OCTA

September 20, 2018

To: Legislative and Communications Committee

From: Darrell Johnson, Chief Executive Officer

Subject: Proposed Innovative Clean Transit Regulation

Overview

An overview is provided of a proposed regulation by the California Air Resources Board to require the use of zero-emission buses.

Recommendation

Receive and file as an information item.

Discussion

Innovative Clean Transit Regulatory Proposal

In 2000, the California Air Resources Board (ARB) first issued the fleet rules for transit agencies, mandating large transit agencies with over 200 buses to reduce overall nitrous oxides (NOx) and particulate matter (PM) emissions based on two different fuel paths: the alternative fuel path or the diesel fuel path. Those agencies choosing the alternative fuel path were required to begin converting their fleets to non-diesel fuels, including natural gas, hybrid, hydrogen, or electric, while also reducing overall NOx and PM emissions. Those on the diesel fuel path were not required to purchase alternative fueled buses, but were subject to more accelerated NOx and PM emission reduction standards and were subject to implementation of zero-emission bus (ZEB) pilot programs. In the Southern California region, the South Coast Air Quality Management District opted to have all transit agencies within their jurisdiction proceed under the alternative fuel path, including the Orange County Transportation Authority (OCTA).

Also put in place under the initial ARB regulations was a purchase requirement for ZEBs, which mandated those transit agencies following the alternative fuel path to have 15 percent of their purchase and lease agreements be ZEB starting in 2012. This same requirement applied to those agencies opting for the diesel fuel path starting in 2011. However, in July 2009, the ARB deferred the ZEB purchase requirement with a recommendation to first establish technology performance metrics that could be used to assess the commercial readiness and trigger a future purchase requirement. This deferral largely resulted from the advocacy of the California Transit Association (CTA) and its member agencies, including OCTA, who pointed to the lack of technological readiness in broader use, and no identified funding resources at a time where transit agencies were already taking action to cut services and increase fares due to state funding cuts.

Since that time, discussions continued between ARB staff, transit agencies, technology manufacturers, and other stakeholders regarding the appropriate metrics and path forward that would provide broader integration of ZEBs. Working with the CTA, OCTA and other transit agencies advocated for a performance-based approach which focuses on actual emission reductions, while also considering funding availability, cost efficiency, and the potential for further technology demonstrations. This approach would also clearly allow for transit agencies to opt out of any requirements due to financial hardship, or if the technology was not performing as needed.

However, in December 2017, ARB released the Innovative Clean Transit (ICT) Regulation Discussion Document (ICT Discussion Document), which focused largely on purchase requirements. The ICT Discussion Document included expedited ZEB purchase requirements on all transit agencies within the state, with the goal of achieving fully zero-emission fleets by 2040. While previous iterations of a ZEB purchase requirement were limited to larger urban buses, the ICT Discussion Document applied requirements to all transit buses, including those used for paratransit service. These requirements were directed at all transit agencies, regardless of size, and all transit buses, including cutaways. The ICT Discussion Document included the following requirements for transit agencies:

- An accelerating ZEB purchase requirement which takes effect in 2020 for larger fleets with over 100 buses, requiring 25 percent of any bus purchase be ZEB. By 2029, a 100 percent purchase requirement would apply to all fleets.
- Large transit agencies with 100 or more buses would be required to purchase renewable fuels when diesel or natural gas contracts are renewed.
- Include low NOx engines when new bus purchases are made, if available in areas that do not meet federal NOx air quality standards.

The ICT Discussion Document also included no provisions which allowed transit agencies to postpone these requirements if it presented a financial hardship to the agency, which would result in service reductions. It also did not explicitly require a technology review prior to the purchase requirements. OCTA submitted the attached comment letter on January 22, 2018, in response to the

ICT Discussion Document, noting the concerns with the proposal, including cost issues and technology reliability (Attachment A). A second letter was again sent on May 14, 2018, reiterating many of these concerns as ARB sought additional comment on potential edits to the proposal (Attachment B).

After multiple workshops and discussions related to the ICT Discussion Document, in August 2018, the ARB released the Proposed ICT Regulation. While the Proposed ICT Regulation does include several improvements from the ICT Discussion Document, there are still areas of concern shared by OCTA and transit agencies statewide. A complete summary of the Proposed ICT Regulation is included as Attachment C. In its current form, there are several requirements that large transit agencies would have to follow, including:

- By July 1, 2020, submit a Board of Directors-adopted plan for converting an agency's fleet to 100 percent zero-emission buses by 2040.
- Abide by purchase requirements starting in 2023. In 2023, the requirement would be 25 percent, in 2026 it would be raised to 50 percent, and 100 percent would be required in 2029 and after. The 2023 requirement could be delayed by up to two years if statewide purchase targets are reached.
- The phasing in of cutaway buses and articulated buses starting in 2026, or when the buses complete federally required testing.
- Starting on January 1, 2020, the purchase of renewable fuel when renewing fuel contracts.
- Starting on January 1, 2020, the purchase of low NOx engines, when a new bus is purchased.
- Annual reporting requirements of compliance with the above.

