

IEEE Standards Interpretations for IEEE Std 1680™-2006 IEEE Standard for Environmental Assessment of Personal Computer Products, Including Laptop Personal Computers, Desktop Personal Computers, and Personal Computer Monitors

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Interpretation Request #1

Topic: Scope of products covered by IEEE Std 1680-2006, specifically inclusion of workstations and thin clients **Text to be Interpreted:** Clause 1.3 Application – “The environmental performance criteria in Clause 4 apply to notebook personal computers, desktop personal computers, and personal computer monitors.”

Different manufacturers have interpreted this differently as to whether “desktop personal computers” includes workstations and/or thin clients. Workstations are higher performance desktop computers configured specifically for higher end uses such as CAD and scientific applications. Thin clients attach to a central server and do not include many of the hardware elements of a normal personal computer. A key issue is whether these classes of computers are covered by ENERGY STAR (ES) since it is a required EPEAT criterion – 4.5.1.1. If ES does not cover a product type, it is not possible to declare to 4.5.1.1, and therefore not to be in conformance with IEEE Std 1680-2006. Workstations are covered by the ES specifications. Thin clients are not currently covered by an ES specification. ES is exploring the possibility of including thin clients in the ES 4.0 specification in future tiers. There appear to be no other criteria in IEEE Std 1680-2006 that would affect these computer types differently from normal desktop computers. Workstations have been registered to the Standard by different subscribers. Thin clients have not been registered since they cannot meet 4.5.1.1.

Interpretation Response #1

The term “desktop computers” as used in 1.3 could include normal desktops as well as workstations and thin clients. However, one required criterion – 4.5.1.1 ENERGY STAR – does not currently cover thin clients, and so it is not currently possible to register thin clients to IEEE Std 1680-2006. Workstations, which are covered by ES 4.0, can be registered to IEEE Std 1680-2006. Thin clients may be registered to IEEE Std 1680-2006 if and when ES 4.0 develops a specification for them.

Interpretation Request #2

Topic: Use of the exceptions field for product configurations and other purposes **Text to be Interpreted:** Clause 1.3 Application – “Different configurations of a product, as defined in 3.1, may include options for processors, memory, hard disks, etc. A product, for the purpose of this Standard, is every configuration that could be offered in a specific marketing model and chassis type.

If there is **a specific configuration** within a marketing model and chassis type that would change the environmental performance substantially, especially if that configuration would no longer meet a criterion, then the manufacturer could not claim conformance to this Standard for that configuration, even if the same model in other configurations did conform to this Standard. **The manufacturer shall report such special configurations that do not conform to the Standard** to the Product Registration Entity.” (Bold added)

Note that in the definitions 3.1 “product” is defined as: “A marketing model and chassis type (and all its peripherals) versus a singular configuration of the product.” However, the term “Configuration” is not defined. The Registry has implemented this clause through an “Exceptions” field for manufacturers to report non-conforming special and specific configurations of a declared product. (Note that the Standard uses “special” and “specific” interchangeably.) The Exceptions field as implemented on the Registry is intended to include only the identification of specific non-conformant configurations as defined by hardware or software options that can be specified by the purchaser at time of order. However, manufacturers have desired greater flexibility in use of the Exceptions field. One example is the specification of ES qualification.

It has been brought to the attention of GEC staff that ES 4.0 specifications, when applied to a product and its many configurations, make it very difficult, perhaps impractical, for some (but not all) manufacturers to report a highly detailed and possibly frequently changing list of configurations that are non-ES qualified. Within one product, the selection of different components in different combinations may effect whether the unit is ES qualified. However, a detailed and changing list of special configurations would make the EPEAT Registry unreasonably difficult for purchasers to use. Note that manufacturers are developing different ways of identifying which configurations are ES 4.0 qualified and which are not. If a subscriber does so by a unique model name, then the product can easily be registered to EPEAT. Another example, however, is that some manufacturers are using a ‘configuration tool’ on their web site. It is desirable for EPEAT to provide

for purchasers the easiest and most reliable method to identify ES qualified and EPEAT conformant configurations of products. In addition, there is nothing in the Standard that would seem to prevent a Product Registration Entity from offering manufacturers opportunities, in addition to reporting specific configurations in the Exceptions field, to otherwise specify product configurations that conform or do not conform with the Standard.

