From: Susan Sanders [mailto:ssanders55@comcast.net]
Sent: Wednesday, June 23, 2010 2:57 PM
To: Alice Harron; 'Alan Solomon'
Cc: sgalati@gb-LLP.com; Elizabeth Ingram; 'Lindner, Carl'; 'Rick York'; 'Sara Keeler'; 'Lisa DeCarlo'; 'Carolyn Chainey-Davis'; 'Amy Golden'
Subject: Blythe Follow Up Items - Bio Resources
Importance: High

Hi Alice

Thanks for responding to our June 11, 2010 e-mail - we still have a few follow-up questions to make sure we have accurate information for the Supplemental Staff Assessment.

1. For each new linear segment (temporary construction power line/secondary access road; new transmission line route, etc.): please provide the disturbance areas by vegetation type, including direct and indirect impacts to state waters (please include impacts to vegetated swales) and impacts numbers for rare plants. We ask this so that we can easily discuss the differences in impacts from our earlier analyses.

2. For the proposed project plant facility site: please provide the current disturbance areas, by vegetation type, including direct and indirect impacts to state waters (please include impacts to vegetated swales) and impacts numbers for rare plants. This is so we can more accurately compare the proposed project to the alternative, by comparing only the impacts associated with the plant facility site.

3. Please also confirm that the numbers in the attached tables, which are based on your revised impact calculations (June 2010 revision - Biological Resources Technical Report, particularly Tables 4, 5, 6, 7, 17, and 22; August 2009 Biological Resources Technical Report; June 2010 revision - Burrowing Owl Technical Report; August 2009 Burrowing Owl Technical Report.) accurately reflect your updated, revised impact assessment. We have a number of questions embedded in the tables as comments that we are hoping you can answer.

We need this information no later than COB Friday, June 25th.

Thank you very much for your assistance.

Susan

Please note:

The terms staff uses have, in some cases, different definitions than in the Applicant's reports. For reference:

> Project Disturbance Area: Area inside and outside the facility fence that will be disturbed by the project. This includes (but is not limited to) disturbance from the power plant facility; associated construction laydown, parking, power lines, and access roads; linears including the gen-tie line; and permanent access roads. It does not include the substation disturbance area.
>
> Study Area: The Project Disturbance Area and all associated buffers. This does include the substation disturbance area and buffers.

Please confirm the acreages below based on these definitions (please show changes in strikeout or contrasting color).

Proposed Project

Biological Resources Table 2
Natural Communities/Cover Types

Vegetation Communities/Cover Type within Biological Resources Study Area[1]	Project Disturbance Area		Study Area
Riparian			
Desert dry wash woodland	213		871
Unvegetated ephemeral dry wash	9		11
Vegetated ephemeral swales (creosote bush-big galleta association)	371		474
Subtotal Riparian	*593*		*1,356*
Upland			
Sonoran creosote bush scrub	6,365		19,391
Stabilized and partially stabilized desert dunes	58		2,663
Subtotal Upland	*6,423*		*22,054*
Other Cover Types			
Agricultural Land	4		1,066
Developed	5		90
Disturbed	0		27
Subtotal Other Cover Types	*9*		*1,183*
Total Acres	**7,025**		**24,593**

Source: (Blythe Solar Power Project Biological Resources Technical Report, Table 3 and Table 17)

[1] The Study Area encompasses the Project Disturbance Area (area inside and outside the facility fence that will be disturbed by the project), the solar facility footprint area inside the facility fence including solar fields and other support structures and facilities, a 1-mile buffer area, and entire transmission line and other linear routes and the substation site footprint and 1-mile buffer area.

