Title: Simulation Floating Offshore Wind Installation Operations – Simulation Source Code

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Description: This submission comprises the source code of a simulation tool developed for floating offshore wind plant installation operations. Created in a Python Jupyter environment, the tool simulates the commercial-scale deployment phase, following industry-standard installation workflow, integrating variables such as operational weather conditions, project scale, and location-specific characteristics. It includes five Jupyter Notebook cells for data initialization, task definition, constraints, and execution over 50 years, employing libraries such as pandas, numpy, datetime, dateutil, etc. for data handling. The tool's objective is to assist in optimal planning for FOWT installations, providing insights into turbine deployment and installation pacing and dynamics. Its results can assist with long-term implications for infrastructure development in floating offshore wind energy areas. The code structure is detailed in the attached documentation, highlighting its comprehensive approach to simulating FOWT deployment complexities, including sensitivity analysis focusing on bottleneck construction tasks and result generation. The methodology also encompasses the analysis of historical metocean data and its impact on operational planning. This tool stands as a valuable asset in renewable energy research, particularly for professionals focused on offshore wind energy deployment and logistics, aiding in the assessment of long-term installation strategies and infrastructural development in wind energy areas.