Global Recycled Standard, version 3

Stakeholder Review Feedback and Responses – First & Second stakeholder review (December 19 – February 20, March 27 – April 28)

The Position of GRS

There are two options for recycled material content verification, the Recycled Claim Standard and the Global Recycled Standard. The GRS is intended to be a strong and thorough set of processing requirements, giving the industry a target. Currently, it really is only aimed at eliminating the worst practices, but it will still be difficult for some suppliers to attain. A number of comments have mentioned the difficulty companies would have in meeting the strict requirements of the standard. The motivation for creating a comprehensive standard allows companies to make the types of claims consumers associate with sustainability. Our efforts were centered on addressing the worst practices in manufacturing, balancing rigor and practicality.

We're also hoping that by recognizing audits to other equivalent standards, we can ease some of the audit-fatigue for suppliers that we continue to hear about.

Guidance for companies

The Global Recycled Standard has been written to become an internationally recognized standard. The standard has been written as a series of requirements, against which a certification body may audit and verify. The standard is not intended to be used as a guidance document for supply chain members, and as such, the requirements do not include additional information about how to follow the requirements of the standard. Where guidance is listed, it is directed towards certification bodies, to ensure consistent audit practices among all certification bodies. Some resources associated with requirements for supply chain members have been listed, and additional resources may be added to the website as we become aware of them. But compiling a comprehensive guide for supply chain members to meet the requirements of the standard is outside the scope of the standard. (http://textileexchange.org/GRS).

Minimum Content Requirements

Several companies had feedback that a minimum content requirement of 30% could limit that application of the standard, with current technology limiting the percentage of post-consumer recycled materials without compromising the quality of the final good. Our solution is to lower the minimum to **20% recycled content**. In the future, we may develop specific minimum requirements by material. We hope to see innovation in this field to allow higher and higher percentages of recycled content to re-enter the supply chain.

Chemical Requirements

After receiving helpful feedback about the application of the chemical requirements for industries beyond textiles, we adapted the requirements to better balance the rigor and intention of the standard with practicality for industries outside of textiles.

1. We will now allow chemicals with uses approved by REACH.
2. The GRS Prohibited Substance List will only apply to textile facilities.
3. Chemicals prohibited by their assigned hazard code will be allowed if there are no other alternatives.

1. Accreditation			
Feedback Number	Paragraph	Proposed change	Comment
1.1	Section C3 Verification	The audition body must be a third party (…); meet ISO 65 and xxx registration; and be authorized by …	ISO 65 and xxx provide guidance to ensure that third parties meet minimal standards for verification and auditing.
This requirement is covered by the TE Accreditation Procedures. ISO accreditation is required audit against the standard. But since this applies to all TE standards, it has not been mentioned here. Standards selected to be considered as equivalent must use third-party certification, and so the accreditation approval process does not need to be mentioned here.			

2. Chemical			
Feedback Number	Paragraph	Proposed change	Comment
2.1	Subject – Chemical component	The divergent approach would cause more confusion for the facility. I would recommend that a comparison be done between the ZDHC MRSL (and others) to evaluate the differences. One big gap is the lack of a de minimus within the GRS, which again provides little direction for the facility/formulator.	Attempts to create an MRSL that might not align with the ZDHC or any other MRSL within the industry. Interest to help shape this.
This is a divergent approach from a typical RSL. But it's in keeping with the concept of chemical management. We will look at incorporating the ZDHC MRSL once it is released, but so far we haven't seen the list. The Prohibited Substance List (which now applies only to the textile industry) is aligned with a common industry standard.			
Reply: My recommendation would be to delay publication until the ZDHC MRSL is released. This will happen very soon, ideally within May/June. To further create another, differing chemical standard will only add confusion to the supply chain and won't enable true industry change. The industry should be collectively using solid tools to enable consistent messaging throughout the supply chain. With significant support already there for the ZDHC MRSL, it is hopeful the TE will also consider it adoption and recognise the benefit of industry alignment.			
GRS IWG: We are planning to review the ZDHC MRSL and will most likely adopt it into our standard for textile supply chains. We will continue to rely on the restriction of chemical substances according to their hazard codes unless we fill that the ZDHC list will be appropriate for use beyond the textile industry.			
2.2		The restriction of chemicals with specific R-phrases at the facility level. On the surface this makes sense, the inclusion of R50-R50/53's is pretty challenging, given the nature of some quaternary ammoniums. These are critical for manufacturing (textiles) and some of the most aquatically toxic chems used in the industry.	Restricting these and providing no direction for alternatives is a concern. No mention is made of how to manage closed system application versus an open system. Interest to help shape this.
Only preparations classified R50/53 would be prohibited according to the current version of GRS. Preparations get classified with R50/53 in case > 25% of a substance classified with this R-phrases is contained, hence many Quats could be approved. Further alternatives like estherquats, which are degradable could be used as substitutes in many cases (but not all). Our intention is to develop a positive list, which would give companies a list of potential approved substances. It would be interesting to add in which may replace chemicals banned based on their hazard codes. This will take some time to develop. It would likely go through an additional stakeholder process, and participation is welcome.			
Reply: Providing the supply chain direction on procurement of 'positive' chemicals (as opposed to simply restricting chemicals) is something which is clearly lacking within the industry; but solutions do currently exist. The ZDHC again is committed to the, and as is working with system and solution providers to give this guidance. This clearly builds on the ZDHC MRSL and approach to chemical prioritization and research. To avoid duplication or misalignment of criteria (which could lead to mixed messaging), it is suggested that TE consider how the inclusion of a positive list within the GRS would be built, maintained and verified. It is recommended that TE also consider aligning with ZDHC in this regard to provide consistent messaging.			
GRS IWG: A positive list will not be released with this version of the standard. There is some movement towards this type of list from other chemical experts in the industry (like the ZDHC), and we would like to leverage that work, instead of creating and managing parallel lists. As this type of work moves forward, we will keep relevant information updated online.			
2.3		The use of a dedicated person to manage the process, no information or guidance is given on the training and understanding needed to be successful within the position. Guidance on safer alternatives is also non-existent.	No mention of the training for an area specific dedicated person. Smaller companies may not be able to have one dedicated person to cover each specific area.
It is not required that an entire position must be dedicated to managing the chemical use at the facility, but instead that someone has been assigned the role as part of their job responsibilities.			
Reply: More guidance should be given on expectations of the position.			
GRS IWG: As we receive feedback from CBs on the implementation of this particular requirement, we can add that in to the guidance document overtime.			
2.4		The standard has an approach to dealing with the chemistry used at the facility level; it sets no standard for inbound recyclate or outbound raw material. It does not remove the need for RSL programs, so it's a standalone, unaligned standard that we'd need to comply with.	Building the chemicals management into the GRS standard will make certification even more challenging and limit adoption.
2.5	Section D	Revision: The GRS chemical requirements are specific to the use and management of chemicals in the manufacturing of goods made with recycled inputs. Although it does not control those chemicals that may reside in the reclaimed goods that are used as initial inputs in the GRS production chain, it is the responsibility of the seller of GRS certified product (fibre, material, consumer product), to provide assurance that they comply with their customers RSL requirements and at a minimum global regulations.	This is a big challenge to have "unknown" legacy chemicals as part of the reclaimed material inputs. If not properly addreesed in this standard this may mean that companies cannot accept recycled content without having their supplier test every batch/lot of reclaimed material input or have a system that removes all possible contaminants from the reclaimed inputs.
2.6	A2.1	Add the operator's responsibility to be a material steward and prevent contamination with hazardous materials.	This is a widespread concern with recycled materials – and it starts here, there is a uneven balance of controls processing in the supply chain
It's true that brands with an established RSL would not be able to use the GRS v3 to replace that system. The goal of the GRS is to address the chemicals used in production, and not to ensure that all incoming reclaimed material or final products are free from toxics. Since final product testing would not give information about the source of the contamination, a supplier could be held accountable for a chemical that was already present when he accepted it as an input. The intent of the GRS is to provide a target for companies to meet, to discontinue the use of toxic chemicals in production.			
Reply: Managing chemicals used in production should enable the successful management of discharge and final product compliance. Limiting the scope of the GRS input management approach to only chemicals used in the			

