MINUTES

PRESENT	OWF consultation group	**DATE**	February 5, 2015
BY	Frank Wester	**DATE OF MEETING**	January 29, 2015
		TIME OF MEETING	09.30 - 12.00 hrs
		LOCATION OF MEETING	NH Hotel Utrecht
		REFERENCE	ONL 15-034
		ENCLOSURES	2
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SUBJECT Technical consultation meeting OWF-TenneT

1.	**Opening & Welcome** Second technical consultation, follow up from 27 November. Guiding presentation attached.
2.	**Introduction**
a.	**Consultation process** NWEA, MinEA and TenneT discussed an approach for a more intense and clear consultation process in order to obtain a clear and transparent consultation with traceable discussions with a focus on finishing in June/July. **ACTION: Inform stakeholders of consultation process/dates [TenneT]**
b.	**Subjects 27/11** Some proposed approach and accepted items from the 27th November consultation are being challenged. While the minutes have not been challenged, it was requested to formalize these kind of decisions and its planning with clear papers stating pro's and con's. **ACTION: Organize the consultation process for each item [TenneT]**
3.	**Open issues**
a.	**33kV – 66kV, presented by Lyndon Greedy DNV/GL** The attached presentation is used to present the content. Comments/discussions on: • Buying a WTG with 66kV end, means that manufacturers will have the responsibility to deliver the transformer and switchgear and therefore will have to qualify it as an 66kV WTG with increased market costs. DNV believes the OWF can have influence in these equipment without recertification and therefore keep transparency on added costs for a "66kV WTG". Participants are not sure whether this will be the case in practice. • Infield cable price (Eur/m) is expected to increase going from 33kV to 66kV, by values up to 50%. TKI have stated a 15% increase, but it is not known if this is a total price increase, or only material cost. It is expected that certified wet design cables can be purchased end of 2016, probably from a limited number of suppliers. • Good overview with regards to the 'maturity' of the supply chain is needed,

	especially if ordering is planned for beginning 2016 (including the associated cost risk). It is expected, that there will be cost increase for the first tender, which is not recognized at MinEA at this moment. Next to this, an increase in (perceived) risk due to the higher voltage is expected which could have an effect on bankability. • Possibly distinctions should be made between the effect of stepping to 66kV as a current standard and as a future standard, including the supply chain. • While there is a big need for a better cost insight, nobody is able to share the needed costs and it should be checked if there are possibilities to make these available. • Certification of the wet design cable is seen by the OWF as critical for risk assessment of the tender. Issue also identified by Carbon Trust organisation; currently subsidising three manufacturers with the certification process. • With respect to the reactive power compensation of the array cabling, a proposal was raised in the discussion to use a predesign of a specific "Kavel" at Borssele and verify the differences between 33kV and 66kV solutions. NWEA suggests that they can take a role in combining responses before sending this back to TenneT. • Shouldn't the WTG suppliers be more active involved in this position paper? Given the limited number this could be checked. And see if there will be a big restriction on available suppliers for mainly the first tender. **ACTION: Take feedback from meeting and written feedback into account within the DNV GL position paper [TenneT]**
b.	**J-tubes** While NWEA doesn't want to take the responsibility, a choice for six as absolute minimum is suggested. However, some raise the issue for adding extra redundancy by creating loops and therefore might need more J-tubes. Comments were given that the parties would like to have TenneT show different OWF layouts. To substantiate the choices, TenneT is making in a broader context. **ACTION: Take this into account in the consultation process and come with a position paper with a proposal [TenneT]**
c.	**SCADA** Given the discussion and questions, TenneT re-emphasized that the need of the OWF to know what is going on (measurements) is recognized and will be considered how to facilitate this. TenneT's point preferably onshore and otherwise a solution on the platform will be sought. But given the priority level no detailed information is available at this moment and will be part of the next steps. **Write paper including verification of suppliers [TenneT]**

d.	**Overplanting** TenneT will inform the OWF of the increased loading possibilities of the export cable, which can be used in the business case by the OWF. Also the capacity of the array cabling was mentioned as point of attention. **Produce paper with loading possibilities of export cable [TenneT]**
e.	**Auxiliary power requirements (back-up generator)** This has been raised as an additional point and will be presented in a paper to have the right discussions. **Paper on auxiliary power requirement to be written [TenneT]**
4.	**Next steps** Proposal to have a monthly meeting and distribute the information at least a week ahead to be able to have a prepared discussion on the matters raised. **Plan with planning meetings, including consultation steps [TenneT]**