



Reconstituting Social License to Operate: TGI's Response to the Grissik–Duri Gas Pipeline Incident

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Abstract

Background: The gas pipeline leak incident on the Grissik–Duri (GD) KP222 line in Selensen, Kemuning District, Indragiri Hilir Regency, Riau, on January 2, 2026, caused a technical, social, and operational crisis that had the potential to affect PT Transportasi Gas Indonesia's (TGI) Social License to Operate (SLO).

Objective: This study analyzed how TGI's SLO was reconstituted after the incident by comparing the effectiveness of technical mitigation and social resolution and examining their implications for the company's social legitimacy.

Methods: Using a qualitative case study design, the analysis drew on twelve publicly available documents published between January and April 2026, comprising national media reports, sectoral energy news coverage, and government releases selected based on their direct relevance to the incident chronology, response, and recovery. Data were analyzed thematically through data reduction, narrative display, and conclusion drawing, with credibility strengthened through source triangulation.

Results: TGI managed the technical crisis by closing the safety valves, extinguishing the fire within approximately 13 hours, restoring operations within six days, and completing pipeline integrity testing before restarting operations. Socially, the company and relevant stakeholders conducted victim assistance, community consultations, and compensation processes. However, technical success and procedural settlements have not guaranteed sustainable public trust recovery.

Conclusion: TGI's post-incident SLO position remains closer to vulnerable acceptance than approval. This study extends the application of SLO theory to post-incident energy infrastructure management and emphasizes the need to integrate measurable social indicators into oil and gas crisis-management systems to sustain legitimacy and operational continuity.

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INTRODUCTION

Gas pipeline infrastructure has strategic significance within the national energy system because it supports the continuity of energy distribution for the industrial sector and broader production systems. Therefore, disruptions to pipeline networks not only create technical challenges but also raise concerns regarding public safety, supply stability, and the social legitimacy of operators. In residential areas, gas pipeline incidents must be understood as multidimensional crises that require not only technical responses but also effective management of relationships with affected communities.

Globally, gas pipeline incidents remain a significant safety and economic concern.

According to the Pipeline and Hazardous Materials Safety Administration (PHMSA) database, a total of 12,793 pipeline incidents were recorded over the past 20 years in the United States alone, resulting in economic losses exceeding 10 billion US dollars and numerous injuries and fatalities (Xiao & Xiong, 2025). In the European context, data from the European Gas Incident Group (EGIG) indicate that pinholes and cracks represent the most frequent failure modes in natural gas pipelines (Li et al., 2025). Furthermore, severe pipeline incidents involving explosions or ignition have been shown to reduce nearby property values by 8.2% within a 1,000-meter radius, with negative impacts persisting for approximately eight years (Cheng et al., 2024). These figures underscore the multidimensional risks posed by gas pipeline incidents to public safety, economic stability, and community trust.

On January 2, 2026, a gas pipeline leak occurred on the Grissik–Duri KP222 line in the Selensen area, Kemuning District, Indragiri Hilir Regency, Riau, triggering an explosion and fire (Investortrust, 2026; Kompas.com, 2026). PT Transport Gas Indonesia responded by closing Sectional Valves SV 1203 and SV 1204, temporarily suspending gas distribution, securing the affected area, and conducting repairs until the pipeline returned to normal operation on January 8, 2026 (Godang, 2026; Sebalik.com, 2026). Beyond affecting local residents, the incident was also associated with gas supply disruptions and broader operational consequences for regional energy production systems. It further raised questions regarding the company's capacity to restore social legitimacy following safety failures involving critical energy infrastructure.

Within the Social License to Operate (SLO) literature, the sustainability of corporate operations depends not only on formal permits granted by the state but also on social acceptance established through legitimacy, credibility, and trust (Boutilier & Thomson, 2011; Otor et al., 2026; Santiago et al., 2021). Boutilier and Thomson (2011) explained that SLO develops along a spectrum ranging from tolerance and acceptance to approval and psychological identification (Otor et al., 2026). This perspective is particularly relevant because infrastructure incidents such as the Selensen incident provide an opportunity to examine whether technical recovery is accompanied by the restoration of equivalent social legitimacy.

