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## NOTAT

# HØRINGSNOTAT VEDR. ÆNDRINGSFORSLAG TIL NATIONALT GODKENDTE KRAV I DCC BILAG 1, REVISION 2B

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## 1. Indledning

Ændringsforslag til nationalt godkendte krav i DCC Bilag 1, revision 2B, har været sendt i høring fra den 14. juli 2022 til den 19. august 2022.

Der er modtaget 2 høringssvar.

Følgende har afgivet høringssvar:

Dapsi

Ørsted.

DCC Bilag 1E – Krav for elkvalitet har været sendt i høring fra den 17. december 2021 til den 4. februar 2022.

Der er modtaget 1 høringssvar.

Følgende har afgivet høringssvar:

Green Hydrogen Systems A/S.

Høringssvarene har givet anledning til en række ændringer. Ændringer som følge af indkomne høringssvar er anført nedenfor i afsnit 2.

## 2. Konkrete bemærkninger til de indkomne høringsvar

### 2.1 Høringsvar til ændringsforslag til nationalt godkendte krav i DCC Bilag 1, revision 2B

Artikel	Aktørers bemærkninger	Energinets bemærkninger
3.1.d	<p>Category 7 is defined as follows:            "A demand facility which upon application for connection to the transmission system or upon modification of an existing demand facility of category 3, 4 and 5 is established with a maximum drawing right of 200 MW or more. The demand facility shall, upon completion of the grid connection process (EON, ION, FON) and allocation of FON, demonstrate maximum consumption in regard to the maximum drawing right. [...]"</p> <p>Contrary to the definitions of category 3-6, the new category 7 imposes a requirement on the facility owner, i.e. that it can consume the requested and assigned power capacity on the first day of connection. Such a requirement should not be reflected in a definition. A definition of a category should merely classify the facility covered by the category, not set out legal/technical requirements. The difference between category 3 and 4 is that for category 3, the facility must demonstrate that it can consume the requested and assigned power capacity on the first day of connection, where for category 4, this can be demonstrated by a stepwise expansion of the facility. With the introduction of category 7, category 4 is in fact diluted for facilities of 200 MW or more, as the definition of category 7 stipulates that it is a requirement that the facility can demonstrate that it can consume the requested and assigned power capacity on the first day of connection. This requirement is too extensive, and it is unsuitable for accommodating the needs of certain industries. For several industries, their operational model means that it is not possible to utilize 100% of the assigned power capacity on the first day of connection - a period is required to ramp up to the full reservation in order to allow them to scale their operations in an efficient, sequenced fashion. Removing the possibility of a stepwise expansion would unfairly impede these industries from efficiently scaling their operations. We believe that the requirement may result in significant cost increase, operational complexity and could potentially incentivize over-consumption, something that is at odds with Denmark's energy efficiency obligations.</p> <p>It is suggested that the definition of category 7 is amended as follows:</p> <ul style="list-style-type: none"> <li>• The maximum drawing right is in-</li> </ul>	<p>Categories 3 and 4 differ in the current applicable requirement as to when the facility can consume maximum power. It has nothing to do with the assigned consumption rights, nor the level hereof.</p> <p>As for proving compliance with respect to maximum power, the same principle applies for categories 3 and 7.</p> <p>It is understood and acknowledged that industries will need some time to expand their operations and consumption per facility. However, this must not be seen as a lifetime reservation of optional available power.</p> <p>Expansions of demand facilities will be possible as it is for every other connected facility, meaning that it is possible to change a facility by following the already described process in the regulation.</p> <p>Energinet thanks the sender for the alternative six bullet proposal but will, however, proceed with the proposed categories, including power levels.</p> <p>With respect to aligning requirements as much as possible across the EU, Energinet agrees with that to the extent that it is in accordance with the regulation and that the requirements sufficiently serve the needs of the national transmission system.</p>

