



Grupo
Energía
Bogotá

*We improve lives
through sustainable
and competitive
energy*

Audit and Risk Committee

Ordinary

Meeting No.

117

Date

February 16, 2023

2023

4

INFORMATIVE ISSUES

- a. Audit Topics
 - i. Annual Audit Plan
 - Closure of the 2022 Annual Audit Plan, key outcomes, and declaration of independence of the audit function.
- b. Risk Topics
 - i. Strategic risk matrices of GEB and its subsidiaries
 - Follow-up on the strategic risk matrices of the company and subsidiaries
 - ii. Information Security Plans
 - Follow-up on GEB's information security and business continuity plans
- c. Statutory Audit Topics
 - i. External Audit Work Plan
 - Follow-up on the 2022 Statutory Auditor's Work Plan
- d. 2022 Audit and Risk Committee Management Report
- e. Compliance Topics
 - i. Ethics and Compliance Strategy
 - 2023 Compliance Officer's Management Report and Compliance Program
 - ii. Ethics Channel
 - Management of ethical matters
 - iii. External Control Authorities
 - Follow-up on the Regularity Audit by the District Comptroller
 - Presentation of the compliance audit results of the Emgesa-Codensa merger

Topic:**Follow-up on the strategic risk matrices of the company and subsidiaries****Type of Request:****Informative***Improving lives
through sustainable
and competitive
energy*

Conclusions and/or Requests

Inform the Committee about GEB's risk management and that of the affiliated companies



Reasons and/or arguments

It is the Committee's function to continuously monitor the risk management of GEB and its Subsidiaries in accordance with the risk appetite framework approved by the Board of Directors on December 20, 2021.

Executive Summary

Subsidiaries: Adoption of the strategic risk "Breach of the ethical and/or regulatory framework in terms of compliance" has been implemented at the subsidiaries: Contugas, Calidda, Grupo Dunas, Conecta, TGI, and Enlaza.

GEB: Update on Strategic Risk R3. Unfavorable Regulatory Changes to the Company's Interests

A response plan is included to monitor and manage cross-functionally to mitigate potential impacts from:

National Development Plan 2022 - 2026

Law 142 Reform

Labor Reform

GEB: Assessment of strategic risk R10 is carried out. "FINANCING RESTRICTIONS AND/OR HIGHER COST OF BORROWING"

In the event of an imminent functional currency change from TGI to pesos, GEB's risk profile would shift from moderate to extreme, with a residual impact of USD 37.8 million following the implementation of Financial Coverage control.

ENLAZA: The risk assessment R4 is updated. "FAILURE TO MEET THE OFFICIAL OPERATIONAL START DATE OF EXPANSION PROJECTS", according to compensation values as of January 2023.

- Residual Risk 2022: **USD 8.9M** | Residual Risk 2023: **USD 3.3M**

Given the Start-up Date (November 1, 2023), compensation time in the Southwestern Reinforcement 500Kv project in 2023 is reduced.

It is highlighted that, without an extension, the **impact for this project in 2024 is estimated at approximately USD 24M**. Probability: Medium

Increases compensation time for projects at the Loma 100Kv Substation and associated lines, and Chivor II. North 230Kv

GEB: Review the relevance of including in the strategic risk matrices of GEB and its subsidiaries a strategic risk that manages, prevents, and mitigates incidents related to process safety, initiated with the activation and implementation of the policy for relevant legal risks involving the Legal VP, VP of Business Management, and Director of Strategic Planning.



Relevant Events



1.

Subsidiaries: Adoption of the strategic risk "Breach of the ethical and/or regulatory framework in terms of compliance" has been implemented at the subsidiaries: Contugas, Calidda, Grupo Dunas, Conecta, TGI, and Enlaza.



Why consolidate the risks of Fraud and Corruption under the risk of Breach of the ethical and/or regulatory framework in terms of compliance?

- In order to have a solid Transparency and Business Ethics Program, it is important to visualize all compliance risks to which the company is exposed, which are not included in the current risks. Risks of bribery, money laundering, terrorist financing, financing of the proliferation of weapons of mass destruction, personal data protection, conflicts of interests are not considered.

Classification: High Impact

Relevant Facts and/or Changes Strategic Risk Matrix

- It is important to refer to an ethical framework which includes all policies, codes, procedures guidelines, among others, related to the prevention of compliance risks.

