practices and field experience among district energy professionals.
- The MADE Program is one of many benefits and professional assets we make available to our members.

Presenters



Todd Fuller
Director of Operations
Citizens Thermal
Indianapolis, Indiana



Pat Davin
Facility Operations Manager
Municipal & Commercial
Business, Veolia

What is MADE? (video)



Rationale for MADE:

“When you need it, you need it.”

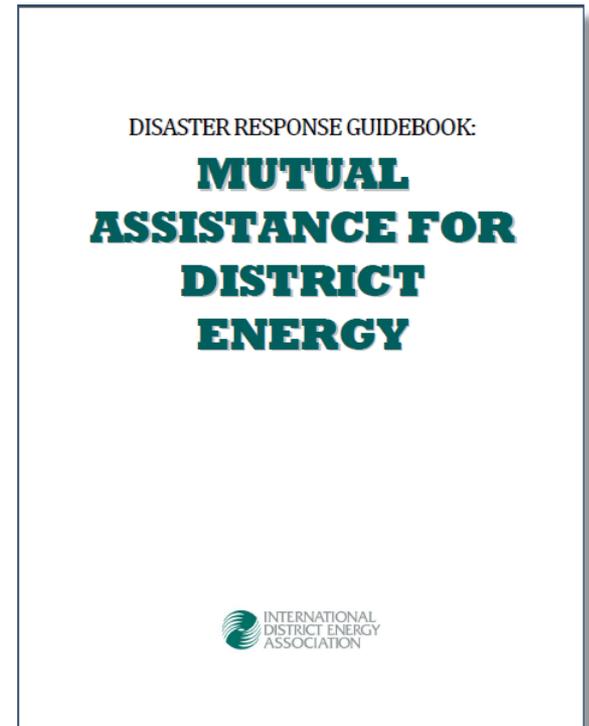
- Natural disasters and man-made accidents can be very disruptive on district energy system operations. Timely recovery from serious, unanticipated system failures may require outside assistance from contractors or emergency crews to effect timely repairs.
- Mutual assistance plans have long been used by electric and gas utilities.
- IDEA has developed this Mutual Assistance for District Energy (MADE) program to provide a voluntary system for sharing trained personnel resources and emergency equipment among IDEA Member Organizations in the event of such disasters affecting district energy systems.

Today's Agenda

- Scenario-based discussion
- Simulated Conference Call - Tabletop Exercise (TTX)
- Hot Wash/Feedback
- Questions and Answers
- MADE Recruitment
- Organizations represented on this call

MADE Guidebook & Plan

- Working Reference; downloadable by IDEA members
- Administrative Procedures
 - Cooperation Agreement
 - Annual Document Review
 - Annual Tabletop Exercise
- Activation of Assistance pursuant to the Plan
- Model Agreement
- Detailed Appendices



Expectations

- MADE membership is open to IDEA member colleges, universities, healthcare facilities, airports and other organizations operating district energy facilities, as well as to utilities.
- Provision of mutual assistance is voluntary.
- Assistance can range from provision of a crew to a piece of equipment—even an advisory phone call.
- During this TTX—or an actual emergency, the specific needs for assistance will be described.
- Participating members would then be then asked what assistance their organization can provide.

Simulated Conference Call for Mutual Assistance

- The purpose of this simulated call is to convey the nature of a hypothetical emergency situation and the scope of request for assistance.
- An initial situational awareness report will inform MADE participants of the general incident details and weather conditions and the potential need for mutual assistance.
- During the call, the scope of the incident will be described in increasing detail as detailed updates are reported.
- After the assessment of need is complete, MADE Member participants on the call will be asked what assistance they can provide and will have the opportunity to clarify any details to expedite the request.

Questions before we start the Exercise?