	<p>creased to 300 MW or more;</p> <ul style="list-style-type: none"> <li>• and</li> <li>• Category 4 is removed from the definition of category 7;</li> <li>• or</li> <li>• The definition of category 7 is amended to the effect that it is not a requirement for category 4 facilities that they can "demonstrate maximum consumption in regard to the maximum drawing right". Instead, it should be stated (as also is the case in the definition of category 4) that the consumption of the category 7 facility can - upon agreement with Energinet - be increased to the allocated maximum drawing right by a stepwise extension of the existing demand facility; and</li> <li>• It should be sufficient that the maximum consumption in regard to the maximum drawing right is demonstrated by modelling and simulation.</li> </ul> <p>Please note that Energinet's interpretation/ implementation of the regulation differs from that of other EU countries. This lack of consistency across the EU creates design issues on the facility owners as diverging regulations create complexity and cost. We suggest that requirements are aligned with those adopted in other EU countries where possible.</p>	
15	<p>Since some facilities are demand facilities that always consume the active power with approximately unity power factor at the POC, from the requirements in Art. 15.1, it is not clear how a demand facility has control over reactive power exchange with utility when voltage changes occur at the grid level.</p> <p>Energinet to clarify the relation between the mean reactive power +/-20MVAR with the facility's active power consumption/supply. It would be assumed that the limit of reactive power will be relative to the active power generation/consumption to a given facility.</p>	<p>Regulation of reactive power must be able to be carried out subject to the requirements laid down under general requirements for voltage. Here, reference is made to requirements laid down cf. Annex II and Article 13, subsection 1.</p> <p>It is up to the individual demand facility owner to manage and operate the facility within the requirements.</p>
15.1.a	<p>Der udestår en præcis angivelse af det spændingsområde hvori den fulde fasekompensering skal kunne foregå</p>	<p>Regulering af reaktiv effekt skal kunne foretages jf. kravene fastsat under generelle krav til spænding. Her henvises til krav fastsat jf. bilag II samt artikel 13. stk. 1.</p>
15.1.a	<p>Begrænsningen om en begrænsning til 15 Mvar bør revideres. Det fremstår uargumenteret hvorfor denne begrænsning skal oprettholdes. Desuden er det siden sidste behand-</p>	<p>I forbindelse med den nyligt gennemførte mødeaktivitet forud for høringen har området (<math>\cos \phi &gt; 0,99</math>, dog maksimalt <math>\pm 15</math> MVAR) for udveksling af reaktiv effekt ikke været diskuteret, hvilket heller ikke var intentionen. Om-</p>

	<p>ling blevet klart at der er markante omkostninger forbundet med dette krav, der påvirker den grønne omstilling negativt. Tidligere argumenter om at nye tilslutninger er effekt-elektronisk baseret holder ikke og forbrugsenheder og distributionstilslutninger behandles ikke ligeligt.</p> <p>Revider krav eller fjern den absolutte Mvar begrænsning.</p>	<p>rådet, der var fokus på, og som skulle præciseres, var funktionelle krav til den reaktive regulering.</p> <p>Omkostningerne i forbindelse med efterlevelse af krav pålægges naturligt det tilsluttede anlæg, og hvordan dette specifikt påvirker den grønne omstilling i den aktuelle påstand, må aktøren redegøre for.</p> <p>Det er stadig Energinets forståelse, at en ganske væsentlig andel af forbruget fra de kommende transmissionstilsluttede forbrugsanlæg vil være baseret på effektelektronik.</p>
16	<p>We need to receive Energinet's response to our questions on the performed technical study as well as perform additional technical studies on this requirement, in order to provide an informed assessment of its feasibility. As stated in our first comment above, Energinet refused to respond to our questions on 15 August 2022 and has not allowed time for such study in their response timeline.</p> <p>However, in any event the disconnection requirement of 100 ms for primary protection is too short and should be increased - responding within such a short timestep is expected to be extremely challenging for demand facilities. Further, the disconnection should be performed by Energinet. Reference is made to the specific agreement on LFDD (see comment to Art. 19 below).</p> <p>A suggestion cannot be stated, as we have not received Energinet's response to our questions on the performed technical study and have not had time to perform additional studies on the requirement.</p>	<p>With reference to Energinets refusal to respond, this concerns questions based on the prior public consultation.</p> <p>With respect to the requirement in article 16 and the referenced disconnection requirement of 100 ms, this covers the internal facility protection. Disconnection of the facility with respect to protection in case of an internal major facility fault must be handled by the facility itself.</p> <p>This article has nothing to do with LFDD.</p>
16.1	<p>Krav om redundante målekerner er en unødvendig fordyrelse af anlæg i kategori 3.</p> <p>Kravet bør kun gælde for kategori 7.</p>	<p>Kravet er fastsat af hensyn til systemsikkerheden og er en præcisering af det eksisterende krav.</p> <p>Grundet udviklingen i det kollektive elforsyningssystem, her specifikt transmissionssystemet, spiller korrekt beskyttelse en ganske væsentlig rolle for elsystemets og de tilsluttede anlæg robusthed og forudsigelighed. En tydelig forventet stigning i antallet af transmissionstilsluttede forbrugsanlæg spiller naturligvis også en væsentlig rolle.</p>
17	<p>It is unclear what the relevance is of this requirement, including in particular the requirement outlined under Art. 17.2 related to POD, as a demand facility will not contain any prime power generation.</p> <p>When determining these system conditions, it</p>	<p>The oscillation damping requirements are specifically developed for demand facilities.</p> <p>These intended or unintended power oscillations originate in the demand facility and are not electricity system generated oscillations.</p>

