

Comments on Clean Standard: K-12 (July 2, 2013 Draft)

<p><b>Commenter 1</b></p>	<p>I have just one word for this: "Bravo!"</p> <p>This is just <i>great</i> and seems to address everything thoroughly.</p> <p>One tweak I might suggest involves this section:</p> <p>"Section 7: Alternative Methodologies.</p> <p>While the Clean Standard: K-12 is based on the use of ATP measurement, there are a number of alternative methods that are capable of objectively validating the effectiveness of a school's cleaning processes. These methods include direct practice observation, the use of fluorescent markers and other methods. Such methods may be used in addition to or in lieu of ATP measurement, and are referenced in Options for Evaluating Environmental Cleaning, Centers for Disease Control (CDC), 2010, Appendix B, Objective Methods for Evaluating Environmental Hygiene. However, in no case will use of these methods alone be construed as meeting the requirements of the Clean Standard: K-12."</p> <p>Overall, I found this to be a sound and reasonable approach, but the wording in yellow highlights is a little confusing to me:</p> <p>Such methods may be used in addition to or in lieu of ATP measurement, and are referenced in Options for Evaluating Environmental Cleaning, Centers for Disease Control (CDC), 2010, Appendix B, Objective Methods for Evaluating Environmental Hygiene. However, in no case will use of these methods alone be construed as meeting the requirements of the Clean Standard: K-12.</p> <p>For example:</p> <p>It states that other measurement methods can be used "in addition to or in lieu of ATP measurement" then later states "in no case will use of these methods <u>alone</u> be construed as meeting the requirements of the Clean Standard: K-12"</p> <p>Shouldn't it just say - "in addition to ATP measurement" and delete "or in lieu of"?</p> <p>"Section 7: Alternative Methodologies.</p> <p>While the Clean Standard: K-12 is based on the use of ATP measurement, there are a number of alternative methods that are capable of objectively validating the effectiveness of a school's cleaning processes. These methods include direct practice observation, the use of fluorescent markers and other methods. Such methods may be used <b>AS A COMPLEMENT TO ATP</b> measurement, and are referenced in Options for Evaluating Environmental Cleaning, Centers for Disease Control (CDC), 2010, Appendix B, Objective Methods for Evaluating Environmental Hygiene. However, in no case will use of these methods alone be construed as meeting the requirements of the Clean Standard: K-12."</p>
<p><b>Commenter 2</b></p>	<p>If we are voting, I vote YES!</p>

<p><b>Commenter 3</b></p>	<p>While I still am wrapping my head around how we use this to help,our business, the larger, more important question is how do we get backing for the standard so we can use it to help our kids?</p> <p>I welcome the opportunity to work with you, CIRI, ISSA, and our industry to promote and implement this critical standard.</p> <p>Thanks for all your hard work on this, along with many others. If you're not careful, people will actually start to respect what we do.</p> <p>Let me know I'd there is anything I can do to help move this forward.</p> <p>I know this is a little late, but as I was re-reading the standard I thought the ATP test site size seemed small. I checked with my counterpart here at Rosenau as he is our Clean Trace expert. He confirmed my suspicion that the test area should be 4" x 4".</p> <p>That said, I'm not convinced we are right either. Might be worth a double check.</p>
<p><b>Commenter 4</b></p>	<p>I thought it was easy to read and straight forward.</p>
<p><b>Commenter 5</b></p>	<p>I have reviewed the attached document.</p> <p>This has been a great process to have been involved with and I appreciate the opportunity.</p> <p>I have only one comment and it is in regards to "alternate methods of validating cleaning"</p> <p>I do not see the black light method as being "objective" it seems to me to be "subjective".</p> <p>However, the CDC and others refer to it as "objective".</p> <p>Given this, could we strengthen the wording around "non-ATP methodologies" as , "by themselves, not a true measure of the programs success and MUST be accompanied by ATP monitoring"</p> <p>Thanks again for including me on this project.</p>
<p><b>Commenter 6</b></p>	<p>My apologies in the delay in getting you this information. Overall, I think the updates you and the team have made are positive. I only had a few small suggestions to the building audit forms. I have listed those below.</p> <p>I think my readers are going to be very receptive to the final program and I am anxious to see it implemented.</p> <p>Thanks,</p>

Corinne

1. Building Audit.  
"short form"

Entrances Lobbies Halls and Commons

- My readers often comment that these areas often have floor fans for air movement. First, it is important to use appropriate fans. Then, if they are necessary, these items should be situated in a way as to not create a hazard for building occupants. They should be clean and cords should not present a trip or safety hazard.
- Should wall hangings also be addressed? Often, walls are used to display art projects, posters, tapestries, etc. These should be properly secured and free of visible soil or residue.
- Directional signage should be placed out of traffic areas so as not to cause a hazard.
- Do we need to add something about clean air vents in the entrance?

