Mgmt: NAI Emory Hill Real Estate Group
7250 Parkway Drive, Hanover, MD

Project: Essential FADRS® (pronounced faders)
Smart Grid Technology Showcase utilizing
patented Artificial Intelligence, Prediction &
Human Centric Technology.

Contractors:
Consolidated Energy Design (Patent Holders)
Third Party BAS Contractor (Installation)

Funding Agencies:
Maryland Energy Administration (MEA)
and C-PACE

PRE Conditions:
5 Story Tenant Occupied Office Building; 81,000 square feet
85 Water Source Heat Pumps
Gas Heat Electric Cool Make Up Air Rooftop Unit
Typical Building Automation System (BAS) for space heating/cooling.

POST Conditions:
- **Robust HVAC Controls**
- DEEP **Lighting and plug load Retrofits**
- **FADRS® Painless Demand Response®**
- **FADRS® Enhanced Building Automation System**
- **~100 Power Quality Sub Meters** (Deep granularity) + KYZ Pulse meter
- **Plug Load Controls**

ALL ECMs either overlaid on top of existing BAS or reporting to existing BAS

FULLY AUTOMATED control (No Human Intervention). Bidirectional control in real time.

Completion Date: **FADRS® Enhanced Building Automation System Performance:**
Enhanced Energy Savings from April 1, 2021 to March 31, 2022

Normalized Baseline (NBL) for HVAC, Plug Loads & Lighting = 1,528,909 KWh ($179,430)
AI Achieved Maximum HVAC Energy Savings by April 2021
      577,006 **KWh ($**67,716)   = **38%**

FADRS® Painless Demand Response® Performance:
(8/2/18 Summer Capacity Test)
172 KW down to 118 KW   = **31.4%** DR Reduction

 Curtailment Service Provider for this project and their **PJM formula Calculations
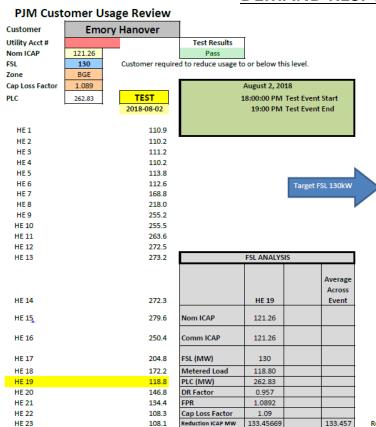are found on reverse side.**

EXHIBIT A
ELECTRIC SAVINGS AT MEA PROJECTS
Building 7250

March 2021 to April 2022	KWh (NBL)	Dollars	Dollars/SF (81,000 SF)	KWh W/FADRS®	Dollars W/FADRS®	Dollars/SF (81,000 SF)	KWh Saved	$ SAVED	% SAVED
	1,528,909	$ 179,430	$ 2.22	951,903	$ 111,714	$ 1.38	577,006	$ 67,716	38%

The system achieved average energy savings of 38% by the end of March 2022 utilizing our patented Essential FADRS® AI prediction and human-centric technology to operate the building in a more efficient manner. The AI functionality of our system learns how to improve operations and increases the annual percentage of energy savings over time.
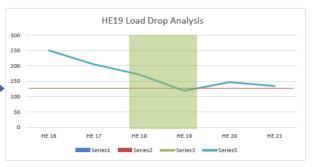
DEMAND RESPONSE TEST

PJM Customer Usage Review

Customer	Emory Hanover
Utility Acct #	
Nom ICAP	121.26
FSL	130
Zone	BGE
Cap Loss Factor	1.089
PLC	262.83

Test Results: Pass
Customer required to reduce usage to or below this level.

TEST 2018-08-02

August 2, 2018
18:00:00 PM Test Event Start
19:00 PM Test Event End

HE 1	110.9
HE 2	110.2
HE 3	111.2
HE 4	110.2
HE 5	113.8
HE 6	112.6
HE 7	168.8
HE 8	218.0
HE 9	255.2
HE 10	255.5
HE 11	263.6
HE 12	272.5
HE 13	273.2
HE 14	272.3
HE 15	279.6
HE 16	250.4
HE 17	204.8
HE 18	172.2
HE 19	118.8
HE 20	146.8
HE 21	134.4
HE 22	108.3
HE 23	108.1
HE 24	107.8

FSL ANALYSIS

	HE 19	Average Across Event
Nom ICAP	121.26	
Comm ICAP	121.26	
FSL (MW)	130	
Metered Load	118.80	
PLC (MW)	262.83	
DR Factor	0.957	
FPR	1.0892	
Cap Loss Factor	1.09	
Reduction ICAP MW	133.45669	133.457

Shortfall ICAP	-12.1967	110%
Shortfall UCAP	-13.2846	Pass

Reduction (MW) = PLC - (Metered Load * Capacity Loss Factor)

Shortfall ICAP = Committed ICAP - Reduction MW

Shortfall UCAP = Shortfall ICAP * DR Factor * Forecast Pool Requirement

IPKeys
Curtailment Service Provider for PJM

Target FSL 130kW

HE19 Load Drop Analysis

Tested HE19 kW Value	118.8
Load Reduction	53.4
Percentage of Reduction	31%