



Pharmaceuticals

3056 '01 DEC 19 A9:03

00D-1583
Dockets Management Branch (HFA-305)
Food and Drug Administration
5630 Fishers Lane, Room 1061
Rockville, MD 20852

U.S.A

Basel, December 12, 2001
Comments regarding Your Draft Guidance: "Electronic Records; Electronic Signatures, Validation" (Docket No. 00D-1538)

Dear Madam, Dear Sir,

Thanks for the opportunity to comment on this guidance.

Your guidance was internally forwarded to a Roche expert group for electronic records and signatures. for comments. This expert group has roughly 50 members from various countries. Please find enclosed consolidated comments from this group.

1. Chapter 2.1 Applicability

Current draft: This draft guidance applies to electronic records and electronic signatures that persons create, modify, maintain, archive, retrieve, or transmit under any records or signature requirement set forth in the Federal...

Suggested text: This draft guidance applies to electronic records that persons create, modify, maintain, archive, retrieve, or transmit and electronic signatures under any records or signature requirement set forth in the Federal...

Reason: Signatures need to be treated separately. The current text could imply that signatures could be modified.

Comment: A certain risk is seen that there will be two different validation approaches for systems which have electronic records and signatures, and for other systems. Up to now validation procedures have been developed and applied independently from system functions or data requirements. This is also reflected in Part 11 itself. When having electronic records and signatures, Part 11 requires 'validated system' and - on top of that - electronic records and signatures-specific requirements.

According to the scope of the draft guidance (§ 2.1) the validation procedures only apply to systems having electronic records and signatures in the sense of Part 11. So, what about the systems which do not have any electronic records and signatures ? Obviously they do not have

00D-1538

C7

to comply with these requirements. Why is it necessary to distinguish between electronic records and signatures-systems and non-electronic records and signatures-systems regarding validation? Such a difference cannot be justified, is too difficult to handle, too complicated and too expensive. Therefore it is strongly recommended to address in this guidance the validation process as is independent from the usage of electronic records and signatures.

Importance: Minor

2. Chapter 4: Regulatory Requirements; What Does Part 11 Require?

Current draft: ..ability to discern invalid or altered records.

Suggested Text: ..ability to discern invalid or altered records. This discerning is usually performed by the systems built in tools such as parity bits, and automated built in protocol checks (e.g. TCP/IP).

Reason: Discerning is not specified in the guidance elsewhere.

Importance: Minor

3. Chapter 5.1 System Requirements Specifications

Current Draft: Regardless of whether the computer system is developed in-house, developed by a contractor, or purchased off-the-shelf, establishing documented end user (i.e., a person regulated by FDA) requirements is extremely important for computer systems validation.

Suggested Text: User Requirements Specification (URS) is very important for the validation. The more specific an application is, the more detailed the URS should be. For a commercial of the shelf, a URS is not necessary. For a customized solution that exists only once the URS is vital.

Reason: It is not feasible to have User Requirements Specification in place for an Operating System like Windows, a Word processing System, a Spreadsheet. There is no added value.

Comment: What is the difference between a software solution that is developed in-house and a one that is developed by a contractor? The user requirements should have the same level of detail. The level of detail should rather be in line with the complexity, functionality and potential hazards of software, i.e. it should be based on the risk analysis.

Importance: Major

4. Chapter 5.1 System Requirements Specifications

Additional Comment: System Requirements Specification is not defined (cf. Glossary). We suggest to eliminate this chapter (5.1) completely.

Importance: Major

5. Chapter 5.1 System Requirements Specifications: Bullet Scanning

Current Draft: Scanning processes: where a paper record is scanned to create an electronic record, scanner resolution, scanning rates, color fidelity, and the type of hardware interface may impact the accuracy and reliability of the electronic record as well as system performance.

Suggested Text: Scanning processes: where a paper record is scanned to create an electronic record and to replace the paper record, scanner resolution, scanning rates, color fidelity, and the type of hardware interface may impact the accuracy and reliability of the electronic record

as well as system performance.

Reason: To clarify that scanned paper records can be destroyed.

Importance: Major

6. *Chapter 5.1 System Requirements Specifications: Operating environment*

Current Draft: Operating environment: sources of electromagnetic interference, radio frequency interference, temperature/humidity, and electrical power fluctuations may affect system performance.

