

STANDARDS ALERT

SEA LEVEL RISE: DESIGN FOR THE IMPACTS

1. ISSUE: VA is required to incorporate climate change adaptation considerations into the design of its facilities.

2. BACKGROUND: In November 2013, the President signed Executive Order 13653, *Preparing the United States for the Impacts of Climate Change*. The Executive Order increases requirements for agency adaptation in response to climate change. Further guidance, including specific requirements for compliance by federal executive agencies to improve resilience to current and future flood risk was published in Executive Order 11988 on January 30, 2015. In response to these Executive Orders, and in compliance with VA's sustainability objectives, VA has conducted a vulnerability assessment and determined that certain coastal facilities are vulnerable to the impacts of climate change-induced Sea-Level Rise (SLR).

VA's Office of Construction & Facilities Management (CFM) has developed detailed guidance for adapting VA facilities to the impacts of climate change and SLR. This *Standards Alert* serves as guidance for incorporating SLR planning into Major Construction projects.

3. DISCUSSION: While there is not a consensus among the scientific community on the accuracy of SLR predictions, there is a consensus that global sea levels are rising and will increasingly affect coastal areas in the future. The U.S. Army Corps of Engineers (USACE) has created a web-based tool providing SLR predictions based on NOAA and USACE adopted methodologies. This tool is referred to as the Sea-Level Change Curve Calculator (<http://www.corpsclimate.us/ccaceslcurves.cfm>). The Sea-Level Change Calculator appears to be the most broadly accepted source of SLR predictions among federal and other agencies.

4. NEW STANDARD: Incorporate SLR considerations into the planning and design of construction and renovation projects for all VA facilities located within coastal areas. Evaluate SLR vulnerability by calculating the "low," "intermediate," and "high" estimates of local sea level based on the project's useful lifecycle using the Sea-Level Change Curve Calculator and adding potential flood

impacts based on surge, tide, and wave data. Compare the resulting flood hazard area and flood elevation with the elevations of critical site facilities for the three SLR-influenced estimates. The selection of SLR estimate to use in decision-making shall be based on the risk associated with the facility. If determined to be vulnerable to flood effects, consider alternate site locations or physical modifications necessary to reduce the threat of SLR on facilities and infrastructure. Coordinate facility planning with local and regional climate change adaptation plans.

5. CONTACT: James Symanski Jr. P.E., Sustainable Design Program Manager, Office of Facilities Planning, Facilities Standards Service at james.symanski@va.gov

Sources:

[Executive Order 13653, Preparing the United States for the Impacts of Climate Change](#), Nov 2013.

[VA Directive 0065](#), Jun 2012.

[VA Policy Statement on Climate Change Adaptation](#), Jun 2011

Draft Final VA Preliminary Vulnerability Analysis, Sep 2011