Final Consultation document for

Primary batteries

Generation 5

2018-11-7

Nordic Ecolabelling

Nordic Ecolabelling for Primary batteries

Final Consultation document
001/5.0 - 2018-11-7

1 Summary

The consultation on reviewing the final draft Criteria for Primary Batteries, generation 5, has been conducted in all Nordic countries in the period from 25 June 2018 to 12 August 2018. Several consultation comments have been received to the proposed final draft.

The overall aim of this revision is to ensure that the Nordic Ecolabelling criteria continue to ensure positive environmental benefits via ecolabelling and that the criteria are viable and clear for the industry. The main comments apply to the following sections and requirements:

The biggest change after the final draft-consultation has been adjusting (lowering) several (16/19) of the proposed specific Minimum Average Duration (MAD) values (O9).

The requirement for packaging (04) has been adjusted so it is possible to use both pre- and post-consumer recycled material in the primary packaging. It has also been clarified that small antitheft RFID components are excluded from the dismantling requirement.

The requirment for battery label (O4) has been adjusted - battery label must not contain PVC or other halogenated organic compounds in general (including flame retardants).

The requirement for sourcing of "conflict-free minerals (O6) has been clarified - both the requirement and verification guidelines have been updated in the criteria- and background documents.

Finally the requirement for metal content of batteries (O2) has been adjusted from <7,5 ppm to <10 ppm lead. The requirement to lead content is <10 ppm in the criteria generation 4.

Response to consultation comments
Nordic Ecolabelling has in section 4 given a response to all comments and described if the requirement has been adjusted. In section 5, you find a table showing all the changes that has been done in the criteria document after the final draft consultation.

The consultation was initiated with three pre-consultation periods which subsequently has formed the basis for the final draft criteria. Nordic Ecolabeling consulting response comments to the first three pre-consultation periods are located in chapter 6-8.

2 About the consultation

This document consist of feedback received during the public consultation for revised criteria for primary batteries and Nordic Ecolabellings response to this feedback.

The purpose of this document is to show how external feedback has affected the development of the draft criteria in complains with the ISO 14024 standard.

Nordic Ecolabelling is grateful for all incoming inputs that helped us in the development of both ambiguous environmental as well as market based criteria for primary batteries.

Nordic Ecolabelling has in this revision tested a new public consultation format which contained a preliminary pre-consultations. The pre-consultation on reviewing the criteria for primary batteries has been conducted in all Nordic countries in the period from 26. March 2018 to 25. May 2018. The consultation has been divided into three sub processes, each dealing with a specific topic in three individual consultation periods. The three individual topics are:

1. Product definition, use of resources in batteries and packaging
2. Corporate Social Responsibility regarding the sourcing of "conflict-free" minerals, critical raw materials and working conditions
3. Minimum average duration (MAD), battery shelf life, safety and waste handling.

Based on feedback from the three pre-consultation periods, Nordic Ecolabelling drafted a proposal for criteria for Primary batteries, for a final public consulting period.

All consultation documents for the revised criteria for primary batteries is located on: http://www.nordic-ecolabel.org/criteria-revisions/primary-batteries

3 Compilation of incoming comments and feedback

Table 1: Stakeholder consultation comments on the final draft for Nordic Ecolabelling criteria for primary batteries, generation 5.

Consulting party	A. Just commen-ting	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Zhejiang Hengwei battery Co	*				
Spectrum Brands Group (Varta)	*				
GP Batteries International Ltd.	*				
Duracell	*				
EPBA	*				
Energizer Brands, LLC	*				
Hengdian Group	*				
Panasonic Europe	*				
Miljø- og fødevareministeriet	*				
Boverket				*	
Kommerskollegium	*				
Forbrugerombudsmanden				*	
The Public Health Agency of Sweden				*	

Table 2: Stakeholder consultation comments on the first sub process, concerning product definition, use of resources in batteries and packaging.

Consulting party	A. Just commen-ting	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Boverket				*	
Department of Consumer Affairs and Equality Norwegian Ministry of Children and Equality				*	
Det Økologiske Råd	*				
Spectrum Brands Group (Varta)	*				
Duracell	*				
Hengdian Group	*				
Zhejiang Hengwei battery Co	*				
ICA Sverige AB		*			
Kommerskollegium	*				
Energizer Brands, LLC	*				
EPBA	*				

Table 3: Stakeholder consultation comments on the second sub process, concerning Corporate Social Responsibility regarding the sourcing of "conflict-free" minerals, critical raw materials and working conditions.

Consulting party	A. Just commen-ting	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Zhejiang Hengwei battery Co	*				
Energizer Brands, LLC	*				
EPBA	*				
Spectrum Brands Group (Varta)	*				
Duracell	*				
The Public Health Agency of Sweden				*	

Table 4: Stakeholder consultation comments on the third sub process, concerning minimum average duration (MAD), battery shelf life, safety and waste handling.

Consulting party	A. Just commen-ting	B. Supports the proposal	C. Supports the proposal with comments	D. Refrain from commenting	E. Rejects the proposal with justification
Zhejiang Hengwei battery Co	*				
Spectrum Brands Group (Varta)	*				
GP Batteries International Ltd.	*				
Duracell	*				
EPBA	*				
Energizer Brands, LLC	*				

4 Comments to the Final Draft criteria in detail

The various comments from the consultation stakeholders have been inserted below and grouped in relation to the specific requirement. Nordic Ecolabelling has given a response to all comments and described if the requirement has been adjusted.

In section 6, you find a table showing all the changes that have been done in the criteria document after the consultation.

4.1 General comments

Miljø- og fødevareministeriet
Afsnit 5.1, side 15
Nordic Ecolabelling has chosen to exclude batteries that are built into or form a fixed part of electrical products and that accordingly cannot be replaced. Many tools, for example, such as cheaper screwdrivers and drills, beauty products or toys, have primary- or rechargeable batteries that cannot be replaced when they get old and cannot be recharged at all. Nordic Ecolabelling believes that it is an unnecessary waste of resources to have to discard an electrical appliance simply because the battery no longer functions optimally.

Vi er overordnet enig i vurderingen. Det giver mening ikke at miljømærke produkter, fordi de indeholder miljømærkede batterier; omvendt kan producenter af de beskrevne elektriske produkter vel sagtens vælge at anvende miljømærkede engangsbatterier. Argumentet bør derfor mere gå på, at det ikke er tilladt producenter af de beskrevne engangsprodukter at markedsføre dem med at batterierne er miljømærkede, især i de tilfælde hvor produktets miljøbelastning - eksklusiv batterier - samlet set overgår batteriets miljøbelastning. I sådanne tilfælde giver det ikke mening at markedsføre produktet som indeholdende miljømærkede batterier (green washing).

For genopladelige batterier (som er udenfor denne produktgruppe) vil der kunne være tilfælde, hvor det at anvende et miljømærket genopladeligt batteri, kan give det samlede produkt en betydelig længere levetid (og dermed bedre miljøprofil), ved at anvende et miljømærket genopladeligt batteri, pga. de større tekniske krav (opladningscyklusser, mindre afladning, etc.). Det kan dog være svært at afgøre disse tilfælde.

Nordisk Miljømærknings kommentar
Nordisk Miljømærkning takker for kommentarene. Nordisk Miljømærkning regler for brug af Svanemærket[1] tillader ikke brug af Svanelogo på produkter, som ikke kan få Svanelicens. En producent af elektroniske produkter (t.x elektrisk tandbørste) må ikke anvende Svaneloget til at markedsføre tandbørsten eller at batterierne i tandbørsten er Svanemærket. De må dog godt skrive, at batterierne i produktet er Svanemærket (uden brug af logo).

Kommerskollegium
Sammanfattning
Kommerskollegium bedömer att rubricerat förslag omfattas av anmälningsplikt enligt förordningen (1994:2029) om tekniska regler. Kollegiet bedömer däremot att förslaget inte aktualiserar anmälningsplikt enligt förordningen (2009:1078) om tjänster på den inre marknaden.

[1] https://www.ecolabel.dk/da/virksomheder/regler-for-miljoemaerkning

Kommerskollegiums uppdrag
Kommerskollegium ansvarar för frågor som rör utrikeshandel, EU:s inre marknad och handelspolitik. Kommerskollegiums uppdrag är att verka för frihandel. Det innebär att vi verkar för fri rörlighet på den inre marknaden och för liberaliseringar av handeln mellan EU och omvärlden samt globalt.

Anmälan av tekniska föreskrifter
Enligt förordningen (1994:2029) om tekniska regler ska förslag till teknisk regel anmälas till Kommerskollegium. Förordningen om tekniska regler genomför bestämmelser om anmälningsskyldighet i Europaparlamentets och rådets direktiv (EU) nr 1535/2015 om ett informationsförfarande beträffande tekniska föreskrifter och beträffande föreskrifter för informationssamhällets tjänster[2].
Tekniska regler som ska anmälas är till exempel krav på produktegenskaper, provning, tillverkningsmetoder och användningsvillkor[3].

Nordisk miljömärkning föreslår slutliga kriterier för batterier. Kollegiet har tidigare yttrat sig över det första steget i förslagets remitteringsprocess och bedömde då att förslaget innehöll sådana tekniska krav på varor som avses i 2 § punkten 2 i förordningen (1994:2029) om tekniska regler. Som exempel kan nämnas kravet på att den totala andelen återvunnet material i den primära förpackningen för batterier måste vara minst 80 viktprocent (O4). Som exempel kan även nämnas förbudet mot att använda PVC plast i produkter och förpackning.

Kollegiet bibehåller sin bedömning för den slutliga texten och vill även uppmärksamma om att de tillägg i det nu remitterade förslaget som gäller avfallssortering typiskt sett utgör ett s.k. annat krav

Bedömningen av om en bestämmelse utgör ett annat krav sker i två steg. Det första steget innebär att ett krav ställs på en produkt som börjar gälla efter det att produkten övergått till distribution. Det andra steget förutsätter att kravet *väsentligen* påverkar produktens sammansättning, natur eller försäljning vilket är fallet vad gäller de krav som ställs på produkten när det gäller avfallssortering i produktions process (O12).

Beträffande frågan huruvida förslaget är anmälningspliktigt enligt förordningen om tekniska regler kan nämnas att krav som är frivilliga som regel inte omfattas av anmälningsskyldigheten. Om de frivilliga kraven däremot har eller kan få en sådan bindande effekt att de blir en förutsättning för marknadstillträde, kan kraven i fråga behöva anmälas. Kommerskollegium har tidigare förklarat att Svanenmärkningen är en sorts statlig certifiering som kan innehålla faktiskt bindande tekniska regler[4].

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[2] L 241/1 17.9.2015.
[3] 2 § 1 p. förordningen (1994:2029) om tekniska regler.
[4] Kommerskollegiums utredning; "*Bör kriterier för nordisk miljömärkning av varor (Svanenmärkning) anmälas enligt direktiv 98/34/EG?*" i dnr 2015/00018-2.

Kollegiet kan inte avgöra om de nu aktuella kriterierna har eller kan få en sådan bindande effekt att de behöver anmälas, utan vi hänvisar till Nordisk Miljömärkning Sverige AB för sådan bedömning. Kollegiet finns tillgängligt för samråd.

En anmälan till kollegiet görs lämpligen genom att skicka in en s.k. § 6-underrättelse till Kommerskollegium. Information om hur ett sådant formulär fylls i finns i Kommerskollegiums vägledning om anmälningproceduren[5]. Innan ni anmäler kriterierna till Kommerskollegium bör följande text läggas till i föreskriftsförslaget: *”Kriterierna har anmälts till EU enligt Europaparlamentets och rådets direktiv (EU) 2015/1535 av den 9 september 2015 om ett informationsförfarande beträffande tekniska standarder och föreskrifter och beträffande föreskrifter för informationssamhällets tjänster.”*

Anmälan av nya krav på tjänsteverksamhet
Enligt tjänstedirektivet[6] är Sverige skyldigt att anmäla nya eller förändrade krav på tjänsteverksamhet till kommissionen.

I remissen ställs ett antal krav för att erhålla Svanenmärkning för batterier. Vissa av dessa krav rör hur batterier ska testas av laboratorier. Deras verksamhet utgör en tjänsteverksamhet som omfattas av tjänstedirektivet, vilket aktualiserar frågan om anmälningsplikt.

Enligt kollegiets uppfattning kan den typ av statlig[7] certifiering som Svanenmärkningen utgör anses vara ett krav i tjänstedirektivets mening. Definitionen av krav är bred och omfattar inte bara bindande lagstiftningsåtgärder[8]. Anmälningsplikten förutsätter emellertid att tjänsteleverantören *måste* uppfylla det aktuella kravet för att få tillträde till, eller utöva, tjänsteverksamheten. Därav följer att krav som är frivilliga i regel inte omfattas av anmälningsplikten.

Även om de aktuella kriterierna till sin effekt skulle bli bindande på grund av Svanenmärkningens ställning på marknaden för batterier, behövs dock ingen anmälan enligt tjänstedirektivet eftersom de då bör anmälas enligt anmälningsdirektivet[9] för tekniska regler[10].

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[5] http://www.kommers.se/publikationer/For-myndigheter-och-kommuner/Vagledning-omanmalningsproceduren-for-tekniska-foreskrifter-och-e-tjanster--Sa-paverkas-myndigheter/.

[6] Europaparlamentets och rådets direktiv 2006/123/EG om tjänster på den inre marknaden, artiklarna 15.7 och 39.5

[7] Det är Nordiska miljömärkningsnämnden, ett organ som inrättades av de nordiska konsumentministrarna (men som nu styrs av Nordiska ministerrådet för miljö) som fastställer de produktspecifika kriterierna för Svanenmärkning. Nämnden fattar beslut efter förslag som de nationella miljömärkningsorganisationerna förbereder genom samarbete i den samnordiska föreningen Nordisk miljömärkning.

