Set-Up and Take-Down 2nd and 3rd Generation In-Farm Surveillance Cameras

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<td>Add HLAN to Section 2.1, Special Instructions prior to 5.1.2.4, Steps 2.2.2, 5.1.3.1, 5.1.12.3, 5.3.6. Changed Notes prior to Section 5.1, and Step 5.1.10.4, to Special Inst. Reword Steps 5.1.4, 5.1.5, 5.1.10.5, 5.1.12, 5.1.14, 5.2.20, 5.2.25.1. Struck Section 3.4 &amp; Steps 2.2.2, 5.1.7.3 and 5.1.7.5.</td>
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<td>12/02/2-14</td>
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<td>Reword Steps 1.2.3, 5.2.23.4, 5.3.7, Section 5.6. Added Steps 5.1.2.5 and note prior to step, 5.1.3.1, 5.2.22.2 and substep “a” and 5.3.6</td>
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<tr>
<td>A-0</td>
<td>02/07/2014</td>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for setting up and taking down the In-Farm Surveillance Camera System (ISCS).

1.2 Scope

1.2.1 This procedure applies to the ISCS equipment that provides remote in-farm surveillances.

1.2.2 This procedure does not involve camera operation or maintenance instructions (reference TFC-OPS-OPER-CD-47, “In-Farm Camera System” for access guidance.)

1.2.3 There are no PM Data Sheets associated with this procedure.

2.0 INFORMATION

2.1 Terms and Definitions

ISCS In-Farm Surveillance Camera System

HLAN Hanford Local Area Network

2.2 General Information

2.2.1 At any time during the performance of any section of this procedure, the performer may inspect and/or clean the camera cover using warm water and a soft cloth.

2.2.2 In-Farm Surveillance Camera System is a platform mounted camera system that provides real-time surveillance of the Farms and Farm boundaries with the ability to be powered from solar panels and land power.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Moving and positioning ISCS equipment may result in pinch points. Failure to wear leather gloves may result in personnel injury.

3.1.2 Failure to position chocks at ISCS trailer wheels when lowering trailer down from outriggers could result in uncontrolled trailer movement and damage and/or personnel injury.

3.2 Equipment Safety

CAUTION - Failure to observe the tower extension hard stops while extending tower, could stall hoist and cause damage.

CAUTION - Failure to observe the tower electrical cable for obstructions, while extending the tower mast, could cause cable damage. Cold weather may cause electrical cable to become brittle and break.

CAUTION - Failure to lay-out cables may result in a slack hoist cable and cause birds nesting of cable.

3.3 Radiation and Contamination Control

3.3.1 When performed without a work package, this procedure is limited to radiological areas and work activities permitted by a general radiological work permit (RWP).

3.3.2 When work is performed in or when work will result in a high contamination, high radiation, or an airborne radioactivity area, an approved work package must be developed which is reviewed by Radiological Control per ALARA work planning procedure TFC-ESHQ-RP_RWP-C-03.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- ISCS Toolbox
- Level Indicator
- \( \frac{1}{4} \) to \( \frac{3}{4} \) end wrenches
- Winch Controller
- Wheel Chocks
- Water Soft Cloth.

4.2 Performance Documents

The following procedures may be needed to perform this procedure:

- TO-100-052, Perform Waste Generation, Segregation and Accumulation
- TFC-OPS-OPER-CD-47, Tank Farm Self-Powered In-Farm Camera System.
5.0 PROCEDURE

Special Instructions

Steps in Section 5.1 and 5.2 may be performed in any logical order or as directed by FWS with those directions recorded on Work Record.

5.1 Set Up In-Farm Surveillance Camera System (ISCS)

5.1.1 POSITION ISCS trailer as follows:

5.1.1.1 REFER to Figure 1 while positioning Trailer, Outriggers and Solar Panels.

5.1.1.2 CONFIRM no overhead obstructions before moving trailer.

5.1.1.3 DON leather gloves.

5.1.1.4 MOVE trailer to as level a position as possible AND POSITION the trailer so that solar panels face toward the South when deployed.

