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To: Timothy Coward, BLM  
(tim.coward@blm.gov)

From: Nancy Lightfoot  
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Project: BLM Lease/Grant N-86292  
JBR/Stantec Project Code: 203711338

Date: February 12, 2015

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**Reference: Weekly Reporting (Week 177)  
January 12, 2015 – January 18, 2015**

Stantec Consulting Services Inc. (Stantec) is contracted by Tonopah Solar Energy, LLC (TSE) to act as a Compliance Inspection Contractor (CIC) for the TSE Crescent Dunes Solar Energy Project as a requirement of the Right-of-Way Lease/Grant (N-86292) and the Memorandum of Understanding (MOU) (MOU-2800-NV062-1102) issued by the Bureau of Land Management (BLM). The CIC will conduct daily site inspections and prepare weekly reports for the BLM until given further notice. These reports summarize the frequency of visits, construction activities, general compliance observations and issues during the reporting period, and issue resolution. Please let this memorandum serve as the Week 177 (January 12, 2015 – January 18, 2015) CIC report.

Only one water truck (associated with the road grading in the heliostat field) was running during Week 177, making dust a bit of an issue on the main roads. Wulfenstein Construction continued to cut roads between the rows of heliostats working on the south side of the heliostat field.

During Week 177, on January 14, 2015, there was an issue with bird mortalities during commissioning activities (Non-Compliance Incidence Stipulation #43). Approximately 3,000 heliostats were staged in a position which reflected light and heat to a concentrated point above the central tower. A halo above the tower was visible from the ground (Figure 1). The heat was so intense that birds flying into the halo were immediately burned and smoke was clearly evident. Approximately 115 mortalities were noted between 11:15 AM and 3:30 PM. Appropriate agencies, including BLM, were notified of the situation around 12:27 PM when bird mortalities associated with the halo were confirmed. Commissioning of heliostats was suspended until meetings with BLM could be held and, possible ways to mitigate bird mortality during commissioning could be discussed. On January 15, 2015, a meeting between the CIC Inspector (Seth Topham), bird mortality surveyors (Greg Sharp and John Lemback), BLM representatives (Tim Coward, Wendy Seley, and David Price), and Solar Reserve (Brian Painter) was held. Details of the bird incident were discussed and photos and video of the event were exchanged. In order to mitigate bird mortality, SolarReserve changed their strategy and offered to only stage 150 heliostats above the tower at a time. It was also decided that the CIC Inspector would be on site during all commissioning activities to monitor for bird mortalities and immediately notify SolarReserve should any mortalities occur. The CIC Inspector will have a two way radio with them at all times in order to maintain direct communication with SolarReserve. On Friday January 17, 2015, commissioning resumed with 150 heliostats on the north side of the tower. No birds were noticeably affected and a halo above the tower was not visible. Commissioning during the rest of Week 177 showed no signs of adverse effects to birds.

On January 15, 2015, David Price (BLM) was on site to monitor as commissioning resumed. No commissioning was performed on the 15<sup>th</sup> because cloud cover made testing impossible. The CIC inspector showed Mr. Price around the project and explained the bird mortalities of the two previous days, as well as identified the observation points from which the bird mortalities were documented. The CIC Inspector also showed Mr. Price the leaning, tangent, power structure north of the solar

facility and the anti-raptor perching devices which had blown off of several of the power structures, per Mr. Price's request.

Bull Concrete had several concrete pours during Week 177. They poured a section of curb and gutter north of the tower within the Power Block (Figure 2). Bull Concrete also poured a pad just northwest of the second security gate (Figure 3). Concrete trucks washed out their shoots in an appropriate, clearly marked, wash out pit located east of the second security gate. After each pour the area was inspected by the CIC Inspector for any fuel/oil spills with none being found.

The two plastic lined fluid leak containment barriers where the plastic was removed and disposed of still contains contaminated soil which needs to be removed and properly disposed of (Figures 4 and 5). The contaminated soil is located just off the paved maintenance road east of the second security gate. Several contaminated soil stains also need to be cleaned up north of the second security gate (Figure 6).

The CIC Inspector did not attend this week's safety meeting due to meetings and commitments associated with the bird mortalities. Thursday's safety meeting was Mark Brooks' (Cobra Thermosolar Plants, Inc. [Cobra]) last safety meeting for he is being transferred. A new safety lead will be identified for the project.

