

**INNOVATION AND TECHNOLOGY COUNCIL COMMITTEE
MEETING MINUTES
TUESDAY, APRIL 23, 2019
1:30 PM
CPS ENERGY**

Members Present:	Councilmember Manny Peláez, Chair, <i>District 8</i> Committee Member DeAnne Cuellar, <i>Citizen</i> Committee Member Dirk Elmendorf, <i>Citizen</i> Committee Member Will Garrett, <i>Citizen</i>
Members Absent:	Councilmember Roberto C. Treviño, <i>District 1</i> Councilmember Rebecca Viagran, <i>District 3</i> Councilmember Shirley Gonzales, <i>District 5</i>
Staff Present:	John Peterek, <i>Assistant to the City Manager</i> ; Brian Dillard, <i>Chief Innovation Officer</i> ; Roger Gonzalez, <i>Office of the City Manager</i> ; Alicia K. Beckham, <i>Office of the City Clerk</i>
Others Present:	Cris Eugster, <i>CPS Energy</i> ; Rudy Garza, <i>CPS Energy</i> ; Dr. Michael Frye, <i>University of the Incarnate Word</i>

1. Approval of the March 26, 2019 Innovation and Technology Committee minutes.

Committee Member Garrett moved to approve the Minutes for the March 26, 2019 Innovation and Technology Committee Meeting. Committee Member Elmendorf seconded the motion. Motion carried unanimously by those present.

Councilmember Gonzales entered the meeting at this time.

2. Briefing on the collaborative partnership between CPS Energy and the University of the Incarnate Word regarding research and development of drone technology. [John Leal, Director of Government Relations, CPS Energy]

Cris Eugster provided an introduction to CPS Energy (CPS) Eastside Service Center. He stated that it was one of the largest and oldest Service Centers.

Rudy Garza acknowledged “Apprentice Class 13” for their dedication during training. He reported that the CPS Unmanned Aerial System (UAS) Pilot Program Drones had over 300 flight hours in 2018. He noted that they inspected power lines and transmission towers. He stated that the drones program was much more efficient from a safety perspective and it prevented having to send staff into hazardous circumstances as often. He also added that the drones were time efficient and cost effective. He noted the benefits that the drones provided during Overhead Inspections and Power Generation Inspection.

Mr. Garza stated that real-time assessments, coal yard volume assessments, preprogrammed autonomous flights, gas sniffer drones, Light Detection and Ranging, and infrared inspections, were future applications and technologies that CPS would apply to the UAS Program. He highlighted the partnership between CPS and the University of the Incarnate Word (UIW), where seven volunteer students were trained on Power Line Inspections.

In response to Chairperson Peláez, Mr. Garza stated there were specific drones for utility companies.

Committee Member Garrett asked if the drones would be replacing staff and utility trucks for inspections. Mr. Garza stated that the drones would not replace staff or utility trucks; he noted that it would be a partnership between the drones and the ground crew.

Dr. Michael Frye stated that the UIW “Autonomous Vehicle Systems (AVS) Lab” had partnered with CPS over the last few years and that CPS had provided research funds to the UIW “AVS Lab.” He noted that the AVS Lab had the ability to perform fully Autonomous Indoor UAS Research using the UVS Opti-Track System and had the ability to perform Semi-Autonomous Outdoor UAS Research.

Dr. Frye stated that the AVS Lab began Outdoor Flight Testing two years ago. He noted that the partnership with CPS offered UIW Students the opportunity to work with CPS Engineers, provide briefings to CPS Executives, and gain experience as an undergraduate student. He added that most of the UIW lab equipment was built by Quanser.

Dr. Frye reported that the current research interest for UIW was as follows:

- Manned-Unmanned Vehicles
- Machine Learning, Deep Learning, and Artificial Intelligence
- Reinforcement Learning (Q-Theory, etc.)
- Augmented and Virtual Reality
- Teaming and Swarming
- Biologically Inspire Algorithms
- Growing into a Research Center specializing in Autonomy

Dr. Frye showed video footage that demonstrated the drones being flown.

Chairperson Peláez asked if UIW planned on maintaining a partnership with CPS with a focus on the Unmanned Vehicles. Dr. Frye stated that the idea was to have a long term partnership in order to be able to train students in this focus area.

Committee Member Cuellar suggested that UIW partner with CPS to operate drones within dedicated white spaces. She noted that Chairperson Peláez sought ways the City could be more resilient in a natural disaster.

Committee Member Elmendorf asked how much autonomy and computer learning models were utilized in the drone versus over the network. Dr. Frye responded that most of the operational control was done centrally and that they were working with real time controls.

No action was required for Item 2.

3. Briefing on the San Antonio Fire Department Drone Program [Joseph Arrington, Public Information Officer San Antonio Fire Department]

Joseph Arrington stated that the San Antonio Fire Department (SAFD) had been in the development and implementation phase of a drone Unmanned Aerial System (UAS) program for two years. He noted that the SAFD decided to purchase the “DJI Inspire 1 Aircraft” because of the quality of the product and its ability to be utilized right off the shelf. He added that the SAFD had 2 certified pilots.

No action was required for Item 3.

4. Demonstration of the CPS Energy and the University of the Incarnate Word drone program. [John Leal, Director of Government Relations, CPS Energy]

John Leal provided the Committee with a tour of CPS Energy.

No action was required for Item 4.

Adjourn

There being no further discussion, the meeting was adjourned at 2:46 PM.

Respectfully Submitted,

Manny Peláez, Chairman

*Alicia K. Beckham,
Office of the City Clerk*