ELECTRO DUNAS

- Review and update of the risk matrix with the leaders and strategic risk managers at ELECTRO DUNAS, highlighting the following changes:

- Consolidation of R14. Fraud and R15. Corruption into a single risk: Breach of the ethical and/or regulatory framework in terms of compliance.

- To establish a robust Corporate Transparency risks visible that the company is exposed to, such as bribery, Anti-Money Laundering (AML), Weapons of Mass Destruction (FPWMD), if interest are not recognized. It is important to establish procedures, guidelines, among others, related to the prevention of compliance risks.
- Efforts are being made to identify the causes of the risks.

TRECSA

4 Significant Risk Management Facts

Fraud and Corruption risks are consolidated into the risk of Breach of the ethical and/or regulatory framework in terms of compliance.

Any conduct that involves, either through employees, executives or managers, or externally through clients, suppliers, contractors, shareholders and other stakeholders, or directly, and/or due to action or omission by the Company, the conducts of Bribery, Fraud, Corruption, Money Laundering, Terrorism Financing and/or Proliferation of Weapons of Mass Destruction, inadequate processing or personal data or inadequate management of conflicts of interest

Main Responsible Parties:

Talent Management
Sourcing and Services
Compliance Officer
IT Leader





Relevant Changes



1.

GEB: Update on Strategic Risk R3. Unfavorable Regulatory Changes to the Company's Interests

A response plan is included to monitor and manage cross-functionally to mitigate potential impacts from:

- National Development Plan 2022 - 2026
- Law 142 Reform
- Labor Reform

R3. Unfavorable Regulatory Changes to the Company's Interests



Amendment of existing regulations (laws, decrees, resolutions, circulars, rulings, doctrinal changes) that negatively impact GEB's interests.

Causes

1. Definition of public policies that may affect the interests of Grupo Energía Bogotá through the development plan law and legal reforms to existing laws
2. Amendments to the regulatory methodologies for the remuneration of electricity transmission and natural gas transportation activities – Firm modification of the resolution on the gas transportation remuneration methodology (Res. 175/2021)
3. Modification of the return rates of Grupo Energía Bogotá's activities, its subsidiaries, and affiliates without a robust analysis
4. Amendments to the regulatory methodologies for the compensation of the distribution of electric energy and natural gas
5. Regulatory amendments to the structural market conditions that affect the generation and commercialization activities where Grupo Energía Bogotá (GEB) has equity interest
6. Regulatory adjustment by Peruvian authorities to reduce the discount rate of regulated activities in Peru
7. Regulatory and structural constraints hindering the renewal of natural gas transportation and distribution contracts for the thermoelectric plant
9. Tariff Pact: Government intervention that could disrupt the tariff methodology, usurpation of the functions of the Energy and Gas Regulatory Commission (CREG), disruption of the payment chain in the sector (Systemic Portfolio Risk).
10. Tax reform: Increase in taxation on Hydroelectric plants

Consequences

1. Decrease in revenue and impact on the cash flow of the companies.
2. Reduction in revenue / Limitation on the growth of the electrical transmission business and TGI.
3. Decrease in revenue / Limitation on the growth of GEB, its subsidiaries, and associates.
4. Reduction in revenue / Limitation on the growth of EMGESA and CODENSA.
5. Rate adjustment upwards
6. impacting cash flow.
7. Loss of investor confidence, national and international funding restrictions, cost increase of funds (Possible impact on ENEL), sector risk deterioration, rating review and/or loss of investment grade.