Interpretation Response #2

Clause 1.3 stipulates that every configuration of a product declared to the Standard must fully conform with the Standard, with the exception of special configurations that are reported as non-conformant to the Product Registration Entity. These are clearly intended to be “specific configurations” amongst “every configuration” that is available, and the non-conforming configurations are intended to be specifically identified. The Product Registration Entity is expected to provide for purchasers some method to easily and unambiguously identify non-conforming configurations that are reported by subscribers. This may be a text description of non-conformant options, a list of configuration-specific identifiers (such as manufacturer part number or UPC), a reference or link to an available search function or product configurator tool, or other method.

Interpretation Request #3

Topic: Geographic extent or limits of product declarations **Text to be Interpreted:**

Clause 1.4 Conformance with this Standard – “In order to conform to this Standard, each unit of a product must satisfy all of the applicable requirements provided in Clause 4.”

The Standard specifies that “each unit of a product” must be in conformance, and makes no mention of a geographic area in which a registration may apply or not apply. Moreover, the Standard is being increasingly used by purchasers in various geographic regions globally. Therefore EPEAT has interpreted the Standard to mean that each unit of a registered product wherever it is sold or manufactured must be in conformance. This imposes substantial difficulties for manufacturers since some criteria are especially dependent on the geography in which they are met, including the service oriented criteria such as take-back of product, batteries or packaging. Stakeholders in a special task force considered this and have proposed that manufacturers be able to designate specific geographic areas in which their criteria declarations apply. Since the Standard is silent on geography, it seems reasonable to interpret it flexibly.

Interpretation Response #3

The IEEE Std 1680-2006, specifically the language in 1.4, does not limit nor define the geographic areas within which a product declaration, or an optional criterion declaration, is valid. Therefore, there is nothing that restricts a Product Registration Entity from designating geographic areas, or allowing manufacturers to designate geographic areas, within which a product declaration or an optional criterion declaration is valid.

Interpretation Number 4:

Topic: Definition of “postconsumer” material **Text to be Interpreted:** Clause 3.1 Defi-

nitions – “3.1.10 postconsumer: A material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item; part of the broader category of “recovered” items...”

Interpretation Request #4

The question has been asked whether the following material would be considered post-consumer: plastic from CDs that were stocked by a manufacturer and then had to be liquidated because they were never shipped and are out of date. This appears to be a special case of a situation where certain equipment associated with a computer is manufactured, stocked for sale and then discarded (recycled) since it is no longer saleable. Is raw material made from such equipment that has been fully manufactured into a final product, but was never sold to a consumer, considered postconsumer recycled material? Clearly such equipment has never passed through the stage of consumer use. However, according to the IEEE Std 1680-2006 definition such equipment could be interpreted as postconsumer if one considers that it has “served its intended use” because it was a fully functional consumer item, deployed for sale or delivery, and then liquidated before being sold to a consumer. However, two definitions of “post-consumer” suggest that such equipment should not be considered post-consumer:

U.S. FTC document – “Recycled Content Claims and Examples”: Post-consumer is used in context to mean “after consumer use”. California Public Contract Code 12200 defines: “Postconsumer material means a finished material that would have been disposed of as a solid waste, having completed its life cycle as a consumer item, and does not include manufacturing wastes.”

Interpretation Response #4

In use of the term “postconsumer”, as defined in 3.1 as having “served its intended use and has been discarded for disposal or recovery”, and in consideration of uses of the term postconsumer elsewhere, which generally require that the material has completed its life as a consumer item, equipment that has been manufactured into a product, stocked for sale or delivery to a consumer, but then liquidated before delivery to the consumer, shall not be considered as postconsumer. Such equipment therefore does not meet the definition of postconsumer.

Interpretation Request #5

Topic: Vague use of the phrase “listed part” **Text to be Interpreted:** Optional Product Criterion 4.1.4.1: Elimination of intentionally added lead in certain applications – “The VDU, including housing, batteries, cables, adapters and other peripheral equipment used to generate an image, shall not contain lead greater than 50 ppm by weight **per listed part** ...” (bold added)

What does “listed part” include? The listed part is the unit to be tested for presence of lead, and the weight of the entire “listed part” is the denominator in the determination of the proportion of lead present. Therefore the definition of “listed part” is critical to the calculation. Are these only the parts listed in the criterion? Are these any parts listed in a

BOM? Is the entire VDU possibly a listed part?

