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## FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

### USE OF CUSTOMER-OWNED DIESEL-FUELED GENERATION IN DEMAND RESPONSE PROGRAMS

Several participants in TVA demand response programs own and operate diesel-fueled generators for backup power during demand response events, when the program participants are required to reduce their use of TVA-supplied electricity by a pre-determined amount. Due to limits that TVA imposed on the use of diesel-fueled generators several years ago because of air quality concerns, the ability of demand response program participants to use backup diesel-fueled generators will soon end.

The U.S. Environmental Protection Agency (USEPA) has recently imposed more stringent standards for the emission of air pollutants by the types of diesel generators used during demand response events. Diesel-fueled generators will be required to meet USEPA's compression ignition engine / reciprocating internal combustion engine emission standards for non-emergency operation and have the associated emissions permit issued under the Clean Air Act.

In response to these recent changes in emission standards and the continued interest by demand response participants, TVA proposes to authorize the use of customer-owned diesel-fueled generators with the appropriate non-emergency use permit to provide backup generation during reliability-based (5 MR, 60 MR, and IP5) demand response events. TVA also proposes to allow participants in the reliability- and economic-based (IP30 and RP) programs to utilize customer-owned diesel-fueled generators with the appropriate emissions permit during demand response events.

The proposed action is the subject of an environmental assessment (EA) prepared by TVA. The EA is incorporated by reference. TVA evaluated the potential environmental impacts of the proposed action and of taking no action. Under the No Action Alternative, demand response program participants with qualifying diesel generators would continue to operate the diesel generators during demand response events for the remainder of their current contracts with TVA, as well as at other times such as power outages. Following the expiration of the current TVA contracts, demand response participants would no longer operate diesel-fueled generator sets during demand response events.

Under the Proposed Action Alternative, any replacements or upgrades of existing generators, changes in their operations, or the unlikely installation of new generators resulting from the proposed action are unlikely to affect biological resources including endangered and threatened species and wetlands, water resources, geology and soils, land use, floodplains, visual resources, historic properties, transportation, and recreation. The Proposed Action would have a very small beneficial effect on socioeconomics through the slight lowering of the cost of generating electricity at peak demand times. Some of the current and future demand response participants with diesel generators are or likely would be located in areas with high proportions of minority and/or low-income residents. Based on the environmental consequences described below, the operation of diesel-fueled generators during demand-response events is unlikely to result in disproportionately adverse effects to minority or low income residents, and the Proposed Action Alternative would not have disproportionate impacts on minority and/or low

income populations. Adopting the Proposed Action has potential to affect air quality, greenhouse gas emissions and climate change, and ambient noise levels.

Air quality in the TVA power service area is generally very good. The entire TVA region is currently in attainment with the National Ambient Air Quality Standards (NAAQS) for carbon monoxide, nitrogen oxides, PM<sub>10</sub> particulate matter, and lead. Except for a few counties primarily in urban areas, all areas of the region are currently also in attainment with the NAAQS for ozone, sulfur dioxide and particulate matter.

Under the Proposed Action, with the projected near-term demand-response diesel generation capacity of 56 MW, new or modified diesel-fueled generator sets would produce less emissions compared to historical diesel-engine generators due to the more stringent diesel-engine emission standards. Over the longer term, TVA proposes to increase the demand response program capacity by up to 50 percent, and assumes 87 megawatts (MWs) of participant-owned diesel-fueled generating capacity would provide up to 1,536 megawatt hours (MWh) of diesel-fueled generation annually.

All participants in TVA's demand response programs will meet the stringent requirements provided in USEPA's Standards of Performance for (new) Stationary Compression Ignition Engines and / or National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines. Additionally, new or reconstructed diesel engine generators greater than 500 horsepower located at major sources of hazardous air pollutants (HAPs) must meet the following National Emission Standards for Hazardous Air Pollutants (NESHAP) standards. With the projected near-term demand-response diesel generation capacity of 56 MW, new or modified diesel-fueled generator sets would produce less emissions compared to historical diesel-engine generators due to the more stringent diesel-engine emission standards. However, there would be a slight increase in emissions compared to the No Action Alternative. Projected annual emissions from the Proposed Action Alternative would be less than 0.7 percent of total man-made emissions in Tennessee. Anticipated emission increases from diesel-fueled generators for the maximum program expansion would also have a negligible impact on ozone and particulate levels in the eastern U.S. region. Based on these analyses, the emissions of air pollutants under the Proposed Action Alternative for both the near-term and at the maximum currently planned program expansion are not expected to have an adverse impact on air quality.

Diesel-fueled generator sets of the type operated by demand response program participants would emit CO<sub>2</sub> and small quantities of emissions of other greenhouse gasses (GHGs; methane and nitrous oxide), which would result in a slightly higher overall GHG emission rate when expressed as CO<sub>2</sub> equivalents. Under the Proposed Action Alternative, GHG emissions would initially decrease as some current participants have indicated they do not intend to modify or replace their generator sets to meet the new EPA standards. This decrease would be at least partially offset by the use of diesel-fueled generators during demand response events by participants in the reliability- and economic-based programs. However, at the currently proposed maximum demand response capacity increase of 50 percent, the CO<sub>2</sub> emissions from diesel-fueled generators operated during demand response events would comprise about 0.003 percent of the projected TVA power system emissions of 49 million tons of CO<sub>2</sub> in 2033. The increased emissions of CO<sub>2</sub> and other GHGs from the continued and expanded operation of diesel-fueled generators during demand response events would have an imperceptible effect on TVA's long-term projected decrease in GHG emissions and the environmental impacts of those emissions.


Use of diesel-fueled generators during demand response events may cause noise. The existing diesel generators are assumed to meet all applicable noise ordinances and regulations and their use during demand response events would have insignificant effects on local ambient noise levels. Because generators currently in the program or entering the program in the future would have been installed primarily for purposes other than use during demand response events, the maximum program expansion projected under the Proposed Action Alternative would result in increased operating hours of existing diesel generators and not result in new noise sources. Therefore, implementing the Proposed Action would not substantially change ambient noise levels.

**Mitigation**

TVA has not identified the need for any measures necessary to further reduce environmental effects of the proposed action.

**Conclusion and Findings**

Based on the findings listed above and the analyses in the EA, we conclude that the proposed action of authorizing the use of customer-owned diesel-fueled generators with the appropriate non-emergency use permit to provide backup generation during reliability-based (5 MR, 60 MR, and IP5) and reliability- and economic-based (IP30 and RP) programs to utilize customer-owned diesel-fueled generators with the appropriate emissions permit during demand response events would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.

  
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2/13/17  
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Date Signed