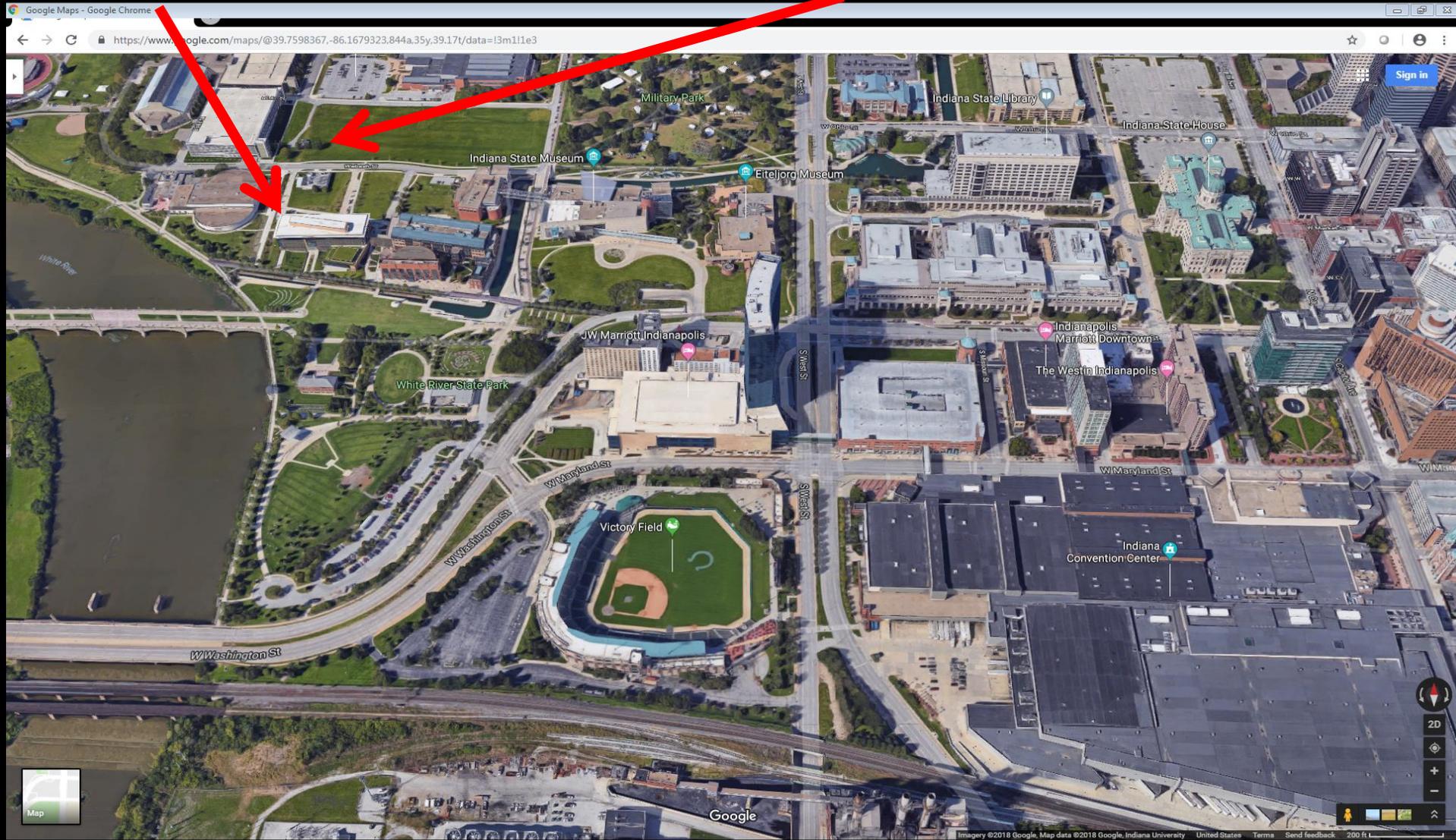
Scenario Timeframe & Conditions

- **Date:** December 18, 2018
- **Time:** 2:00 p.m..
- Outside temperature 5 deg. F
- Snow accumulation 15 inches+
- Steam distribution interrupted