The concept of Social License to Operate (SLO) initially developed in the mining sector in response to increasing societal demands for corporate social and environmental accountability. Unlike formal permits issued by governments through regulatory mechanisms, SLO represents informal social consent granted by communities and stakeholders affected by corporate activities. Therefore, SLO cannot be obtained solely through administrative procedures; rather, it must be continuously developed through processes of interaction, communication, engagement, and trust building.

In its development, social license to operate (SLO) is understood as a critical social asset for the sustainability of company operations. Companies that lose social acceptance may face various consequences, ranging from public opposition and increased operational costs due to social conflicts to disruptions in production activities and reputational damage that may affect long-term business sustainability. Thus, SLO is not only concerned with the relationship between companies and local communities but also with the operational stability and organizational resilience as a whole.

Boutilier and Thomson (2011) developed the SLO model, which explains that social acceptance is established through three main foundations: legitimacy, credibility, and trust (Otor et al., 2026). Legitimacy relates to the perception that company activities align with community values, norms, and expectations. Credibility refers to the company's ability to demonstrate consistency between its commitments and actions. Meanwhile, trust reflects the public's confidence that companies will act responsibly, even in situations involving risks and uncertainties. These three elements complement one another and determine a company's position within the SLO spectrum.

In the context of energy infrastructure, the importance of SLO is increasing because the risks involved are not only related to economic and environmental aspects but also to public safety. Infrastructure such as gas pipelines operates over long periods and is often located near residential areas and community livelihood zones. This condition makes the relationship between operators and surrounding communities a key factor in determining operational sustainability. When a safety incident occurs, the public evaluates not only the company's technical capability in

managing emergencies but also the transparency of information disclosure, response speed, and willingness to take responsibility for the resulting impacts.

Therefore, SLO in the post-incident energy sector needs to be understood as a process of restoring social legitimacy that occurs alongside technical recovery efforts. Successful infrastructure repair may demonstrate the company's operational competence; however, sustainable social acceptance can only be achieved when the company restores public trust through transparent communication, fair resolution mechanisms, and continuous stakeholder engagement.

Most SLO studies have focused on mining, extractive industries, or the pre-operation phase of projects. Moffat and Zhang (2014) emphasize the role of fairness, benefit distribution, and trust in shaping community acceptance (Breakey et al., 2025). Meesters and Behagel (2017) conceptualize SLO as a form of extra-legal social legitimacy that complements formal government licensing mechanisms (Breakey et al., 2025). More recent studies confirm that SLO should be understood as a social institution formed through continuous normative interactions among companies, governments, and communities (Glückler & Gutiérrez, 2025). However, studies specifically examining SLO in the context of post-incident energy infrastructure remain relatively limited. In Indonesia, SLO in the oil and gas sector is more commonly associated with community empowerment programs and operational support initiatives rather than as an evaluative framework for assessing corporate responses following critical infrastructure incidents (Indonesia, 2025).

In the energy sector, Hall et al. (2015) demonstrate that SLO can only be maintained when companies translate it into consistent, transparent, and responsive engagement practices that address public concerns (Glückler & Gutiérrez, 2025). Koivurova et al. (2020) further emphasize that corporate social responsibility (CSR) supporting SLO must be based on long-term dialogue, accountability, and effective management of community expectations (Holroyd, 2023). Therefore, the Selensen case is relevant not merely as a technical event but also as a context for examining a company's capacity to maintain social legitimacy during a crisis.

In the Indonesian context, empirical studies on SLO are emerging but remain limited. Darusman and Prawira (2024) demonstrate that community acceptance surrounding PT Hengjaya Mineralindo's mining operations reached a high approval category based on the Social License Index measurement. Soesilo (2022) also show that successful CSR programs based on local community needs can strengthen SLO and achieve high approval levels at PT Pupuk Kalimantan Timur. Conversely, Yani et al. (2024), through a systematic literature review of Sinta 1–2 indexed articles, found that sustainability reporting research in Indonesia remains predominantly focused on financial performance and formal governance aspects, while social acceptance and community legitimacy have not yet become mainstream research themes. This gap highlights the importance of studies connecting sustainability, crisis management, and social legitimacy within Indonesia's oil and gas sector.