Controls

1. Monitoring and management to protect the interests of the company's shareholders and preserve the value of the company, ensuring respect for economic efficiency and financial sufficiency criteria in response to any energy sector reform projects.
- 2, 3, 4, 5, 7, 9, and 1. Define and implement a strategic regulatory agenda:
Monitor changes in legislation and regulations
Active participation in trade associations (Andesco, Naturgas, ACOGEN, ANDI, La Sociedad, among others) –Management engagement with high-level Colombian-Peruvian governments
- 1, 2, 3, 4, and 5. Ensure that by 2023 the governmental entities issuing the most critical regulations for GEB (MME and CREG) continue to implement the OECD-recommended practices related to Regulatory Impact Analysis
4. Monitor the tariff revisions of CONTUGAS and CÁLIDDA.
- 6, 7 and 8. Monitor the regulatory discussions in the Electricity and Gas Sector in Peru and, together with the subsidiaries, define strategies that promote reforms to the electrical sector in Peru that benefit the Group's companies
- 6 and 7. Mapping of stakeholders in the Peruvian sector to create strategic partnerships to defend the position adopted by Grupo Energía Bogotá
- 4, 6 Follow legislative initiatives of GEB's subsidiaries in Peru.
2. Follow-up the request for modification of the remuneration methodology (Resolution 175/2021) according to Article 126 of Law 142 of 1994.
- 1 and 9. Proactive regulatory management, anticipate government measures with proposals favorable for the regulated sectors
- 1, 9, and 10. Actively participate and continuously monitor legislative activities in the Republic's Congress (political control debates, submitted initiatives, processing of initiatives, among others). Rigorous monitoring will be conducted on the submission of a potential initiative for the reform of Law 142 of 1994.
- 1, 9, and 10. Internal and External Communication Plans and Public Relations
Detailed plan for meetings with high government officials, congressmen, Direct communication channel with the Ministry, Permanent identification of relevant stakeholders, formulation of communication strategies



Relevant Changes



2.

GEB: Assessment of strategic risk R10 is carried out.
“FINANCING RESTRICTIONS AND/OR HIGHER COST OF BORROWING”

In the event of an imminent functional currency change from TGI to pesos, GEB's risk profile would shift from moderate to extreme, with a residual impact of USD 37.8 million following the implementation of Financial Coverage control.

R10. Financing Restrictions and/or Higher Cost of Borrowing.

Causes

2. Exposure to exchange rates and interest rates - Functional Currency Change for TGI (USD → COP) as per CREG Resolution 175.

Consequences

Reduction in the company's cash flow.

Increased financial costs.

Controls

1 and 2. Implementation of hedge accounting for net foreign investment as stipulated under IFRS.

1, 2, 4, and 9. Assessment and implementation of financial covers when required seeking flexibility in indebtedness authorizations to the Ministry of Finance and Public Credit

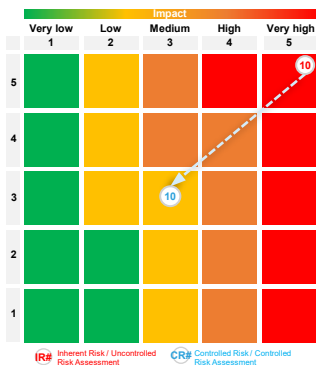
2. Monitoring the impact derived from the coverage (TGI) and its impact on the year-end estimated closure

Table 1. Impact Levels					
Criteria	Very Low	Low	Medium	High	Very high
	1	2	3	4	5
Economic Risks associated with tangible financial losses or impacts	Marginal Impact: <USD 2.38M	Significant Economic Impact: Between USD 2.38M and USD 5.67M	Appreciable Economic Impact: Between USD 5.67M and USD 13.48M	Substantial Economic Impact: Between USD 13.48M and USD 32.09M	Very Substantial Economic Impact: Between USD 32.09M and USD 76.39M (risk appetite) or higher.

Background:

- IFRS 9 - Financial Instruments: adoption of the hedge for net foreign investments (**control**) effective from June 2021.
- Effective control → **Moderate Residual Risk.**

Risk Level (before) → Moderate



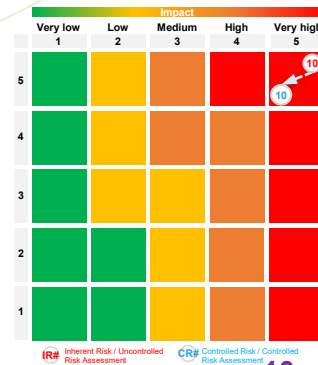
New Scenario:

- Imminent change of functional currency in TGI to COP (Colombian pesos): modifies individual GEB's foreign currency position (assets → liabilities).
- Foreign Exchange Exposure Liability: - USD 282.3 million.
- Loss of **Control** effectiveness.
- Analysis of potential financial covers.

Budgetary Impacts (TRM scenario → COP 6,000):

- Inherent: - USD 80.2 million.
- New Control (Financial Coverage): + USD 42.4 million.
- Residual: - USD 37.8 million (extreme).**

Risk Level (TGI in COP) → Extreme





Relevant Changes



3.

