



RFI OSW-2018 COMMENTS

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PROCUREMENT SCHEDULE

QUESTIONS

1. The first solicitation will be issued in the fourth quarter of 2018 (Order, p. 27).
 - a. How much time do proposers need to develop proposals, i.e., time between issuance of the RFP and the proposal submission date?
 - b. What factors (e.g., available staff, geotechnical and engineering studies, supply chain negotiations, ongoing data collection) drive the time needed to prepare proposals?
2. NYSERDA proposes requiring bids to remain firm and binding for 6 months in regard to the OREC pricing provisions and other commercial provisions. Is this duration reasonable, or is a longer or shorter time period warranted? What key factors affect how long a proposal can remain firm? How does this timeframe affect the preparation of the proposal?

COMMENTS

Comment to question 1a: the timing depends on various factors. With reference to the experience developed by US Wind on the Maryland Project, the Application Period commenced on February 25, 2016, in accordance with COMAR 20.61.06.01(b)(3), after a determination by the Commission’s independent consultant (Levitan & Associates, Inc) that US Wind’s application was received and deemed administratively complete. US Wind received the lease from BOEM on effective date December 1, 2014. US Wind then recruited the first three key personnel to be based in Baltimore and in March 2015 started working on the OREC application. Hence, it took around a full year (March 2015 to February 2016) to put together the various sections required by the process.

However, those were the *early days* of offshore wind in the United States and there were many unknowns. As the market is now more mature and there is an overall better understanding of the local conditions and the local challenges, a shorter timeframe can be envisaged. Depending on the specific requirements of the Order and the level of details to be provided in the application, between six and nine months is a doable timeframe.

Comment to question 1b: again, it depends on how many details are needed in the Application. The most important factors are probably the offshore surveys, both geophysical and geotechnical. There are some constraints associated with these two activities, such as waiting for a specific month to conduct operations due to weather standby or time of year restrictions for mammals. So, a survey needs to be carefully planned. Based on the data collected from NOAA’s buoy 44009, the best months for conducting offshore activities are between June, July, and August. The duration of the operations is another constraint, as the activities require certain timeframes that cannot be condensed.

With respect to data collection of available wind resources, this is an important factor only if the Commission expects to receive measured data in the Application. In order to have measured data, indeed, a meteorological mast or a meteorological buoy need to be installed/deployed. Especially in case of a met mast, the time involved in design, permitting, procurement, and installation could be long. Also, at least six months-one year of data will be required. However, this level of effort is only required for Final Engineering (hence, more for EPC phase than real Development phase) and shouldn’t be required in the Application. Desktop studies can provide

adequate information during this stage of the process (e.g. the ERA5 climate reanalysis dataset, covering the period 1950 to present).

Staff availability could potentially be another impacting factor, as the specific skills required in offshore wind are not easily available in a young and growing market like the U.S. However, the resources could be hired from overseas, if needed. So, this shouldn't be a big concern.

Comment to question 2: It is reasonable to require binding offers and it is reasonable to set a certain timeframe. Also, a period of six months appears adequate. However, there are certain key factors to take into account, mostly related to the offered price. Every bidder will have to provide an OREC Price, in two formats: Fixed and Index. This price will be the result of various analyses and discussions with the supply chain and such pre-agreements will be based on specific market conditions, such as foreign exchange and commodity prices. The tower for a wind turbine generator is a typical example: if this component will arrive from Europe, there is a currency risk. The tower is made of steel, hence there could be a change in price or other external factors such as tariffs. Beyond six months, it would be difficult to keep the proposal.

PROCUREMENT QUANTITY

QUESTIONS

3. The Order requires NYSERDA to seek approximately 800 MW of capacity between procurements in 2018 and 2019. Should the 2018 RFP prescribe a minimum capacity or a minimum annual OREC quantity per bid, and if so, what should the minimum be? Should the 2018 RFP prescribe a maximum capacity or annual OREC quantity per bid, and if so, what should the maximum be?
4. Should the 2018 RFP allow bidders to submit multiple bids with differing capacity or OREC quantities? Should this be a continuous range, or should specific discrete target quantities be prescribed by NYSERDA?
5. The Order notes that NYSERDA could award more than 800 MW in the first year alone to secure economic develop benefits or to accept low bid prices that take advantage of the expiring federal tax credits. What should the RFP include to promote these benefits?

COMMENTS

Comment to question 3: it is US Wind's opinion that it is unlikely a developer would propose a nameplate of a very small size. Developing an offshore wind project in the United States comes with some challenges, some of which are still unknown as there is only one project in operation and very few others in advanced development phase. Hence, it is unlikely that proposers will bid for very small nameplates. Also, economies of scale won't be triggered with very small nameplates and there would be no benefits coming from price optimization. US Wind recommends using 100 MW as a minimum value.

On the other side, it could be wise to place a cap on the bid. Assigning 800 MW (or 400 MW + 400 MW) to just a single developer could pose risks on New York's ambitious Master Plan of reaching 2,400 MW by 2030. The same nameplate spread among multiple developers would decrease the risks, create competition, and create

a larger workforce of entities working towards the same goal, possibly cooperating together on finding innovative approaches to challenges like night lighting control and visual impact.

In general, sizes between 100 MW minimum and 200-250 MW maximum are recommended. This could result in possibly four different developers for the 800 MW Phase 1 procurement.

Comment to question 4: US Wind believes it will be beneficial to allow for multiple OREC quantities. Such approach won't be new in offshore wind, as something similar was adopted by the Massachusetts Department of Energy Resources in their "*Request for Proposals for Long-Term Contracts for Offshore Wind Energy Projects*". The solicitation was for 400 MW but it also allowed bidders to offer proposals for up to 800 MW. The rationale was that 800 MW would be approved "*if the Evaluation Team determines that a larger-scaled proposal is both superior to other proposals submitted in response to this RFP and is likely to produce significantly more economic net benefits to ratepayers based on the evaluation criteria set forth in this RFP*". In Massachusetts there were 27 different scenarios proposed by 3 developers.

Multiple OREC quantities in the same bid will provide more flexibility to both the bidders and to the Evaluation Team receiving the proposals, maximizing benefits and minimizing risks.

Comment to question 5: There are multiple factors to be taken into account, some of them in conflict with each other:

- With ITC phasing down in 2019, acting now with larger nameplates awarded would provide advantage of hundreds of millions of dollars. This benefit for developers would be translated into benefits to the ratepayers as the ITC would be reflected on the offered OREC price;
- On the other side, the timing for awarding new offshore wind leases by BOEM in the New York Bight Area could be long. If these new leases won't be available on time, this would reduce the competition and increase the prices, as there is at the moment only one area that can provide maximum benefits at low CapEx and OpEx. There would be huge benefits in waiting for large nameplates to be procured when the areas will be available.

