



## **EAC Decision on Request for Interpretation 2010-07 2002 VSS Vol. II, Section, 5.4.2.i 2005 VVSG Vol. II, Section, 5.4.2.i**

### ***Date:***

September, 24, 2010

### ***Question(s):***

It is not clear as to what source code properties should be used to calculate the number of lines in a module to comply with the requirement that “No modules exceeding 240 lines in length”.

### ***Sections of Standards or Guidelines:***

#### **2002 VSS Volume I 4.2.3.a Software Modularity and Programming**

#### **2005 VVSG Volume I 5.2.3.a Software Modularity and Programming**

Each module shall have a specific function that can be tested and verified independently of the remainder of the code. In practice, some additional modules (such as library modules) may be needed to compile the module under test, but the modular construction allows the supporting modules to be replaced by special test versions that support test objectives.

#### **2002 VSS Volume I 4.2.3.d Software Modularity and Programming**

#### **2005 VVSG Volume I 5.2.3.d Software Modularity and Programming**

A module is small enough to be easy to follow and understand. Program logic visible on a single page is easy to follow and correct. Volume II, Section 5 provides testing guidelines for the accredited test lab to identify large modules subject to review under this requirement.

#### **2002VSS & 2005 VVSG Volume II 5.4.2.i Assessment of Coding Conventions**

Excluding code generated by commercial code generators, is written in small and easily identifiable modules, with no more than 50% of all modules exceeding 60 lines in length, no more than 5% of all modules exceeding 120 lines in length, and no modules exceeding 240 lines in length. “Lines” in this context, are defined as executable statements or flow control statements with suitable formatting and comments. The reviewer should consider the use of formatting, such as blocking into readable units, which supports the intent of this requirement where the module itself exceeds the limits. The vendor shall justify any module lengths exceeding this standard

***Discussion:***

The 2005 VVSG states that “‘Lines’ in this context, are defined as executable statements or flow control statements with suitable formatting and comments.” There are three parts to this statement: (1) executable statements will count toward the module line length; (2) flow control statements and the formatting (e.g. blank lines) used to organize the code will be counted as lines; and (3) comments will count toward the module length.

The 2005 VVSG, Volume I, section 5.2.3.a states, “Each module shall have a specific function that can be tested and verified independently of the remainder of the code.” To support this concept 2005 VVSG, Volume I, section 5.2.3.d requires that, “A module is small enough to be easy to follow and understand.” VVSG 2005, Volume II, section 5.4.2.i of the 2005 VVSG is used to help enforce those concepts.

***Conclusion:***

Executable code, comments, and formatting (e.g. blank lines, continued code, etc.) shall count toward the overall line count of a module.

***Effective Date:***

For all systems without an approved test plan.