Biological Resources Table 5
Summary of Impacts and Mitigation

Biological Resource	Impact/Mitigation*
Sonoran Creosote Bush Scrub & Associated Wildlife	**Direct Impacts**: Permanent loss of 6,365 acres and fragmentation of adjacent wildlife habitat and native plant communities **Indirect Impacts**: Disturbance (noise, lights, dust) to surrounding plant and animal communities; spread of non-native invasive weeds; changes in drainage patterns downslope of Project; erosion and sedimentation of disturbed soils.
Stabilized and Partially Stabilized Dunes	**Direct impacts**: Permanent loss of 103 acres for construction of Colorado Substation (45 acres) and associated transmission line and access roads (58 acres)*; potential accidental direct impacts to adjacent preserved habitat during construction and operation. **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; fragmentation and degradation of remaining habitat.
Waters of the State/ Sensitive Plant Communities Source: June revised BRTR Tables 17, 4, 5	**Direct Impacts**: Permanent loss of hydrological, geomorphic, and biological functions and values of 593 acres of State waters, including: • 213 acres desert dry wash woodland • 371 acres of vegetated ephemeral streams (creosote bush-big galleta grass association • 9 acres of unvegetated ephemeral dry wash **Indirect Impacts**: Loss of hydrological connectivity downstream of the Project, including: • 138 acres desert dry wash woodland • 45 acres of vegetated ephemeral swales (creosote bush-big galleta grass association • 0.33 acres unvegetated ephemeral wash Other indirect impacts include head-cutting on drainages upslope and erosion/sedimentation downslope;
Desert Tortoise	**Direct Impacts**: Potential take of individuals during operation and construction; permanent loss of 6.958 acres of low to moderate desert tortoise habitat and fragmentation of surrounding habitat. **Indirect Impacts**: Increased risk of predation from ravens, coyotes, feral dogs; disturbance from increased noise and lighting; introduction and spread of weeds; increased road kill hazard.
Mojave Fringe-Toed Lizard	**Direct impacts**: Mortality to individuals during construction of T-line and substation; permanent loss of 58 acres of fringe-toed lizard habitat (dune habitat) for construction associated

Biological Resource	Impact/Mitigation*
	with transmission line construction; potential accidental direct impacts to adjacent preserved habitat during construction and operation. **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; fragmentation and degradation of remaining habitat; increased road kill hazard from construction and operations traffic; harm from accidental spraying/drift of herbicides and dust suppression chemicals.
Western Burrowing Owl	**Direct Impacts**: Permanent loss of breeding and foraging habitat; potential loss of eggs and young; degradation and fragmentation of remaining adjacent habitat from edge effects; disturbance of nesting and foraging activities for nesting pairs near the plant site and linear facilities (3 western burrowing owls, 2 with an active burrows, detected in Project Disturbance Area during 2009 and 2010 burrowing owl surveys; during 2009 vegetation surveys, an additional burrowing owl was observed within the Project Disturbance Area). **Indirect Impacts**: increased road kill hazard from operations traffic and collision with mirrors; increased predation from ravens; disturbance of nesting activities from operations.
Golden Eagle	**Direct/Indirect Impact**: Loss of foraging habitat; potential disturbance to nesting golden eagles during construction if active nests occur within 10 miles of Project boundaries
Special-Status Birds & Migratory Birds	**Direct Impacts**: Permanent loss of breeding and foraging habitat, including loss of 6,365 acres of Sonoran creosote bush scrub and 213 acres of desert dry wash woodland; potential loss of eggs and young; disturbance of nesting and foraging activities for populations on and near the plant site and linear facilities; degradation and fragmentation of remaining adjacent habitat from edge effects; hazards from evaporation ponds **Indirect Impacts**: increased road kill hazard from operations traffic and collision with mirrors; increased predation from ravens; disturbance from operations.
Desert Kit Fox & American Badger	**Direct Impacts**: Permanent loss of 7,025 acres of occupied habitat; fragmentation and degradation of remaining habitat, loss of foraging grounds, crushing or entombing of animals during construction; increased risk of road kill hazard from construction traffic **Indirect Impacts**: Disturbance from increased noise and lighting; introduction and spread of weeds; increased risk of road kill from operations traffic.
Nelson's Bighorn Sheep	**Direct Impact**: Loss of spring foraging habitat **Indirect Impact**: Potential future impairment to connectivity