Offices

- Does "waste receptacles" also include recycling containers?
- How common is matting in these areas? Proper care should be taken for the various types of matting.

Classrooms

- Does "Floors" include carpeting
- Sinks should be clean and soap/hand towels should be properly stocked

Food Prep and Dining Areas

- Sinks are clean and soap/hand towels are properly stocked

"long form"

Locker Rooms and Showers

- Vents free of dust and debris

Swimming Pools

- All floor mats are clean, dry and properly located

Custodial Closets and Storage Rooms

- MSDS is now just SDS

Maintenance Programs and SOPs

- MSDS is now just SDS

2. ATP Protocol for High Touch Points (Section 4.5).

I think this is fine.

3. ATP-RLU Tables (Section 5).

	<p>Good change.</p> <p>4. ATP Limitations (Section 6). Smart addition.</p> <p>5. Alternative Methodologies (Section 7). This addition adds options to users. I think it will be well received.</p>
<p><b>Commenter 7</b></p>	<p><b>1. ISSUE: Table format</b></p> <p>Should there be four tables vs. only one summary table?</p> <p>Are the current values in the table "too precise", that is, do they give an impression of false precision? Should they be rounded?</p> <p>If there are multiple tables, should there be a table for each surface (as they are now) or a table for each ATP system, which is the practical way that any single school will use the tables?</p> <p><b>RECOMMENDATION:</b></p> <p>There should be three tables in the standard - one for each ATP system in the research. Each table would contain the three levels of clean (Highly Effective, Effective/May Need Improvement and Ineffective) for each of the four surfaces (classroom desks, cafeteria tables, stall doors and sink surrounds). The values in the table will be rounded rather than exact. Charlie will prepare these tables, which involves simply re-arranging and rounding the values in the current version 7 of the Standard.</p> <p><b>2. ISSUE: Ensuring attention to details of standard</b></p> <p>There is concern that users of the standard will simply take the table page that applies to them, tape it on the wall and then forget the details behind the measurement process. Things like the 2"x 2" template, the minimum number of samples, the up/down/left/right pattern, the standard to use for additional surface types and the limits of ATP will be forgotten, rendering the results meaningless.</p> <p><b>RECOMMENDATION:</b></p> <p>Each table will be one full page, with a limited set of large-print, bullet-point footnotes detailing the "way to measure" for this standard. As mentioned above, each school will likely use only one ATP system table. This "one page" approach would allow them to use the table as a "stand-alone" guide. This is not unlike the wall charts which are very common in the cleaning world. I will prepare a draft, based on suggestions received from our CIRI group.</p> <p><b>3. ISSUE: Introduction of the standard</b></p>

	<p>There will undoubtedly be many, many questions about the standard as it is introduced and as it evolves. Users will need to be trained and re-trained (and re-trained) in its use.</p> <p><b>RECOMMENDATION:</b></p> <p>There should be a full complement of programs and aids introduced as close as possible to the release of the standard. These programs and aids are standard procedure for cleaning product and program introductions. Among other things, these should include:</p> <p>A ready-to-go introductory training program, prepared by ISSA or its designee</p> <p>A "Frequently Asked Questions" document, the first draft of which will be prepared by CIRI, based on suggestions received from our group and others (e.g., questions raised in the reviews of various drafts of the Standard).</p> <p><b>4. ISSUE: Cleaning procedure used in developing the standard</b></p> <p>Given the relatively low ATP results needed to reflect "Highly Effective Cleaning", practitioners will want to know something about how the surfaces were cleaned in the research and how the standards were established from the results. Of course, this cannot imply an "endorsement" of any procedure or product.</p> <p><b>RECOMMENDATION:</b></p> <p>The standard should include as an Appendix a one-page (at most) description of the process used in the research project to clean the various surfaces, along with a description of how the levels in the standards tables were developed.</p> <p>CIRI will proceed with revising the tables and preparing a draft of FAQs and do so in a schedule that meets your needs for the final revised Standard.</p>
<b>Commenter 8</b>	I had no comments.
<b>Commenter 9</b>	<p>Just completed a final read and find the draft excellent. Good to go from my point of view.</p> <p>One thing: my boss asks if Stakeholders and their firms are to be recognized by name in the print version?</p>
<b>Commenter 10</b>	<p>I think the latest draft works well to incorporate the feedback you've received from the group. The option of the short form or long form is helpful and provides a nice starting point for many schools who may not have these tools readily available. I agree with the High Touch Points asking for a 5% sample as that will be more in line with resources. I also think it was a good idea to state 5% of all areas so schools know not to take all samples from one classroom, restroom, etc.</p> <p>The tables are also a helpful tool. All in all, I think you've done a nice job here.</p>