Interpretation Response #5

The term "listed part" as used in 4.1.4.1 includes any part or component of the VDU, such as those listed in the criterion or others listed on a Bill of Materials, but not the VDU as a whole.

Interpretation Number 6:

Topic: Clarification of substance threshold requirements and demonstration of conformance
Text to be Interpreted: Optional Product Criterion 4.1.4.1: Elimination of intentionally added lead in certain applications – "The VDU, including housing, batteries, cables, adapters and other peripheral equipment used to generate an image, shall not contain lead greater than 50 ppm by weight per listed part ..."

Interpretation Request #6

A subscriber has asked for clarification of the requirements for demonstration of conformance in verification as to whether the demonstration that lead was not intentionally added was adequate, even though analytical testing did not test to the 50 ppm stated in the criterion. The Product Verification Committee (PVC) issued a Clarification on this for Verification Round One, which stated that, given the language in the criterion, the verification data must demonstrate that the lead level is below the 50 ppm threshold, and that simply demonstrating that no lead was added is not sufficient. However, the subscriber is dissatisfied and would like the issue to be addressed by the IEEE Group. This is justified by the ambiguity of the wording of the Standard. The ambiguity arises because the criterion requires a specific threshold for lead levels – less than 50ppm. The criterion title simply states "elimination of intentionally added lead". Those two are somewhat different measures, but the wording in the title is considered to be subordinate to the wording in the criterion. However, the verification requirements for the criterion require either empirical data demonstrating compliance or analytical test data. Based on the discussions at the time of Standard development, it was clear that the intent of the developers was that empirical data is included to mean that analytical tests are not required, and that records from the supply chain that demonstrate conformance are adequate. A quality control program, that may include testing, was also required by the PVC. However, demonstration of a specific threshold level, such as 50 ppm, by its nature, requires an analytical test. Whereas, "no intentionally added lead" can be demonstrated by empirical data. The specific question to the Interpretations Group: Is empirical data, including records from the chain of production, demonstrating that no lead was added at any point, an adequate demonstration of conformance? Or must the subscriber provide analytical data that demonstrates a presence level below the threshold required by the criterion? The initial meeting of the Interpretations Group assigned a subgroup to develop more definitive definition of "empirical data" as distinct from "analytical test data" in order to help resolve this issue. The subgroup met and recommended the following to the Interpretations Group "The term "empirical" is defined in the Webster dictionary as "1. derived from or guided by experience or experiment, 2. depending on experience or observation alone, without using science or theory..." The

subgroup believes that this definition implies that some data or evidence is required to meet the empirical data requirement, beyond strictly supplier assurances. Supplier assurance that the substance has not been added must be supported by a quality control program that includes some component sampling or data collection. However, this data or evidence need not be data from an analytical test on the component or product itself. The subgroup further commented that the data or evidence must be in support of meeting the requirements of the criterion. Therefore, an analytical test to a threshold that is higher than the threshold in the criterion, would not meet the need for “empirical data demonstrating compliance”. It is important to note that this ambiguity applies to several other criteria in 4.1 even though the specific wording may vary somewhat, including: 4.1.2.1 Elimination of intentionally added cadmium, 4.1.3.1 Reporting on amount of mercury used in light sources, 4.1.3.2 Low threshold for amount of mercury used in light sources, 4.1.3.3 Elimination of intentionally added mercury used in light sources, 4.1.5.1 Elimination of intentionally added hexavalent chromium, 4.1.6.1 Elimination of intentionally added SCCP14 flame retardants and plasticizers in certain applications, and 4.1.6.2 Large plastic parts free of certain flame retardants classified under European Council Directive 67/548/EEC. This Interpretation will apply to those criteria also.

Interpretation Response #6

It was the intent of the Standard developers that either empirical or analytical data would be adequate to demonstrate conformance for several criteria in 4.1 which call for the elimination of intentionally added environmentally sensitive materials. Those criteria all state in the verification requirements: “either empirical data demonstrating compliance or analytical test data demonstrating compliance”, or equivalent language. Empirical data may include supplier assurance of conformance, and must include component sampling or data collection that is evaluated within a quality control system that demonstrates conformance. It shall not be required that analytical test data also be provided to demonstrate a substance level below the threshold. Of course, such analytical test data of itself would also demonstrate conformance.