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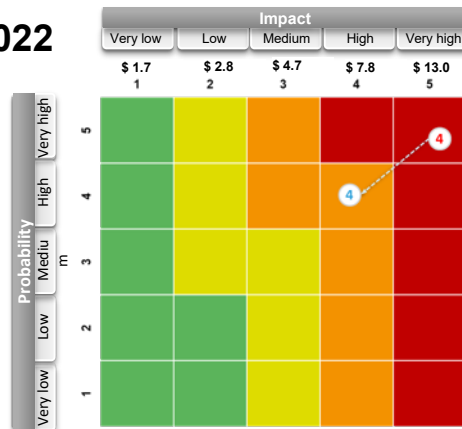
R4. Non-compliance with the Start-Up Dates for Expansion Projects

CALL No.	PROJECT	AWARDED EAR (USD)	AWARDED EAR (COP)	Potential Compensation Time 2022	2022 Compensation Value (USD) Inherent	Probability Weighting of Materialization	2022 Compensation Value (USD) Residual
UPME 05-2009	Quimbo 230 kV	\$ 10,985,091.00		3	\$ 2,746,273	10%	\$ 274,627
UPME 03-2010	Chivor II - North 230 kV	\$ 5,520,000.00		10	\$ 4,600,000	10%	\$ 460,000
UPME 01-2013	1st Reinforcement Eastern Area (Sogamoso - North - New Hope 500 kV). Southwestern Reinforcement 500 kV:	\$ 21,100,000.00		0	\$ 0	0%	\$ 0
UPME 04-2014	Alfárez 500 kV Substation and Associated Transmission Lines	\$ 24,399,000.00		10	\$ 20,332,500	40%	\$ 8,133,000
UPME 06-2017	Colectora Substation 500 kV and Colectora - Cuestecitas 500 kV and Cuestecitas - La Loma 500 kV Transmission Lines	\$ 21,459,789.00		1	\$ 1,788,316	0%	\$ 0
UPME RTS 13-2015.	110 kV Loma Substation and Associated Lines		\$ 16,647,618,550.43	3	\$ 1,040,476	10%	\$ 104,048
Total Year					\$ 30,507,565		\$ 8,971,675

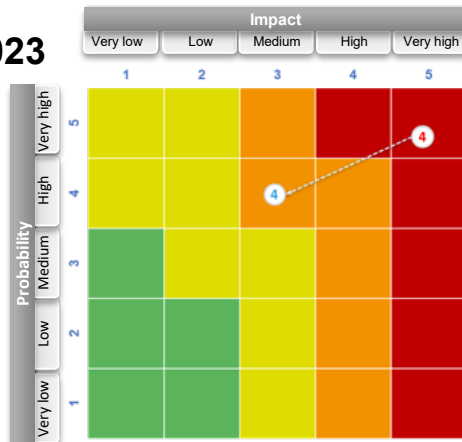
Contingency Equivalent to 1 annual income offered

CALL No.	PROJECT	AWARDED EAR (USD)	AWARDED EAR (COP)	Potential Compensation Time 2023	2023 Compensation Value (USD) Inherent	Probability Weighting of Materialization	2023 Compensation Value (USD) Residual
UPME 03-2010	Chivor II - North 230 kV 1st Reinforcement Area	\$ 5,520,000.00		6	\$ 2,760,000	30%	\$ 828,000
UPME01-2013	Línea Sogamoso – Norte – Nueva Esperanza 500kV Southwestern Reinforcement 500 kV:	\$ 21,100,000.00		0.5	\$ 879,167	0%	\$ 0
UPME 04-2014:	Alfárez 500 kV Substation and Associated Transmission Lines	\$ 24,399,000.00		1	\$ 2,033,250	40%	\$813,300
UPME 06-2017	Colectora Substation 500 kV and Colectora - Cuestecitas 500 kV and Cuestecitas - La Loma 500 kV Transmission Lines	\$ 21,459,789.00		0	\$ 0	0%	\$ 0
UPMESTR 13- 2015	110 kV Loma Substation and Associated Lines		\$ 16,647,618,550.43	8	\$ 2,412,698	70%	\$ 1,688,889
Total Year					\$ 8,085,115		\$ 3,330,189

2022



2023





Relevant Changes



4.

GEB: Review the inclusion of a strategic risk in the GEB and subsidiaries' risk matrices that addresses the management, prevention, and mitigation of incidents related to process safety.

- A proposal from the Health and Safety Management identifies the risk:

Process safety incidents occurring during the operations of GEB and its subsidiaries that may cause or have the potential to impact people, operational assets, community infrastructure, or the environment.

