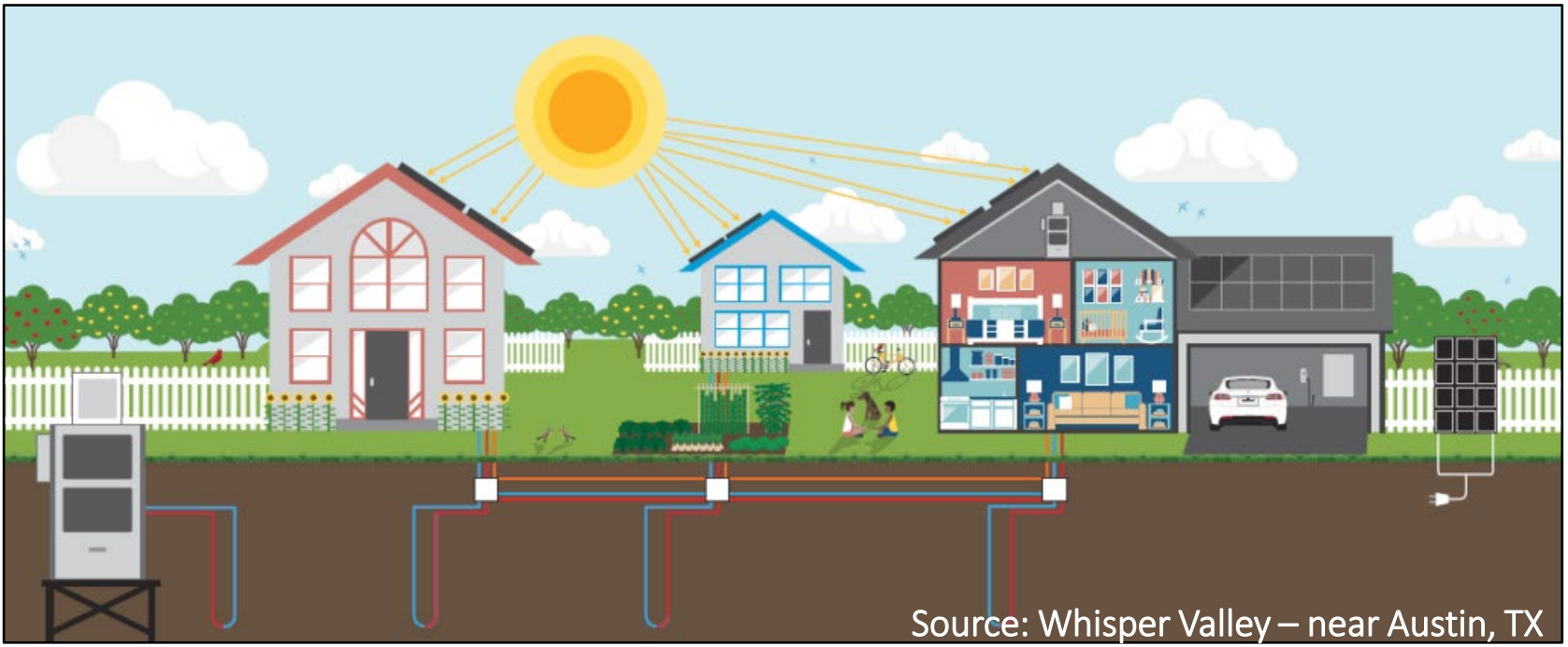
NYS PSC Implementation Order
Utility Thermal Energy Network & Jobs Act (UTEN)

for the
Utility Networked Geothermal Collaborative

September 27, 2023


Source: Whisper Valley – near Austin, TX

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Presenter: John Ciovacco

- Co-Chair NY-GEO Annual Conference

- President Aztech Geothermal
- NY-GEO Board Member
- AEE Certified GeoExchange Designer (CGD) & IGSHPA Accredited Geothermal Installer
- Served as DPS Strategic Advisory Group for EE & Building Electrification
- Consulting to 5 Utilities involving ~8+ TEN projects
- Advisory Board, HEET
- ME from Union College

NY-GEO 2023 Conference

Networked Geothermal Track (5 sessions)

All 42 Presentations (Slides & YouTube) available for each session at www.ny-geo.org

NETWORKED GEOTHERMAL

The Birth of Thermal Utilities

1. Mapping the Journey to a Thermal Market

2. Measuring Success: *The Data We Need*

3. The Policy and the People: *We Need to Clear the Path Ahead*

4. The Utility of a Utility

5. Scaling Efficiently: *How We Will Build a Thermal Grid Together*

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UTEN Implementation Order
NYS DPS Server – CASE 22-M-0429

This is a link to the slide presentation shown at the PSC meeting.

