PIPELINE EXPLOSION SAFETY

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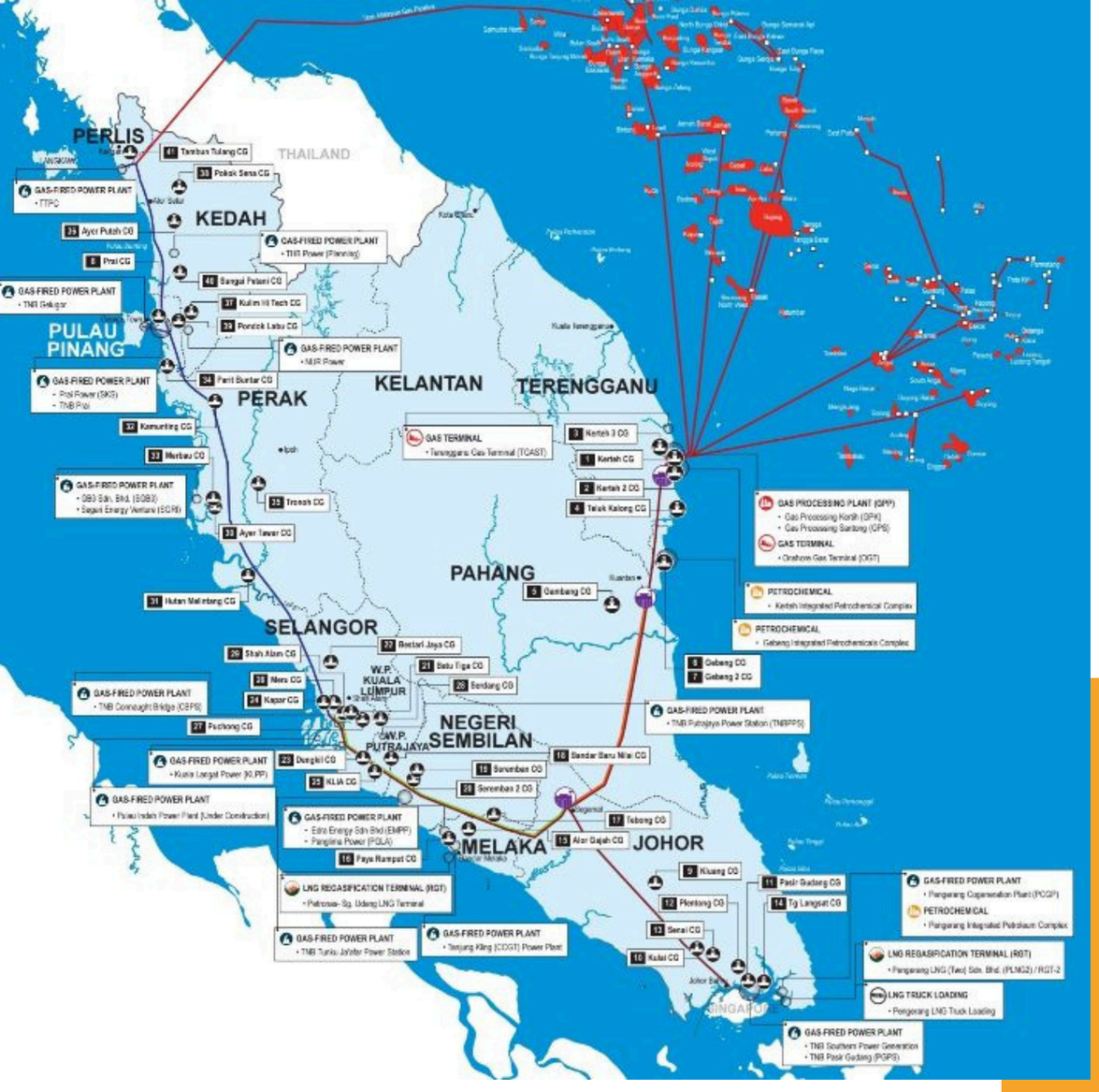
INVIGOUR ENERGY



HOW CLOSE ARE WE?

A pipeline explosion can occur when a pipeline carrying flammable gases, oil, or chemicals ruptures or leaks, causing an uncontrolled release of pressure, which may lead to fires or explosions.

PETRONAS-OPERATED PIPELINE, APRIL 1, 2025, PUTRA HEIGHTS

Date & Time: April 1, 2025, at approximately 8:08 AM local time.

Location: Underground gas pipeline between gate valves 210 and 211 in Putra Heights, Subang Jaya, Selangor.

Cause: A gas leak led to an explosion and fireball, producing flames up to 30 meters high and temperatures exceeding 1,000°C.

Injuries: 145 individuals, including 67 with second- and third-degree burns.

Property Damage: 190 houses and 148 vehicles affected.

Evacuations: Residents within a 290-meter radius were evacuated.

Infrastructure: A crater approximately 21 meters by 24 meters and 9.8 meters deep was formed

GOVERNMENT AND PETRONAS RESPONSE

- **Compensation:** The Malaysian government and Petronas committed to repairing or replacing affected homes, with financial aid provided to victims.
- **Investigations:** An investigation is underway to determine the cause of the pipeline failure.

EMERGENCY RESPONSE

Immediate Actions: Petronas isolated the affected pipeline by remotely closing gate valves 210 and 211.

Firefighting Efforts: 78 firefighters were deployed; the fire was extinguished after approximately 7.5 hours.

Medical Assistance: A medical base was set up at a local temple; 49 victims received treatment there, while 63 others were hospitalized.

Relief Measures: Temporary shelters were established, and animal welfare organizations assisted in rescuing pets.

KEY HAZARDS IN RESIDENTIAL AREAS

Proximity to Homes

Underground pipelines in residential areas can impact both properties and people if an explosion occurs.

Flammable Materials

Pipelines often carry natural gas or oil, both of which are highly flammable.

Aging Infrastructure

Older pipelines may be more prone to corrosion or failure, increasing the risk of leaks and explosions.

Construction and Excavation Risks

Accidental damage during residential construction, landscaping, or excavation activities can puncture pipelines.

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PREVENTIVE MEASURES TO PROTECT RESIDENTIAL AREAS

Pipeline Monitoring & Inspections

- Regular checks for corrosion, leaks, and structural integrity.
- Install leak detection systems and pressure gauges.

Public Awareness & Education

- Inform residents about the risks of digging near pipelines.
- Encourage reporting of suspected leaks or suspicious smells.

Construction and Excavation Safety

- Notify residents about the location of underground pipelines.
- Require contractors to check pipeline maps before digging.

Emergency Shutoff Valves

- Install automatic shutoff valves that can be activated remotely in case of a leak or pressure spike.

EMERGENCY RESPONSE IN RESIDENTIAL AREAS

1.What to Do if You Smell Gas:

- Evacuate the area immediately.
- Avoid using any electrical devices, including light switches or phones, to prevent ignition.
- Call the emergency services or gas company immediately.

2. Evacuation Plans for Residents:

- Clear and accessible evacuation routes for all homes in case of a pipeline emergency.
- Know where the emergency shutoff valves are located.

3. Firefighting and First Aid:

- Ensure fire departments are equipped to deal with pipeline fires.
- Have first aid kits and fire extinguishers available in residential areas.

KEY TAKEAWAYS

- Regular Maintenance and Monitoring are essential for preventing pipeline explosions in residential areas.
- Public Awareness of the risks and safety measures can prevent accidents caused by digging or construction work.
- Prompt Action in case of gas leaks, such as evacuation and immediate reporting, can save lives.


THANKYOU