[8] Begreppet ”krav” omfattar enligt tjänstedirektivets artikel 4.7 varje ”skyldighet, förbud, villkor eller begränsning som föreskrivs i medlemsstaternas lagar eller andra författningar eller som följer av rättspraxis, administrativt förfarande, regler från yrkesorganisationer eller kollektiva regler som yrkessammanslutningar eller andra branschorganisationer har antagit som ett led i utövandet av sitt rättsliga oberoende”.

[9] Direktiv (EU) 2015/1535 om ett informationsförfarande beträffande tekniska föreskrifter och beträffande föreskrifter för informationssamhällets tjänster

[10] Artikel 15.7 i tjänstedirektivet.

Nordisk Miljømærknings kommentar
Nordisk Miljømærkning takker for remissvaret. Vi har noteret kommentarerne, men da de ikke specifikt handler om indholdet i forslaget til reviderede kriterier for Svanemærkede primære batterier vælger Nordisk Miljømærkning ikke at svare i denne remissammenstilling.

Hengdian Group
After reading through the proposal generation 5 of criteria, in my personal view, it's much complete than the previous one.
The content is much more detailed for primary batteries.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments

4.2 What can carry the Nordic Swan Ecolabel?

4.3 Comments on specific criteria

4.3.1 Production and product description

O1 Description of the product

EPBA
It is important to note that much of the detailed level of information requested is of a proprietary nature. We take it as normal therefore for the Nordic Swan to guarantee the confidentiality of this data.

This requirement does not take into account the practicalities of the commercial arrangements within the battery industry. It is a reality that companies purchase batteries from other manufacturers. This complicates sharing sensitive information with potential competitors.

However the most relevant omission from this criteria is that it does not specify the sample preparation and analytical method which have to be used for the chemical determinations. Also, a complete chemical appellation may not always be possible in the case of complex and natural substances e.g. gellants and adhesives.

Regarding the requirement to provide name and contact details of the production location, we recommend that the Nordic Swan secretariat takes into account that companies have multiple production sites for the same type of batteries. For reasons of efficiency, it is recommended to provide one main production site – in Europe when available – which will also allow for one main point of contact responsible for the exchange with the Nordic Swan secretariat.

Finally, the manufacturing process for primary alkaline batteries is a complex process and difficult to describe in one comprehensible flow chart.
We suggest to either remove this requirement or at least replace it with a more flexible requirement that allows the possibility to share an educational video of the manufacturing process.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling guarantee the confidentiality of all data received from license holders, applicants, subcontractors and other stakeholders.

Nordic Ecolabelling wants a description of the batteries (detailing all constituent substances, metals, other solid and liquid substances present in the batteries). This information is relevant in order to get detailed information on the material composition in order to fully understand the products and future requirements for the use of resources. As help for documentation of requirement 1 (product description), Appendix 1 has been adjusted so it is clear that we want information on cathode-and anode ingredients , electrolyte solutions, conductor-, separator- and container ingredients and other materials.

It is important that Nordic Ecolabelling gets information on all production sites producing Nordic Swan Ecolabelled primary batteries as several requirements involves the individual production site, e.g. waste-handling and quality requirements. In connection with handling of the application, Nordic Ecolabelling normally performs an on-site inspection on all production sites to ensure adherence to the requirements. Overall, we still just want one primary contact person who is responsible for the license.

Regarding the requirement for description of the manufacturing process, it is okay to use e.g. an educational video as documentation for the requirement. Nordic Ecolabelling wants a general description of the batteries manufacturing process and which technology that is being used to produce the batteries.

Duracell
Across the globe Duracell has different manufacturing locations for alkaline AA-AAA, C-D batteries and contract manufacturers for alkaline 9V batteries. This is probably true for the others as well. We suggest to provide one main production site, preferably one based in Europe together with one single point of contact who will liaise with you to make communication with the company quick and efficient for you.

The manufacturing process for primary alkaline batteries is a complex process and difficult to describe in one comprehensible flow chart. We suggest to either remove this topic or replace it with a more flexible requirement that allows the possibility to share an educational video of our manufacturing process for an internal NS audience (similar to the videos we use to educate our customers) in order to meet the need.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Se above answer to EPBA.

4.3.2 Resources

O2 Metal content of batteries

Energizer
The ppm limit for lead is being revised from 5 ppm up to 7.5 ppm. As noted the Battery Directive is 10 ppm. There is no measurable difference between 10 and 7.5 ppm.

This difference of only 2.5 ppm does not meaningfully impact the lead content in batteries. This difference essentially become a rounding error but greatly increases costs for testing to this different lead level. Additionally, measurements will not be taken to a half ppm which means labs will still measure down to a 5ppm limit. Additionally, the detection limit for the current test method determining lead levels is 10 ppm. Energizer does not recommend moving the limit down to 7.5 ppm as it will require new test methods with increased detection limits and since lead is naturally occurring, it may disqualify quality products unnecessarily.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you and agree in your comments. The proposed 7,5 ppm limit for lead is adjusted back to 10 ppm which is the same limit in todays generaion 4 criteria. The EU's Battery Directive 2006/66/EC (2006) requires batteries to be labelled if they contain concentrations of max 40 ppm lead.

Miljø- og fødevareministeriet
The EU's Battery Directive 2006/66/EC (2006) requires batteries to be labelled if they contain concentrations of one or more of the three metals: mercury (max 5 ppm), cadmium (max 20 ppm) and lead (max 40 ppm). In addition, the Directive prohibits the marketing of ordinary consumer batteries with a mercury content in excess of 5 ppm and a cadmium content in excess of 20 ppm. At these levels, legislation has ensured that these three heavy metals may not be added to portable batteries deliberately. Even so, pollutants may nevertheless occur.

(max x ppm) bør ændres til (more than x ppm)

Nordisk Miljømærknings kommentar
Nordisk Miljømærkning takker og er enige i kommentaren. Teksten i baggrundsdokumentet er justet fra (max x ppm) til (more than x ppm).

O3 Plastic

EPBA
The criteria to remove PVC from primary batteries will require a detailed feasibility assessment to make sure that the replacement will not have any impact on the performance of the batteries. This requirement may also have repercussions for the production process. It is therefore important that sufficient time is foreseen for the implementation of the PVC-free requirement.

We also want to point out a wrong conclusion made by the Nordic Swan secretariat drawn from the study EPBA published on collection results. The fact that on average 44% of spent batteries are collected (2016: EEA + Switzerland) does not mean that the remaining part "*ends up in wrong waste streams or the nature where they form an environmental risk […]*". The vast majority of these batteries are not available for collection since they are being hoarded at home or are included in appliances which get a second live in or outside the EU.
We also would like to highlight the following:

1. In the Eco Labelling standard for Toy products (Version 2.3, valid till 31-Mar-2019), exemption is given for cables using PVC due to safety reasons. The PVC in electrical cables must fulfil the authorities' requirements to phthalates.

2. In Toys; the PVC cable is usually an exposed item, whereas for Primary Batteries – the PVC component is enclosed within the battery and not accessible to the user unless it is deliberately dismantled.

We would therefore like to appeal for a similar exemption given to toy products to be considered for Primary Batteries.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling is aware that it takes time for the 9V battery industry to replace specific PVC parts with new materials in the battery. PVC used in separators between the individual 1,5 V cells/casing around each individual 1,5 V cell in 9V batteries are there for exempted from the requirement until 30/6-2021. According to our knowledge PVC is only being used in some types of 9-volt batteries (rectangular cell alkaline/zinc-carbon), where PVC is used in separators between/around the individual 1,5V cells instead of other types of plastic such as PE, PE and nylon. In addition, for some 9-volt alkaline batteries the specific construction of the casing consist of material in PVC. We do see alternative materials to PVC being used in 9V batteries (PE and nylon) so we know it is possible to exclude PVC in batteries.

Nordic Swan Ecolabelling criteria, generation 4, will be prolonged for 8 month so it is valid until 30/06-2020 which give room for a long transition period to phase out the use of PVC in battery labels, see requirement O4.

Nordic Ecolabelling thank you for the updated conlusion from the EPBA study on battery collected result in Europe. The information in the background document has been updated according to the new information.

Duracell
Like in the past Duracell's aim is to be compliant with the updated Nordic Swan regulation. However, this fundamental change of shifting to have zero pvc for the entire product line-up (i.e. in the battery, labels, all packaging), will require thorough and comprehensive feasibility studies to find high quality alternatives which still meet today's standards. The readiness may require technological (replacing equipment's and machines) and structural investments that may not be feasible within the grace period required to comply once this make it to the standard. Our R&D/packaging team currently assess risks and opportunities of moving away from PVC to non-PVC alternatives. We will inform you about outcome of this assessment and realistic timelines of change in due time.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above anwer to EPBA.

GP Batteries International Ltd.
Propose to include the below comment beside asking for longer lead time.

We would like to reiterate our position that this proposed requirement needs detailed feasibility study to ensure non-chlorinated replacement materials will not have undesirable impact on the performance and reliability of the batteries. Therefore important that sufficient transition time is given before implementation of the PVC-free requirement.

On other hand, we would like to highlight to the committee on the following -

1) In Eco Labelling standard for Toy products (Version 2.3, valid till 31-Mar-2019), exemption is given for cables using PVC due to safety reasons. The PVC in electrical cables must fulfil the authorities' requirements to phthalates.

2) In Toys; PVC cable is usually an exposed item, whereas for Primary Batteries - PVC component is enclosed within the battery and not accessible to the user unless it is deliberately dismantled.

Swan labelled toys cannot contain PVC, with the exception of for areas where PVC is the best choice of material for safety reasons (e.g. cables). The reason that PVC is permitted in wiring is based on feedback concerning a variety of problems associated with PVC- free wires. PVC-free wires delivered by various cable manufacturers can in some cases be too stiff, or unable to withstand being stepped on. From a safety perspective, it is important that exposed wires must be able to withstand heavy strains. PVC-free cables are primarily best suited for use in areas in which the wiring is fixed and remains in place. The advantage of using PVC in wiring is that it has insulating properties, is capable of withstanding variations in temperature and has inherent flame-retardant properties, as a result of its chlorine content.

When PVC is used, the other requirements applicable to plastics must be met, with the exception of the ban on the use of phthalates . No other requirements but the phthalate requirements laid down by the authorities will apply to PVC wiring.

We would like to appeal for similar exemption given to Toy products to be considered for Primary Batteries.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above anwer to EPBA.

4.3.3 Packaging and information

O4 Battery labels and packaging

EPBA
In general it should be achievable to have PVC free labels and packaging, provided there is enough implementation time for the license holders. However, since this requirement is proposed from an environmental perspective, it is important to point out that, at this moment, there are no acceptable PVC free battery labels being produced in Europe. For the batteries being produced in Europe, these labels will have to be sourced from Asia which of course also has a considerable environmental footprint.

Regarding the use of recycled material in packaging, we are of the opinion that recycled material in primary cardboard packaging should not differentiate between the different waste supply chains and should therefore take into account recycled content irrespective of whether it is pre- or post- consumer.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Swan Ecolabelling criteria, generation 4, will be prolonged for 8 month so it is valid until 36/06-2020 which give room for a long transition period to phase out the use of PVC labels. Nordic Ecolabelling hope that the battery label producers in Europe starts to produce PVC-free labels.

Nordic Ecolabelling agrees that pre-consumer cardboard also benefits in the efforts to efficiently manage resources and minimize the burden on the environment. The requirement has therefor been adjusted so that the total proportion of pre- and post consumer recycled material in the primary packaging for the batteries must be at least 80% by weight.

Panasonic Europé
Primary battery labels mostly consist of PVC. The usage of PVC-free labels for all types of primary batteries (LR20, LR14, LR6, LR03) is still not common in primary battery EU/US/Asian market.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Swan Ecolabelling criteria, generation 4, will be prolonged for 8 month so it is valid until 30/06-2020 which give room for a long transition period to phase out the use of PVC labels. Nordic Ecolabelling hope that the battery label producers in Europe starts to produce PVC-free labels.

Duracell

- The total proportion of post-consumer* recycled material in the primary packaging for the batteries must be at least 80% by weight.

Recycled material in primary cardboard packaging should not differentiate between the different waste supply chains and should consider/count recycled content irrespective of whether it is pre- or post- consumer.

> *given that both pre-and post-consumer recycling bring similarly weighted yet significant benefits in the efforts to efficiently manage resources and minimize the burden on our environment and consequently humanity,*

we propose that you adapt this in your new NS generation 5 to consider both pre-consumer and post-consumer recycling percentage/content for primary cardboard packaging towards satisfying this criteria.

We propose the wording below to accommodate final packaging that contains recycled material from both pre-consumer + post-consumer supply routes?

> *The total proportion of pre-consumer and post-consumer recycled material in the primary cardboard packaging for the batteries must be at least 80% by weight.*
> *Chlorine-based plastic must not be used in primary and secondary product packaging and any labels.*

The primary packaging must be designed in such a way that dismantling is possible for all individual parts for waste sorting (e.g. cardboard, paper, plastic, metal) without using any tools.
** Post-consumer material is defined in accordance with ISO 14021: "Post-consumer/commercial" is defined as material created by households or*
commercial, industrial or institutional facilities in the role of end users of a product, which can no longer be used for the intended purpose. This includes return of material from the distribution chain.

In cases where plastic foils are used to create blistercups for blisterpacks; the plastic foil even though only a smaller portion of the packaging typically does not contain recycled material. We understand from suppliers the reason is because recycled plastic in this instance and with the current available technology poses significant quality issues and downgrades. The plastic is however fully recyclable, so we suggest to limit the 80% pre-consumer and post-consumer recycled material of at least 80% by weight only to the primary cardboard packaging.