INTERCONNECTION AND DELIVERABILITY

QUESTIONS

6. Are there unique challenges associated with interconnection of offshore wind into downstate New York injection points in New York City and/or Long Island that should be taken into consideration when preparing the RFP? If yes, please identify the challenges.
7. The Order requires that an eligible project must deliver its energy into the New York Control Area (NYCA), either by direct lead into New York or directly into an adjacent control area with transmission into NYCA (Order, p. 46).
 - a. Please specify the transmission service requirements and the transmission path from an adjacent control area to enable delivery into NYCA. What requirements should be included in the RFP to support NYSERDA's need to verify delivery into the NYCA?
 - b. For projects interconnected in a control area adjacent to NYCA but that deliver energy into NYCA, please describe the risks associated with such delivery. How should these risks be

- allocated? What options are available to proposers to manage such risks? Should the risk of curtailment be reflected in the contract? If so, how?
- c. The Order adopted the energy delivery requirement employed by NYSERDA in its Renewable Energy Standard RFPs (Order, p. 46, fn. 45). Are there revisions to that requirement that would assist developers in obtaining financing, or in estimating the cost of delivery?
8. With respect to capacity attributes of projects:
 - a. What transmission arrangements would have to be made in ISO-NE or PJM to facilitate the long-term delivery of capacity to NYCA? What requirements should be included in the RFP for NYSERDA to evaluate the feasibility of delivery of capacity to NYCA?
 - b. For projects interconnected in a control area adjacent to NYCA but that deliver capacity into NYCA, please describe the risks associated with such delivery. How could these risks be allocated? What options are available to proposers to manage such risks?
 9. What level of detail should proposers be required to provide to demonstrate the reasonableness of their transmission cost estimates for HVDC or AC export cables, interconnection, and/or transmission system upgrades (if needed) included in their bid prices?
 10. How should NYSERDA consider a strategic partnership between an offshore wind developer and a transmission owner in project viability or other award determinations? Are there reliability, economic, and/or operational benefits associated with such a strategic partnership as it pertains to “wet transmission,” i.e., onshore substation, offshore substation and export cable?

COMMENTS

Comment to question 6: New York is preparing for the injection of a large amount of energy into the grid. Most likely, from projects located in New York Bight Areas and interconnecting directly with nearby substations in New York City and/or Long Island. US Wind, through Mott MacDonald, evaluated Gowanus 345kV substation as a potential option for the injection. However, the impacts coming from Phase 1 plus Phase 2 could overburden the CapEx, as large impacts are expected. With reference to the MarWin Project in Maryland, the Facilities Study Reports for the queue positions AB1-056 and AB1-057 (both positions submitted by US Wind and both interconnecting at DPL’s Indian River 230kV in Delaware) provide a clear example:

- The Facilities Studies Report for AB1-056 estimated a total cost of \$2,556,112 and 24 months of construction time for a proposed facility of 247.8 MW;
- The Facilities Studies Report for AB1-057 estimated a total cost of \$49,897,374 and up to 48 months of construction time for a proposed facility of 251.8 MW (assuming AB1-056 goes in first).

The costs estimated for AB1-057 include \$10,217,374 (with 20% contingency) of attachment facilities upgrades and \$39,680,000 (with 20% contingency) of transmission line upgrades.

The reports are public on PJM’s website.

As it can be seen, similar sizes gave very different results, as AB1-057 sends in overload both the facility and the transmission, already burdened by AB1-056.

Hence, there are two risks to be taken into account:

- The overall 2,400 MW to be procured in two phases could generate high impacts on the existing infrastructures and there will be some developers having to pay extra-costs compared to others just because of the timing of their application into the grid.
- In case of multiple projects split among multiple developers, some coordination could be needed in the selection of the Point of Interconnection.

Assuming a bid for 100 MW (assuming this would be the minimum), there is the possibility that such project would have to pay for the overload of a specific facility not because of the 100 MW injected but because of other projects connecting first.

Another critical factor to take into account is that a clear understanding of the costs comes only years after the application is submitted, as there is a progressive definition of the costs starting from feasibility, system impact, and facilities studies. Indeed, the steps are:

- Initial processing of the transmission interconnection application;
- Scoping meeting;
- Feasibility study;
- System impact study;
- Facilities study;
- Engineering & Procurement agreement;
- Transmission project interconnection

NYSERDA can mitigate those risks in multiple ways, such as defining an Interconnection Master Plan. This Plan could discuss the overall impacts on the grid and:

- Ask for a state-wide effort to create a fund for developing facilities and transmission lines; and/or
- Prepare studies and define guidelines in order to give developers important insights in advance on the status of the grid.

With reference to the experience in Maryland, the Public Service Commission issued on April 23, 2014, a Request for Proposal for:

- Estimating the need for transmission upgrades and associated costs; and
- Evaluating potential applications for proposed offshore wind projects, in compliance with the Offshore Wind Energy Act of 2013.

Axum Energy, LLC was selected for this task. The report provided by Axum Energy included a screening of the various options available and selected Indian River Substation in the Delmarva Peninsula as the most efficient option for injecting energy. Two increments of offshore wind MW sizes were analyzed for interconnection to the PJM system: at 250 MW of full output and at 400 MW of full output. The report analyzed also the contribution coming from other projects standing ahead in the queue, such as X2-067 and Y3-033. The outcome was a table with estimated costs for:

- Interconnection facilities – Transmission side;
- New system reinforcements;
- Contribution to previously identified system reinforcements.

The report was extremely useful and, although US Wind conducted its own studies with experienced contractors, the project received an important guidance, confirming the same results and, hence, confirming a Point of Interconnection at Indian River Substation for MarWin.

Question 7a: not addressed.

Comment to question 7b: a huge benefit coming from offshore wind is the possibility of having the generation facilities close to where the energy is needed. Approximately half of the U.S. population lives within 50 miles and 80 percent live within 200 miles of the coast. Offshore wind can be located close to the major population centers, hence removing the need for expensive high-voltage transmission. Coastal states are moving in this direction, creating plans for developing offshore wind projects off their coasts.

