

**Project Design Phase-I**  
**Proposed Solution Template**

Date	22nd September 2022
Team ID	40785-1660634822
Project Name	Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	2 Marks

**Proposed Solution Template :-**

S.No	Parameter	Description
1.	<b>Problem Statement (Problem to be solved)</b>	In order to work effectively on major crises rather than worrying about monitoring or gas leakage, workers in busy industries that are packed with gas—whether harmful or harmless—need a way to continuously monitor their gas pipelines and detect early if there is any leakage of gas in their surroundings. This will indeed reduce the manpower of that industry and foster peace.
2.	<b>Idea / Solution description</b>	<ul style="list-style-type: none"><li>• The gas sensors will be fitted at different locations to track gas leaks.</li><li>• The proposed scheme initiates an automated control response upon 0.001% LPG leakage detection</li><li>• By employing a relay and stepper motor in tandem to cut off the house's electricity, we are able to increase human security. Additionally, by utilizing a GSM module, we are sending an alarm message through SMS (Short Messaging Services) to inform the users of the LPG leak, and a buzzer is available to notify the neighbors in the event that the users are not there</li><li>• The key benefit of this system over the manual approach is that it completes every step automatically and responds quickly.</li></ul>

3.	<b>Novelty / Uniqueness</b>	Although there are several current solutions to this issue, none have been able to meet client demands. Some methods only detect certain gases, while others fail to notify the primary department, and yet others experience delays. Our system will inform the employees even if there is a little gas leak, notifying the industry person as well as the fire fighters so they can take care of the issue.
4.	<b>Social Impact / Customer Satisfaction</b>	For the employees and the community that surrounds or is affiliated with the industry, our solution will be highly beneficial. Our method will save major catastrophes like the Bhopal Gas Tragedy, saving countless lives. This project will lower the mental stress of the workers so they can focus on other tasks or by relaxing them.
5.	<b>Business Model (Revenue Model)</b>	<ul style="list-style-type: none"> <li>• Energy security is currently one of the objectives in practice due to the broad deployment of the urban natural gas sector.</li> <li>• The analysis of the pressure, temperature, and flow rate of gas leakage over time under steady-state and dynamic settings was done using the gas leakage model.</li> <li>• Since everyone can understand how to utilize the product, it is simple for them to do so for their safest organization.</li> </ul>
6.	<b>Scalability of the Solution</b>	<ul style="list-style-type: none"> <li>• In order to have the quickest reaction in the event of an accident, setting up quick communication equipment with the nearby fire station and other relief stations is essential.</li> <li>• Even when the gas leakage is more severe, the product senses the precise values and efficiently warns the employees.</li> </ul>