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December 26, 2023

The Honorable Heidi Shyu
Office of the Under Secretary of Defense, Research and Engineering (USD(R&E))
The Pentagon, Washington, DC 20301

Subject: Include Technical Debt in Policy and Guidance (NDAA for FY 2022, Sec. 835 report)

Dear USD Shyu:

My letters to you, dated July 7 and August 26, 2022, included recommendations to include technical debt and deferred functionality in the following guide and policy:

- DoD Risk, Issue, and Opportunity Management Guide for Defense Acquisition Programs, January 2017 (*Risk Guide*).
- DoDI 5000.89, Test & Evaluation, November 19, 2020 (*T&E*)

The documents have not yet been revised.

In November 2023, CMU/SEI submitted a report to the HASC and SASC. The report included similar recommendations regarding technical debt. The report is:

CMU/SEI-2023-TR-003 | SOFTWARE ENGINEERING INSTITUTE | CARNEGIE MELLON UNIVERSITY, Report to the Congressional Defense Committees on National Defense Authorization Act (NDAA) for Fiscal Year 2022 Section 835 Independent Study on Technical Debt in Software-Intensive Systems, November 2023

Excerpts follow:
- Programs should employ both automated (e.g.,static code analysis scans) and manual (e.g., opportunities for developers to add technical debt items to the backlog and tag them as technical debt when intentionally taking on debt or identify technical debt in design reviews) mechanisms for identifying technical debt.
- Programs should track technical debt items on the backlog separate from other types of items, such as vulnerabilities and defects.
- Programs should allocate appropriate effort during iteration capacity planning for resolving technical debt items, and they must ensure that this effort is protected from the pressure to focus on new capabilities.
- Program roadmaps should include the effort for managing technical debt to ensure that it is planned and that effort is allocated to it over time.

The SEI recommends that technical debt be included in DoDI 5000.88, Engineering of Defense Systems and the Engineering of Defense System Guidebook. Please also revise

Risk Guide and *T&E* when you implement the SEI recommendations. All documents should be revised to include deferred functionality as well as technical debt.

Other, consistent recommendations are provided in my white papers.

Paul Solomon

CC:

The Hon. William La Plante USD(A&S)
The Hon. Andrew Hunter, AF Asst. Sec. for AT&L
Hon. Donald Norcross, HASC
Hon. Adam Smith, HASC
Hon. Robert J. Wittman, HASC