When power is moved across long distances, between states and regions, there are constraints and bottlenecks to be taken into account. There are daily and seasonal fluctuations that must be considered, and the current transmission infrastructure often represents a bottleneck due to congestion and lack of capability of supplying power where and when it is needed. These bottlenecks can decrease reliability, reduce competition, and increase prices to customers.

New York could benefit from Wind Energy Areas located nearby and having facilities connected directly into its own grid. US Wind recommends evaluating carefully the possibility of injecting power coming from areas other than directly into NYCA.

Comment to question 7c: See second part of comment to question 6.

Questions 8, 9, and 10: not addressed.

OREC PRICING OPTIONS UNDER THE INDEX OREC STRUCTURE

QUESTIONS

11. Should bids be restricted to a single nominal strike price for the entire contract period? If yes, why?
 - a. In the alternative, should proposers be permitted to submit a schedule of nominal strike prices that vary each year? If yes, should a schedule of nominal prices that vary by year be limited to a fixed annual percentage escalator, or should annual changes be allowed to vary from year to year?
 - b. If the strike price changes annually, should the schedule of nominal prices be specified by contract year (beginning at actual commercial operation date) or by calendar year?
12. How should negative LBMPs be accounted for under this contracting structure?
13. Is the current NYISO first year UCAP factor (the ratio of UCAP eligible for payment to the operable capacity of a resource in a given settlement period) of 38% reasonable to apply as a fixed value throughout the OREC contract period? If not, why not?

COMMENTS

Comment to question 11: US Wind believes that bids should not be restricted to a single nominal strike price for the entire contract period.

Comment to question 11a: US Wind supports the idea of a fixed annual percentage escalator and doesn't see specific needs for non-firm prices such as a price index, e.g., CPI or GDP Deflators.

Comment to question 11b: US Wind believes that an approach by calendar year would be easier. In other words, a project with COD on August 2024 will receive 5 months of energy sale at the starting price and 7 months of energy sale at the end-of-period OREC price.

Comment to question 12: Negative zonal LBMPs can be expected in a system receiving wind energy. NYISO observed in October 2016 a correlation between curtailments and negative zonal LBMPs. More in details, 8% of the North zone RTD intervals in October 2016 had negative LBMPs. Of those RTD intervals, 77% were coincident with wind curtailments and 17% were coincident with oversupply of energy. NYISO noted that such wind curtailments were driven by scheduled and unscheduled transmission facility outages. Oversupply of energy, usually in off-peak hours, was the other primary driver of negative LBMPs.

Negative LBMPs are common in wind projects (either onshore or offshore) and shifting the risk on the developer (e.g., by reducing payments for future deliveries in case that the LBMP at the delivery point is less than \$0.00, with the reduction equal to the price difference between LBMP and \$0.00 per MWh for each hour) would result in:

- Reduced attractiveness of the project for a developer, hence reducing the competition; and/or
- Premiums charged on the price, as the developer/operator is assuming market price risk.

US Wind doesn't recommend the inclusion of LBMP risk in the contracting structure as this would represent a barrier for the market and it would work against the objective of reducing offshore wind proposed prices.

Comment to question 13: US Wind believes a UCAP at 38% is reasonable. This value can be applied throughout the OREC contract period. Once a plant has at least one year of operating data, the operator could request a higher UCAP value based on the plants generation during the specified Summer Peak Hours.

OREC PRICING OPTIONS UNDER THE FIXED OREC STRUCTURE

QUESTIONS

14. Should bids be restricted to a single nominal OREC price for the entire contract period? If yes, why?
 - a. In the alternative, should proposers be permitted to submit a schedule of nominal OREC prices that vary each year? If yes, should a schedule of nominal prices that vary by year be limited to a fixed annual percentage escalator, or should annual changes be allowed to vary from year to year?
 - b. If the OREC price changes annually, should the schedule of nominal prices be specified by contract year (beginning at actual commercial operation date) or by calendar year?
15. How should negative LBMPs be accounted for under this contracting structure?

COMMENTS

Similar comments to questions 11 and 12 apply.

BID PRICE EVALUATION

QUESTIONS

16. How should the Benefit Cost Analysis Framework set forth in Case 14-M-0101 (Reforming the Energy Vision) be applied or otherwise refined in the 2018 RFP regarding price evaluation?
17. Per the Order, the Fixed OREC and Index OREC bids will be weighted for consideration in the price component of the evaluation (Order, pp. 39-40, Appendix B). What weighting should be chosen for each option and why?
18. What bid price evaluation process “lessons” have been learned from offshore wind procurements in other jurisdictions that NYSERDA should take note of for purposes of the 2018 RFP?
19. NYSERDA will use a maximum acceptable bid pricing metric in the solicitation (Order, p. 42). What factors should and should not be considered in setting the maximum acceptable bid price?
20. How should the Index OREC strike price be adjusted to account for the included energy and capacity components in order to be structurally comparable to the Fixed OREC price, for purposes of both (i) comparison to the maximum acceptable bid price; and (ii) calculation of a weighted average bid price?
21. Are there other provisions that are consistent with the structure of the order that would, if included in the RFP, allow for more competitive pricing?
22. NYSERDA retains the authority to reject all bids (Order, p. 43). What factors other than the maximum acceptable bid metric should be considered when determining whether to select or reject bids?

COMMENTS

Comment to question 16: US Wind agrees on the foundational principles discussed in the BCA Framework with respect to an analysis based on transparent assumptions and methodologies. The RFP could provide guidance on the methodologies to be used for the Cost Benefit analysis. Reference can be made to the OREC process in Maryland, where two developers provided different methodologies and tools (IMPLAN vs. JEDI Model). Direct comparisons between proposals are more difficult if different methodologies are applied by bidders. A direct comparison was made by Public Service Commission’s Technical Consultant, Levitan & Associates, that used the same IMPLAN tool to compare both the projects.

Another critical factor is given by the evaluation of the environmental impacts, i.e. change in air emissions from power plants due to an offshore wind project. This is another area where the RFP could provide coordination on the methodologies, in order to receive comparable results from the bids. In case of non-comparable results, it would become again critical to have the Technical Consultant to prepare an independent analysis for each offer received. US Wind suggests proceeding with both, i.e. with an RFP including coordination on how to conduct the analysis (tools, methodologies, etc.) and to have an independent third-party analysis as well.

Whether or not to monetize the environmental impacts is another critical decision for the RFP and the Evaluation Team. US Wind believes that the environmental impacts play a key role in the definition of the Net Positive Impact on ratepayers. However, there are different opinions and different studies that discuss how to associate a dollar value to avoided emissions. US Wind recommends having the RFP to ask for associated dollar values, providing a common methodology to be used for the evaluation. Again, estimated avoided emissions and estimated associated dollar values will have to be independently calculated by a third-party Technical Consultant.