- The proposal includes context and justification.

R20. Process Safety Incidents in the Operations of GEB and its subsidiaries.



**Risk
20**

Process Safety Incidents in the Operations of GEB and its subsidiaries.

Process safety incidents occurring during the operations of GEB and its subsidiaries that may cause or have the potential to impact people, operational assets, community infrastructure, or the environment.

Causes

1. Low maturity level in process safety culture within GEB, ST, and subsidiaries.
2. Lack of leadership in safety process management.
3. Isolated efforts by the core business areas (O&M) and the cross-functional support areas (engineering, reliability, integrity, etc.) to manage process safety based on risks
4. Weaknesses in the identification of high and very high risks associated with the operation of GEB's assets and its subsidiaries and inadequate management of the identified risks.
5. Lack of accountability in safety
6. Insufficient engagement or awareness in the risk analysis of asset processes at each stage of their lifecycle.
7. Lack of knowledge of process safety at all levels of the organization.
8. Inadequate management of process safety incidents (reporting, alerting, investigating, reporting with cause identification and action planning, generating lessons learned, and monitoring) to facilitate learning from past experiences.
9. Lack of governance in OSH - PS for deployment and adoption in subsidiaries.
10. Absence of performance and outcome measurements and metrics (indicators) for process safety.

Consequences

1. Fatalities / Disabling injuries
2. Economic losses
3. Penalties, sanctions, and/or demands. Closure of work centers or the company
4. Effects on image and reputation
5. Effects on project timetables and compliance (delays)
6. Inability to access investment fund capital
7. Loss of stock value in the stock market
8. Poor rating by asset insurers
9. Loss of business continuity
10. Inability to engage in alternative energy value chain businesses

Controls

- 1 a 9 Implementation of the cultural transformation program for occupational safety and health.
- 1 and 2. Inclusion within the competence's matrix and training plan of the basic aspects of operating risks and CSP according to the responsibilities of each role within the company.
- 1.3 and 7. Induction and reinduction in process safety for GEB staff and its subsidiaries. Disclosure of flyers on process safety topics to promote knowledge and corporate identity.
- 2 and 10. Indicators and results in Process Safety at each organizational level and among contractors.
- 1 and 3. Gap analysis in Process Safety and a Strategic Action Plan to address these gaps.
- 1 and 9. Strategic visibility of the impacts of risks associated with an unplanned and uncontrolled loss of hazardous substances and/or energies with consequences for people, finances, assets, and the environment.
- 4 and 6. Adjustments to the process of identifying hazards and analyzing risks of each subsidiary's processes to ensure that operating risks are systematically evaluated.
- 4 and 10. Management indicator to monitor the closure and/or attention and/or implementation of measures for treating high and very high risks identified.
8. Adjustments to the reporting and investigation process of each subsidiary to ensure that incidents are reported, investigated, and disclosed in a timely, structured, and permanent manner.
- 8 and 10. Management indicator to monitor the closure and/or attention and/or implementation of the activities for the closure of the action plans outlined in the investigation reports of incidents.
8. Follow-up on the implementation of action plans derived from investigations of process safety incidents and lessons learned.
- 8 and 10. Design and implementation of the incident indicators in Process Safety Tier 1 and 2.
- 2 and 9. Ratifying the commitment to Safety, Health and Well-being from the Board of Directors to executives, primary committees, process leaders, and employees.
9. Definition of the OSH Management Model with scope to the subsidiaries
5. Explicit inclusion of consequences (sanctions or constraints) due to noncompliance in the contracts, with indicators and legal obligations in Process Safety.
3. Defining construction and/or maintenance procedures that include safety parameters in the designs or in the planning for executing works or maintenance activities.
- 5 and 10. Performance assessments in safety, occupational health, and process safety applied to all contractors.

GAS TRANSPORTATION AND DISTRIBUTION

OVERPRESSURIZATION OF A NATURAL GAS DISTRIBUTION SYSTEM CAUSES FIRES AND EXPLOSIONS IN MERRIMACK VALLEY, MASSACHUSETTS, USA.



EL PAÍS

United States

One dead and 25 injured in a series of gas explosions in Boston.

A multitude of fires in homes and businesses on the outskirts of the city triggered massive evacuations and chaos.