To summarize the research gap more explicitly, previous SLO studies (Breakey et al., 2025; Meesters & Behagel, 2017; Moffat & Zhang, 2014; Santiago et al., 2021) have predominantly examined community acceptance in mining and extractive industries, particularly during pre-operational stages. Meanwhile, research on SLO reconstitution following incidents in energy infrastructure remains scarce. Indonesian SLO studies (Darusman and Prawira, 2024; Soesilo & Rudito, 2022) have primarily focused on ongoing CSR initiatives rather than crisis-driven legitimacy recovery processes. This study addresses this gap by examining how technical and social responses jointly contribute to SLO recovery following a gas pipeline incident in a residential area.

This article addresses this gap by providing an integrated analysis of SLO recovery following the Grissik–Duri KP222 gas pipeline leak incident in Selensen in January 2026. The novelty of this research lies in three aspects. First, this article extends the SLO discussion beyond mining and pre-operational contexts by examining post-incident crisis management in gas pipeline infrastructure operating near residential communities. Second, this article integrates two dimensions that are rarely examined simultaneously in SLO studies: technical mitigation and social resolution. Third, this article demonstrates that effective technical risk management does not automatically generate stable social acceptance; rather, SLO in energy infrastructure emerges

from the interaction between technical competence, procedural justice, and social trust during crisis situations.

The novelty of this research can be further highlighted as follows. First, this article shifts the focus of SLO research from mining and pre-operational contexts toward post-incident crisis management in gas pipeline infrastructure located near residential areas. Second, it integrates two dimensions that are rarely discussed simultaneously in SLO literature: technical mitigation and social resolution. Third, it demonstrates that successful technical risk management does not automatically result in stable social acceptance, thereby positioning SLO as a product of the interaction among technical competence, procedural justice, and social trust during crisis situations.

Based on this background, this study aims to answer three research questions. First, how effective was TGI's technical mitigation during the 2026 Selensen incident? Second, how effective were the company's social resolution mechanisms and stakeholder communication strategies? Third, how did the integration of these two responses influence TGI's post-incident SLO position?

Theoretically, this study contributes to the expansion of SLO theory by applying it to post-incident energy infrastructure contexts and demonstrating that the SLO spectrum requires reconsideration when challenged by crisis events involving public safety. Practically, the findings provide actionable insights for oil and gas companies and regulators by emphasizing the integration of social indicators (such as community satisfaction indexes, compensation settlement timelines, and post-incident complaint monitoring) into crisis management standard operating procedures.

METHOD

This study used a qualitative approach with a case study design (Creswell, 1998; DeMatthews et al., 2026; Yin, 2018). This approach was selected because the research focused on gaining an in-depth understanding of the processes, responses, and social meanings formed from the 2026 Selensen incident rather than on statistical measurement of a population. A case study design was appropriate for examining a single critical event within its real-life context, particularly when the analysis incorporated technical, social, and operational dimensions within a unified framework.

The research analysis unit was PT Transport Gas Indonesia's crisis response to the Grissik–Duri KP222 gas pipeline incident in Selensen, Riau, during the period of 2–8 January 2026 and the subsequent initial recovery phase. The research data were obtained through documentation studies. The case sources included national and sectoral media coverage concerning the incident chronology, valve closures, fire suppression activities, pipeline repairs, integrity testing, community consultations, compensation processes, and operational recovery (Inhil, 2026; Investortrust, 2026; Kompas.com, 2026; Sebalik.com, 2026). Conceptual sources included literature on SLO, legitimacy, stakeholder engagement, and relevant CSR strategies (Boutilier & Thomson, 2011; Glückler & Gutiérrez, 2025; Hall et al., 2015; Koivurova et al., 2020; Moffat & Zhang, 2014; Otor et al., 2026; Santiago et al., 2021). Complementary sources consisted of Indonesian studies on the Social License Index and sustainability reporting (Darusman and Prawira, 2024; Soesilo & Rudito, 2022; Yani et al., 2024), while policy sources were used to connect the findings with the Indonesian oil and gas sector context (Indonesia, 2025, 2026).

