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RE: DRECP Wind Energy Recommendations

Dear David:

On behalf of Defenders of Wildlife, Audubon California, Natural Resources Defense Council, Sierra Club, Center for Biological Diversity, The Nature Conservancy and California Native Plant Society, we would like to thank you in advance for your consideration of these recommendations for developing wind energy in the DRECP while conserving sensitive species, landscape connectivity and other biological values. Our organizations have been meeting regularly since February to clarify the issues related to wind energy development in the DRECP area and discuss potential solutions. We have crafted these recommendations with the intent of providing a path forward for responsible wind development in the DRECP that provides for conservation of covered species. The recommendations are intended as an initial step toward more in-depth conversations with agencies and stakeholders on wind energy development in the DRECP.

The recommendations reflect our support for including wind energy as a covered activity under the DRECP. We recognize that there are significant challenges in designing a wind permitting program given uncertainties about the behavior and population dynamics of some key species (e.g., Golden Eagle, California Condor, bats, migratory birds), as well as uncertainties about the impacts of wind development on aerial and terrestrial conservation values. However, we believe that it is possible to design a program that will allow for responsible wind development while simultaneously gathering data to improve our understanding of how to site and operate wind facilities in ways that provide for the conservation of covered species. The purpose of this document is to provide the Renewable Energy Action Team (REAT) agencies with an initial set of recommendations for addressing data insufficiencies, identifying low-conflict wind DFAs based on the best available information, improving siting within those DFAs, and formulating an adaptive management approach for improving decision-making as better information is obtained. We recognize that both Federal and State Wind Energy Guidelines exist to help address some of these concerns and our recommendations are intended to bring consistency to the implementation of existing guidelines while addressing the DRECP situation specifically.

These recommendations do not address all aspects of wind energy permitting and development in the DRECP; elements that are not included in this document, such as detailed recommendations for species-specific survey protocols, recommended thresholds, monitoring requirements, etc., are also vital to the successful permitting of responsible wind energy development in DRECP. We view these initial

recommendations as the start to a larger conversation about wind energy in the DRECP, and we look forward to working with the REAT agencies to develop the details that will need to accompany the recommendations in this document.

Our recommendations fall into the following five categories which are described in more detail below.

## **1. Data, Information and Resources**

Little systematically collected information is available in the DRECP planning area to identify areas and landscape features that may concentrate use by migratory birds, many of which are nocturnal migrants. Data are particularly critical for migrants, considering that different species migrate along different pathways, at different altitudes, and at different times of year and weather conditions. Bat data is also limited to point data and mine locations; their numbers and migratory paths are little known.

Currently, the majority of the data on some species of bats, migratory birds and raptors in the DRECP plan area are collected from sites already targeted for wind energy development and little is known about other potential wind development areas. Also, publically available mortality monitoring data and comparisons of data among wind facilities is limited. Without this data, it is impossible to compare the wind development sites. These comparisons are essential for evaluating the overall distribution of birds and bats across the region and the relative significance of wind energy impacts.

**RECOMMENDATION:** All data currently available on covered species should be gathered and organized into a publicly accessible database that can be used to study trends in the location, population, movement patterns and status of avian and bat species in the plan area. Gathering these data will require outreach to agencies, non-profit organizations, research institutions and developers. Specifically, the REAT agencies should gather information and data from existing wind facilities and the affiliated infrastructure associated with these operations (e.g. roads, substations, electrical transmission), by including pre-construction field surveys and post-construction studies, especially mortality monitoring data. The data can be used to increase understanding regarding: 1) the location, distribution and density of species in the DRECP area; 2) the overall geographic areas of highest conflict with covered species; 3) how impacts change based on turbine location in relation to ridgelines, saddles, seeps, springs, riparian areas. Data from studies that are currently underway should also be integrated into this database so that the DRECP decision makers have access to all biological data in one place.

