

**March 2006**  
**Separating CEHT Protocols from Cleaning Protocols**

Last month I discussed setting bioburden limits in a CEHT (clean equipment hold time) protocol. This is ordinarily done by evaluating bioburden proliferation during storage. This involves comparison of the bioburden on equipment surfaces at the beginning of storage and at the end of storage. Since the data at the beginning of storage is essentially the same as the data after the end of the cleaning process, some companies choose to write one validation protocol that encompasses validation of the cleaning process and validation of the CEHT conditions (including location of storage, elapsed time, and physical protection from contamination). This makes sense from one perspective.

However, there are some valid reasons for separating the two concerns (that is, effectiveness of cleaning and effectiveness of hold time conditions). Why would I want to write one protocol to document the effectiveness of the cleaning process and a separate protocol to document the effectiveness of the CEHT conditions? Well, at least one reason is for simplicity. The effectiveness of the cleaning process is a separate issue from effectiveness of the hold time conditions, so it is at least possible to write separate protocols. Note that if I write separate protocols, I am still going to allow for the possibility that the data for bioburden collected at the end of the cleaning process is also used as the initial bioburden data for the CEHT study. However, that is not absolutely necessary. For example, I may not be able to perform a CEHT protocol immediately after the end of cleaning, because the sampling of my equipment after cleaning may have compromised any bioburden results that I would get after storage. Of course, this is still an issue if I do a separate protocols for distinct cleaning and CEHT events (one to evaluate cleaning effectiveness and one to evaluate the CEHT conditions); however, the fact that I might only be sampling for bioburden for the CEHT protocol reduces the possibility of contamination during sampling.

Let's consider the case where the data I collect at the end of the cleaning process is applicable as the data at the beginning of my hold time study, and ask the question again, "Why separate protocols?" One possible reason is that my cleaning protocol may pass and my CEHT protocol may fail (now hopefully that won't be the case, but like in legal contracts, a lot of what we do is to cover cases where things don't go exactly as planned). If validation of my cleaning process is successful, then I can close out that protocol and just focus on improving my storage conditions so as to prevent recontamination. I will, just have to focus on the CEHT aspects. If I have both items together as one protocol and only the CEHT aspect of it fails, then I can still end up at the same place, but the documentation becomes messier. I must confess that I also have a preference for modularity (where appropriate, breaking things in separate activities for validation purposes), so that is part of the reason for this emphasis.

A second possible reason (and perhaps a better reason) for separating the cleaning protocol from the CEHT protocol is that I may be able to group equipment together more aggressively for a CEHT protocol as compared to grouping for a cleaning protocol. That is, I can have one CEHT protocol on a given equipment item represent (or cover) storage following a variety of products made on that same equipment. The rationale for this is that if the final state (or condition) of the equipment is the same after cleaning of different products, then the storage conditions should be the same, thus allowing one protocol to cover storage after many different products. One could go even further and have a CEHT study of one equipment item represent (or cover) other equipment items in a grouping strategy. The latter requires a little more justification than the

former approach, but it at least a possibility to consider. This grouping of equipment (to be covered under one CEHT protocol) should be carefully evaluated and justified (and should be appropriately documented).

The purpose of this Cleaning Memo is to explore issues related to evaluating the effectiveness of the CEHT from the evaluation of the cleaning process. Yes, the two are related, but it is an option to handle them in separate protocols. For clarification, it is still acceptable to combine them together in one protocol. However, both options should be explored in determining which option is more appropriate for a given situation.