Biological Resource	Impact/Mitigation*
Couch's spadefoot toad	**Direct Impacts:** loss of breeding and upland habitat, mortality of individuals; disturbance to breeding ponds, **Indirect Impacts:** reduced flow to breeding areas, increased flow to upland habitat, construction noise could trigger emergence when conditions are not favorable.
Special Wildlife Management Areas	**Desert Wildlife Management Areas**: None **Areas of Critical Environmental Concern**: None **Wildlife Habitat Management Areas**: None **Desert Tortoise Critical Habitat**: None **Mitigation**: None proposed.
Las Animas colubrina	**Direct Impacts**: Permanent loss of 15 plants within the Disturbance Area (55 plants in the buffer on drainage upslope of Project); possible additional loss of plants from construction of perimeter channel and bank stabilization on drainages upslope; accidental impacts to plants adjacent to construction **Indirect impacts**: Head-cutting (erosion) of channels upslope containing additional plants; introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; population fragmentation, impacts to pollinators and gene flow; risk of fire
Harwood's milk-vetch***	**Direct Impacts**: Harwood's milk-vetch plants were found throughout the eastern plant site Disturbance Area (total of 74 in the Disturbance Area, 637 in the buffer), linear facilities route, and along Black Rock Road; potential accidental direct impacts during construction and operation **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; potential disruption of sand transport systems that maintain habitat below the Project; alteration of drainage patterns; herbicide drift; disruption of photosynthesis and other metabolic processes from dust
Harwood's woollystart	**Direct Impacts**: Harwood's woollystar were found throughout the eastern transmission line route and substation site (total of 3 in the Disturbance Area, 13 in the buffer); potential accidental direct impacts during construction and operation **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; potential disruption of sand transport systems that maintain habitat below the Project; alteration of drainage patterns; herbicide drift; disruption of photosynthesis and other metabolic processes from dust
Ribbed Cryptantha	**Project Disturbance Area:** 10 plants **Buffer:** 58 acres
Winged Cryptantha	**Project Disturbance Area:** 0

Biological Resource	Impact/Mitigation*
	Buffer: 0
Utah Milkvine	**Project Disturbance Area:** 192 (approx) **Buffer:** 621 (approx)
Desert unicorn	**Project Disturbance Area:** 8 **Buffer:** 9

* Southern California Edison will need to construct a 45-acre substation in order for the power plant to interconnect to the electrical grid. Staff has analyzed the potential impacts resulting from construction of the substation. These impacts of the Colorado Substation, which are considered indirect impacts of the proposed Project, as well as recommended mitigation that would reduce the substation impacts to less than significant, are included in the analysis. However, Southern California Edison would construct the substation and would undertake mitigation for biological resource impact; therefore mitigation calculations do not include acreages from the substation. The California Public Utilities Commission, not the Energy Commission, has jurisdiction and responsibility over Southern California Edison and construction and operation of the substation and can and should adopt mitigation to reduce the substation's impacts to less than significant.

Biological Resources Table 6*
Direct and Indirect Impacts to Waters of the State

Resource	Acres Impacted[1]
State Waters - Direct Impacts	
Desert Dry Wash Woodland	213
Vegetated Ephemeral Swales (creosote bush-big galleta grass association)	371
Unvegetated Desert Dry Wash	9
Total direct impacts to state waters	**593**
State Waters - Indirect Impacts from Changes in Hydrology	
Desert dry Wash Woodland	138
Vegetated Ephemeral Swales (creosote bush-big galleta grass association)	45
Unvegetated Desert Dry Wash	0.3
Total indirect impacts to state waters	**112**

[1]Source: Revised BRTR Tables 4, 5, 17

Reconfigured Alternative

Biological Resources Table 2
Natural Communities/Cover Types

Vegetation Communities/Cover Type within Biological Resources Study Area[2]	Reconfigured Alternative		Study Area

[2] The Study Area encompasses the Project Disturbance Area (area inside and outside the facility fence that will be disturbed by the project), the solar facility footprint area inside the facility fence including solar fields and other

	Disturbance Area		
Riparian			
Desert dry wash woodland	171		871
Unvegetated ephemeral dry wash	5		11
Vegetated ephemeral swales (creosote bush-big galleta association)	237		474
Subtotal Riparian	*413*		*1,356*
Upland			
Sonoran creosote bush scrub	5,135		19,391
Stabilized and partially stabilized desert dunes	*		2,663
Subtotal Upland	*5,135*		*22,054*
Other Cover Types			
Agricultural Land	0		1,066
Developed	0		90
Disturbed	0		27
Subtotal Other Cover Types	*0*		*1,183*
Total Acres	**5,548**		**24,593**