**RECOMMENDATION:** DRECP should identify the key gaps in knowledge that make assessing the impacts of wind facilities on species difficult. Our current understanding indicates that these are some of the key data gaps that DRECP needs to address in order to permit wind facilities:

- Migratory bird and bat pathways
- Locations of bat hibernacula and daily bat movement patterns
- Regional population viability of the Golden eagle

- California condor location, movement, wind usage, and current habitat use patterns<sup>1</sup>
- Avian mortality on existing wind farms

## 2. Identify Wind DFAs in DRECP

We believe that the DRECP may be the best mechanism to address existing and likely future impacts to sensitive species from large scale wind development in the desert. Currently, wind facilities operating in the DRECP area are not seeking permit coverage for take of species protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act or the Endangered Species Act, yet we know that take of Golden Eagles is occurring in the Tehachapi Mountains<sup>2</sup> and most likely in other areas of the plan area. The DRECP could bring the wind industry into compliance with existing laws that have a permit mechanism and would provide more overall certainty to wildlife agencies and developers alike. The DRECP would help ensure that the cumulative impacts of multiple wind facilities would not cause irreversible declines in species populations.

The Development Focus Areas in the most recent version of the Alternatives presented to stakeholders in July 2012 appear to focus primarily on finding suitable areas to develop solar and geothermal facilities given the focus on avoiding terrestrial impacts. We recommend an additional process be undertaken to identify DFAs specifically for wind energy technology, as constraints to terrestrial development are not always applicable to wind development and vice versa. Below, we recommend a process for conducting a spatial analysis to identify the best locations for wind energy development in the DRECP planning area.

**RECOMMENDATION:** Identify wind-specific Development Focus Areas through the process outlined below. It may be necessary to form a work group with representatives from various stakeholder groups that have experience with spatial analysis using ArcGIS. This work group should include, at minimum, representatives from industry, environmental groups, and state and federal agencies. We recommend the following steps be followed to identify a wind DFA:

1. Create an “Availability Map”: Identify appropriate areas for consideration as a wind DFA. Remove from consideration as a wind DFA all lands in the DRECP that are inconsistent with law and policy designations for conservation. The list of lands to exclude should be determined based on input from stakeholders and landowners in the DRECP area.

The environmental groups recommend excluding the following lands from consideration for wind energy development: National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Monuments; Federally and State designated critical habitat, private preserves and reserves; Inventoried Roadless Areas on US Forest Service lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation

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<sup>1</sup> This is currently under evaluation by the FWS’s California Condor Wind Energy Working Group in the “Risk of wind energy to the California Condor analysis”.

<sup>2</sup> USFWS conducted an investigation at LADWP’s Pine Tree Wind facility in the Tehachapi Mountains and at least eight eagle deaths have been attributed to the turbines at the facility during the first two and a half years of operation. See LA Times article on February 16, 2012, “U.S. probes golden eagles’ death at DWP wind farm.” Available online at: <http://articles.latimes.com/2012/feb/16/local/la-me-eagles-20120216>

banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites; proposed National Monuments, lands purchased by private NGO's that were donated to BLM or other agencies for conservation, and lands previously considered for wind energy development but abandoned due to biological conflict.

2. Establish Siting Criteria: Determine the suitability of the remaining land area available for wind energy development based on a set of criteria. The impacts of wind facilities affect both aerial and terrestrial species, communities and ecological processes. Information is known about certain terrestrial species and habitats within the desert, including the effects of habitat fragmentation. For these reasons, the criteria should build upon the June 2009 environmental stakeholder renewable energy siting criteria<sup>3</sup> ("NGO criteria") and, in the case of public lands, the Bureau of Land Management's (BLM) Instruction Memorandum<sup>4</sup> ("BLM criteria"), both of which include terrestrial criteria. Listed below are the June 2009 NGO criteria for identifying high conflict areas for renewable energy (marked with an asterisk) and some additional recommended avoidance criteria for wind development specifically.
  - Within five miles of Key Raptor Areas designated by BLM
  - Avian and bat congregation areas:
    - Areas known to support significant movement of Golden eagles, such as ridges and updraft areas, high prey abundance and other foraging areas, and habitats that are used for nesting.
    - Areas within the historic range of the California condor that are known or projected to be used by this species as its population increases and expands.
    - Migratory bird and bat stopovers, corridors and wintering areas.
    - Bat maternity roosts and hibernacula.
    - Wetlands and riparian areas, including an appropriate buffer.
  - Within five miles of Audubon Important Bird Areas
  - Wildlife Habitat Management Areas\*
  - Areas of Critical Environmental Concern\*
  - Natural Areas and Research Natural Areas\*
  - Lands acquired by the BLM through purchase, exchange or donation for the purpose of consolidating public lands for conservation of habitat for special status species<sup>5</sup>.\*

