

**DOCKETED**

<b>Docket Number:</b>	23-FDAS-01
<b>Project Title:</b>	Pool Controls Rulemaking
<b>TN #:</b>	251157
<b>Document Title:</b>	e-Radio USA comments for Pool Pump Draft Regs
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	e-Radio
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	7/24/2023 2:19:14 PM
<b>Docketed Date:</b>	7/24/2023

*Comment Received From: Jackson Wang  
Submitted On: 7/24/2023  
Docket Number: 23-FDAS-01*

**e-Radio USA comments for Pool Pump Draft Regs**

*Additional submitted attachment is included below.*



July 20, 2023

California Energy Commission  
Dockets Office,  
Re: Docket # 23-FDAS-01  
1516 Ninth Street  
Sacramento, CA 95814

Regarding: Request for Comments on California Energy Commission's Flexible Demand Appliance Standards [Docket Number 23-FDAS-01]

e-Radio USA, Inc. (e-Radio) supports and appreciates the work being performed by the California Energy Commission (CEC) and the opportunity to provide comments on the 15 day draft of Pool Controls Rulemaking.

e-Radio is a communications technology company specializing in broadcast-based systems. We are pleased to have the opportunity to share our decades of work related to flexible demand appliances and to comment on the FDAS draft language via the 23-FDAS-01 docket.

We believe the comments included in this submission are consistent with our previous FDAS comments (20-FDAS-01) and works dating back to 2006-2008 Load Management enabling technology communications workshops under the supervision of then Commissioner Arthur Rosenfeld.

We are pleased to see pool pump FDAS language regarding the optional inclusion of FM technology to 2026 and mandate beginning in 2027.

This approach is consistent with Title 24 PCT language from 2007, which enacted would have provided California with GWs of flexible loads desired today.

Beginning at around 2010, e-Radio supported the initiative by EPRI to create a plug and play standard for appliances communication. Our early design of this concept won a 2015 CES "Technology for a Better world" award and was first to achieve ECOPORT certification for our Universal Communication Modules. We believe then and now CTA-2045 can greatly facilitate device manufacturers, technology providers and systems integrators to literally "plug in" various communication technologies to enabled flexible demand appliances.

In some devices such as the EV, the FM (RDS-HD) receiver is already integrated in most brands/models as it already pass data to the in vehicle data bus (CAN etc.) for screen display etc., the databus is also already connected to the charge controller. Therefore, In most if not all cases, software only modifications are needed for FM enabled flexible demand responsive charging. We published an IEEE paper with a major EV OEM on this concept in 2012.

We understand such an approach is being considered in other jurisdictions such as the EU with a view towards UN adoption.

We believe technical standards institutions such as ISO and the IEC have a place to help propagate this solution in response to a common global problem.

As most of the radio broadcast infrastructure already exists, we believe the California statewide network of FM radio stations can provide coverage greater than 95/95 (%population/%operations) specifications can be built in as little time as 6 months. As there are well over 1000 FM stations currently operating in California, < 10% participation of local stations is needed to meet 95/95.

The combination of a low-cost radio receiver chip, which due to “software defined radio” or SDR technique is relatively simple and flexible to deploy and leverages an existing California statewide RDS/HD transmitter network promises a low if not the lowest possible overall capital and operating costs to achieve greater than 95/95 real world population coverage.

FM radio technology has been proven in multiple field studies in California and other states and countries over the past 2 decades. For example the BPA 2008 Water Heater project, which the positive results from the FM-IP (FM broadcast – IP device reporting) hybrid field tests led to the mandate of CTA-2045 communication specifications for water heaters sold in Washington and Oregon states today.

FM broadcasting is inherently equitable as everyone and everything could receive authenticated info for free. We believe there is an opportunity to create a corporate entity such that public interests are inherently aligned and protected via corporate governance as transparency and accountability would be built in, while flexible enough to enable investments to form effective Private-Public-Partnerships.

We also foresee such an entity to provide technical guidance and assistance to various device OEMs, systems integrators and with resources to assist other jurisdictions rollout their markets such that emissions are reduced and the integration of renewables is fast tracked everywhere.

In conclusion, there are no borders to GHG and we are all in this together. But California as a world leader in green technology can use its unique position to lead by example for the world.

Thank you for your consideration.

Jackson Wang, P.Eng.

CTO

e-Radio USA, Inc.

[www.e-radioinc.com](http://www.e-radioinc.com)