A total of twelve documents were analyzed, all of which were published between January and April 2026. The selection criteria included: (a) direct relevance to the chronology of the Selensen incident, technical response, or social settlement process; (b) publication by credible national or sectoral media outlets, government institutions, or organizational sources; and (c) availability in the public domain. Document credibility was evaluated by cross-referencing factual claims across multiple independent sources, verifying authorship and institutional affiliations, and prioritizing primary reports over secondary aggregations (Bowen, 2009; Moilanen et al., 2022).

Data analysis was conducted thematically through three stages. First, data reduction was performed by organizing information into categories of technical response, social response, and implications for SLO. At this stage, factual information was also compiled chronologically to reconstruct the sequence of events. Second, data presentation was conducted through an

analytical narrative that connected empirical findings with the theoretical framework by grouping the data into two main clusters: technical mitigation and social resolution. Third, inferences were drawn by assessing TGI's SLO position based on the quality of technical recovery, procedural fairness, and indications of public trust identified from the available documents. This assessment applied an SLO framework emphasizing legitimacy, credibility, trust, and the tolerance–acceptance–approval spectrum. The validity of the analysis was maintained through source triangulation and cross-reading among conceptual literature, case documents, and policy sources.

The analytical workflow proceeded through three sequential stages: (1) data collection and inventory, in which all relevant documents were catalogued according to source type, publication date, and thematic coverage; (2) thematic coding, in which textual data were categorized into technical response, social response, and SLO implications; and (3) cross-validation and inference, in which coded themes were triangulated across sources and interpreted using the SLO theoretical framework to assess the company's post-incident legitimacy position.

RESULTS AND DISCUSSION

Results

Chronology of Incidents and Early Recovery

The gas pipeline incident on the Grissik–Duri KP222 line occurred on January 2, 2026, in the Selensen, Kemuning, Indragiri Hilir area of Riau ([Investortrust, 2026](#); [Kompas.com, 2026](#)). The pipeline leak triggered an explosion and fire, requiring TGI to temporarily suspend gas distribution to prevent broader impacts on the surrounding community and environment. On the evening of the incident, the company closed Sectional Valves SV 1203 and SV 1204 to isolate the affected pipeline segment and contain the potential hazard ([Investortrust, 2026](#)).

The fire was reported to have been completely extinguished on January 3, 2026, at 05:35 WIB, approximately 13 hours after the active fire phase began ([Godang, 2026](#); [Investortrust, 2026](#)). Following the extinguishment process, TGI conducted site cooling, area securing, pipeline repair activities, and field verification as part of the technical recovery phase. On January 8, 2026, the company announced that the repair work had been completed and that gas distribution was gradually returning to normal following a series of pipeline integrity tests and safety verification procedures ([Inhil, 2026](#); [Sebalik.com, 2026](#)).

Results on The Technical Mitigation Dimension

The data review indicates that TGI's technical mitigation process consisted of four main stages. First, hazard isolation was performed through the closure of sectional valves at both ends of the affected pipeline segment. Second, emergency response measures were implemented to control and fully extinguish the fire. Third, physical repair of the pipeline infrastructure and site security measures were conducted. Fourth, pipeline integrity testing and safety verification were performed before the pipeline was returned to operation ([Godang, 2026](#); [Investortrust, 2026](#); [Sebalik.com, 2026](#)).

In terms of duration, the operational recovery process lasted approximately six days, from the initial incident on January 2 to the gradual restoration of normal operations on January 8, 2026. This timeline indicates that the company was able to restore the system within a relatively short period while maintaining a safety verification stage before pipeline restart. Furthermore, the gradual restoration of gas distribution to customers reflects a cautious approach during the reactivation phase. From an operational perspective, these actions demonstrate relatively strong emergency response capabilities, particularly in terms of hazard containment, system restoration, and operational restart.