facility does not holistically address chemicals management. True chemical input management will consider the whole system. The value to the ZDHC MRSL is that it sets a base level standard for all inputs, allowing the product to meet RSLs and to reduce the effluent concentration of key analytes. The positive list will further guide chemical procurement (cf. Bluefinder listed chemistry). It is recommended that TE consider broader alignment to ZDHC activities.			
GRS IWG: See previous comments regarding positive lists and ZDHC.			
2.7	D2.2	Comment only …	Although this is a very worthy clause/statement there are very few tool/data available in industry to screen input formulations for substances of concern with limit values. A certifier would need to see some sort of screening tools used with data outputs beyond MSD sheets. This may be a significant hurdle to overcome in the launch of a "recycled content" standard with no means to validate this statement.
By relying on the SDS and the assignment of hazard codes, we are able to restrict substances without the need for additional screening. GHS has guidelines that indicate limit values for the assignment of hazard codes and those have been adopted by the standard (see D3.1c).			
2.8	D3.1c	Addition: In the absence of robust MSDS the certified organization must provide relevant data that supports their conclusion that the specified substances of concern are not present beyond the limits stated.	We need to drive beyond MSDS as these are often not comprehensive enough to provide enough data to support a decision regarding an restricted substance. The supplier will not have this information with only MSDS. We need to be explicit that without comprehensive data these criteria cannot be met.
The requirements of the GRS are established such that the SDS would be sufficient. Chemicals are restricted based on the REACH List of Prohibited Substances, or by being assigned a hazard code. An SDS (or MSDS) that meets the criteria listed under D3.1c would include a reliable hazard code.			
2.9	D3.1d	Question …. Is this what is trying to be addressed in D3.2 "Accepted Equivalents"? If so I would suggest adding in a reference to D3.1d (see D3.2 for accepted standards)	There does not seem to be many "certification bodies" that have access to this level of data and chemical screening ability. If there are … could these be added to a list of service providers that can provide this level of service. Mu concern, again, is that this will be a limiter to fulfilling the "recycled content" claim.
The portion of accepted equivalents has been removed from the Chemical section of the GRS. Equivalency will only be granted on the facility based requirements of the standard. For more comments on the scope of the standard, and its position alongside the Recycled Claim Standard, see the above note on "The Position of the GRS".			
2.10	D3.3a	Question …	Is there a system at TE that can manage a "preferred chemicals list"? I did not see one. Also, is there an expectation that the TE will be able to get access to chemical data to be able to screen/verify a "preferred substances list" or have they partnered with a body that can?
We are currently looking into this. The positive list, or preferred chemicals list will not be released at the same time as the GRS v3. It will be established as chemicals are cleared by CBs, or otherwise verified to meet the requirements of the chemical section. At the very minimum, this will be a list of chemicals that have been approved, and we will post a list online. There is a discussion underway to partner with another organization to manage this list. But since the requirements of the standard are based on the assignment of hazard codes (outside of the REACH list), a full screening of chemicals is not required to identify those that are prohibited.			
2.11	Section D2	Add underlined text: GRS criteria for the use <u>and management</u> of chemicals <u>used in the manufacturing of good made with recycled inputs</u> are based on the following main requirements:	Introduction is vague and should be tied back to the introduction to Section D.
This has been adjusted slightly to clarify its application to GRS products.			
2.12	Section D2	Revise text: 1. Exclusion of inherently problematic substances <u>which are listed as SVHC (D2.1a) unless these are specifically allowed by authorization.</u> ~~are classified as dangerous to human health and to the environment according to specific risk phrases and hazard statements.~~	Inconsistent language. Statement 1 does not refer to risk phrases and hazard statements.
We have included the allowance for chemicals with accepted uses given by REACH.			
2.13	Section D2	Delete text	The list of REACh candidate substances are ones under review. No formal decision has been made. Certified organizations should have management practices in place for managing worker exposure to candidate SHVC.
Agreed, this has been removed			
2.14	Section D2	Revise text. 3. Documented management practices are in place for ~~Exclusion of~~ substances and mixtures classifieds with particular hazard codes or risk phrases.	
Chemicals will be prohibited based on the assignment of hazard codes or risk phrases. As mentioned previously, the intention of the standard is to go beyond current legal regulations. We have included an accepted exemption for substances which are excluded by their hazard codes, but that have no acceptable alternative.			

2.15	D2.1a	Substances of very high concern as referred…. ADD TEXT: This section does not apply, If chemicals on the SVHC list have been determined to have an approved (authorization) for use in processing recycled materials.	Under REACh, the determination of SVHC list includes provision for the allowed use/application of chemicals. Once a scientific evaluation is made, the substance may have an allowable use. The GRS should be consistent with allowable that regulatory use determinations.
Authorized uses granted by REACh will be allowed, as long as they are not excluded through the hazard codes.			
2.16	D2.1b	Delete paragraph D2.1b Move to new section.	The list of REACh candidate substances are ones under review. No formal decision has been made. These substances should be actively managed until they are listed in the SVHC list.
This has been deleted, but the chemicals on the candidate list may potentially be prohibited pending the REACH decision making process.			
2.17	D2.2	Rename Title of combined section D2.2 and D2.3. <u>Management of</u> substances of concern to health and environment.	Combine Sections D2.2 and D2.3 Insert new introductory paragraph. Apply new management section to Candidate List of SVHC and to chemicals with hazard statements and risk phrases.
The section that applies the GRS Prohibited Substance List to all GRS candidates has been removed and the list will now only apply to textile manufacturing processes. The management of chemicals allowed by the standard is covered by the requirement that MSDS guides are followed, which is stipulated in the guidance for the portion mentioning REACH (D2.1) and the portion outlining chemicals prohibited based on hazard codes (D2.2).			
2.18	D2.2	Need better explanation of the exclusions list	Are all of these chemicals currently banned, limited or restricted by legislation? How involved were competing material suppliers in developing this list? TE must be transparent in how they developed this list.
2.19	D2.2	Delete text and Section D2.2 ~~Chemicals identified in the GRS Prohibited Substance List (available online) must not be used and must not be part of any preparations or formulations used in manufacturing GRS certified products. It is the responsibility of the Certified Organization to ensure that all substances used in the processing of GRS products meet the criteria set out in D2.1. Substances and mixtures containing any substances that are not specifically excluded on this list must also meet the criteria of D2.3.~~	The GRS Prohibited Substance List is overly broad; it contains no criteria for selecting this list and no basis for the listing. Furthermore, the guidance states that this list is based on some vague set of references (…"legislation, industry, other sources…"). If any list is included in this draft, the standard must make the criteria and basis transparent and have a process for stakeholder comment for the listing of substances. Delete entire section
2.20	D2.2	Define the prohibition	List represents substances that might be contaminants in textiles, but also used in the facility, is the list relevant to facility, process use, product, how will this be tested or managed –SDS are notoriously poor in giving information. Substances might not be used intentionally but may still be present due to incoming water, initial raw materials, use in facility, use for other production (lines not completely flushed out and some contaminants will be there even after flushing etc); Is the list representative of different sectors as GRS is not sector specific. What about limits and test methods and medium for testing in case controls need to be carried out?
The GRS Prohibited Substance List has been adopted from a recognized industry standard. The list has not been removed, but it has been repositioned to apply only to textile manufacturing facilities.			
2.21	D2.3	Delete Title: ~~Exclusion of substances and mixtures classified with particular hazard codes or risk phrase~~	Delete Section D2.3 .
addressed below			
2.22	D2.3	Replace text with: <u>Certified organizations must have processes to manage workplace hazards and exposures from Candidate List of Substances of Very High Concern under Article 59 of REACh</u> and substances and mixtures that are assigned (or may be assigned by the time of the application) any of the hazard statement codes and/or risk phrases (or a combination of them) listed in Table A.	The list of hazard codes and risk phrases are part of the Global Harmonized Standard is designed to inform customers about the potential for worker exposure to enhance chemical management practices. GHS phrases were not intended to become a ban list. Inclusion of this Table in this standard is not appropriate.
While the GHS phrases were not created to ban products, it is a helpful way to limit the use of known toxic chemicals. The GHS does not prohibit this.			
2.23	Appendix 5	Provide optional statements for declaration. 1. We do not use substances listed on the SHVC list. 2. The SVHC substance used in manufacturing GRS product is authorized for this use under European regulatory authority. Specify substance _____.	Inconsistent. The language in Section C2.1 addresses SVHC and does not reference risk phrases or hazard statements. In addition, there needs to be an optional answer for REACh authorized use.
The language has been made consistent. The additional option has been added to provide transparency to chemicals that are used according to their REACH permitted use.			
2.24	Appendix 5	Delete paragraph 2.	
See above			

2.25	Appendix 5	3. Management practices are in effect and available for inspection for substances and mixtures classified with particular hazard codes of risk phrases (as outlined in Section of C2.3 of GRS v3).	There should be an affirmation for compliance with chemical management practices.
Agreed, noted			
2.26	Section D	Propose clarifying if maintenance chemicals at the manufacturing site are in scope.	
The chemical requirements of the GRS are not focused on the entire facility, but only on the substances used in production of GRS products. We have added clarifying language to the introduction of the chemical section.			
2.27	Prohibited Substance List	Propose clarifying that substances are only prohibited when used for the stated function. For example, antimony trioxide is only prohibited as a flame retardant and not as a PET catalyst.	
Chemicals on the REACH list may be used if there is a defined allowed use. As the GRS Prohibited Substance List will now only apply to textile companies, this additional allowance will not be added.			
2.28	Page 23-24 tabell A Page 35 Appendix tabell A		H400, H410, H411; Ordinary detergents is often classified with any of these hazard statements when supplied as a chemical product. For example is Sodium Sulphonate classified as H400. If these hazard statements are included it will be very hard to find detergents and other chemicals. Therefore this needs to be revised. Maybe only consider the classification of the use or discharge solution for environmental hazardous substances.
Sodium sulphide is classified with R50/ H400. Alternatives are available. Still this requirement refers to preparations, which means that 25% of a substance classified H400 could be contained.			
2.29	prohibited substance list		; C.I. Disperse Blue 1 (C.I. 64500) is repeated twice, both under Carcinogenic dyes and Disperse dyes. Also C.I. Disperse Yellow 3 (C.I. 11855) is written twice. Only needs to be mentioned once.
We have combined allergenic and carcinogenic dyes into one list.			
2.30	prohibited substance list	· Page 3; Phthalimide is not a chlorinated benzene or toluene so it should not be listed under that group.	
This has been moved to the Other Substances and chemical residues category.			
2.31	prohibited substance list	Page 3; Monobutyl tin (MBT) is not really relevant since it is not toxic in the same way as di- and tri-substituted organotins.	
However, the hazard mechanism was not really the criteria. This comes down to the positioning of the prohibited substance list. It is still restricted by bluesign, prohibited by GOTS and STEP.			
2.32	prohibited substance list	· Page 5; Should add Chloroform in braches after Trichloromethane since that is the most common name.	
This has been added.			
2.33	prohibited substance list	· CAS no 127-18-4 is Tetrachloroethylene and not Tetrachloromethane. Change CAS no or name depending on what you mean.	
This has been changed.			
2.34	prohibited substance list	not sure if Asbestos, Sodium cyanide, Potassium cyanide is relevant. Asbestos is not used as far as I know. Historically it was used in firefighting clothes but not for regular clothes. Sodium cyanide is used in mining to extract gold and I don't think that it is used in accessory industry for plating or something else. Should be checked if really relevant for the materials that will be regulated by the standard. Also Potassium cyanide could be questioned if it is really relevant.	not sure if Asbestos, Sodium cyanide, Potassium cyanide is relevant. Asbestos is not used as far as I know. Historically it was used in firefighting clothes but not for regular clothes. Sodium cyanide is used in mining to extract gold and I don't think that it is used in accessory industry for plating or something else. Should be checked if really relevant for the materials that will be regulated by the standard. Also Potassium cyanide could be questioned if it is really relevant.
As the list was adopted from a reliable industry standard, we have kept these on the list.			
2.35	prohibited substance list		· Page 5; It is not clear which aromatic hydrocarbons that are banned. What does (Co) after the sentence mean? Give more examples.
Co means it is likely used in coatings.			
2.36	prohibited substance list	Medium chained… (MCCP) and not Middle chained…	
This has been changed.			
2.37	prohibited substance list		Page 7; Fluorocarbon gases, are they relevant? Used for expanded polystyrene, but don't know if used for other expanded plastic materials. Should be checked if relevant.
As the list was adopted from a reliable industry standard, we have kept these on the list.			
2.38	B		General Comment: EHS and Social requirements are applied facility wide but not chemical management? This is not consistent, and in chemical controls the main issue is that suppliers have different customers and therefore use different chemical qualities