Suggested text: Operating environment: sources of electromagnetic interference, radio frequency interference, temperature/humidity, dust, organic solvents, and electrical power fluctuations may affect system performance.

Reason: To make the list a little more complete

Importance: Minor

7. *Chapter 5.2.1 Validation Plan*

Add: The Validation Plan should be established in the beginning of a project. In the case of validation of commercial software it is always retrospective.

Reason: Timing leads always to discussions

Comment: Commercial Software is developed long time before it is used.

8. *Chapter 5.2.2. Validation Procedures*

Add: Validation procedures are established concurrently with the testing. The User Requirements Specifications should be taken as guidance to establish the acceptance criteria.

9. *Chapter 5.2.3. Validation Report*

Add: The Validation report is sometimes established after the release of the system. When the testing is finished and the tests are reviewed the system might be released with a release statement.

10. *Chapter 5.4.2 Software testing should include: Bullets Structural testing, Program build testing*

Comment: Structural testing should only be performed if feasible and if the software is deemed to bear a high risk, e.g. heart pace maker, X-ray irradiation device. It is merely impossible to do structural testing in COTS. The same applies to program build testing. There is no added value for structural testing of e.g. HPLC integrator because there a lots of other indicators such as SST, calibration etc. that would show any software problem.

11. *Chapter 5.4.3 How test results should be expressed.*

Comment: If the testing is performed against a user requirements specification it can only be fulfilled or not. The acceptance criteria can be fulfilled or not. A quantification does not make sense.

12. *Chapter 5.5. Static Verification Techniques*

Comment: The paragraph 'code inspection' and 'walk-through' are described as static verification techniques. The two techniques are also mentioned in § 5.4.2 in the context of 'dynamic testing'. This inconsistency should be eliminated.

13. *Chapter 5.5 Static Verification Techniques*

Comment: Static techniques are only of importance for bespoke systems. Static testing should only be performed if feasible.

Comment: It is impossible to fully demonstrate complete and correct system performance. It is impossible to demonstrate this, because of the combinatorial explosion. (Beizer: Chapter 5) specifically when it comes to testing of ranges static testing is reported to be less efficient than dynamic testing.

14. *Chapter 5.6 Extent of Validation*

Another important factor would be the wide use of a system. Remaining Errors are more likely to be found in applications like spreadsheet or word processing.

Suggested text: Widely used systems are validated by recording the version installed. This configuration baseline definition serves as the validation documentation. This completely inline with the GAMP requirements.

15. *Chapter 5.8 Change Control*

Delete the last sentence (Regression te... ..analysis.).

16. *Chapter 6.1 Commercial, Off-The-Shelf Software*

Comment: It is merely impossible to validate e.g. a word processing system. It is absolutely vital that COTS is considered differently in comparison to bespoke systems. Please apply GAMP categories.

Importance: Not acceptable

17. *Chapter 6.1.1 End User Requirements Specifications*

Comment: It is not feasible to create end user specifications for applications, e.g. for Windows, Word, DOS, Lotus, Printer drivers etc.

A software has to satisfy the users needs. A comparison with the developer's requirements does not add any value. This chapter (6.1.1) should be deleted.

Importance: Not acceptable

18. *Chapter 6.1.2 Software Structural Integrity*

Comment: First sentence: instead of all of the following should read: one of the following.

19. *Chapter 6.1.3 Functional Testing of Software*

Comment: Up to now the user has to perform Acceptance Testing. During this test phase he/she will test the software against the user requirements specification. With this new DRAFT the user would have to test "all functions of the program that the end user will use". It is unclear against what specifications the end user should test when testing "all functions of the program that the end user will use". It is sufficient to test the critical functions as defined in the risk assessment.

20. *Chapter 6.2.1 Internet Validation*

Comment: Delete the last two bullets because these are user requirements specifications.

21. *General Comment: COTS-Validation*

In general, the requirements for COTS would substantially increase. Hundreds of COTS software products are installed in small computerized systems used in the Lab and in IPC-Labs. The guidance would increase validation costs of such small systems tremendously.

Yours sincerely,

F. Hoffmann-La Roche Ltd.



Peter Bosshard



Wolfgang Schumacher