Question 17: not addressed.

Comment to question 18: The offshore wind energy price is surely declining over time. However, the power procurement approach is a key factor on the price. When comparing different jurisdictions within the United States, it becomes paramount to evaluate the context. An OREC approach requiring local content, aiming for a Net Positive Impact on ratepayers, and with the ambition of making the state an important center for offshore wind development in the Atlantic Coast of the U.S., will have to take into account higher prices compared to other jurisdictions.

The wind resources available are another key factor: jurisdiction with higher Net Capacity Factor will be able to deliver more energy and, hence, reduce the unit price per MWh.

Timing of the project and, hence, possibility of receiving benefits from sources like the Investment Tax Credit, is important as well.

Comment to question 19: NYSERDA should use a wide range of acceptable pricing. The local and specific experience developed in Phase 1 can be used as a benchmark for Phase 2, i.e. maximum prices offered in Phase 2 cannot be higher than winning bids in Phase 1.

Questions 20 and 21: not addressed.

Comment to question 22: US Wind believes that NYSERDA should aim for a long-term goal of New York as one of the offshore wind centers along the East Coast. For this reason, US Wind believes that there would be no long-term benefits without some form of local content provision. If in the steel manufacturing field there are other states ahead, still New York could focus on some other areas, such as cables or technological components for turbines/substations. Proposals of energy injection without any form of local content provision should be excluded from the evaluation round.

ECONOMIC BENEFITS

QUESTIONS

23. In addition to project-specific spending and job creation in New York State, the Order encourages investment in enabling supply chain and infrastructure in New York, and commitments to offshore wind industry and supply chain stimulating activities that create real, persistent and sustainable institutional or labor capabilities in New York State, and that lower the cost of future offshore wind projects (Order, pp. 52-53).
 - a. What documentation of such commitments should be required in the RFP to demonstrate real and verifiable investments in these categories?

- b. How should NYSERDA evaluate whether any investment is likely to lower the cost of future offshore wind projects?
24. In accordance with the Order’s guidance to include a local content provision in the evaluation criteria (Order, p. 52), NYSERDA may require that proposers file an Economic Benefits Plan (EB Plan), to demonstrate its commitments. The purpose of this EB Plan is (i) to explain and justify the proposer’s claims, and (ii) to help evaluators consider the viability of claims. What information should be required in an EB Plan to support scoring of:
 - a. Supply chain and supportive infrastructure investments?
 - b. Opportunities for New York State businesses to bid on project expenditures?
 - c. Enabling investments in activities, e.g., workforce development, R&D, other?
25. NYSERDA may establish a minimum requirement in the RFP to provide opportunities to New York State firms for project-related expenditures. Options include (i) requiring that opportunities for contracts be communicated to a New York State vendor list maintained by NYSERDA, and (ii) requiring that each proposer provide opportunity for New York State firms to bid on contracts representing some percentage of total project costs.
 - a. What categories of expenditures are reasonable to apply such a requirement to?
 - b. With respect to approach (ii), please comment on the practicality of such a requirement; what level of demonstration would be required; what is a reasonable specified percentage of total project costs to require; and what exceptions would it be reasonable to include.
26. In accordance with the Order, NYSERDA is interested in conveying greater weight to those expenditures and investments that (i) create persistent institutional or labor capabilities in NYS, and (ii) lower the cost of future offshore wind projects (Order, pp. 52-53). Please comment on:
 - a. The proposed approach;
 - b. What information may be reasonable to use as the basis for assigning such additional weight; and
 - c. How much additional weight is appropriate to assign to expenditures or investments that create such benefits.
27. NYSERDA may establish penalties or other contractual repercussions, such as those used in its Renewable Energy Standard Tier 1 solicitations, which reduce the contract price in proportion to any shortfall below 85% of the economic benefits claimed, based on the independent audit of benefits realized during the first three years of commercial operations. Here, NYSERDA is considering: (i) reducing the contract price in proportion to the shortfall; (ii) requiring seller to make additional investment to make up a shortfall; or (iii) requiring seller to submit a payment in proportion to a shortfall to fund related activities. Please comment on these alternative approaches.
28. If a fishing compensation program is submitted in conjunction with the fisheries management plan, how should the proposer quantify the economic impacts? How should the fishing compensation plan be considered along with other economic benefits (Order, p. 48)?

29. The Order recognizes that the development of offshore wind creates the potential for high-quality employment opportunities and therefore presents a significant potential benefit to New York State. What measures or arrangements do you consider the most efficient and effective ways to:
- a. Ensure that the maximum potential high-quality employment opportunities are available to New Yorkers?
 - b. Ensure that a properly trained, highly-skilled and qualified workforce is available to fill the various labor needs throughout the duration of the project?
 - c. Ensure opportunities for the participation of New York small businesses?

COMMENTS

Comment to question 23a: Bidders should be required to prove and detail their plans for investments and local developments. During the definition of the OREC proposal in Maryland, US Wind’s Program Manager engaged in many discussions with local and international suppliers to define plans for local investments and local production. US Wind discussed timeline, feasibility, and works required. With respect to steel fabrication, plans with maps of the area were defined with both the current status and future target, identifying roll bending machine location, paint shop location, etc.

Each bidder should substantiate the proposal with plans, schedules, and details on investments needed. Just simple statements of commitment should be rejected by the Evaluation Team.

Comment to question 23b: One-off expenditures won’t contribute much to the ambitious target of “50 by 30”. Expenditures towards local services, such as engineering studies or permitting support, will surely increase the knowledge of local service providers in New York, developing some sort of local experience. However, real impacts on lowering the offshore wind price will come from investments in ports and infrastructure, manufacturing facilities, and relocation of companies to New York setting up local branches and hiring locally. US Wind believes that these are the kind of investments that will likely contribute to reductions in the offshore wind price on the long term, as discussed in comment to question 18.

Comment to question 24a: See comment to question 23a.

Comment to question 24b: Bidders should prepare a plan showing how they intend to engage the local businesses and how these local businesses will be *i)* made aware of the opportunities; *ii)* have the possibility to be involved in the project. The plan should clearly identify the resource assigned to such task and what are the actions that will be taken. Such actions can be:

- Organizing periodic meetings in different parts of New York, bringing local business owners together and providing an overview of the project;
- Proactive actions on how to reach as many local business owners as possible, such as going through public directories, etc.;
- A specific resource could be assigned as main interface, addressing questions and providing explanations.

