



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
KAGAWARAN NG KAPALIGIRAN AT LIKAS NA YAMAN

JAN 18 2024

DENR Administrative Order
2024 - 02

SUBJECT : INTERIM GUIDELINES FOR ENVIRONMENTAL COMPLIANCE CERTIFICATE (ECC) UNDER THE PHILIPPINE ENVIRONMENTAL IMPACT STATEMENT SYSTEM (PEISS) FOR OFFSHORE WIND (OSW) ENERGY PROJECTS

I. GENERAL PROVISIONS

Section 1. Rationale

Promoting economic growth, social inclusion, improving livelihoods and ensuring sustainability of the oceans and coastal areas are essential to achieve blue and green economy for the country. The expanding demand for food, materials and energy from the ocean needs to be met in a manner where resource efficiency is enhanced, and the impacts of climate change are addressed. Offshore marine renewable energy such as offshore wind (OSW) projects enables low carbon development through reduction of carbon emission and fosters a clean environment.

According to the offshore wind roadmap of the Philippines (World Bank Group, 2022), the Philippines' total technical potential offshore wind resource is estimated at 178 GW by 2050 and in a high growth scenario, 40GW of OSW will provide 23% of country's electricity supply.

However, the exploration, development and utilization of offshore wind resources may have significant unintended impacts on the environment. Given that their installation, operation, and decommissioning may potentially cause damage to and threaten the marine, terrestrial, socio-economic, and other applicable environments, it is therefore essential to ensure careful planning and management of associated risks through the Environmental Impact Assessment (EIA) regulatory framework.

Section 2. Declaration of Policy

Given that the installation, operation, and decommissioning of OSW will affect both land-based and ocean ecosystems, which provides ecosystem and economic services and considering the scientific uncertainty and lack of baseline data on the potential effects of these facilities, it shall be the policy of the State to achieve a

balance between the environmental benefits of using the oceans for renewable energy exploration, development and utilization and the need for protection, restoration and regeneration of the environment.

The Precautionary Principle shall be adopted in evaluating the environmental impact assessment study for OSW projects and in identifying the mitigating measures to address the adverse impacts on the ocean and marine environment. The application of the mitigation hierarchy (avoid/ minimize/ restore/ compensate) for identified mitigation measures shall be employed.

The Environmental Management Bureau (EMB) shall evaluate all individual OSW projects, including supportive works such as access roads, transmission lines and the like, and possible cumulative impacts, to ensure offshore wind development meets these standards.

Section 3. Objectives

This Department Administrative Order (DAO) aims to ensure that OSW development is done in the most environmentally sustainable manner possible by:

1. Validating all OSW project sites for environmental compliance;
2. Ensuring all activities for the installation and construction of OSW projects and necessary facilities such as grid and port infrastructures, including the transport of OSW components to and from land-based facilities, are properly sited to avoid conflict with existing ocean uses and living resources and additional hazards from navigational impacts;
3. Avoiding loss of irreplaceable endangered marine and coastal flora and fauna and minimizing other environmental and social impacts during pre-development/exploration, development, construction, operation, and maintenance, and decommissioning of the applicable facilities;
4. Working to ensure that all land-based facilities and development needed for the offshore wind industry are designed to minimize the overall impact on the natural and social environment;
5. Collaborating with other national government agencies, local government units and relevant stakeholders to ensure a comprehensive view of environmental, social, and economic aspects; and
6. Monitoring, evaluating compliance, assessing, and analyzing impacts during pre – development / exploration, development and decommissioning stage.

Section 4. Scope and Coverage

This DAO shall cover the following:

1. Those OSW projects issued with Environmental Compliance Certificate (ECC) prior to the issuance of this DAO;

The ECC issued to OSW Projects prior to the issuance of this DAO shall be reviewed by DENR to ensure that appropriate mitigating measures and that global standards and best practices in offshore wind energy development were considered.

2. All OSW projects issued with Offshore Wind Energy Service Contract (OSWESC) with the Department of Energy (DOE).

Section 5. Renewable Energy Projects within Protected Areas

Renewable energy projects within protected areas shall be allowed upon clearance from the Protected Area Management Board (PAMB) and approval of the DENR Secretary,

For purposes of this DAO, PAs include areas established as PAs by Congressional legislation, areas proclaimed by the President as PAs, areas covered by Presidential Proclamation or Executive Order and recommended by the DENR Secretary for inclusion into the PA system, and remaining initial components of the Expanded National Integrated Protected Areas System (ENIPAS) Act of 2018, unless withdrawn or disestablished under applicable laws, rules and regulations for failure to satisfy the criteria for establishment.

Exploration activities for energy resources in protected areas (PA) may be allowed only outside the strict protection zones and only for the purpose of gathering data and information and only if such activity is carried out with the least damage to surrounding areas.

Other conditions for approval are as follows:

- a. The project shall undergo the EIA as provided by law and adopt reduced impact technologies so as not to be detrimental to ecosystem functions, biodiversity, cultural practices, and traditions; and
- b. Sufficient bond based on damage estimation upon decommissioning and projected cost of rehabilitation shall be posted by the proponent to the DENR.

Section 6. Types and Primary Components of Offshore Wind Development

A. Types of Offshore Wind Technology

The following types of offshore wind technology shall be covered by this DAO:

1. Bottom fixed foundation wind turbine generators (WTG); and
2. Floating wind turbine generators.

A typical fixed offshore wind turbine structure comprises components both above (the nacelle, rotor, blades, and tower) and below (the sub-structure, foundations, and scour protection material) the water.

B. Components of Offshore Wind Development

In addition to the individual wind turbines, the components of an offshore wind farm development include:

1. Offshore:
 - a. substation; and
 - b. buried cables (inter-array and export).
2. Onshore:
 - a. construction port;
 - b. onshore substation;
 - c. buried export cable;
 - d. transmission lines beyond the substation; and
 - e. distribution lines/operation.

All OSW projects must adhere to national and international technology standards and best practices, with focus on safety, efficiency, and environmental sustainability. A Review Committee composed of DOE, DENR, DOST and other relevant National Government Agencies will be established to evaluate and incorporate emerging and future technologies in OSW, ensuring that the regulatory framework remains up-to-date and relevant.

Specific guidelines on the components above, when appropriate and necessary, may be issued, focusing on ensuring compliance with environmental standards and minimizing environmental impact.

II. STAGES OF OFFSHORE WIND (OSW) PROJECTS

Section 1. Pre – Application Stage

Pre-application Stage includes initial site selection, area clearance and application and award of OSW Energy Service Contracts (OSWESC) from the DOE.

The developers/proponents shall file a Letter of Intent (LOI) with mapping requirements through the Energy Virtual One Stop Shop (EVOSS) system for area verification and clearance. The DOE Information and Technology Management Services (ITMS) will issue an Area Clearance upon confirmation that the Area of Interest¹ (AOI) does not overlap with existing service contracts, tenurial instruments, and similar applications.

The DENR and the DOE shall share maps in GIS format locations of protected areas including other areas with specific ecological features, vulnerabilities or higher biodiversity characteristics, and areas where forest, mineral agreements and other tenurial instruments were issued for the purpose of determining whether there was overlap with the proposed service contract areas and of areas covered by the OSWESC.

A detailed guideline on the criteria for selecting sites shall be formulated by DOE in consultation with DENR and other relevant National Government Agencies, focusing on minimizing environmental, social, and navigational impacts.

A mechanism for close coordination between DOE and DENR shall be established to review overlapping areas of OSWESC and conflicts with existing PAs and tenurial instruments.

Section 2. Pre – Development / Exploration Stage

Pre-development/Exploration Stage includes the acquisition of permits and clearances, undertaking feasibility studies, preparation of detailed engineering design and determination of energy yield estimate, application for grid connection, and planning of development and financial closing.

It also involves the conduct of metocean/detailed wind resource assessment and geophysical and geotechnical studies, benthic, fish and shellfish surveys, ornithological, sea mammal and onshore environmental surveys, human impact studies, geohazard, climate and disaster risk assessment.

To assess the impact on physical, biological, socioeconomic resources, seafloor, and sub-seafloor conditions of construction and operation elements such as meteorological towers, buoys, cables, wind turbines, and support

¹ DOE DC No. DC2019-10-0013, Section 23. Area of Interest (AOI) refers to the contract area proposed and verified by the DOE through a verification report.

structures, the developer shall submit the following, as part of submission for the ECC requirements:

1. Site Assessment Plan (SAP);
2. Construction and Operations Plan (COP);

A separate guideline prescribing the contents of the Site Assessment Plan (SAP) and Construction and Operations Plan (COP) shall be issued by DENR.

3. Stakeholders Engagement Plan which defines activities relating to consultation with local communities, environmental experts, and relevant government agencies;
4. Abandonment and Termination Plan (ATP) submitted to the DOE for the decommissioning of meteorological (met) mast, foundation and other attendant structures; abandonment and seabed/surface restoration or rehabilitation of the contract area.

The ATP may be amended or supplemented as the need arises to consider the methods and costs of decommissioning, restoration, or rehabilitation of the contract area, subject to the approval of DENR.

Prior to the submission by the developer of the application for ECC, the developer, in collaboration with DOE and DENR, shall identify key research needs for impact evaluation and potential mitigation. This aims to help in understanding the EIA Study elements, keeping the assessment reasonable and proportional to the project's scale.

The conduct of data gathering and surveying during the pre-development stage shall be undertaken under the supervision of NAMRIA, at the expense of the developer. Data sharing with DENR/NAMRIA shall be required. A mechanism to define this requirement shall be formulated.