Results on The Social Resolution Dimension

From the social dimension, the findings indicate that TGI prioritized the handling of affected residents alongside technical recovery efforts. The incident affected surrounding communities, including individuals who sustained injuries and experienced socio-psychological impacts resulting from the explosion and fire ([Inhil, 2026](#); [Kompas.com, 2026](#)). The company conducted discussions with residents facilitated by *Musyawarah Pimpinan Daerah* (MUSPIDA), through which compensation arrangements were reportedly agreed upon transparently between

the company and affected residents (Inhil, 2026). The reviewed sources also reported that injured individuals had received medical treatment and were subsequently in stable condition without requiring further hospitalization. This agreement demonstrates that the company pursued a formal social resolution mechanism after completing the initial technical response.

From a broader operational perspective, the Selensen incident was also associated with gas supply disruptions and impacts on the wider oil and gas production system. Therefore, the crisis was not only a matter affecting local communities but also influenced downstream stakeholders and the broader energy production ecosystem (Indonesia, 2026).

Initial Position of The Post-Incident SLO

When examined through the Social License to Operate (SLO) framework, TGI's response demonstrates efforts to restore legitimacy through two primary dimensions. From the technical perspective, the company demonstrated operational competence through emergency containment and infrastructure recovery measures. From the social perspective, the company demonstrated willingness to engage with affected communities and address initial recovery demands. However, the available documentation does not provide sufficient evidence regarding medium-term trust restoration, changes in community perceptions, or forms of active community support that would indicate a transition from acceptance toward approval.

The effectiveness assessment presented in Table 1 follows a four-tier classification. Highly Effective refers to responses that are executed rapidly, accurately address the identified hazards, and prevent secondary impacts. Very Effective describes actions completed within an appropriate timeframe with only minor residual issues. Effective indicates that the response achieved its primary objectives but involved notable delays or incomplete outcomes. Quite Effective refers to responses that addressed immediate concerns but retained substantial gaps in documentation, long-term sustainability, or stakeholder satisfaction.

Table 1. Comparative Effectiveness of the Response

Dimensions	Key indicators	Key findings	Effectiveness assessment
Technical mitigation	Valve closure	SV 1203 and SV 1204 were closed after the incident to stop the flow of gas in the affected segments (Investortrust, 2026).	Highly effective, hazard isolation takes place quickly and on target.
Technical mitigation	Fire extinguishing	The fire was completely extinguished on January 3, 2026, at 05.35 WIB (Godang, 2026; Investortrust, 2026).	Very effective, the fire was brought under control in about 13 hours with no casualties.
Technical mitigation	Repair time	Operations returned to normal on January 8, 2026, approximately six days after the incident (Sebalik.com, 2026).	Effectively, recovery is relatively short to the scale of damage.
Technical mitigation	Safety validation	Integrity tests and security verification are carried out before the restart of operations (Sebalik.com, 2026).	Highly effective, demonstrating caution and adherence to safety procedures.
Social resolution	Citizens' deliberations	The meeting with affected residents was facilitated by Muspida (Inhil, 2026).	It is quite effective, it reduces acute conflicts, but the sustainability of dialogue has not been documented.
Social resolution	Compensation	The compensation value is agreed transparently between the company and residents (Inhil, 2026).	Quite effectively, an agreement was reached, but the methodology of

Dimensions	Key indicators	Key findings	Effectiveness assessment
			assessment and citizen satisfaction was not clear.
Social resolution	Victim handling	The injured received treatment and was declared stable (Kompas.com, 2026).	Effective, medical treatment is complete and the victim is stable.
Operational impact	Energy supply	Recovery is carried out in stages; incidents are associated with supply disruptions and impacts on wider oil and gas production (Indonesia, 2026).	Quite effective, supply was restored gradually, but had an impact on downstream oil and gas production.

Discussion

The findings of the study show that TGI's crisis management response during the Selensen 2026 incident followed two interrelated pathways: technical mitigation and social resolution. Recent SLO literature confirms that these two pathways are inseparable, as social legitimacy does not emerge solely from procedural compliance or technical success, but from sustained normative interactions among companies, governments, and communities as social institutions ([Glückler & Gutiérrez, 2025](#); [Meesters & Behagel, 2017](#)). Thus, TGI's technical response can be understood as the foundation of initial legitimacy, while the quality of its social response determines whether such legitimacy can be transformed into more enduring acceptance ([Breakey et al., 2025](#); [Moffat & Zhang, 2014](#); [Santiago et al., 2021](#)).

