



KLGX, Langley Hill NEXRAD New Weather Radar on the Washington Coast



Status Updated May 31, 2011

Status Summary: KLGX, the new NEXRAD radar to serve Washington State's coastal area, is on track to be installed and operational by September 30, 2011. The site, named Langley Hill, is approximately 3 miles east of Copalis Beach in Grays Harbor County.

As of today, the KLGX tower installation is complete with the radome in place over the pedestal and the antenna on top. Work on the road and the site grounds are complete; the ground network is laid and tested; and four foundations are poured.

Tasks remaining to completion: setting three shelters and installing waveguide; pulling conductors and communication cables; completing the power and telecommunications infrastructures; installing the RPG in the Seattle WFO; radar system integration and acceptance.

Background: Senator Cantwell, former chair of the Senate Oceans, Atmosphere, Fisheries, and Coast Guard Subcommittee, has led the effort to improve weather forecasting in the Pacific Northwest. In 2007, she obtained funds to complete a study, released in May 2009, which demonstrated the gap in Washington state's weather radar coverage. She secured full funding for this radar system through a \$2 million down payment in the 2009 omnibus appropriations bill, and \$7 million included in the 2010 Consolidated Appropriations Act. The radar will be a high-power, high-resolution, long-range Doppler radar, upgraded with Dual Polarization.

Senator Cantwell announced on June 2, 2010 that the installation of the radar would occur a year earlier than originally planned—by September 2011. This earlier installation is possible because critical Air Force weather radar assets became available to the NWS, allowing for the construction of a standard WSR-88D radar. The long-lead time NEXRAD components (tower, radome, antenna, equipment shelters, etc.) were ordered last Fall and are in production.



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Recent Activities (March -- May 2011):

- Completed site design and civil engineering
- Completed land lease agreement
- Prepared land site for the radar; cleared trees and leveled terrain
- Poured all four foundations
- Installed radar tower, pedestal, antenna, and radome
- Engineered utility-side of telecomm and power infrastructure, then started construction
- Complete RDA shelter with installed radar equipment en-route to site.

Planned Activities (June – September 2011)

- Complete site and utility infrastructure
- Install, integrate, and test the radar system
- Install RPG in WFO Seattle
- Begin operations by September 30, 2011.



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Site Construction Photographs



**Embarking on first visit to KLGX site— as close as we could get by vehicle.
Peak of Langley Hill: 700-ft straight ahead. December, 2010**



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KLGX site as it appeared before clearing. December, 2010



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After clearing-- Stakes mark tower center. April, 2011



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KLGX-- Definitely on the top of Langley Hill. April, 2011



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Excavating for KLGX tower foundation. April, 2011



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Preparing for the KLGX tower foundation—456 cubic yards of ‘controlled density fill’ underneath. May, 2011



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KLGX foundations poured, with all conduits and ground network buried and backfilled. May, 2011



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KLGX tower subassemblies going up, May 20, 2011



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KLGX tower erected to 25 of its 30 meters. May 20, 2011



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KLGX radome, assembly on the ground started-- start to finish in one 9-hour session. May 23, 2011



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KLGX radome flying together. May 23, 2011



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KLGX Radome nearly complete with plenty of daylight left. May 23, 2011



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Fitting Azimuth panel to KLGX radome, May 23, 2011



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KLGX Dome Up begins! At this point, the pedestal and antenna are already sitting on the top deck. Note the reflection of the sun just appearing from behind the eastern tree line on the radome-- Work starts at dawn to take advantage of the lightest winds of the day. May 27, 2011



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KLGX Dome Up-- getting close. The blue tarp visible above the tower top deck covers the pedestal; the wedge-shaped wood crate contains the disassembled antenna, which must be assembled from within the radome, since its assembled diameter is larger than the hole through the bottom of the radome. May 27, 2011



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KLGX Dome Up— it is easy to see why a low-wind time of day is important. Note the level of tensions in the tag lines. May 27, 2011



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KLGX Dome Up and the tag lines go slack. From this position, the radome will be rotated until bolt holes are aligned and bolts are started. After the base ring nuts and bolts are cinched, the crane will be released. May 27, 2011