The activities during the Pre-development/Exploration Stage must be completed within five (5) years, with a possible extension of two (2) years.

Upon issuance of ECC for the pre-development stage, the DOE and developers shall begin undertaking the Cumulative Impact Assessment for the Development, Construction and Operation Stage of the OSW Projects. This assessment involves the analysis of all effects of multiple actions or impacts on the environment (example underwater noise, habitat loss, and risk of contact with fuel or chemicals, heat effect due to cabling, change in hydrodynamic regime, change in physiochemical water quality, and collisions (with vessels or turbines) and determining proper mitigation measures.

Environmental and social impact assessments shall be conducted for decommissioning activities, with appropriate mitigation measures. The assessments shall be submitted to DENR to determine whether the mitigation measures identified are adequate and appropriate.

Post-decommissioning monitoring shall be carried out by DOE and DENR, at the expense of the developers, to assess the recovery of marine and coastal ecosystems and ensure that no residual impacts remain.

A financial assurance mechanism, such as a decommissioning bond or fund, shall be established to cover the projected costs of decommissioning, including potential environmental remediation. A separate guideline covering the procedure for the financial assurance mechanism shall be issued by DENR.

III. PROCEDURES AND REQUIREMENTS FOR THE ISSUANCE OF ENVIRONMENTAL COMPLIANCE CERTIFICATE (ECC)

Section 1. Pre – Development / Exploration Stage

A. Procedures

1. During the conduct of metocean/detailed wind resource assessment and geophysical and geotechnical studies, the developers shall submit an Initial Environmental Examination (IEE) Report.
2. The Developers shall secure an Environmental Compliance Certificate (ECC) to the DENR under a Special/Streamlined Procedure where Baseline Characteristics Study shall be required from the developers. (See **ANNEX 1** for the flowchart of the ECC application procedure.)

Tangible, quantifiable, and time-bound milestones for environmental protection and enhancement, ensuring alignment with national sustainability goals shall be integrated into the ECC application.

B. Requirements

The following requirements shall be submitted by the developers in securing an ECC during its pre-development/exploration stage:

1. DOE-issued service contract;
2. Letter of No Objection on the Conduct of pre-development activities from the following agencies:
 - a. Department of National Defense (DND);
 - b. Department of Transportation (DOTr);
 - c. Department of Information and Communications Technology (DICT);

Section 3. Development / Construction and Operation Stage

Development/Construction Stage includes activities pertaining to the mobilization of the offshore works such as the layout of cables, installation of foundations (fixed bottom) or moorings and anchors (floating), installation of OSW turbines, installation of substation/s, testing and commissioning.

It also includes the onshore development ranging from operation and maintenance facilities, staging ports, and construction sites for foundations, turbines, and other associated infrastructures such as access roads and powerlines. While its Operation Stage includes the activities on selling and trade of power, performance management, maintenance and repair and asset management.

Measures to minimize impacts during construction, such as waste management, noise reduction, and protection of marine life shall be undertaken by the developers. Monitoring frameworks for assessing compliance with plans and other environmental regulations shall be implemented by the DENR.

Coordination with local governments and communities must be maintained by the developers to minimize social and economic disruptions, including providing appropriate compensation or support where necessary.

A Contingency Plan must be formulated by the developers for unexpected environmental or social impacts during construction and operation, with clear responsibilities and procedures for response.

Section 4. Decommissioning Stage

Decommissioning stage includes the removal of turbine, foundation, mooring and offshore substation. It also includes the removal of piles / anchors, array cable and export cable and onshore transmission assets.

Within five (5) years from the confirmation of the Declaration of Commerciality (DOC), the developers shall submit an Abandonment and Termination Plan (ATP) for approval of the DENR and DOE for the decommissioning of foundations, turbines, cables, scour protection, substation, and other attendant facilities/structures; marine logistics; abandonment and seabed restoration or rehabilitation of the production area.

At the end of operational life of the OSW Project, the developers shall, at its own expense, cause the decommissioning and abandonment of the OSW Project in accordance with the approved ATP, in line with the international best practice and all applicable local regulations.

The ATP shall be reviewed and updated by the developers every five (5) years or as the need arises to consider changes to the wind farm structures such as condition of scour protection, and revisions to the methods and costs.

- d. Department of Agriculture (DA);
 - e. Department of Interior and Local Government (DILG); and
 - f. Department of Tourism (DOT).
3. Accountability Statements of Proponent (see Annex 2-21 of Revised Procedural Manual for DAO 2003-30)
4. Initial Environmental Examination Report
- a. Project Description
 - i. Project Location in a nautical map indicating any known ECA category encompassing the project area
 - ii. Project Rationale
 - iii. Project development (including component dimensions, foundation type, dimension and other related information during met mast installation)
 - iv. Description of all project phases (installation and methodologies, operation and maintenance activities, information on the types of vessels and vessel movement, and other research requirements across all phases)
 - v. Manpower requirements
 - vi. Project Cost
 - vii. Project duration and schedule that reflects the specific project activities aligned with the 5-year Pre-development Work Program of the OSWESC, or any pre – development period as prescribed by the DOE.
 - b. Baseline Characteristics where Met Mast will be installed, such as:
 - i. Ambient Water Quality (Primary Parameters per DAO 2016-08)
 - ii. Marine ecosystems (e.g. Marine mammals, benthic and intertidal ecology, fish and shellfish ecology)
 - iii. Marine Physical Properties and Marine Sediment, and Water Quality;
 - iv. Offshore Air Quality and Noise;
 - v. Discussions on commercial fisheries, tourism, recreation, shipping and navigation, and aviation in the area.
 - c. Memorandum of Agreement with NAMRIA regarding the gathering of data, surveying and data sharing;
 - d. Environmental Management and Monitoring Plan (EMMoP) herein attached as **ANNEX 2**.
 - e. Proof of payment of fees² and charges for the review and monitoring of OSW energy projects to be set in a separate guideline.

² Fees and Charges for Environmental Compliance Certificate (ECC) Applications shall be governed by DENR Administrative Order No. 2016 – 28, "Providing for New Fees and Charges for Various Services of the Environmental Management Bureau"

C. Environmental and Social Considerations

1. During the pre-development/exploration stage, the developers shall, in addition to the requirements under DOE existing guidelines, undertake baseline data gathering, field surveys and critical research to determine the appropriateness of the siting of the OSW facility, structure, or cable proposed for the OSW project and identify the parameters for the EIA scoping process. EIA Scoping is the process of identifying the content and extent of the environmental information to under the EIA procedure.
2. These shall include the submission of results of site characterization surveys and supporting data to identify the “Area of Influence” (project footprint) of the OSW project, Site Assessment Plan (SAP), and Construction and Operations Plan (COP). These data from the surveys and research shall be used to evaluate the impact of construction, installation, and operation of meteorological towers, buoys, cables, wind turbines, and supporting structures on physical, biological, and socioeconomic resources, as well as the seafloor and sub-seafloor conditions.
3. The developer shall work with DOE, DENR and other relevant agencies, including local communities and stakeholders, to identify any key research requirements as the basis for determining potentially significant impacts of OSW development and possible appropriate mitigation and monitoring measures.
4. The data gathering, field surveys, and research shall assist the developer and government in identifying the elements of the EIA Study. These activities shall ensure keeping the environmental assessment reasonable and in proportion to the nature and scale of the development.

D. Conduct of Climate and Disaster Risk Assessment

Climate variables such as harsh environments and storm severity can disrupt and impact the reliability of offshore wind systems. Climate change can affect offshore wind systems in two ways. The first is by affecting the performance of systems, such as reducing the ability to deliver the expected energy output over the life of the offshore wind system. The second is to affect offshore wind reliability or the ability of a system to deliver energy, without disruption, as a result of climatic conditions outside the normal operating range, such as storms.

For wind turbines, the most significant variables for performance are wind speed and direction. Assessments of offshore wind turbine sites shall consider the annualized mean wind speeds and directions, wind speed frequency distributions, and seasonal variations in wind patterns.

The climate and disaster risk assessment shall also be conducted during the pre-development and exploration stage. The same shall be based on recognized methodologies and shall involve consultation with relevant agencies, experts, and local communities to ensure that a wide range of risks are assessed and addressed.

The assessment shall consider other climate-related factors that can shape the performance of offshore wind turbines, such as:

1. Sea surface and air temperature, which affects air density, with higher air temperatures reducing wind turbine power output;
2. Air moisture, which can lead to blade-leading edge erosion and lost power production;
3. Ocean wave amplitude and frequency, which can affect turbine foundations, inter-array and export cabling, and cable landings on the seafloor;
4. Sea level rise, which may threaten the infrastructure for fixed and floating foundation wind turbines.

An Emergency Response Plan (ERP) shall be formulated and submitted by the developers, detailing response measures for potential accidents or disasters, such as oil spills, collisions, or extreme weather events.

E. Compliance and Environmental Impact Monitoring

For the pre-development and exploration stage, the DENR, through the EIA Monitoring Committee, shall undertake regular and transparent monitoring and evaluation. This process will assess the developers' compliance with permitting requirements, mitigating measures and any other environmental commitments, with results made available to the public as appropriate and in accordance with relevant laws, rules and regulations.

The DENR shall establish the EIA Monitoring Committee composed of DOE, EMB, other relevant National Government Agencies and experts as appointed by DENR.

Regular reports on progress, compliance, and impacts shall be submitted by the OSW developers to the EMB. Any non-compliance or unforeseen impacts shall be promptly addressed, with penalties applied pursuant to applicable laws, rules, and regulations.