- The primary packaging must be designed in such a way that dismantling is possible for all individual parts for waste sorting (e.g. cardboard, paper, plastic, metal) without using any tools

While current packaging sold in Nordics meets this criteria, it is worth noting that the wording should be adjusted to accommodate practical cases where packaging components (e.g. small antitheft RFID) may be impossible/impractical to dismantle as part of the waste sorting process prior to recycling due to size and a relatively insignificant package percentage.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling agrees that pre-consumer cardboard also benefits in the efforts to efficiently manage resources and minimize the burden on the environment. The requirement has therefor been adjusted so that the total proportion of pre- and post consumer recycled material in the primary packaging for the batteries must be at least 80% by weight. We do not want to focus only on recycled cardboard but also plastic. Packaging for batteries primarily consist of both cardboard and blisters but also in pure fractions of cardboard or plastic. Blisters are often produced in PET, and we see that the PET/blister market has an increased focus on using recycled pre- and post consumer PET plastic.
Small antitheft RFID components are excluded from the dismantling requirement.

O5 Consumer information on the battery and primary packaging

EPBA
We support the link with EN 60086 for the labelling requirements and welcome the modification that has been included to also use, as an option the 'best before date'.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

Energizer
In version 4 of the criteria there was a clause that stated "If the batteries are suitable for all different types of energy-consuming appliances, according to R9 table 1 – Household batteries and 2 – Photo batteries, no pictogram showing this is needed. In this case, the end user shall be informed that the batteries are suitable for all appliances, through for example text on the packaging or similar." Energizer feels this option should remain in version 5 as it supports a single battery to be used for multiple applications. By removing this clause, it does not support manufacturers to make a wellrounded battery for multiple applications and could negatively impact the environment.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you and agree in your comments. The requirement for electrical testeting (O9) has been adjusted – batteries are now to be testet agains several electrical applications representing both high-, medium- and low energy drain (3 to 6 different application). Requirment O9 therefore supports the possibility to market the battery as an "all round" battery". It has been clarified in the requirement that it is possible to use a clear information saying that the batteries are suitable for all types of electrical appliances.

4.3.4 Corporate Social Responsibility

O6 Sourcing of "conflict-free" minerals

EPBA
To the best of our knowledge no recognised due diligence programme is in place to cover this substance. As a consequence, producers of portable batteries will not be able to evaluate this in their supply chain.

Although it is clarified by Nordic Ecolabelling that only the due diligence activities along the supply chain have to be described, it remains unclear on the basis of which parameters the evaluation will be done by the secretariat to decide whether the requirement is fulfilled or not.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement is supporting the new EU regulations that will be enforced in 2021[11]. The main difference is that Cobalt is part of the requirement in Nordic Ecolabellings criteria and not the future EU regulation. There already exist several recognized due diligence programmes covering tin, tantalum, tungsten, gold and cobalt (example European Partnership of Responsible Minerals (EPRM[12]), Responsible Mineral Initiative (RMI[13]) and Responsible Cobalt Initiative (RCI[14]).
Several other initiatives to verify and trace minerals from mines through the supply chain is describen in the background document.

Both the requirement and verification guidelines have been updated in the criteria- and background documents.

[11] http://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/ (visited May 2018)
[12] https://europeanpartnership-responsibleminerals.eu/ (visited august 2018)
[13] http://www.responsibleminerals initiative.org/ (visited august 2018)
[14] http://www.responsibleminerals initiative.org/emerging-risks/cobalt/ (visited august 2018)

Energizer
In both the US and future EU Conflict Minerals regulations only tin, tantalum, tungsten and gold are included in due diligence programs. The Responsible Business Alliance (RBA) trade association has created a robust program for auditing of smelters, vetting of smelters which are not valid and providing documentation and workbooks to assist in the due diligence process for all companies. At this time there is not a robust program for cobalt. The RBA is working on setting up a similar program for cobalt but this is likely about 2 years from completion. Therefore Energizer does not recommend including cobalt at this time as most companies cannot fully investigate our supply chains for this mineral.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to EPBA.

Zhejiang Hengwei battery Co
For this obligation, we still do not understand, so we have 2 questions

1) What is the use of Tin, tantalum, tungsten, gold, cobalt to batteries? Because we never source these minerals in our manufacture
2) Please understand that we are a Chinese supplier, and all of our mineral raw material is from China, including EMD and zinc, and other,

Therefore, we would like to know if China is a country that listed in OECD's " Conflict-Affected and High-Risk Areas ?
If not, how could we exemption from this obligation
Could you reply us on this matter?

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Tin, tantalum, tungsten, gold and cobalt is not typical raw materials in alkaline batteries but may appear (cobalt) in other types of primary batteries. If you don´t use any of thease 5 minerals in your batteries, then this requirement is not relevant to you.

On EUs webpage for "EU's new conflict minerals law" [15] *is a describtion of which contries are concerned by the EU regulation.*

O7 Sourcing of critical raw materials

EPBA
Primary batteries require the use of cobalt and rare earth metals which are to be considered as a critical component. There is currently no viable substitution available which means that these cannot be phased out of the existing primary battery technologies.

As a general principle, any discussion on phasing out substances should be based on a complete risk assessment taking into account all scientific evidence as well as all three pillars of sustainable development (social, economic and environment). Simply phasing out substances from batteries without the availability of a proper substitute material can impact for instance the life span of the batteries resulting in less performing products which, consequently, would result in more waste which goes against the overall objective of the Nordic Swan principles.

[15] http://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/ (visited august 2018)

In line with our comment under requirement 6, it is unclear which parameters Nordic Ecolabeling will use to assess the written policy of the licensee holders.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabel is aware that is not easy, simple or realistic to phase out some of the listed critical material in the nearest future. Therefore, the requirement is focusing on the license holder to address the concerns regarding the use of critical raw materials in the future. Nordic Ecolabelling requires the licence holders to address the concerns regarding the use of critical raw materials. In order to do so, the licensee must submit a written policy that describes how the licensee works actively:

- *to phase out the use of critical raw materials in the long term*
- *to recycle any critical raw materials in the batteries*
- *support recycling programs for collecting used batteries*
- *minimize the use of critical raw materials in the future (in the long term).*

Duracell
For Duracell, environmental sustainability in relation to our batteries starts above all with our efficient technology. If a battery if highly efficient, very performant, retains its power over a ten years storage period and long-lasting while being absolutely safe for consumers, simply less unnecessary waste is created. Cobalt, Indium, natural graphite are key ingredients of our alkaline battery technology ensuring the above mentioned. If we were to take those ingredients out, our batteries will fall short on all qualities afore mentioned and more unnecessary waste will be created. Currently no viable alternatives for those three materials exist.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comment to EPBA.

O8 Working conditions

No comments.

4.3.5 Electrical testing

O9 Electrical testing (Minimum average duration, MAD)

EPBA
The overall testing requirements are very ambitious. Although we recognise the importance of challenging criteria to obtain an environmental label, it is also equally important to maintain the distinguishing factor of these labels. When criteria are too strict, the recognition level could decrease.
In particular:
- LR14 Portable Stereo Test: Minimum permitted operating time should be set at 13,0h
- LR20 Toy Test: Minimum permitted operating time should be set at 25h
- LR20 Portable Stereo Test: Minimum permitted operating time should be set at 17h
- LR6: The minimum permitted operating time for Motor/Toy test of 8h is too high and should bet set at 7,7h
- 6LR61: The minimum permitted operating times for the Clock Radio (60h), but also for the Smoke Detector test (29d) are far too strict for Alkaline batteries. More realistic levels are 47h for the Clock Radio and 20 days for the Smoke detector test.

- LR03 Remote Control Test: Minimum permitted operating time should be set to 20,8h
- 6LR61: Toy Test: Minimum permitted operating time should be set to 21h.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling agrees that the overall testing requirements are very ambitious. It is difficult to set a requirement for the different battery dimension, e.g. LR 20 and the three applications, compared to the specific MAD-requirement in the IEC 60086-2:2015, as these vary within the individual battery dimension. The first draft requirement (pre-consultation) to the minimum permitted operation time (MAD) requirement was determined by test-data from existing licensees (15 licenses) and external battery test[16]. Several of the proposed specific MAD-requirments were subsequently adjusted in the final draft consultation criteria due to constructive feedback. Comments received to the proposed MAD requirements in the final draft consultation documents shows that this is a key-requirent and we agree, that some of the MAD limits still needs a little adjustment:

- LR14 Portable Stereo Test: Minimum permitted operating time is adjusted from 13,5h to 13h.
- LR14 Portable Lighting test: Minimum permitted operating time is adjusted from 21,5h to 20h.
- LR20 Toy Test: Minimum permitted operating time is adjusted from 25,5h to 24h.
- LR20 Portable Stereo Test: Minimum permitted operating time is adjusted from 17,5h to 17h.
- LR6: The minimum permitted operating time for Motor/Toy is adjusted from 8h to 7,5h.
- 6LR61: The minimum permitted operating times for the Clock Radio is adjusted from 60h to 47h.
- 6LR61: The minimum permitted operating times for the Smoke Detector test is adjusted from 22d to 20 days.
- 6LR61: Toy Test: Minimum permitted operating time is adjusted from 22h to 21h.
- LR03 Remote Control Test: Minimum permitted operating time is adjusted from 24h to 21h.

Energizer
Many of the proposed electrical testing MAD values are at least 50% higher than those listed in the IEC 80096-2.
Many MAD values are above 60% higher than the IEC. When balancing high drain and low drain performance to optimize a battery for multiple end use cases, it is very difficult to meet all of these tests at such a high MAD value. Energizer believes it is not feasible for a balanced battery to hit all of these proposed MAD criteria.
Energizer would recommend MAD values that are
approximately 30 to 40% higher than the IEC values while also including the new criteria of 12 month delay at the 90% level.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comment to EPBA. Nordic Ecolabelling agrees that the overall testing requirements are very ambitious.

[16] https://www.altomdata.dk/aa-batterier-test-kaempe-forskel/2 and https://www.radron.se/tester/boendetradgard--husdjur/batterier-aaa/ (visited November 2017)

In generation 5 we have increased the number of test (types of electrical applications) for the different battery dimension, and at the same time held on to the principle from generation 4, that all tested batteries must meet the test requirement for all specified specified. Nordic Ecolabelling therefore agress that the proposed MAD values in general are to strick and 16 out of 19 MAD values has thus been lowered.

Spectrum Brands Group (Varta)
LR14 Portable Stereo Test: Minimum permitted operating time should be set to 13,0 h.
LR6 Motor/Toy Test: Minimum permitted operating time should be set to 7,7 h.
LR03 Remote Control Test: Minimum permitted operating time should be set to 20,8 h.
6LR61: Toy Test: Minimum permitted operating time should be set to 21,5 h.
6LR61: Clock Radio: Minimum permitted operating time should be set to 48,0 h.
6LR61: Toy Test: Minimum permitted operating time should be set to 21, 5h.
6LR61: Smoke Detector Test: Minimum permitted operating time should be set to 20,0 d.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comments to EPBA.

Zhejiang Hengwei battery Co
Test pass condition
In O9 and O10, there are all test pass condition " Each test includes at least eight batteries per size and model, and all eight must meet the requirements"
We think the standard is too much stricter for battery product.

5.3 Conformance check to a specified minimum average duration

In order to check the conformance of a battery, any of the application tests or service output tests specified in IEC 60086-2 may be chosen.

The test shall be carried out as follows:

a) Test nine batteries.
b) Calculate the average without the exclusion of any result.
c) If this average is equal to or greater than the specified figure and no more than one battery has a service output of less than 80 % of the specified figure, the batteries are considered to conform to service output.

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d) If this average is less than the specified figure and/or more than one battery has a service output of less than 80 % of the specified figure, repeat the test on another sample of nine batteries and calculate the average as previously.
e) If the average of this second test is equal to or greater than the specified figure and no more than one battery has a service output of less than 80 % of the specified figure, the batteries are considered to conform to service output.
f) If the average of the second test is less than the specified figure and/or more than one battery has a service output of less than 80 % of the specified figure, the batteries are considered not to conform and no further testing is permitted.

NOTE Discharge performance of primary batteries is specified in IEC 60086-2.

According to IEC standard, the test will use average value to check and there will allow one battery not less than 80% of the specified figure,
Except IEC, EN, ANSI, BAJ, and GB of China all adopt this standard, and this is also a natural rule of battery product with below reasons

1) Battery is an electrical- chemical product, it is not a physical-characteristic product, even physical parameters in battery, like height, diameter,
   They all have a range from minus to plus,
   The performance will have same reason to get this range, because of
   Different batches of raw material
   The activity of positive and negative material even in same batch
   Different test conditions by different operating people, temperature and humidity, and test equipment
   With all above reasons, the performance will have a range of difference
2) Under this condition, if you fix a specified value, but ask all test results must bigger than the specified value,
   Then actually your requirement is much higher than your fixed specified value,
   This requirement becomes non-sense, and it also not comply with dispersion ratio in mathematics
   The real requirement in this standard will be 20% -30% higher than specified value.

With above reasons, we hope you could revise this standard same as global standard

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments. In today's criteria, generation 4, Nordic Ecolabelling is also requirering that all 9 batteries must meet the test requirements (fixed specified values). The requirement has not immediately caused problems for licensees.
Nordic Ecolabelling has realized that the new standard IEC 60086-1:2015 only requires test of 8 batteries and therefore Nordic Ecolabelling also adjust the requirement to test of 8 batteries.

Duracell

"The test conditions under which the batteries are tested must be in accordance with IEC 60086:1:2015." needs to be corrected into IEC 60086-2:2015 + other references to this standard.
"The tables uses the designations in IEC 60086-2:2015." needs to be corrected into IEC 60086-1:2015 + other references to this standard.