Incident Location

Location of water main break

Location of Steam "O" vault



Preemptive Measures

10:30-11:30 a.m.:

- Called IDEA MADE Members to Alert of Potential Request for Assistance
- Secured hotel rooms to house responding crews
- Arranged food/water, comfort stations for responding crews
- Established staging areas at the Perry K Steam Plant at 366 Kentucky Ave., Indianapolis

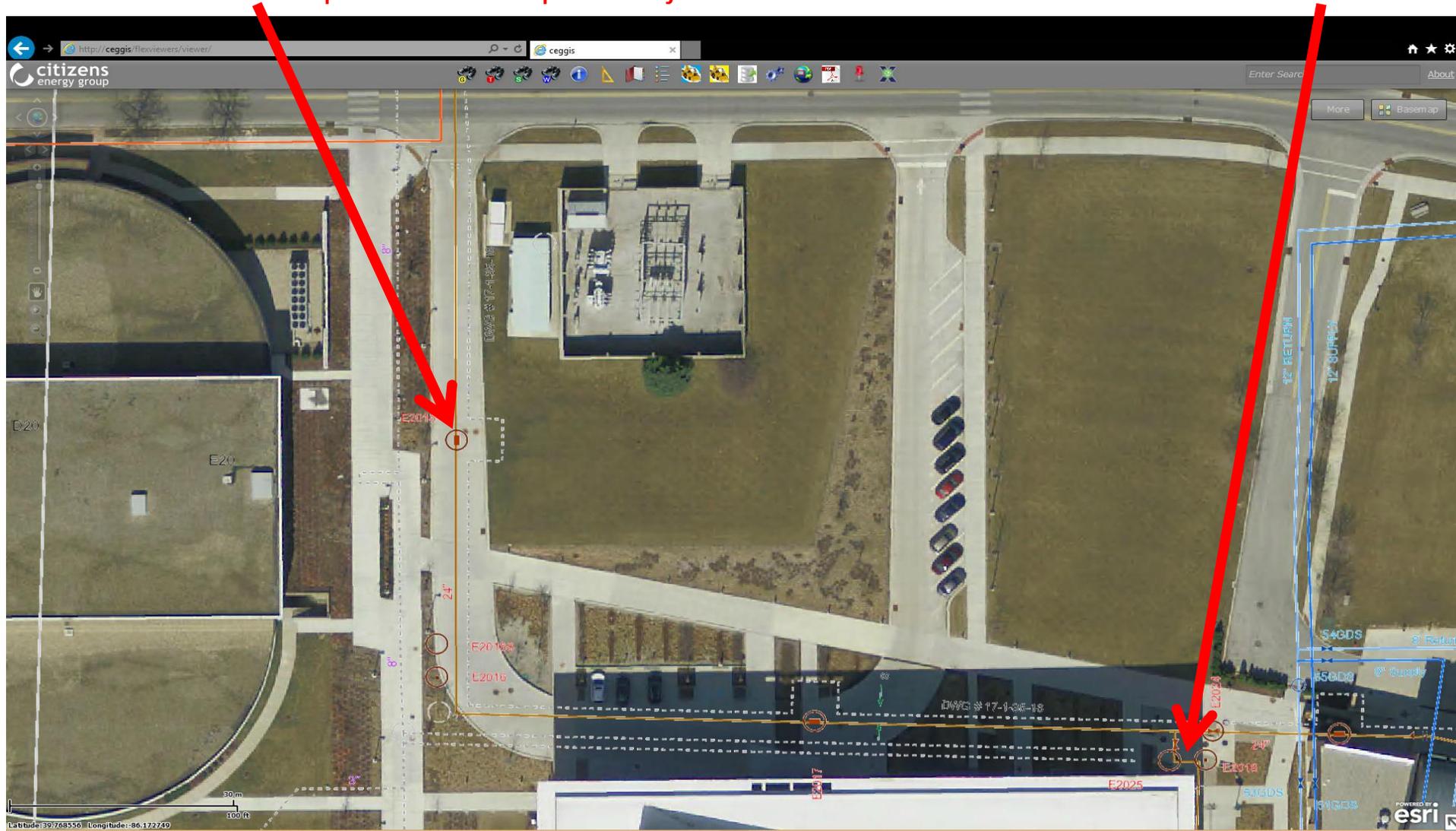
Incident Report

- **6:30 a.m.:** Steam Distribution Manager is notified of water main break at Blake St. on IUPUI Campus; Distribution Foreman & Steam Crew are dispatched to site to determine possible effect on steam system
- **7:50 a.m.:** Crew arrives onsite and finds a water leak directly over the steam main south of “O”-vault; leak is not yet isolated and it appears that water is getting into steam manholes in the area. Foreman directs crew to begin de-watering steam manholes; 2nd crew is requested to assist; crews also report that TV crews are onsite.
- **8:30 a.m.:** 2nd crew arrived onsite to assist with de-watering of manholes; water leak still not isolated
- **9:15 a.m.:** Water leak isolated.
- **9:25 a.m.:** The steam crews hear a loud boom and see steam billowing from manhole just north of the area of the water leak; Foreman directs crews to isolate the steam at the 2 valve locations just east of the leak shutting off steam to the entire campus.