This level of effort can continue throughout the duration of the process and developers could be required to provide periodic updates (e.g. semi-annual reports) on the progress of the activities and how many new companies have been engaged. The periodic reports are then compared to what was stated in the application, to identify if the goal is being achieved or what are the actions being taken to recover shortfalls.

US Wind is using this same approach on involving Minority Business Enterprise companies on the MarWin Project, creating Minority Business Enterprise database for the source of business opportunities.

Comment to question 24c: Bidders should be required to support their statements showing clearly the discussions entertained and the pre-agreements made in fields like workforce development. This could include plans for training academy, workforce development programs, etc. Developers won't be directly responsible for setting up these schools and/or programs but will have to show how they are coordinating the efforts. Public support (i.e. from Department of Commerce) would be required to provide incentives for creating these programs.

Comment to question 25a: To address this question, certain knowledge of New York's local economy is required. However, there are some categories that are likely available in New York and likely needed during the project development. With reference to NAICS codes, the following categories were those where US Wind estimated the most expenditure in local content during the development phase of the MarWin Project:

- 541330 – Engineering Services (for Preliminary Engineering);
- 541620 – Environmental Consulting Services (support on Permitting);
- 541690 – Other Scientific Technical Consulting Services.

With respect to the CapEx, the highest local expenditures have been expected on:

- 332312 – Fabricated Structural Metal Manufacturing (local steel production);
- 541330 – Engineering Services (for final design);
- 237990 – Other Heavy and Civil Engineering Construction (for multiple construction activities);
- 238910 – Site Preparation.

In order to achieve the estimated local content, US Wind screened 1,994 local businesses associated with NAICS code 541330 (Engineering Services) and 43 companies with code 541620. The main tool used for this research was the public register of MBE companies available through the Maryland Department of Transportation.

These two categories will likely be the main focus of projects being developed in New York. Other categories will depend on the specific opportunities available.

US Wind is now working closely with the Governor's Office of Small, Minority & Women's Business Affairs (GOSBA), Washington Minority Companies Association, and the Maryland Department of Commerce communicating the opportunities available for each category.

A similar approach can be adopted on New York's projects as well.

Comment to question 25b: It is a fair requirement to ask proposers to provide opportunity for New York State firms to bid on contracts. Every bidder should commit to use the best effort in involving as many local businesses as possible. However, US Wind doesn't recommend the inclusion of specific minimum percentages associated with predefined working activities nor it is recommended to predefine a minimum overall threshold to be reached for being qualified (e.g. 15% of CapEx to be spent in local businesses). The bidders should be free to define the local share and they can be evaluated on what are the strategies being put in place and how much local content is estimated to be generated (through direct, indirect, and induced effects).

Comment to question 26a: US Wind agrees with the approach and recommends this to be included in the Final Order.

Comment to question 26b: As the goals are to *i)* create persistent institutional or labor capabilities and *ii)* lower the cost of future offshore wind projects, the long-term impact of an expenditure is an important factor. In other words, five million dollars of investments in geophysical and geotechnical surveys should be valued less than five million dollars of investments in ports and infrastructure improvements. The first expenditure is a one-off and won't add specific knowledge to the offshore wind industry (as the activities involved in geophysical and geotechnical surveys for offshore wind are more or less the same used on other offshore projects and there is nothing specific to learn). The second expenditure will be permanent and will be a benefit for all future projects coming after, hence a real impact in reducing OREC price. To give another example, the same five million dollars invested in local training and academies to create qualified jobs for turbine inspections is another long-term investment, as there will be local skills available for all future projects, reducing the need to bring people from overseas, hence reducing the OpEx.

Comment to question 26c: US Wind recommends having significant more weight assigned to expenditures or investments that create such benefits. However, there are no specific values recommended.

Comment to question 27: US Wind recommends the approach number 2.

Comment to question 28: In general, quantifying the impacts is not an easy task. There are methodologies such as those provided by the Global Reporting Initiative (GRI), in particular the G4 “*Sustainability Reporting Guidelines*”. However, there are just tools that will need inputs in order to come up with impacts. More studies are required to estimate the real impacts of a wind farm on the fishing activities, as many concerns are solved with appropriate design solution (e.g. burying the cables at certain depths). There are ongoing efforts in defining the extent of such aspects and NYSERDA could prefer to wait for the outcome of these studies.

Additionally, each proposer should adopt BOEM's Best Management Practices in their proposal, showing how they intend to implement the BMPs during Planning & Analysis, Site Assessment and Site Characterization, Construction, Operations, and Decommissioning. The adoption of these standards, similar to those adopted in Europe, could provide huge benefits in minimizing the impacts

Comment to question 29: NYSERDA should give high importance to the creation of local content and require the proposers to use their best efforts to maximize the local share. Proposers will have to include plans in their applications showing how to achieve these objectives. Proposers should also entertain discussions with third parties to create training academies and training programs, with the coordination of the State. Once a proposal or multiple proposals are selected, NYSERDA should require proposers to adhere to what they stated in the application and the progress will have to be verified during the progress of the project. Such control can be achieved through:

- Filing periodic reports demonstrating the progress in fulfilling the conditions;
- Contracting an independent expert to conduct verification of the direct jobs created with the project.

PROJECT VIABILITY

QUESTIONS

30. What information and documentation should be required of proposers to demonstrate viability (please be specific as to the type of information and the level of detail which should be submitted), as follows, based on the criteria listed in the Order (Order, p. 53):
- a. Permitting Plan and Status: What level of detail should a proposer provide with respect to the project permitting plan and the status of each required permit?
 - b. Financing Plan: What level of disclosure should a proposer be required to submit to demonstrate financial strength, e.g., audited financial statements, project pro forma, expressions of interest from equity and debt investors, other?
 - c. Developer Experience: How should proposers demonstrate that each member of the proposed project team has sufficient relevant experience to finance and develop the project?
 - d. Proposed Technology: What level of detail should a proposer provide with respect to the project design and construction plan? How specific must a development plan be with respect to turbine arrangement, number and size of turbines, foundation design, turbine / blade selection, electrical collector station, export cable design / route, landfall location, and interconnection point(s)?
 - e. Development and Logistics Plan: What level of site control should be required for the necessary port facilities and other support infrastructure? What level of detail should be required in order to demonstrate the reasonableness of proposer’s equipment procurement plan, including selection and scheduling for construction vessels? Should proposers be required to submit a decommissioning plan, and if so, what level of detail and specificity should be required?
 - f. Interconnection Status: Should the RFP require additional minimum requirements, beyond a valid interconnection request having been submitted to NYISO, with respect to completion of interconnection studies and the project’s status in the interconnection process? If so, what should the requirements be? Please describe in detail how transmission and interconnection cost risk should be analyzed by NYSERDA.
 - g. Reasonableness of Project Development Milestones: What milestones should be included in the development plan? What factors determine the reasonableness of the milestone schedule?
 - h. Community Outreach: How should proposers be required to credibly demonstrate their community outreach and support?
 - i. Environmental Impact: At the time of proposal submission, what geotechnical, geophysical, biological, and archeological studies should be completed and available?
 - j. Wind Resource Assessment: At the time of proposal submission, what wind resource studies, turbine power curve data, energy yield calculation, gross (turbine) output, expected availability, and losses by category should be available or provided? Should this information be indicative or binding? What changes should be allowed?