Section 2. Development / Construction and Operation Stage

A. Procedures

1. OSW Projects under Development/Construction stages shall be covered by the ECC process, and the developers shall be required to submit a full-blown Environmental Impact Assessment (EIA) Study as a requirement to secure an ECC, in accordance with the Cumulative Impact Assessment Report.
2. Experts from the Department of Energy- Renewable Energy Management Bureau (DOE – REMB) shall participate as Resource Persons in the EIA Review Committee during the conduct of EIA Review and Evaluation Stage of the EIA process.
3. Separate ECCs shall be obtained for the various components related to the onshore development such as port construction or onshore substation.
4. The procedures in securing an ECC shall follow the Revised Procedural Manual of DENR AO 2003-30 and the DENR AO 2017-15 on Public Participation for the Philippine EIS System. The application for an ECC shall be filed with the EMB Central Office. (See **ANNEX 3** for the flowchart/process of securing an ECC).

B. Requirements

The developers shall be required to submit the following for ECC application under development/construction and operation stage:

1. Environmental Impact Statement (EIS)
2. Proof of Authority over the Project Site
 - a. For Offshore wind facilities: PAMB Clearance (if within Protected Areas)/ Application for SAPA
 - b. If onshore: FLA application
 - c. For Power Substation/s:
 - i. Transfer Certificate of Title (TCT) over the land where the facilities will be established;
 - ii. Lease Agreement over the area where the facilities will be constructed and installed.
3. Pursuant to the Republic Act 11234 “Energy Virtual One-Stop Shop Act”; Republic Act No. 11032 “Anti-Red Tape Act” or Ease of Doing Business Law; Executive Order No. 18, series of 2023 “Constituting Green Lanes

for Strategic Investments”; Executive Order No. 21, series of 2023 “Directing the Establishment of the Policy and Administrative Framework for Offshore Wind Development”, Letter of No Objection from the following agencies shall be submitted within one (1) year upon issuance of the ECC:

- a. Department of Agriculture (DA);
 - b. Department of Interior and Local Government (DILG);
 - c. Department of National Defense (DND);
 - d. Department of Tourism (DOT);
 - e. Department of Transportation (DOTr); and
 - f. Department of Information and Communications Technology (DICT).
4. Accountability Statements of Proponent and Preparers (see Annexes 2-21 & 2-22 of Revised Procedural Manual for DAO 2003-30)
 5. Duly Accomplished Project Environmental Monitoring & Audit Prioritization Scheme (PEMAPS) Questionnaire (see Annex 2-7d of Revised Procedural Manual for DAO 2003-30).
 6. Proof of payment of fees³ and charges for the review and monitoring of OSW energy projects to be set in a separate guideline.

C. Environmental and Social Considerations

To promote a truly sustainable green energy transition in the country, strategic-level planning, and early identification of risks through screening and other appropriate tools shall be implemented. These shall allow the government to focus on key impacts and sensitive receptors to ensure a holistic assessment of the environmental risks and impacts and better understand the uncertainties surrounding the impacts and effects of OSW development.

The following information shall guide the developer about the impacts of offshore wind development for them to identify viable mitigation measures to address those impacts, such as the proper location of the turbines, away from the species’ key habitats, design modifications to the size of blades, the height of turbines, and configuration of the facility and associated

³ *Fees and Charges for Environmental Compliance Certificate (ECC) Applications shall be governed by DENR Administrative Order No. 2016 – 28, “Providing for New Fees and Charges for Various Services of the Environmental Management Bureau.”*

infrastructure during the construction phase, including temporal stoppage of turbines during operation.

1. **ANNEX 4** provides a summary of environmental, social, and technical considerations in offshore wind development.
2. **ANNEX 5** provides environmental and social spatial data layers and data sources in the context of the Philippines. This report is a preliminary analysis. Further analysis will be required during the preparation of the Marine Spatial Plan (MSP), but the tables should demonstrate the type of information and methods that will be necessary not only for the Philippines' MSP but also for the environmental and social impact assessment of individual offshore wind projects.
3. **ANNEX 6** provides the summary of the derived impacts from offshore wind installation, their associated mitigation measures, and the spatial data and survey methods that could guide EIA studies following the Good Environment Status (GES) Framework.
4. **ANNEX 7** shows the summary of mitigation approaches for offshore wind farm development.

D. Discussions to be included in the Environmental Impact Statement (EIS)

The Environmental Impact Statement shall include the following:

1. Marine assessment (including ocean dynamics), including identification of impacts and mitigating measures;
2. Impact on flora and fauna, birds/wildlife animals and information on the migration pattern of birds offshore;
3. Noise levels associated during the construction and operation of OSW, which affect marine mammals/fishes/birds, including electro-magnetic signals that might be emitted;
4. Vibration impact on the marine ecosystem;
5. Hazardous chemicals and materials during maintenance of the wind turbine;
6. Waste management system/disposal system for the turbine blades;
7. Wastes generated by attending vessels and means of management;
8. Physical and cultural resources in the offshore areas (coordinate with the National Museum (NM), National Historical Commission of the Philippines (NHCP), and the National Commission for Culture and Arts (NCCA);

9. Waste and material flow analysis in the end-of-life of OSW;
10. Approaches/Technology to be used in the monitoring of impacts for OSW development, which include but are not limited to the following:
 - a. Mortality or injury to birds and marine mammals from turbine blades and pile-driving noise;
 - b. Potential displacement of pelagic and aquatic organisms (e.g., whales, fish) and seabirds from the project areas if the OSW installation creates unsuitable habitat;
 - c. Alteration of sea bottom habitat resulting in changes to fish and invertebrates' communities.

The impact chain of each phase-specific OSW pressure for the respective environmental components, where the strengths of the links are relative to the level of sensitivity of the species to the respective pressures such as underwater noise, habitat loss, and risk of contact with fuel or chemicals shall be determined.

11. Climate and Disaster Risk Assessment.

See **ANNEX 8** for the EIS outline.

E. Compliance and Environmental Impact Monitoring

For the development/construction and operation stage, an appropriate guideline for the assessment of predicted impacts or the implementation of mitigation measures and compliance monitoring, evaluation, and assessment for the OSW projects (including the efficacy of mitigation measures and environmental impacts undertaken by the developer) shall be issued.

Section 3. Issuing Authority

The Secretary or the EMB Director, upon clearance by the former, and upon the recommendation of the EIA Review Committee, shall approve the issuance of the ECC for the pre – development / exploration stage and for the development / construction and operation stage of OSW projects.

IV. MEMORANDUM OF AGREEMENT (MOA) BETWEEN DENR AND DOE

The DENR and DOE shall enter into a Memorandum of Agreement (MOA) which shall stand as an authority to the DOE to access the offshore area covered by this DAO during the pre-development/exploration stage.

The DOE's access to the said area shall be guided by the principles of sustainable development, environmental protection, and inter-agency collaboration. Specific

provisions detailing the rights, responsibilities, terms, and conditions related thereto shall be contained in the draft MOA attached as **ANNEX 9**.

V. FINAL PROVISIONS

Section 1. Enhanced Guidelines

Guidelines covering the Pre-development/ Exploration, Development/Construction and Operation and Decommissioning Stage shall be enhanced upon completion of the study reviewing the Philippines' environmental and social (E&S) safeguards requirements regarding OSW, for compatibility with international standards of good practice.

Section 2. Repealing Clause

All orders, circulars, memoranda, and other issuances inconsistent herewith are hereby repealed, amended, and/or modified accordingly.

Section 3. Suppletory Clause

The provisions of all existing and applicable laws and administrative orders consistent with the objectives of this Order shall have suppletory application.

Section 4. Separability Clause

If any provision of this Order shall be held invalid or unconstitutional, the other portions or provisions hereof which are not affected shall continue in full force and effect.

