HYDROGEN & WORKFORCE DEVELOPMENT

Toolbox Tuesdays
Sustainability Program
January 19, 2021
SunLine Transit Agency was pivotal in the commercialization of zero emission technology. The Agency is an expert in the deployment of alternative fuel vehicles.
In 1994, following Board action to move to 100% alternative fuels

In 2000, Agency emerged as a hydrogen pioneer

In 2006, SunFuels was created
THE PIONEERING EFFORTS OF THE AGENCY DEVELOPED A NEW ERA FOR PUBLIC TRANSIT
TRANSITIONING TO CLEAN FUELS

1992

LESSONS LEARNED

2021
FUELING INFRASTRUCTURE

NEW METHOD

ELECTROLYZER

PREVIOUS METHOD

STEAM REFORMER
HYDROGEN FUELING STATION

- 900 Kg per day production
- 380 Kg use per day
- 2 dispenser fast fill rate
- $8.7 Million CARB Grant
STATION LESSONS LEARNED

- Ensuring utilities were able to support project
- Ensuring we have personnel with the right credentials to execute the project
- Correctly estimating the amount of civil work involved
- Establishing a performance based statement of work
SunLine is looking to expand its fueling systems with the creation of a micro-grid:

- **Phase 1 – Solar Farm**
- **Phase 2 – Solar to Hydrogen for Electricity Storage**
- **Phase 3 – 700 Bar Public Fueling Station**
- **Phase 4 – Hydrogen / Electricity Truck Plaza**
Innovative Clean Transit (ICT) requires all public transit agencies to gradually transition to a 100 percent zero-emission bus fleet.

Advanced Clean Truck (ACT) accelerates a large-scale transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8.
SunLine submitted plan to California Air Resources Board 3 years ahead of deadline.

**VISION** SunLine will be the first transit agency in the state/country to transition fleet to 100% zero-emission vehicles.

- **H2 INFRASTRUCTURE**
- **BEB INFRASTRUCTURE**
SunLine’s is poised to lead the country in fuel cell electric bus (FCEB) and battery electric bus (BEB) deployments and demonstrate the effectiveness of a zero-emission fleet.
SunLine Transit Agency recognized that there were limited resources for agencies and their pursuit of zero emission technology.
FOR EVERY INVESTMENT IN TECHNOLOGY, THERE SHOULD BE A FOCUSED INVESTMENT IN TRAINING
PROVIDE A TRANSITION PATHWAY FOR CURRENT EMPLOYEES

ATTRACT THE NEXT GENERATION OF TECHNOLOGY TECHNICIANS
THE FACILITY WILL BE LOCATED AT OUR HEADQUARTERS IN THOUSAND PALMS, CA
Facilitated multiple workshops with public agencies and Original Equipment Manufacturers (OEMs) to document needs and build curriculum.
Completed Training Modules:

- Advanced Technology Technician Training
- Procurement Insights for ZEB purchases
- Planning and executing ZEBs in service
- Leadership, mission, value creation for a successful ZEB Program
The maintenance bay will have space for heavy duty trucks and other zero emission machinery, beyond transit vehicles.
FUNDING FOR BUILDING

Federal Transit Administration funded the physical building

IN-KIND MATCH

OEMs have committed to providing equipment

FUNDING FOR OPERATING

SEEKING OPERATING FUNDS
Original Equipment Manufacturers have been at the table engaging in discussions and helping build curriculum since the start.

The goal is for agencies to be trained for successful deployment.
ADVISORY BOARD
• Help identify new training programs and opportunities
• Create industry certified training programs and coursework to ensure the material and training meet the needs of the operators and manufacturers
• Advance the industry influence of the Board and training materials
• Build collaborations that will leverage the agreed to training programs and coursework
• Help secure funding for Board initiatives and programs
The structure and curriculum could be used for widespread deployment.

We typically don’t invest in training and skills for personnel – that needs to change.
IMPORTANCE OF FUNDING

Need to simplify and streamline direct funding for training or re-training of the workforce
CLOSING THOUGHTS

SunLine has put in their own resources because they understand the importance of this facility and the training.

Investment in WCCOE for workforce development supports the state’s goals and mandated conformity.
Thank you for attending!

The recording and slides will be posted to SCAG’s Toolbox Tuesday site.

https://scag.ca.gov/toolbox-tuesday

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