Interpretation Request #7

Topic: For the purpose of calculating a recycling percentage, does “recycling” include or not include the thermal processing (incineration) of materials in the recycling process?

Text to be Interpreted: This interpretation effects two criteria: Required Product Criterion 4.3.1.8: Minimum 65% reusable/recyclable -- “65% or greater of materials and components by weight shall be reusable or recyclable within the current infrastructure and using demonstrated technologies.” Optional Product Criterion 4.3.1.9: Minimum 90% reusable/recyclable -- “90% or greater of materials and components by weight shall be reusable or recyclable within the current infrastructure and using demonstrated technologies.”

The two criteria require a calculation of the percent of a product that is reusable/recyclable. This calculation involves determining the weight of all materials that are reusable/recyclable, and then determination of the portion that represents of the total product weight. Note that this is a measure at the point of manufacture regarding whether the

material is reusable/recyclable. It is not a measure of the material that is, or is not, recycled at a specific recycling facility. The question has been presented whether material that is sent to a recycling facility and is routinely combusted or thermally processed during the recycling process, and is not recycled as a material, is counted as recyclable. This applies to two main materials:

- The portion of a circuit board that is combusted in the smelting process to recover the precious metals. The metals and the combustible circuit board material are intricately joined into a single part, i.e. they are soldered together, and they are not reasonably separable except through thermal treatment.
- The plastic and other materials in a rechargeable battery that are thermally processed in the recycling process to recover metals.

This question was heard by the PVC during verification Round One and the PVC issued the following clarification:

“Combustible materials such as the resin in circuit boards that are sent to smelters whereby the metals are recovered for recycling shall not count as recyclable. Specifically, the weight of any material not recycled shall not be used in the calculation.”

Since that clarification was issued it has been pointed out that this interpretation would cause all notebook computers that utilize a lithium ion battery, which nearly all notebooks do, to not be eligible for 4.3.1.9, and questionably eligible for the required 4.3.1.8. As reported, the battery is about 1/3 of the weight of the laptop, and about 70 of the battery is thermally processed and not recovered as material in the recycling process. Making a theoretically maximum recycling rate of about 76% for a notebook due to the “unrecyclable” portion of the battery alone. The circuit boards would further reduce the recyclability. Well over 100 notebook computers models have been declared to 4.3.1.9. Most likely all of these would be in non-conformance according to the current interpretation of the Standard. Note that traditional practice in the U.S. in calculating recycling rates counts all materials sent to an end user, such as a paper mill or refinery, as recycled, even though certain materials may be combusted or even discarded as residual. The Interpretations Group extended this forward and asked to see definitions of recycling from WEEE and California relative to inclusion of thermal processing for material recovery. Citations from California specify that waste to energy does not qualify as recycling. However, it does not apparently explicitly address whether all the materials that are thermally processed for material recovery are counted as recycled. The following citations from WEEE suggest, but are not explicit, that all the materials processed in a smelter are counted as recycled:

Article 3 Definitions: “‘recycling’ means the reprocessing in a production process of the waste materials for the original purpose or for other purposes, but excluding energy recovery which means the use of combustible waste as a means of generating energy through direct incineration with or without other waste but with recovery of the heat.” [Note that this definition is not explicit to the question at hand since it only refers to in-

cineration for energy recovery not for material processing.] Article 7 Recovery, (Clause 2 establishes recycling targets), Clause 3: "Member states shall ensure that, for the purpose of calculating these targets, producers or third parties acting on their behalf keep records on the mass of WEEE, their components, materials or substances when entering (input) and leaving (output) the treatment facility and/or when entering (input) the recovery or recycling facility."

Because this clause does not require recording of materials leaving a recycling facility, such as a smelter, it may be fair to presume that the calculation counts all the materials entering a recycling facility as recycled. [Note that I intend to meet with WEEE officials next week and will query them regarding this.] No other clauses in the WEEE Directive shed further light on this issue.