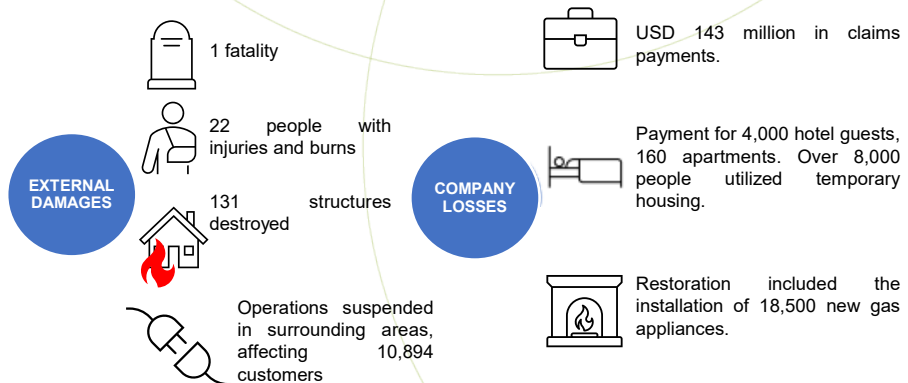
Una serie de explosiones de gas desata el pánico en Boston

One of the homes destroyed by fire in Lawrence, on the outskirts of Boston. Video: AP/ATLAS

Video Links:

<https://www.youtube.com/watch?v=QWltfZ7KvIE>

- **WHAT HAPPENED:** On September 13, 2018, a series of explosions and fires were caused by overpressurization of the low-pressure lines in the natural gas distribution system owned by Columbia Gas in Merrimack Valley, Massachusetts. As a result of this major accident, the company was fined USD 53 million and subsequently sold by its parent company, NiSource, after pleading guilty to this incident.
- **ROOT CAUSES:** Investigations identified weak engineering management as a primary root cause, with inadequate planning and supervision of the construction project leading to the abandonment of a main cast iron pipeline without relocating the regulator detection line to the new polyethylene main pipeline. It was also found that the low-pressure natural gas distribution system was designed and operated without adequate overpressure protection.
- **IMPACTS:**



CONTEXT AND JUSTIFICATION

ELECTRIC ENERGY TRANSMISSION

LACK OF MAINTENANCE ON HIGH-VOLTAGE LINES LEADS TO CATASTROPHIC FIRE (CAMP FIRE) IN BUTTE COUNTY, CALIFORNIA - USA.

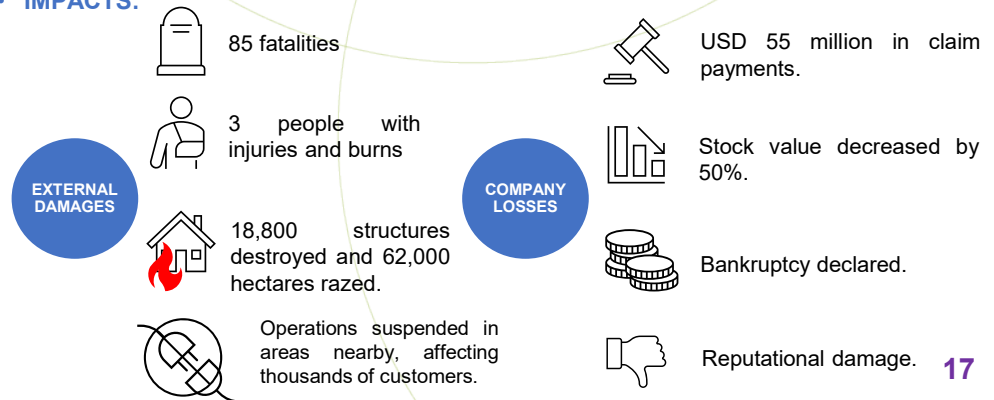


Video Links:

https://youtu.be/-o_O04I7r0I

- **WHAT HAPPENED:** On November 8, 2018, a wildfire began in Butte, California, known as the Camp Fire, which consumed approximately 62,000 hectares, an area traversed by Pacific Gas and Electric Company (PG&E) electric transmission lines. Subsequently, multiple victims sued PG&E and its parent company before a definitive cause was determined, alleging that PG&E failed to properly maintain its infrastructure and equipment. In May 2019, California state investigators declared PG&E responsible for the fire.
- **ROOT CAUSES:** Investigations identified the failure of a poorly maintained steel hook that held a high-voltage line as a key cause of the fire. A report by PG&E to the CPUC on December 11, 2018, noted that "a hook designed to support power lines on the tower had broken prior to the fire, showing signs of wear."