A new underground power conductor is still being installed along the main entrance road for power to the future office building (existing Cobra warehouse). Crews were still working to pull in a sheathed conductor via manholes (Figure 7).

Birds observed at the evaporation ponds and throughout the project for Week 177 consisted of horned lark, common raven, white-crowned sparrow, savannah sparrow, lesser goldfinch, dark-eyed junco, merlin falcon, great horned owl, prairie falcon, golden eagle, Eurasian collared-dove, mourning dove, house finch, rock pigeon and house sparrow. During the week, temperatures were such that the water in the evaporation ponds remained ice free. Two antelope ground-squirrels were also observed inside the fence during Week 177.

The weather was cloudy and hazy for most of Week 177 with low temperatures in the mid to upper 30's and highs in the mid 50's degrees Fahrenheit. Cloud cover made commissioning difficult to impossible as commissioning requires full sunlight.

Some of the photographs recorded during Week 177 are provided within the attached photograph pages. Additionally, copies of the CIC inspection forms filled out during Week 177 are provided as an attachment. Please contact me with any questions or data requests.

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Mr. Timothy Coward  
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Attachment: Figures  
CIC Inspection Forms

cc. Rob Howe  
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Wendy Seley  
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## **FIGURES**

**Week 177 CIC Inspection Photos**



Figure 1 – The halo created by the reflected light of 3,000 heliostats which caused the bird mortalities.



Figure 2 – Bull Concrete’s freshly poured curb and gutter on the north side of the Power Block.



Figure 3 – Concrete pad poured by Bull Concrete during Week 177.



Figure 4 – One of the two contaminant barriers that has had the wood and plastic picked up but still has a small amount of contaminated soil to be disposed of.



Figure 5 – The second of the two contaminant barriers that has had the wood and plastic picked up but still has a small amount of contaminated soil to be disposed of.



Figure 6 – Contaminated soil to be cleaned up north of the second security gate.



Figure 7 – Electrical conductor lying in spools ready to be pulled into conduit via a manhole.

## **CIC INSPECTION FORMS**

**Week 177 CIC Inspection Forms**

177- 179  
11-500

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: BETH TOPHAN

Date: 1/12/15

Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 40°, 80% cloud, 15-20 mph.

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): YES Type of new disturbance: GRADING ROADS IN  
HELIOSTAT FIELD SOUTH SIDE.

Method of sediment (BMP) and dust control on new disturbances: LATER TRUCK.

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

## Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:
	<u>NONE</u>	

## Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:
	<u>NONE</u>	

1/12/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

**General construction activities observed and construction schedule updates:**

1:30 pm - WULFENSTEIN CONST. GRADING ROADS SOUTH OF THE POWER BLOCK.

1:35 pm - OUTHOUSE PUMP TRUCK EMPTYING OUTHOUSES.

2:09 pm - ROADS ARE VERY DUSTY, NO WATER RUNNING ON MAIN ROADS SO FAR TODAY.

2:51 pm - CREW'S CONT. TO ROLL CONDUCTOR IN ALONG THE PAVED MAIN MAINTENANCE ROAD.

2:59 pm - MUCH WORK CONT. IN AND AROUND THE POWER BLOCK.

3:01 pm - CONCRETE CURBING SET UP ON NORTH SIDE OF POWER BLOCK, READY TO POOR.

Next scheduled inspection date: 1/13/15

BIRDS: HOUSE SPARROW, ~~WESTERN SPARROW~~, WHITE CROWNED SPARROW, HORVED LARK, COMMON RAVEN, PRairie FALCON, LESSER LONGFINCH, DARK EYED JUNCO, SAVANNAH SPARROW, ~~WESTERN SPARROW~~, MERLIN FALCON, GREAT HORVED OWL. 2 GOLDEN EAGLES, MOURNING DOVE, ~~EUROPEAN~~ EURASIAN COLLARED-DOVE, ROCK PIGEON.

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: JETH TOPHAN

Date: 01/13/15

Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 31° / 5% CLOUD / 2-3 mph wind

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): YES Type of new disturbance: ROAD GRADING ON S. W/IF OF THE HELIOSTAT FIELD.