Interpretation Response #7

In calculating for criteria 4.3.1.8 and 4.3.1.9 what portion of a product is recyclable materials that part of a component containing metals and that are sent to a recycling facility that uses thermal processes for recovery of the metals, such as smelting, shall be counted as recycled or recyclable, even if a portion is in fact combusted during and as a part of the recycling process and not recovered as a material. This applies to materials that are joined into a single part – such as the chips, metals and resins of a circuit board. It does not include other plastic parts that are not joined to the metals, even if some shredder-based recycling systems may send that material to a smelter along with the circuit board material. Also, this does not imply that material sent to a waste-to-energy facility where the purpose is energy recovery and not recycling should be counted as recycled or recyclable. The following caveat is placed on this Interpretation: If this interpretation is found to be in conflict with an existing state law (which could affect the ability of a state to use EPEAT in procurement) it shall be brought back to an Interpretations Group for reconsideration.

Interpretation Request #8

Topic: What does "Additional product warranty" mean? **Text to be Interpreted:** Required Product Criterion 4.4.1.1: Availability of additional three year warranty or service agreement – "Product Criterion: Additional product warranty or service contract of at least three years shall be available for customer purchase."

The Standard is unclear and could be interpreted in the following ways.

1. It could be interpreted to mean that use of the term "additional" implies that there must be a standard warranty, of unspecified term. And that whatever the length of that warranty, an "additional" warranty must be offered of 3 years.
2. It could be interpreted to mean that the "additional" 3-year warranty implies that there must be a standard warranty, of unspecified term, and that the additional warranty must take the full warranty offered up to a total of three years.
3. It could be interpreted to mean, since it is silent on any standard warranty, that the offering of a 3-year warranty is all that is required. And that if a standard warranty is

offered the total offered warranty must be equal to 3 years.

The term “additional” implies that a warranty of some sort, e.g. a standard warranty, is offered, and so option three is not reasonable. Since the length of a standard warranty is not mentioned, and only the length of the additional warranty is, option two does not seem reasonable.

Interpretation Response #8

The term ‘additional’ in 4.4.1.1 means that regardless of the terms of a standard warranty, an additional warranty or service contract of at least three-years duration must be offered for purchase.

Interpretation Request #9

Topic: Clarification of requirement for renewable energy accessory **Text to be Interpreted:** This interpretation effects two criteria: Optional Product Criterion 4.5.2.1: Renewable energy accessory available – Accessory for powering product using renewable energy shall be commercially available for purchase with the product Optional Product Criterion 4.5.2.2: Renewable energy accessory standard – Product shall be shipped with a standard component (either internal or external) that allows for use of renewable energy to power the product

The question is whether “powering” means that the renewable energy accessory must supply all the power needed to run the product, or some standard less than all. Many renewable energy options entail use of naturally interrupted power sources, e.g. solar or wind. Therefore the criterion would not logically imply that full and continuous power be supplied to the product, and likely will entail use of batteries, which may even be exhausted before the renewable power source returns.

Interpretation Response #9

The intent of the criterion is to provide a majority of the power required by the product by means of a power delivery system that is practical and effective for a typical duty cycle of the device, though possibly not continuously without interruption. Furthermore, the terms “available for purchase with the product” means that the purchaser must be able to buy the accessory from the subscriber along with the product, though the product may be provided by a third-party.

Interpretation Request #10

Topic: Conformance with EPA’s Plug-in to eCycling Guidelines **Text to be Interpreted:** Required Product Criterion 4.6.1.1: Provision of product take-back service – “Documentation of service certification to the U.S. EPA’s Plug-In To eCycling: Guidelines for Materials Management” (bold added)

The term “certification” is generally used to mean that there is a formal, third-party certification process. However, there are no certification processes established as a part of the Plug-in Guidelines.

Interpretation Response #10

The term 'certification' as used in the Verification Requirements for 4.6.1.1 means determination of conformance with the Guidelines and does not imply a formal, third-party certification.

Interpretation Request # 11

Topic: Clarification of recycler auditing requirements **Text to be Interpreted:** Optional Corporate Criterion 4.6.1.2: Auditing of recycling vendors – “An annual audit is performed of all first, second, and third tier recyclers’ facilities....” “Verification Requirements: ... b) Documentation of on-site visits”

The requirements of this criterion have been unclear to manufacturers and misunderstanding has led to several non-conformances. The misunderstandings have sprung from several aspects of the criterion, which are clarified in the recommended Interpretation.