COMMENTS

Comment to question 30a: Proposers should provide detailed schedules and plans on each and main permitting steps, such as:

- Survey Plan submission to BOEM;
- Tribal meeting(s);
- U.S. Army Corps of Engineers Nationwide Permit (USACE NWP) submission;
- Incidental Harassment Authorization for survey (if the developer wishes to apply for one);

- G&G surveys (including a high-level scope of works);
- Preliminary Engineering definition;
- Site Assessment Plan submission;
- Design, permitting, procurement and installation/deployment of the met mast/met buoy;
- Interconnection process (and the main milestones);
- Construction and Operation Plan submission;
- Facilities Design Report & Fabrication and Installation Report submission;
- Other Federal, State, Local, and Other Agencies permits (e.g. DOD Consultation, Section 106 Consultation, Section 7 Consultation, Air Permit, USCG Private Aid to Navigation, USACE Section 10/404, etc.).

For every activity, the developer should identify the risks, the likelihood that these risks can affect the project, and the potential impact coming from such risks.

Comment to question 30b: Proposers should provide the following information:

- Financing Plan;
- Experience in raising capital for projects of similar scale;
- Name, location, and description of the business entity;
- Company profile;
- Description of corporate structure;
- Bank references;
- Years in operation;
- Current audited financial statement;
- Bankruptcy statement.

US Wind suggests NYSEERDA to go a step further and ask for specific information on not just the financial strength of the company but financing details of the project as well, such as:

- Project balance sheet at project COD with all capital expenditures broken down by major cost category;
- Proposed capital structure identifying equity investors, sources of debt, and any other sources of capital;
- Matrix with all eligible State and Federal grants, rebates, tax credits, loan guarantees.

Comment to question 30c: Previous experience in offshore wind should be required for all key personnel.

Comment to question 30d: US Wind recommends NYSEERDA to ask for detailed project design and construction plans. Proposers should include:

- Maps showing turbine layout, landfall and grid interconnection point, onshore construction layout (detailing the pre-assembly area, the storage area, the loadout area, etc.);
- Wind energy resources and energy assessment;
- Wind turbine technology with turbine manufacturer and model specifications;
- Foundation descriptions, including a conceptual/preliminary engineering;
- Electrical collection system and connection to the transmission grid;
- Balance of plant description;
- Construction organizational chart;
- EPC contracting strategy;

- Offshore installation strategies (detailing type of vessels and procedures);
- Operations and maintenance plan.

The project should be specific on the selection of each technology, specifying the likelihood that certain decisions could be changed in future.

Comment to question 30e: US Wind doesn't recommend requiring any site control for the port facilities and other support infrastructure. Proposers should, instead, provide detailed plans on where they intend to locate the activities and the status of the discussions with the owners of the areas, including their plans to reach site control. The plan should include a schedule for the upgrade works required, the permits associated with such works, and a high-level estimate of the costs.

The proposers should include a decommissioning plan detailing how they intend to decommission the facility and what are the components that won't be decommissioned (e.g. piles removed up to a depth of 15 feet below seabed, scour protection left in situ, etc.).

Comment to question 30f: US Wind doesn't recommend additional requirements on the interconnection request to NYISO.

With respect to the second part of the question, NYSERDA should carefully evaluate the transmission and interconnection cost risks. NYSERDA should evaluate the possibility of two-part OREC Price Schedule, with a portion of the price being associated with interconnection costs. As the interconnection process could last for years, the proposers will have a real understanding of costs only at the end of the process that is once the Feasibility Study, the System Impact Study, and the Facilities Study are completed. With a two-part OREC price approach, the second component would be trued up based on any change between NYSERDA's estimate (to be released before the proposals are received) and the real costs identified in the Interconnection Service Agreement with NYISO.

The risk on the developer would be reduced but only up to a certain cap that can be defined during the Evaluation Process. If the cap is exceeded, the developer would have to decide between dropping off from the procurement process or absorb the costs for the portion exceeding the cap.

Such approach could provide potential benefits on reaching lower proposed OREC prices, as the proposers won't have to add premiums given by the uncertainties of future costs.

Comment to question 30g: Proposers should provide a detailed schedule with all the main milestones included in comment to question 30a. Such schedule should be compared with the actual times of development of a project in the United States, which are clearer now.

Comment to question 30h: Proposers should list all the community outreach with dates and the outcome of such efforts, listing any feedback of either support or concern about the project. Proposer should also detail how previous outreach fits within their broader outreach strategy for the entire development phase.

Comment to question 30i: US Wind hasn't sufficient information on the RFP timeline to comment on this. If developers that responded to the recent Call for Information and Nominations for the NY Bight by BOEM are to be included in the Phase 1, it is unlikely that there will be enough time available to complete any geotechnical, geophysical, biological, and archeological studies.

Comment to question 30j: US Wind recommends NYSERDA require detailed energy assessments. This would include:

- Average Wind Speed estimated for the site and the tool used for the estimation (it is unlikely that proposers will have real and direct data measured for the site);
- Wind turbine manufacturer and model;
- Hub height;
- Number of turbines;
- Site air density;
- P50 energy, as a minimum, including:
 - o P50 Gross Energy and associated Gross Capacity Factor;
 - o P50 Net Energy and associated Net Capacity Factor;
- Additional information at P75, P90, P95 and P99;
- Detailed table showing each turbine ID and the associated:
 - o Coordinates;
 - o Free speed at turbine location;
 - o Gross Energy;
 - o Net Energy;
- Power curve information;
- Detailed loss summary table, including any applicable losses and their respective values for both first year and long-term;
- P50 energy matrix, detailing month-by-month and hour-by-hour both the wind speed and the energy output;
- Wind rose with frequency and energy in percentages for each direction sector (in 12 sectors).