			which can potentially cause cross contamination of production where restricted chemicals were not used.
D3.1d allows the CB to do additional testing and verification, and this is to check for cross contamination. There is a precedent for this type of chemical management, as in the case of GOTS.			
2.39	D2.2	Replace with "… must not be intentionally used or must not be intentionally part of…" as there is background contamination and levels cannot be reliably determined	
Noted			
2.40	D1.1d		Who is responsible for the MSDS in local language as workers?
The candidate organization should provide the MSDS in the local language.			
2.41	D1.1d	MSDS must be GHS conform	
This is mentioned in D3.1c			
2.42	paragraph D1.1d;	Suggestion to change MSDS to SDS, Material Safety Data Sheet till Safety Data Sheet	
2.43	D3.1c;	Suggestion to change MSDS to SDS, Material Safety Data Sheet till Safety Data Sheet	
Agreed, this will be changed.			
2.44	D3.1c	Ensure all references to OSHA reflect the newest OSHA requirements.	There was major rewrite of the OHSA Hazard Communication Standard in 2012, which harmonized the US with the global system. There is a phase in period of three years for these new regulations. TE should be aware of this and make all sections consistent with the new OSHA requirements.
Our current chemical criteria is based on the risk phrases and substances being listed accurately in the SDS. The SDS should meet the GHS requirements, the requirements of ANSI (which was part of the OSHA requirements before the update with GHS), or the REACH guidelines as adapted to consider GHS. There is no need to mention the updated OSHA requirements.			
2.45	D1.1d	"The chemical supplier is responsible to supply SDS in both local and English language."	Add both local and english
D1.1d already says "in the language used by the workers in the facility". The GRS applies to the producer and has no direct relationship with the chemical supplier. In practice most likely chemical supplier should supply this but for GRS it doesn't need to be specified. It is the manufacturer's responsibility to provide for workers.			
2.46	General	it is hoped that TE will work with AAFA to require the VPEP form as a document requirement. At least make it highly suggested. SDSs are becoming worthless and only the VPEPs will signal an inspector that GRS PSL chemicals are being used.	
GRS IWG: All SDS's should be adequately verified. If the SDS is properly verified, then all the information is available to apply the requirements of the GRS (the applicable hazard codes).			
2.47	D2	For the staff to confirm, how do all these standards impact presence of Class IIB carcinogens such as antimony and titanium dioxide?	
GRS IWG: Antimony trioxide is used for the polymerization of polyester; this is only allowed for use in the production of GRS products if no other substitution product may be found. Titanium dioxide is not classified as carcinogenic, and is also not prohibited for use in the production of GRS products.			
2.48a	Prohibited Substance List	General – there should be CAS and alphabetical indexed versions or the PSL.	
GRS IWG: Substances lists with a clear identification by CAS-No may be developed later to supplement the standard. GRS does not set RSL limit values for the final textile. For the preparation of the grouped substances lists banned inputs from GOTS , Bluesign as well as Step certification have been considered.			
2.48b	Prohibited Substance List	Cobalt, etc – it should be required that facilities inventory these metals until 2016 as part of the GRS.	
GRS IWG: All chemicals should be inventoried according to GRS. See D1.1e.			
2.48c	Prohibited Substance List	Surfactants, etc – alkylphenolethoxylates can also include polymeric spin finishes on synthetic fibers. These are normally not included in APE RSLs, but this list seems to include them. A specific list should be given.	
2.48d	Prohibited Substance List	Surfactants, etc – EDTA is a surprise. What is the basis? There are facilities that EDTA routinely to control hardness and metal spots in dyeing. Facilities add it to every batch.	
GRS IWG: EDTA is not degradable and passes WWTP unchanged. It is prohibited for environmental reasons.			

2.48e	Prohibited Substance List	Cleaning – Where are carbon tetrachloride, dichloro-ethylenes, and 1,1,1-trichloroethane? There are other potential chlorinated solvents. Carbon tetrachloride is under "other", but they should be listed here also or these should be under "other".	
GRS IWG: All chlorinated solvents are excluded from GRS processing according to the MRSL. See D2.3b.			
2.48f	Prohibited Substance List	Other – how were heavy metals such as lead and others not listed? What about ETAD metal standards?	
GRS IWG: These have been included.			
2.48g	Prohibited Substance List	Flame Retardants – are non-flame retardant uses of antimony allowed?	
GRS IWG: These are prohibited in the Prohibited Substance List.			
2.49	A2.1b and A2.2b	*Change the Appendix number from 'A' to '1'*	Incorrect Appendix number.
GRS IWG: Corrected, thanks!			
2.50	*Section D2*	2. Exclusion of substances prohibited in the production of GRS recycled textile products.	The GRS Prohibited Substance list is unique to GRS. Without clear criteria to support the "established concern," this is nothing more than a GRS 'hit list'
GRS IWG: All of the chemicals listed on the GRS Prohibited Substance List are already prohibited through the application of the hazard code requirements in D2.2. The list is only intended to be used as additional guidance for textile facilities.			
2.51	*Section D2*	*Revise text.* *3. Exclusion and/or documented management practices for substances and mixtures classified with particular hazard codes or risk phrases.*	Consistency with the text
GRS IWG: The intention of D2.2 is to prohibit substances with the listed hazard codes. Documented management practices would be insufficient.			
2.52	*D2.1a*		ACC supports the addition of the new guidance note which allows consistency with European regulations.
GRS IWG: Thanks!			
2.53	*D2.2*	Insert D2.2a for language in 'I'	ACC supports the inclusion of a chemical management system in the GRS standard. The use of the chemical management system should be broader.
GRS IWG: The chemical section of the GRS relies on both chemical management practices and the exclusion of chemicals based on their hazard code. Chemical management is only a replacement for the restriction when there is no substitution product available for the prohibited substance (see i. of D2.2).			
2.54	*D2.2*	New language D2.2b Certifying Organizations may use chemicals or substances in Table A in the production of GRS textile products provided there is a documented chemical management system to assure no airborne or water contaminants of these substances leave the facility.	A certifying organization should be allowed to use a substance in a closed loop process or other captive use from which there are no emissions. Such operations must be documented.
GRS IWG: Again, this limits the intention of the chemical restrictions. Airborne and water contaminants outside of the factory are only two impacts that may result from the use of these chemicals.			
2.55	*D2.3a*	*The GRS Prohibited Substance List shall only apply to CO involved in the production of GRS textile goods made with recycled inputs.*	Language in this section shall be consistent with the overall scope of Section D and its scoping language.
2.56	*D2.3 guidance*	*Guidance: Chemicals listed in the GRS Prohibited Substance list for Use in Recycled Textiles is based upon ……insert specific hazard or environmental criteria.*	The GRS Prohibited Substance List is overly broad; it contains no criteria for selecting this list and no basis for the listing. Relying on vague reference to …"legislation, industry, other sources…is insufficient." If any list is included, the criteria and basis for the list must be included for transparency.
GRS IWG: The Prohibited Substance List (D2.3) has been selected based on other standards in the industry, such as GOTS, Oeko-Tex STeP, and ZDHC's MRSL list. These restrictions apply to companies working in the textile industry. Sections D2.1 and D2.2 apply to all product categories.			
2.57	*D2.3b*	*Chemicals identified in the GRS Prohibited Substance List (available online) must not be used and must not be part of any preparations or formulations used in manufacturing GRS certified textile products made with recycled inputs.*	Insert language for consistency with the scope of section D.