Interpretation Response #11

In criterion 4.6.1.2 the required recycler auditing applies to all first, second and third tier recyclers of components and materials recovered from products declared to the Standard. The requirement is that audits occur annually, and that some of the audits involve on-site visits. However, not all audits need be on-site. Audits, which may in some cases be review of paper records, should be conducted by an entity that is independent of the facility being audited either by the manufacturer or a third-party auditor.

The term “recycler” refers to an organization that handles the electronic scrap and changes its form in some way with the intent of recovering resource value from the equipment. That is, an organization that merely collects and transports material – i.e. a collector – or an organization that simply arranges for its movement to other processors – i.e. a broker – are not considered recyclers. The requirement for auditing of recyclers ends when the materials need no further processing in order to be used as a direct manufacturing feedstock and are processed into a reusable state. For example, shredder output is not considered to be in a reusable state nor is it a manufacturing feedstock. That is, a manufacturer of new products that incorporate secondary material is not defined as a recycler for this criterion and need not be audited, even if they are within the first three tiers of material handlers. In the case where the subscriber participates in a national or state electronic product recycling compliance scheme, for the purposes of verification the subscriber need only demonstrate that the compliance scheme has a recycler audit program that is equivalent to or better than the requirements of the criterion.

Interpretation Request #12

Topic: Clarification of rechargeable battery recycling requirements **Text to be Interpreted:** Required Corporate Criterion 4.6.2.1: Provision of rechargeable battery take-back service – “Manufacturers shall provide a rechargeable battery take-back service at a competitive price that is equivalent to or better than that provided by the RBRC.”

The RBRC system collects and recycles all rechargeable batteries, regardless of whether the battery manufacturer or the manufacturer of the product that contains the battery is a licensee of RBRC. It has been asked if a manufacturer can satisfy 4.6.2.1 by claiming that their batteries are recycled through the RBRC system even though the manufacturer is not a licensee, as long as they meet the other requirements in the criterion. That is, does a “free rider” on the RBRC system qualify as providing rechargeable battery take-back service.

It is clearly the intent of the Standard that a manufacturer either be a licensee of RBRC or provide their own recycling service that is equivalent to RBRC.

Interpretation Response #12

In order to conform with criterion 4.6.2.1 the manufacturer must either be a licensee of RBRC or provide a service that is separate from and equivalent to the RBRC recycling service.

Interpretation Request #13

Topic: Clarification of verification requirements for separable packaging **Text to be Interpreted:** Required Product Criterion 4.8.2.1: Separable packing materials – “All non-reusable packaging shall be separable. All the packaging materials shall be able to be segregated into like materials without the use of tools”. “Verification Requirements: ... b) Documentation stating that dissimilar materials are not glued together.”

There is an apparent inconsistency between the wording of the criterion which requires separability without use of tools, and the verification requirements which state that dissimilar materials should not be **glued together**. It has been pointed out that the problem arises especially if a ‘post it note’ type glue is used, which is easily separable without use of tools. The PVC issued a clarification that the wording in the criterion takes precedence.

Interpretation Response #13

The wording of criterion 4.8.2.1 requires that the packaging materials can be segregated without the use of tools. The wording “segregated without the use of tools” is the operative requirement. In spite of the apparent requirement in the Verification Requirements that materials not be glued, if glue is used but the materials can “be segregated into like materials without the use of tools”, then the product (that is, its packaging) is in conformance with the criterion.

Interpretation Request #14

Topic: Assuring that packaging reuse is not undermined by replacing and discarding non-reusable packing from the point of manufacturing **Text to be Interpreted:** Optional Product Criterion 4.8.5.1: Documentation of reusable packaging – Manufacturer shall provide a reusable packaging process that reuses the packaging for the same or similar product, at a competitive price. Manufacturer designs the packaging for a minimum of

five reuses.

It has been brought to the attention of GEC staff by a purchaser that, in order to gain this optional point, some products may be packaged in non-conforming packaging at the point of manufacture and shipped to a distributor who repackages the products into conforming packaging for distribution to customers, with the non-conforming packaging discarded. This would clearly violate the intent of the Standard.

Interpretation Response #14

Processes that remove non-conformant packaging from a product at an intermediate point between manufacture and delivery to purchaser, then deliver the product to the purchaser with conformant packaging or without packaging (i.e. using carts or other conveyances), shall not be in conformance with this criterion unless the packaging removed at the intermediate point is reused consistent with the criterion.