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Comments on RETI 2.0 Transmission Technical Input Group Meeting (June 9, 2016)

Additional submitted attachment is included below.

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Date: June 23, 2016

Subject: Comments on Renewable Energy Transmission Initiative 2.0 Transmission Technical Input Group Meeting (June 9, 2016)

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Introduction and Summary

The Defenders of Wildlife, The Nature Conservancy, and the Sierra Club ("Conservation Parties") respectfully submit these comments on the Renewable Energy Transmission Initiative (RETI) 2.0 Transmission Technical Input Group (TTIG) Meeting, held on June 9th, 2016.

We strongly support the ongoing work of the California Governor's Office, California Natural Resources Agency (CNRA), the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), the California Independent System Operator (CAISO), and the Bureau of Land Management (BLM) to align renewable energy development and transmission planning with natural resource protection. RETI 2.0 presents an opportunity to coordinate these processes through the Data Basin platform in support of a sustainable, low carbon energy future.

Defenders of Wildlife, The Nature Conservancy, Sierra Club
June 23, 2016

Achieving a low carbon energy future is critical for California – for our economy, our communities and the environment. Key to this future is not only rapidly decarbonizing the energy and transportation sectors, but also protecting and managing the natural and working lands that provide for conservation of species and habitat along with important co-benefits such as sequestering carbon and protecting water quality and supply.

An overview summary of topics covered in our comments is listed here for convenience:

1. Available Transmission Capacity
2. Methodology for selecting Transmission Assessment Focus Areas (TAFAs)
3. Account for new generation and transmission facilities
4. Transmission Technical Input Group (TTIG) work products needed in order to address environmental and land use implications of new conceptual transmission
5. Available transmission in Riverside East and Palm Springs
6. Out Of State Data
7. Incorporate utility Distribution Resources Plan (DRP) data in TAFA selection and analysis
8. Total capacity additions being considered for the TAFAs are too high
9. Stakeholder questions for upcoming Western Interstate Energy Board (WIEB) meeting

Our comments and recommendations follow.

1. **Available Transmission Capacity**. The Conservation Parties have reviewed the updated amounts of available transmission capacity, in order to provide comments on specific areas of interest which emerged from this meeting.

   CAISO[1] reports that on a statewide basis, existing and approved transmission facilities have sufficient available capacity to support the 50% RPS[2] by 2030 under the Energy Only scenario (this scenario includes both Energy Only and Fully Deliverable resources), but not so for the scenario where all new renewable resources are required

[1] California Independent System Operator
[2] Renewable Portfolio Standard

to achieve Full Deliverability. The CPUC[3] included an evaluation of Energy Only transmission capacity in the June 9th Transmission Technical Input Group (TTIG) presentation materials[4] for several reasons, including the lower cost associated with transmission upgrades needed under the Energy Only transmission scenario.

The Energy Only (EO) scenario entails variability in megawatt-hour (MWh) generation delivered from individual projects but does not require each project to be responsible for the cost of transmission upgrades to deliver all of its own energy. The Fully Deliverable (FD) scenario ensures full MWh delivery to load from new renewable projects, but it requires the renewable project developers to bear the up-front cost and schedule risk of lengthy transmission upgrade processes.

Below is a table showing available capacity on existing and planned transmission facilities under each scenario. This is a snapshot in time, dated January 2016, showing remaining available capacity after all projects came online in January 2016[5]

Table 1 Available Capacity on Existing and Planned Transmission Facilities

Geographic Transmission Area	Energy Only Scenario (MW)	Fully Deliverable Scenario (MW)	Notes
Imperial Valley	1,849	523	
Riverside East and Palm Springs	4,754	2,450	
Mountain Pass and Eldorado	2,735	535	

[3] California Public Utilities Commission

[4] http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN211760_20160609T082622_Revised_presentation_by_Neil_Millar_6916.pdf