- Your new criteria mention: "The battery must meet the test requirement for all applications specified in table 1-5 for the specific battery dimension. E.g. battery dimension LR20 must meet the test requirements for all three test specified in table 1 in order to approve."

For the different battery types, up to six different IEC 60086-2:2015 application tests are currently included in your NS V5 proposal. While these standards are a good way to simulate the use of batteries in low, middle and high energy demanding appliances it is important to consider what is relevant to your audience. Batteries performing well in low drain type devices do not necessarily perform well in high drain type devices and vice versa. The best batteries are able to perform well across the whole spectrum of battery drain types. This also is in contrast with your requirement 05 referring to the consumer information pictograms.

We therefore recommend to assess the current test requirements and adapt it for the right devices which your audience use. Market research studies do a good job with providing insight on devices that are most used for a particular population.

- As testing is now based on IEC 60086-2:2015, with new application tests which we didn't share during previous and current NS registrations, the minimum permitted operating time requirements are too tight compared with the IEC MAD values. We therefore suggest to set the min. NS criteria for the new IEC 60086-2:2015 to +50% for AA/AAA and +40% for C/D/9V instead of the +60-82% for the new tests (exception: AA digital camera : + 150% and 9V smoke detector +81% -> +40%). We believe that targeting higher minimum permitted operating time for AA/AAA is important since it most widely used while C/D/9V has reduced usage.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comments to EPBA and Energizer. According to EPBA the references to IEC 60086-1 and IEC 60086-2 correct.

Zhejiang Hengwei battery Co
We appreciate your revision after hearing public suggestions, however, in D and AAA size, we have some advice still
In D item, our suggestion is below:

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
LR20	Portable Lighting	2.2 Ω	4 min on, 11 min off for 8 h per day	0.9	20 h	20 h
LR20	Toy	2.2 Ω	1 h	0.8	25.5 h	24 h
LR20	Portable stereo	Current drain 600 mA	2 h	0.9	17.5 h	17.5 h

In 2.2 Ω,1h/d discharge, your value of 25.5 h is too much higher,
If a battery product of D, with value of 20 h in 1st application and 17.5 h in 3rd application, it is very difficult to reach the value of 25.5 h in 2nd application, after our test in discharge chamber.
This is decided by the formula and performance consistency.
In opposite, if a battery with value of 25.5h in 2nd application, then 1st and 3rd application will also be higher than your current values.
Because although different applications have their own conditions, but a good battery is good, a poor battery is poor, it is we said performance consistency,
And it is also very important for consumers and marketing, how could you say to consumers that "OK, our battery is much better in toy, but for others, it is just so so"
We also cannot say it to our customers, that is not good for marketing.
This will be very ridiculous

Then we hope you could revise the value of 25.5h to 24h to reach this balance, or we strongly recommend you that you could adjust other 2 applications about 7%-10% higher to match the 2nd application.

And if you look into C , AA and 9V, we have no objection, and the specified figures of different applications are keep consistent.

In AAA item, our suggestion is below:

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
LR03	Portable Lighting	5.1 Ω	4 min on, 56 min off for 8 h per day	0,9	4 h	4 h
LR03	Toy, Non-motorized	5.1 Ω	1h	0,8	200 min	200 min
LR03	Digital Audio	50 mA	1 h on, 11h off for 24h	0,9	20 h	20 h
LR03	Remote control	24 Ω	15 s per min 8 h per day	1,0	24 h	21 h

Our suggestion is decrease the value of 24h to 21h of 4th application, after our real test in our laboratory, with same reason of D item.
Otherwise if not, we then suggest you could increase 10%-15% of other 3 applications performance to match the level of 4th application.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comments to EPBA. Nordic Ecolabelling agrees that the overall testing requirements are very ambitious, In generation 5 we have increased the number of test (types of electrical applications) for the different battery dimension, and at the same time held on to the principle from generation 4, that all tested batteries must meet the test requirement for all specified for the specified battery dimentions. Nordic Ecolabelling therefore agress that the proposed MAD values in general are to strick and 16 out of 19 MAD values has thus been lowered.

GP Batteries International Ltd.
We have reviewed the discharge performance and the proposed specification is per column in yellow.
Pls note those marked in red need to be proposed while those marked in black means we can accept Nordic spec.

Primary Batteries Electrical Specifications
IEC60086-2 Ed.13 / ANSI C18.1M Part 1 / Nordic Swan Generation 5

S/N	Designation	Test ID	Application	Discharge conditions	*EV (V)	Unit	*MAD (initial)			Proposal	
							IEC (Ave.)	ANSI (Ave.)	Nordic (Min.)	EPBA Min.	GP Min.
1	LR03 AAA 24A, 24C	7A	Portable lighting	5.1 ohm 4m/h - 8h/day	0.9	min	130	132	240		240
		7B	Remote control	24 ohm 15s/m - 8h/day	1.0	h	14.5	14.5	24		22
		7C	Toy	5.1 ohm 1h/day	0.8	min	120	120	200		200
		7G	Digital Audio	50 mA 1h/12h - 24h/day	0.9	h	12	15	20		20
2	LR6 AA 15A, 15AC	8B	Motor / toy	3.9 ohm 1h/day	0.8	h	5	5	8		8
		8E	Digital Audio, CD, wireless gaming and accessories	100 mA 1h/day	0.9	h	15	16	24		24
		8F	~~CD / Electronic games~~ Toy, non-motorized	250 mA 1h/day	0.9	h	5	6	8		8
		8H	Digital Camera	1500 mW 2s,650 mW 28s, 5m/h, 24h/day	1.05	pulses	40	50	100		100
		8I	Portable lighting (LED)	3.9 ohm 4m/h - 8h/day	0.9	min	230	180	370		370
		8J	Radio / Clock / Remote Control	50 mA 1h/8h - 24h/day	1.0	h	30	32	48		48
3	LR14 C 14A, 14C	9C	Toy	3.9 ohm 1h/day	0.8	h	14	14.5	23		21
		9D	Portable stereo	400 mA 2h/day	0.9	h	8	8	13.5		13
		9E	Portable lighting	3.9 ohm 4m/15m - 8h/day	0.9	min	13.2	11.0	21.5		18
4	LR20 D 13A, 13C	10B	Toy	2.2 ohm 1h/day	0.8	h	16	17.5	26 -> 25.5		25
		10D	Portable stereo	600 mA 2h/day	0.9	h	11	11	18 -> 17.5		17
		10E	Portable lighting	2.2 ohm 4m/15m - 8h/day	0.9	min	750	948	1200		1200
5	6LR61 / **6LP3146** 9V 1604A, 1604C	11A	Clock radio	620 ohm 2h/day	5.4	h	33	38	60 -> 53	48	47
		11B	Smoke detector	620 ohm 1s/hour 10 Kohm background, 24h/day	7.5	days	16	16	29 -> 22	20	20
		11C	Toy	270 ohm 1h/day	5.4	h	12	14	22		21

*EV: end voltage *MAD: minimum average duration Test Condition : 20±2°C, 50±20%RH

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments. See above comments to EPBA. Nordic Ecolabelling agrees in the proposed MAD adjustments at near batterytype LR14 (portable lighting test). Based on data from licensholders and consultation comments Nordic Ecolabelling has lowered the MAD value from 21,5h to 19h.

Panasonic Europé

Based on our competitors survey, internal Panasonic data and the expectations of Nordic Ecolabelling to be able to differentiate high premium vs low premium batteries based on electrical MAD values, we think our proposal, that can be found in attachment, is more in line with reality.

Especially in case of "all eight batteries must meet the minimum permitted operation time specified in Table 1-5", which is basically not in line with IEC definition, we think some adjustments are needed.
[FYI MAD IEC definition: if the average of 8 batteries is equal to or greater than the specified figure (MAD value) and no more than one battery has a service output of less than 80% of the specified figure, the batteries are considered to confirm to service output]

- LR14 Toy Test: Minimum permitted operating time should be set at ~~23 h~~ 22 h
- LR14 Portable lighting Test: Minimum permitted operating time should be set at ~~21,5 h~~ 21 h
- LR14 Portable sterio Test: Minimum permitted operating time should be set at ~~13,5 h~~13 h
- LR6 Digital still camera Test: Minimum permitted operating time should be set at ~~100 pulse~~ 70 pulse
- LR6 Portable lighting Test: (LED) is missing
- LR~~0~~6 Radio(clock/remote control Test: Minimum permitted operating time should be set at ~~48 h~~ 47,5 h
- LR03 Remote control Test: Minimum permitted operating time should be set at ~~24 h~~ 21 h
- 6LR61 Toy Test: Minimum permitted operating time should be set at ~~22 h~~ 21h
- 6LR61 Clock radio Test: Minimum permitted operating time should be set at ~~53 h~~ 49 h
- 6LR61 Smoke detector Test: Minimum permitted operating time should be set at ~~22 days~~ 19,5 days

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to EPBA.
- LR14 Toy Test: Adjusted to 22h
- LR14 Portable lighting Test: Adjusted to 20h
- LR14 Portable sterio Test: Adjusted to 13h
- LR6 Digital still camera Test: Adjusted to 70 pulses
- LR6 Portable lighting Test: (LED) is missing. No the requirement is 370 min
- LR~~0~~6 Radio(clock/remote control Test: Adjusted to 47,5h
- LR03 Remote control Test: Adjusted to 21h
- 6LR61 Toy Test: Adjusted to 21h
- 6LR61 Clock radio Test: Adjusted to 47h
- 6LR61 Smoke detector Test: Adjusted to 20 days

O10 Delayed discharge performance (shelf life)

EPBA
The requirement of providing information on delayed discharge performance will not be possible for new chemistries. This has to be reflected in the requirements.
It is also important to underline that shelf life also greatly relates to the discharge drain levels. Low, middle and high drain profiles are impacted differently during long term storage and even more pronounced when high temperatures are being applied. It is therefore not possible to express this simply by a 5% margin. The execution of this requirement will also lead to significant approval complexity, as for new designs there will be no 12 moth storage data on hand. It remains unclear how this should be handled in an efficient manner.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling it referring to to the testmetode (standard or high temperature test) and specified limit (90% of MAD) described in IEC 60086-1:2015 and IEC 60086-2:2015.

Nordic Ecolabelling agrees that battery-test for 12 month or 13 weeks is challenging for new chemistries/new types of batteries. The requirement has therefore been adjusted; In case the manufacturer of the battery or licensee has not had time to performe a delayed discharge test (new battery design/-chemistries) at the time of application, the licensee must present a specific plan for when the test is started and expected to be completed.

Duracell
It's difficult to get data for new chemistries (no data available when marketing new products) , so not possible upon registering new chemistries.
Please remove as a requirement or suggest alternative = simulation of "One year shelf life" performance based on an accelerated aging test standard. We believe that 13 weeks is still too long and will prevent battery innovations to make it to your market.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above comment to EPBA.

4.3.6 Safety

O11 Lithium battery safety

No comments.

O12 Waste plan

No comments.

4.3.7 Requirements of the authorities and quality requirements O16-O22

No comments.

5 Discussions and conclusions from the Final draft consultation

Several consultation comments have been received to the proposed final draft proposal criteria for Primary batteries, generation 5. The comments concentrates on the proposed new and adjusted requirements. Nordic Ecolabelling is grateful for all-round responses.

The main comments apply to the following sections and requirements:

Electrical testing (minimum average duration, MAD)
Several consultation comments point out that many of the proposed MAD values are too strict. The majority (16/19) of the proposed Minimum Average Duration (MAD) values has been adjusted (lowering).

Packaging
Stakeholders has commented that the requirement to minimum use of 80% by weight post-consumer recycled material in the primary packaging is too strict, and pointed out that pre-consumer cardboard and especially plastic also benefits in the efforts to efficiently manage resources and minimize the burden on the environment. The requirement has therefore been adjusted so that both pre- and post-consumer recycled material can be used in the primary packaging. It has also been clarified that small antitheft RFID components are excluded from the dismantling requirement.

Sourcing of "conflict-free" minerals
Stakeholders has commented that both the requirement and verification guidelines are unclear. The requirement for sourcing of "conflict-free minerals has been clarified - both the requirement and verification guidelines have been updated in the criteria- and background documents.

PVC in batteries and battery labels
Several consultation comments point out that it is not simple to replace PVC in batteries or labels (takes time, may need to replace equipment, -machines and suppliers) and is it feasible at all. Nordic Swan Ecolabelling criteria, generation 4, will be prolonged for 6 month so it is valid until 31/03-2020 which give room for a long transition period to phase out the use of PVC in batteries

The table below gives an overview of the changes that have been made in the criteria document based on received consultation response in the final draft proces:

Table 5: Overview of changes done in the generation 5 of criteria for primary batteries, based on received consultation responses in the final draft proces.

Require-ment	Cunsultation comments	Change in the requirements after the consultation
O2	There is no measurable difference between 10 and 7.5 ppm. This difference of only 2.5 ppm does not meaningfully impact the lead content in batteries.	The requirement to lead has been adjusted from 7,5 ppm to 10 ppm – the same limit in generation 4.
O4	Both pre-and post-consumer recycling bring similarly weighted yet significant benefits in the efforts to efficiently manage resources and minimize the burden on our environment. It is not simple to replace PVC in batteries or labels (takes time, may need to replace equipment, -machines and suppliers) and is it feasible at all.	The requirement has been adjusted allowing both pre- and post consumer recycled material in the primary packaging. The total proportion of pre- and post-consumer recycled material in the primary packaging for the batteries must be at least 80% by weight. New requirement: The battery label must not contain PVC or other halogenated organic compounds.
O5	If the batteries are suitable for all different types of energy-consuming appliances it should be possible to use text instead of several pictograms.	The requirement has been adjusted. If the batteries are suitable for all different types of energy-consuming appliances (high-, medium- and low) it is possible to use text instead of several pictograms in order to guide the consumer to the right battery choice.
O6	Both the requirement and verification guidelines is unclear.	The requirement for sourcing of "conflict-free minerals has been clarified - both the requirement and verification guidelines have been updated in the criteria- and background documents.
O9	Many of the proposed MAD values are too strict compered to the values listed in the IEC 80096-2.	The requirement has been adjusted. The majority (16/19) of the proposed Minimum Average Duration (MAD) values has been adjusted (lowering).
O10	The requirement of providing information on delayed discharge performance will not be possible for new chemistries or new battery design.	In case the manufacturer of the battery or licensee has not had time to performe a delayed discharge test (new battery design/-chemistries) at the time of application, the licensee must present a specific plan for when the test is started and expected to be completed.