<b>Commenter 11</b>	<p>This is a much cleaner, better understood document.</p> <p>I still have issues with using ATP as the default method of measuring cleanliness due to its cost. Yes you've identified other methodologies but they are buried in Section 7 of the Standard. My concern is that the standard will not gain the necessary following due to the cost of ATP.</p>
<b>Commenter 12</b>	<p>Hello from Portland Oregon today. Wanted to make one comment that I think everyone should consider. I have been chewing on this for a while. When you were getting results from the field tests that were run the numbers for restrooms after being cleaned were lower than the kitchen dining room numbers. We are now suggesting that acceptability / clean numbers should be lower(tougher standards) in the bathroom than they are in the food service areas. The message we are saying here is we are grading you harder in the bathroom than where you are going to possibly be placing food. Perhaps the model should say here are the numbers that bear out for indirect food contact surfaces(dining tables) in schools and the other surfaces need to be just as clean. This will keep it simple and straight forward for the end user while sending the message the bathroom needs to be as clean as the food contact areas do.</p> <p>Otherwise keep up the good work</p>
<b>Commenter 13</b>	<p>The working document is shaping up to be an excellent Standard.</p> <p>Relative to comments I read, I would keep the title as is Clean Standard K-12. Any opportunities for other vertical market Standards would require a separate more precise Standard for that category.</p> <p>I do have a comment regarding Section 7: Alternative Methodologies:</p> <p><i>You state "These methods include direct practice observation, the use of fluorescent markers and other methods. Such methods may be used in addition to or in lieu of ATP measurement," In the same paragraph you write: "However, in no case will use of these methods <u>alone</u> be construed as meeting the requirements of the Clean Standard:"</i></p> <p>It seems conflicting to me. You say other measures can be used in lieu of, but then finish up by saying if you use them alone, you're not meeting the standard.</p> <p>I have one question regarding the general Standard: If a school takes on the Standard as their practice is there a way for the school to be "certified" as such, or would this then tie into the CIMS program?</p> <p>Extremely well done.</p>
<b>Commenter 14</b>	<p>Thank you very much for your email message – and thanks again for the opportunity</p>

to provide feedback on the latest draft of the Clean Standard. It is a monumental task to lead this process, and your efforts to make a difference are applauded. Again my thanks for being allowed to be a part of the process.

As requested, here are comments for each of the documents referenced below:

DRAFT 7 / July 2, 2013 ISSA Standard for Measuring the Effectiveness of Cleaning in K-12 Schools

#### Section 1: Overview and Background

Comments:

- Recommend that there be some additional detail provided for what results the standard is focused upon – this benefit(s) should be communicated on the first page of the overview and background – currently the bullet points listed on the first page seem unnecessarily vague – instead of stating that the standard focuses on “how to use the results of monitoring and inspection to evaluate and improve the cleaning processes...” it may be beneficial to state how monitoring these cleaning processes leads to cleaner schools, and that cleaner schools lead to better test scores, fewer sick days, etc.
- Recommend considering that the standard may in fact be prescriptive since it requires the use of ATP, even though the standard states in section 7 that alternative methodologies are “capable of objectively validating the effectiveness of a school’s cleaning processes.”
- Recommend that less details about ATP be included in this section – there is a whole “ATP Limitations” section where this detail can be communicated if appropriate

#### Section 2: Scope and Purpose

- Recommend that this section delve deeper into the true benefit for a school: how cleaner schools contribute to improved test scores and reduced sick days – while some schools may make this connection, it seems to make sense to connect cleanliness to two of the biggest economic drivers of a K-12 school: student performance and attendance
- Recommend this section focus less on the “what it does” and more on the “why it does it”

#### Section 3: Defining Current Cleaning Procedures

- Recommend developing templates to capture current cleaning procedures to make it easier for an interested school to begin documenting their current cleaning procedure
- Stated areas to document include:
  - Inventory of all materials and equipment used
  - Personnel
  - Scope of work for cleaning services (including specific tasks to be performed and frequency of service)

#### Section 4: Protocol for Measuring and Monitoring Cleaning Effectiveness

- This section seems to be the “meat” of the standard and goes into detail on how measurements are taken, and how often – recommend that there is a description of what a school is to do with this information once they have finished – in other words, will the school be collecting this information to be

audited by some third party (like ISSA or CIRI)? It is not clearly defined in this document what the process is leading to – in other words what is the answer to the school that asks “what is in it for me?” Schools which know they are dirty are not going to be excited to measure exactly how dirty they are unless they feel they will be able to take corrective action – and schools which think they are already clean may not be excited to be told differently after voluntarily signing up to go through this process.