5.1.2 INSTALL Outriggers as follows:

5.1.2.1 LOOSEN hand-screws on each outrigger traveling bracket AND REMOVE outriggers from traveling brackets.

5.1.2.2 INSERT an outrigger in each corner receptacle.

5.1.2.3 TIGHTEN all outrigger holding bolts securely.

Special Instructions

The outriggers and auxiliary jacks should be adjusted concurrently to level and stabilize the surveillance camera system.

5.1.2.4 ENSURE trailer is level as possible with all outriggers securely on the ground.

NOTE - The auxiliary jacks are only used on the 2nd generation camera systems.

5.1.2.5 IF auxiliary jacks are available, INSTALL jacks AND ADJUST jacks to Level surveillance camera system.
5.1 Set Up In-Farm Surveillance Camera System (ISCS) (Cont.)

**Camera and Light Assembly**

5.1.2.6 IF camera light assembly is not mounted to tower, **REMOVE** from saddle **AND**

**INSTALL** on tower.

a. **SECURE** assembly with holding bolts **AND**

**PLUG IN** all cords associated with the assembly.

5.1.3 **POSITION** Solar Panels as follows:

5.1.3.1 **ENSURE** the trailer is positioned so that solar panels face toward the South when deployed.

5.1.3.2 **REMOVE** bolt or pin used to secure panels for travel.

5.1.3.3 **LOOSEN** bolts for securing solar panel tilt.

5.1.3.4 **SWING** solar panels out **AND**

**POSITION** each panel to approximately 45 degrees of tilt.

5.1.3.5 **TIGHTEN** bolts to secure solar panels.

5.1.4 **CONNECT** system ground wire to the nearest riser or ground point.

5.1.5 **INSTALL** Shore Power (120 Vac Cord).

5.1.6 **OPEN** door to Electrical Box Enclosure **AND**

**TURN-ON** (CLOSE) all breakers (see Figure 4).

5.1.7 **CLOSE** door to Electrical Box enclosure.

5.1.8 **TURN-ON** “Main Power Switch” located on front of Electrical Box Enclosure (Figure 2).
5.1 Set Up In-Farm Surveillance Camera System (ISCS) (Cont.)

Extend ISCS Camera System

5.1.9 ELEVATE camera tower as follows:

5.1.9.1 CHECK all winch and hoist cables and attachments for frayed and/or loose hardware AND

IF damaged or loose hardware is found, NOTIFY FWS.

5.1.9.2 REMOVE tower “base pin” AND

STAND CLEAR of equipment.

5.1.9.3 PLUG “Hand Held Winch Controller” into “Raise Tower” socket connector (see Figure 6).

5.1.9.4 ELEVATE tower to vertical position.

5.1.9.5 REPLACE AND SECURE the tower “base pin”.

5.1.9.6 ENGAGE winch slightly to place tension on cable and stabilize the tower structure.

5.1.9.7 MOVE the “Hand Held Winch Controller” plug from “Raise Tower” socket to “Elevate Tower” socket (Figure 6).

5.1.9.8 TURN “Tower Latching Bracket” operating handle so latching bracket is clear/disengaged (Figure 7).
5.1 **Set Up In-Farm Surveillance Camera System (ISCS) (Cont.)**

**Extend ISCS Camera System**

5.1.10 **WHILE** standing clear, **PERFORM** the following:

5.1.10.1 **ENGAGE** the extending hoist.

5.1.10.2 **MONITOR** tower closely during elevation.

**CAUTION**

Failure to observe the tower electrical cable for obstructions while extending the tower mast could cause cable damage. Cold weather may cause electrical cable to become brittle and break.

5.1.10.3 **WHILE** extending tower mast, **OBSERVE AND MANEUVER** the camera cable slowly to prevent cable from catching on obstructions.

**CAUTION**

Failure to observe the tower extension hard stops while extending tower, could stall hoist and cause damage.

**Special Instructions**

Step 5.1.10.4 and sub-step 5.1.10.4a are to be performed simultaneously as one continuous step (and should be reviewed prior to performing action).

5.1.10.4 **USING** the “Winch Controller” **BEGIN** tower extension:

a. **ENSURE** the” Travel Limit Stop” prevents tower from over extending **AND**

   **IF** not, **STOP** the extension at the “Hard Stops” using the “Hand Held” winch controller.

5.1.10.5 **AFTER** camera tower has been extended to the proper height, **ENGAGE** (latch) the “Tower Latching Bracket” safety handle.

