Table.1 Environmental Monitoring Result in Pre-construction Phase

(2020 January to March) & Improvement Summary

| Monitoring Item | | Monitoring Site | Monitoring Result Summary | Measures & Effects |
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| Bird Ecology | Offshore Bird | Wind farm and its periphery | 1. Species composition: 5 families, 6 species and 20 individuals were documented in this quarter, including Black-headed gull, Black-tailed gull, European herring gull , Rock dove, Northern pintail and Red-necked phalarope.<br>2. Flying Altitude: flying altitude under 25m is 100%, which is obviously lower than that observed in previous quarters. Max flying altitude is 10m, which is under the sweeping zone. | — |
| | Nighttime Radar | Wind farm located at Chunan (north coast of Chunggang estuary) and Houlong (Haowang Cape) | 1. Flying direction: mainly EN or WS.<br>2. Activity mode: Activity frequency of this quarter is lower. Max frequency is recorded at 20:00, while min frequency is recorded at 05:00. Overall, activity frequency is higher in the early night than in the late night. | — |
| Cetacean Ecology | | Wind farm and its periphery | Only 1 herd of 3 bottlenose dolphins were spotted on February 12, 2020 in this quarter. | — |

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| Underwater Noise (including cetacean acoustic survey) | 2 stations within wind farm area | 1. Whistles: In Q3, HM-1 observes 7,069 whistles and HM-2 observes 110 whistles. In Q4, HM-1 observes 9,988 whistles and HM-2 observes 1,782 whistles.<br>A. Time Distribution<br>(1) Q3: In HM-1, whistles were mostly observed in daytime, with most whistles observed between 9-17; no obvious peak was observed in HM-2, not many whistles were detected per hour.<br>(2) Q4: In HM-1, most whistles were detected between 4-6; comparing to other seasons. more whistles are observed in daytime. In HM-2, whistles were mostly observed in daytime, with most whistles observed between 6-8. However, no obvious seasonal difference is observed due to the small portion of whistles detected.<br>B. Tidal Distribution<br>(1) Q3: Less whistles were observed during high tide in HM-1; average whistles observed in HM-2 is less. No obvious distribution is found.<br>(2) Q4: Most whistles were observed during high tide in HM-1; average whistles observed in HM-2 is less. No obvious distribution is found.<br>2. Clicks: In Q3, HM-1 observes 7,069 clicks and HM-2 observes 110 clicks. In Q4, HM-1 observes 9,988 clicks and 1,782 clicks observes in HM-2. | — |

| Monitoring Item | Monitoring Site | Monitoring Result Summary | Measures & Effects |
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| | | A. Time Distribution<br>(1)Q3: In HM-1, clicks were mostly observed in daytime, with most clicks observed between 3-6. No obvious peak was observed in HM-2, not many clicks were detected per hour.<br>(2)Q4: No obvious difference between day/nighttime were observed in HM-1 and HM-2.<br>B. Tidal Distribution<br>(1)Q3: Most clicks were observed during high tide in HM-1; average clicks observed in HM-2 is less, no obvious distribution is found.<br>(2)Q4: No obvious difference between day/nighttime were observed in HM-1 and HM-2. | |

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| Terrestrial Ecology | Terrestrial power transmission system (including step-down station, land cable and its periphery) | 1. Plantation： 64 families, 170 genre and 238 species were recorded. 5 rare species were recorded, including Taiwan Incense Cedar, Lanyu Podocarp, Common Garcinia, Seremban and Fan Palm, all are cultivated.<br>2. Mammal： 2 orders, 3 families, 3 species and 11 individuals of mammals; 1 order, 1 family, 7 species and 449 individuals of bats were recorded. No protected species were recorded.<br>3. Amphibian： 1 order, 2 families, 2 species and 7 individuals were recorded. No protected species were recorded.<br>4. Reptile： 1 orders 3 families, 5 species and 26 individuals were recorded. Stejneger's grass lizard and Chinese skink (subspecies) were recorded as endemic species, which are both common species.<br>5. Butterfly：4 families, 15 species and 3,443 individuals were recorded. No protected species were recorded.<br>6. Odonata：2 families, 3 species and 60 individuals were recorded. No protected species were recorded.<br>7. Bird：7 orders, 22 families, 38 species and 723 individuals were recorded. 2 protected species, Black-winged kite (II) and Brown shrike (III), were observed, none of them were found along cable line. | — |
| Intertidal Ecology | Planned important wetland in Chunan | 1. Plantation：8 orders, 9 genre and 9 species were recorded. No rare species were observed.<br>2. Fish：4 families, 6 species and 271 individuals were recorded. No protected species were recorded.<br>3. Crabs and Shrimps：4 families, 4 species and 104 individuals were recorded. No protected species were recorded.<br>4. Conch：5 families, 10 species and 163 individuals were recorded. No protected species were recorded.<br>5. Odonata：2 families, 3species and 59 individuals were recorded. No protected species were recorded.<br>6. Aquatic insects：5 families, 4 species and 37 individuals were recorded. No protected species were recorded. | — |