6 Comments to the three Pre-Consultation criteria in detail

The various comments from the consultation stakeholders have been inserted below and grouped in relation to the specific requirement. Nordic Ecolabelling has given a response to all comments and described if the requirement has been adjusted. In section 6, you find a table showing all the changes that has been done in the criteria document after the consultation.

6.1 General comments

Recser Oy
Thank you for well formulated draft criteria revision papers for ecolabel of primary batteries. Liisa-Marie Santakoski, MD for Recser Oy has had some previous mailings with you on the topic, and as I am filling in for her while on maternity leave, I wanted to continue that discussion.

Recser Oy is a producer responsibility organization for portable batteries and accumulators in Finland. Last year (2017) we collected and recycled over 1 400 000 kg, mostly Primary Batteries, and routes are relatively established both for collection and recycling.

The issue for national collection&recycling organizations lies more in the complexity of trade routes and local importer participation in the available schemes, freeriding is easy. One Portable battery on the market could well be a “free rider” even though it has the EcoLabel.

I would still like to see some kind of requirements that would support producer responsibility and 2006/66/EC aims. The part about materials content information is supporting recycling route planning as such, but we still needs more active approach to achieve safe collection. In general a responsible producer should already when releasing a product on the market have some visions on how it can be safely collected and what recycling options are available for that product. This impacts both “Use of resources in batteries and packaging” as well as “ consumer information”.
I guess this is under recycling -topic, just wanted to send a note.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments and agrees that recycling of batteries is a very important step in the lifecycle of primary batteries. In this revision Nordic Ecolabelling has focusing both on the resources used in the batteries and packaging material, as well as consumer information on the battery and primary packaging. The requirement O2 (metal content of batteries and requirement) and O5 (consumer information on the battery and primary packaging) supports the Battery Directive 2006/66/EC in setting strict limits for the use of substances that are harmful to the environment and information on how to recycle batteries.

Kommerskollegium
Sammanfattning
Kommerskollegium bedömer att rubricerat förslag omfattas av anmälningsplikt enligt förordning (1994:2029) om tekniska regler.

Kollegiet bedömer däremot att förslaget inte aktualiserar om anmälningsplikt enligt förordningen (2009:1078) om tjänster på den inre marknaden.

Kommerskollegiums uppdrag

Kommerskollegium ansvarar för frågor som rör utrikeshandel, EU:s inre marknad och handelspolitik. Kommerskollegiums uppdrag är att verka för frihandel. Det innebär att vi verkar för fri rörlighet på den inre marknaden och för liberaliseringar av handeln mellan EU och omvärlden samt globalt.

Anmälan av tekniska föreskrifter

Enligt förordningen (1994:2029) om tekniska regler ska förslag till teknisk regel anmälas till Kommerskollegium.

Förordningen om tekniska regler genomför bestämmelser om anmälningsskyldighet i Europaparlamentets och rådets direktiv (EU) nr 1535/2015 om ett informationsförfarande beträffande tekniska föreskrifter och beträffande föreskrifter för informationssamhällets tjänster[17].

Tekniska regler som ska anmälas är till exempel krav på produktegenskaper, provning, tillverkningsmetoder och användningsvillkor[18].

Nordisk miljömärkning föreslår nya kriterier för användning av resurser och förpackning för ekomärkning av batterier. Enligt Kollegiets bedömning innehåller förslaget sådana tekniska krav på varor som avses i 2 § punkten 2 i förordningen (1994:2029) om tekniska regler. Som exempel kan nämnas kravet på att den totala andelen återvunnet material i den primära förpackningen för batterier måste vara minst 80 viktprocent (O4). Som exempel kan även nämnas förbudet mot att använda PVCplast i produkter och förpackning.

Beträffande frågan huruvida förslaget är anmälningspliktigt enligt förordningen om tekniska regler kan nämnas att krav som är frivilliga som regel inte omfattas av anmälningsskyldigheten. Om de frivilliga kraven däremot har eller kan få en sådan bindande effekt att de blir en förutsättning för marknadstillträde, kan kraven i fråga behöva anmälas. Kommerskollegium har tidigare förklarat att Svanenmärkningen är en sorts statlig certifiering som kan innehålla faktiskt bindande tekniska regler[19]. Kollegiet kan inte avgöra om de nu aktuella kriterierna har eller kan få en sådan bindande effekt att de behöver anmälas, utan vi hänvisar till Nordisk Miljömärkning Sverige AB för sådan bedömning. Kollegiet finns tillgängligt för samråd.

En anmälan till kollegiet görs lämpligen genom att skicka in en s.k. § 6-underrättelse till Kommerskollegium.

17 L 241/1 17.9.2015.

18 2 § 1 p. förordningen (1994:2029) om tekniska regler.

19 Kommerskollegiums utredning; ”Bör kriterier för nordisk miljömärkning av varor (Svanenmärkning) anmälas enligt direktiv 98/34/EG?” i dnr 2015/00018-2.

Information om hur ett sådant formulär fylls i finns i Kommerskollegiums vägledning om anmälningproceduren[20]. Innan ni anmäler kriterierna till Kommerskollegium bör följande text läggas till i föreskriftsförslaget:

Anmälan av nya krav påtjänsteverksamhet
Enligt tjänstedirektivet[21] är Sverige skyldigt att anmäla nya eller förändrade krav på tjänsteverksamhet till kommissionen. I remissen ställs ett antal krav för att erhålla Svanenmärkning för batterier. Vissa av dessa krav rör hur produkterna ska testas av laboratorier samt andra krav på dessa laboratorier. Deras verksamhet utgör en tjänsteverksamhet som omfattas av tjänstedirektivet, vilket aktualiserar frågan om anmälningsplikt.

Enligt kollegiets uppfattning kan den typ av statlig[22] certifiering som Svanenmärkningen utgör anses vara ett krav i tjänstedirektivets mening. Definitionen av krav är bred och omfattar inte bara bindande lagstiftningsåtgärder[23]. Anmälningsplikten förutsätter emellertid att tjänsteleverantören *måste* uppfylla det aktuella kravet för att få tillträde till, eller utöva, tjänsteverksamheten. Därav följer att krav som är frivilliga i regel inte omfattas av anmälningsplikten.

Även om de aktuella kriterierna till sin effekt skulle bli bindande på grund av Svanenmärkningens ställning på marknaden för batteri behövs dock ingen anmälan enligt tjänstedirektivet eftersom de då bör anmälas enligt anmälningsdirektivet[24] för tekniska regler[25].

Nordisk Miljømærknings kommentar
Nordisk Miljømærkning takker for remissvaret. Vi har noteret kommentarerne, men da de ikke specifikt handler om indholdet i forslaget til reviderede kriterier for Svanemærkede primære batterier vælger Nordisk Miljømærkning ikke at svare i denne remissammenstilling.

20 http://www.kommers.se/publikationer/For-myndigheter-och-kommuner/Vagledning-omanmalningsproceduren-for-tekniska-foreskrifter-och-e-tjanster--Sa-paverkas-myndigheter/.

21 Europaparlamentets och rådets direktiv 2006/123/EG om tjänster på den inre marknaden, artiklarna 15.7 och 39.5

22 Det är Nordiska miljömärkningsnämnden, ett organ som inrättades av de nordiska konsumentministrarna (men som nu styrs av Nordiska ministerrådet för miljö) som fastställer de produktspecifika kriterierna för Svanenmärkning. Nämnden fattar beslut efter förslag som de nationella miljömärkningsorganisationerna förbereder genom samarbete i den samnordiska föreningen Nordisk miljömärkning.

23 Begreppet ”krav” omfattar enligt tjänstedirektivets artikel 4.7 varje ”skyldighet, förbud, villkor eller begränsning som föreskrivs i medlemsstaternas lagar eller andra författningar eller som följer av rättspraxis, administrativt förfarande, regler från yrkesorganisationer eller kollektiva regler som yrkessammanslutningar eller andra branschorganisationer har antagit som ett led i utövandet av sitt rättsliga oberoende”.

24 Direktiv (EU) 2015/1535 om ett informationsförfarande beträffande tekniska föreskrifter och beträffande föreskrifter för informationssamhällets tjänster

25 Artikel 15.7 i tjänstedirektivet.

6.2 What can carry the Nordic Swan Ecolabel?

Zhejiang Hengwei battery Co
Products that may be Nordic Swan Ecolabelled, we are OK with this

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

6.3 Comments on specific criteria

6.3.1 Production and product description

O1 Description of the product

Zhejiang Hengwei battery Co
O1, we are OK with this

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

Duracell
Name and contact details of production location(s) for the manufacture and brand owner(s) of batteries
Duracell comment :
Across the globe Duracell has different manufacturing locations for alkaline AA-AAA, C-D batteries and contract manufacturers for alkaline 9V batteries. This is probably true for the others as well. We suggest to provide one main production site, preferably one based in Europe together with one single point of contact who will liaise with you to make communication with the company quick and efficient for you.

Description of the manufacturing process for the product
Duracell comment :
The manufacturing process for primary alkaline batteries is a complex process and difficult to describe in one comprehensible flow chart. We suggest to either remove this topic or replace it with a more flexible requirement that allows the possibility to share an educational video of our manufacturing process for an internal NS audience (similar to the videos we use to educate our customers) in order to meet the need.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. It is important that Nordic Ecolabelling gets information on all production sites producing Nordic Swan ecolabelled primary batteries as several requirements involves the individual production site, e.g. waste-handling and quality requirements. In connection with handling of the application, Nordic Ecolabelling normally performs an on-site inspection on all production sites to ensure adherence to the requirements. Overall, we still just want one primary contact person who is responsible for the license.

Regarding the requirement for description of the manufacturing process, it is okay to use an educational video as documentation for the requirement.

Nordic Ecolabelling wants a general description of the batteries manufacturing process and which technology that is being used to produce the batteries.

Energizer Brands, LLC
The last bullet point states "Description of the manufacturing process for the product". It is not clear what is expected to be submitted for this requirement. Energizer recommends some additional detail be provided here as to what Nordic Swan would like to see regarding the manufacturing process.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. As documentation for the requirement Nordic Ecolabelling wants a general description of the batteries manufacturing process and which technology that is being used to produce the batteries.

EPBA
It is important to note that much of the detailed level of information requested is of a proprietary nature. We take it as normal therefore for the Nordic Swan to guarantee the confidentiality of this data.

This requirement does not take into account the practicalities of the commercial arrangements within the battery industry. It is a reality that companies purchase batteries from other manufacturers. This complicates sharing sensitive information with potential competitors.

However the most relevant omission from this criteria is that it does not specify the sample preparation and analytical method which have to be used for the chemical determinations. Also, a complete chemical appellation may not always be possible in the case of complex and natural substances e.g. gellants and adhesives.

Finally, it is unclear to what level of detail the manufacturing process has to be described as well as what the overall added value is of including such a description. EPBA therefore proposes to remove this requirement.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling guarantee the confidentiality of all data received from license holders, applicants, subcontractors and other stakeholders.

Nordic Ecolabelling wants a description of the batteries (detailing all constituent substances, metals, other solid and liquid substances present in the batteries). This information is relevant in order to get detailed information on the material composition in order to fully understand the products and future requirements for the use of resources. As help for documentation of requirement 1 (product description), appendix 1 has been adjusted so it is clear that we want information on cathode-and anode ingredients , electrolyte solutions, conductor-, separator- and container ingredients and other materials.

Nordic Ecolabelling wants a general description of the batteries manufacturing process and the technology used in order to give an insight into the product(s) in the application, in order to ensure the application is processed correctly.

6.3.2 Resources

O2 Metal content of batteries

Spectrum Brands Group (Varta)
Proposed change of lead metal content limit from 10.0 to 5.0 ppm.
We are of the opinion that the new limit of 5.0 ppm would be to drastic. Our internal analysis results show that very often the lead concentration limit is slightly below 5.0 ppm, but actually not always. This is the case even with no intentional added lead in our raw materials, or during the battery production process. This is just based on natural raw material variation. If Nordic Ecolabel intends to reduce the lead concentration limit for the revised criteria we think that 7.5 ppm would a workable approach.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We agree that the proposed change of lead metal content limit from 10,0 to 5,0 ppm is to strict and therefore adjusted it to 7,5 ppm. We are aware of the standards current detection limits requires high quality measuring instruments which is now clarified in the requirement.

Zhejiang Hengwei battery Co
O2, for heavy metal issue, we believe most good manufacturer could fulfill the requirement like us,
from 10ppm to 5ppm of Lead, We could see the determination of Nordic Ecolabeling in environmental battery developments.
We are supporting on this change.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to Spectrum Brands.

Duracell
<u>The metal content of the battery may not exceed the following limits : Lead < 5ppm</u>
Duracell comment :
When checking our files we found that in the past in some cases Duracell had Pb are not in our control and Pb measurements variances depending on sensitivity of the measuring instruments and variability from different labs, we wish to push to keep the current Nordics Pb limit levels at 10ppm as it is today which is already 4 times(4x) more strict than the battery directive.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to Spectrum Brands.