Section 5: Quantitative Measurement of Cleaning Effectiveness

- OK – here is the data which supports the benefits of cleanliness of schools – recommend somehow summarizing these findings earlier in the standard and preferably in the overview and background section as well as scope and purpose section – not in an overly-scholarly way, but in a way which focuses on the benefits a school should hope to accrue by undergoing this process
- It strikes me as important that the findings of the research assigning the values of “Highly Effective Cleaning”, “Effective Cleaning/May Need Improvement”, and “Ineffective Cleaning” are core to the standard’s practical application, and would recommend that these elements be addressed from a general standpoint earlier in the standard (including sections 1 and 2).

Section 6: ATP Limitations

- Recommend that details about ATP limitations which were stated in section 1 be moved to this section
- Recommend that this section be renamed “ATP Technology” or something like that, and all of the technical descriptions which appear in sections 1 and 4 be more fully addressed in this section

Section 7: Alternative Methodologies

- Recommend that the standard either find some way to include these methodologies which are capable of objectively validating the effectiveness of a school’s cleaning processes, further explain why these methodologies are not included, or eliminate the reference to these other methodologies – as written, the question needs to be asked, “if these alternative methodologies are capable of objectively validating the effectiveness of a school’s cleaning processes, then why can’t they be accommodated in the standard?”

Building Audits

- Will these building audits be submitted to a third party? The standard states that audit records are to be maintained for 3 years, but it is not explained why
- Will there be a building audit template provided to capture ATP readings?

General Comments

Since HACCP seems to have provided some inspiration during the development of this standard, would again recommend a similar outline for the final version of the standard (while acknowledging that perhaps the process has moved beyond the opportunity to adopt such an outline structure – it still seems to make sense to make sure the standard is divided into sections which are easy to understand and follow one after the other):

- ISSA Standard for Measuring Cleaning in K-12 Schools
- Introduction and Overview
  - *Scope*
  - *Purpose*

	<ul style="list-style-type: none"> <li>▪ <i>Categorizing Surfaces and Touch Points</i> <ul style="list-style-type: none"> <li>• <i>Standard School Surfaces, Touch Points and Critical Control Points</i></li> </ul> </li> <li>▪ <i>Identifying Control Measures</i> <ul style="list-style-type: none"> <li>• <i>Standard Cleanliness Measures and Ranges for Standard School Surfaces</i></li> </ul> </li> <li>▪ <i>Standard Operating Procedures</i> <ul style="list-style-type: none"> <li>• <i>Generally Recommended Cleaning Protocols for Standard School Surfaces, Touch Points and Critical Control Points</i></li> <li>• <i>Qualitative Assessment</i> <ul style="list-style-type: none"> <li>○ <i>Site Survey</i></li> <li>○ <i>Generally Recommended Survey Ranges for Standard School Surfaces, Touch Points and Critical Control Points</i></li> </ul> </li> <li>• <i>Quantitative Assessment</i> <ul style="list-style-type: none"> <li>○ <i>ATP Measurement</i></li> <li>○ <i>Generally Recommended ATP Ranges for Standard School Surfaces, Touch Points and Critical Control Points</i></li> </ul> </li> </ul> </li> <li>▪ <i>Monitoring</i> <ul style="list-style-type: none"> <li>• <i>Supervisor Responsibilities - Checklist</i></li> <li>• <i>Cleaning Staff Responsibilities - Checklist</i></li> </ul> </li> <li>▪ <i>Corrective Actions</i> <ul style="list-style-type: none"> <li>• <i>Catalog of Standard School Surfaces, Touch Points and Critical Control Points, along with Generally Encountered Situations and Associated Appropriate Corrective Actions</i></li> </ul> </li> <li>▪ <i>Recordkeeping</i> <ul style="list-style-type: none"> <li>• <i>Formats – Supervisor Responsibilities</i></li> </ul> </li> <li>▪ <i>Verification</i></li> </ul> <p>Hopefully these recommendations are useful to the process – please feel free to call or email with any questions, and thanks again for the opportunity to provide this feedback.</p>
<p><b>Commenter 15</b></p>	<p>I have not completed my review but one thing that stands out is that the RLU numbers used to define clean for each meter are significantly lower than what we saw in the last draft. Are you able to confirm that these target values are intentional and will appear in the final document as reported here? My concern is that we almost never see a value as low as 1 on our Hygiena SystemSure Plus meters under rigorous cleaning experiments under lab conditions.</p> <p>I have re-read the standard and the audit form and my only comment is that the change in RLU's from draft 6.5 to draft 7 is significant (there is an error on the CHARM unit – perhaps the units in table 3 &amp; 4 were transposed). We have done quite a bit of testing and I may have embellished a little bit about lab conditions but getting readings of 1 or less under field conditions is difficult. The comments on draft 6.5</p>

