

Q&A OVERVIEW HOLLANDSE KUST (ZUID)	
Type:	Q&A Overview
Date:	15 December 2017

Release version	Release date
V1.0	01 November 2017
V2.0	15 December 2017

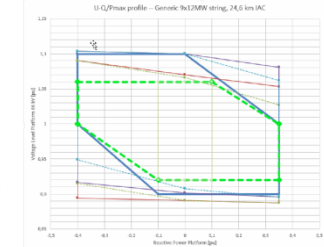
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Since all information should be available to all parties involved, questions asked will be published in anonymized form in this Q&A document on TenneT's website, including TenneT's response.

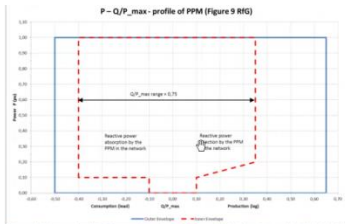
In case the question relates to responsibilities of Economic Affairs / RVO, these questions should be submitted via RVO (woz@rvo.nl) and will be published via the Q&A logs by RVO.

1. Q&A

#	Topic	Question	Answer	Version
23	Agreements	When will the mutual planning as mentioned in REA 6.1 be elaborated?	A mutual planning may be agreed after the signing of REA/CTA, as part of the Project Working Group. If desired, additional milestones can be included in the mutual planning, if both parties agree.	V2
22	General	Could you provide further insight into the scope of the compensation payments?	<p>In addition to the national regulation (Besluit van 23 maart 2016, houdende regels met betrekking tot de schadevergoeding bij niet-beschikbaarheid van het net op zee) and the Ministerial ruling (Regeling schadevergoeding net op zee van 22 maart 2016) on compensation in case of delay and/or unavailability of the offshore grid; an assessment framework ("Beoordelingskader") for claims will be elaborated prior to the commissioning of the first offshore grid connection by TenneT, in cooperation with the ministries, ACM and consulting offshore wind farms.</p> <p>If the onshore grid is unable to transmit all the electricity generated due to a shortage of transmission capacity, then one or more energy producers will have to scale back their production. This is done in accordance with free-market principles, i.e. through bids. This scaling back of production is arranged through the congestion management system.</p>	V2
21	Agreements	Could you provide a cost estimate for access to platform?	<p>Annex 6 to CTA, paragraph 3.1 ("Access to the platform") describes in which situations accompaniment of a TenneT representative is required. TenneT will also charge the Connected Party for other activities performed upon request of the Connected Party and requiring the presence of TenneT.</p> <p>As an indication, the previously mentioned (2016) figures may be used: €1.800,- p.p. per day (12 hours max). For CTV (12 pers.) if arranged by TenneT: €3.000 – €5.000 per day. All tariffs and fees are subject to regulatory supervision.</p>	V2
20	Agreements	Could you provide a cost estimate for compliancy activities?	In the English versions of REA 5.3 and CTA 8.2 (for information purposes) should be added that TenneT and the Connected Party shall discuss and agree upon the costs referred to in this Article within the Project Working Group ("PWG") as	V2

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			referred to in Article 6 of the Realisation Agreement before TenneT shall make these costs. As an indication, the previously mentioned (2016) figures may be used: approximately €60.000 per site.	
19	Technical	When will the memo with Root loci for HKZ become available?	This memo has been published 1 December 2017, and is available via: <ul style="list-style-type: none"> • www.tennet.eu/netopzee • Select "Net op zee Hollandse Kust (zuid)" • Scroll down to "Latest Developments" 	V2
18	Technical	<p>I saw that the annexes was uploaded the 1st of November and this lead to the following question. At the information session offshore grid HKZ (11 September 2017) the green line below was presented as the reactive power capability the grid needed from the HKZ Wind Power Plant.</p>  <p>In the annexes published the 1st of November 2017 the reactive power capability required by the Wind Power Plant is presented by the red line below.</p>	<p>Until the Grid Code has formally changed, TenneT is bound to the current Grid Code requirements. Based on technical considerations provided by connected parties in Borssele, TenneT has allowed a permissive practice as stipulated in Annex 5, Clause 5.2. This same allowance is granted by TenneT to other connected parties, until the Grid Code requirements for this topic have changed.</p> <p>Currently, TenneT is in the formal process of submitting a proposal to change the requirements for reactive power capability offshore in the Grid Code. This proposal takes into account future designated wind areas and lead to the presented graph 11 September 2017.</p>	V2

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		<p>Figure c: U - Q / Pmax profile of PPM (Figure 8 and Table 11 RIG)</p> <p>It can be seen that the required reactive power have been increased in the annexes compared to the presented need at the meeting in September. What is the reason for changing the requirement in the annexes from the need presented at the meeting in September?</p>		
17	Permit	What is the validity of the permit of the grid connection for HKZ?	The water permit for the platforms of HKZ is valid until January 1, 2055 (including decommissioning)	V1
16	Technical	<p>After looking at the document Information_Session_Offshore_grid_HKZ_110917.pdf we would like to ask the following:</p> <p>Slide 12: Please show what is the meaning of the word "section" in an SLD.</p>	Section is busbar	V1
15	Technical	<p>After looking at the document Information_Session_Offshore_grid_HKZ_110917.pdf we would like to ask the following:</p> <p>Slide 12: There is reference to a 20 kV winding that is not shown in the SLD at slide 9, are other voltage levels foreseen to be used besides the ones shown in the slide 9 for the active filters?</p>	<p>Correct: it is a high level SLD.</p> <p>The 33 kV voltage level onshore (shown in slide 9) is not meant for filtering (neither passive nor active). This voltage level is only used for reactive power compensation. If WPO would need to apply harmonic filters, then it shall be to filter as close to the source as possible. For this TenneT has a 20 kV connection point available on the platform. Given the restricted space and restricted pay loads, TenneT reckons with active filters only.</p>	V1
14	Technical	After looking at the document Information_Session_Offshore_grid_HKZ_110917.pdf	No, it is not affected.	V1