From a technical perspective, valve isolation, fire suppression within approximately 13 hours, pipeline repairs completed in approximately six days, and integrity testing prior to system restart demonstrate strong operational capability ([Godang, 2026](#); [Investortrust, 2026](#); [Sebalik.com, 2026](#)). Within the SLO framework, this performance reinforces perceptions of technical legitimacy and corporate credibility, as communities recognize that operators possess the capacity to control risks and restore infrastructure according to applicable safety standards. However, [Moffat and Zhang \(2014\)](#) demonstrate that community acceptance is shaped not only by technical capability but also by perceptions of procedural fairness, benefit distribution, and trust in the company ([Breakey et al., 2025](#)). Therefore, the rapid technical recovery achieved by TGI can be considered a necessary condition for SLO, but it is not sufficient to generate stable social support over the medium term ([Breakey et al., 2025](#); [Moffat & Zhang, 2014](#); [Santiago et al., 2021](#)).

This argument is consistent with [Hall et al. \(2015\)](#), who explain that within the energy sector, SLO can only be sustained when companies translate the concept into consistent, transparent, and responsive engagement practices addressing public concerns ([Glückler & Gutiérrez, 2025](#)). In the Selensen case, TGI's technical success demonstrates strong risk management capability; however, the social value of this achievement depends on the extent to which the company communicates risks, provides transparency regarding the recovery process, and establishes two-way communication with affected communities ([Glückler & Gutiérrez, 2025](#); [Hall et al., 2015](#)). In other words, technical legitimacy must be complemented by relational legitimacy to prevent the crisis from leaving residual social distrust at the community level ([Holroyd, 2023](#); [Koivurova et al., 2020](#); [Meesters & Behagel, 2017](#)).

A key question arising from these findings is why the social recovery process takes considerably longer than technical recovery. Technical restoration follows a linear, engineering-driven sequence (valve isolation, fire suppression, repair, and integrity testing) with clearly defined end states and measurable completion criteria. Social recovery, in contrast, involves rebuilding intangible assets such as trust, perceived fairness, and community willingness to coexist with operational risks. These psychological and relational dimensions are shaped by cumulative experiences, media narratives, and collective community memories of harm, all of which resist the rapid procedural resolution typically associated with technical restoration activities ([Breakey et al., 2025](#); [Moffat & Zhang, 2014](#); [Santiago et al., 2021](#)). Furthermore, while

pipeline integrity can be objectively verified through pressure testing and other engineering assessments, restored trust cannot be measured instrumentally without sustained longitudinal engagement, making social recovery inherently slower and less predictable.

Regarding social resolution, citizen deliberations facilitated by Muspida, compensation agreements, and the management of injured victims indicate that TGI did not neglect the social dimensions of the crisis ([Inhil, 2026](#); [Kompas.com, 2026](#)). Theoretically, these mechanisms correspond with the principles of procedural and distributive justice in SLO formation, as communities require not only compensatory outcomes but also processes perceived as legitimate, transparent, and respectful of their interests. The involvement of Muspida also strengthens institutional legitimacy because the settlement process does not operate solely as an internal corporate matter. These findings can be interpreted through Koivurova et al. ([2020](#)), who argue that corporate social responsibility (CSR) and stakeholder engagement supporting SLO should be based on long-term dialogue, accountability, and the management of community expectations rather than short-term compensation alone ([Holroyd, 2023](#)). Consistent with Soesilo ([2022](#)), community involvement through social programs aligned with local needs may encourage SLO progression toward higher levels of approval rather than mere acceptance. Therefore, TGI's post-incident social settlement should ideally extend beyond compensation and develop into a more institutionalized social sustainability strategy surrounding the pipeline corridor.