	<p>indicated that most stakeholders were OK with the values reported in that version.</p> <p>Other than that I am fine with the standard as written other than correcting the error on the Charm unit.</p> <p>Response: The RLU values in the tables the standard (including those for Hygiene) are based on independent research that demonstrated the values that represent “Effective Cleaning” were reasonably achievable and in fact represent the top 50% of measurements taken. In addition, please note that the Standard recommends a 2”x2” template in lieu of the 4x4 recommended by APT suppliers. The smaller template will result in lower numbers.</p>
<p><b>Commenter 16</b></p>	<ol style="list-style-type: none"> <li>1. Building Audit – Providing a shortened version of the building audit is good. Everything should be done to encourage school systems to adopt and use the Clean Standard. The long form could be intimidating or appear to be too much work for someone who is just focused on cleaning schools.</li> <li>2. As with the Building Audit, simplifying the ATP testing protocol makes it easier for more schools to use the Clean Standard. Testing once a month and 10% of surfaces could become cumbersome. After seeing the benefits of ATP testing, school officials may choose to test more surfaces more often.</li> <li>3. The ATP tables are easy to understand and the results should be easy to evaluate. Perhaps more surfaces should be included in the tables, or a description of which additional surfaces would apply to the 4 areas in the tables.</li> <li>4. Explaining the limitations of ATP testing will help avoid misunderstandings.</li> <li>5. Adding additional methodologies is good. Again, it makes it easier for more schools to participate in the Clean Standard program. The goal is cleaner, healthier schools and school officials shouldn’t get the impression that expensive equipment in every school is a requirement for the standard. By starting with something like fluorescent testing, a school might quickly see the benefit to the standard and choose to invest in ATP to gain even better quantified results.</li> </ol>
<p><b>Commenter 17</b></p>	<p>Your perseverance, and that of the committee, in completing this document is commendable.</p> <p>The team here at Wonder Makers have provided some comments below to consider. We are fully aware that this is a collaborative process with many voices involved. As such, we have focused our comments on the “big picture” with the confidence that other reviewers will offer suggestions on the nuts and bolts of the proposed standard.</p> <ol style="list-style-type: none"> <li>1. We are very concerned that the most recent changes to the “Clean Standard” have put too much emphasis on the details of the ATP sampling within the body of the document. Rather than ATP sampling being one of the tools of a continuing process, by the volume of text and number of times that this issue comes into the discussion, the overall document loses its focus from the</li> </ol>

original intent, “how to ensure that schools provide healthy environments for students and staff on a day-to-day basis?”

- a. For example, Section 1 of the document “Overview and Background” should not spend 4 paragraphs talking about ATP sampling. Leave that for a specific section later in the document or perhaps an appendix. The first section should just speak of the need for testing to verify the effectiveness of the cleaning program.
  - b. In the future we should anticipate that there may be a better option than ATP for testing of work; or at least, the testing process will be changed somewhat. Instead of a complete re-write of the document, if the ATP use and text is limited to specific sections, with the primary details in a mandatory appendix, changes can be made to only to a small portion of the document.
2. We think that some judicious editing would greatly strengthen the document by reducing the duplication of a similar thought. The current layout of the text can be difficult to get through, and unclear in the direction given to the user. The goal of this document is to set the custodian team on a path to evaluation, change, re-evaluation, and thorough documentation,. Right now, when we finish reading the document, the general feeling of, “Now what do I do?”, is the primary response that we see for the 1<sup>st</sup> time reader at the custodian or supervisor level.
- a. The primary points and action steps should be the focus of the document with technical details and scientific rationales for the recommendations in the standard moved to appendices, including the ATP comparison tables.
    - i. We like the RLU charts for assessing cleaning effectiveness much better than before. To us, they look very clear and concise to the user.
  - b. Much of the current text reads more like a dissertation rather than a practical, action oriented, path toward improvement. While this information is extremely valuable for the future project managers, supervisors, instructors, etc.; it needs to be separated from the body of the main document and provided as auxiliary information for the reader who is interested in understanding the “whys” of the standard in addition to the “whats”.
3. From organizational and reference standpoints having a header or footer on each page of the document that clearly states the page number, name of that document, the organization, and what version / date it is would be extremely valuable. That way when CIRI/ISSA make changes in future years, one can easily recognize if they have the correct version.