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<sup>3</sup> Audubon California, California Wilderness Coalition, Defenders of Wildlife, Desert Protective Council, Mojave Desert Land Trust, Natural Resources Defense Council, Sierra Club, The Nature Conservancy, The Wilderness Society and The Wildlands Conservancy. 2009. Renewable Siting Criteria for California Desert Conservation Area. Online at: [http://www.defendersofwildlife.org/resources/publications/policy\\_and\\_legislation/renewable\\_siting\\_criteria\\_for\\_california\\_desert\\_conservation\\_area.pdf](http://www.defendersofwildlife.org/resources/publications/policy_and_legislation/renewable_siting_criteria_for_california_desert_conservation_area.pdf).

<sup>4</sup> The BLM criteria aim to assist the agency in prioritizing the processing of new and existing solar and wind energy development right-of-way applications: Bureau of Land Management. 2011. Instruction memorandum No. 2011-061. Solar and Wind Energy Applications – Pre-application and Screening. Available online at: [www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_instruction/2011/IM\\_2011-061.html](http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-061.html)

<sup>5</sup> All lands donated for conservation should have agreement with donor if non-conservation actions are proposed or approved

- Proposed HCP and NCCP Conservation Reserves\*
- Proposed Wilderness Areas\*
- Proposed National Monuments\*
- Citizens' Wilderness Inventory Areas\*
- Los Angeles County Sensitive Ecological Areas
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes

Some suggested criteria for places to prioritize for wind energy include the following. These criteria are applicable if the areas also have a low resource value for [and low potential to harm] sensitive avian and bat species. Criteria are not ranked and those marked with an asterisk were included in the 2009 criteria.

- Low landscape-level conflicts
- Lands with low index of topographic roughness<sup>6</sup>
- Within, near or adjacent to a solar or geothermal DFA if the areas meet other criteria
- Infill areas and repowering, if avian/bat mortality has been studied and impacts are found to be low.
- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance<sup>7</sup>.\*
- Public lands of comparatively lower [avian] resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA.\*
- Locations that minimize the need to build new roads.\*
- Locations that could be served by existing substations and transmission.\*

Additional considerations:

The Nature Conservancy, Conservation Biology Institute, University of California Santa Barbara, SC Wildlands, and others have developed spatial datasets, modeling techniques, maps and frameworks for either conserving or avoiding conflict with many desert resources. While these studies have focused on terrestrial species and habitats and surrogates for aerial species, they use sophisticated GIS models and decision-support tools to assemble available data and should be recognized as valuable tools to help identify high and least conflict lands, recognizing that more work needs to be done to understand impacts to the aerial habitat.

- 3. Combined Suitability Analysis:** Aggregate siting criteria to determine the most suitable lands for wind-specific DFAs. This will require use of geospatial analysis tools in order to ensure that all criteria are weighted according to conservation priorities and a fair assessment of the feasibility and value of the wind resource in various areas. The analysis may have to be done multiple

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<sup>6</sup> Topographic roughness or "rugosity" is term used to describe terrain that is characterized by increased relief, deeper ravines, and sharper ridges. Generally in an area with greater topographic roughness, the length and complexity of access roads increases and more cut and fill work is required, creating a greater environmental impact. Information is from a presentation by Dr. Sam Sweet (UCSB) given to Kern County on August 9, 2012.