Section 5. Effectivity

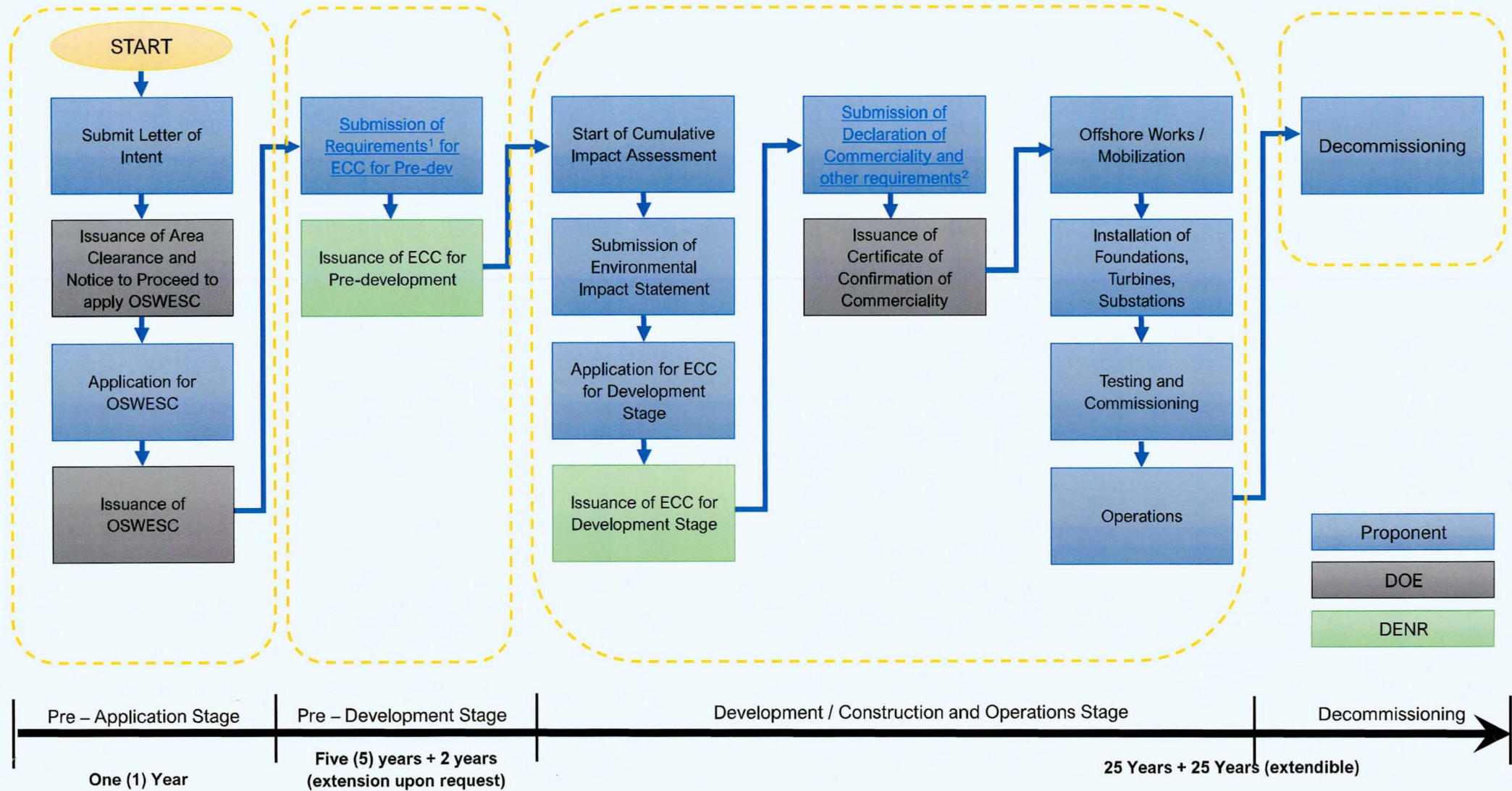
This Order shall take effect immediately after publication in a newspaper of general circulation and upon acknowledgment of UP ONAR.


MARIA ANTONIA YULO LOYZAGA
Secretary

Publication: Manila Bulletin
February 16, 2024

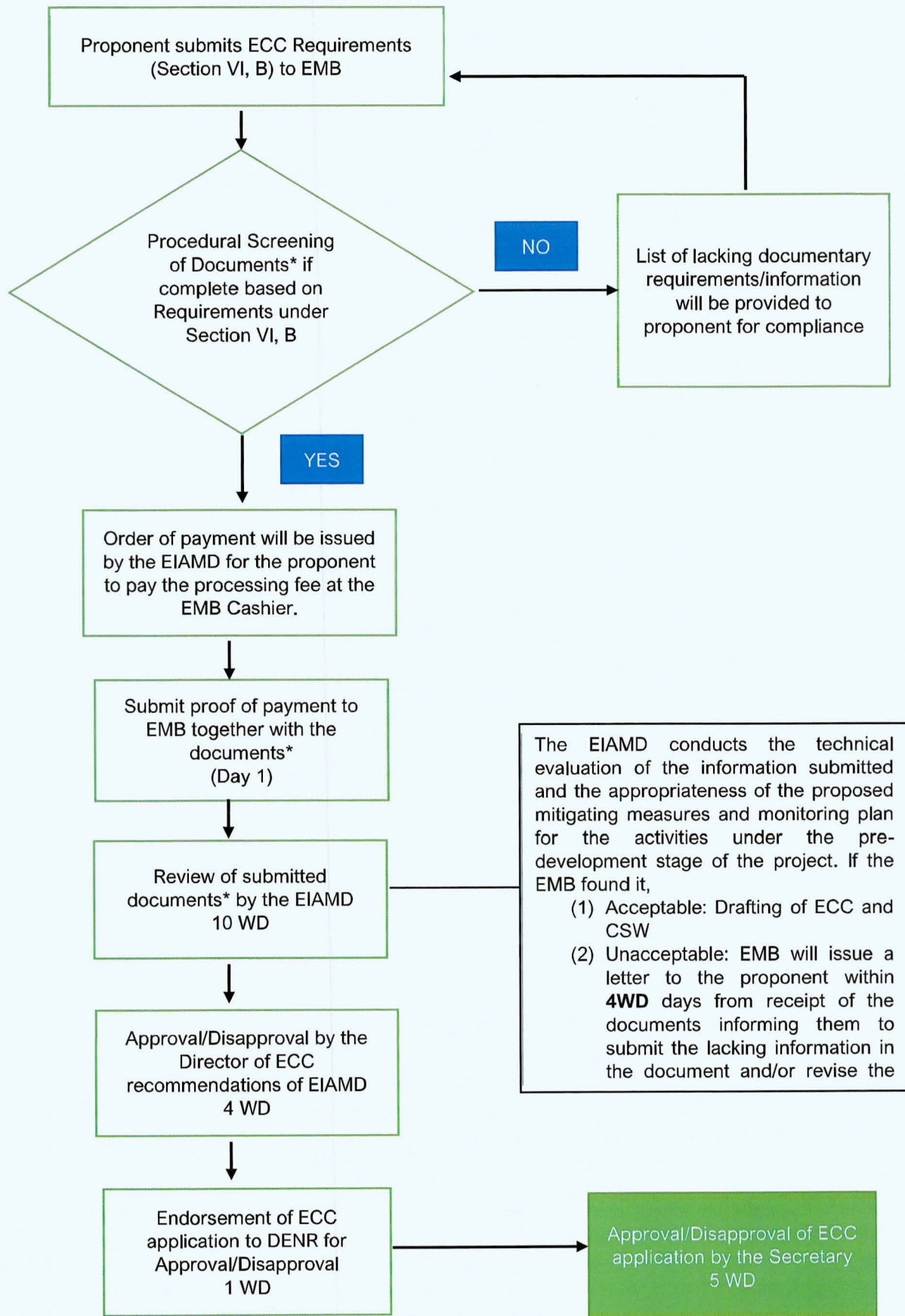
Acknowledgement: ONAR, U.P. Law Ctr.
February 20, 2024





ANNEX 1

ECC application for Pre-development/ Exploration Stage of OSW project (20WD)



*1. DOE-issued service contract; 2. Memorandum of Agreement between the DENR and the developer which provides authority to the latter to utilize the area covered by the service contract; 3. Accountability Statements of Proponent (see Annex 2-21 of Revised Procedural Manual for DAO 2003-30); 4. Project Description Report; 5. Baseline Characteristics where Met Mast will be installed; 6. Environmental Management and Monitoring Plan (EMMoP)

Annex 2

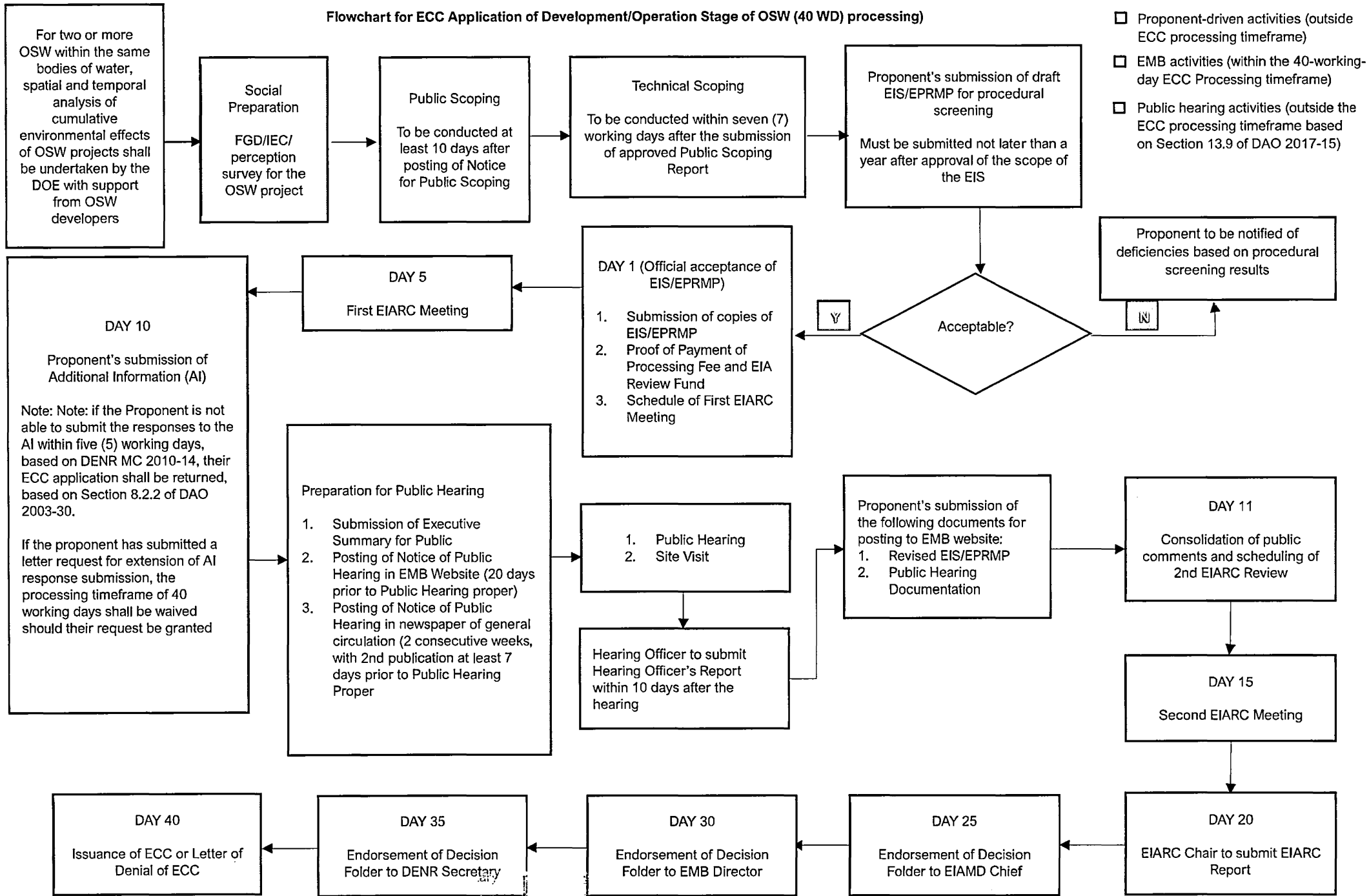
**ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN FOR PRE-DEVELOPMENT STAGE
OF OFFSHORE WIND (OSW) PROJECTS (EMMOP)**

Key Environmental Aspects (activity which will likely impact the environment)	Potential Impacts	Prevention or mitigation or enhancement measures	Parameters to be monitored	Sampling and Measurement Plan			Lead Person	Estimated cost
				Method	Frequency	Location		

Note: The proponent shall include a narrative discussion of prevention or mitigation or enhancement measures per identified potential impacts.