GRS IWG: The scope of Section D is the manufacturing processes of any GRS certified textile products; these are already consistent.			
2.58	*Page 21, D1.1e*	. it should say "…must have a complete Safety Data Sheet (SDS) available…".	
GRS IWG: This has been changed, thanks.			
2.59	*Page 21, D2, 3.*		Include a reference to which hazard codes and risk phrases that are concerned. They are listed later on, but in this sentence it is unclear what is meant.
GRS IWG: This line does not refer to the hazard codes, but to the Prohibited Substance List. It has been edited to be clearer.			
2.60	*Page 21, D2.1a*		
2.61	*Page 22, First paragraph regarding guidance written in bold*	See explanation	**REACH** means as you know, **R**egistration, **E**valuation, **A**uthorization of **Ch**emicals. Under REACH substances first need to be registered, then they are evaluated and can be put on SVHC list if they are hazardous or suspected to be hazardous. After that they can be included in an Annex to REACH where their use is limited. If very hazardous and after further evaluation they can be Authorized to be used for specific purposes under specific restrictions/instructions how they should be handled and used. <u>There are no approval system under REACH</u>, so no chemicals/substances can be approved. This paragraph is very unclear about this and implies that the supplier is approved to use hazardous substances as long as they use them according to instructions. All authorized chemicals under REACH are regarded as hazardous. That's why they are authorized. Is use of authorized and hazardous chemical what is wanted? Remark: If chemicals are handled correctly according to instructions they are considered safe for worker and environment as well as for consumers. And if this is achieved we don't need any restrictions regarding use of hazardous chemicals at all. Actually supplier should always handle chemicals according to instructions.
GRS IWG: This piece of guidance has been rewritten for clarity. Our intention was not to allow the use of hazardous chemicals that are on the REACH list, but rather to prohibit them. Chemicals that have been authorized for specific uses may be used, as long as they are not prohibited by other sections in the chemical requirements.			
2.62	*Page 22, Footnote 8*	Suggest that this footnote should instead be on page 21 where SVHC list is mentioned.	
GRS IWG: This has been changed.			
2.63	*Page 24, D3.1c*	Delete Material in Material Safety Data Sheet and write only "Safety Data Sheet" (as above).	
GRS IWG: This has been changed.			
2.64	*Page 25, Bold paragraph about guidance under D3.1d*		Testing of chemical products is very hard. All test methods given in brands RSL's are only for final product and are not applicable on chemical products. Normally tests on chemical products are only done by chemical producer. Maybe it is more appropriate to demand test reports/protocols or other documentation from the producer to prove compliance
GRS IWG: The testing referred to in D3.1d is intended to give Certification Bodies the authority to conduct their own testing in the case that they have questions or concerns about the documentation received from the producers. In practice, most documentation received from producers will be sufficient.			
2.65	*Tables with restricted*	See comment	Some of the listed hazard codes/risk phrases may be hard to follow. Depending on concentration of the classified substance in the chemical product, the product is

	Hazard Codes and Risk Phrases		classified in different way. So some laundry powders and softener can be classified as H400 (environmental hazardous) or other listed codes/phrases. It should be controlled which chemical products that are used in production today or in some way control if these restrictions can be fulfilled and still be able to produce the desired final product, if not this already has been done.
GRS IWG: Needs response			
2.66	*General comment*		The most important thing when it comes to chemicals is the chemical management during production. If a high level of knowledge, education, training, top management engagement, chemical responsible, etc. is maintained almost all chemicals can be handled without big risks to workers or environment. So that is the challenge: Raise the knowledge and engagement in the production site and generally during production.
GRS IWG: We agree that chemical management is essential to the health and well-being of workers and the environment. We would also like the GRS v3 to discourage the use of the most hazardous chemicals, and to encourage innovation and development of better chemicals.			

3. Definitions

Feedback Number	Paragraph	Proposed change	Comment
3.1	A1.2	Add definition for “GRS Products”	There may need to be multiple additional definitions to define “product” … as a fibre, material, or consumer goods.
This term refers to any product that comes under the scope of GRS certification. The intention is for the GRS to be applicable to multiple product types. This term may also refer to unfinished goods along the supply chain.			
3.2	A1.2e	Change the term in GRS definition A1.2e. The FTC use of the term ‘recycled content’ is inconsistent with the draft GRS. Change the term in GRS.	The GRS should be completely consistent with FTC requirements and definitions.
From the FTC website: "The Commission has revised the guides to expand the terms "recyclable" and "recycled content." The guides now make clear that "recyclable" includes the reuse, reconditioning, and remanufacturing of products or parts in another product. Similarly, "recycled content" includes products and packages that contain reused, reconditioned or remanufactured materials, as well as recycled raw material. Previously, "recyclable" included only those products or packages that were reused in the form of "raw materials" in the manufacture or assembly of a "new" package or product. According to the FTC, the expansion of the terms "recyclable" and "recycled content" is consistent with consumer understanding." This updated definition is mentioned in the guidance to the standard definitions, but the included "reused" and "reconditioned" terms are outside the scope of the standard.			
3.3	A1.2e	Propose clarifying that packaging is excluded, unless the product in question is packaging. Propose clarifying that this is on a dry weight basis.	
The exemption of packaging may be covered in another section, but would be good to clarify here.			

4. Environmental

Feedback Number	Paragraph	Proposed Change	Comment
4.1			Support stricter and more comprehensive wastewater quality guidelines in a future version.

4.2	C.1	Propose stating that an up-to-date certificate showing compliance to ISO 14001 will meet C.1.	
The standard's requirements in environmental management will likely expand over time.			
4.3	C2.3d	Addition: There must be identification of the contaminants and wastewater quality parameters (listed in Appendix 3), with supporting testing documentation.	There should be a callout for testing and reporting as a means for “identification of contaminants” which supports C2.3e and the added Guidance regarding test report requirements.
The requirements that must be met for testing are covered under C2.3e and additional guidance.			
4.4	C2.3e	Clarification in wording needed.	Is this to reflect “minimum frequency of testing required” or “number of tests document per report?
The additional guidance is to support the CB in ensuring that any tests that are referenced are accurate. It is also to give the CB the right to look into the testing a bit further. A minimum frequency of testing should be established by the testing method, and these have been listed for each parameter.			
4.5	E1.1 page 27	Delete this sentence	I’m not sure if this level of detail on a label is required. This is implicit in the “GRS” label.
This is to provide guidance of the types of product claims, it's intended to provide an option outside of "100% sustainable" or something similar.			
4.6	Section C2.1. Energy Use	Add reference to Global Social Compliance Program Environmental Implementation Guidelines Revise: C2.1d The Certified Organization must <u>have a documented energy management plan and</u> set an meet targets for meaningful improvements in energy use and review progress annually. Add ISO 5001 as one reference for "energy management plan."	Be consistent. If the GRS standard is referencing the supporting documentation from the Global Social Compliance Program, it should reference the Environmental Implementation Guidelines in the energy, water, air sections. One appropriate way to consider the overall energy profile for recycle activities is to include language about an ‘energy management plan’ and reference to the ISO standard.
This is not needed as the requirements of the Environmental Management Plan outline the requirement for an “annual plan to reduce environmental impacts”, which applies to energy use.			
4.7	C2.5f	Insert word, ‘uncontrolled.’ No <u>uncontrolled</u> on-site waste burning or uncontrolled waste landfilling may be undertaken.	Waste burning should be allowed if a recycler uses appropriate technological mechanisms to control emissions and to achieve waste management practices. In addition, recyclers may be able to engage in waste to energy practices with the appropriate technology, even though they would not get credit for that under this standard.
4.8	C2.5f	Propose including a stipulation that wood waste may be burned for energy on-site.	
Uncontrolled waste burning is already banned by most legal regulations, so it would not make sense to include this amended requirement. It was decided not to allow wood burning for energy used on site.			
4.9	C2.3f water		FYI: We know that it is almost impossible to assess the off-site treatment facilities (especially in China but also in other countries with regards to BSR. They would do better to specify what documentation is needed regarding the external ETP.
Noted			