[5] http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN211308_20160429T144404_5216_Presentation_by_Neil_Millar.pdf) http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN211760_20160609T082622_Revised_presentation_by_Neil_Millar_6916.pdf)

Geographic Transmission Area	Energy Only Scenario (MW)	Fully Deliverable Scenario (MW)	Notes
Kramer and Inyokern	412	0	
Tehachapi	3,794	2,628	
Greater Carrizo	590	0	
Westlands	2,121	823	Westlands reports 6,500 MW of existing and planned solar projects in District[6]
Solano	879	0	
Central Valley North and Los Banos	1,889	Unknown	Little/no commercial interest
Sacramento River	2,099	36	
Lassen and Round Mountain	1,250	Unknown	Little/no commercial interest
Total	**22,372**	**6,995**	

Because the areas with high available capacity (Tehachapi, Riverside East and Palm Springs, Westlands, Mountain Pass and Eldorado and Imperial Valley) are likely to have high commercial interest, they may also qualify for high priority evaluation by the

[6] http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN210903_20160330T140735_Daniel_Kim_Comments_WSP_comments_to_RETI_20_plenary_group_meeti.pdf
http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN210903_20160330T140735_Daniel_Kim_Comments_WSP_comments_to_RETI_20_plenary_group_meeti.pdf

Environmental and Land Use Technical Group (ELUTG) to identify areas of low environmental conflict. All have had considerable environmental analysis completed through the Desert Renewable Energy Conservation Plan (DRECP) and San Joaquin Valley Least Conflict Solar Study (LCSS), resulting in the identification of least conflict areas for the siting of renewable energy projects. Of these areas, we would prioritize Westlands and Imperial Valley.

The Westlands area should be a high priority for evaluation for potential transmission upgrades. The Westlands Zone appears to have more commercial interest than available transmission capacity (6,500 MW of existing and planned projects,[7] compared to 2,100 MW maximum available transmission capacity[8]). Westlands has already been identified as a high priority region because of its environmental benefits, and considerable environmental analysis has been completed for this area, through the San Joaquin Least Conflict Solar Study. [9] We recommend that any planned new construction (for generation or transmission facilities) in this area should incorporate best available environmental and land use information, including the San Joaquin Valley Least Conflict Solar Study and Smart from the Start[10] principles.

If more Energy Only development is to occur, then different transmission areas may have greater commercial interest. In this case, Sacramento River, and Central Valley North and Los Banos, which have high levels of Energy Only capacity available, could become more viable. The Imperial Valley, which is attractive in a Fully Deliverable scenario, has even more availability when considering Energy Only. The Imperial Valley has been extensively studied for renewable energy and land use, and has multiple areas identified for solar and geothermal.

Sacramento River Valley has been selected as a focus area for the environmental profile tool development by Conservation Biology Institute. However, this area has also been flagged as having potentially high conflicts for wind energy because of the high value for

[7] http://www.energy.ca.gov/maps/renewable/renewable_development.html
[8] http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN211760_20160609T082622_Revised_presentation_by_Neil_Millar_6916.pdf
[9] http://consbio.org/products/reports/path-forward-identifying-least-conflict-solar-pv-development-californias-san-joaquin-valley
[10] http://www.defenders.org/sites/default/files/publications/smartfromthestartreport12_print.pdf

avian resources. We look forward to the release of the CEC and Conservation Biology Institute's environmental profile tool which will make more detailed environmental and land use data for the Sacramento River Valley Super Competitive Renewable Energy Zone (CREZ) available (work starting in July). The RETI informational study and other energy and transmission planning processes should wait for the outcomes of the Conservation Biology Institute's Sacramento Valley study prior to looking at this area.

Other Transmission Assessment Focal Areas (TAFAs) discussed in the June 9th meeting have very limited information available, for example Modoc/Lassen. These areas are also thought to have high environmental conflicts. We recommend waiting until more robust environmental and land use studies have been completed, before RETI 2.0 studies, or energy and transmission planning processes begin to consider infrastructure investment planning decisions in these regions.