Energizer Brands, LLC
The ppm limit for lead is being dropped from 10 ppm to 5 ppm. Lead is a naturally occurring element in some substances used in batteries. Lead is not intentionally added to the vast majority of primary batteries. Additionally, the detection limit for the current test method determining lead levels is 10 ppm. Energizer does not recommend moving the limit down to 5 ppm as it will require new test methods with increased detection limits and since lead is naturally occurring, it may disqualify quality products unnecessarily.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to Spectrum Brands.

EPBA
We have strong reservations with lowering the limit for Pb in batteries which will be a very challenging threshold and below current standard detection limits. Due to the very low proposed limit, elements beyond the control of the manufacturer – e.g. naturally occurring impurities in raw materials which are supplied to the manufacturer – could even influence whether the limit will be met or not.

We therefore request that the current limit for Pb will be maintained in the revised requirements.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to Spectrum Brands.

O3 Plastic

Det Økologiske råd
Chlorine-based plastic may not be used in primary batteries. Der bør anvendes "must" i stedet for "may".
Generelt bør enheden mg/kg anvendes i stedet for ppm, som normalt anvendes til gasser.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you and agrees in your comments. It now says, "must" instead of "may" in the requirement. The EU's Battery Directive 2006/66/EC (2006) is using ppm regaring the concentrations of three metals, and that is way Nordic Ecolabelling is using the same entities.

Spectrum Brands Group (Varta)
No PVC labels are allowed
This is a long awaited requirement from Nordic Ecolabel and it is generally achievable, provided there is enough implementation time for the license holders. Based on our assumption that the PVC free labels will be not required before November 2019 we are O.K. with it. Just a side comment, as you intend to implement this new requirement due to environmental reasons. You have to be aware that to date there are no acceptable PVC free battery labels being produced in Europe, however in China such sources do exist. In our case this will mean that we have to switch from a local supply source to far east supply.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Swan Ecolabelling criteria, generation 4, is valid until 31/10-2019 which give room for a long transition period to phase out the use of PVC labels. Nordic Ecolabelling hope that the battery label producers in Europe starts to produce PVC-free labels.

Zhejiang Hengwei battery Co
O3, We have reviewed our battery structure in internal discussion, the only plastic used is gasket, currently our gasket is made of Nylon66 (Polyamide)
There is no chlorine in this substance, I believe most manufacturer should have same structure like us, so we support on this change.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Good to see that you already have taken the step to face-out the use of PVC-labels.

Duracell
Chlorine-based plastic may not be used in primary batteries
Duracell comment :
Like in the past Duracell's aim is to be compliant with the updated Nordic Swan regulation. However, this fundamental change of shifting to have zero pvc for the entire product line-up (i.e. in the battery, labels, all packaging), will require thorough and comprehensive feasibility studies to find high quality alternatives which still meet today's standards. The readiness may require technological (replacing equipment's and machines) and structural investments that may not be feasible within the grace period required to comply once this make it to the standard.
Our R&D/packaging team currently assess risks and opportunities of moving away from PVC to non-PVC alternatives. We will inform you about outcome of this assessment and realistic timelines of change in due time.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. We are very interested in the outcome of the assessment.

EPBA
The criteria to remove PVC from primary batteries will require a detailed feasibility assessment to make sure that the replacement will not have any impact on the performance of the batteries. In addition, this may also have repercussions for the production process.

In particular, some types of 9-volt batteries (rectangular cell alkaline/zinc-carbon) are using PVC-separators between the individual 1,5V cells instead of other types of plastic such as PE, PE and nylon. In addition, for some 9-volt alkaline batteries the specific construction of the casing consist of material in PVC. It has to be understood that for some applications, it is not a simple change to switch existing PVC to other non-chlorinated materials.

We therefore recommend that first an impact assessment is being carried out to better understand the repercussions of this criteria.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The proposed requirement to exclude the use of PVC in batteries and labels are new to Nordic Ecolabelling, and we do not have the full picture of the extent of using PVC in batteries. We do see alternative materials to PVC being used in 9V batteries (PE and nylon) so we know it is possible to exclude PVC in batteries.

The EPBA published 2016 report[26] for national collection of waste portable batteries in the EU as well as Norway and Switzerland shows that only around 50% in average of all sold batteries are being collected for appropriate waste management. This means that potentially half of all batteries ends up in wrong waste streams or the nature where they form an environmental risk regarding heavy metals and also PVC.

6.3.3 Packaging and information

O4 Packaging

Zhejiang Hengwei battery Co
O3 and O4 merge, we think the clear statement of battery is best for consumer, and except the using hints to customer.

We also want to suggest that some warnings is better put on the battery primary packaging like keep our of children, do not recharge and so on,
We understand that maybe retailers may do it spontaneously, but if it could be written into regulation will be good thing .

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling believes it is better for transparency to have two defined requirements for materials used in batteries and materials used in packaging.

Requirement O5 sets requirements for customer information on both the battery and primary packaging. The use of specific warning pictograms, e.g. keep out of children, is not part of the EU battery directive or IEC 60086:2015 and therefore we have chosen not to set specific requirements for this.

Energizer Brands, LLC
The current packaging criteria focuses solely on plastics. Energizer proposes to also include criteria focused on fiber materials (i.e. paperboard). We propose adding criteria for 50% +/- 10% post-consumer recycled fibers in paperboard packaging. Additionally, since there is natural fluctuation in the amount of post-consumer materials in resins, we recommend making the 80% post-consumer requirement a nominal rate by revising the criteria to be 80% +/- 10% post-consumer materials. This will account for the fluctuating post-consumer materials received from suppliers for packaging.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The proposed requirement for use of minimum 80% post-consumer recycled material, apply to all types of materials e.g. paper, cardboard, plastic and so on, used in the primary packaging. The requirement is identical to the requirement in today's generation 4 criteria, which has not caused big problems for applicants. Therefore, Nordic Ecolabelling wish to maintain the requirement.

[26] https://www.epbaeurope.net/wp-content/uploads/2018/03/Report-on-the-portable-battery-collection-rates-Update-Dec-17.pdf (visited May 2018)

EPBA
In general it should be achievable to have PVC free labels and packaging, provided there is enough implementation time for the license holders. However, since this requirement is proposed from an environmental perspective, it is important to point out that, at this moment, there are no acceptable PVC free battery labels being produced in Europe. For the batteries being produced in Europe, these labels will have to be sourced from Asia which of course also has a considerable environmental footprint.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Swan Ecolabelling criteria, generation 4, is valid until 31/10-2019 which give room for a long transition period to phase out the use of PVC labels. Nordic Ecolabelling hope that the battery label producers in Europe starts to produce PVC-free labels.

O5 Consumer information on the battery and primary packaging

Spectrum Brands Group (Varta)
Mandatory Manufacturing date on the primary packaging
In our case we are using the BEST BEFORE approach as it is the most clear indication towards the consumer on how long this product is suitable for use.

Using the manufacturing date instead does not provide the same level of relevant information. We would also generally question any 'cherry picking' approach at the POS. If all consumers would actively do that, you would finally generate obsolete products in each retail outlet. This would generate a negative impact on the environment, as unused and good product will end up as waste. Especially in the food sector there is currently quite a rethinking going on based upon the huge quantity of well consumable food that is being discarded each day just as they have reached their date. We believe there should be no freshness competition being triggered at the battery shelves on top.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling are aware of that a requirement for" date of manufacturing" may lead to a "cherry picking" approach from the consumers, leaving a large amount of "old" batteries on the marked. Nordic Ecolabelling therefore propose to make it optional in the requirement to choose between "date of manufacturing" or "best before" as information on the primary packaging.

Zhejiang Hengwei battery Co
O5, this is good idea, actually, in our internal discussion for Ecolabeling revision, our technician also mentioned that some other product is marked
"the product is produced under ISO9001 system" some words like this, and suggested that we could also mention this point to you;
So when you ask to mark " the product is produced in accordance with EN60086" we think our point is same.

Also, we could mark" the product is produced in accordance with Nordic Ecolabeling" if this is possible.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement to "The battery must be marked in accordance with IEC 60086:2015" is referring to the specific marked requirements in IEC 60086. According to EN 60086:2015 batteries shall be marked with: expiration of a recommended usage period, nominal voltage, name or trademark of the manufacturer or supplier, cautionary advices and safety pictograms for lithium batteries.

The use of the Nordic Swan logo on the battery or primary packaging will signal that the batteries meet the Nordic Ecolabelling requirements. It is of course also possible to supplement the use of Nordic Swan logo with a text according to Nordic Ecolabelling regulations.

Energizer Brands, LLC
In version 4 of the criteria there was a clause that stated "If the batteries are suitable for all different types of energy-consuming appliances, according to R9 table 1 – Household batteries and 2 – Photo batteries, no pictogram showing this is needed. In this case, the end user shall be informed that the batteries are suitable for all appliances, through for example text on the packaging or similar." Energizer feels this option should remain in version 5 as it supports a single battery to be used for multiple applications.

By removing this clause, it does not support manufacturers to make a well-rounded battery for multiple applications and could negatively impact the environment.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling considers it is difficult to communicate that the battery is suitable for all appliances without the pictograms. We do see products on the market that uses several pictograms to day. Therefore, Nordic Ecolabelling propose to maintain the requirement in generation 5 of the criteria.

EPBA
We support the link with EN 60086 for the labelling requirements. It is however important that this should be interpreted in a consistent way. The relevant IEC standard leaves the option to the manufacturers to either use the manufacturing date or the 'best before date'. We would therefore strongly recommend that this option will be reflected as well in the revised requirements.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling agrees to make it optional to choose between "date of manufacturing" and "best before" in the requirement for information on the battery and primary packaging.

6.3.4 Corporate Social Responsibility

O6 Sourcing of "conflict-free" minerals

Zhejiang Hengwei battery Co
O6 sourcing of conflict free minerals

Frankly Speaking, we are strange on this change, because the listed metal or what say Mineral of Tin, Tantalum, Tungsten, gold and Cobalt, they are not main ingredient in batteries.

Some of them does not exist, some of them even exists are showing in PPM grade.
The mineral thing basically is nothing to do with our sourcing and production, we do not think battery needs massive minerals of above elements.
Currently we are not sure about if this standard is for all category in battery aspect,
But for primary battery, it is really NOT applicable,
Our suggestion is this point O6 is not necessary in primary battery

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The requirement is supporting the new EU regulations that will be enforced in 2021[27]. The main difference is that Cobalt is part of the requirement in Nordic Ecolabellings criteria and not the future EU regulation. More than half of the cobalt on the world market is extracted in DRC under hazardous working conditions, where child labour is used, among other things[28]. This is why Nordic Ecolabelling has decided to include cobalt in this generation of the criteria.

EPBA
The proposed requirement for conflict minerals should not include Cobalt. To the best of our knowledge no recognised due diligence programme is in place to cover this substance. As a consequence, producers of portable batteries will not be able to evaluate this in their supply chain.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Nordic Ecolabelling is aware of that currently no recognized due diligence program exist for cobalt, but several promising initiatives is on its way, e.g. CRT[29] and
https://www.sourceintelligence.com/cobalt-sourcing-due-diligence/

Nordic Ecolabelling does not set a requirement to use a specific due diligence program, only that the licensee describes their due diligence activities along the supply chain.

Energizer Brands, LLC
In both the US and future EU Conflict Minerals regulations only tin, tantalum, tungsten and gold are included in due diligence programs. The Responsible Business Alliance (RBA) trade association has created a robust program for auditing of smelters, vetting of smelters which are not valid and providing documentation and workbooks to assist in the due diligence process for all companies. At this time there is not a robust program for cobalt. The RBA is working on setting up a similar program for cobalt but this is likely about 2 years from completion.

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[27] http://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/ (visited May 2018)
[28] Amnesty International, "This Is What We Die For, Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt", 2016.
[29] http://www.responsibleminerals initiative.org/emerging-risks/cobalt-reporting-template/ (May 2018)

Therefore Energizer does not recommend including cobalt at this time as most companies cannot fully investigate our supply chains for this mineral.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to EPBA.

Spectrum Brands Group (Varta)
We are O.K. with this requirement.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

Duracell
Agree.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

O7 Sourcing of critical raw materials

EPBA
Primary batteries require the use of cobalt and rare earth metals which are to be considered as a critical component.
There is currently no viable substitution available which means that these cannot be phased out of the existing primary battery technologies.

As a general principle, any discussion on phasing out substances should be based on a complete risk assessment taking into account all scientific evidence as well as all three pillars of sustainable development (social, economic and environment). Simply phasing out substances from batteries without the availability of a proper substitute material can impact for instance the life span of the batteries resulting in less performing products which, consequently, would result in more waste which goes against the overall objective of the Nordic Swan principles.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. This is a new requirement in generation 5 of the criteria, and we agree that it is not easy and simple or realistic in the nearest future to phase out some of the listed critical material. The requirement has been adjusted so it is clear that we mean face out ***in the long term****/ recycle any critical raw materials in the batteries, support recycling programs for collecting used batteries, and minimize the use of limiting minerals in the future.*

Zhejiang Hengwei battery Co
O7 Sourcing of critical raw materials
Our technician checked the list of these critical raw materials, we think the conditions could be divided into 3

1. Borates, Fluorspar, Magnesite, Natural Graphite, Phosphate rock Platinum Group Metals, Rare Earth elements, silicon metal, these substances do not exist in battery sourcing and production,
   So we are not sure why it is in the list.