The Proposed ICT Regulation also includes scenarios where an agency can request an extension or exemption from the purchase mandates. This includes an extension in meeting the requirements when there is a delay in the delivery of a bus or associated infrastructure beyond the control of the transit agency. In addition, an exemption from the purchase requirements may be allowed if the purchase of a ZEB cannot be purchased by a transit agency due to financial hardship. In the latter scenario, the transit agency's Board of Directors would have to adopt a resolution of fiscal emergency. There are also provisions included within the Proposed ICT Regulation which allow for early action credit, a multi-agency joint ZEB compliance option, and a zero-emission mobility option where a transit agency can receive credit through a zero-emission mobility service provided through bicycles or zero-emission vehicles.

Overall, the ARB has made several improvements in the latest iteration, including delaying the initial purchase requirement, providing for a statewide target option in lieu of the initial purchase requirement, and allowing for an expanded scope of situations where a transit agency can request an extension or exemption from the requirements. However, there are still several shortcomings in the proposal, including:

- The lack of a regulatory requirement for ARB to analyze certain benchmarks related to the costs and technology reliability prior to implementing a purchase requirement. This is the only way to ensure the technology is meeting the progress necessary to justify large-scale purchases.
- Inability to access incentive funding after purchase requirements are in place. OCTA has worked with CTA and other transit agencies to pursue legislation to allow for such flexibility, but was not successful due to opposition from environmental groups. The ARB, however, can still pursue flexibility for certain fund sources through the regulation.
- The absence of situations in which the regulation would be placed automatically on hold in cases of extreme financial emergencies, such as if state funding was eliminated or federal funding was not renewed.
- No requirement for ARB to identify the additional funding needed to support the requirements put in place by the regulation. In the current economic analysis supporting the proposal, ARB continues to assert that the regulation will lead to an overall cost savings over the long-term. However, the assumptions to get to this conclusion do not factor in agency-specific needs, including for agencies such as OCTA who have longer average range requirements for their fleets. To meet longer ranges, hydrogen fuel cell buses are often needed, which cost almost double an existing natural gas bus. These assumptions also only identify existing transit fund sources, which would require transit agencies to redirect funding that agencies already use for operations purposes.

OCTA has made significant steps towards the integration of new technology within its transit fleet, including the purchase of fifteen hydrogen buses and associated fueling infrastructure, addition of low NOx engines on over 100 buses by the end of 2018, and conversion to renewable natural gas for the entire active fixed-route fleet. In addition, OCTA has recently sought funding opportunities to integrate battery electric buses into its fleet, seeking additional methods to test the technology and determine its appropriate use within OCTA's transit system. Despite this progress, the ICT seeks to further accelerate the adoption of this technology.

If the ARB adopts the Proposed ICT Regulation, it would create financial implications for OCTA's transit system if no additional funding is identified. It is currently expected that OCTA will proceed with its next large transit bus procurement after 2020, subjecting the procurement to the new purchase requirements. It is expected that almost 300 buses will be procured at that time. If the ZEB purchase requirement is in place, this could increase procurement costs by as much as $114 million. Overall, to replace our entire fleet with ZEBs, including paratransit, it would cost at least an additional $442 million in current dollars, more than double what it would cost to replace the fleet with traditional fuel vehicles. These estimates assume that there would need to be an expansion of the fleet by about 40 percent due to range limitations with existing ZEBs; however, these estimates do not include the costs of infrastructure and potential for increased fueling costs. This would significantly impact OCTA's ability to maintain existing services and could result in a service reduction of over 20 percent if the additional funding was not identified. Furthermore, there are several technology challenges that continue to exist for ZEBs, including the inability to meet existing transit bus range requirements, potential bus axle weight issues, lack of commercially available ZEBs to replace paratransit vehicles, and no guarantee that existing technology will meet necessary warranties to fulfill federal useful life requirements.

OCTA is currently working with the CTA and other transit stakeholders to respond to the ICT proposal, noting the inaccuracies included in the proposal and impacts to transit systems if enacted. The ARB will have an initial hearing on the regulatory proposal at its September 27, 2018, board meeting, with adoption planned for December 2018.

Summary

An update is provided on a regulation related to zero-emission buses.

Attachments

A. Letter from Darrell E. Johnson, Chief Executive Officer, Orange County Transportation Authority, to Ms. Mary Nichols, dated January 22, 2018, Comments on Innovative Clean Transit Regulation Discussion Document
B. Letter from Darrell E. Johnson, Chief Executive Officer, Orange County Transportation Authority, to Ms. Mary Nichols, dated May 14, 2018, Update on Innovative Clean Transit Discussion Document
C. California Air Resources Board: Innovative Clean Transit Regulation Summary

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