4.10	C 2.2c water	Water use	They ask for measurements of water consumption, but we think that is the wrong terminology, as we believe most of these factories do not "consume" water, which implies that the water is included in the end product (as in beverages) or is removed from the source via for instance transpiration (as in farming)). For most of this production it is more common that they take water from a river, use it in the process and then discharge it again within the same catchment area, why it is more correct to stick to water usage. So we think they should make sure to measure "water use", and where applicable "water consumption".
Agreed, this has been changed.			
4.11	C2.5	Measurement of waste produced must be undertaken.	Suggest to add measurement as a requirement to reflect the prior sections on energy & water.
Agreed, we have added this to the requirements on waste management.			
4.12	C1.1g	describe	
This has been removed since it is explained better in Section C3.			
4.13	C2.1d and C2.2d	Offer clarifying language around what is meaningful.	The guidance on these criteria offers a qualification that seems to swallow the rule. The use of the work "meaningful" is entirely subjective.
The CB's determine what is meaningful, and must follow the guidance provided to "consider how advanced the Certified Organization's current energy usage is and how much improvement is adequate and/or realistic. "			
4.14	General		in several places, the word "compliance" is used, but the author does not see this defined. This is problematic since in the USA, a misplaced decimal point or lack of a signature in a report can lead to a NOV (notice of violation) from USEPA and thus "non-compliance". This is obviously not the intent of the document. This should be corrected or referenced.
GRS IWG: Some instances of "compliance" have been removed or changed. It is our intention that the CB distinguish between major and minor non-conformities and issue their certification decision accordingly. You can find additional guidance in the Content Claim Standard Implementation Manual (page 6, B2.2).			
4.15	C2.3b		what if the locality does not require a "permit" at all? Can an "agreement" be the same as a "permit"? What if that is not even required?
4.16	C2.3c		what if the locality does not require a "permit" at all? Can an "agreement" be the same as a "permit"? What if that is not even required?
GRS IWG: In the case that permits are not legally required, the requirement is erroneous.			
4.17	C2.3d		more on Appendix 4 below, but here, how are "impacts" defined?
GRS IWG: This has been removed.			
4.18	C2.3e – i		It is not clear if this is a sampling frequency or a report creation frequency? Is this intended to require sampling at least every six months?
GRS IWG: Six months is the frequency of the report. Sampling should follow the testing methods listed in Appendix 4.			
4.19	C2.3f		What about facilities that have their own WWTP, but still discharge to a public system for additional treatment of parameters not listed in Appendix 4? Where is the sampling point?
GRS IWG: Certification bodies would likely accept test reports from both to make sure all parameters were covered.			
4.20	C2.3f		What does a small flow do when they can easily meet the parameters, but they discharge to a large system which can not meet the standards. Is that small flow facility penalized or required to build their own wastewater plant?
GRS IWG: If the wastewater leaving a site already meets the parameters in Appendix 4, then the CB would likely deem this sufficient in meeting the requirement of the standard.			
4.21	C2.4a,b		"must meet" needs to be defined and what if permits are not required?
GRS IWG: The meaning of "must meet" is that a facility must be in compliance with all legal requirements. Regarding permits, as in the previous case, where permits are not required, the facility would need to provide some proof of compliance with relevant legal requirements.			
4.22	C3.2		TE should list known equivalents for the public, if there are any. For example, will ISO 14001 be equivalent (the answer is NO).

GRS IWG: These are listed in *TE Accepted Equivalent Standards*, available online.			
4.23	Appendix 4 (Wastewater)		Simply, these parameters are inadequate. They do not represent the impact a facility can have on the environment and are minimally protective of even a sanitary system. What can be surmised by these? TE thinks that more restrictive systems such as USEPA are too restrictive, interested parties are complaining about the economics, or that TE members do not think more restrictive parameters can be met by their suppliers. TE should have an answer when this is asked. At a minimum, the following parameters should also at least be tested on a timed basis (initially, 1 year, 5 years?). Science would be used to determine sampling points and would be individual to the sites. Color for example would be measured at the discharge point of the facility and dilution of any additional treatment taken into account. Testing these parameters will also discourage and lessen cheating, which does happen. nitrogen compounds (ammonia, nitrate, nitrite, Kjeldahl) phosphate heavy metals including chromium (VI) color TDS chloride sulfate sulfide aquatic toxicity or stream impact It may be these would only apply of systems where the facility is a large part of the final discharge point (0.1 MGD?). Also, because the GRS allows off-site treatment and dilution as a treatment method, this is hard for small flows where the small flow may be discharging into a badly run WWTP.
GRS IWG: Additional wastewater parameters have been listed. See Appendix 4.			
4.24		Suggest adding a pre text to this section as with Section D Chemical Requirements. At the moment it reads that Environmental requirements are for the facility as a whole, but chemical requirements are for GRS product only.	This will cause confusion at the supplier level.
GRS IWG: It is the intention that the GRS Environmental Requirements apply to the full facility and the chemical requirements only to the GRS products.			
4.25	C2.1a/2a/3a/4a/5a	…….relevant regional / global requirements	Do you not need to specify if these are local or global?
GRS IWG: Both are required.			

5. Equivalency

Feedback Number	Paragraph	Proposed Change	Comment
5.1	B3.2a i	Comment only	Do the TE Accepted Equivalent Standards already exist? I did not see these on the website.
5.2	D3.2	Question …	I was not able to find these equivalent standards on the TE website.
This has been added in the second stakeholder review.			

6. General			
Feedback Number	Paragraph	Proposed Change	Comment
6.1	general	There is various kind of system or supply chain in each country. If TE have reference centre for each case, it must be helpful.,	
The Certification Body should know how the standard is to be applied in different industries, based on the standard, and accompanying guidance. Textile Exchange can also provide additional answers. See note on guidance for additional information.			
Reply: I have a suggestion to TE. For beginners or new applicant, TE should explain to CB and TE'd better to utilize website. It's too difficult for them.			
6.2	A1.2d		ACC supports the goal of redirecting material into a recycles stream of material that would be disposed of as waste.
Noted			
6.3	N/A	Much of the standard lacks specificity in favor of referring to the Guidance Manual. As a result, the standard is very difficult to interpret and verify against in its current form. Propose moving text from the Guidance Manual into the standard to provide clarity.	
Most of the guidance has been written to support the CB in verification. Specific cases where additional guidance is requested will be addressed directly.			
6.4	Introduction	No proposal.	What would trigger this and therefore who bears accountability for this?
6.5	A2.1b	No proposal	What would trigger this and therefore who bears accountability for this?
6.6	A2.2b	No proposal	What would trigger this and therefore who bears accountability for this?
If a Certification Body has doubts about the information provided on the Reclaimed Material Declaration Form, they would conduct on-site audits. The responsibility for accurate reporting is ultimately at the Material Collection and Concentration stages, with permission granted to the CB to verify this.			
6.7			No mention of the training for an area specific dedicated person. Smaller companies may not be able to have one dedicated person to cover each specific area.
See note on guidance. The responsibility may be a portion of an individual's overall job responsibilities.			
6.8	Intro P1	The emphasis of this paragraph seems reversed. The first sentence would seem to better describe the RCS or CCS. The final sentence is really what makes the GRS different.	The last sentence speaks to the significant features of the GRS, which should probably be identified first.
GRS IWG: This has been edited.			
6.9	Intro P5	Not sure, but there probably should be an appendix with minimums identified for different materials. 20% would be very poor for metals, but maybe very good for other materials (at least presently).	20% seems like an arbitrary number that does not take into account potential challenges of introducing recycled content into products and materials. These challenges may change over time.
GRS IWG: A basic minimum that would allow for inclusion of multiple markets has been adopted for the first release of the standard. It is possible that future versions of the standard will list various minimum content percentages according to the industry.			
6.10	Intro P5	"intermediate product"	Unless the commented text is a "term of art", it sounds (to me) less desirable than the proposed text.
GRS IWG: Agreed, this has been changed.			

6.11	Intro Last P	"Certification to the GRS is valid for three years and subject to annual surveillance audits to confirm continued certification prior to recertification."	A three-year certification cycle with annual surveillance audits is common among standards (e.g., ISO and RIOS™), and GRS would do well to follow that cycle for ease of integrated audits, especially given the GRS requirement for an EMS, for which certification may obtained.
GRS IWG: The standard will require annual audits. As part of the initial implementation year, many aspects, including this one, will be reviewed and revised by the IWG.			
6.12	Final Paragraph	Recyclers should get a full audit every other year and have lighter, maintenance audits in off years.	The TE should look at examples of other audit programs for recyclers, such as the R2 standard for electronics recyclers. These recyclers get a full audit every other year and maintenance audits (light review) in off years if the business model has not changed in a substantial way. This type of cycle seems to work well for both recyclers and achieving the goal of the R2 Standard. Recyclers are subject to many audits. It has been the experience of R2 certified recyclers that R2 certification is not seen as a substitute for customers conducting their own audits. It has instead become an added audit. I think we should assume that this will be the case for the GRS and therefore look to reduce the audit burden for recyclers where it can be reasonably done.
GRS IWG: This will not be considered for this initial release of the GRS, but after gathering information and feedback from the initial audits, this will be considered by the IWG.			
6.13	A1 2d	Need to cross reference UL	
GRS IWG: Additional information has been added in a footnote, but the link is taken down because it is broken.			
6.14	Page 3		Please replace "Forward" with "Foreword: on the first paragraph.
GRS IWG: This has been changed, thank you!			
6.15	Page 10		What is the tolerance and calculating method when blending a shorter length fiber together with a longer length fiber?
GRS IWG: This is not specified in the body of the standard, but has been mentioned in the Implementation Manual in regards to calculating the percentage of loss. See A6.2d.			
6.16	Page 27		Suggest to standardised the units for all the reporting items so it would be comparable for benchmarking.
GRS IWG: The GRS v3 does not require CBs to report on volume from the facilities being certified. All information that is reported to CBs (such as energy use, water usage, etc.) will be calibrated by the CB and collected by TE for aggregate reporting. This is outlined in each case where information is to be reported, and the reporting requirements for CBs will be outlined in the contract once they have been approved.			

