Example draft milestones have been created per theme and technical assistance topic, listed below

**1.1 Advanced Data Analytics and Modeling**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Data Collection and Model Setup   * Gather historical weather data and predictive climate models relevant to the project scope * Develop initial grid performance models using the collected data   **Milestone**: Completion of data collection and initial model setup  **Expected Duration:** Month 3 | * Data collection report * Initial model setup documentation   Summarized in a quarterly technical report | $ |
| **Task 3:** Simulation and Analysis   * Conduct simulations to predict grid performance under various weather scenarios * Analyze simulation results to identify potential vulnerabilities and performance issues   **Milestone(s):** Completion of initial simulations and preliminary analysis  **Expected Duration:** Month 6 | Simulation results and analysis report in a quarterly technical report | $ |
| **Task 4.**  Final Validation   * Validate the models and simulations with real-world data   **Milestone**: Final validation of models and simulations  **Expected Duration:** Month 9 | Final validated models in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings into a comprehensive final report   **Milestone**: Submission of final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**1.2 Digital Twin Development**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Digital Twin Prototype Development   * Develop initial digital twin prototypes of key grid infrastructure components * Ensure the accuracy and functionality of the prototypes   **Milestone**: Completion of digital twin prototypes  **Expected Duration:** Month 3 | Digital twin development report summarized in a quarterly technical report | $ |
| **Task 3:** Testing and Validation   * Conduct detailed testing and validation of the digital twins * Refine the models based on testing results   **Milestone(s):** Completion of initial testing and validation  **Expected Duration:** Month 6 | Testing and validation documentation summarized in a quarterly technical report | $ |
| **Task 4.**  Integration   * Integrate the validated digital twins into grid planning and operations   **Milestone**: Integration into grid planning and operations  **Expected Duration:** Month 9 | Integration guidelines summarized in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings into a comprehensive final report   **Milestone**: Submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**1.3 Climate Data and Guidance**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Climate Data Collection and Gap Analysis   * Collect relevant climate data and identify data gaps * Conduct a comprehensive analysis of the collected data   **Milestone**: Completion of climate data collection and gap analysis  **Expected Duration:** Month 3 | Climate data assessment report summarized in a quarterly technical report | $ |
| **Task 3:** Development of Climate Guidance   * Develop guidance based on analyzed climate data * Ensure the guidance supports resilience planning efforts   **Milestone(s):** Development of climate guidance  **Expected Duration:** Month 6 | Climate guidance documents summarized in a quarterly technical report | $ |
| **Task 4.**  Integration   * Integrate the climate guidance into grid resilience planning   **Milestone**: Integration into resilience planning  **Expected Duration:** Month 9 | Integration reports summarized in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings into a comprehensive final report   **Milestone**: Submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**2.1 Risk Assessments and Resilience Strategies**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Risk Assessment   * Conduct detailed risk assessments for the grid infrastructure * Identify critical vulnerabilities and potential impact areas   **Milestone**: Completion of risk assessment  **Expected Duration:** Month 3 | Risk assessment report summarized in a quarterly technical report | $ |
| **Task 3:** Strategy Development   * Develop initial resilience strategies based on assessment results   **Milestone(s):** Development of initial resilience strategies  **Expected Duration:** Month 6 | Initial resilience strategy documentation summarized in a quarterly technical report | $ |
| **Task 4.**  Testing and Optimization   * Use backtesting to evaluate the effectiveness of the strategies * Optimize resilience strategies based on backtesting results   **Milestone**: Completion of backtesting and strategy optimization  **Expected Duration:** Month 9 | Backtesting and optimization report summarized in a quarterly technical report | $ |
| **Task 4.**  Implementation   * Implement the optimized strategies and monitor their effectiveness   **Milestone**: Full implementation of resilience strategies  **Expected Duration:** Month 12 | Comprehensive final report including the implementation report and summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**2.2 Failure-Mode Studies and Accelerated Lifetime Testing**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Failure-Mode Analysis   * Conduct detailed failure-mode studies for critical grid components * Identify potential points of failure and associated risks   **Milestone**: Completion of failure-mode analysis  **Expected Duration:** Month 3 | Failure-mode analysis report summarized in a quarterly technical report | $ |
| **Task 3:** Accelerated Lifetime Testing   * Perform accelerated lifetime testing on critical components * Collect and analyze data to assess durability   **Milestone(s):** Completion of accelerated lifetime testing  **Expected Duration:** Month 6 | Lifetime testing results summarized in a quarterly technical report | $ |
| **Task 4.**  Implementation   * Implement durability improvements based on testing results   **Milestone**: Implementation of durability improvements  **Expected Duration:** Month 9 | Recommendations for durability improvements summarized in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings into a comprehensive final report   **Milestone**: Submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**2.3 Asset Exposure and Vulnerability**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Vulnerability Assessment   * Assess vulnerabilities of grid components and assets   **Milestone**: Completion of initial vulnerability assessment  **Expected Duration:** Month 3 | Vulnerability assessment report summarized in a quarterly technical report | $ |
| **Task 3:** Strategy Development   * Develop strategies to mitigate identified vulnerabilities   **Milestone(s):** Development of initial mitigation strategies  **Expected Duration:** Month 6 | Mitigation strategy documents summarized in a quarterly technical report | $ |
| **Task 4.**  Strategy Implementation   * Implement strategies to mitigate identified vulnerabilities   **Milestone**: Implementation of mitigation strategies  **Expected Duration:** Month 9 | Implementation reports summarized in a quarterly technical report | $ |
| **Task 4.**  Monitoring and Final Reporting   * Monitor and adjust mitigation strategies as needed * Compile findings into a comprehensive final report   **Milestone**: Monitoring throughout the project duration and final adjustments and submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report including monitoring reports, adjustment documentation and summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**3.1 Investment Planning**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Cost-Benefit Analysis   * Perform detailed cost-benefit analyses for potential resilience investments * Identify the most cost-effective resilience measures   **Milestone**: Completion of the initial cost-benefit analysis  **Expected Duration:** Month 3 | Cost-benefit analysis report summarized in a quarterly technical report | $ |
| **Task 3:** Investment Planning   * Develop prioritized investment plans based on analysis results   **Milestone(s):** Development of draft investment plan  **Expected Duration:** Month 6 | Draft investment plan summarized in a quarterly technical report | $ |
| **Task 4.**  Investment Roadmap   * Create a strategic roadmap for implementation   **Milestone**: Finalization of investment plan  **Expected Duration:** Month 9 | Final investment plan summarized in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings and recommendations into a comprehensive final report   **Milestone**: Submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**3.2 Real-World Testing and Simulation**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Testing Environmental Setup   * Establish testing environments that replicate real-world conditions * Ensure all necessary equipment and tools are in place   **Milestone**: Completion of testing environmental setup  **Expected Duration:** Month 3 | Testing protocols documentation summarized in a quarterly technical report | $ |
| **Task 3:** Testing and Simulation   * Conduct real-world tests and simulations of resilience measures * Collect and analyze data from tests and simulations   **Milestone(s):** Completion of initial tests and simulations  **Expected Duration:** Month 6 | Real-world testing results summarized in a quarterly technical report | $ |
| **Task 4.**  Validation   * Validate the effectiveness of resilience measures   **Milestone**: Final validation of resilience measures  **Expected Duration:** Month 9 | Simulation validation reports summarized in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings and recommendations into a comprehensive final report   **Milestone**: Submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |

**3.3 Environmental and Sustainability Standards Support**

|  |  |  |
| --- | --- | --- |
| **Task** | **Deliverable** | **Cost**  **(firm fixed)** |
| **Task 1.**  Kickoff meeting between DOE and Project Team  **Milestone**: Establish the team, timeline, and next steps  **Expected Duration:** Day 1 | e.g., pdf/PowerPoint slides of meeting plan | $ |
| **Task 2.**  Environmental Impact Assessment   * Conduct comprehensive environmental impact assessments * Identify areas of non-compliance and potential improvements   **Milestone**: Completion of environmental impact assessment  **Expected Duration:** Month 3 | Environment impact assessment report summarized in a quarterly technical report | $ |
| **Task 3:** Development of Sustainability Strategies   * Develop strategies to achieve sustainability targets * Ensure strategies align with environmental regulations   **Milestone(s):** Development of sustainability strategies  **Expected Duration:** Month 6 | Sustainability strategy documents summarized in a quarterly technical report | $ |
| **Task 4.**  Implementation   * Implement sustainability strategies and monitor compliance   **Milestone**: Full implementation of strategies  **Expected Duration:** Month 9 | Compliance reports summarized in a quarterly technical report | $ |
| **Task 4.**  Final Reporting   * Compile findings into a comprehensive final report   **Milestone**: Submission of the final report  **Expected Duration:** Month 12 | Comprehensive final report summarizing all efforts, results and recommendations | $ |
| \*Add additional rows as necessary |  | $ |
|  |  | [TOTAL BUDGET] |