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		<p>we would like to ask the following:</p> <p>Slide 11: is the P-Q requirement (see below figure) affected by the change in the U-Q requirement?</p>  <p>Figure 4: The required P-Q/P_{max} profile of an Offshore PPM at the Connection Point by the active power</p>		
13	Technical	<p>After looking at the document Information_Session_Offshore_grid_HKZ_110917.pdf we would like to ask the following:</p> <p>Slide 11: please confirm that the new U-Q requirement (i.e. the dotted green quadrilateral) is the one that has to be fulfilled for Hollandse Kust Zuid.</p>	<p>TenneT is applying for a change in the grid code (Netcode). Until then TenneT is referring to the articles in the CTA/REA (Connection and Transmission Agreement / Realization Agreement).</p>	V1
12	Technical	<p>After looking at the document Information_Session_Offshore_grid_HKZ_110917.pdf we would like to ask the following:</p> <p>Slides 10 and 11: please provide the meaning of the different types of lines and colors used on the U-Q figures.</p>	<p>These slides are only indicative (and for the purpose of the presentation in particular meeting). The bigger envelope of slide 10 are the current U-Q capabilities as described in the current grid code (Netcode). The smaller envelope represents the voltage regulation band of 66 kV.</p>	V1
11	Technical	<p>After looking at the document Information_Session_Offshore_grid_HKZ_110917.pdf we would like to ask the following:</p> <p>Slide 9: the 66kV side of the substation is not equipped with a tap changer. This means that the WF developer still will be challenged by the reactive power balance at park level. Would it be possible to change the substation design in this regard?</p>	<p>SLD in slide 9 is a high level SLD. The offshore transformers are equipped with tap changer. It is only not shown (unlike onshore transformer). According to the grid code (Netcode), WPO still needs to be able to operate in voltage mode.</p>	V1
10	General	<p>Where can I find more information about the wind tenders ?</p>	<p>For information about the tender Wind op zee Hollandse Kust (zuid), see the site of RVO http://offshorewind.rvo.nl/generalzh.</p>	V1

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9	Agreements	Is there already material/information (e.g. Borssele agreements or HKZ drafts) available?	<p>Model agreements and technical papers for a connection to Hollandse Kust (zuid) Alpha are available via TenneT's website: www.tennet.eu/netopzee</p> <p>Scroll down to "Projects", click on "Net op zee Hollandse Kust (zuid)" and refer to "Latest developments".</p> <p>Concluded agreements as such will not be published.</p>	
8	Agreements	When is the final commissioning date for Hollandse Kust (zuid) ?	Based on "Ontwikkeldkader" the commissioning date is 30 June 2021 for HKZ Alpha.	V1
7	Platform	What is the maximum of weight of the harmonic filter?	The maximum is 60 tons per two windfarms.	V1
6	Platform	Where is the location of the harmonic filters ?	The location is on the top deck of the platform. Because of the relative limited size of the equipment the filters are placed in containers. The location can be found in the plot plans. Plot plans of the whole platform can be provided upon request. Please send your request to netopzee@tennet.eu .	V1
5	Platform	Where can we find the memo about scour protection ?	<p>See the website www.tennet.eu/netopzee</p> <p>Scroll down to "Projects", click on "Net op zee Hollandse Kust (zuid)" and refer to "Latest developments".</p>	V1
4	Overplanting	Does TenneT agree on the statement that short peaks don't have a high impact on temperatures ?	During operations TenneT uses the temperature (not the period) as an indicator to take appropriate measures.	V1
3	Overplanting	Preloading conditions of 67% seems to low, what is the reason for this restriction ?	<p>TenneT aims at stable grid configuration. The ampacity calculations are made for two kinds of cables. Outcome of the simulation by TenneT shows ~200 hours, similar with the situation offshore Borssele. The Position Overplanting Hollandse Kust (zuid) with further explanation is published on TenneT's website: www.tennet.eu/netopzee</p> <p>Scroll down to "Projects", click on "Net op zee Hollandse Kust (zuid)" and refer to "Latest developments".</p>	V1
2	Harmonics	When will the data regarding harmonics be available, and can these data be changed afterwards?	The outcome of actual calculations will be published on TenneT's website. These	V1

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			data are based on different grid behaviours. In theory data can be changed in case of changes in grid behaviour	
1	General	How do compensation payments work in case of delay or unavailability of the TenneT Infrastructure?	<p>There are two situations: offshore and onshore.</p> <p>If the grid connection is not commissioned by TenneT on the agreed date the "compensatieregeling" is applicable (Besluit van 23 maart 2016, houdende regels met betrekking tot de schadevergoeding bij niet-beschikbaarheid van het net op zee).</p> <p>If the onshore grid is unable to transmit all the electricity generated due to a shortage of transmission capacity, then one or more energy producers will have to scale back their production (this is done in accordance with free-market principles, i.e. through bids). This scaling back of production is arranged through the congestion management system.</p>	V1