7. Input Verification

Feedback Number	Paragraph	Proposed Change	Comment
7.1	A2.3b iii	Add: The amounts of pre-consumer and post-consumer waste must be recorded.	This is a suggested addition to complement the origin of pre/post waste that feeds into A3.2a & A3.2b
The Reclaimed Material Declaration Form includes a designation of pre- and post-consumer reclaimed material.			
7.2	A3.2a	Add: The amounts of pre-consumer and post-consumer waste must be identified and recorded.	This is a suggested addition to complement the origin of pre/post waste that feeds into A3.2b
7.3	A3.2b		Should the term "Amounts" be clarified? Does this mean weight, $ or volume, or does it matter?
The Reclaimed Material Declaration Form includes a designation of pre- and post-consumer reclaimed material.			
7.4	A.2.1	The material which obeys the each country's regulation doesn't need each inspection. (ex.) "Containers and Packaging Law in Japan" * see attached PDF	We can reduce documentation.
While this would be helpful, we have based our input requirements on the ISO's definition of reclaimed materials, recycled materials, and pre- and post-consumer recycled. So far, country regulations have not been mapped			

against ISO, and we cannot be sure that all are following the same definition.			
7.5	A2	It is not clear. We need more a guidance regarding which is the case for self declaration and which is not.	Client must make it easily.
A2.1a, A2.2a, and A2.3a cover which operations are subject to GRS certification. Some facilities may cover multiple of these operations, but only those that include material recycling are required to become GRS certified.			
Reply: I have a suggestion to TE. For beginners or new applicant, TE should explain to CB and TE'd better to utilize website. It's too difficult for them.			
GRS IWG: We are hoping for a website revamp soon!			
7.6	A2.2	Add the operator's responsibility to be a material steward and prevent contamination with hazardous materials	There is too big a discrepancy between collection with minimal controls and what operators in the supply chain are expected to do to "steward" this content to product – too unbalanced
See note on The Position of GRS			
7.7	A3.2d	In cases where there is the possibility of differential rates of production loss between recycled and virgin inputs, organizations must provide their mass balance formula for each material to show that calculations were done for their facility and processes.	I would expect that each facility is going to be different and there should be more prescriptive direction to what CB's should be reviewing. For example a repeatedly tested formula.
noted, added			
7.8	A2	describe	
These are explained further on in the section.			
7.9	A1.2a	"pre/post-consumer material", "pre-consumer material", "post-consumer material"	This document errs in using the term "waste" after "pre-consumer", "post-consumer", and "pre/post-consumer" in every instance. Not only is this unduly biased against these materials, it is inconsistent with (GRS) A1.2d Reclaimed Material Guidance and RCS, A1.2d, which both use the term "material". Importantly, the GRS definitions in Appendix A (or 1?) are similarly incorrect, using "waste" instead of "material" (see Appendix A (or 1?) Definitions).
GRS IWG: Such instances of "waste" have been removed and replaced with material where relevant.			
7.10	A1.2a	"Material collection refers to the point in the recycling lifecycle when a material *is collected after its use has ended*."	The commented text is overly narrow about the origin of a material, making a presumption that it was initially in the waste stream and excluding the possibility that it never was in the waste stream. The use of "reclaimed" also seems inconsistent with the definition of "reclaim material".
GRS IWG: Agreed that this may be a bit narrow. We used the suggested language, but used the term "reclaimed material" for additional clarity.			
7.11	A1.2a	"Commercial operations that *collect their own* pre-consumer *material* from manufacturing operations"	"Generation" is not "collection" (this section is about collection) and further is a "term of art" regarding the production of "waste". "Waste" was replaced with "material" because its use is not appropriate here (see above).
GRS IWG: Agreed, this has been changed.			
7.12	A1.2a	"material", "used material", or "secondary material"	"Waste" is a legal determination, and this document should leave legal determinations to authorities of the jurisdiction in which the GRS-certified organization operates.
GRS IWG: Agreed, these instances of "waste" have all been changed to "material".			
7.13	A1.2b	Not sure, because the scope is unclear (see comment).	The scope of "Material Concentration" is unclear. Does any of the following scenarios exceed the boundary of "Material Concentration"?: (1) A paper recycler buys books (used or never sold), de-spines them, shreds the pages (for ease of baling), bales the shredded paper, and delivers bales to paper mill that purchased the bales under contract; (2) A paper recycler buys mixed paper, sorts the paper into different specification types, shreds each type (for ease of baling), bales the shredded paper types, and delivers them to paper mills that purchased the bales under contract; (3) A metal recycler buys used vehicles, prepares them for shredding (e.g., removes

			batteries, fluids, etc.), shreds them, separates metals into specification-grade metal commodities, and loads commodities for transport to mills or foundries that purchased the commodities under contract; (4) A metal recycler buys obsolete metal; uses a furnace to melt aluminum from steel to which it was attached (large melting point difference), shears "clean" steel to specification size, solidifies melted aluminum into ingots, and loads steel product and aluminum ingots for transport to mills or foundries that purchased the commodities under contract; and (5) A plastics recycler buys mixed plastics, sorts the plastics into different specification types, grinds each type into granules, and loads granulated-plastic commodities for transport to plastics extruders that purchased the commodities under contract.
GRS IWG: Mentioned in A1.2b is that the product must not have "physical or chemically altered". In each of your examples, the material is being " reprocessed from reclaimed material by means of a manufacturing process and made into a final product or into a component for incorporation into a product." (page 7, Recycled Material definition). Therefore all cases would be considered recycling, and not merely material concentration.			
7.14	A1.2c	Not sure	Related to the above comment, would any of the following outputs be a "recycled material" (as used in the original)?: (A) "new" paper coming out a paper mill (wet chemistry and processing applied to input) that used processed scrap paper (see (1) and (2) above) as the only paper-fiber-containing input; (B) "new" steel coming out of a steel mill (electricity/heat required to liquefy steel input) that used processed scrap steel (see (3) and (4) above) as the only steel-containing input; and (C) "new" plastic components produced by a plastics extruder (heat/pressure required to melt/extrude plastic inputs) that used processed scrap plastics (see (5) above) as the only plastics-containing input. If each output is a "recycled material", then GRS would not consider the scrap recycling industry to be involved in "material recycling" because the scrap recycling industry provides the input (i.e., "reclaimed material") to the "recycling process". While troubling from a terminology perspective, it would also imply that scrap recyclers are not required to be certified to GRS (per A2), only subject at most to random audits and self-declaration as Material Collectors/Concentrators.
GRS IWG: Each of these examples would be considered recycled material. Providing the input for a recycling process does not preclude that input material from being considered a recycled material as well. If these scrap recyclers are performing "material recycling" as defined in A1.2c, then they are subject to full GRS certification.			
7.15	A1.2d		Because "Reclaimed material" substitutes for "new primary material" as an input to a "recycling process" (e.g., a steel mill), this definition would confirm that scrap recyclers are not "material recyclers" under the GRS, and all that that implies. That said, it still does not make the scope of "Material Concentration" any clearer.
GRS IWG: The input into a recycling process could also be considered recycled if it has undergone physical alteration, i.e. aluminum being melted into ingots. Material concentration, as it is defined, covers all handling of reclaimed material short of processing or recycling the material.			
7.16	A1.2d Guidance		This is very helpful. Thank you for including it. At the same time, A1.2f Guidance seems to run counter to this (see below).
GRS IWG: Additional guidance has been added to this guidance note, as well as the guidance note for A1.2f for the allowance of materials that may be considered "by-products" and not "waste" in some industries.			
7.17	A1.2d Guidance		While the guidance is helpful, this paragraph is very problematic. A (secondary) material becomes a waste BECAUSE it is discarded—NOT discarded because it is a waste. To quote Paul Anastas (formerly Chief of EPA's Office of R&D), writing in "Design Through the 12 Principles of Green Engineering" (Environ. Sci. Technol., 2003, 37 (5), pp 94A–101A): "An important point, often overlooked, is that the concept of waste is human. In other words, there is nothing inherent about energy or a substance that makes it a waste. Rather it results from a lack of use that has yet to be imagined or implemented." Reflexively calling a (secondary) material "waste" is itself an impediment to recycling.
GRS IWG: The additional wording added to the definition for "Pre-Consumer Material" should help to clarify this issue. Materials classified as "waste" and/or "by-products" which meet additional requirements may be			

accepted as well.			
7.18	A1.2f	None	This is the output of scrap recyclers' downstream customers (e.g., steel and paper mills). These customers purchase processed-scrap commodities (i.e., "reclaimed materials" produced by scrap recyclers) to use as inputs to "recycling processes" (e.g., steel and paper production), in lieu of "new primary materials" as inputs.
GRS IWG: If the scrap recycler is performing processing to the material that qualifies as material recycling, then both the output of the scrap recycler and the output of their downstream customers could feasibly be defined as "recycled material".			
7.19	A1.2f Guidance	Not sure	The last sentence seems to negate the recognition provided in the A1.2d Guidance.
GRS IWG: This has been adjusted with additional clarity for pre-consumer material.			
7.20	A2	None (just a comment)	Because, as demonstrated above, scrap recyclers are not involved in "material recycling", they are not required to be certified to the GRS. While the terminology is unfortunate (i.e., recyclers not being "recyclers"; communicated previously regarding the RCS), that outcome is justified, as the scrap recycling industry is not structured to produce new primary material or to process anything other than used or obsolete materials and products. Understandably, some could consider (incorrectly, in ISRI's view) never-used pre-consumer material (e.g., off-spec or obsolete materials) as something akin to "new" or "primary", but that material too would still have to be reclaimed/recycled along with, say, similar/identical post-consumer material. Also, because GRS certification is apparently not required of scrap recyclers, comments are not being provided on subsequent GRS sections, except if there are particular technical issues or problematic phrases or statements related to "waste" or "recycling".
GRS IWG: With reference to scrap recyclers, see above. Never-used pre-consumer material would not be considered "new or "primary" as long as it meets the definition for "recycled material" listed.			
7.21	A2.1 and A2.2	Not sure.	The Appendices at the end of the GRS are not consistently enumerated (i.e., A, 2, 3, etc.).
GRS IWG: Noted with thanks!			
7.22	A2.1 and A2.2	Not sure.	Is the annual basis a calendar year, fiscal year, certification year?
GRS IWG: This is specified in the Content Claim Standard Implementation Manual, which also applies to GRS certification. It is a calendar year.			
	A2.3 and A3.2	Not sure.	Is the relationship between "virgin material" and "new primary material" the same as the relationship between "recycled material" and "reclaimed material"? The use of "virgin material" seems inconsistent from place to place.
GRS IWG: The term "virgin material" has now been defined in the guidance note.			
7.23	Appendix A	Appendix 1	This should be "Appendix 1".
GRS IWG: Noted, this has been changed.			
7.24	Appendix A	Not sure.	I do not know how a scrap recycler (which produces "reclaimed materials") is going to know all of the circumstances about the origin of materials that it buys as an input. Is it axiomatic that if a scrap recycler obtains input materials, the act of obtaining them guarantees that they would have otherwise gone into the waste stream? Most likely, they would have gone to a different scrap recycler!
GRS IWG: The Reclaimed Material Declaration Form will require that recyclers begin collecting this information from their sources, as far as is possible. The CBs will make the determination if the information is sufficient.			
7.25	Appendix A	Not sure.	Appendix 1 probably needs to be revised. Based on its definition, "Product" seems to refer to the recyclers' input, which is not "reclaimed material". However, knowing inputs does not necessarily indicate what the outputs (i.e., "reclaimed materials") are, especially if the input is complex, say an appliance or a vehicle, and contributes to many output streams. It also seems conceivable that this document could be extremely long and complicated for an annual summary of the "reclaimed materials" purchased by a GRS-certified facility from a scrap recycler. The number of possible combinations of product/material/source/type is potentially very large.
GRS IWG: The "product" is not the recyclers' input, but rather the product from which the material came from. In some instances, it may be the same, as in metal. It is possible that this will be difficult information for the material recycler to collect, and it may take some time.			
7.26	Appendix A Definitions	Not sure.	Is this referring to a scrap recycler's inputs or outputs (i.e., "reclaimed materials")? In