• IMPACTS:



CONTEXT AND JUSTIFICATION

LEARNING FROM THE EXPERIENCE – PS INCIDENTS AT TGI

GAS TRANSPORTATION AND DISTRIBUTION

Gas Pipeline Explosion - La Guajira



**Pipeline Rupture,
Cusiana - Apiay - Usme Km - 89
at the Guayuriba River crossing**

**92-day Interruption Temporary
Solution: Flexible Pipeline/
Business Interruption: USD 1.5M**

Final solution: USD 2.28M

January 2018

Gas Pipeline Explosion - Boyacá



Pipeline Rupture Landslide in El Palmar Rural District (Tauramena Municipality, Casanare)

**TGI reparó la tubería y se restableció el suministro
de gas natural en el Meta**



Associated Cost: USD 0.36M

June 2018

August 2021

LEARNING FROM THE EXPERIENCE – PS INCIDENTS AT UT

ELECTRIC ENERGY TRANSMISSION

**Thermal Candelaria
Line Module Failure**

Loss: USD 195 K



**Failure of Northeast
Capacitive
Compensation
Bank**

Loss: USD 72 K

**Terrorist attack on Tower
286 RETU 1 and 2 230
KW**

Loss: USD 81 K



**Damage from avalanche
and flood at SE Mocoa
Station**



July 2015

March 2016

October 2016

March 2017

4

INFORMATIVE ISSUES

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Topic:

Follow-up on GEB's information security and business continuity plans

Type of Request:

Informative



Improving lives
through sustainable
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energy



Conclusions and/or Requests

Report to the Committee on significant aspects of Information Security and Cybersecurity management focusing on protecting assets, cyber assets, and risk mitigation.

- Current state of Cybersecurity.
- Management of Information Technology.
- Management of Operational Technology.



Reasons and/or arguments

Update the Committee on current significant aspects of Information Security and Cybersecurity for GEB and its subsidiaries.



During the first half of 2022, Mexico was the most targeted country in the region (with 85 billion incidents,) followed by Brazil (with 31.5 billion incidents)

In the first semester of 2022, **Latin America and the Caribbean suffered 137 billion cyber-attacks**, which is 50% more compared to the same period in 2021, when there were 91 billion.

93% of operational technology (OT) organizations suffered at least one intrusion in the last 12 months, and 78% experienced more than three breaches. (2022)

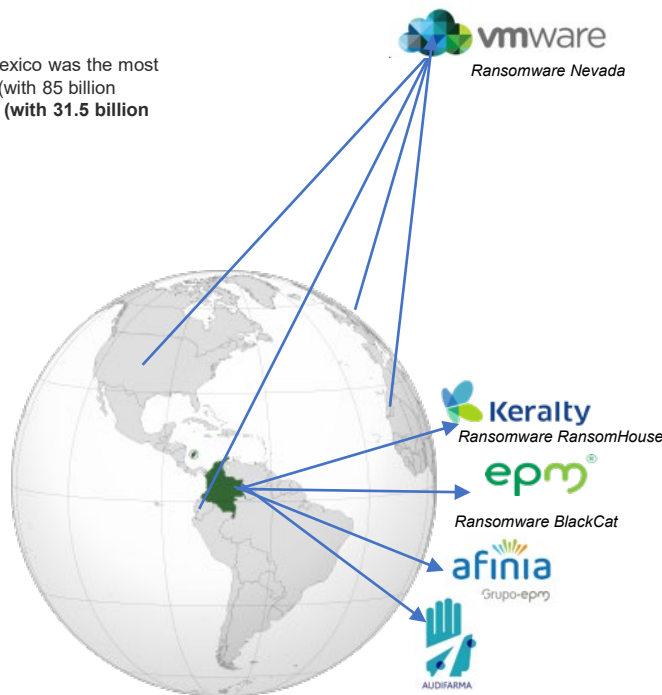


Colombia saw a 133% increase compared to the same period in 2021 in the number of institutions affected by ransomware.