However, the study results also reveal limitations in the extent of TGI's social recovery success. Available sources indicate that compensation agreements were reached transparently, but they do not provide detailed information regarding the loss assessment methodology, recipient eligibility criteria, or levels of community satisfaction after settlement. Evidence from the Indonesian context highlights the importance of addressing this gap. Darusman and Prawira ([2024](#)) demonstrate that SLO can be measured systematically through the Social License Index, while the high approval outcomes reported in the case of PT Hengjaya Mineralindo illustrate the importance of continuous corporate commitment to local stakeholders. Compared with these findings, TGI's position following the Selensen incident appears to remain within a fragile acceptance phase, as available sources demonstrate procedural agreement but provide limited evidence of medium-term trust development or active public support.

When positioned within the Boutilier–Thomson SLO spectrum, TGI's post-Selensen position tends toward a fragile acceptance level ([Boutilier & Thomson, 2011](#); [Otor et al., 2026](#)). The company appears to have moved beyond mere tolerance because it established agreements with affected communities and no further open conflicts were identified in the analyzed sources. However, there is insufficient evidence that the public has progressed toward approval, which represents a more active and stable form of support for company operations ([Breakey et al., 2025](#); [Moffat & Zhang, 2014](#); [Santiago et al., 2021](#)). This condition demonstrates that SLO in residential gas infrastructure contexts cannot be maintained solely through rapid technical recovery but requires measurable risk communication, social transparency, and sustained community engagement after the acute crisis phase has ended.

These findings are relevant within the broader context of sustainability research in Indonesia, which remains largely dominated by corporate financial disclosure and financial performance indicators. Yani et al. ([2024](#)) show that national sustainability reporting research continues to emphasize profitability, leverage, and formal governance mechanisms, while social acceptance and SLO dimensions remain relatively underexplored. This article extends the discussion by demonstrating that the operational sustainability of energy companies is assessed not only through disclosure practices and regulatory compliance but also through their ability to maintain social legitimacy following operational disruptions ([Meesters & Behagel, 2017](#); [Yani et al., 2024](#)). Accordingly, post-Selensen SLO can be understood as a bridge connecting crisis management, sustainability governance, and company–community relations within Indonesia's oil and gas sector.

Unlike previous SLO studies that have examined social acceptance as a relatively stable condition during routine operations, the present findings demonstrate that SLO in post-incident contexts is inherently fragile and contingent. While Darusman and Prawira ([2024](#)) and Soesilo ([2022](#)) documented high SLO approval levels under normal operational CSR programs, this study shows that critical incidents can reset a company's SLO position toward vulnerability regardless

of previously established legitimacy. This distinction carries important theoretical implications, suggesting that SLO frameworks should incorporate crisis-induced regression pathways rather than focusing exclusively on progressive trajectories of social acceptance.

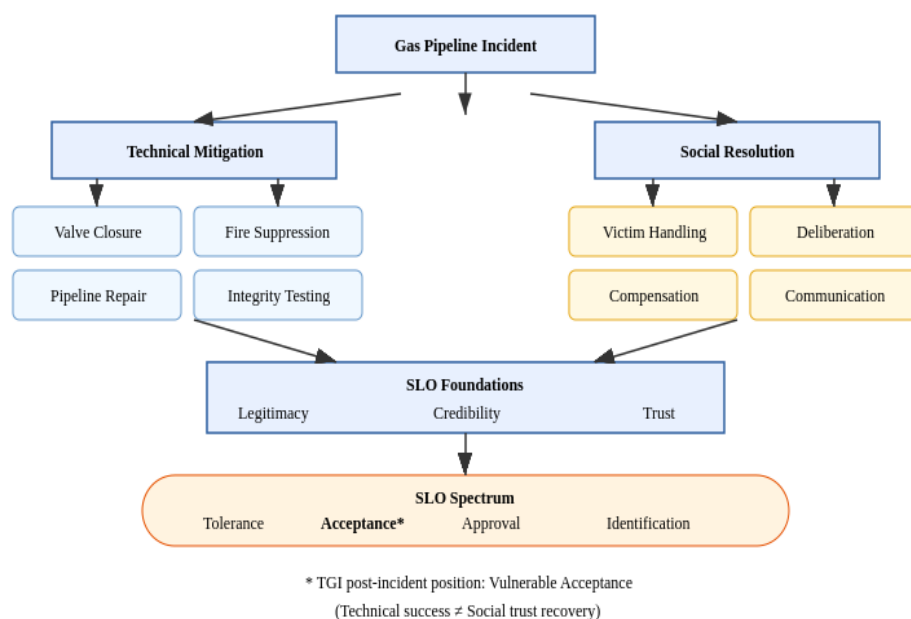


Figure 1. Conceptual Model of the Relationship between Technical Mitigation, Social Resolution, Trust, Legitimacy, Credibility, and Social License to Operate