	<p>is essential that Energinet consults with demand facilities, and that it takes fully into account its obligations to source adequate system support via ancillary service markets.</p> <p>Furthermore, if relevant, the application and compliance with this requirement can only be determined if additional information is provided by Energinet.</p> <p>A suggestion cannot be stated, as we still need further clarification on the requirement. Overall, it is suggested that a meeting is held, where the clarifications needed are discussed.</p>	
19	<p>Energinet has confirmed that the technical requirements will not change the current requirements relating to the low frequency demand disconnection (LFDD).</p> <p>It is noted that it is crucial that the requirements neither directly nor indirectly change the LFDD requirements that Energinet has agreed and put in place with demand facilities. The operational constraints identified by demand facilities during Energinet's consultations on LFDD still hold, and therefore any changes that conflict with these operational constraints should not be requested.</p> <p>N/A</p>	<p>LFDD is not part of this public consultation. Energinet cannot guarantee the current nor steady requirements for LFDD for new demand facilities as LFDD must follow developments within the electricity system.</p> <p>It must be understood, that LFDD is the last tool used to save the control or synchronous area from a fatal operational situation.</p>
21	<p>We need to receive Energinet's response to our questions on the performed technical study as well as perform additional technical studies on this requirement, in order to provide an informed assessment of its feasibility. As stated in our first comment above, Energinet refused to respond to our questions on 15 August 2022 and has not allowed time for such study in their response timeline.</p> <p>In regard to Art. 21.5, it is recommended that Energinet accepts that for some demand facilities, the recording device can be installed in Energinet's facility.</p> <p>Further suggestions cannot be stated, as we have not received Energinet's response to our questions on the performed technical study and have not had time to perform additional studies on the requirement.</p>	<p>Energinet received an e-mail on 25 July this year, containing questions based on the material circulated in a former public consultation which was carried out from 17 December 2021 to 4 February 2022. Clearly, the time for submitting comments had passed. Therefore, this comment concerns requirements which were not included in this public consultation.</p> <p>As the requirements are ready to be delivered to the Danish Utility Regulator, Energinet cannot go into a bilateral discussion with a stakeholder before the Danish Utility Regulator starts the official public consultation.</p> <p>With respect to article 21.5, the recording device must be installed in the demand facility as it is intended to record facility behavior.</p>

21.5	<p>Opsamling af data i 60 sek. efter en fejl med en sampletid på 1ms er meget lang tid. Sammen med krav om kapacitet til lagring af 100 hændelser gør at det er vanskeligt at finde udstyr der kan efterleve kravene. Desuden er behovet for dette krav ikke beskrevet.</p>	<p>Indledningsvist skal det pointeres, at denne ændring er en lempelse af det eksisterende krav. Desuden er det kun strømme og spændinger, som skal logges med høj sampletid.</p> <p>Behovet for denne type logging har været diskuteret på hvert eneste af de afholdte aktørmøder. Alle kendte systemhændelser af nyere dato har inkluderet flere hændelser samt flere tilsluttede anlæg. Nødvendigheden af bl.a. at kunne studere følgevirkningerne/reaktioner har derfor aldrig været vigtigere. Desuden er der også i det danske system set oscillationer, hvor varigheden har været målt til 5, 15 og 30 sekunder.</p>
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2.2 Øvrige kommentarer til ændringsforslag til nationalt godkendte krav i DCC Bilag 1, revision 2B, som ikke kan indplaceres i ovenstående

Aktørers bemærkninger	Energinets bemærkninger
<p>Pursuant to the DCC Regulation (EU Regulation no. 1388/2016) Art. 6, if the DCC requirements are amended, Energinet shall as a TSO take into account the legitimate expectations of demand facility owners and other stakeholders based on the initially specified or agreed requirements or methodologies.</p> <p>The consultation material subject to this consultation was only presented in Danish and the hearing period was from 14/15 July 2022 until 19 August 2022, i.e. during peak summer holiday season. Energinet has not been willing to respond and clarify questions to the requirements sent in email dated 25 July 2022. Energinet's refusal to respond to these questions was not forwarded until 15 August 2022.</p> <p>Consequently, for many of the requirements stipulated as part of this consultation it has either not been possible (i) to thoroughly complete studies and technical due diligence on whether compliance is possible or (ii) to fully understand the content of the requirement and therefore whether compliance is possible. This lack of testing and clarification will be reflected in our comments below and in our comments to technical regulation 3.4.3.</p> <p>In our opinion, the legitimate expectations of demand facility owners to be given sufficient time to adequately evaluate the implications of such a complex and far-reaching proposal have not sufficiently been taken into consideration.</p> <p>Reference is also made to consultation feedback dated 4 February 2022, which also demonstrates that in the period prior to the submittal of this consultation feedback, sufficient time to adequately evaluate the implications of the requirements was also not given.</p> <p>A meeting in English should be held following the consultation period, where the requirements can be discussed and clarifications provided. Such clarification meeting will also facilitate the next consultation process to be performed by the regulator.</p> <p>Further, Energinet has informed that additional requirements under the EU network code will be implemented later this year. Our comment should be taken into consideration for future processes, whereby it is ensured that all stakeholders, including non-native Danish speakers have sufficient time and relevant material to assess the proposed requirements</p>	<p>It is normal procedure that connection requirements submitted for public consultation are in Danish as this is the national language.</p> <p>The reason for the needed changes to connection requirements and the selected process was initially explained in the stakeholder working group and also included in the consultation revision of the connection requirements.</p> <p>The process and call for stakeholder participation was announced on the Energinet website in mid-April. The expected timeline for this specific requirement revision was announced at the first online meeting and has been shared with all stakeholders. In addition, the timeline and process have been discussed in several meetings, if not all. The actual executed timeline was, however, delayed a bit compared to the original plan.</p> <p>Energinet cooperates with several international organizations with different out-of-office periods. Energinet cannot allow for coworking organizations' out-of-office periods in Energinet's plans and how these are executed. This also includes revisions of connection requirements and public consultations.</p> <p>Stakeholder feedback process after the first public consultation is initially obtained as written comments based on a proposed change. This has proven to be the most efficient method after facilitating public stakeholder meetings. Depending on the comments received, stakeholder meetings may be initiated again.</p>



