Formerly Known As CDECCA – <u>Capitol District Energy Center</u> **C**ogeneration <u>Associates</u>

ONNECTIC

VISTRATING

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TOFADN

CAS <u>Capitol Area</u> System



Capitol Area System (CAS) Loop

Facilities hot and chilled water piping and production

Serving 15 public and private buildings

Over 3 miles of underground piping throughout the Capital Area

Capacity for expansion

CLIENT FACILITIES SERVED

| State Owned CAS users | Private CAS users |
|---|--------------------------------------|
| Legislative Office Building | Underwood Tower A (residential) |
| 231 Capitol (State Library/Supreme Court) | Underwood Tower B (residential) |
| Armory (State's Emergency Operations Center) | Bushnell Theater |
| 79 Elm (DEEP) | United Way |
| 75 Elm (Judicial) | 18/20 Trinity |
| 410-474 Capitol – Cap Ave Complex (multiple State agencies) | 30 Trinity |
| 101 Lafayette (Judicial) | 21 Oak St (CT Education Association) |
| 165 Capitol – State Office Building | |

The CAS Plant 0 (7.3 $\widehat{}$ 490 Capitol Ave, Hartford Year built: 1988 (34 years in 2022) COOLING TORER -Building Area: 38,280 Square feet ம் ம Lot Area: 53,970 Square Feet \bigcirc , <u>1</u>∭ G O DROLATING GROULATING BATER PLAP · (F) 10 10 1 LADOED TO CRAME 0 UN GADING AREA OL/MATER -STEAN 8-4% 0 COMDER CONDENSAT THE PROTECTION . \odot ٢ (5) (4.6) GRADE FLOOR PLAN EL 46'-0"

DISTING BULDING

Facility Background

- The plant was originally a natural gas-fired, dual fuel capable, combined-cycle cogeneration merchant plant with a generation nameplate capacity of 62.1 MW. Previously CDECCA provided peaking energy to the ISO New England power market as well as steam and chilled water to the Hartford Capitol district heating network.
- Initially the facility consisted of a General Electric model PG 6531 (Frame 6) gas combustion turbine generator (CTG) with an in-line three (3) pressure Heat Recovery Steam Generator (HRSG) with duct-firing capabilities, a 22.5 MW Alstom condensing/extraction steam turbine generator (STG), one (1) 900- ton two-stage absorption chiller (de-rated to 350-400 tons), two (2) 1,800-ton centrifugal chillers, one (1) 900-ton variable speed centrifugal chiller, a diesel starter engine, two (2) package boilers to provide steam to the CAS loop and Capitol Ave Complex, a four (4) cell BAC-Pritchard Cooling tower with 3,750 Ton rating per cell.
- As of April 2021, the electrical turbines have been decommissioned and the facility is no longer an electric generation plant. The only equipment used now is chillers, a small boiler, cooling tower and pumps.
- The 4-fuel oil storage tanks (under OPM parking lot) have been cleaned and removed. The facility is no longer dual fuel capable.

Improvements since 2021

Apr. 2021

CDECCA, former owner, retired the electric generation portion of the facility

This facility is no longer a power plant, it is a district heating and cooling facility
It uses natural gas and electricity

June 2021

General Electric Gas Turbine permit revoked

Mar. 2022

Title V Permit revoked

Oct. 2022

Zurn Package Boiler disconnected; revocation permit to be filed by the former owner

Q1 2021 – Four Underground Storage Tanks removed - used to store fuel oil

2021

Detroit Diesel Starter Engine – revoked

June 2021

Significant Industrial User (SIU) General Permit – revoked and MIU (Miscellaneous Industrial Users) permit approved by the MDC





Fuel Usage Comparison

| • Year | Gas Usage (mmbtu) | Oil Usage |
|--|-------------------|-----------|
| 2016 (pre-decommissioning) | 1,284,850 | 9,529 |
| 2019 (pre-decommissioning) | 262,946 | |
| 2020/21 (post-decommissioning) | 43,150 | |
| | | |



Path Forward Goals: • CT EO1 Compliance Maximum Decarbonization Social Environmental Equity • Environmental Sustainability • Operational Efficiency Reduce Fuel Costs

Next Steps

- Feedback from Stakeholders
- Collaboration with DEEP and other experts

H P A

ADMIN

- Hire an experienced design team
- Budget Capital Expenses
- Finance