Steam Facilities

Location of Steam rupture & 24" expansion joint

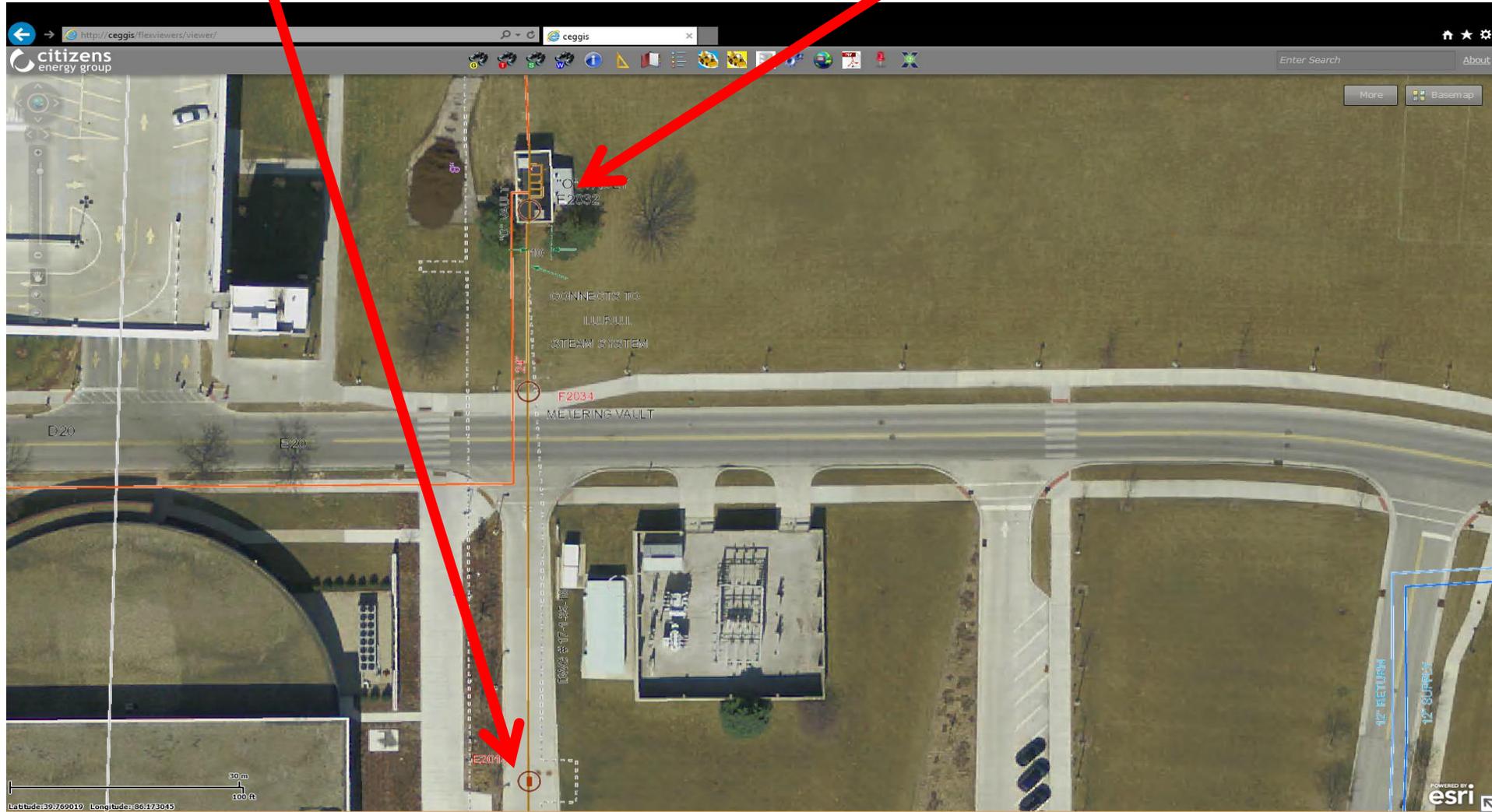
Steam isolation valves



Steam Facilities (continued)

Location of Steam rupture & 24" expansion joint

Campus service point:
"O" vault – houses 250# to 150# PRVs



Incident Report (continued)

- **9:45 a.m.:** Steam is isolated and still blowing as residual pressure bleeds off. Foreman notifies Steam Distribution manager of situation; District Manager notifies Director, and calls to Citizens' senior management as well as to IUPUI Campus Facilities Service are made.
- **9:50 a.m.:** Steam Plant operators are dispatched to Eskenazi Hospital Boiler Plant to startup backup boilers for hospital.
- Critical loads without steam include:
 - Riley Hospital
 - University Hospital
 - Veterans Hospital
 - IUPUI Campus Research areas
 - Campus classrooms and dormitories
- **10:15 a.m.:** Steam has subsided enough to allow crews to begin assessing the damage to the steam system.
 - Crew reports the whole area is in chaos, Streets are shut down and rumors are running rampant. Police, Fire, TV crews are on scene.

Initial Investigation Results

12:30 p.m.:

- Investigation of the steam system finds extensive damage to the 24” expansion joint and to the “O”–vault PRVs
- Replacement of the expansion joint will require excavation
- Materials needed:
 - 1- 24” expansion joint (not in stock)
 - Need to replace PRVs in “O”–vault; in stock
 - Temporary boilers and technicians to install & operate along with water & fuel hookups
- *Crews needed: four 3-person crews to work 12-hour shifts for 3 days.*

Impact Overview

- Hospitals are without steam & with extreme cold temperatures, they must consider moving patients to other facilities
- IUPUI will need to cancel classes & look for temporary housing for students that live on campus