Source: AECOM XXXX (Blythe Solar Power Project Biological Resources Technical Report, Table 3 and Table 17)

* T-line, other linears not included in acreage calcs for alternative

Biological Resources Table 5
Summary of Impacts and Mitigation – Reconfigured Alternative

Biological Resource	Impact/Mitigation*
Sonoran Creosote Bush Scrub & Associated Wildlife	**Direct Impacts**: Permanent loss of 5,135 acres and fragmentation of adjacent wildlife habitat and native plant communities **Indirect Impacts**: Disturbance (noise, lights, dust) to surrounding plant and animal communities; spread of non-native invasive weeds; changes in drainage patterns downslope of Project; erosion and sedimentation of disturbed soils.
Stabilized and Partially Stabilized Dunes	**Direct impacts**: Linears not included in impact calculations for the alternative, but impacts would be expected to be similar to proposed project. **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; fragmentation and degradation of remaining habitat.
Waters of the State/ Sensitive Plant Communities Source: June revised BRTR	**Direct Impacts**: Permanent loss of hydrological, geomorphic, and biological functions and values of 413 acres of State waters, including: • 171 acres desert dry wash woodland

support structures and facilities, a 1-mile buffer area, and entire transmission line route and substation site footprint and 1-mile buffer area.

Biological Resource	Impact/Mitigation*
Tables 6, 7, 17	• 237 acres of vegetated ephemeral streams (creosote bush-big galleta grass association • 5 acres of unvegetated ephemeral dry wash **Indirect Impacts**: Loss of hydrological connectivity downstream of the Project, including: • 71 acres desert dry wash woodland • 40 acres of vegetated ephemeral swales (creosote bush-big galleta grass association • 0.6 acres unvegetated ephemeral wash Other indirect impacts include head-cutting on drainages upslope and erosion/sedimentation downslope;
Desert Tortoise	**Direct Impacts**: Potential take of individuals during operation and construction; permanent loss of 5,548 acres of low to moderate desert tortoise habitat and fragmentation of surrounding habitat. **Indirect Impacts**: Increased risk of predation from ravens, coyotes, feral dogs; disturbance from increased noise and lighting; introduction and spread of weeds; increased road kill hazard.
Mojave Fringe-Toed Lizard	**Direct impacts**: Linears not included in impact calculations for the alternative, but impacts would be expected to be similar to proposed project. **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; fragmentation and degradation of remaining habitat; increased road kill hazard from construction and operations traffic; harm from accidental spraying/drift of herbicides and dust suppression chemicals.
Western Burrowing Owl	**Direct Impacts**: Permanent loss of breeding and foraging habitat; potential loss of eggs and young; degradation and fragmentation of remaining adjacent habitat from edge effects; disturbance of nesting and foraging activities for nesting pairs near the plant site and linear facilities (2 western burrowing owls, 1 with an active burrow, detected in Project Disturbance Area based on 2009 and 2010 burrowing owl surveys. **Indirect Impacts**: increased road kill hazard from operations traffic and collision with mirrors; increased predation from ravens; disturbance of nesting activities from operations.
Golden Eagle	**Direct/Indirect Impact**: Loss of foraging habitat; potential disturbance to nesting golden eagles during construction if active nests occur within 10 miles of Project boundaries