5.1.10.6 **LOWER** tower to rest on “Tower Latching Bracket” (Figure 7).

5.1.10.7 **UNPLUG** “Hand Held Winch Controller”.

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**Set-Up and Take-Down 2nd and 3rd Generation In-Farm Surveillance Cameras**
5.1 Set Up In-Farm Surveillance Camera System (ISCS) (Cont.)

5.1.11 OPEN door to Electronics/Communications Box AND CLOSE (Turn-On) all breakers (Figure 3).

5.1.12 INSPECT solar regulator in Electronics/Communications Box AND CONFIRM it is functioning properly as follows:

5.1.12.1 OBSERVE indicating lights are illuminated.

5.1.12.2 CHECK battery voltage, is not less than 11.5 volts DC AND IF otherwise, NOTIFY FWS.

5.1.12.3 CHECK Solar/Load amperage is 2.0 to 2.5 amps AND IF not, NOTIFY FWS.

5.1.12.4 CHECK lights and components are lit and functioning.

5.1.13 CLOSE AND SECURE both Electrical Box Enclosure and Electronics/Communications Box enclosure.

5.1.14 ENSURE camera and Spot Light are operating properly via HLAN, (Hanford Local Area Network) connection.
5.2 Take Down ISCS

5.2.1 DON appropriate PPE AND STAND CLEAR of equipment.

5.2.2 PLUG hand held winch controller into “Elevate Tower” socket (Figure 6).

5.2.3 IF upper tower section needs to be raised to clear the “Tower Latching Bracket” (Figure 7), PERFORM the following:

5.2.3.1 OPERATE hoist to slightly raise upper tower section until the “Tower Latching Bracket” is cleared.

5.2.3.2 TURN “Tower Latching Bracket” operating handle so latching bracket is clear/disengaged (Figure 7).

CAUTION

Failure to lay-out cables may result in a slack hoist cable and cause bird-nesting of cable.

NOTE Lowering the tower may be performed in stages to eliminate physical hazards and to allow for proper cable layout.

5.2.4 LOWER the tower in stages (start/stop) to safely allow cable layout.

5.2.5 OPERATE Hoist to allow tower to move down to the bottom AND WHILE keeping hands away from any moving tower sections, CAREFULLY LAY OUT the cables during this operation.

5.2.6 MOVE hand-held winch controller plug from “Elevate Tower” to “Raise Tower” socket (Figure 6).

5.2.7 OPERATE winch to relieve tension on cable and tower base pin.

5.2.8 REMOVE tower base pin.

5.2.9 OPERATE hand held winch allowing tower to tilt to the horizontal position AND PUSH tower to start tilting process.
5.2 Take Down ISCS (Cont.)

5.2.10 LOWER tower to rest on tower bracket AND
SECURE tower in place.

5.2.11 REPLACE AND SECURE the tower base pin.

5.2.12 UNPLUG hand held winch controller.

5.2.13 IF not already open, OPEN door to Electrical Box Enclosure AND
TURN-OFF (OPEN) all breakers energized in Step 5.1.6.

5.2.14 CLOSE AND SECURE the Electrical Box Enclosure.

5.2.15 IF not already open, OPEN door to Electronics/Communications Box AND
TURN-OFF (OPEN) all breakers energized in Step 5.1.11.

5.2.16 OBSERVE all indicating lights are extinguished.

5.2.17 CLOSE AND SECURE the Electronics/Communications box.

5.2.18 TURN OFF (OPEN) the “Main Switch” on front of Electrical Box Enclosure (Figure 2).

5.2.19 UNPLUG Shore Power (120 Vac Cord) from unit AND
SECURE Cord.

5.2.20 DISCONNECT system ground wire, coil up and secure for transport.

5.2.21 IF not already unplugged, UNPLUG camera connectors AND
SECURE camera head assembly to storage saddle on trailer tongue for transport (Figure 5).
5.2 Take Down ISCS (Cont.)

5.2.22 SECURE and outriggers as follows:

5.2.22.1 ENSURE chocks are positioned at trailer wheels.

5.2.22.2 IF auxiliary jacks are deployed, RETRACT jacks to fully-up position AND

REMOVE from camera trailer.

a. PLACE auxiliary jacks in truck for transportation with camera trailer.