2. **Document methodology for selecting TAFAs.** We are not aware of detailed publicly available documentation of the methodology that was used for selecting TAFAs, or the methodology for quantifying the resource potential for each TAFA. It can be seen for example that the TTIG was asked to consider 4500 MW of solar development for the Tehachapi zone,[11] but it is not clear how it was determined that 4500 MW is the right amount.

   In order to meaningfully participate and provide the most useful comments, we respectfully request documentation of the underlying methodology and data sources driving the estimates of TAFA study ranges of new capacity (MW). We would like to confirm that the methodology is based on the best and most up-to-date available data, including the 2016 CAISO queue data.

3. **Account for new generation and transmission facilities**. At the TTIG workshop on June 9th stakeholders verbally requested that TTIG use the most recent information on permitted and planned generation and transmission facilities available since January 2016 in their analysis. Environmental groups requested in written comments that RETI

[11] http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN211760_20160609T082622_Revised_presentation_by_Neil_Millar_6916.pdf slide 16

2.0 process use the most recent version of the RPS Calculator. RPS Calculator v 6.2 incorporates recent information on permitted and constructed facilities. The TTIG should explain to stakeholder groups whether they are using the same project list as used in the RPS Calculator, or different data. Whatever data has been selected should be provided to the Environmental Land Use Technical Group (ELUTG) and made available to stakeholders by a specific date, prior to the next Environmental and Land Use Technical Group meeting. In particular it would be helpful to see the 2016 CAISO interconnection queue Super CREZ assignments. Updating the analysis with this information will ensure a more accurate assessment of the adequacy of existing transmission in response to added generation in various transmission planning areas. It will also allow stakeholders to check for consistency of development patterns with landscape intactness and conservation value information in specific locations.

4. **TTIG work products needed to address environmental and land use implications of new conceptual transmission**. We recommend an interactive map based on geographic information systems (GIS) data be provided in Data Basin that shows the location of new and proposed transmission lines and all existing and new (permitted and planned) generation facilities. It is difficult to provide meaningful comments without a single coherent map showing all relevant information. Upon review of the RETI 2.0 Gateway on Data Basin, it was noted that the CPUC project list (PPAs listed in the RPS calculator) is missing from the project datasets shown on the map. Another important data layer to be added to the map is information from the BLM Westwide Energy Corridors study.[12]

5. **Available transmission in the Riverside East and Palm Springs area**. According to our review, new permitted and planned solar energy projects in the Riverside East Zone will generate up to 3,370 MW which will utilize recently constructed substations and the upgraded Colorado River to Devers transmission line. Available capacity on this transmission system is 4,754 MW (Energy Only) and 2,450 MW (Fully Deliverable). TTIG identified new hypothetical generation in this Zone at 4000 MW from solar and 1000 MW from wind. Given that the only new and proposed generation facilities in this

[12] http://corridoreis.anl.gov/

zone are solar, and that more solar generation facilities are likely in the future, we recommend that the location and plausibility of wind energy generation projections of 1000 MW be reviewed/confirmed/justified. Additionally, the Conservation Parties continue to have concerns about environmental conflicts of siting renewable energy projects in the Riverside East's microphyll woodlands which are utilized for avian migration.

6. **Out of State Data** Some studies and some RPS calculator scenarios indicate that some wind resources procured to meet a 50 percent RPS target would come from out of state. It should be confirmed that the environmental and land use screens underlying these wind resource zones as characterized in the RPS calculator and in the Data Basin RETI 2.0 Gateway are up-to-date, and that out of state land use screens are based on a methodology that is consistent with the most recent land use screen updates performed for in-state resources in the RPS Calculator.[13] The land use screens applied to out-of-state resources in the RPS calculator may largely not have been updated since the 2010 Western Renewable Energy Zone (WREZ) study. Since that date, a number of major planning efforts with land use implications have been completed, including the BLM's Solar Energy Program (covering six Southwestern states) and the BLM's and US Fish and Wildlife Service's National Greater Sage Grouse Strategy, updating nearly 100 resource management plans and forest plans covering 67 million acres of public lands with new conservation measures to protect and restore sage-grouse habitat.