Situation Summary

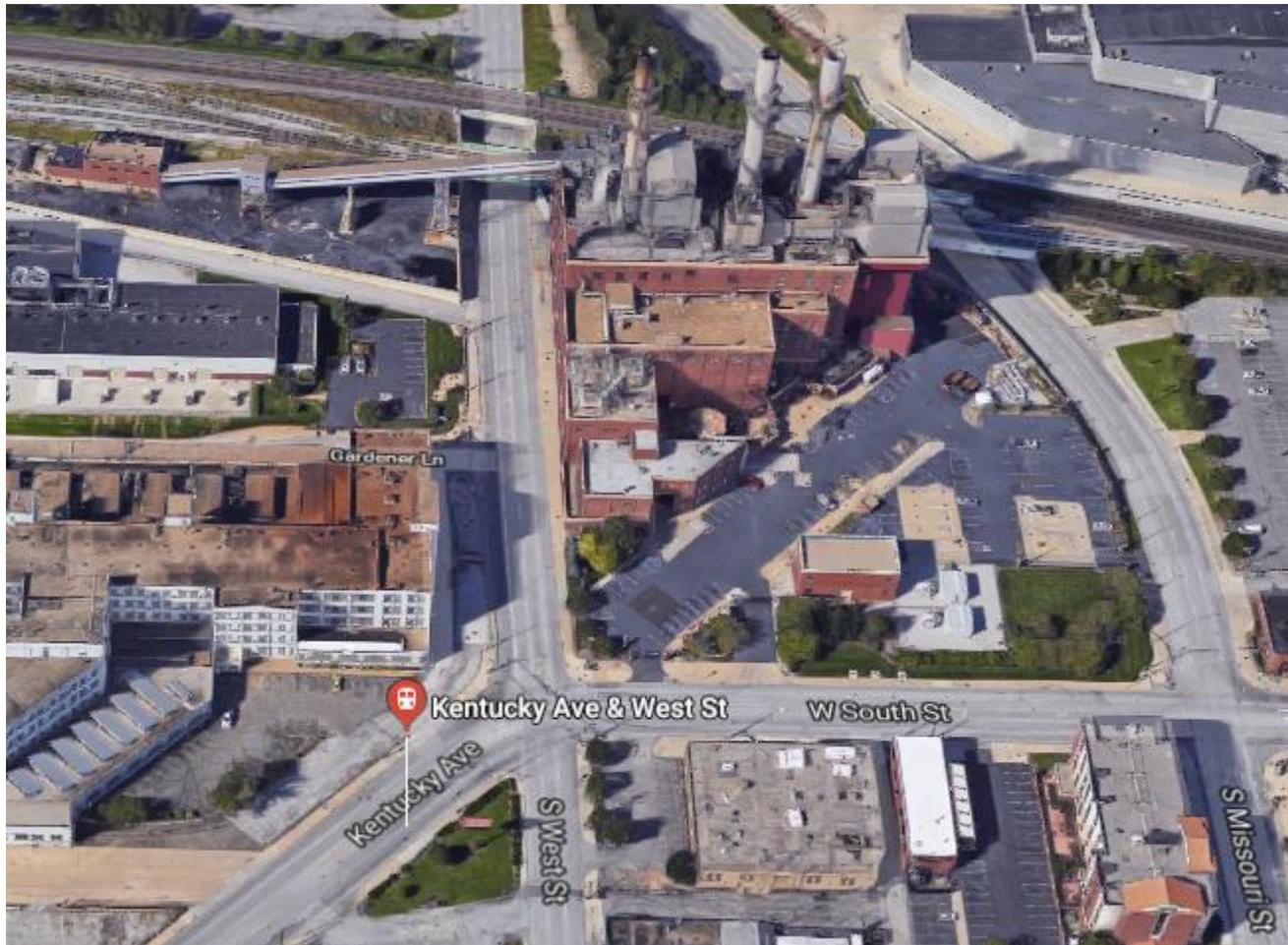
- Entire steam system to IUPUI Campus is down
- Eskenazi Hospital Backup boilers are supplying hospital & isolated from main system
- Steam system repairs expected to take an estimated 3-5 days

Situation Summary (contd.)

- Incident Command System (ICS) has been implemented.
- All CEG resources are heavily engaged.
 - Crews are working extended hours and are continuing with inspection of the distribution system to assess damage and response efforts.
 - Crews are in need of rest periods and will not be able to handle restoration without assistance.
- Local contractor has been hired to perform excavations.

Situation Summary (contd.)