In the context of Indonesia's oil and gas governance, these findings confirm the need for more explicit social indicators in corporate crisis management standard operating procedures (SOPs) and government supervision frameworks, equivalent to technical indicators (Indonesia, 2025, 2026). In the Selensen case, technical indicators are relatively clear, whereas social indicators remain proxy-based and have not been formally documented. If social acceptance is assessed only through the absence of open conflict, companies risk misinterpreting the quality of their relationships with communities and may only recognize underlying resistance when a subsequent crisis emerges (Glückler & Gutiérrez, 2025; Meesters & Behagel, 2017). Therefore, crisis management standards need to incorporate social dashboards that include indicators such as the number of claims resolved, compensation settlement timelines, levels of community satisfaction, the number of post-incident complaints, and the quality of public communication as part of the recovery evaluation process.

From a practical standpoint, these findings have direct implications for crisis management in Indonesia's energy sector. Given that Indonesia's oil and gas infrastructure continues to expand into increasingly populated areas, the Selensen case illustrates the urgency of embedding social recovery protocols alongside technical SOPs. Specifically, regulators could mandate post-incident social audits, require companies to disclose settlement timelines and community satisfaction survey results, and encourage community liaison programs as part of operating license renewal requirements. Such measures would help ensure that the procedural completeness demonstrated in TGI's response becomes a genuine pathway toward sustained SLO rather than merely a one-time conflict resolution exercise.

This study has several limitations that should be acknowledged. First, it relies exclusively on publicly available documents and does not include direct interview data from residents, local governments, or company representatives. Second, no formal surveys measuring social satisfaction or public trust were conducted. Therefore, the assessment of TGI's SLO position is analytical and inferential, based on the procedural indicators available in the documentary record. Future research should incorporate primary data collection through interviews and community surveys to provide a more robust and nuanced evaluation of post-incident SLO recovery.

CONCLUSION

This study set out to answer three research questions regarding the effectiveness of TGI's technical mitigation, the adequacy of its social resolution strategy, and the resulting post-incident SLO position. The findings demonstrate that TGI's technical response (comprising rapid valve closure, fire suppression within approximately 13 hours, operational restoration within six days, and integrity verification before restart) was highly effective and established a strong foundation for initial legitimacy. From the social dimension, the company's engagement through community deliberation facilitated by local authorities, medical treatment for victims, and transparent compensation agreements represented a procedurally adequate response. Nevertheless, the absence of documented evidence regarding medium-term community trust, longitudinal satisfaction, or active public endorsement indicates that TGI's SLO has not progressed beyond a vulnerable acceptance level. Technical competence alone has proven insufficient to restore stable social support; the gap between procedural settlement and genuine trust recovery remains a critical vulnerability.

This research makes two principal contributions. Theoretically, it extends SLO scholarship to the underexamined domain of post-incident energy infrastructure, demonstrating that crisis-triggered SLO recovery is shaped by the interplay of technical competence, procedural justice, and sustained social engagement (a dynamic that existing mining-focused models do not fully capture. Practically, it highlights the need for oil and gas companies and regulators to embed social recovery indicators) such as satisfaction surveys, complaint tracking, and participatory monitoring, into crisis management SOPs alongside conventional technical benchmarks. Future research should employ primary data collection through community interviews and longitudinal surveys to measure SLO trajectories more precisely and to develop context-specific SLO recovery models for energy infrastructure in developing countries.

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AUTHOR CONTRIBUTION STATEMENT

Sahat Parlindungan Simarmata is the sole author responsible for the conceptualization, literature review, data analysis, interpretation of findings, and preparation of the original manuscript. The author takes full responsibility for the integrity, accuracy, and accountability of all aspects of the research.

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