<sup>7</sup> It should be noted that many of these type-converted lands, especially agricultural lands, provide foraging habitat for raptors and may not be suitable for wind facility development.

times and the work group presented with multiple alternatives that can be included in the DRECP environmental documents.

Based on the combined suitability analysis, some areas within wind DFAs will be more suitable for wind development than others. The DRECP should clearly identify those areas that are most suitable and offer incentives for directing development to the most suitable areas. Those areas that are found to be high conflict for wind energy development will be removed from consideration for a wind DFA.

### 3. Project-Specific Guidelines

Developers are currently encouraged to follow the “Voluntary Land-based Wind Energy Guidelines” (USFWS, 2012) and the “California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development” (CEC and CDFG, 2007)<sup>8</sup> and the American Wind Energy Association has submitted a letter to Secretary Salazar expressing developers intent to follow the federal guidelines.<sup>9</sup> Both federal and state siting guidelines recognize that data collection associated with wind energy development and operations is an iterative process. The federal Guidelines employ a tiered approach for assessing potential adverse effects to species of concern and their habitats and relative risk. The tiered approach provides the opportunity for evaluation and decision-making at each stage, enabling a developer to abandon or proceed with project development, or to collect additional information if required.

**RECOMMENDATION:** Implementation of the state and federal wind energy siting guidelines should be required under DRECP. Specifically, we encourage the REAT agencies to adopt the tiered approach, as the level of risk at a specific site or wind DFA may change after more information is acquired. We view these guidelines as the minimum requirement under DRECP but do not view them as adequate measures alone for wind facility permitting under DRECP.

**RECOMMENDATION:** We recommend that the DRECP initiate a process to develop a set of DRECP-specific guidelines in addition to the Federal and State Guidelines working closely with CDFG and USFWS. These guidelines must be consistent with the Federal and State requirements but also need to provide more specifics and additional requirements in order to inform the appropriate permitting process for wind projects within the DRECP area. These guidelines should be tailored to the uniqueness of desert populations of avian and bat species. Measures included in the recommended DRECP-specific wind energy guidelines would be in addition to those required by the USFWS Land-Based Wind Guidelines and assume that compliance with the Federal Wind Guidelines, including all pre-application measures, and the tiered approach generally, will be required to obtain a permit under the DRECP. While we do not at this time have a comprehensive set of recommendations for the DRECP-specific wind energy guidelines, below are some initial recommended measures for inclusion:

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<sup>8</sup> U.S. Fish and Wildlife Service Land-based Wind Energy Guidelines, March 23, 2012: [http://www.fws.gov/windenergy/docs/WEG\\_final.pdf](http://www.fws.gov/windenergy/docs/WEG_final.pdf); and California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development, October 2007: <http://www.energy.ca.gov/2007publications/CEC-700-2007-008/CEC-700-2007-008-CMF.PDF>

<sup>9</sup> American Wind Energy Association, letter to Secretary Salazar, May 15, 2012.

