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CTC Global Comments on 2017 IEPR Scoping Order

Additional submitted attachment is included below.

CTC GLOBAL

January 25, 2017

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Docket No. 17-IEPR-01 Scoping Plan

Dear Commissioner Weisenmiller,

CTC Global (CTC), a California company headquartered in Irvine, California appreciates the opportunity to comment on this 2017 IEPR Scoping Plan. We want to request a workshop as part of the IRP or Strategic Transmission Plan proceedings to raise awareness of available and emerging technologies whose use can improve transmission efficiency and capacity. CTC would especially focus the Commission's attention on an area that is "overlooked", but could provide a substantial contribution to the State's goals for CO^2 reduction and the need to connect large amounts of Renewable Energy to the electric system. There is a commercially available class of High Performance Transmission Conductors (HPTC) that when deployed could substantially reduce the transmission and distribution losses while enabling a significant increase in transmission capacity…in existing right-of-ways. And there are some other technologies that can also could improve electric system performance in ways that increase capacity and reliability. A workshop focused on this area could highlight the impact on Green House Gases (GHG) reduction, capacity increase for added Renewable Energy (RE) plants, and for system resilience and reliability.

Energy Efficiency, Added Capacity and Resilience in Existing Right-of-Way

Billions of dollars have been spent on improving thermal efficiency of power plants and creating new technologies in power generation. Billions of dollars have been spent on improving efficiency and creating new, high efficiency products for end-uses. But, the electricity moves from generator to consumers over inefficient, old conductor technology. There are modern High Performance Transmission Conductors (HPTC) commercially available that can improve the efficiency and capacity of the transmission & distribution (T&D) system. Using a HTPC such as ACCC$^{@}$, the losses on the existing California T&D system could be reduced by 30% or more through a reconductoring effort in existing right-of-ways using existing towers: replacing old transmission conductor technology with the same diameter and weight of modern, high-efficiency conductors. Such a reconductoring effort would bring lower energy costs to all consumers and would reduce California's CO^2 emissions by 1-2 million tons per year (as well as lowering other air emissions and reducing water consumption at thermal power plants). Energy efficiency is the preferred action in the loading order to meet growing energy needs. This should

include the increased efficiency of the T&D system that makes more energy available by reducing its waste in T&D losses.

The modern HPTC also bring increased capacity on those same reconductored ROW corridors. Generally, products in this class of transmission conductor can move 2 times the amperage of the old conductor it replaces without line sag violations or failures. This adds substantially improved resiliency to a system that is expected to have dramatically changing load flows as old thermal plants are closed down and many more renewable power plants (in other locations) are brought online. This adds increased confidence that unexpected load flow changes or electric system upsets can be accommodated by the reconductored lines without service interruptions.

Energy Efficiency, Added Capacity, and Lower Costs for New Right-of-Way

Some new transmission lines will be necessary, whether for "feeder" lines to connect new renewable power plants to the grid or for major pathway upgrades for importing or delivering renewable energy. For upgraded power-line ROW and new connector or corridor ROW, the products in the HTPC class of conductors are more efficient (delivers more renewable energy) and add greater capacity (and greater resiliency) for each of these applications. And, generally for the conductors in the HTPC class, there is the potential for significantly lower installed and life-cycle costs than using old conductor technology.

Recommended Commission Action

As part of the SB 350 implementation and IRP proceeding or the Strategic Transmission Plan proceeding, hold a workshop focused on wire and non-wire technologies that can improve electric system efficiency, capacity, and resiliency. These technologies are often "overlooked" and can be an effective and certain means to reduce GHG emissions and help meet California's GHG emission reduction targets.

CTC Global thanks the Commissioner for the opportunity to offer comments on the 2017 IEPR plans.

Thank-you,

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