2. Antimony Beryllium, Chromium, Cobalt Gallium Germanium, Magnesium, Niobium Tungsten, these substances exist in battery, but the conditions are totally in PPM grade,
   These are some residues in main ingredient of Zinc, and EMD, every batch of our incoming raw material will be offered a checking list for these heavy metals, and the limits are already in PPM grade
   If you want to completely phase out these in raw material, we think this is not possible. For example, do you agree that in the air, there is also containing harmful substance? The point is the percentage is not harmful for human body, just like this!
3. Indium element, the chemical contain this is very important additive for battery, to decrease the gassing when battery reaction, it could effectively decrease the leakage percentage,
   We don't see in short time it could be replaced by other substance, and at the same time, the percentage is also PPM grade, so under this condition, we don't the value to do this action

In general, the list of critical raw materials, is part of not applicable, part of not so making sense, and part of not possible.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The list of raw materials produced by EU is *based on the entire European market, not just the market for batteries.*

Therefore, some of the materials is not relevant for today's battery production, but it might change in the future. Nordic Swan Ecolabelling requires the license holders to address the concerns regarding the use of critical raw materials. In order to do so, the licensee must submit a written policy that describes how the licensee works actively to phase out (in the long term) or recycle any critical raw materials in their batteries, battery chargers and portable chargers.

Energizer Brands, LLC
Primary batteries' active substances require the use of cobalt and rare earth metals (from CRM list). These materials cannot be phased out of primary batteries as they are critical to the chemistry of this battery types. Energizer recommends not to include a requirement to phase out these substances.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to EPBA.

Spectrum Brands Group (Varta)
The use of conductive material is fundamental for an alkaline battery to function properly. Graphites are used for that purpose. Our estimation is that at least 50% of the graphites being used are natural graphites. The remainder are synthetic graphite grades. In principal natural graphites can be replaced by synthetic graphites, but we question that this is a benefit for the environment, as the synthetic graphite production process requires depleting resources as input material (coke or mineral oil) and on top a lot of energy for this high temperature process.

On the recycling side graphite contained in spent batteries is not being recycled to extract the graphite by itself. The graphite in the battery scrap input serves as reduction agent during the pig-iron production process, and reduces therefore the amount of coke being needed otherwise.

Cobalt is also used in many alkaline batteries as it is ideal to boost electrical performance especially under long term storage. To some extent cobalt can be replaced by graphite for this purpose but it is not as effective. Cobalt in spent alkaline batteries cannot be extracted as such, but serves as an alloying element for the created pig-iron.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Se above answer to EPBA.

Duracell
Disagree
For Duracell, environmental sustainability in relation to our batteries starts above all with our efficient technology. If a battery if highly efficient, very performant, retains its power over a ten years storage period and long-lasting while being absolutely safe for consumers, simply less unnecessary waste is created. Cobalt, Indium, natural graphite are key ingredients of our alkaline battery technology ensuring the above mentioned. If we were to take those ingredients out, our batteries will fall short on all qualities afore mentioned and more unnecessary waste will be created. Currently no viable alternatives for those three material exist.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Se above answer to EPBA.

O8 Working conditions

Zhejiang Hengwei battery Co
O8 Working conditions
For this point, we are totally OK with this
To work with European Customers, we already implement BSCI code of conduct, it is a social responsibility system, and including all the parts of UN's principles,
We think this is necessary for a enterprise to serve for Nordic countries' market,
Also in China, social responsibility and environmental issues are becoming more and more important,
We think this is good point we should follow.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

Energizer Brands, LLC
Energizer agrees with the need to ensure fair and just working conditions. The requirement to follow the UN Conventions is noted as the preferred option to prove appropriate working conditions. However there are other means to ensure good working conditions and Energizer feels other ways to provide assurance that proper working conditions are maintained should be an alternative option. Energizer recommends noting the UN conventions but also allow for other equivalent means of showing a company ensures proper working conditions for their immediate employees and also the companies suppliers.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. The UN Global Compact is the world's largest corporate sustainability (a.k.a. corporate social responsibility) initiative with 13000 corporate participants and other stakeholders over 170 countries[30]. Nordic Ecolabelling is requirering that the licensee must have a written Code of Conduct that explains how the licensee ensures compliance with two UN conventions and the UN Global Compact at component and battery suppliers. Nordic Ecolabelling does not set specific requirements for the content of the code of conduct, which results in a high degree of flexibility to comply with the requirement.

Spectrum Brands Group (Varta)
We are O.K. with this requirement.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

Duracell
Agree.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

6.3.5 Electrical testing

O9 Electrical testing (Minimum average duration, MAD)

Zhejiang Hengwei battery Co

1) The requirement for approval is too strict comparing with IEC standard, below is quoted from IEC standard definition:

Quote

5.3 Conformance check to a specified minimum average duration

In order to check the conformance of a battery, any of the application tests or service output tests specified in IEC 60086-2 may be chosen.
The test shall be carried out as follows:
a) Test nine batteries.
b) Calculate the average without the exclusion of any result.
c) If this average is equal to or greater than the specified figure and no more than onebattery has a service output of less than 80 % of the specified figure, the batteries are considered to conform to service output.
d) If this average is less than the specified figure and/or more than one battery has a service output of less than 80 % of the specified figure, repeat the test on another sample of nine batteries and calculate the average as previously.
e) If the average of this second test is equal to or greater than the specified figure and no more than one battery has a service output of less than 80 % of the specified figure, the batteries are considered to conform to service output.
f) If the average of the second test is less than the specified figure and/or more than one battery has a service output of less than 80 % of the specified figure, the batteries are considered not to conform and no further testing is permitted.

30 https://www.unglobalcompact.org/docs/publications/UN_Global_Compact_Guide_to_Corporate_Sustainability.pdf

NOTE Discharge performance of primary batteries is specified in IEC 60086-2.
Unquote

Then actually we could see from IEC definition, if the average value is equal or more than the specified value, the test will be deemed PASS；your standard said the 9 batteries must all meet the specified value. We think it is higher than IEC, and the problem is your requirement is already very high comparing to IEC standard, then you fix such standard. We think it is not a good idea.

2) The detailed value

We are not sure where you get these datas, but we think most factories have their own advantages, in this group of datas, some of our data could be better than this one, and some of our data is not good as this one; So it has no common values.
We suggest that you could check all members data and then take some average value for final standard

Next you will see Hengwei's data as comparison to yours, we hope you could check and take all different advices.

LR20 3 items have been changed:

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
LR20	Portable Lighting	2.2 Ω	4 min on, 11 min off for 8 h per day	0.9	20 h	21 h
LR20	Toy	2.2 Ω	1 h	0.8	26 h	24 h
LR20	Portable stereo	Current drain 600 mA	2 h	0.9	18 h	17.5 h

LR14 NO CHANGE:

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
LR14	Toy	3.9 Ω	1 h	0.8	23 h	23 h
LR14	Portable lighting	3.9 Ω	4 min on, 11 min off for 8 h per day	0.9	21.5 h	21.5 h
LR14	Portable stereo	current drain 400 mA	2 h	0.9	13.5 h	13.5 h

LR6 1 item has been changed:

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
LR6	Digital Still Camera	1500 mW 650 mW		1.05	100 pulses	100 pulses
LR6	Portable Lighting	3.9 Ω	4 min on, 56 min off for 8 h per day	0.9	370 min	400 min
LR6	Motor/toy	3.9 Ω	1 h	0.8	8 h	8 h
LR6	Toy, Non-motorized	250 mA	1 h	0.9	8 h	8 h
LR6	CD, digital audio wireless gaming and accessories	100 mA	1 h	0.9	24 h	24 h
LR6	Radio/clock/remote control	50 mA	1 h on, 7h off for 24 h per day	1	48 h	48 h

LR03 There is one application you copied wrongly, the remote control according to IEC should be 24 Ω not 75 Ω and one item has been changed.

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
LR03	Portable Lighting	5.1 Ω		1.05	100 pulses	100 pulses
LR03	Toy, Non-motorized	5.1 Ω	4 min on, 56 min off for 8 h per day	0.9	370 min	400 min
LR03	Digital Audio	50 mA	1 h	0.8	8 h	8 h
LR03	Remote control	75 Ω	4 h	0.9	24 h	N/A
LR03	Remote control	24 Ω	15 s per min 8 h per day	1.0	N/A	21 h

6LR61 We have checked all the internal datas of 9V, and also some big brands like Duracell and Energizer testing in our lab. We never got your datas, so we think your data has no common value for most factories, it must be revised.

Battery Dimension	Application	Load	Daily period	EV(V)	MAD	Hengwei Suggested MAD
6LR61	Toy	270 Ω	1 h	5.4	22 h	22 h
6LR61	Clock radio	620 Ω	2 h	5.4	60 h	52 h
6LR61	Smoke detector	Background 10 kΩ pulse:0.62 kΩ	1 s on, 3599 s off for 24 h day	7.5	29 days	22 days

In general, if you are just following on factory's advice, we think this is not fair for most other factories, it is better to collect as much as datas and conclude a common value for all.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments.

1) *In today's criteria, generation 4, Nordic Ecolabelling is also requirering that all 9 batteries must meet the test requirements. The requirement has not immediately caused problems for licensees. Nordic Ecolabelling has realized that the new standard IEC 60086-1:2015 only requires test of 8 batteries and therefore Nordic Ecolabelling also adjust the requirement to test of 8 batteries.*
2) *The requirement to the minimum permitted operation time has been adjusted according to test-data from existing licensees (15 licenses) and external battery test[31].*
   Nordic Ecolabel agrees that it is difficult to set a requirement for the different battery dimension, e.g. LR 20 and the three applications, compared to the specific MAD-requirement in the IEC 60086-2:2015, as these vary within the individual battery dimension. However, there is a lot of data behind the suggested MAD values.
3) *LR20: Nordic Ecolabeling suggest that the MAD-reguirement is approx. 60% above the specific MAD-requirement in IEC 60086-2:2015 for the three applications. Therefore the MAD value for toy is adjusted from 26 h to 25,5 h and portable stereo from 18h to 17,5 h.*
   LR03: Nordic Ecolabelleling agrees that we have made an error in the requirement for remote controlles compared to IEC 60086:2015 (Load, Daily period and EV(V). The requirement has been adjusted to the standard.
   6LR61: Nordic Ecolabelling agrees that MAD limits for clock radio and smoke detector is too strict (80% above the MAD limit in IEC 60086-2:2015). The MAD value to clock radio is suggested to be adjusted to 53 h (60% above the standard) and smoke detector to 22 (40% above the standard).

[31] https://www.altomdata.dk/aa-batterier-test-kaempe-forskel/2 and https://www.radron.se/tester/boendetradgard--husdjur/batterier-aaa/ (visited November 2017)

Spectrum Brands Group (Varta)

1. According to IEC 60086-1:2015 sample size should be eight batteries instead of nine
2. LR6: Minimum permitted operating time for Motor/Toy test should stay at 7,5h as this is already very close to the capability of the major brands
3. LR03: There seems to be an error in the table 4. Such an Remote Control test as described does not exist
4. 6LF22: The minimum permitted operating times for the Clock Radio (60h), but also for the Smoke Detector test (29d) are far too strict for Alkaline batteries. Realistic are 48h for the Clock Radio and 20 days for the Smoke detector test.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments.

1) Agrees, it has been changed from 9 to 8 batteries.
2) Nordic Ecolabelling has data from Nordic ecolabelled batteries indicating that 8 h (60% above the limit in the standard) is a realistic limit.
3) Agrees, see above answer to Zhejiang Hengwei battery Co.
4) *See above answer to Zhejiang Hengwei battery Co.*

GP Batteries International Ltd.

1. For the purpose of standardization, we would suggest to follow IEC60086-2:2015 & ANSI C18.1M Part 1:2015 to test eight piece instead of nine piece of batteries per size and model.
2. We noted more simulated application conditions introduced inside the draft for consultation):
   a. As the technology is closed to the ceiling that we would propose to keep the electrical requirements for simulated application already shown in Swan Ecolabelling – Primary Battery 4.7.
   b. For simulated application conditions newly introduced in Nordic Ecolabelling – Primary Batteries Ver 5.0 (Draft for consultation), we propose to follow the higher requirements between ANSI C18.1M Part 1:2015 and IEC60086-2:2015.
   c. Refer to table 4 : Household batteries, dimension LR03 (Ver 5.0 Draft for consultation) The application test for Remote control is using the test method that has been removed from IEC 60086-2 Edition 13. We propose to follow the IEC 60086-2 Edition 13 Remote control application test which is also same as ANSI C18.1M Part 1:2015.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments.

1) *Nordic Ecolabelling has realized that the new standard IEC 60086-1:2015 only requires test of 8 batteries and therefore Nordic Ecolabelling also adjust the requirement to test of 8 batteries.*
2) *A. Nordic Ecolabelling has access to data from licensees, which clearly show a need for adjusting the limits for MAD-values in general. The adjustments ensure that Nordic Ecolabelled primary batteries is among the best in the market*
   B. Nordic Ecolabelling is not familiar with the requirement in ANSI C18.1M part 1:2015.

C. Same as in B. We agree that we have made an error in the requirement for remote controls compared to IEC 60086:2015.

Duracell

1. As the batteries need to be tested according to IEC 60086-1:2015, please note that this standard is now 8 batteries for testing (changed from 9 in previous IEC 60086-1-2011 version), please adapt accordingly in your new criteria vs5.

2. Your new criteria mention: "*The battery must meet the test requirement for all applications specified in table 1-5 for the specific battery dimension. E.g. battery dimension LR20 must meet the test requirements for all three test specified in table 1 in order to approve*."
   For the different battery types, up to six different IEC 60086-2:2015 application tests are currently included in your NS V5 proposal. While these standards are a good way to simulate the use of batteries in low, middle and high energy demanding appliances it is important to consider what is relevant to your audience. Batteries performing well in low drain type devices do not necessarily perform well in high drain type devices and vice versa.
   The best batteries are able to perform well across the whole spectrum of battery drain types. This also is in contrast with your requirement 05 referring to the consumer information pictograms
   We therefore recommend to assess the current test requirements and adapt it for the right devices which your audience use. Market research studies do a good job with providing insight on devices that are most used for a particular population.