Biological Resource	Impact/Mitigation*
Special-Status Birds & Migratory Birds	**Direct Impacts**: Permanent loss of breeding and foraging habitat, including loss of 5,135 acres of Sonoran creosote bush scrub and 213 acres of desert dry wash woodland; potential loss of eggs and young; disturbance of nesting and foraging activities for populations on and near the plant site and linear facilities; degradation and fragmentation of remaining adjacent habitat from edge effects; hazards from evaporation ponds **Indirect Impacts**: increased road kill hazard from operations traffic and collision with mirrors; increased predation from ravens; disturbance from operations.
Desert Kit Fox & American Badger	**Direct Impacts**: Permanent loss of 5,548 acres of occupied habitat; fragmentation and degradation of remaining habitat, loss of foraging grounds, crushing or entombing of animals during construction; increased risk of road kill hazard from construction traffic **Indirect Impacts**: Disturbance from increased noise and lighting; introduction and spread of weeds; increased risk of road kill from operations traffic.
Nelson's Bighorn Sheep	**Direct Impact**: Loss of spring foraging habitat **Indirect Impact**: Potential future impairment to connectivity
Couch's spadefoot toad	**Direct Impacts:** loss of breeding and upland habitat, mortality of individuals; disturbance to breeding ponds, **Indirect Impacts:** reduced flow to breeding areas, increased flow to upland habitat, construction noise could trigger emergence when conditions are not favorable.
Special Wildlife Management Areas	**Desert Wildlife Management Areas**: None **Areas of Critical Environmental Concern**: None **Wildlife Habitat Management Areas**: None **Desert Tortoise Critical Habitat**: None **Mitigation**: None proposed.
Las Animas colubrina	**Direct Impacts**: Permanent loss of 12 plants within the Disturbance Area (49 plants in the buffer on drainage upslope of Project); possible additional loss of plants from construction of perimeter channel and bank stabilization on drainages upslope; accidental impacts to plants adjacent to construction **Indirect impacts**: Head-cutting (erosion) of channels upslope containing additional plants; introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; population fragmentation, impacts to pollinators and gene flow; risk of fire
Harwood's milk-vetch***	**Direct Impacts**: Harwood's milk-vetch plants were found throughout the eastern plant site Disturbance Area (total of 69 in the Disturbance Area, 290 in the buffer), linear facilities route, and along Black Rock Road; potential accidental direct

Biological Resource	Impact/Mitigation*
	impacts during construction and operation **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; potential disruption of sand transport systems that maintain habitat below the Project; alteration of drainage patterns; herbicide drift; disruption of photosynthesis and other metabolic processes from dust
Harwood's woollystar	**Direct Impacts**: Linears not included in impact calculations for the alternative, but impacts would be expected to be similar to proposed project. **Indirect impacts**: Introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; potential disruption of sand transport systems that maintain habitat below the Project; alteration of drainage patterns; herbicide drift; disruption of photosynthesis and other metabolic processes from dust
Ribbed Cryptantha	**Project Disturbance Area:** 10 plants **Buffer:** 58 acres
Winged Cryptantha	**Project Disturbance Area:** 0 **Buffer:** 0
Utah Milkvine	**Project Disturbance Area:** 188 (approx) **Buffer:** 677 (approx)
Desert unicorn	**Project Disturbance Area:** 11 **Buffer:** 21

* Southern California Edison will need to construct a 45-acre substation in order for the power plant to interconnect to the electrical grid. Staff has analyzed the potential impacts resulting from construction of the substation. These impacts of the Colorado Substation, which are considered indirect impacts of the proposed Project, as well as recommended mitigation that would reduce the substation impacts to less than significant, are included in the analysis. However, Southern California Edison would construct the substation and would undertake mitigation for biological resource impact; therefore mitigation calculations do not include acreages from the substation. The California Public Utilities Commission, not the Energy Commission, has jurisdiction and responsibility over Southern California Edison and construction and operation of the substation and can and should adopt mitigation to reduce the substation's impacts to less than significant.

Biological Resources Table 6* Reconfigured Alternative
Direct and Indirect Impacts to Waters of the State and Recommended Mitigation

Resource	Acres Impacted[1]
State Waters - Direct Impacts	
Desert Dry Wash Woodland	171
Vegetated Ephemeral Swales (creosote bush-big galleta grass association)	237
Unvegetated Desert Dry Wash	5
Total direct impacts to state waters	**413**

Resource	Acres Impacted[1]
State Waters - Indirect Impacts from Changes in Hydrology	
Desert dry Wash Woodland	71
Vegetated Ephemeral Swales (creosote bush-big galleta grass association)	40
Unvegetated Desert Dry Wash	0.6
Total indirect impacts to state waters	**112**

[1]Source: Revised BRTR Tables 6, 7, 17