7. **Incorporate utility DRP data.** It should be confirmed that the portfolios do fully incorporate the latest Investor Owned Utility (IOU) Distribution Resources Plan (DRP) projections. We recommend that the full amount of distributed generation identified in the IOU DRPs should be incorporated into the portfolios. The total distributed energy resources estimated to be added to the state's three IOUs by 2025 in their DRPs add up to about 9,200-18,400 MW.[14] This may change the available capacity on the

[13] http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5684
[14] PG&E DRP: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5140
SDG&E DRP: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5159
SCE DRP: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5155

transmission systems in each Super CREZ as well as the procurement need for large utility scale renewable energy to meet 2030 goals.

8. **Total capacity additions being considered for the TAFAs are too high**. The RPS Calculator portfolios provide an estimated amount of future renewable energy capacity that would need to be procured to meet the state's 2030 RPS goals. The RPS Calculator generic buildout is the amount of capacity that gets added by the model after all commercial projects currently in development come online. In the most recent 2030 RPS Calculator portfolios, the total generic buildout of large utility-scale renewable projects ranges from 3,000 to 5,000 MW.[15] This indicates that the total amount of future transmission-level utility-scale renewable resource identified for consideration in the TAFAs (39,000 MW) is too high and could result in overdevelopment. In comments on the May 2, 2016 Joint Agencies Workshop, environmental stakeholders noted the very high energy projections. [16] The environmental groups analysis showed the range of energy projections presented was too high, even at the low end, in part because they ignored the energy efficiency targets in Clean Energy and Pollution Reduction Act of 2015 (SB 350). The environmental groups recommended that RETI 2.0 use the information developed through California's own regulatory tool—the RPS Calculator -rather than a range of projections based on third party studies that are not directly comparable and which were prepared prior to SB 350.

9. **Upcoming Western Interstate Energy Board (WIEB) meeting in July.** Leaders of the June 9th TTIG workshop indicated that RETI 2.0 has requested that Western Interstate Energy Board conduct a short "regional consultation" to summarize the existing, planned, and potential capability of the out-of-state transmission network to deliver renewable energy to California, to deliver California excess renewables to western load centers, and to support more renewable energy trade across the west generally.

   In the June 9th meeting it was suggested that stakeholders should submit discussion questions for this WIEB meeting in their comments here.

[15] http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=11517

[16] http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN211532_20160517T193538_Sierra_Club_Comments_RETI_20_Joint_Agencies_Workshop_May_2_2016.pdf

We respectfully pose the following questions:

- How would increased interstate energy trade (from regionalization of the grid) impact the environment in California and in Western States?
    - Tremendous public and private investments have been made in California, and Western States, to plan for renewable energy, transmission, and protection of natural resources. Regionalization will require increased communication, coordination, and sharing of data in order to reach the goals of reducing greenhouse gas emissions, expanding renewable energy development and protecting natural landscapes and resources.
- What specific environmental implications of Western State trends in loads, renewable energy, and transmission, should be considered as part of the RETI 2.0 planning process?
- What out-of-state environmental and land use data is available for consideration in the RETI 2.0 planning process? How sufficient is this data?
    - We recommend that Western state partners leverage the Data Basin RETI 2.0 Gateway as a central platform for sharing spatial environmental and land use data with stakeholders within California and Western States.

III. Conclusion

We appreciate the opportunity to participate in this process. RETI 2.0 presents an opportunity to create a vision for rapidly decarbonizing the electricity sector while protecting the natural and working lands that provide for the conservation of species and habitat as well as other important co-benefits such as carbon sequestration.

Respectfully submitted,

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