

**Collins Aerospace**  
**1.9 MW-AC Solar Project**  
**Windsor Locks, CT**

**Operations and Maintenance Plan**

**1. Introduction**

Hamilton Sundstrand, doing business as Collins Aerospace, is the owner of the solar field located at 1 Hamilton Road, Windsor Locks, CT. Collins is responsible for operations and maintenance (O&M) of the solar electric system and related ancillary facilities (roads, fence, etc.). This O&M Plan describes the project components, maintenance and monitoring procedures, and emergency response measures of the Project.

**2. Project Contact Information**

Collins Aerospace  
1 Hamilton Road  
Windsor Locks, CT 06096  
24 hour emergency contact 860-654-5501

**3. Project Description**

Once constructed, the Project will consist of the ground-mounted solar panel array, inverters, transformers, switchgear, electrical cable collection system, and interconnection with the electrical service provider (Eversource). The switchyard and related electrical gear are owned and operated by Collins Aerospace. The Project also includes access roads, security fencing for the solar field, and stormwater management areas.

The solar field is located within a secure facility protected by perimeter fencing and accessible by authorized personnel only. Access to these locations should be arranged by contacting the Owner identified in section 2 – Project Contact Information.

**4. Equipment Maintenance**

Collins and/or its authorized subcontractors will inspect and maintain electrical and PV equipment in accordance with the manufacturers requirements to maintain proper operation and warranty status. The O&M provider will also perform the following inspections.

The results from these inspections/tests will be provided in an O&M inspection report maintained by Collins Facilities.

- The operation of all safety devices will be reviewed and corrected to maintain proper function.
- Full visual Inspection of all equipment, subassemblies, wiring, connectors, etc.
- Infrared inspection of the electric gear and connections as a predictive maintenance measure

## **5. Site Maintenance**

Collins will maintain the solar facility using internal resources and external service providers. Collins and/or its authorized subcontractors will undertake the following maintenance activities per the schedule in table 1.

### **5.1 Site Access and Lighting**

The solar array, inverters, and transformers will be enclosed by a fence with gated entrances within the secure Collins facility. There will be no access gates accessible to the public from outside the secure perimeter fence. Access to the solar field will be via Emergency services noted in section 2 – Project Contact Information. Signage and egress functionality will be inspected and repaired, if necessary.

Existing lighting within the Collins Aerospace facility will remain and provide lighting for emergency response, operations, and maintenance. The solar array areas will not contain their own lighting sources.

### **5.2 Equipment Grounds and Maintenance**

All Project equipment will be inspected and maintained as directed by the manufacturer's requirements. Grounds maintenance activities will be scheduled to ensure site access and function of the stormwater management areas (see summary of scheduled maintenance activities in Table 2). Specific maintenance requirements for stormwater management areas are included in the Long-Term Stormwater Management Plan in Section 7.

### **5.3 Grass Management**

Grass around and under the array will be mowed in accordance with the schedule in Table 2 and will be maintained to a height to reduce the risk of fire. Grass will be re-planted in bare areas to ensure that erosion control is maintained.

### **5.4 Panel Cleaning**

Panel Cleaning is rarely necessary in the Northeast, but if that panels are to experience enough soiling to adversely affect production the panels will be cleaned using water and soft bristle brooms. No chemicals will be used.

### **5.5 Snow Maintenance**

Snow will be cleared from the access roads to all the electrical equipment pads. Snow will be plowed or removed in a manner to maintain emergency turnarounds. Collins does not intend on removing snow from panels.

### **5.6 Pavement Maintenance**

A portion of the solar array is located on pavement. The pavement will be inspected annually for large cracks, potholes, or other areas of deteriorating pavement. Repairs will be made on an as needed basis.

**Table 1 - Scheduled Maintenance Activities**

| <b>Task</b>                          | <b>Frequency</b>                       |
|--------------------------------------|--|
| On-site visual inspection            | 1 x per year or per manufacturer       |
| Mechanical and electrical inspection | 1 x per year                           |
| Panel cleaning                       | 1 x per year                           |
| Grass cutting and weeding            | 1 x per year between April and October |
| Snow removal                         | As needed between October and April    |
| Pavement inspection                  | 1 x per year                           |
| Perimeter fence inspection           | 1 x per year                           |
| Stormwater management area           | In accordance with Section 7           |

**6. Monitoring**

Collins will utilize a continuous 24/7 remote monitoring system to provide alarm and performance data of the system. The monitoring system will include full site and inverter level production and alarms as well as site weather and irradiance data. Collins will analyze performance data to make sure that the system is performing as designed and will be responsible for dispatching crews for system maintenance and repair related issues. Collins is obligated to comply with this O&M Plan, as well as the conditions of all permits or regulatory approvals.

**7. Emergency Response**

Collins Aerospace maintains a 24 hour, 7 days a week emergency response team to address site security, hazardous response, firefighting, and medical issues that may arise at the facility. A fully staffed command center is available at 860-654-5501 (non-emergency) or 860-654-1911 (emergency) anytime. Security has keys and facility access in the event of an emergency.

**8. Long Term Stormwater Management Plan**

The O&M service provider shall inspect all on-site vegetated areas at least once per year, removing any accumulated sediment or debris, as needed. Although not a structural component of the drainage system, the maintenance of vegetated areas will affect the functioning of the long-term stormwater management. This includes the health/density of vegetative cover and activities such as the application and disposal of lawn and garden care products, disposal of leaves, and yard trimmings.

Any bare areas shall be re-seeded promptly, and appropriate erosion control measures shall be installed when native soil is exposed or when erosion channels are forming. Alternative mixtures of grass species shall be planted in the event of unsuccessful establishment. Vegetated areas are to be mowed approximately once per year to prevent the establishment of woody species.