- Locations identified as high conflict between wind energy and wildlife through the tiered process of the Federal guidelines should be excluded from wind energy development.
- Preliminary site evaluations (pre-construction monitoring) should be initiated at the same time that measurement of wind data begins (i.e., upon installation of met tower or SODAR unit or a minimum of three years prior to formal environmental review).
- For all DRECP-permitted projects that pose a risk to Golden eagles or condors, an on-site human observer (or observers if necessitated by the size of the project or terrain) will be required to monitor for Golden eagle and California Condor for the life of the project as part of the avoidance measures to ensure curtailment to protect these key species. If radar technology improves and becomes more reliable, it is possible that radar technology could replace the need for human observation as part of the avoidance measures at some of the project sites.
- For all DRECP-permitted wind projects, regular monitoring for impacts to covered species (in the form of mortality monitoring) will be conducted pursuant to standardized science-based protocols adopted in the DRECP.
- Operational mitigation measures should be required for projects that meet their permitted take thresholds.
- Projects should have thresholds for permissible take that are proportion to the size and likely impact of the project relative to the plan-wide DRECP thresholds or take limits. In some cases, as with Golden eagles, these thresholds may be very low and a cumulative take threshold be identified.
- The application for DRECP permit coverage should be guided by the project-specific requirements set forth in the HCP/NCCP. The DRECP must shape and develop the requirements for the permit application in terms of study types, duration, etc. In this way, the DRECP can ensure that to qualify for take coverage, the application has met a list of minimum requirements.
- A set percentage of the applicant's development fee should be directed towards a plan-wide avian/bat research fund that will complete the studies that are necessary for filling in the data gaps identified.

These are just some of the recommendations that should be folded into the DRECP-specific guidelines and are not fully comprehensive, but instead a representation of specific recommendations that are critical for DRECP. We look forward to working with the DRECP to draft DRECP-specific wind guidelines, including operational requirements to minimize and avoid impact to avian and bat species.

**RECOMMENDATION:** Interim projects, as defined in California Fish and Game Code, should be subject to review by the REAT agencies in accordance with the NCCP and HCP policies. Operational projects potentially taking protected species without incidental take permits under ESA, BGEPA or Fish and Game Code, should be required to apply for take permits through the DRECP provided they agree to the DRECP's standards for avoidance, minimization, mitigation, monitoring and adaptive management.

#### 4. Develop a Regional Mitigation Plan for Wind DFA

Devising a program for effective, lasting compensatory mitigation for ecological harm is challenging. Existing agency practice for wind energy facilities largely devises compensatory mitigation measures case-by-case, gauging requirements by the project's projected effects on a limited set of listed and sensitive species and their habitats. We propose a more comprehensive, regionally focused mitigation framework that would advance and inform the content and coverage of the DRECP.

**RECOMMENDATION:** The mitigation program should follow the "Mitigation Hierarchy" of avoid, minimize, restore and compensate. The previous steps recommended in this document provide a process for avoiding those areas where wind energy projects and natural resources may have higher conflict. However, we recognize that many of the impacts from wind energy facilities occur during the operational phase of a project, thus, facilities may find that avoidance and minimization can also be achieved through micro-siting of individual turbines, curtailment protocols, decommissioning of problematic turbines, and implementation of other design, construction and operations measures.

**RECOMMENDATION:** Conduct a cumulative impacts analysis for wind energy development in the DRECP that evaluates impacts from existing wind projects, recently proposed or approved wind projects, the proposed development scenario for wind as well as other development in and adjacent to the plan area likely to impact the same resources such as urban development, transmission lines, and associated roads. The cumulative impacts analysis must certainly include wind projects and other projects adjacent to the DRECP plan area that affect the same resources. The issues that must be thoroughly addressed in the cumulative analysis include but are not limited to: habitat loss; habitat fragmentation; impacts to migratory corridors and flyways; impacts from disease; impacts from lead ammunition and other pollutants; loss of gene flow in avian populations due to population sinks in areas where wind resources are concentrated; and impacts from other development activities not covered in the DRECP (e.g. ORVs, grazing, water diversions, introduction of non-native species, etc).

**RECOMMENDATION:** The DRECP should develop a clear and consistent framework for strategic compensatory mitigation that integrates the requirements of traditional mitigation with broader conservation goals, such as maintaining biodiversity and sustaining landscape-scale ecological values<sup>10</sup> within the DRECP Planning Area. For compensatory mitigation associated with wind energy projects, the DRECP should identify high-priority mitigation areas, and actions that include some measurable effectiveness attributable to these actions. While retrofitting powerlines and towers to minimize electrocution risk and other threats has been utilized as mitigation in some instances, these are often the responsibility of existing projects and additional compensatory mitigation actions also need to be developed.