Method of sediment (BMP) and dust control on new disturbances: WATER TRUCK

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

## Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:

## Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: SETH TOPHAN

Date: 1/14/15 Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 35°/CLEAR/0 mph

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): YES Type of new disturbance: ROAD GRADING

Method of sediment (BMP) and dust control on new disturbances: WATER TRUCK

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

### Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:

### Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:
SOLAR RESERVE	BIRDS BEING BURNED IN THE HAIO ABOVE THE TOWER BY EXTREME HEAT.	STIPULATION #43

01/13/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

**General construction activities observed and construction schedule updates:**

8:15 AM - POWER CONTRACTOR CONT. TO PULL POWER CONDUCTOR IN ALONG PAVED MAINTENANCE ROAD

9:13 AM - WOLFFENSTEIN CONT. TO GRADE ROADS ON SOUTH HALF OF HELIOSTAT FIELD.

9:15 AM - MUCH WORK IN AND AROUND THE POWER BLOCK CONTINUES.

9:30 AM - HELIOSTAT COMMISSIONING CONTINUES SOUTH OF THE POWER BLOCK ON THE INNER CIRCLES OF THE HELIOSTATS.

10:38 AM - OUTHOUSE CLEAR/EMPTYING CONT. TODAY

11:15 AM -

\* CONCRETE CURBS ON NORTH SIDE OF THE TOWER PAVED

Next scheduled inspection date: 1/14/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): YES

Name of contractor and representative notified: BRIAN PAINTER (SOLAR RESERVE)

Signature of contractor representative notified: \_\_\_\_\_

Date: \_\_\_\_\_

Name of contractor and representative notified: \_\_\_\_\_

Signature of contractor representative notified: \_\_\_\_\_

Date: \_\_\_\_\_

Name of contractor and representative notified: \_\_\_\_\_

Signature of contractor representative notified: \_\_\_\_\_

Date: \_\_\_\_\_

**General construction activities observed and construction schedule updates:**

8:15 AM - ELECTRICIANS STILL WORKING TO PULL IN POWER CONDUCTOR ALONG THE PAVED MAINTENANCE ROAD.

8:58 AM - WORK CONT. IN AND AROUND THE POWER BLOCK.

9:01 AM - A CREW WORKING ON SEVERAL HELIOSTATS NORTH OF THE POWER BLOCK.

\* 9:21 AM - CONTAMINATED SOIL NEEDS CLEANED UP JUST NORTH OF THE SECOND SECURITY GATE. (3 PATCHES)

9:32 AM - HELIOSTAT COMMISSIONING WORK ON THE NORTH SIDE OF THE POWER BLOCK.

9:33 AM - HELIOSTAT WASHING TRUCK WORKING NORTH OF THE POWER BLOCK.

11:00 AM - ~~B~~ BIRDS CATCHING FIRE IN HMO OF REFLECTED LIGHT ABOVE THE TOWER.

\* AGENCIES NOTIFIED OF STREAMER IN THE HMO.

Next scheduled inspection date: 1/15/15

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: SETH TOPLIN

Date: 1/15/15 Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 30° / CLEAR / 0 mph

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): Y Type of new disturbance: ROAD GRADING

Method of sediment (BMP) and dust control on new disturbances: WATER TRUCK

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

## Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:

## Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:

1/15/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

**General construction activities observed and construction schedule updates:**

- CREWS PULLING WIRE ALONG MAIN ROAD
- CREWS GRADING ROADS
- LOTS OF WORK IN & AROUND THE POWER BLOCK.

\* MEET WITH BLM - DAVID PRICE, WENDY SELEY,  
BRIAN PAINTER, TIM COWARD.  
TO DISCUSS BIRD MORTALITIES OF YESTERDAY

\* MEET DAVID PRICE & BRIAN PAINTER AT THE MIZPAH TO  
GIVE THEM THE BIRD IMAGES AND VIDEO FROM YESTERDAY

\* SETH, WROTE MEMO OF YESTERDAY'S EVENTS AND SUBMITTED  
IT TO TIM COWARD.

\* ROB HOWE -

Next scheduled inspection date: 1/16/15

\* NO COMMISSIONING TODAY.

\* 3000 HELIOSTATS WERE BURNING BIRDS.

\* CJC TO BE ON SITE WHEREVER COMMISSIONING IS TAKING PLACE.