MARINE, ENVIRONMENTAL AND OTHER IMPACTS

QUESTIONS

31. The Commission Order references that the Offshore Wind Master Plan and its incorporated study that concluded that a 20-mile setback from any coastal position would minimize visual impacts during most times of day (pp. 49-50). NYSERDA has the discretion to tailor the setback requirement if it determines that a modified approach is necessary to optimize the overall environmental and economic benefits.
 - a. What factors should NYSERDA consider in determining the RFP's setback requirement?
32. The Order includes a number of provisions relating to environmental concerns and commercial fishing interests (Order, pp. 47-48) including the development of best management practices and the submission of a fisheries mitigation plan.
 - a. Are there examples of best management practices that could serve as a useful starting point for environmental and commercial fishing considerations?
 - b. What information should proposers be required to provide in their fisheries mitigation plan to demonstrate potential mitigation measures in this area? What level of specificity is appropriate?
 - c. What commitment should proposers provide regarding how they will work with the commercial fishing communities to design and operate sites that provide the greatest practical

access for commercial fishing (by gear type) and for commercial vessel (and other maritime shipping interest) navigation and transit through turbine arrays?

33. The Order requires that environmental data collected by the developer be made publicly available, except data normally considered proprietary. What environmental data collected by developers should be made publicly available and what data should be considered proprietary?
34. The Order suggests that NYSERDA file a proposed revision to the Environmental Research Program’s Clean Energy Fund Investment Plan to support offshore wind environmental research.
 - a. How much funding should be made available to support State-sponsored environmental research, and over what timeframe?
 - b. How could these funds be used to best reduce risk and advance responsible development of offshore wind?

COMMENTS

Comment to question 31: US Wind believes that a simple distance restriction won’t be a real solution. Proposers should find innovative technologies to mitigate the impacts, especially during nighttime.

If we look at the European experience, there are many offshore wind farms located at less than 20 miles. As per 2018, more than 60% of the wind farms are located within 18.6 miles (30 km).

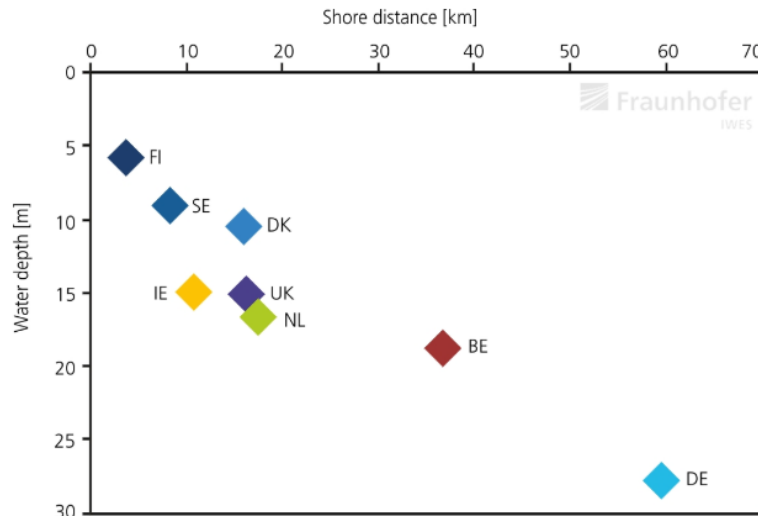
If we refer to each country, according to Fraunhofer IWES:

- Finland has the offshore wind farms located at an average distance of less than 5 km (less than 3 miles), and at an average water depth of around 6 m (20 feet);
- Sweden – distance: less than 10 km (less than 6 miles) – water depth: less than 10 m (less than 30 feet);
- Ireland – distance: around 10 km (6.2 miles) – water depth: around 15 m (49 feet);
- Denmark – distance: around 15 km (9.3 miles) – water depth: around 10 m (32.8 feet);
- UK – distance: around 15 km (9.3 miles) – water depth: around 15 m (49 feet);
- Netherlands – distance: between 15 and 20 km (9.3-12.4 miles) – water depth: around 17 m (55.8 feet).

The only two countries with distance from shore higher than 30 km (18.6 miles) are:

- Belgium – distance: between 35 and 40 km (21.7-24.9 miles) – water depth: less than 20 m (65.6 feet);
- Germany – distance: less than 60 km (37 miles) – water depth: between 25 and 30 m (82.0-98.4 feet).

A visual representation could be quicker:



Water depths and distances from the coast of the European wind farms by country (excluding the floating test turbines in Norway)
Data source: [Fraunhofer IWES]

Hence, Belgium and Germany are the only two countries with turbines located at average distance of more than 20 miles from the coast; however, the water depth is not challenging. As opposite to the above figures, the New York Bight area has much greater water depths, in some portions exceeding 50 m (164 feet).

Imposing restrictions on the distance from shore would work against the ambition of lowering the OREC price, as proposers will face the challenge of expensive foundations in challenging water depths.

Another key factor is the visibility. In the “*Visibility Threshold Study*” part of “*New York State Offshore Wind Master Plan*”, the conclusions were that “*during 16% of daylight hours, visibility was less than 10 miles*” and “*clear conditions occur between 16% to 18% of total daylight hours, and partly cloudy conditions occur between 5% to 7% of total daylight hours, depending on the season*”.

With respect to night conditions, proposers should be required to provide solutions to mitigate the impact of the lights, such as an automatic system that turns them on only when required (e.g. airplane approaching the area). According to a study by Ecology and Environment (2017), FAA light activation, based on the frequency of flights over the offshore lease area, would occur during approximately 0.03% to 0.08% of the available annual nighttime hours. With this respect, the Visibility Threshold Study by NYSERDA concluded that “*assuming the use of ADLS, the nighttime lighting of offshore wind turbines would be of minimal consequence to onshore resources*”.

US Wind recommends further studies and requirements in the direction of innovative solutions to minimize the impacts as this would translate in minimum constraints in terms of distance from shore and lower OREC prices, hence reducing economic impacts on ratepayers.

Comment to question 32a: US Wind agrees with the comprehensive list included in Appendix D of the report “*Fish and Fisheries Study*” prepared by Ecology and Environment Engineering, P.C. for NYSERDA.

In addition to these Best Management Practices, US Wind recommends the inclusion of some innovative studies on potential multi-uses of the ocean.