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<sup>10</sup> Landscape-scale ecological values refers to the ecological patterns (e.g. soil type, biophysical gradients) and processes (e.g. flow of disturbances, species, nutrients or water within and among different ecosystems) that influence the distribution, structure and function of ecosystems at a geographic scale of 10<sup>4</sup> to 10<sup>6</sup> acres.

## 5. Adaptive Management Plan and Ongoing Research

Research is currently underway to answer questions regarding population dynamics and movement patterns of covered species in the plan area that area affected by wind energy development. As projects are permitted and data are collected and organized in a database, we will begin to understand the impacts wind facilities are having on covered species and be better able to manage the development and operation of wind projects in a way that ensures conservation of covered species. Because, at this time, we don't have a clear picture of the location, status, movement patterns, and impacts from wind energy development on covered species, it is critical to develop a comprehensive adaptive management program. This program will ensure that monitoring data is consistently gathered in accordance with defined protocols, is evaluated and compared to DRECP's Biological Goals and Objectives.

**RECOMMENDATION:** We support the recommendation from the October 2010 Independent Science Advisors Report<sup>11</sup> that *"DRECP should be treated as a huge environmental experiment that should be developed and implemented incrementally in an adaptive management framework – with continuous monitoring and scientific evaluation to reduce uncertainties and improve plan actions over time."* To assure a systematic and robust process for evaluating the results, we recommend the following that specifically addresses wind energy:

- Conduct annual reviews of monitoring data that are open to the public and DRECP stakeholders.
- Establish a schedule of evaluation and reporting that describes and synthesizes findings of new information and implement corresponding adjustments to permitting and management. We suggest that the Implementing Parties review new data and information after year two and four of the plan and every three years thereafter to determine if management changes are needed on a plan-wide scale.
- Establish an on-going Independent Science Advisory Committee with expertise relevant to wind energy issues – agencies, academics, industry, conservation representation – responsible for annually reviewing incoming research and monitoring from across the region as well as national and international data and research and identifying issues that need to be addressed.
- Require data submission to a common, accessible database.
- As part of the DRECP plan, pre-determine what triggers emergency reviews and who must be involved.
- Establish regional and ecologically meaningful sub-regional thresholds. Sub-regions would enable DRECP to refine management and make it possible to target curtailment measures to effectively avoid impacts to key species.

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<sup>11</sup> Spencer, W. D., S. Abella, C. Barrows, K. Berry, T. Esque, K. Garrett, C. A. Howell, R. Kobaly, R. Noss, R. Redak, R. Webb, and T. Weller. 2010. Recommendations of independent science advisors for the California Desert Renewable Energy Conservation Plan (DRECP). DRECP-1000-2010-008-F, Unpublished Report to the Renewable Energy Action Team (California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and California Energy Commission).

## Next Steps

These are our initial recommendations for development of wind energy in the DRECP and we hope this set of recommendations will trigger further discussions with stakeholders. We support the idea of organizing a workshop on this topic to explore the recommendations put forth in this document with agency staff and other stakeholders. The workshop should focus the following:

- Identifying key research questions, how long it will take to answer them and the resources required.
- Identifying wind-specific DFAs and areas inappropriate for wind development by using the steps outlined above.
- Establishing DRECP-specific wind guidelines that tier off of the California and Federal guidelines and identify specific operational measures that will aid in avoiding and minimizing impacts to covered species.
- Golden eagle permitting in DRECP (this issue was addressed in separate letters from organizations)

Thank you for your consideration of these recommendations and we look forward to working with you on this important issue.

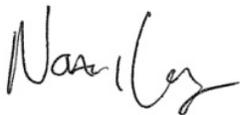
Sincerely,



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California Desert Associate  
Defenders of Wildlife



Garry George  
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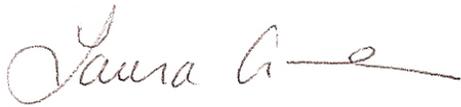
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