Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	30 Jan 2026
Team ID	LTVIP2026TMIDS88041
Project Name	Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through form
		Registration through Gmail
		Registration through LinkedIn
FR-2	User Confirmation	Confirmation via email
		Confirmation via OTP
FR-3	User Authentication	Secure login using email & password

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	System should be simple, user-friendly, and easy to navigate.
NFR-2	Security	User data must be encrypted; secure authentication & authorization required.
NFR-3	Reliability	System should provide accurate predictions and operate without failures.
NFR-4	Performance	Prediction results should load within 2–3 seconds.
NFR-5	Availability	System should be available 24/7 with minimal downtime.
NFR-6	Scalability	System should handle increasing users and large weather datasets.