Annex 3

Flowchart for ECC Application of Development/Operation Stage of OSW (40 WD) processing)



- Proponent-driven activities (outside ECC processing timeframe)
- EMB activities (within the 40-working-day ECC Processing timeframe)
- Public hearing activities (outside the ECC processing timeframe based on Section 13.9 of DAO 2017-15)

ANNEX 4

Summary of Environmental, Social and Technical Considerations

Consideration	Category	Rating*	Definition and Potential Impact
Q. Protected Areas and Key Biodiversity Areas	Environmental	R	Environmentally designated sites of regional, national, and international significance such as mangrove reserves, marine parks, and sanctuaries which are considered as high-risk areas. This includes identified freshwater and/or marine KBAs. OSW development during pre-construction and construction stages can cause displacement and habitat changes and pose a threat to marine species and surrounding biodiversity due to noise and vibration levels, and reduced water quality during construction.
B. Natural habitats	Environmental	R	Coastal habitats such as coral reefs, seagrass beds, and mangrove forests. Construction in coastal areas and marine ecosystems can lead to biodiversity disturbance and possibility of local increased erosion caused by scour around new structures and water pollution during construction. Wastes anticipated for the project include domestic wastewater, solid wastes (hazardous and non-hazardous), oil and lubricants during construction. Indirect effects include interruption or changes to natural coastal processes such as tidal flows and sediment movement
C. Sensitive marine species	Environmental	R	Includes dolphins, dugongs, sharks, rays, turtles, and other marine species sensitive to survey, construction, and operational activities. Includes various endangered species. Noise, acoustic vibration, and light produced during OSW construction can impact sensitive marine species causing changes in feeding and breeding patterns through habitat disruption. Increased sediment loading during construction and operation could cause smothering of habitats and species. Operational noise sources include mechanical (acoustic emission) and aerodynamic (noise created by the wind turbine blades interacting with the wind).
D. Bats and birds	Environmental	R	Habitats for resident and migratory bird species, particularly intertidal feeding grounds and high-tide roost sites which support populations of threatened species. OSW poses risk of injury or death from turbine collision, habitat displacement, disruption of feeding grounds, and changes in breeding patterns.
E. Artisanal and commercial fishing grounds	Social	R	Comprises commercial fishing areas, and small-scale fisheries for individual households or communities. In many countries, larger fishing vessels are not permitted to enter OSW farms, driving changes to fishing areas and practices, though changes in risk perceptions are in some cases softening such restrictions.
F. Aquaculture	Social	A	Areas for coastal aquaculture and mariculture of fish, shellfish, and seaweed in the country. OSW construction such as piling may cause noise/vibration impacts to the marine

Consideration	Category	Rating*	Definition and Potential Impact
			environment. Civil works increase the potential for water pollution that could result in potential economic displacement through reduced yields.
G. Landscape and seascape	Social	A	Any significant viewpoints (landscape, seascape, or visually significant landforms/structures) that will be affected by the visual impact of wind turbines and associated facilities, such as transmission lines and substations. Impacts can relate to the presence of infrastructure but also flicker o
H. Historical and cultural areas	Social	R	Shipwrecks and heritage sites that have significance to local culture or local setting. OSW construction can pose risks to potential offshore artifacts, that may have cultural or tourist value. Visual considerations are also relevant.
I. Tourism areas	Social	A	Tourism areas consist of beaches, hotels, natural areas, cultural/ heritage buildings, and locations for water activities such as diving, surfing, recreational fishing, boating, sailing, and cruise ships. Construction activities can cause disruption. Visual considerations are also relevant. Early OSW projects can create new local tourism opportunities.
J. Ports and shipping routes	Technical	R	Ports and shipping routes for a range of vessel sizes. Construction activities can cause temporary disruption, and larger vessels are not permitted to enter OSW farms, potentially driving changes to navigation routes. The presence of structures at sea are a collision risk. Road traffic due to associated onshore works (grid connection and transmission and port upgrades) can impact locally.
K. Military exercise areas	Technical	G	This comprises military bases, firing ranges, exclusion zones (including due to radar), and military no-fly zones. Potential impacts are as directly above, plus OSW projects can affect radar and defense systems due to the presence of large, moving structures at sea (as rotors turn)
L. Aviation	Technical	A	This comprises local and international airports, flight paths, and related radar systems. Potential impacts are risk of collision plus OSW projects can affect radar, as above.

Adapted from: **Offshore Wind Roadmap for the Philippines**

* Ratings:

- R – Development has the potential to have significant impacts or influence on the environmental or social consideration.
- A – Development has the potential to have an impact or influence on the environmental or social consideration.
- G – Development is unlikely to have an impact or influence on the environmental or social consideration.

ANNEX 5

Environmental and Social Spatial Data Layers and Data Sources Referenced in the Roadmap

Data Layer	Notes	Data Source	Reference
Environmental Considerations			
Marine protected areas	Areas legally protected under the National Integrated Protected Area System (NIPAS) Act. Includes Locally Managed Protected Areas (LMPAs) as listed below	DENR (BMB)	https://data.unepwcmc.org/datasets/44
Critical habitats	Areas of known habitats of threatened species, designated under Wildlife Resources Conservation and Protection Act No . 9147 (the Wildlife Act) .	DENR (BMB)	https://data.unepwcmc.org/datasets/44
Key Biodiversity Areas (including alliance for zero extinction sites and Important Bird Areas)	Areas of international importance in terms of biodiversity conservation .	Integrated Biodiversity Assessment Tool (IBAT)	https://www.ibatalliance.org/sampledownloads?tab=gisdownloads&anchor_id=resource-header
Ramsar sites	Wetlands of international importance that have been designated under the criteria of the Ramsar Convention on Wetlands for containing representative, rare or unique wetland types, or for their importance in conserving biological diversity.	IBAT	http://ihp-wins.unesco.org/layers/geonode:sites
Important Marine Mammal Areas	IMMAs are habitats important to marine mammal species that have the potential to be delineated and managed for conservation.	Tethys Institute Research	https://www.tethys.org/
UNESCO World Heritage Natural Sites	The natural World Heritage spatial data are updated annually in the World Database on Protected Areas (WDPA), after the World Heritage Committee meeting, hosted on Protected Planet. The current version is August 2017 .	UNEP	http://www.unep-wcmc.org/
UNESCO-MAB biosphere reserves	The Man and the Biosphere (MAB) program is an intergovernmental scientific program that aims to establish a scientific basis for enhancing the relationship between people and their environments. It combines the natural and social sciences with a view to improving human livelihoods and safeguarding natural and	UNESCO	http://ihp-wins.unesco.org/layers

Data Layer	Notes	Data Source	Reference
	managed ecosystems, thus promoting innovative approaches to economic development that are socially and culturally appropriate and environmentally sustainable.		
Coral reefs	Important natural habitat	Allen Coral Atlas (via TBC)	https://allencoralatlas.org/resources/
Seagrass beds	Important natural habitat	Allen Coral Atlas (via TBC)	https://allencoralatlas.org/resources/
Mangrove forests	Important natural habitat	Important natural habitat	https://data.unepwcmc.org/datasets/45
Locally managed marine protected area	The Biodiversity Management Bureau (BMB) of the DENR implements a Coastal and Marine Ecosystem Management Program (CMEMP), which includes all coastal and marine areas of the Philippines. LMPAs that are designated by the Fisheries Code include fish reserves, sanctuaries, and refuges; seagrass sanctuaries; marine parks; and marine reserves, sanctuaries, and refuges. LMPAs include all waters within a municipality that are not included in protected areas under the NIPAS Act.	Philippines-geoportal	https://www.geoportal.gov.ph/
Ecologically or biologically significant marine areas	Internationally agreed marine areas of importance.	CDB	http://www.cbd.int/
Cartilaginous fish	Areas of sensitive marine species, specifically sharks, rays, and chimaeras.	TBC National Stock Assessment Program (NSAP) under Department of Agriculture Bureau of Fisheries and Aquatic Resources (DARBFAR) Sharks Assessment Report dataset 2009–2016.	See references for KBAs and MPAs
Endemic bird areas (EBAs)	Areas of overlapping breeding ranges of restricted range bird species.	BirdLife International Data Zone.	http://datazone.birdlife.org/eba/