	Product		the parlance of "diverted from the waste stream" (taken to mean never entering the waste stream, as opposed to being recovered from the waste stream after entering it), these "products" are already "diverted" when the scrap recycler buys them.
GRS IWG: See comment on 7.25			
7.27	Appendix A Definitions *Material*	"Material: The material provided for recycling. (e.g., polyester, nylon, wool etc.)"	This may be quite technical, but the provider (i.e., scrap recycler) cannot guarantee that the material provided will be recycled, only that it is being transacted for the purpose of recycling, which is why the scrap recycling industry exists.
GRS IWG: This information about the material would only be requested by a recycler who was recycling the material in order to comply with GRS certification.			
7.28	Appendix A Definitions Pre-Consumer Waste Post-Consumer Waste	"Pre-Consumer Material" and "Post-Consumer Material"	These defined terms themselves are incorrect.
GRS IWG: This has been changed, thanks.			
7.29	A2	Should be self-declaration only	As I interpret this, garbage haulers who supply materials to MRFs, that then supply material to a GRS certified recycler are essentially opening themselves up to random audits? What would these audits consist of? With demand for material being high, there could be a strong incentive for collectors and concentrators to supply non-GRS certified recyclers to avoid added record keeping and bureaucracy. Alternatively, GRS certified recyclers may be subject to paying a price premium to cover the participation of collectors and concentrators in this system.
GRS IWG: The random audits are given as an option for Certification Bodies in the case that the information on the Reclaimed Material Declaration Form has inconsistencies, or there is a need for further verification. As a garbage hauler is inherently dealing with material headed for the waste stream, it is highly unlikely they would ever be audited. The additional record-keeping and verification done by Certification Bodies should also serve to provide recognition for those facilities already doing due diligence on their sources of reclaimed and/or recycled material. As with any standard, the IWG has sought to balance rigor and cost.			
7.30	A2.3.b.ii	Strike – not feasible	Brokers play a big role in the movement of plastic scrap material throughout the US, and globally. A broker cannot be expected to obtain business records from their sources to pass along the supply chain. Brokers also are not keen on disclosing their suppliers for fear that customers will be able to source material directly. They may be willing to reveal it to an auditor, but not their customers. This provision increases the likelihood that brokers will choose to sell to non-GRS certified customers to avoid this challenge. This will put GRS-certified recyclers in a position of having to pay much higher cost for this type of added record keeping through the recycle value chain. This particular provision will be a major hurdle for GRS certified recyclers sourcing material.
GRS IWG: The intention here is for the Material Recycling facility to ensure the legal authorization of their direct suppliers; as long as brokers took ownership of the material, they would not be required to give information about their sources to the Material Recycling Facility. This is one instance where a Certification Body would likely be interested in doing a random audit, to verify the source and legal authorization of organizations further down the supply chain.			
7.31	Appendix A		The TE should understand that material sources can change as new customers are served, new streams identified, etc. We recommend removing "source" and just have the material collectors and concentrators confirm product, material, and if it came from Post-Consumer or Pre-Consumer sources.
GRS IWG: In some cases, brands want to be able to tell the full life story of a given product, and if there is the ability to pass that information along, the GRS and RCS would be a strong mechanism to do so. The terms Product and Source may overlap in some cases, but not in all. Therefore the distinction will remain in the form.			
7.32	Appendix A		The audit should not be a provision of this form until the Textile Exchange has evaluated the willingness of Collectors and Concentrators to participate in the audit system, and what additional cost such participation may have on the system.
GRS IWG: For the first release of the standard, the audit will be a provision of the form, to ensure that there is some system of checking the source of materials that are claimed as "reclaimed" or "recycled". Brands are looking for this kind of information, and the GRS and RCS are strong mechanisms to provide it. As the standards progress, we will continue to evaluate and collect information about the effectiveness of the Reclaimed Material Declaration Form and the random audits.			
7.33	Page 5		How do we define post-consumer materials? Is there a process required to validate whether a source is truly post-consumer material or not? If so, what is the % requirement?
GRS IWG: The definition for post-consumer materials used for the standard has been provided on page 6, and is taken (with permission) from ISO 14021. The process of validating is done by the CB through the use of the Reclaimed Material Declaration Forms collected by the Material Recycler from the Material Collection or Concentration facilities. This is detailed in A5. The only percentage requirement is for 20% minimum recycled			

material content, either pre- or post-consumer.

8. Minimum Content

Feedback Number	Paragraph	Proposed Change	Comment
8.1	Introduction paragraph 3	Propose to remove minimum recycled content requirement and allow any product with any amount of recycled material to qualify.	It is unclear what the basis for the 30% cut-off is, and it will be very difficult for some
8.2	Section E labelling E.1 and E 1.1	Change to 20-100%. See comment	For post consumer mechanically recycled natural fibers such as cotton it's hard to reach 30% recycled content and maintain good quality as the mechanically recycled fibres are too short. In our supply chain a reasonable amount of recycled content maintaining good quality to reach our quality standards for post consumer recycled cotton is 20%. Therefore we suggest to change this minimum content to 20% for mechanically recycled natural fibres. 30% is high for some of the fibers and we might end up discouraging many suppliers by having this as a limit
8.3	Introduction	Insert an industry sector material-by-material benchmark to capture innovation ranges by material type?	Just questioning whether this reflects evenly over the different materials used in textiles, it seems very high and unrealistic at that state of technology today in the range of textile materials.
Several companies had feedback that a minimum content requirement of 30% could limit that application of the standard, with current technology limiting the percentage of post-consumer recycled materials without compromising the quality of the final good. Our solution is to lower the minimum to **20% recycled content**. In the future, we may develop specific minimum requirements by material. We hope to see innovation in this field to allow higher and higher percentages of recycled content to re-enter the supply chain.			
8.4	Intro P3		When you say product you are not specifying textile or garment. I think their needs to be a standard or % for both . I feel this will cause confusion among brands, retailers and garment makers.
GRS IWG: This has been edited.			
8.5	Page 3		Why 20% and not even 30% (as I can see 30% striked out and turned into 20%)? GOTS has 70% and is considered as the highest standard in organic cotton. Reducing the content to 20% is a downgrade and is defeating its purpose. How do we justify GOTS as being 70%, while GRS is only 20%? When a low percentage is required, it means there could be more content of other materials, which could become more carbon intensive to up cycle it into the second life of a product. Also, it may not make sense to perform this whole procedure for a product that has only 20% recycled content on it.
GRS IWG: For some products, a high percentage of recycled materials may result in comprised quality. The intention of the standard is to encourage increased use of recycled materials and this percentage will likely increase over time. At this stage, we did not want to limit the companies that would be able to use the standard. We have introduced a higher recycled material content requirement for labeling of GRS products. See A1.1 of the GRS Logo Use and Labeling Guide – *"In order to use the GRS logo, the product must contain a minimum of 50% recycled content."*			

9. Scope

Feedback Number	Paragraph	Proposed Change	Comment
9.1		Scope – Too broad, limits # of vendors that will apply for it, our ability to make Point Of Sale claims.	Scope - Cafeteria-style approach; all things recycled would be one certification, and mills could add on certification for Health and safety/labour/compliance– suppliers are able to pick and choose to add-on additional certificates beyond recycled.