Comment to question 32b: The fisheries mitigation plan should include a suite of considerations and mitigation options, based on ongoing conversations with fisheries stakeholders, that can be revised, refined and finalized as the project progresses. Such considerations and mitigation measures may include:

- Consideration of types of fishing activities that occur within and around the project area when planning and designing the project (micro-siting and turbine spacing, etc.);
- Consideration of how different foundation types may impact the seabed and an assessment of how those changes may affect local fishing activities;
 - There are solutions that provide higher impacts during constructions, such as jackets, but almost no impact during the 20/25-year operation period, as opposite to some others that provide no noise during construction but will permanently change a large area of the seabed (large excavations with high amount of seabed displaced, large foundation surfaces, large scour protections, etc.);
- Consideration of how the schedule is going to impact fisheries and fishing activities and what is the level of coordination to be put in place to mitigate potential conflicts – E.g. US Wind has postponed some offshore activities to avoid conflicts with fishing tournaments happening in the Maryland Wind Energy Area
- Any Noise-reduction measure that could mitigate impacts to fish in the project area;
- Mitigation measures to minimize turbidity where possible.
- Considerations for fishing access – e.g. with cable buried (and at what water depth) vs. cables simply laid on the seabed;
- Planned outreach activities over the project development and operations phases – including any communication protocols being adopted;
- Consideration of navigation aids and emergency plans – including additional actions that could be taken to improve safety for fishing vessels;
- Consideration of potential partnership opportunities to work with fishermen: providing support for projects that improve harbor facilities or fishing grounds, etc.
- Any emergency plans;
- Details on how the decommissioning of the wind farm will happen and any structures that will be left in-situ.

US Wind is committed to include any of the above in the application.

Comment to question 32c: Proposers should nominate a Company Representative in their application and commit to an open dialogue with fishing industry discussing about design criteria (e.g. cable burial). The dialogue should continue after the Power Procurement Process is completed and developers should periodically report to NYSERDA on the progress of the discussions. Some requirements could not be feasible, such as excessive spacing between turbines, excessive cable burial, etc., over what is physically possible for offshore wind construction.

Comment to question 33: Most of the studies conducted by developers during the Construction and Operation Plan process are already available. NYSERDA could ask for commitments from developers to not mark these findings as confidential. The Environmental Impact Statement part of the NEPA process is public as well.

However, some data collected during the Site Assessment Term, either through met mast or through met buoy, is confidential. Associated with this data collection there is an investment made by developers that is usually high, especially for a met mast, and sharing this data could cause damages to the developer collecting it providing, at the same time, advantages to other developers in the area. US Wind recommends NYSERDA to not ask for this information to be made public.

Comment to question 34b: NYSERDA could use additional funds to support research in the field of visual impact and multi-use of the ocean. See previous comments.

ELIGIBILITY/CONTRACT PROVISIONS

QUESTIONS

35. To encourage the greatest participation by offshore wind developers, what specific considerations should be made in defining eligibility and threshold requirements, bid flexibility, and other procurement mechanics?
36. NYSERDA has the discretion to determine additional eligibility requirements for participation in the solicitation beyond those defined in the Order (Order, p. 46).
 - a. Are there additional eligibility requirements that should be included in the solicitation? If so, what are the (dis)advantages of imposing such eligibility requirements on proposers?
37. NYSERDA will have discretion in fixing specific contract terms between 20 and 25 years (Order, p. 41). Should NYSERDA require proposers to submit offers for one or more specified terms, or allow respondents to propose a term length?
38. What factors should be considered in setting a latest allowable commercial operation date (COD) (Order, p. 46)?
 - a. How should the contract address delays in achieving the COD?
 - b. Should liquidated damages (LDs) be employed to foster timely commercial operation? Related to LDs, what factors should be considered in determining the reasonableness of a delayed COD?
 - c. If a selected project is not completed by the contractual COD, what size financial penalty should be levied for failure to perform?
39. The development of offshore wind is important to New York both economically and environmentally. Timely completion of an offshore wind project, in a cost-effective manner, is critical. What measures or arrangements do you consider the most efficient and effective ways to:
 - a. Ensure that the project proceeds on-time and on budget, and is protected from potential disruption and delays due to labor disputes?
 - b. Ensure construction management flexibility to coordinate the work of multiple trade contractors, including both union and non-union contractors, who might otherwise be subject to different restrictions, and to efficiently respond to any project-specific construction standards?

40. The Order states that “[i]f NYSERDA awards a contract using the Index OREC method, the contract will specify conditions that may trigger a reversion to the Fixed OREC method and price that was bid” (Order, p. 40).
- a. How should this provision be included in the contract?
 - b. What conditions could trigger the reversion?
 - c. Should there be a limited timeframe within which such a reversion must be exercised?
41. Are there any other topics or risks that NYSERDA should consider in drafting the RFP?

COMMENTS

Comment to question 35: US Wind believes the actual level of requirements is adequate.

Comment to question 36: US Wind doesn’t believe that additional requirements are needed, as this would add restrictions and reduce the competition.

Comment to question 37: Between 20 and 25 years is a typical period for offshore wind operations. US Wind recommends the following:

- Avoid a range and specify a fixed length, in order to have more consistency in the offers received and to easily compare and evaluate them;
- Aim for longer periods, hence 25 years, providing more attractiveness to the investment and allowing for lower OREC prices.

Comment to question 38a: The U.S. offshore wind industry is still young and there is still some level of uncertainty on Federal, State, and Local permitting process, as well as reception from public. Such uncertainties could be reflected in timelines longer than expected and on which the developer has no direct control.

US Wind recommends NYSERDA to allow for delays. Similarly, to the OREC process in Maryland, US Wind recommends having a 5-year maximum delay period.

Comment to question 38b: US Wind doesn’t recommend the inclusion of Liquidated Damages for the reasons discussed in the previous comment. LDs could be adopted only after the allowed period is exceeded, hence after 5 years. However, these should be evaluated carefully as they can be a detriment to the financials of the project up to possibly killing the development.

Comment to question 38c: See comment to question 38b.

Comment to question 39a: US Wind agrees on the importance of a timely completion of offshore wind projects. NYSERDA should take an active role in protecting the outcome of the Power Procurement Process. An offshore wind project goes through a long and detailed evaluation process at every level: federal, state, and local. External conflicts regarding topics already discussed in the above permitting process, where there is already a high public engagement of any relevant stakeholders, would pose risks on reaching the COD on time. This would be a damage for New York and would put the anticipated environmental and economic benefits from offshore wind at risk.