## 2.3 Høringssvar til DCC-krav - Bilag 1E – Krav for elkvalitet

Afsnit	Aktørers bemærkninger	Energinets bemærkninger
Redaktionelt	<p>Det angivne i revisionsoversigt ” kategori 3-5 omfattet af krav om levering af RMS-, harmonisk-og EMT- simuleringermodeller.” men dette dokument omhandler ikke simuleringermodeller.</p> <p><b>Forslag til ændringer:</b> Udelad at nævne modeller i revisionsbeskrivelsen for et dokument der ikke omhandler modeller.</p>	Kommentar ikke forstået.
Redaktionelt	<p>Det undrer at man vælger at omdøbe ordet spændingskvalitet til elkvalitet uden at introducere fx strømrelaterede parametre eller andet som kunne underbygge behovet for den angivne ændring.</p> <p><b>Forslag til ændringer:</b> Udelade ændring fra spændingskvalitet til elkvalitet.</p>	Kommentar modtaget.

### 3. Høringsliste

Materialet har været offentliggjort på Energinets hjemmeside: [www.energinet.dk](http://www.energinet.dk) (under El – Høringer).

Følgende aktører blev desuden direkte orienteret direkte om høringen fra den 14. juli 2022 til den 19. august 2022 af ændringsforslag til nationalt godkendte krav i DCC Bilag 1, revision 2B:

Atkins  
Banedanmark  
BeGreen A/S  
Better Energy A/S  
Cerius/Radius  
Converdan  
Copenhagen Infrastructure Partners  
COWI A/S  
Dansk Vindenergi ApS  
Dath Consulting ApS  
DEIF A/S  
Energistyrelsen  
European Energy A/S  
Eurowind Energy  
Eurowind Energy A/S  
Eurowind Project A/S  
Forsyningstilsynet  
FRD Denmark  
Google  
Green Power Denmark  
GreenGo Energy A/S  
Grønnegaard I/S  
Jysk Energi Teknik A/S  
L-Engineering A/S  
Migra Teknik  
N1  
Nexel A/S  
Next Consult ApS  
NOE NET A/S  
Plesner  
PNN  
RAH  
Rambøll  
Scandinavian Energy Contractor  
Sungrow EMEA  
TREFOR El-net A/S  
uj-cosult.dk  
Vestas Wind Systems A/S  
Vestjyske Net Service  
Vores Elnet  
Wind Estate A/S  
Ørsted

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Følgende aktører blev desuden direkte orienteret direkte om høringen fra den 17. december 2021 til den 4. februar 2022 af DCC Bilag 1E – Krav for elkvalitet:

Andel

Apple ApS

Atkins SNC Lavalin

Banedanmark

Better Energy

Bulk Infrastructure AS

Cassin

Centrica Energy Trading

CIP

Copenhagen Infrastructure Partners (CIP)

Corre Energy

COWI A/S

Dansk Energi

Dansk Fjernvarme

EASV

Energistyrelsen

EVIDA

GEIDCO

Google

Gorrissen Federspiel

Green Hydrogen Systems

H2Energy AG

Inopower

Invest in Denmark

Lyngby Kraftvarmeværk A/S

META Platforms Inc.

Microsoft

Advokatfirmaet Plesner

Radius & Cerius

RWE Renewables

S.C. Nordic A/S

Siemens Energy

STX Commodities

Wind Denmark

Ørsted

Aalborg Forsyning