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 form 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 15th 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 contain 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 Themosolar 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.

Nancy Lightfoot
Environmental Specialist
Office: (775) 747-5777
Mobile: (775) 846-4138
nancy.lightfoot@stantec.com
Attachment: Figures
CIC Inspection Forms

cc. Rob Howe
(rob.howe@solarreserve.com)

Wendy Seley
(wseley@blm.gov)

Lynn Alexander
(Lynn.Alexander@hq.doe.gov)
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
**Construction Inspection Contractor (CIC) Inspection Form**

203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector:  

Date: 1/12/15  

Inspection frequency:  

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

Project name: CSSEP  

Project Holder: TSE

New disturbances? (Y/N):  

Type of new disturbance:  

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

New equipment and/or materials brought on site? (Y/N):  

Type of equipment and/or materials:  

**Compliance Requests:**

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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

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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 crew grading roads south of the power block.

**1:35 pm** - Outhouse dump truck emptying outhouses.

**2:09 pm** - Roads are very dusty, no water running on main roads so far today.

**1:51 pm** - Crew's cost to pull conduit in around the power main maintenance road.

**2:59 pm** - Much water cost in and around the power block.

**3:01 pm** - Concrete curb set up on north side of power block, ready to pour.

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Next scheduled inspection date: 1/13/15

Construction Inspection Contractor (CIC) Inspection Form
203711338 Tonopah Solar CIC Project; 101- Reno CIC Project
Name of the inspector: BETH TAYLOR

Date: 01/13/15  Inspection frequency: Daily

Weather (Temperature, Skies, and Wind Speed): 31°/5°c(10mph) 2-3 mph wind

Project name: CDSEP  Project Holder: TSE

New disturbances? (Y/N): YES  Type of new disturbance: ROAD RAMP ON 3
HALF OF THE AEROSTAT 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

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Construction Inspection Contractor (CIC) Inspection Form
203711338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: JETH TOOPHAN

Date: 1/4/15  
Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 35°/C16mph

Project name: CISER  
Project Holder: TSE

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

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

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<tr>
<td>SOLAR RESERVE</td>
<td>BIRDS BEING BURNED IN THE RADIO ABOVE THE TOWER BY EXTREME HEAT.</td>
<td>STIPULATION #43</td>
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All contractors notified of the compliance requests and non-compliance incidents? (Y/N):  

Name of contractor and representative notified:  
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** - Power contractor cont. to pull power conductor in along paved maintenance road  
- **9:13 AM** - Wulfenstein cont. of grade roads on south side of Helioskats Field  
- **9:15 AM** - More work in and around the power block continues  
- **9:30 AM** - Helioskats commissioning continues south of the power block on the inner circles of the Helioskats  
- **10:38 AM** - Outhouse clean/Final soils cont. to day  
- **11:15 AM** -  
  - Concrete curb on north side of the power pad cont.
All contractors notified of the compliance requests and non-compliance incidents? (Y/N):  Y

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 FINISH POWER CONDUCTOR ALONG THE PAVED MAINTENANCE ROAD.

9:58 AM - WORK CONTINUES AROUND THE POWER PLANT.

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

9:21 AM - CONTAMINATED SOIL NEEDS CLEANED UP JUST SOUTH OF THE SECOND SECURITY GATE. (3 PALLETS)

9:38 AM - HELIOSTAT COMMISSIONING WORK ON THE NORTH SIDE OF THE POWER PLANT.

9:33 AM - HELIOSTAT WASHING MACHINE WORKING NORTH OF THE POWER PLANT.

11:00 AM - BUILDERS CATCHING FIRE TO HANG OF REPEATED LIGHT ABOVE THE POWER PLANT.

* AGENCIES NOTIFIED OF SMOKE IN THE HANG.