Data Layer	Notes	Data Source	Reference
Social Considerations			
UNESCO World Heritage Sites	Cultural and/or natural heritage sites with outstanding universal value to humanity. No sites identified within the Philippines analysis area.	UNESCO	http://ihpwins.unesco.org/layer/s/worldheritagesites:geonode:worldheritagesites
Fishing ports areas	Municipal and regional fishing ports.	Philippines geoportal	https://www.geoportal.gov.ph/
Landscape and seascape	Sites with protected status due to their landscape or seascape value.	BMB, DENR, Philippine Government	Manually digitized from information in https://www.denr.gov.ph/images/DENR_Publications/PA_Guidebook_Complete.pdf
Tourism	Tourism ports development pipeline.	DOTR	DOTR
Technical Considerations			
Airports 2020 Marine	Regions around airports may need to be avoided to reduce radar impacts	Openflights	https://openflights.org/data.html
Exclusive economic zones (EEZ)	Internationally recognized marine boundaries	Marine Eco Regions	https://www.marineregions.org/
Extreme wind speeds	Used for information	PREVIEW Global Data Risk Platform	https://preview.grid.unep.ch/
Mean wind speed	Used to determine AEP and LCOE	The Global Wind Atlas v3 .0, released in 2019 (Danish Technical University [DTU] and the World Bank Group [WBG])	https://globalwindatlas.info/
Military bases	Locations of military bases in the Philippines	Arup/Google Earth	Manually digitized from Google Earth
Offshore oil and gas activity	Locations of offshore oil and gas activity	Philippines geoportal	https://www.geoportal.gov.ph/
Ports	Locations and size of ports	Humdata/Philippines geo-portal	https://www.geoportal.gov.ph/geo-portal
Seismic activity	Used for information	PREVIEW Global Data Risk Platform	https://preview.grid.unep.ch/
Shipping density	The raster layers were created using International Monetary Fund's (IMF) analysis of hourly AIS positions	World Bank	https://datacatalog.worldbank.org/search/dataset/00

Data Layer	Notes	Data Source	Reference
	received between January 2015 and February 2021 and represent the total number of AIS positions that have been reported by ships in each grid cell with dimensions of 0 .005 degree by 0 .005 degree (approximately a 500 meters x 500 meters grid at the Equator) . The AIS positions may have been transmitted by both moving and stationary ships within each grid cell; therefore, the density is analogous to the general intensity of shipping activity		37580/Global-ShippingTraffic-Density
Undersea cables	Datasets include official submarine cable system name, cable system length in kilometers, and landing points. Additional information such as the owners of the cable systems can be found on www. subamrinecablemap. com . The routes of the cables do not accurately reflect the exact route taken by each cable but give an indication of approximate location	Submarine Cable Map	
Water depth	Used to determine areas of fixed/ floating foundations and as input to the LCOE model	The General Bathymetric Chart of the Oceans	https://www.gebco.net/dat_and_products/gridded_bathymetry_data/

Adapted from: **Offshore Wind Roadmap for the Philippines**

ANNEX 6

Summary of the Derived Impacts from Offshore Wind Installation, Their Associated Mitigation Measures, and the Spatial Data and Survey Methods that could Guide EIA Studies following GES Framework

GES Quality Descriptor	Potential Impact Environmental Issues and Related Phase	Mitigation Measures	Spatial Data Requirements and Survey Recommendations
QD1: Biodiversity - Seabirds	Seabird mortality through collisions with turbines, barrier effect, and disturbances during migration and foraging behaviour – operational phase.	Locating OSW facilities away from important sea bird habitats and foraging/migration flight paths. Turbines may be placed to avoid perpendicular alignment to the birds' main flight pathways, be grouped to provide aerial corridors between clusters, and proper lighting systems to increase the visibility of rotor blades.	Seabirds' distribution data and migration patterns. In situ surveys and species distribution modelling.
QD1: Biodiversity – Marine Mammals	Disturbances during migration and foraging behaviour. Especially relevant for marine mammals. Displacement, exclusion, and loss of habitat use – construction and decommissioning phases.	Proper location planning of OWF away from conflicting areas with sensitive species and habitat types. Avoiding high densities of wintering or migratory species, foraging or breeding areas, and special areas for conservation.	Marine mammals and aggregation of other pelagic species distribution data. In situ surveys and distribution modelling.
QD1: Pelagic habitats and species	Disturbances during migration and foraging behaviour.	Further research needed.	Pelagic species distribution, biogeographic and oceanographic features.
QD1: Pelagic habitats and species	Disturbances of behaviour, i.e., pelagic species presented the highest abundance within the OSW facilities – operational phase, as turbines act as fish aggregating devices. During the construction phase, displacement, exclusion, and loss of habitat use of pelagic species could be expected.	Further research needed.	Pelagic species distribution, and biogeographic and oceanographic features.

GES Quality Descriptor	Potential Impact Environmental Issues and Related Phase	Mitigation Measures	Spatial Data Requirements and Survey Recommendations
QD1: Biodiversity – Benthic habitats	Reef effect – benthic habitat gains or decreases in biodiversity. Turbine submerged constructions are colonized by marine species, resulting in an additional source of food for higher trophic levels – Construction, operational, and decommissioning phases.	Avoiding the sensitive benthic habitats areas (e. g., listed in the Habitat Directive 92/43/EEC) for the development of the OSW	Benthic habitats maps obtained by surveys and modelling. Survey on habitat distribution prior to OSW construction and during the operative phase.
QD2: Non-indigenous species	OSW structures can provide new corridors to NIS and increase their distributional range – Operational and decommissioning phases	Linking spatial data with biophysical modelling, predicting species introductions and their impacts, and analysis of vectors of introduction.	Capacity building and staff training to differentiate between local and potential NIS species. Development of an early warning monitoring system with a GIS tracking system.
QD3: Quality descriptor 3 – commercial fish	Fisheries stocks can be significantly impacted if fisheries are allowed in the OSW areas – Operational and decommissioning phases.	Design management responses to restrict fisheries during defined periods and/or restrict specific fishing gear and practices.	Empirical studies applied in situ surveys. Modelling with ECOpath & ECOsim.
QD4: Ecosystems, including food webs	Specific food web guild might be impacted, increasing species mortality, potential demographic and distributional range modifications, and effects on pelagic and benthic habitat – Operational and decommissioning phases.	Further research needed.	Empirical studies applying in situ surveys. Modelling with ECOpath & ECOsim.
QD5: Eutrophication	OWF may favour local anoxia, especially in waters already rich in nutrients and semienclosed water bodies, due to changes in the currents regime (mixing dilutions and current velocities) and accumulation of biomass (in particular, biofouling organisms such as blue mussels with high oxygen consumption rates. – Operational phase.	Adjusting site location to ensure enough renewal of the water bodies.	In situ surveys of parameters that indicate eutrophication threats: dissolved oxygen, biochemical and chemical oxygen demand, total nitrogen, total phosphorus, and chlorophyll a.

GES Quality Descriptor	Potential Impact Environmental Issues and Related Phase	Mitigation Measures	Spatial Data Requirements and Survey Recommendations
QD6: Seafloor integrity	Impacts on the physical, chemical, and biological features of the sea bottom, and permanent physical loss – construction, operational, and decommissioning phases.	Adequate selection of the seabed substrate (gravel, sand, mud) for OSW foundations. Floating OWF with innovative types of foundations and anchoring solutions might be used when appropriate. Analyse whether foundations after 20 years of use should be entirely or partially decommissioned or left as artificial reefs.	Survey of physical, chemical, and biological features of the seabed.
QD7: Hydrographical conditions	OWF is shown to enhance the turbulent vertical mixing effect and increase turbidity. A 5% of wave height reduction was shown across three times the extension of the OWF on the lee side of the turbines – Construction, operational, and decommissioning phases.	Further research needed.	Experimental modelling on hydrographical feature modifications.
QD8: Concentrations of contaminants in the sea environment	An increase in oil spill risk resulting from vessel collisions with wind farms. The contaminants contained in the sediments might be remobilized and reintroduced into the water column – Construction, operational, and decommissioning phases.	Applying commonly required safety and security measures on vessels included in the construction and maintenance operations.	Contaminants survey in the water column, seabed, and filtering organisms that colonize the artificial structures.
QD9: Contaminants in fish and other seafood	Further research needed.	Further research needed.	Contaminants survey within the commercial species sampled in the OWF.
QD10: Marine litter	Source of marine litter – Decommissioning phase.	Considering whether foundations should be decommissioned or left as artificial reefs.	Marine litter survey and assessment prior to construction and decommissioning.
QD11: Noise and energy pollution	Marine species behavioural local disturbances. Larval mortality of fish. Hearing impairment and communication disruption of marine mammals. Local effects in the prey detection ability of elasmobranchs and disturbances in	The usage of acoustic (bubble) curtains to attenuate noise from OWF construction and reduce temporary habitat loss. Adequate design and deployment of cables to avoid sensitive species.	Analyse distribution ranges of sensible marine species such as marine mammals. Monitor the noise levels in the area before and during the construction.

GES Quality Descriptor	Potential Impact Environmental Issues and Related Phase	Mitigation Measures	Spatial Data Requirements and Survey Recommendations
	migration patterns of the European eel – Construction, operational, and decommissioning phases.		

