

Radome Maintenance Issues

New Radome Contracts

In January 2012, NOAA's Western Acquisition Division awarded separate contracts to L-3 Communications ESSCO, Inc. and Radome Services LLC. These contracts give the Radar Operations Center (ROC) authority to task these contractors to perform inspections and to provide maintenance services such as washing and painting radomes and replacing panels. Now is a good time to discuss three radome issues the ROC has recently encountered: Tedlar peeling, panel-to-panel bolt tightness, and contractor access to RDA sites.

Tedlar Peeling

Tedlar[®] is a DuPont[™] polyvinyl fluoride film that is used as a skin in many types of composite moldings such as commercial aircraft cabin panels, awnings, signs, and radome panels. The Tedlar helps release the parts from their molds and then later protects them from ultraviolet damage in the field. The Tedlar film used in NEXRD radome panels is the same thickness as a standard sandwich bag and does not provide structural strength.

While it is common for small patches of Tedlar to peel over the years, a few radomes such as Mobile, AL; Tampa, FL; and Melbourne, FL have experienced peeling in areas as large as three feet across (see Figures 1 and 2). We suspect that the humid, salt air and occasional hurricane force winds have accelerated radome aging at these sites.

Peeling does not affect the radome's structural integrity or indicate the need for a panel replacement, but it does expose the panel's fiberglass to ultraviolet light. Please report peeling to

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Figure 1: Radome with peeling Tedlar film.



Figure 2: Peeling Tedlar film. Note the peeling is not centralized to one location.

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the ROC Hotline, so your radome can be scheduled for inspection and repainting if necessary. Full ultraviolet protection will be restored with the next coat of paint. See <http://www.roc.noaa.gov/WSR88D/PublicDocs/RadomeMaintenanceSchedule.pdf> for the radome maintenance schedule. The posted dates are tentative and the contractor will coordinate the actual date directly with the sites.

NEXRAD radomes are designed to withstand winds of 134 miles/hour, and some have survived even higher velocities in Typhoons. In the rare case of a catastrophic failure, the ROC keeps an entire radome in a ready-to-ship steel container and will replace the old radome as soon as possible.

Panel-to-Panel Bolt Tightness

NWS EHB 6-503-2 Card 2-043 calls for annual torque testing of panel-to-panel bolts and notification of the Hotline if the test fails. So far in NEXRAD's 20-year history, no test failures have merited further action. Nevertheless, it is important to report test failures to allow early detection of any downward trends which may develop in the future.

"Spinners" are those embedded panel nuts that have broken their bond to the sandwich panel allowing them to rotate without ever tightening. Due to the spinning, the torque of the nut-bolt assembly cannot be measured.

Although the tendency is to assume that spinners are loose (i.e., under-torqued), the fact is that spinners are often caused by over-torqueing and thus are more likely to be over-torqued.

The site ETs should circle spinners with a

marker and point them out to the next radome inspection crew so they can be repaired.

Contractor Access to RDA Sites

The government is contractually obligated to pay its contractors for direct and indirect costs of work the government directs them to perform. If the contracting officer issues a task order for contractor travel to a site to inspect or repair its radome and if the site denies access, then the contractor is entitled to file a claim for its wasted labor, rental equipment, and travel costs. We recently had to reimburse one contractor over \$8000 because the site denied weekend access to avoid paying overtime to send an ET to the site. We realize that sometimes there are extenuating last minute circumstances such as weather, ET illness, etc. However, please contact the ROC Hotline so we can try to quickly reschedule and minimize costs.

Call the Hotline

If you have questions/concerns about your radome's need for maintenance or about a contract crew scheduled to perform maintenance at your site, contact the ROC Hotline.

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