

Solar Farm Radar Coverage Assessment Input Checklist

For solar PV plants, utility-scale renewable sites and perimeter surveillance design

Purpose: Complete this worksheet before requesting a coverage concept, configuration review, or project proposal. Attach drawings/maps where requested. Unknown items may be marked TBD.

1. Plant Profile

Plant / project	Name: _____ Country/Region: _____
Capacity / area	Plant capacity: _____ MW Site area: _____ km² Fence length: _____ km
Layout type	☐ Fixed tilt ☐ Single-axis tracker ☐ Mixed Typical row height: _____ m Row spacing: _____ m
Critical assets	☐ Substation ☐ Inverters ☐ BESS ☐ Control room ☐ Transformer yard ☐ Cable routes ☐ Other: _____

2. Coverage Geometry Inputs

Feature	Required data	Why it matters
Panel rows	Orientation, height, tilt/tracker motion, spacing	Line-of-sight blocking and recurring clutter
Terrain	DEM/elevation, slopes, drainage channels	Shadow zones and mounting-height selection
Service roads	Routes, vehicle density, maintenance schedule	Track discrimination and nuisance-alarm tuning
Fence / vegetation	Fence type/height, vegetation zones	Near-field geometry and seasonal clutter
Buildings / equipment	Inverters, BESS, substations, warehouses	Fixed masking and protected-zone priorities

3. Threat / Target Profile

Target	Typical route / behavior	Required outcome	Priority
Person / intruder	Fence crossing / service road / panel rows	Detect / Track / Alert / EO verify	H / M / L
Vehicle	Service road / external road / unauthorized entry	Detect / Track / Classify	H / M / L
Drone (if in scope)	Altitude / route / type: _____	Detect / Stable track / EO verify	H / M / L
Wildlife / nuisance target	Type / activity: _____	Filter / classify / alarm policy	H / M / L

4. Candidate Sensor Sites

Site ID	Coordinates	Mount Height	Power / Network	Sector / Constraint
S1	_____	_____ m	_____	_____
S2	_____	_____ m	_____	_____
S3	_____	_____ m	_____	_____
S4	_____	_____ m	_____	_____

5. Alarm Zone & Integration Design

Zone logic	☐ Fence approach ☐ Fence crossing ☐ Asset exclusion zone ☐ Service-road analytics ☐ Multi-zone escalation
EO/IR / CCTV	Existing/planned cameras, heights and acquisition/recognition ranges: _____
C2 / VMS	Alarm ingest / map display / video pop-up / track data / API requirements: _____
Operations	Guard response time: _____ min Control room staffed 24/7? Y / N Alarm escalation path: _____

6. Acceptance Inputs

Test	Define before site acceptance	Project requirement
Representative routes	Across rows, along roads, fence crossing, asset approach	_____
Target conditions	Person/vehicle/drone size, speed, direction, altitude	_____
Metric	First detection / stable track / classification / EO acquisition	_____
Nuisance alarms	Wind, moving trackers, vegetation, service vehicles, wildlife	_____
Evidence	Track logs, maps, time-stamped screenshots, alarm records	_____

7. Attachments Required

Attachment	Preferred format	Provided?
PV layout / site plan	DWG / PDF / GIS / KMZ	Y / N
Terrain / elevation data	DEM / survey / contour plan	Y / N
Fence + asset zones	GIS/KMZ / annotated plan	Y / N
Existing camera/network plan	PDF / diagram / device list	Y / N
Site photos	Candidate sensor points and representative panel rows	Y / N

Submission & Review

Prepared by Name / Company: _____	Contact Email / Phone: _____	Date / Version Date: _____ Ver.: _____
Attachments: ☐ Site plan / GIS / KMZ ☐ Photos ☐ Existing system diagram ☐ Datasheets ☐ Other: _____		

Note: Midradar may request additional project data before providing a coverage concept or configuration recommendation. Final performance depends on target characteristics, environment, installation geometry, system configuration and acceptance criteria.