	<p>4. The long and short versions of the audit are fine.</p> <ul style="list-style-type: none"> <li>a. We like the place (on the long form) to document the “Maintenance program &amp; SOPs”. <ul style="list-style-type: none"> <li>i. It provides a good base line that helps the custodial staff define their current program, and also helps the auditor find that information in one place, rather than assemble that information with each visit.</li> <li>ii. We could see some real benefit to moving that page to the front of the building audit document.</li> </ul> </li> </ul> <p>Again, thanks for the time (and heart) that you have put into this. If you have questions about our thoughts, or need further detail, please feel free to contact us.</p>
<p><b>Commenter 18</b></p>	<p>The standard looks great.</p> <p>Is there a reason why some items are repeated a few times (i.e. what ATP units can't measure) ? Maybe just reference a section like 6.1 and 6.2.</p> <p>What would you recommend if a customer is already using ATP, but not one of your 3 units? Would they have to take multiple samples and start from scratch to come up with their own table? If so, would you then just recommend them purchasing one of the 3 units you used. Do you want to add this option to the standard?</p> <p>Do you not want to give an example of CIMS on section 4.1? CIMS is very detailed and covers all the items in this plan as well as so many others. It is so great for the schools that adopt it.</p> <p>Should hand sanitizer stations be mentioned as a way to cut down on transferred infections?</p>
<p><b>Commenter 19</b></p>	<p>In think the revised draft is very well done. It is concise and in plain English.</p> <p>The Building Audit forms are also good. Perhaps more space should be given to sample more classrooms (in other words give more weight to classrooms than any other areas of the school) since students presumably spend more time in classrooms than anywhere else. Maybe inspect 12 classrooms instead of 6, for example.</p> <p>Has any thought been given to selecting or recommending just one ATP measurement device? Just so it would be easier to compare numbers from one school to another without having to “translate” the figures into a different system. However, then we may be getting into proprietary issues or it may seem like “favoritism” to recommend just one device to the exclusion of others, or it may seem prescriptive, but I think it would reduce confusion. I also don’t know enough about the meters to know if there would be any reason to recommend one over the others.</p>

	All in all, a great job.
<b>Commenter 20</b>	<p>First of all, thank you again for all your hard work leading this effort.</p> <p>Secondly, I appreciated the addition of two building audit forms and concur with all the additional changes...</p>
<b>Commenter 21</b>	<p>Thanks for giving APPA an opportunity to participate on this committee and to provide some comments on the draft standard. We shared the draft with two longtime members of APPA who have a great amount of experience and expertise in the cleaning and custodial functions of educational facilities. One is a consultant and author who has spent decades working with and at a number of colleges, universities, and K-12 institutions, while the other has had a long career specifically in the K-12 environment. Their comments appear below for your attention:</p> <p>ATP readings are a viable tool, especially for training purposes, not necessarily for employee disciplinary and studies had indicated that it should be utilized for training especially in the U.K.</p> <p>I have talked to universities that have considered using ATP readings as measures (and other methodologies) but have backed off longitudinal use because of the liability that disclosures of those readings might present. These are their arguments:</p> <p>Example: One documents ATP readings that do not meet a set standard, and these is an outbreak of a virus. Even though ATP readings do not document the presence of such, if high readings are maintained with ATP, then there is the probability that the ATP readings that the institutions maintain, could be uses as "ammunition" by those that allegedly caught the virus in their institution.</p> <p>In university settings with thousands of desktops used every day, just cleaning or disinfecting the surface only once per day (and many institutions only wipe desktops as needed to once a week) is totally ineffective. Once the surface is touched several times by people throughout the day the efficacy of any disinfectant is limited. If the surfaces is "cleaned" after the first touch or series of touched ATP readings will increase.</p> <p>The readings in the tables: Having taken ATP readings before and after cleaning, lessons can be learned. That being said I have found the following:</p> <ul style="list-style-type: none"> <li>* Urinals have readings LOWER that towel dispenses! Seemingly towel dispensers are rarely cleaned!</li> <li>* Soap dispensers have HIGHER readings than sinks.</li> <li>* Using one style of ATP meter resulted in no cafeteria or restaurant surface less than 300, one was over 3,500 after cleaning, another was 750 while in use. The in use one was cleaner than the cleaned one!</li> </ul>

\* Airport restroom floors had lower readings than restaurants!

Now my summary thoughts:

Schools are in a crisis, decreased funding, laying off staff, even teachers. Right now 2,000 people in Chicago Public Schools are subject to losing their jobs, and that is being repeated in many cities and townships. What resources will be used to fund the ATP process, swabs, and audits?

ATPs are not cheap, and the swabs are a repeated ongoing expense. Who really gains by the information provided by these systems? The manufacturer, the local distributor? Even if a school uses the system, there is a high probability that they will be never funded to get low ATP readings, since their staffs are being stretched to the limit every day.

I think using ATP is a "good idea" for training, yet using it in thousands of schools, even though it does document soil, there are probably limited resources available to get low readings, staffs are being cut all over the place.

Thus, use it for training purposes - be careful of the liability issues (not my issues, just been mentioned by some that have taken legal advice over such issues).

From my perspective it would be much better to put our limited resources into proper training and procedures that are documented to provide clean surfaces on a regular and ongoing basis (daily, weekly, monthly).

I have used ATP all over, in universities (45,000+) in airports, in restaurants and wherever I could take a reading and no surface of an "in-use" facility received readings at the low end of the scale.

It may not serve or benefit ISSA's business partners, but I have learned that good cleaning techniques, good training, good microfiber cloths, and limited or no chemical use provides for clean and healthy environments.