Adapted from: **Environmental Impact Assessment Framework for Offshore Wind Energy Developments based on the marine Good Environmental Status**

ANNEX 7

SUMMARY OF MITIGATION APPROACHES FOR OFFSHORE WIND (OSW) FARM DEVELOPMENT

PROJECT PHASE	MITIGATION HIERARCHY	MITIGATION APPROACHES
Site characterisation	Avoidance and minimisation	<p>Scheduling: changing the timing of survey activities to avoid disturbing biodiversity during sensitive periods.</p> <p>Operational controls to manage and regulate contractor activity (e.g. controlling vessel movements).</p>
Project design phase	Avoidance and minimisation	<p>Micro-siting: changing the layout of project infrastructure to avoid sensitive areas.</p> <p>Selecting or designing project components to avoid or reduce impacts such as quiet foundations.</p> <p>Re-routing, marking or burying onshore powerlines to avoid collision risk.</p>
Construction phase	Avoidance	Scheduling: changing the timing of construction activities to avoid disturbing biodiversity during sensitive periods.
	Minimisation	<p>Abatement controls to reduce emissions and pollutants (e.g. selecting construction methods to minimise underwater noise impacts).</p> <p>Operational controls to manage and regulate contractor activity (e.g. controlling construction/installation vessel movements and managing lighting).</p>
	Restoration and rehabilitation	Repair of degradation or damage to biodiversity features and ecosystem services from project-related impacts that cannot be completely avoided and/or minimised (e.g. revegetating onshore laydown areas or restoring coastal intertidal habitats disturbed during export cable installation).
Operational phase	Minimisation	Physical controls involving modification to standard infrastructure, or the standard operation of infrastructure, to reduce impacts (e.g. through shutdown on demand to minimise collision risk).

PROJECT PHASE	MITIGATION HIERARCHY	MITIGATION APPROACHES
		<p>Abatement controls to reduce emissions and pollutants (e.g. by managing maintenance lighting).</p> <p>Operational controls to manage and regulate contractor activity (e.g. through controlling maintenance vessel movements).</p>
End-of-life	Avoidance	Scheduling: changing the timing of decommissioning activities to avoid disturbing biodiversity during sensitive periods such as breeding seasons
	Minimisation	<p>Abatement controls to reduce emissions and pollutants created during decommissioning, such as cutting of sub-sea infrastructure.</p> <p>Operational controls to manage and regulate contractor activity (e.g. vessel speed regulation) and minimize risk to biodiversity such as marine mammal strike.</p>
	Restoration and rehabilitation	<p>Consider (if legislation allows) leaving infrastructure in place if there is a biodiversity/ecosystem services benefit such as the reef effect associated with foundation/scour protection.</p> <p>Revegetation of disturbed areas onshore as they become available, using topsoil and indigenous plants from the site where possible.</p>

Source: Bennun, L., van Bochove, J., Ng, C., Fletcher, C., Wilson, D., Phair, N., Carbone, G. (2021). **Mitigating biodiversity impacts associated with solar and wind energy development. Guidelines for project developers.** Gland, Switzerland: IUCN and Cambridge, UK: The Biodiversity Consultancy.

ANNEX 8
Environmental Impact Statement (EIS) Outline

Sections / Subsections	Contents	Page #	Acceptable?	REMARKS
Executive Summary				
Project Fact Sheet	Summary of Project Description			
Process Documentation	Documentation of the process undertaken in the conduct of EIA (<i>EIA Team, EIA Study Schedule & Area, description of key EIA Methodologies including sampling and measurement plan, Scoping and Public Participation</i>)			
EIA Summary	<ul style="list-style-type: none"> • Summary of alternatives considered in terms of siting, technology selection/operation processes and design • Concise integrated summary of the main impacts and residual effects after applying mitigation • Risks and uncertainties relating to the findings and implications for decision making 			
1. Project Description				
Include as an introduction, basic information about the project and project proponent				
1.1. Project Location and Area	a) identify the municipal water boundaries for proposed OSW development. b) Delineate the primary and secondary impact areas c) Discussion of buffer zone or exclusion zone in the offshore area to be adopted for safety			
	d) Geographic coordinates (shape file data) of project area (use WGS 84 datum - GPS setting)			

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	e) Describe the vicinity and the accessibility of the project site/area			
1.2. Project Rationale	<ul style="list-style-type: none"> • Cite and focus on the need for the project based on national and regional/ local economic development in terms of contribution to sustainable development agenda or current development thrusts. • Describe the justification for the Project with particular reference made to the economic and social benefits, including employment and associate economic development, which the project may provide. The status of the project should be discussed in a regional and national context. 			
1.3. Project Alternatives	<p>a) Cite criteria used in determining options for facility siting, development design, technology selection, discuss how the decisions were made.</p> <ul style="list-style-type: none"> • Discussion on the selected options for OSW facility siting (eg. consideration of the marine ecosystem, other sectors (fishing/offshore mining) that use the offshore), and technology (ie. monopole, jacket, semi-submersible and spar-buoy) selection. The siting/technology selection considers the 			

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	<p>risks on the environment particularly its impact on the marine ecosystem.</p> <p><i>Likewise contextualize the determination of preliminary options in terms of project site factors significant to the selection such as susceptibility to extreme climatologic conditions.</i></p>			
	b.) Summarize the comparison of environmental impacts of each alternative for facility siting, development design, technology selection			
	c) Discuss the consequences of not proceeding with the project or no project option			
1.4. Project Components	a) General layout of facilities in the Offshore and its transmission line			
	b) Maps showing in particular, the location and boundaries of project area, location of project components, and proposed exclusion/buffers zones			
	c) Identification and general description of major components			
	d) Identification and description of support facilities and infrastructure requirements (eg. power transmission lines, substations)			
	e) Discussion of waste management system for the generation of used oil and other spent materials in the			

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	operation and maintenance of the OSW			
1.5. Process/ Technology	a) Technology Description and Performance Specifications Include process flowsheets for the operations and the anticipated wastes streams (operations/maintenance)			
	b) Description of the operations and maintenance of OSW facility, including its frequency of maintenance and volume (in liters/kgs) of wastes generated			
1.6. Project Size	a) Total power generating capacity in Megawatts			
	b) Total Project Area in hectares (ha.) including the buffer zones			
1.7. Development Plan, Description of Project Phases and Corresponding Timeframes	Phases to be described in terms identifying specific activities (w/ special attention on those with significant environmental impacts as well as climate change adaptation options relevant to the project and project activities) and corresponding projected implementation timeframes: <ul style="list-style-type: none"> • Pre-construction (e.g., planning, acquisition of surface water rights, etc.) • Construction (e.g., transport of materials to offshore, health and other services for the workforce) • Operation (projected period of start-up/commissioning/full operation) include 			

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	<p>discussion on the operation of various components (as identified above), waste management and infrastructure requirements</p> <p>• Abandonment</p> <ul style="list-style-type: none"> - Projected life of the project; - Abandonment Plan to include management plan for proper dismantling/abandonment of facilities/ equipment. 			
1.8. Manpower	<p>Tabulate the following per project phase (pre-construction, construction, operation and maintenance):</p> <ul style="list-style-type: none"> • Manpower requirements; • Expertise/skills needed; • Nature & estimated number of jobs available for men, women, and indigenous peoples (if sited in IP ancestral land); • Scheme for sourcing manpower locally from host and neighboring LGUs. 			
1.9. Project Cost	Indicative Project Investment Cost (Philippine Peso)			
2. Assessment of Environmental Impacts	<p>The assessment shall be done using the prescribed approach/method and in relation to the corresponding baseline characterization in the primary and secondary impact areas. The sampling and measurement plan used shall be discussed. Likewise, the assessment should be done for the various phases of development (i.e., pre-construction, construction and operation) and should consider climate change projections and disaster risks based on existing natural hazard information. <u>For all maps, include overlays of project area footprint, show sensitive/critical receptors and sampling points for baseline data</u></p>			

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	(indicate geographical coordinates). In conclusion, the residual and cumulative impacts shall be assessed.																						
3. Environmental Management Plan	<p>Appropriate mitigation/management measures should be specified for each of the identified key impacts (Table 3). Appropriate climate change adaptation and disaster risk reduction measures/options shall likewise be thoroughly discussed. The impact management plan should be summarized using at the minimum, the format in Annex 2-17 of RPM for DAO 2003-30</p> <p>Please include the following matrix:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Project Activities</th> <th style="width: 20%;">Potential Impacts</th> <th style="width: 20%;">Proposed measures</th> <th style="width: 40%;">mit</th> </tr> </thead> <tbody> <tr> <td colspan="4">Construction Phase</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td colspan="4">Operation Phase</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Activities	Potential Impacts	Proposed measures	mit	Construction Phase								Operation Phase									
Project Activities	Potential Impacts	Proposed measures	mit																				
Construction Phase																							
Operation Phase																							
4. Discussion on Environmental Risk Assessment (ERA) & Emergency Response Policy and Guidelines (international standards must be adopted)																							
5. Social Development Plan/ Framework (SDP) and IEC Framework																							
5.1 Social Development Program (SDP)	Community development or livelihood programs/activities, projected beneficiaries, partner institutions, timeframe of implementation as well as source and amount allotted per activity/component (See Annex 2-18 of RPM for DAO 2003-30)																						
5.2 Information and Education Campaign (IEC)	Target sector, key messages, scheme/strategy/methods, Information medium, timelines and frequency, cost (See																						

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	Annex 2-19 of RPM for DAO 2003-30)			
6. Environmental Compliance Monitoring				
6.1. Self-Monitoring Plan	The monitoring plan shall be summarized using Annex 2-20 of RPM for DAO 2003-30 or succeeding issuances as template.			
6.2. Multi-Sectoral Monitoring Framework	Discussion on the necessity of creating a Multi-Partite Monitoring Team (MMT). Describe the proposed scope of MMT responsibilities and activities and tabulate the list of proposed stakeholder-members of the MMT, basis of selection and proposed role. (See Annex 3-4 of the RPM for DAO 2003-30).			
6.3 Environmental Guarantee and Monitoring Fund Commitments	<ul style="list-style-type: none"> • Discussion on the necessity of putting up an EGF. If deemed necessary, present a proposed amount of EGF indicating the basis for the estimate (per guidelines in annex 3-6 of RPM for DAO 2003-30) • Present a proposed amount of EMF (based on a draft AWFP in following the format in Annex 3-4 and consistent with guidelines in Annex 3-5 of RPM for DAO 2003-30); 			
7. Decommissioning / Abandonment / Rehabilitation Policy	Statement on Proponent's policies to implement the abandonment plan described in Item 1.7 and to formulate and submit procedures for Rehabilitation/ Decommissioning/Abandonment within a timeframe specified in the ECC.			
8. Institutional Plan for EMP Implementation				

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	Present the organizational scheme of the proponent including line of command and reporting procedures as well as manpower complement and relationships with other operating departments.			