5.2.22.3 BACK-OFF leveling jacks on each of the outriggers AND

ALLOW weight to transfer to the trailers tires.

5.2.22.4 LOOSEN hand-screws on outriggers.

5.2.22.5 PULL outrigger(s) out of corner receptacles AND

MOVE outriggers to traveling brackets with the stanchions in up position.

5.2.22.6 TIGHTEN hand-screws on outriggers securely for transport.

5.2.22.7 RETRACT leveling jacks completely so jacks will not drag during transport.

5.2.23 SECURE Solar Panels as follows:

5.2.23.1 LOOSEN tilt position bolts on solar panels.

5.2.23.2 CAREFULLY TILT solar panels vertically.

5.2.23.3 LOOSEN swing bolts on solar panels AND

CAREFULLY SWING panels back towards trailer.

5.2.23.4 TIGHTEN swing bolts on solar panels to prevent movement during transport AND

INSTALL transport pin or bolt before moving.
5.2 Take Down ISCS (Cont.)

5.2.24 IF the ISCS equipment trailer is being prepared for direct transport, CONNECT ISCS equipment trailer to towing vehicle AND PERFORM the following:

5.2.24.1 CHECK safety chains, stop lights and turn signals.

5.2.24.2 TURN both tongue jacks to lock in place for transport.

5.2.25 CONFIRM ISCS equipment and trailer are secure for transport by performing the following:

5.2.25.1 RECHECK tightness of all bolts and hand-screws prior to transport AND TIGHTEN if not snug.

5.2.25.2 ENSURE all camera system equipment is Secure before transporting.
5.3 Restoration

5.3.1 IF any problems were/are encountered with Set-Up and Take-Down of the (ISCS), INFORM Lead/FWS.

5.3.2 ENSURE system ground is disconnected and secured for transport.

5.3.3 ENSURE Camera Tower extension electrical cables are laid out properly for transport.

5.3.4 ENSURE Tower Base Pin is secured in place.

5.3.5 ENSURE Outriggers are properly stored in their traveling brackets with hand-screws tight.

5.3.6 ENSURE Swing Bolts on Solar Panels are secured/tightened in place.

5.3.7 ENSURE all equipment is secured; bolts are tightened and system ground is disconnected and secured for transport.

5.3.8 ENSURE auxiliary jacks are stored in truck for transport with camera trailer.

5.3.9 ENSURE Outriggers/Leveling Jacks are installed in their traveling bracket with locking screw snugged tight.

5.4 Acceptance Criteria

Acceptance Criteria has been met when Set-Up and Take-Down Steps in this procedure have been satisfactorily performed and Restoration Checks have been satisfied.

5.5 Review

5.5.1 INFORM Lead/FWS ISCS is secured and ready for transport.

5.5.2 LEAD/FWS REVIEW AND ENSURE the following:

- Acceptance Criteria have been met.
- Comments are documented in the work package as applicable.
- Work requests needed as a result of this procedure are identified and generated.
- Work request number(s) of any work documents generated as a result of this procedure, are recorded in the Comments/Remarks section of the Data Sheet, as applicable.

5.6 Records

No records are generated during the performance of this procedure.
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Figure 1 Outriggers and Solar Panel Layout
Set-Up and Take-Down 2\textsuperscript{nd} and 3\textsuperscript{rd} Generation In-Farm Surveillance Cameras

Figure 2 – Main Switch on Electrical Box Enclosure

2\textsuperscript{nd} Generation Auxiliary Jacks
Set-Up and Take-Down 2\textsuperscript{nd} and 3\textsuperscript{rd} Generation In-Farm Surveillance Cameras

Figure 3 – Electronics/Communications Box Layout
Set-Up and Take-Down 2\textsuperscript{nd} and 3\textsuperscript{rd} Generation In-Farm Surveillance Cameras

Figure 4 – Electrical Box Enclosure with Equipment and Breaker(s) Layout
Set-Up and Take-Down 2\textsuperscript{nd} and 3\textsuperscript{rd} Generation In-Farm Surveillance Cameras

Figure 5 – Camera and Light Assembly Storage Saddle
Figure 6 – Hand Held Winch Controller Elevate and Raise Tower Sockets
Figure 7 – Tower Safety Latching Bracket with Operating Handle