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| Cultural Heritage (Archeology monitoring during onshore construction) | | excavation area | No archeological remnant is discovered. | — |
| Air Quality | | 1 station in residency around booster station | Day average value for TSP is 56μg/$m^3$, Day average value for $PM_{10}$ is 35μg/$m^3$, Day average value for $PM_{2.5}$ is 22μg/$m^3$, Hourly max average value for $SO_2$ is 1 ppb, and day average value is 1 ppb. Hourly max average value for NO is 4 ppb, and day average value is 1 ppb. Hourly max average value for $NO_2$ is 24 ppb, and day average value is 13 ppb. Hourly max average value for CO is 0.3 ppm, and average value in 8 hours is 0.2 ppm. Hourly max average value for $O_3$ is 65 ppb, and average value in 8 hours is 52 ppb. Major wind direction is ESE, day average wind speed is 0.9m/s. All monitoring items comply with air quality standard. No abnormal issue observed. | — |
| Noise Vibration | Noise Vibration | 1. 1 station in residency around booster station<br>2. 1 station in residency along land cable<br>3. Zhonggang Cihyu Temple | 1. Noise： In all stations (residency around booster station, residency along land cable and Zhonggang Cihyu Temple) $L_{day}$ , $L_{night}$ and $L_{midnight}$ are between 53.7-61.5dB(A), 51.3-58.9dB(A) and 47.7-52.3dB(A) respectively. Value of each station/time section comply to Second Type of Construction Noise Control Standard where is 8m or above away from road.<br>2. Vibration ： In all stations (residency around booster station, residency along land cable and Zhonggang Cihyu Temple) $L_{day}$ and $L_{night}$ are between 30.0-38.5dB and 30.0-32.2dB respectively. Value of each station/time section comply to Japanese Control Standards of First Type of Zone. | — |

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| | Construction Noise | 1 station in booster station periphery (1m) | 1. Normal frequency (20Hz-20kHz)：$L_{max}$ is between 59.4-75.7dB(A), $L_{eq}$ is between 50.1-64.3dB(A), monitoring results comply with Second Type of Construction Noise Control Standard.<br>2. Low frequency(20 Hz-200 Hz)：$L_{eq,LF}$ is between 39.0-43.8dB(A). results in December is slightly higher than Second Type of Construction Noise Control Standard. | — |

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| Groundwater Quality | 1. water output location<br>2. Planned important wetland in Chunan | 1. Water output location： Fence and spill proof foundation were properly installed in booster station. Currently, there is no construction. Water output will be installed as soon as possible and groundwater quality monitoring will be conducted properly.<br>2. Planned important wetland in Chunan：pH is between 8.4-8.6; BOD is between 7.1-19.8mg/L; COD is between 31.3-104.0mg/L, SS is between 14.6-37.4mg/L, Ammonia nitrogen is between 0.05-0.10mg/L, ADMI is between 41-51mg/L, fat is between N.D.-1.2mg/L, water temperature is between 21.0-21.7℃, NO3-N is between N.D.-0.03, TP is between 0.139-0.277mg/L, Dissolved oxygen is between 7.7-9.0mg/L. All items comply to class IV water body quality standard except for BOD value. | Fence and spill proof foundation were properly installed in TJB construction and booster station. Therefore, there is no nonpoint source pollution caused by waste runoff.<br>In addition, BOD measured in EIA and DA phases is also higher than class IV water body quality standard (referring to Protection Project of National Important Wetlands: https://wetland-tw.tcd.gov.tw/). It is inferred that the value is affected by organic pollutants in water from agriculture, water cultural, household and industry discharged into the wetland, which belongs to background value and is not caused by the construction of the Project.<br>Monitoring will be continued to clarify its changes. |