9.2	Section B3	Comment: Scope of this effort may be too broad. Also possible duplication of existing systems in verification.	This is only a point for clarification and possible guidance can be offered. My concern is that building in additional requirements for verification beyond “recycled content” may be redundant to existing practices, create further audit fatigue as brands may still need their own audits done or access to audits already done, etc. Could this be a “barrier” to scalability of a “recycled content verification” if the scope is far more comprehensive? It is not a show stopper for us but we have not yet figured out how this would work for us given our other internal initiatives and requirements of our suppliers.
9.3	C3	Comment: Scope of this effort may be too broad. Also possible duplication of existing systems in verification.	As per comment regarding Verification of Social Compliance we feel that building into this standard additional verification beyond “recycled content” is potentially duplicative although the Standard does allow “equivalent audits”. I am just concerned that moving beyond stated principles into verification of EMS and Chemistry inputs/outputs gets incredibly challenging (but worthy) and may fall outside the scope of this standard to ensure “recycled content” can be addressed and possible guidance around where other issues may arise regarding chemicals in materials, RSL management, discharges, etc. Could this be a barrier to achieving the objective of verifying “recycled content claims”? Creating a modular approach may be more effective.
9.4			The way this is laid out now is so comprehensive it could limit the number of our mill partners that would undertake the certification
9.5	Sections C& D	Remove both of these sections.	Social requirements and Chemicals restrictions should not be part of this standard. Brand owners do enough due diligence in this area. Tackling chain of custody and verification is a complex and challenging enough issue. The standard should not lose focus of that objective. Incorporating these other elements can dilute the purpose of this standard and add a layer of complexity with implementation that could negatively impact adoption." "How did the TE decide which chemicals to include in their list? Are these chemical restricted based on scientific findings? If a chemical is legal for use under the consumer product safety standard to use, but ti’s on the prohibited list, does that mean it cannot be used? Is this just a compilation of SIN lists? SIN lists issued by NGOs are not standards and are not based on either the procedural or substantive justifications required of consensus standards. Is the TE potentially making the organization and those who support the requirements liable with inclusion of these chemicals without a substantial record justifying the inclusion of each chemical?"
It is a more ambitious scope than the previous GRS v2.1 and the RCS. For companies who are able to meet a portion of the requirements, RCS can be used to verify the recycled content and make claims about the recycled content, and then additional certifications or verification can be used to verify those additional elements.			
Reply: TE’s comment implies that the standard will be modular. That is, each component can be used as a separate certification or standard. There needs to be clarity around this. Other than the RCS “module” the other certification modules have significant overlap with other industry initiatives and certifications. Will there be a base requirement – that is the RCS component is required for additional certifications. Or does TE intend for these additional modules to be standalone for other applications? How will the different combinations of modules be recognized, especially for POS claims? This standard should be creating clarity for recycled polyester content, not making it more complicated to understand and implement in the value chain.			
9.6	Section B and Section C	Propose clarifying that these requirements only apply to the final assembly manufacturing facility for the product(s) undergoing assessment.	
Because the claim would apply to the final product, the application of social and environmental requirements should apply to all facilities involved in the production of that good.			

10. Social

Organization	Paragraph	Proposed Change	Comment

10.1	Section B	Comment only … mapping variances to FLA or Higg Index Supplier Questionnaire if any?	Are there any principles or requirements that may "conflict" with other standards or has this been mapped to other best practice standards?
The social requirements have been mapped to the Global Social Compliance Programme, and are based on the ILO conventions.			
10.2	B2.1	Additional Language for Human Trafficking and Slavery	Since the State of California introduced the law for Human trafficking and Slavery is would be raising the bar to include language in this standard. " There shall be no use of Human Trafficking and Slavery"
This should be covered under the Social Requirements on Forced, Bonded, Indentured and Slave Labor. (i-v of A4.2a)			
10.3	B2.3a, B2.3.b	Propose adding language in B2.3a to clarify that this criterion applies when these rights are not restricted or prohibited by law (similar to B2.3b).	
B2.3b covers all cases where the right to freedom of association, etc. is prohibited by law.			
10.4	B2.5	Guidance: Appropriate protective equipment shall include adequate clothing and footwear where Necessary	It should be based on the activity not the time.
noted, changed			
10.5	B2.6c	Remove	How is this to be evaluated and assessed over producing countries?
10.6	B2.6c	Remove any reference to minimum wages.	What are these industry benchmark standards? Associations may sponsor wage surveys, but never for guidance or agreement on a pay minimum. Joint agreements on salaries would be illegal price fixing under the antitrust laws, with recent U.S. Department of Justice enforcement on nurses salaries as one example.
This refers to the standards used to make sure that wages take into consideration that "basic needs must be met for all workers after applicable company deductions have been taken out, such as payments for accommodation and food)". (Taken from the GSCP Reference Guide for Audit Checks). This would be assessed through worker interviews, and reviewing contracts			
10.7	B2.6.c	Remove reference to benchmark standard and collective agreements.	The Textile Exchange should seek legal advice on this provision. We have been advised by our legal counsel that this provision is at risk of violating Federal Anti-Trust rules around price fixing.
GRS IWG: This wording comes from the International Labor Organization's Conventions. The benchmark standards and collective agreements do not apply to collusion between facilities on wages for their workers, but rather refer to industry and regional norms in wages, etc.			

Number	General Comments on the Standard
C1	For the paper industry, certification to the GRS may be a little bit too much. Their recyclers are only dealing with reclaimed material, and there is no risk for mixing of materials. Should they still be required to be certified, or would the form be sufficient?
The goal here is to ensure that there can be full trust behind a product claim, in this case 'recycled'. This means that there must be consistent adherence to the goals and requirements of the standard. Although many operations may already be compliant, it is still necessary to verify all to the same level, in order to create an even playing field, and give full credibility to the companies that are doing it right. The 'good' companies will benefit from a faster and less costly certification than the 'poor' ones, and will also be able to globally compete based on their credibility. The distinction between pre- and post-consumer material is also important, and applying the same definition to all recyclers is necessary for full confident in that claim on the final product.	
C2	Material recyclers may buy plastic bottles from material collectors or concentrators. But they wouldn't be putting virgin in bales because there is no financial incentive. However, I do believe that the great concern about recycling (in my parlance)—the collection or receipt of pre-/post-consumer materials and their conversion by manual or mechanical means into a form meeting one of these specifications or an agreed variant—is unfounded. In the example of virgin bottles being passed off as recycled, it seems most likely that these bottles were actually pre-consumer bottles—very-clean, never-used ones most likely (that can happen legitimately with obsolete or off-spec bottles). Still, if those "virgin" bottles were combined with post-consumer bottles into a bale, all of that material would go through the same process(es) before being remelted or re-extruded into new recycled-plastic bottles. This would then seem to be a concern about pre-consumer vs. post-consumer, rather than virgin vs. recycled.
Understood, however there have been cases in other parts of the world, where virgin bottles were actually used as there were not enough used ones available. The goal of this standard is to address these issues, and give recognition to companies doing it right.	
C3	As an aside while on the topic of plastics, "virgin plastic" means polymer made from new monomer. This raises the interesting question of what to call plastic composed of polymerized recycled monomer, which is depolymerized recycled plastic. Plastics made from recycled monomer would seem to be somewhere between "virgin plastic" and "recycled plastic", which is understood to be remelted and/or re-extruded but never a polymer of depolymerized recycled plastic. This would seem to be unique to plastics and may warrant special attention.
This is the type of situation where the GRS and Recycled Claim Standard can be quite useful. By applying the ISO definition of "Material that has been reprocessed from reclaimed material by means of a manufacturing	

process and made into a final product or into a component for incorporation into a product" to all GRS and RCS products, we are able to clarify cases like this. These definitions are informed by the industry as well as consumer perception, so it ultimately leads to greater confidence in the "recycled" claim.	
C4	One issue of concern from our side is the 30% minimum recycled content. Whilst we understand the logic of seeking to drive up recycled content in products we also believe that increasing the recycled content can impact the quality, look and feel of those products. In effect this then restricts the range of potential products that we can seek to introduce recycled content into.
See note on the updated Minimum Content	
C5	Overall comment – in the situation where post consumer natural fibre product is collected for recycling (i.e. denim and wool) and we don't know the source of post consumer waste (ie if it has chemicals added to it, is the wool mulsed etc) how does this standard address these situations, or cant it? With companies such as I:CO that have huge collections of post consumer waste, I see a lot of 'unknown' product going back into the textile system with many unknowns.
GRS IWG: The issue of contamination in the products being used again in the supply chain is indeed an issue to be addressed. Currently, the strongest method to investigate the contaminants in the incoming products is through product testing. For 100% assurance, 100% product testing would be required. Obviously, this would come at great cost. We are hopeful this won't always be the case, but that technology will evolve to allow further testing of this type. Until then, we are taking the approach of limiting the use of hazardous chemicals in the production of GRS certified goods.	
C6	The whole thing about chain of custody and other documentation was more about "paper work" than real work to be honest. We just gave up after an year or so…. The trouble with all these things is that we are trying "authenticate" things which are not really that crucial. The low cost of recycled stuff is a key advantage which needs to preserved in order to promote the idea . The fact that non-recycled stuff can never be made that cheaply is an automatic "filter" which prevents any other stuff being classified as "recycled" is perhaps overlooked by "experts" in the zeal of wanting to document and verify and prove every thing! The whole point is about a paradigm shift in de-mystifying and simplifying things so a broader patch of the industry can adopt things instead of making it so esoteric that it becomes a huge entry barrier.
GRS IWG: The goal of the GRS is to verify the recycled content of products. This is a need that has been expressed from multiple companies, and the widespread use of the initial version of the GRS is proof of that need, and the willingness to meet it through the use of the standard. In revising and creating version 3 of the GRS, the International Working Group sought to balance the rigour of the standard with practicality. Obviously this is a difficult thing to balance through each step in such a broad and diverse supply chain, but we are confident that the standard will meet the needs of the industry, while keeping costs at a minimum.	