Colombia ranks fourth in Latin America for cyberattack attempts related to ransomware, phishing, vulnerability exploitation, privilege escalation, denial of service attacks, and malicious software injections. (October 2022)



For the risk assessor Moody's, **critical infrastructure companies**, such as **public electricity, gas, and water utilities**, face a **very high risk of cyber-attacks**. (December 2022)



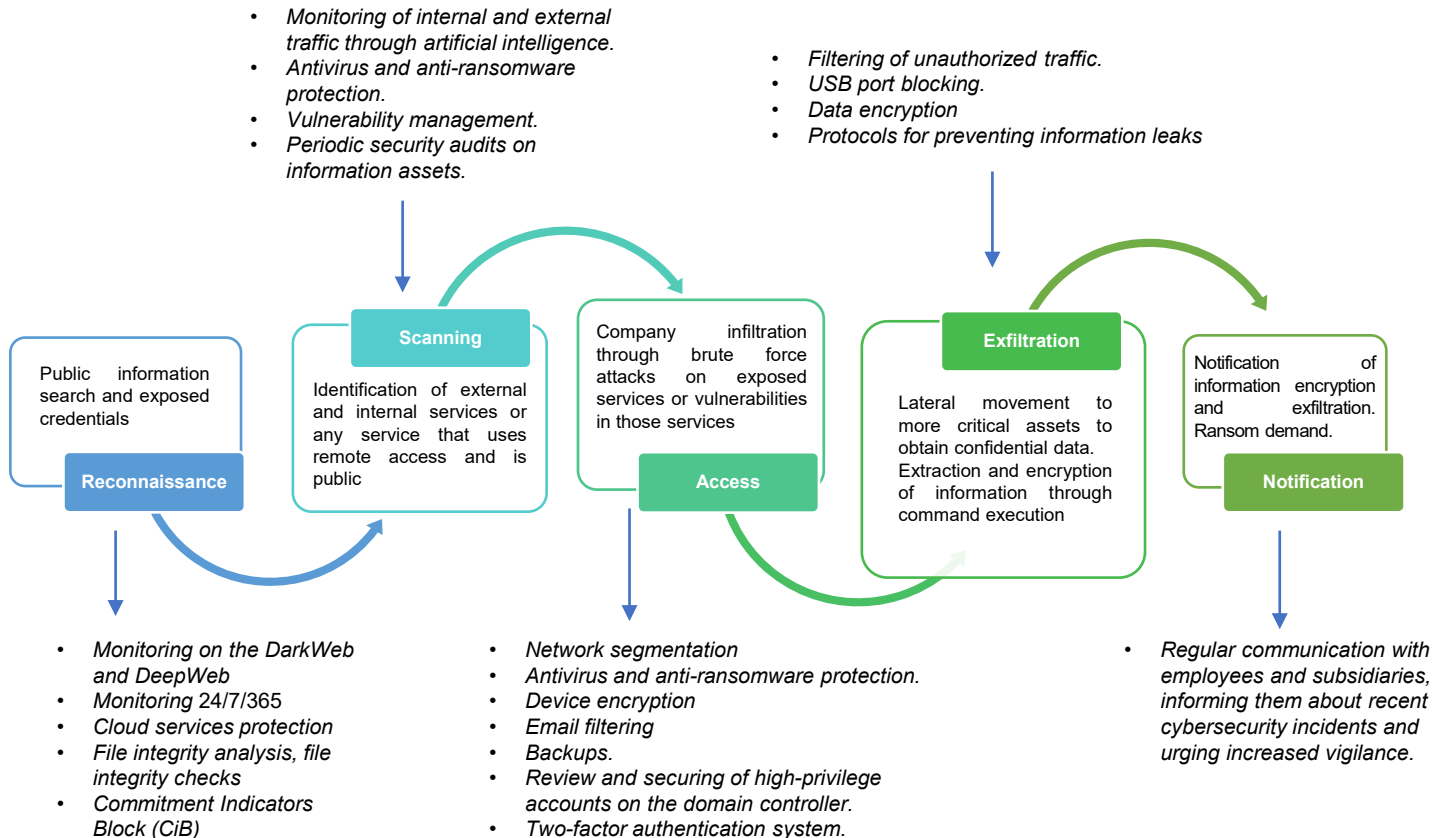
Impacts

- Impact on critical operational and service sectors such as healthcare and energy.
- Encryption and exfiltration of information including business and staff information
- Impact on customers
- Reputational
- Economic: demands for ransom payments
- Loss of backup equipment

Peru suffered 5.2 billion intrusion attempts, an increase of 10% compared to the same period in 2021 (with 4.7 billion).

Cyberattack lifecycle and prevention and detection actions

Stages





Grupo Energía Bogotá



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