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: SETH TOPHAM

Date: 1/16/15

Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 34° / 50% CLOUD / 0 WIND

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): NO Type of new disturbance: NONE

Method of sediment (BMP) and dust control on new disturbances: NA

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

## Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:
	<u>NONE</u>	

## Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:
	<u>NONE</u>	

1/16/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

**General construction activities observed and construction schedule updates:**

- 8:00 am - WE (JAN, SETH, LEO) MET WITH DAVID PRICE (BLM) BRIAN PAINTER (SOLAR RESERVE) AND RUSS (IN CHARGE OF COMMISSIONING) TO DISCUSS COMMUNICATING AS COMMISSIONING CONTINUES. CIP WILL RADIO IF ANY STREAMERS DETECTED.
- \* STATEC CIP WILL PICK UP A RADIO AT 8:00 AM + CHECK IN WITH RUSS ON THE DAILY SCHEDULE.
- \* COMMISSIONING STARTS AROUND 8:00 AM AND CONT UNTIL AROUND 3:00 PM.
- \* CLOUDY DAYS WILL NOT BE ANY COMMISSIONING UNLESS THE CLOUDS BREAK.
- \* CIP WILL RETURN RADIO TO RUSS EACH DAY.

SETH DROVE AROUND SITE WITH DAVID PRICE, LOOKED AT BIRD DETENT DEVICES COMING OFF POWER STRUCTURES ON N OF PROJECT AND THE LEADING TALENT STRUCTURE.

- CREW PULLING WIRE IN ALONG MAIN MAINTENANCE ROAD
- CREW POURING CONCRETE NEAR SECOND SECURITY BARR ON N SIDE.
- CREW TAKING DOWN CONTRACTOR PARKING FENCE S OF TOWER.
- CREWS REMOVING ALL TRAILERS/TRASH/VEHICLES/LAY DOWN YARDS FROM THE HELIOSTAT FIELD.

Next scheduled inspection date: 1/17/15

- \* Commissioning will only be 150 HELIOSTATS NOW TO REDUCE HEAT + IMPACT TO BIRDS.
- \* CREW WILL BE ON SITE + IN COMMUNICATION WITH RUSS DURING ALL COMMISSIONING.
- \* COMMISSIONING IS ALWAYS ON CHANNEL 3.

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: SETH TOPHAM

Date: 1/17/15 Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 38° / 40% cloud / wind 0

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): NO Type of new disturbance: NA

Method of sediment (BMP) and dust control on new disturbances: NO WATER RUNNING TODAY

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

## Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:

## Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:

1/17/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

**General construction activities observed and construction schedule updates:**

8:30 - CREWS CONT TO MOVE ALL WORK MATERIALS OUT OF THE HELIOSTAT FIELD.

9:15 - CREWS CONT TO PULL CONDUCTOR IN ALONG THE MAIN, PAVED, MAINTAINANCE ROAD.

10:20 -- WORK CONT. IN AND AROUND THE POWER BLOCK.

11:30 - COMMISSIONING OF HELIOSTATS SET TO CONTINUE IF CLOUDS LIFT

11:40 - PARKING IS NOW RIGHT ALONG THE PAVED ROAD AROUND THE POWER BLOCK.

11:30 - COMMISSIONING ON SOUTH SIDE BEGAN.

Next scheduled inspection date: 1/18/15

# Construction Inspection Contractor (CIC) Inspection Form

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: SETH TOPHAM

Date: 1/18/15

Inspection frequency: DAILY 7 DAYS WEEK

Weather (Temperature, Skies, and Wind Speed): 36°/100% CLOUD/WIND 0

Project name: CDSEP Project Holder: TSE

New disturbances? (Y/N): NO Type of new disturbance: NA

Method of sediment (BMP) and dust control on new disturbances: NA

New equipment and/or materials brought on site? (Y/N): NO

Type of equipment and/or materials: NA

## Compliance Requests:

Responsible Contractor	Compliance Request	Stipulation # that request adheres to:
	<u>NONE</u>	

## Non-Compliance Incidents:

Responsible Contractor	Non-compliance Incident Description and Date of Previous Compliance Request:	Stipulation # that request adheres to:
	<u>NONE</u>	

1/18/15

All contractors notified of the compliance requests and non-compliance incidents? (Y/N): NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

Name of contractor and representative notified: NA

Signature of contractor representative notified: NA

Date: NA

**General construction activities observed and construction schedule updates:**

9:20 - WORK INSIDE THE POWER BLOCK

10:00 - NO WORK OUTSIDE THE POWER BLOCK.

12:00 -

3:30 pm - NO COMMISSIONING TODAY DUE TO CLOUD COVER.

Next scheduled inspection date: 1/19/15

\* 2 LOOSE EAGLES ON POWER STRUCTURES JUST N OF THE SAME FACILITY.