- Staging areas and training for safety orientation, work scope for incoming crews are set up at the CEG Perry K Steam plant.



Weather Forecast

- Approximately 15-inches of snow accumulation is on the ground
- Low temperatures in the -5 to -10F with daytime highs from 5 to 10F above and expected for the next 5 to 7 days

Scope of Assistance

- Need three 3-person crews rotating 24/7 with trucks for up to one week.
- CEG personnel will be provided per crew.
- All personnel to be confined space qualified.
- Need temporary boilers with technicians.
- Need 1 -24 inch expansion joint.
- Valves are in stock & will be on site.

Logistics

- ETA
- Route of Travel
- Rendezvous Point for Incoming crews will be CEG Perry K Steam Plant.
- CEG person will be assigned to your crews.
- Vehicle Type(s)
- Fuel
- Crew Demographics
 - For lodging accommodations

Training

- Parking and plant access
- Follow signs to Plant Training Room.
 - System and Procedures Orientation
 - Safety briefing
 - Potential hazards (extreme temps, ice, etc.), PPE, water hammer overview, confined space, lockout/tag-out, etc.
 - Crew assignments
 - Phone numbers / Emergency contacts
- Lodging and food/water

Roll Call

WebEx phone lines will now be unmuted.

MADE member organizations will be called out by Pat.

ALL: Please MUTE your phones if you are not speaking.

- Who is on call?
 - Citizens Thermal
 - Con Edison Company of New York
 - NRG/Clearway Energy Systems
 - Rochester District Heating Cooperative
 - Thermal Energy Corporation (TECO)
 - Veolia Energy North America
- Discussion about request
- Available assistance from MADE partners
- Arrangements to complete paperwork will be discussed during on-site orientation.
- Follow-up on logistics issues

WebEx phone lines will now be muted.

Resource Summary

- Mutual Assistance Crews Available
- Other Resources or Equipment

Hotwash/Feedback

“After-action discussion and evaluation of the performance.”

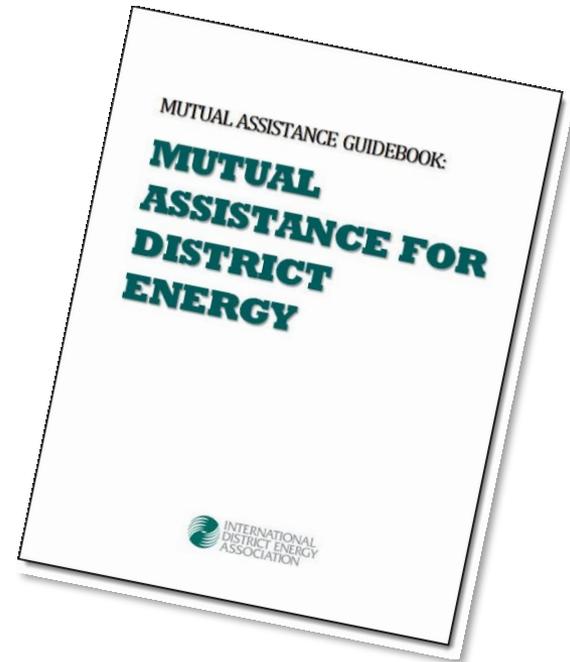
- Unaddressed issues

***Please try not to talk over each other.
WebEx phone lines will now be unmuted.***

- Things that went well
- Areas for improvement
- Other comments?

MADE Recruitment

- Organizations represented on this call.
- The broader the membership, the more robust MADE will be.
- “An Insurance Policy you don’t have to pay for.”
- “When you need it, you need it”



Comments

Your feedback is vital to our effort to constantly improve these exercises!

We will email all registrants a brief survey. Please share among colleagues who may have attended as a group, but did not register individually.

The exercise has been recorded. Links to the webinar with all commentary and also to the presentation deck itself in PDF format will be emailed to all registrants.

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