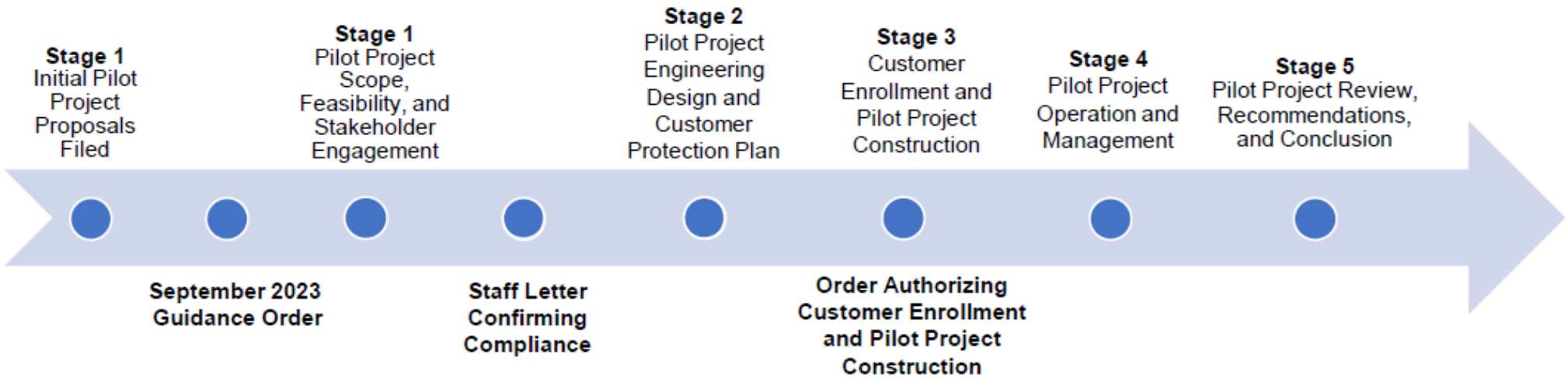
1	09/21/2023	Notices	Notice of Technical Conference	Public Service Commission	22-M-0429 - UTEN Terms Definitions Technical Conference Notice.pdf
2	09/14/2023	Reports (presentation)	UTEN Staff Report Filing	New York State Department of Public Service	22-M-0429_UTEN Staff Report Filing_9.14.2023.pdf
3	09/14/2023	Orders	Order Providing Guidance on Development of Utility Thermal Energy Network Pilot Projects	Public Service Commission	201_22-M-0429_9.14.23 final.pdf
4	09/14/2023	Press Releases	PRESS RELEASE - PSC Moves Development of Utility Thermal Energy Networks Forward	Public Service Commission	pr23094.pdf

This is a link UTEN Implementation Order Text (57 pages) and Appendixes (+28 pages)

NYS PSC Order for Implementation of UTEN Pilot Project

Stage-Gate Process Summary Slide (PSC Presentation)

Pilot Project Stages and Timeline



All pilot project proposals are currently in Stage 1.

- Initial Pilot Project Proposals filed on January 9, 2023.
- Guidance Order provides clarifications, establishes stage-gate approach, and identifies additional information needed to advance projects to next stage.
- **Utilities file Final UTEN Pilot Project Proposals by December 15, 2023.**

Individual pilot project decisions will be provided beginning at Stage 2.

- Staff issues letter confirming compliance with Guidance Order and advances project(s) to Stage 2 or notes deficiencies to be addressed.
- **Utilities file Final Engineering Design and Customer Protection Plans for each pilot project within 9 months of Staff letter.**

Advancement of Pilot Project to Stage 3 through project-specific Commission Order(s).

- **Utilities file Final UTEN Pilot Project Engineering Design and Customer Protection Plans. Filings will be issued for public comment.**
- Order will finalize pilot project operational requirements, cost recovery, CPPs, performance monitoring and reporting structure.
- Pilot project will be operational for a minimum of 5 years.

NEW YORK STATE OF OPPORTUNITY. | Department of Public Service

NYS PSC Order for Implementation of UTEN Pilot Projects

John P. Ciovacco

Found on p. 19

Stage-Gate Process

Stage 1: Pilot Project Scope, Feasibility, and Stakeholder Engagement

Stage 2: Pilot Project Engineering Design and Customer Protection Plan

Stage 3: Customer Enrollment and Pilot Project Construction

Stage 4: Pilot Project Operation and Management

Stage 5: Pilot Project Review, Recommendations, and Conclusion

Stage 1: Pilot Project Scope, Feasibility, and Stakeholder Engagement

Found on pp. 19-20

Final UTEN Pilot Project Proposals → *Due December 15, 2023*

1. Specific objectives of the pilot project,
    - Including the novel or unique technical or business model approaches
    - Anticipated findings;
2. Preliminary cost estimates and timeline associated with the Stages presented
3. Potential barriers and risks and steps the Utility will take to address them;
4. Description of benefits to residents of the Disadvantaged Community, if applicable.
5. Preliminary Customer Protection Plan
    - Description of required **customer engagement activities** and
    - **Customer agreement** template that recognizes **customer protections**

Found on p. 20

Stage 1: Pilot Project Scope, Feasibility, and Stakeholder Engagement (cont.)