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MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (MOA) is made and entered into by and between:

The **DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**, a national government agency duly organized and existing under the laws of the Republic of the Philippines, with principal office address at DENR Central Office, Visayas Avenue, Diliman, Quezon City, Metro Manila, Philippines represented herein by its Secretary **MARIA ANTONIA YULO LOYZAGA**, hereinafter referred to as the "DENR";

- and -

The **DEPARTMENT OF ENERGY**, a national government agency duly organized and existing under the laws of the Republic of the Philippines, with principal office address at 4th Floor, PNOB Building V, Energy Center, Meritt Rd, Taguig, Metro Manila, represented herein by its Secretary **RAPHAEL P. M. LOTILLA**, hereinafter referred to as the "DOE";

WITNESSETH:

WHEREAS, Section 2, Article XII of the 1987 Philippine Constitution provides that all lands of the public domain, waters, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and other natural resources are owned by the State;

WHEREAS, the Department of Environment and Natural Resources (DENR), by virtue of Commonwealth Act 141 or the Public Land Act is the executive office charged with carrying out its provisions and under Executive Order No. 192, series of 1987, is the primary government agency responsible for the conservation, management, development and proper use of the country's environment and natural resources in order to ensure equitable sharing of the benefits derived therefrom for the welfare of the present and future generations of Filipinos;

WHEREAS, the DOE, under Republic Act (RA) No. 7638 or the Department of Energy Act of 1992, is mandated to prepare, integrate, coordinate, supervise, and control all plans, programs, projects, and activities of the Government relative to energy exploration, development, utilization, distribution, and conservation;

WHEREAS, RA No. 9513 or the "Renewable Energy Act of 2008" (RE Act), established the framework for the accelerated development and advancement of renewable energy (RE) resources, and the development of a strategic program to increase its utilization;

WHEREAS, Section 14 of the RE Act states that all RE exploration, development, utilization, and RE systems operations shall be conducted in accordance with existing environmental regulations as prescribed by the DENR and/or any other concerned government agency;

WHEREAS, Executive Order No. 21, series of 2022 directs a whole-of-government approach for the issuance of permits, licenses and clearances for OSW projects to eliminate unnecessary delays in every stage of an offshore wind (OSW) development project;

WHEREAS, the DOE awarded offshore wind energy service contracts (OSWESCs) prior to the effectivity of this MOA;

WHEREAS, Presidential Decree No. 1586 establishes an environmental impact statement system, including other environmental management related measures and for other purposes

that is required of all agencies and instrumentalities of the national government, including government-owned or controlled corporations, as well as private corporations, firms and entities, for every proposed project and undertaking which significantly affect the quality of the environment;

WHEREAS, all OSW projects shall secure Environmental Compliance Certificate (ECC) in accordance with Presidential Decree (PD) No. 1586 and tenorial instrument for use of offshore and foreshore areas in accordance with Commonwealth Act (CA) No. 141 or the Public Land Act;

WHEREAS, Section 60 of CA No. 141 allows the lease of lands of the public domain for commercial, industrial or other productive purpose other than agricultural to other branch or subdivision of the Government for purposes deemed conducive to the public interest;

WHEREAS, the pre-development and exploration stage of Offshore Wind Energy Projects does not involve exploitation of natural resources but involves merely the conduct of study such as the conduct of metocean/detailed wind resource assessment and geophysical and geotechnical studies, benthic, fish and shellfish surveys, ornithological, sea mammal and onshore environmental surveys, human impact studies, geohazard, climate and disaster risk assessment;

NOW, THEREFORE, for and in consideration of the foregoing premises, the parties hereby agree as follows:

I. PURPOSE

By virtue of this MOA, the DENR agrees to grant the DOE authority to access the offshore areas covered by OSWESCs that were awarded prior to the execution of this MOA and the effectivity of DAO xxx, series of 2023 for the conduct of Pre-Development/Exploration activities upon compliance with applicable environmental laws, rules and regulations.

II. ACCESS TO OFFSHORE AREAS

The right to access offshore areas granted to the DOE under this MOA shall be limited to and co-extensive with the contract areas under OSWESCs awarded prior to the effectivity of this MOA and DAO xxx, series of 2023 for the conduct of Pre-Development/Exploration activities. For this purpose, the OSWESCs with corresponding names of service contractors/developers, contract areas and other relevant details are listed in Annex "A" hereof.

III. PRE-DEVELOPMENT/EXPLORATION ACTIVITIES IN OFFSHORE AREAS

The DOE may extend to developers under OSWESCs the right to access offshore areas to the extent necessary to conduct Pre-development activities therein.

An OSW Project under Pre-development/Exploration stage includes, but are not limited to, the following activities and other related research studies:

- A. Acquisition of permits and clearances;
- B. Undertaking feasibility studies;
- C. Preparation of detailed engineering design and determination of energy yield estimate;
- D. Application for grid connection;
- E. Planning of development and financial closing;

- F. Conduct of metocean/detailed wind resource assessment;
- G. Geophysical and geotechnical studies;
- H. Benthic, fish and shellfish surveys;
- I. Ornithological and sea mammal surveys;
- J. Human impact studies; and
- K. Geohazard risk assessment.

IV. ROLES AND RESPONSIBILITIES OF THE PARTIES

A. The DENR shall undertake the following:

1. Oversee and monitor the environmental compliance of DOE and/or its developers during the pre-development and exploration stage. This includes periodic on-site inspections and evaluations of reports submitted by the DOE and/or its developers;
2. Provide technical guidance to the DOE on best environmental preservation practices during pre-development or exploration; and
3. Review environmental plans submitted by developers under OSWESCs, and ensure that the same aligns with environmental laws, rules and regulations.

B. The DOE shall undertake the following:

1. Facilitate the submission of regular environmental compliance reports of developers under OSWESCs to DENR detailing the activities undertaken during the pre-development and exploration stage, and their respective environmental impacts;
2. Ensure that all developers under OSWESCs prepare comprehensive environmental plans that adhere to the guidelines set by the DENR;
3. Ensure that its staff and developers undergo necessary training and capacity building for understanding and implementing environmental guidelines; and
4. Facilitate and coordinate public consultations, especially in areas where OSW projects may have direct environmental impacts.

V. TERMINATION

This MOA shall be for a period covering the pre-development stage or for seven (7) years, subject to extension, as may be agreed upon and may be terminated upon mutual consent of the parties.

VI. SEPARABILITY CLAUSE

In the event that one or more provisions contained herein shall be held invalid, illegal or unenforceable in any respect and for any reason, the other provisions shall remain valid, legal and enforceable.

VII. DOCUMENTS COMPRISING THIS AGREEMENT

All appendices hereto attached, including the technical description of OSW sites and the service contracts for OSW development, are hereby expressly made an integral part of this Agreement by reference, excluding inconsistencies with any/all part, terms and conditions contained in this MOA.

VIII. MISCELLANEOUS

- A. This MOA, including its Annexes as may be supplemented from time to time, contains the entire agreement between the parties, and neither party has relied on any prior or contemporaneous representation, either oral or written, that is not contained in this MOA;
- B. This MOA cannot be deemed modified or amended unless such modification is in writing and signed by the party against whom enforcement of such modification is sought;
- C. This MOA shall be binding upon the respective successors, representatives and assigns of the parties hereto;
- D. This MOA is without prejudice to any considerations and additional conditions that may be imposed to address concerns that may arise based on studies and development.

IX. EFFECTIVITY OF THE AGREEMENT

This Agreement shall take effect on _____ and shall remain in force unless terminated or rescinded by the parties concerned.

IN WITNESS WHEREOF, the parties hereto have affixed their respective signatures this ____ day of _____, 2023 in _____ City, Philippines.

MARIA ANTONIA YULO LOYZAGA
Secretary
 Department of Environment and Natural
 Resources

RAPHAEL P. M. LOTILLA
Secretary
 Department of Energy

WITNESSES

ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

BEFORE ME, this _____ day of _____, 2023 in the City of _____,
personally appeared:

Name	Government-issued ID	Date and Place Issued
MARIA ANTONIA YULO LOYZAGA		
RAPHAEL P. M. LOTILLA		

Known to me to be the same persons who executed the foregoing instrument, and they acknowledged to me that the same is their free act and deed.

This instrument consisting of _____ (___) pages, including the page on which this acknowledgment is written, has been signed in the left margin of each and every page thereof by the herein parties and their witnesses, and sealed with my notarial seal.

NOTARY PUBLIC

Doc. No. _____
Page No. _____
Book No. _____
Series of 2023.