3. As testing is now based on IEC 60086-2:2015, with new application tests which we didn't share during previous and current NS registrations, the minimum permitted operating time requirements are too tight compared with the IEC MAD values. We therefore suggest to set the min. NS criteria for the new IEC 60086-2:2015 to +50% for AA/AAA and +40% for C/D/9V instead of the +60-82% for the new tests (exception: AA digital camera : + 150% and 9V smoke detector +81% -> +40%). We believe that targeting higher minimum permitted operating time for AA/AAA is important since it most widely used while C/D/9V has reduced usage.

4. Table 4 : Household batteries, dimensions LR03 contain incorrect test data : "LR03 - Remote Control - 75Ω - 4h - 0.9 - 24h" is incorrect , needs to be "LR03 - Remote Control - 24Ω - 15s per min 8h per day - 1.0 - 14.5+50%=21.8h

5. Page 9 : Typo : Appendix 5 needs to be Appendix 1

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments.

1) *Nordic Ecolabelling has realized that the new standard IEC 60086-1:2015 only requires test of 8 batteries and therefore Nordic Ecolabelling also adjust the requirement to test of 8 batteries.*
2) *The new requirement for test of several applications is based on requests from several stakeholders. The requirement ensure that batteries are good for all types of applications.*
3) *See above answer to Zhejiang Hengwei battery Co.*

4) *We agree that we have made an error in the requirement for remote controls compared to IEC 60086:2015. The MAD value for remote control is suggested to be 24 h (65% above the standard) – the same %-limit as for all the applications regarding LR03 batteries.*

Energizer Brands, LLC

a. The proposed criteria states 9 samples are to be tested for the electrical testing. However in the current IEC 60086-1 and -2 standards, the total sample size has dropped from 9 to 8. We recommend harmonizing with the samples size stated in IEC 60086-2 which is 8 samples per test.

b. The final test for the LR03 size is listed as "remote control, 75 ohm". However in IEC, the remote control test is 24 ohm. The radio test is 75 ohms but is not applicable to alkaline rather to carbon zinc. Energizer recommends revising the requirement to be "remote control at 24 ohm".

c. Many of the proposed electrical testing MAD values are at least 50% higher than those listed in the IEC 80096-2. Many MAD values are above 60% higher than the IEC. When balancing high drain and low drain performance to optimize a battery for multiple end use cases, it is very difficult to meet all of these tests at such a high MAD value. Energizer believes it is not feasible for a balanced battery to hit all of these proposed MAD criteria. Energizer would recommend MAD values that are approximately 30 to 40% higher than the IEC values while also including the new criteria of 12 month delay at the 95% level.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments.

a) *Agrees, it has been changed from 9 to 8 batteries.*
b) *We agree that we have made an error in the requirement for remote controls compared to IEC 60086:2015. The MAD value for remote control is suggested to be tested at 24 ohm.*
c) *Nordic Ecolabelling has data from Nordic ecolabelled batteries (15 licenses) indicating that the proposed MAD values are realistic values compared to IEC 80086-2:2015 stardard.*
We agree that both an adjustment of the requirement to MAD-limit and a delayed discharge performance after 12 month of minimum 95% of the specific MAD limit is to strict. The requirement for delayed discharge performance is therefore adjusted from 95 to 90% (identical to IEC 60086-2:2015).

EPBA

- As the batteries need to be tested according to IEC 60086-1:2015, please note that this standard is now 8 batteries for testing (changed from 9 in previous IEC 60086-1-2011 version). This change should be reflected in the new criteria.

- The overall testing requirements are very ambitious. Although we recognise the importance of challenging criteria to obtain an environmental label, it is also equally important to maintain the distinguishing factor of these labels. When criteria are too strict, the recognition level could decrease. In particular

- LR6: The minimum permitted operating time for Motor/Toy test of 8h is too high
- LR03: There seems to be an error in the table 4. The Remote Control test as described does not exist
- 6LF22: The minimum permitted operating times for the Clock Radio (60h), but also for the Smoke Detector test (29d) are far too strict for Alkaline batteries. More realistic levels are 48h for the Clock Radio and 20 days for the Smoke detector test.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. See above answer to Spectrum Brands Group (Varta).

O10 Delayed discharge performance (shelf life)

Zhejiang Hengwei battery Co

1) As same as O9, actually the IEC standard is 90%, and its specified value is not high; your specified value is already very high comparing to common values, and you want 95% in delayed performance
   It is not very reasonable.
2) How to implement it ?
   Assume that we factory send the samples to 3rd party lab, and the 3rd party lab needs to store it for 12 months, plus at least 3 months test and other issues, this test will be held approx. 15-17 months, then you could finally get a report, is it really OK in new criteria application?
   If you said that you could ask the factory to store it in his own house for 12 months in advance, then send to 3rd party lab test, WELL, how that could make sure everyone will fairly treat this issue?
   What if someone just send new fresh samples instead of stored samples?
   Where is the fairness?

So in general, we think this point is not feasible, please seriously consider!!!

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments.

1) *We agree that both an adjustment of the requirement to MAD-limit and a delayed discharge performance after 12 month of minimum 95% of the specific MAD limit is to strict. The requirement for delayed discharge performance is therefore adjusted from 95 to 90% (identical to IEC 60086-2:2015).*
2) *It has been clarified in the standard, that it is possible to use the delayed discharge test (high temperature) in the IEC 60086-1:2015 standard, which only takes 13 weeks. Nordic Ecolabelling has added to the requirement that an independent auditor from a third-party company must confirm that the testing has been carried out in line with the requirement.*

Spectrum Brands Group (Varta)

1. According to IEC 60086-1:2015 sample size should be eight batteries instead of nine
2. We generally question the sense of this new shelf life requirement. The performance loss during storage is highly related to the drain profile. It is therefore not possible to express this simply by a 5% margin. On some tests this might barely work but not for the majority of tests. The execution of this requirement will also lead to significant approval complexity, as for new designs there will be no 12 moth storage data on hand. It remains unclear how this should be handled in an efficient manner.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments.

1) *Nordic Ecolabelling has realized that the new standard IEC 60086-1:2015 only requires test of 8 batteries and therefore Nordic Ecolabelling also adjust the requirement to test of 8 batteries.*
2) *Se above answer 2) to Zhejiang Hengwei battery Co.*

EPBA

- The requirement of providing information on delayed discharge performance will not be possible for new chemistries. This has to be reflected in the requirements.
- Also, we are of the opinion that the requirement as incorporated in IEC 60086-2 which foresees at least 90% of MAD after 12 months is a sufficient strict requirement.
- It is also important to underline that shelf life also greatly relates to the discharge drain levels. Low, middle and high drain profiles are impacted differently during long term storage and even more pronounced when high temperatures are being applied. It is therefore not possible to express this simply by a 5% margin. The execution of this requirement will also lead to significant approval complexity, as for new designs there will be no 12 moth storage data on hand. It remains unclear how this should be handled in an efficient manner.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you for your comments. Se above answer to Zhejiang Hengwei battery Co.

GP Batteries International Ltd.

- To align the technical characteristics of specific battery type and align to IEC60086:2015 & ANSI C18.1M Part 1:2015, it is proposed to keep minimum 90% of the specific MAD as for alkaline batteries instead of minimum 95%.

Comments from Nordic Ecolabelling

Nordic Ecolabelling thanks you and agree in your comments. The requirement for delayed discharge performance is adjusted from 95 to 90% (identical to IEC 60086-2:2015).

Duracell

It's difficult to get data for new chemistries (no data available when marketing new products), so not possible upon registering new chemistries.

Please remove as a requirement or suggest alternative = simulation of "0ne year shelf life" performance based on an accelerated aging test standard.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comments. Se above answer 2) to Zhejiang Hengwei battery Co.

Energizer Brands, LLC
Adding a 12 month delay testing with a requirement of 95% of initial service is a good addition to the Nordic Swan criteria.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support. However an adjustment of both the requirement to MAD-limit and a delayed discharge performance after 12 month of minimum 95% of the specific MAD limit is to strict. The requirement for delayed discharge performance is therefore adjusted from 95 to 90% (identical to IEC 60086-2:2015).

6.3.6 Safety

O11 Lithium battery safety

Zhejiang Hengwei battery Co
We do not produce lithium batteries, so we have nothing to comment

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comment.

O12 Waste plan

Zhejiang Hengwei battery Co
We are OK with this point, we have waste recycle plan and some other cannot be recycle waste, we have signed contract with some qualified company to get deal with it. This is OK for environmental protection. We are agreeing with this.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your support.

Spectrum Brands Group (Varta)

1. The term semi-manufactured should be defined more precisely. Although we have in Germany a good developed recycling industry infrastructure, it is not possible to recycle all waste streams, such as cathode dust collected from the production process. For batteries and almost finished batteries it is however possible to recycle, these fractions are accepted by pig-iron producers.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comment. Semi-manufactured is the same as "almost finished batteries".

Energizer Brands, LLC
Energizer agrees there should continue to be a sound requirement for waste plans in the manufacturing of batteries.

However, in some countries, such as in the United States, there are regulatory requirements that prohibit companies to recycle partial batteries (i.e. unsealed cans). As an example an open alkaline can poses a regulatory issue with the corrosivity due to exposure of KOH electrolyte and also ignition hazards with exposed zinc powder. Additionally, in some countries, the recycling process of the steel cans involves compacting cans using large compactors on cement pads. With open cans of partial batteries, this will allow the zinc and electrolyte to escape potentially causing ground water pollution. Due to these issues, Energizer recommends removing the requirement to recycle semimanufactured batteries as this requirement may cause more harm to then environment than good and can be against regulatory laws.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you for your comment. In case of national regulations regarding recycling of semi-factured batteries, the licensee must describes how they handle semi-manufactured batteries.

6.3.7 Requirements of the authorities and quality requirements O16-O22

Energizer Brands, LLC
This document is proposed criteria for primary batteries. In the definition section there are definitions for two rechargeable chemistry types, Li-ion and NiMH. Since these terms do not show up in this document, Energizer recommends deleting these terms from this section.

Comments from Nordic Ecolabelling
Nordic Ecolabelling thanks you and agree in your comments. The Terms and definitions has been updated.

7 Comments to the background document, in detail

No comments.

8 Discussions and conclusions from the three pre-consultations.

Several consultation comments have been received to the proposed pre-criteria. The comments concentrates on the proposed new and adjusted requirements. Nordic Ecolabelling is grateful for all-round responses.

The main comments apply to the following sections and requirements:

Delayed discharge performance (shelf life)
Stakeholders has commented that the requirement for delayed discharge performance (O10) is too strict, and that a test-period of more than 12 month is too long. The requirement has been adjusted from minimum 95% to 90% discharge performance and it has been added that it is possible to use the delayed discharge test (high temperature), according to IEC 60086-1:2015 standard, which only takes 13 weeks.

Finally, it has been clarified that independent auditors from a third-party company must confirm that the testing has been carried out in line with the requirement.

Electrical testing (minimum average duration MAD)
Several consultation comments point out that the IEC 60086:2015 only requires 8 batteries is being tested. Also that some of the proposed MAD values are too strict. The requirement to electrical testing (O9) has been adjusted from nine to eight sample sizes. Several of the specific MAD values has also been adjusted.

Sourcing of critical raw materials
Stakeholders has commented that the use of cobalt and other rare earth metals are to be considered as a critical component. There is currently no viable substitution available, which means that these cannot be phased out of the existing primary battery technologies. Nordic Ecolabelling is aware that several materials listed in requirement (O7) cannot be phased out of primary batteries to day or in the nearest future.
Therefore is has been clearified in the requirement, that the policy shall describe how the licensee works actively to face out the use of critical raw materials *in the long term* / to recycle critical raw materials in the batteries, support recycling programs for collecting used batteries and minimize the use of limiting minerals in the future.

Table 1: Overview of changes done in the draft generation 5 of criteria for primary batteries, based on received consultation responses in the three sub processes.

Requirment	Cunsultation comments	Change in the requirements after the consultation
O1	It may not always be possible to get a full description of the product detailing all constituent substances present in the battery.	Requirment O1 and appendix 1 has been adjusted so it is clear that we wants information on cathode-and anode ingredients , electrolyte solutions, conductor-, separator- and container ingredients and other materials.
O2	The proposed ppm limit for lead 5 ppm to strict.	The requirement to lead has been adjusted from 5,0 ppm to 7,5 ppm.
O5	The relevant IEC standard leaves the option to the manufacturers to use either the manufacturing date or the 'best before date'.	The requirement has been adjusted so it is optional to choose between "date of manufacturing" and "best before" in the requirement for information on the battery and primary packaging.
O7	Several materials on the list cannot be phased out of primary batteries, as they are critical to the chemistry of this battery types.	The requirement has been adjusted so it is clear that we mean face out "in the long term"/ recycle any critical raw materials in the batteries, support recycling programs for collecting used batteries, and minimize the use of limiting minerals in the future.
O9	According to IEC 60086-1:2015 sample size should be eight batteries instead of nine. Several of the specific proposed MAD values is to strict.	The requirement has been adjusted some the sample size is eight batteries instead of nine. Several of the specific MAD values has been adjusted.
O10	The requirement for delayed discharge performance of minimum 95% for MAD limits over a 12-month periods to strict.	The requirement for delayed discharge performance is adjusted from 95 to 90% (identical to IEC 60086-2:2015). It has also been clarified in the requirement, that it is possible to use the delayed discharge test (high temperature) in the IEC 60086-1:2015 standard, which only takes 13 weeks. Finally the requirement has been adjusted so that an independent auditors from a third-party company must confirm that the testing has been carried out in line with the requirement.