Guidance on Withdrawal of a Pilot

1. File a Pilot Project withdrawal letter with the Secretary to the Commission.
    - Describe the reasons for withdrawing the pilot project and
    - Document any key findings or recommendations from the pilot project.

Approval to Advance to Stage 2

Found on pp. 20-21

DPS Staff shall conduct a compliance review Utility's Final UTEN Pilot Project Proposals

1. If Staff confirms UTEN Pilot compliance, will issue a letter confirming compliance and advancing the pilot project to Stage 2.
   - May also include Staff feedback that the Utility should consider in the next stage of development.
2. If Pilot Project Proposal that is non-compliant or presents feasibility concerns,
   - Issue a letter identifying the deficiencies and/or concerns
   - set forth a timeline for the Utility to respond with the necessary information

Stage 2: Pilot Project Engineering Design and Customer Protection Plan

Found on pp. 21-22

UTEN Pilot Project Final Engineering Design

→ ***Due w/in 9 months of Staff Compliance Letter***

1. All documents required to begin construction (including permits)
2. Development of a project-specific Final Customer Protection Plan
3. Development of operational requirements,
4. Additionally - cost recovery approach, performance metrics, and other data collection and reporting structures
5. Utility shall not incur costs greater than 10 percent of the proposed pilot project budget from project inception through finalizing project engineering design and Customer Protection Plan (Stage 2), as identified in Appendix A17 For those utilities that have withdrawn their initial proposals

Approval to Advance to Stage 3

Found on pp. 20-21

DPS Staff shall conduct a compliance review Utility's Final UTEN Pilot Project Proposals

1. Piping design, piping type and grade of material and trenching backfill, maximum operating pressure; maps of proposed system including depths, thermal sources, valves, and metering; composition of fluid; equipment and appurtenances to be used for both the distribution system and customer side; Anticipated thermal and pressure design loads and parameters.
2. Training and qualification programs and activities that will be required to ensure the integrity of the system.
3. Proposed operating procedures, emergency plan, and damage prevention program for the project.
4. Issued for public comment (future order)
5. Address cost recovery, refined performance metrics, and direct tariff filings, further data collection and reporting.

Stage 3: Customer Enrollment & Pilot Project Construction

Stage 3a: Customer Enrollment.

Found on pp. 23-24

- Formal enrollment of customers requires the execution of a Customer Agreement.
- Must enroll a prescribed minimum number of customers, TBD

Stage 3b: Pilot Project Construction

Monthly Status Updates on Construction Milestones

- Specific reporting requirements TBD but likely include:
  - Unanticipated events,
  - Reasons for any delays
  - Changes to the number of customers enrolled

Stage 4: Pilot Project Operation and Management

Found on p. 24

Full Operation and Start of Performance Monitoring

Pilot phase of the projects will be a <u>minimum of 5 years</u>

Capture sufficient seasonal data:

- Thermal loop performance
- Building energy benchmarking
- Load shape analysis
- Energy consumption & costs (utility system & building)
- Occupancy predictions
- HVAC control building operations impacts
- GHG emissions (reductions)

→ Reporting frequency TBD in subsequent order(s)

Stage 5: Pilot Project Review, Recommendations, & Conclusion

Found on pp. 24-25

Develop Pilot Project Review and Recommendations Report

In consultation with DPS Staff

Document key findings, and propose recommendations for the Commission to consider regarding:

- Future UTEN pilots,
- Full-scale UTEN deployment, or
- Promulgation of regulations necessary to support UTEN operations

- May requiring third-party evaluation of the pilot project(s).
- Requires Utility file a **Pilot Project Close Out Report** for each Pilot
  - Details on continuing to serve customers through the UTEN as a normal course of business or transitioning customers to alternatives …and all associated tariff filings.

Other Notable Elements

- Use of Fossil Fuels - "Given the nascent nature of UTENs and the need for the pilot project to produce comparative learnings across various configurations and the need to build confidence in the ability for UTENs to meet customers' needs at just and reasonable costs, ***the Commission may consider the use of fossil fuels to ensure reliability and to mitigate excessive costs related to thermal energy supplied for meeting peak needs***." *pp. 32-34*

- Energy Efficiency upgrades to buildings strongly recommended by not presently required. *pp. 35-36*
- Accessing other funding sources also important…["Thus, it is the Commission's expectation that the Utilities will leverage all available programs to the extent practicable."] …but want full accounting of all resources used. *p. 37*

Pilot Project Proposals – couple interesting elements:

- O&R and ConEdison recovering from electric rate base – all other gas rate base
- Amortization periods range from 10 to 30 years

Other Notable Elements

- Projects range from:
  - $12 MM – distribution between buildings only – Upstate
  - $67 MM – full building conversions, distribution and thermal source/sink - Downstate

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Thank You & Questions?

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