At ATP reading can be blown to bits when the HVAC system kicks in.

Finally, I have found (and have been told directly) that employees are petrified by readings of dirt that they cannot see, and unions may be equally skittish!

So my conclusion of the philosophy and intent: ATP readings are beneficial for training and improving processes, it should not be the sole source - and who does the mass promotion of ATP meters and swabs really benefit?

In the APPA Body of Knowledge the use of ATP meters is suggested and will continue to be as it is only one weapon in our arsenal against dirt, but it is only one.

For all: I trust that when developing this guideline that you consulted with:

	<p>Unions  Administrators including budget administrators  Legal professionals (Potential exposure of schools to litigation based on ATP)  Environmental Health and Safety  Public relations  Human Resources  Purchasing (not only buying the units/products but also implications of inclusions/exclusions if such a system is written into a contract that excludes certain cleaning contractors, and why)</p> <p>Thank you again for your efforts and for considering the enclosed comments.</p>
<p><b>Response to above comment</b></p>	<p>Before I address your specific points below, allow me to provide a better context in which to appreciate the Clean Standard. The Clean Standard sets forth a methodology for measuring clean, as you are well aware. ISSA has also launched a campaign that is intended to “change the way the world views cleaning” so that it is viewed more as a valuable investment in any institution—whether it be a school or an office building—as opposed to being viewed as a cost to be cut during times of economic downturn. By proving the true value of cleaning coupled with the ability to measure it, we can encourage institutional facilities to revisit their cleaning regimens and improve them where needed—all to the benefit of the health and well being of the occupants of those facilities. Now on to your specific comments...</p> <p><b>1. Comment: ATP Systems are a viable tool for primarily training purposes and improving processes but should not be the sole source.</b></p> <p><b>Response:</b> As currently drafted, ATP is not the sole methodology relied upon as a means of monitoring the cleanliness of K-12 schools. In addition to ATP testing, the standard incorporates traditional methods (sight, smell) done in conduction with a standardized building audit. We have also added a separate section that references alternative methodologies (such as luminometers). See the section below:</p> <p><b><u>“Alternative Methodologies.</u></b></p> <p><i>While the Clean Standard: K-12 is based on the use of ATP measurement, there are a number of alternative methods that are capable of objectively validating the effectiveness of a school’s cleaning processes. These methods include direct practice observation, the use of fluorescent markers and others. Such methods may be used in addition to or in lieu of ATP measurement, and are referenced in Options for Evaluating Environmental Cleaning, Centers for Disease Control (CDC), 2010, Appendix B, Objective Methods for Evaluating Environmental Hygiene. However, the use of these methods alone will not be construed as meeting the requirements of the Clean Standard: K-12.”</i></p>

In addition, we must point out that ATP testing systems have been validated as a viable means of measuring “clean” in two recent studies as referenced below:

**In a study titled “ATP as a Marker for Surface Contamination of Biological Origin in Schools and as a Potential Approach to the Measurement of Cleaning Effectiveness” (June 2013, issue of *Journal of Occupational and Environmental Hygiene*) doctors Shaughnessy and Cole concluded that standardized measurement of cleaning effectiveness could be used as a practical approach to improve the cleaning practices and contribute to a healthier school environment.**

Specifically, the research validated ATP (adenosine triphosphate) measurement systems as a “...relatively simple, rapid and affordable measure of the level of biologically sourced contamination on the interior surfaces of schools.” Further the research concluded that ATP is an “...excellent candidate marker for the monitoring of biologically derived soiling/cleanliness...”

In addition, the research has produced reasonable range values based on ATP measurements (for three different ATP meters) for each surface type tested, and that these ranges “...may be used in a standardized and routine approach to the monitoring of cleaning effectiveness in school buildings based on detection and quantification of biologically derived soiling.”

Another similar study validated ATP systems studied as appropriate for monitoring the cleanliness of surfaces in hospitals. See *Validation and Comparison of Three Adenosine Triphosphate Luminometers for Monitoring Hospital Surface Sanitization: A Rosetta Stone for Adenosine Triphosphate Testing* (Carmen V. Sciortino PhD and R. Allen Giles BS).

Lastly, the majority of comments received were supportive of ATP systems as contemplated within the Clean Standard: K-12.

**2. Comment: ATP is too expensive and schools are in a financial crisis.**

We have received a number of comments on this subject, including yours, and have reduced the recommended frequency of ATP testing to once a semester, which will significantly reduce the cost.

We acknowledge, of course, that schools are in a financial crisis, which often of course leads to reductions in cleaning budgets—much to the detriment of the students who attend those schools. This is the very paradigm we hope to change.