Next scheduled inspection date: 1/15/15
Construction Inspection Contractor (CIC) Inspection Form
20371338 Tonopah Solar CIC Project; 101- Reno CIC Project

Name of the inspector: SETH TOLAM

Date: 1/15/15  Inspection frequency: DAILY

Weather (Temperature, Skies, and Wind Speed): 30°C / 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): N/O
Type of equipment and/or materials: NA

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Name of contractor and representative notified: 
Signature of contractor representative notified: 
Date: 

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Signature of contractor representative notified: 
Date: 

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Signature of contractor representative notified: 
Date: 

General construction activities observed and construction schedule updates:

- **CREWS RUNNING ALONG MAIN ROAD**
- **CURB & TREADING, ROADS**
- **LOT OF WORK IN & AROUND THE POWER PLEK**

- **MEET WITH BLM - DAVID GLICK, WENDY SELK, BRIAN PAINTER - IN CONWAB**
  to discuss road inconsistencies of yesterday

- **MEET DAVID GLICK & BRIAN PAINTER AT THE MIRAH TO DISCUSS THE BLM IMAGES AND VIDEO FROM YESTERDAY**

- **SETH, WRITE SUMMARY OF YESTERDAY'S EVENT AND SUBMIT IT TO TIN CONWAB**

- **ROD HOUSE**

Next scheduled inspection date: **1/16/15**

- **NO COMMISSIONING TODAY.**
- **3600 HQMULTI BURNING BIRDS.**
- **CFC 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 TUPHAN

**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:** OA

**New equipment and/or materials brought on site? (Y/N):** No  
**Type of equipment and/or materials:** None

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

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<th>Time</th>
<th>Activity</th>
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<td>8:00 AM - 12:00 PM</td>
<td>MEET WITH DAVID PRICE (O&amp;M) BEGIN RAINIER (CORE OPERATE) AND RISK COMMISSIONING CONTINUOUSLY. CIP WILL EMAIL IF ANY STORMY EVENTS.</td>
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- STARTS AT 5:30 AM AND RUNS ON THE SCHEDULE.
- COMMISSIONING STARTS AROUND 5:30 AM AND CONTINUES UNTIL AROUND 3:00 PM.
- CLOUDY DAYS WILL NOT BE ANY COMMISSIONING UNLESS THE CLOUDS BREAK.
- CIP WILL BE ON SITE TO RUN EACH DAY.
- WITH DAVE AND DAVID PRICE, LOOKED AT BIRD DETECT DEVICES CAME ON OFF DURING STRUCTURES ON N OF THE BUILDING.
- CREW WORKING IN AND AROUND MAINTENANCE BAY.
- CREW WORKING ON CONCRETE OVER SECURITY BARE ON N SIDE.
- CREW TAKING DOWN CONTRACTOR MATERIAL ON N OF TOWER.
- CREW REMOVING ALL TRASH/VEHICLES/CAB ROOF YARDS FROM THE FIELD.

Next scheduled inspection date: 1/17/15

- COMMISSIONING WILL ONLY BE 150 HEATSTATS NEW TO REDUCE HEAT IMPACT TO BIRDS.
- CIP WILL BE ON SITE TO COMMUNICATION WITH RISK 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 RAPM
Date: 1/17/15
Inspection frequency: Daily

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

Project name: CDSEP
Project Holder: TIE

New disturbances? (Y/N): N
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): N
Type of equipment and/or materials: NA

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Signature of contractor representative notified: NA
Date: NA

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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 waste materials out of the

HELIOSAT FIELD
9:15 - Crews cont to pull conduits in along the main,

Paved Maintenance Road
10:20 - Work cont. in and around the Power Block
11:30 - Commissioning of HELIOSATs set to continue if clouds lift
11:40 - Parking is now right around the paved road around

THE POWER BLOCK
10:11:30 - Commissioning on South Side Parker.

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 TOHAN

Date: 1/18/15                 Inspection frequency: Daily 7 Days Week

Weather (Temperature, Skies, and Wind Speed): 36°/100% Cloudy/Windy

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

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None
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Name of contractor and representative notified: \underline{NA}
Signature of contractor representative notified: \underline{NA}
Date: \underline{NA}

Name of contractor and representative notified: \underline{NA}
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Date: \underline{NA}

Name of contractor and representative notified: \underline{NA}
Signature of contractor representative notified: \underline{NA}
Date: \underline{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: \underline{1/19/15}

\#2 Golden Eagles on power structures just N of the same facility.