As mentioned previously, ISSA has launched a campaign designed to “change the way the world views cleaning” so that it is viewed more as a valuable investment by institutional facilities as opposed to being viewed as a cost to be cut during times of economic downturn, as it is most often viewed today. ISSA intends to demonstrate that the ROI on cleaning exceeds the incremental costs of improved cleaning regimens as part of its campaign by demonstrating the value of cleaning as it relates to: health and safety; sustainability; productivity; and asset preservation. In the case of schools, this translates to improved attendance and grades.

By proving the true value of cleaning coupled with the ability to measure it, we can encourage institutional facilities to revisit their cleaning regimens and improve them where needed—all to the benefit of the health and well being of the occupants of those facilities.

Consider some of the following information we have begun to disseminate as part of this campaign to prove the value of clean:

- Enhanced hygiene in schools and targeted cleaning of biological residual contamination on high touch points reduced illnesses tied to bacterial contamination (i.e., MRSA), reduced sick building syndrome, reduced absenteeism due to infectious illnesses (*Higashiyama, M. T. , Hostetler, K., et.al.*)
- Per Child Illness Costs Reduced: \$962 to \$614 due to a cleaning intervention which resulted in total annual savings of \$13,224 in “illness costs” based on 38 children. Incremental cost of cleaning intervention: \$2,371 (*Krilov*)
- Thorough environmental cleaning is essential to containing MRSA, gastrointestinal and other infection outbreaks (*The Lancet – Caul E.O.*)
- Level of cleanliness is a primary factor in the spread of viral diseases in crowded indoor establishments such as schools (*Boone, S.A. and C.P. Germa*)
- Improved cleaning of floors, desks in schools reduces upper respiratory symptoms (*Walinder, R.D., et. al.*)

Again our goal is to prove the true value of cleaning, along with a means of measuring whether acceptable levels of clean are obtained, and help drive the market to demand better, high performance cleaning to the betterment of those that occupy the indoor environment..

Nonetheless, we are cognizant of the cost issue, having received a number of comments on that subject, and have therefore significantly reduced the recommended frequency of ATP testing to once a semester.

**3. Comment: The Clean Standard will impose additional liability upon schools.**

On this subject we have consulted with both internal and outside counsel.

Yes, we acknowledge that non-compliance with a standard may be the basis of a civil suit in theory, in the same manner in which non-compliance with a government health and safety regulation may also give rise to civil liability. But yet we continue as a nation to promulgate both because we recognize the overall benefit to society far outweighs any increased potential for civil liability.

First, please realize that with or WITHOUT the Clean Standard: K-12, the basis for civil liability due to inadequate cleaning that result in illness or injury already exists. There is a substantial number of studies (and more on the way) that clearly make the connection between cleaning and health (and conversely the lack of cleaning as a causal factor in certain illnesses). Witness the short list of referenced studies in No. 2 above.

Secondly, please note further that compliance with a standard provides a defendant in a civil suit with a defense, i.e., that they exercised reasonable care in the situation. Likewise compliance with the Clean Standard: K-12 would similarly provide schools with a legitimate defense in such actions.

The subject of “increased liability” is often raised in a standard setting environment, but it is a fallacious argument and invariably dismissed because it ignores the substantial benefits that flow from standards and adherence to them. Witness the example of car safety standards—when first proposed, auto manufacturers strenuously objected based largely on increased costs and liability concerns.

Yet witness the massive benefits that have flown from those auto safety standards related to seat belts, air bags, and so on. The benefits and “payback” to society that flow from these standards have far exceeded any incremental costs in terms of reduced injuries, less severe injuries, reduced hospitalization, reduction in insurance rates, etc.

This situation is analogous to the introduction of the Clean Standard, which is part of an overall plan designed to improve cleaning regimens in schools and other institutional facilities thereby providing health and other benefits to society at large.

**4. Comment: Expressed concern regarding those consulted in the**

**development of the Clean Standard.**

The Standard was developed through a consensus based process designed to garner the input of all major stakeholders in an open and transparent manner. The Clean Standard: K-12 development process allowed for stakeholder involvement by participation on the Development or Stakeholder Committees and by submitting feedback during the review periods.

Included in this process were industry, NGO's, union representatives, school districts, health officials, teacher's associations, school related organizations (Healthy Schools Campaign, National Education Association HIN, National School Plant Managers Assn) and other interested stakeholders.

A complete list of members of the Development and Stakeholder Committees can be found at the following two links:

[http://www.issa.com/data/File/CIRI/Members%20of%20Development%20Committee5\\_13\\_no%20emails.pdf](http://www.issa.com/data/File/CIRI/Members%20of%20Development%20Committee5_13_no%20emails.pdf)

[http://www.issa.com/data/File/CIRI/Members\\_StakeholderCommittee%201\\_7\\_13.pdf](http://www.issa.com/data/File/CIRI/Members_StakeholderCommittee%201_7_13.pdf)