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Saudi Arabia's Oil Corridors Under Pressure

A North-South Squeeze on the Hormuz Alternative

NERAI Research Brief

Energy Corridor & Maritime Risk Intelligence

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This document is classified NERAI-UNRESTRICTED. It combines measured NERAI model signals (dated 27 July 2026) with open-source reporting that is attributed inline. Contested claims are labelled as such; scenario probabilities are analyst estimates, not model outputs. Nothing herein constitutes investment advice.

Bottom Line Up Front

Saudi Arabia built its Red Sea outlet - the East-West (Petroline) pipeline to Yanbu - precisely so that a closure of the Strait of Hormuz would not sever the Kingdom from world markets. In late July 2026 both ends of that alternative are being pressured at the same time. To the north, Saudi Arabia said on 27 July that it intercepted drones targeting petroleum infrastructure, activity it attributed to Iran-backed groups operating from Iraq (reporting). To the south, the Houthis said they struck sites connected to the Petroline outlet and threatened a Red Sea blockade (reporting). The lead number is unambiguous in NERAI's own data: Strait of Hormuz throughput is running 72.3% below baseline (SEVERE) - the single most disrupted chokepoint in NERAI's global tracking - which is exactly what makes the Red Sea alternative load-bearing.

Two kinds of numbers appear in this brief

NERAI model readings - chokepoint disruption %, corridor cost-pressure, country escalation percentiles, market prices - are measured signals. Scenario probabilities (55% / 30% / 15%) are the analyst's structured judgment informed by those signals; they are analytical estimates, not model outputs.

The central finding is a divergence worth paying for. NERAI's threat and cost-pressure signals for the Red Sea / Bab-el-Mandeb corridor are elevated (escalation intensity 53.7/100), and the regional escalation cluster - Iran, Yemen, Iraq - is rising in unison. Yet NERAI's own Bab-el-Mandeb throughput signal still reads +4.2% (NORMAL), which does not confirm the "multi-month low" described in open-source reporting. The risk is being priced into threat and insurance faster than into physical flows. That gap - not an imminent shutdown - is the story.

Key Findings

- **[HIGH] Hormuz is the anchor.** Hormuz throughput is collapsed at -72.3% versus baseline (SEVERE), the most disrupted chokepoint NERAI tracks; the Bosphorus is the only other notable outlier at -12.9% (STRAINED). This is what forces reliance on the Red Sea route.
- **[HIGH] A genuine two-front squeeze.** Saudi Arabia's northern front (Iraq-based, Iran-attributed drone activity) and southern front (Houthi pressure on the Petroline outlet and the Red Sea gateway) are active at once. Iraq's Military Clash percentile (82nd, rising) corroborates that the northern front is visible in the data, not just in the headlines.
- **[HIGH] Threat leads throughput.** NERAI's Red Sea / Bab-el-Mandeb corridor shows escalation pressure of 53.7/100 while measured throughput reads +4.2% (NORMAL). This diverges from reporting of a multi-month low - the physical flow has not yet dropped even as the threat has risen.
- **[HIGH] The regional cluster is rising together.** Iran sits in an extreme cluster (Military Clash / Escalation / Ethnic-Religious Violence 92nd, Intl. Threats 90th), Yemen is at the ceiling on international threats (97th), and Saudi Arabia itself registers elevated military signals (Mil. Escalation 92nd) - a defensive posture, not calm.
- **[MODERATE] The market looks calm.** Brent at \$88.36 and the VIX at 18.67 (real NERAI feeds) show the market has not repriced for a corridor break. Read as revealed complacency, this is a signal in its own right - and the most likely place a sudden repricing would show up.

Background & Context

The Strait of Hormuz carries the largest share of the world's seaborne crude, and for Gulf producers it is a structural vulnerability: a single narrow waterway through which the overwhelming majority of the region's exports must pass. Saudi Arabia's strategic answer, decades in the making, is the East-West Crude Oil Pipeline - Petroline - which moves crude from the oil-rich Eastern Province across the peninsula to the Red Sea terminal at Yanbu.

Commissioned in 1981 and running roughly 1,200 km, Petroline has a design capacity of about 5 million barrels per day, a portion of which is committed to domestic refineries. Its purpose is precisely the situation now unfolding: to give Saudi crude an exit to global markets that does not depend on transiting Hormuz. But that exit terminates in the Red Sea, which funnels through the Bab-el-Mandeb strait - the very waterway now under Houthi pressure. The alternative to one chokepoint runs straight into another. That is the geographic logic behind the phrase "North-South squeeze": the northern threat raises the value of the Red Sea route at the same moment the southern threat degrades it.

Historical analogs frame the risk. The 1984-88 "Tanker War" saw sustained attacks on shipping in the Gulf; the 2019 Abqaiq strike and the Gulf of Oman tanker attacks demonstrated the reach of stand-off weapons against energy infrastructure; and the 2022 Houthi strikes on Aramco facilities showed that the southern front can reach deep into the Kingdom. None of these closed the corridors outright - they raised the cost, the insurance, and the unpredictability of moving barrels. That is the pattern the current episode most resembles.

Analysis

Strategic logic: leverage, not shutdown

The most useful frame for this episode is leverage rather than closure. Neither the northern nor the southern actor gains from a clean, permanent shutdown of Saudi exports; a shutdown invites decisive escalation and removes the very pressure that gives the threat its value. The aim, on the evidence, is to make every Saudi barrel costlier and less predictable to move - to impose a risk premium on the Red Sea alternative just as Hormuz becomes unusable. Reports allege that Iran asked the Houthis to prepare to close the Red Sea gateway if the United States strikes Iran's power grid; this is contested and should be read as a conditional signalling claim, not an executed plan.

Threat surface

The table below maps the two fronts against the corridor each one pressures and the NERAI signal that corroborates it. Both fronts are individually visible in NERAI's country and corridor data.

Front / Vector	Corridor pressured	Reported activity	NERAI corroborating signal
Northern (Iraq / Iran-attrib.)	Eastern Province fields, Petroline inlet	Drones intercepted targeting petroleum infrastructure, 27 Jul (reporting)	Iraq Mil. Clash 82nd pct, rising; Iran Mil. Escalation 92nd
Southern (Houthi)	Petroline outlet at Yanbu, Red Sea / Bab-el-Mandeb	Strikes claimed on Petroline-linked sites; Red Sea blockade threatened (reporting)	Red Sea corridor escalation 53.7/100; Yemen Intl. Threats 97th
Maritime (Red Sea shipping)	Bab-el-Mandeb transit	Tanker Encelia struck and afire (confirmed); Layla claimed (UNVERIFIED)	Corridor escalation 53.7 vs throughput +4.2% (divergence)
Chokepoint baseline	Strait of Hormuz	Structural disruption, prolonged	Hormuz throughput -72.3% (SEVERE), most disrupted globally

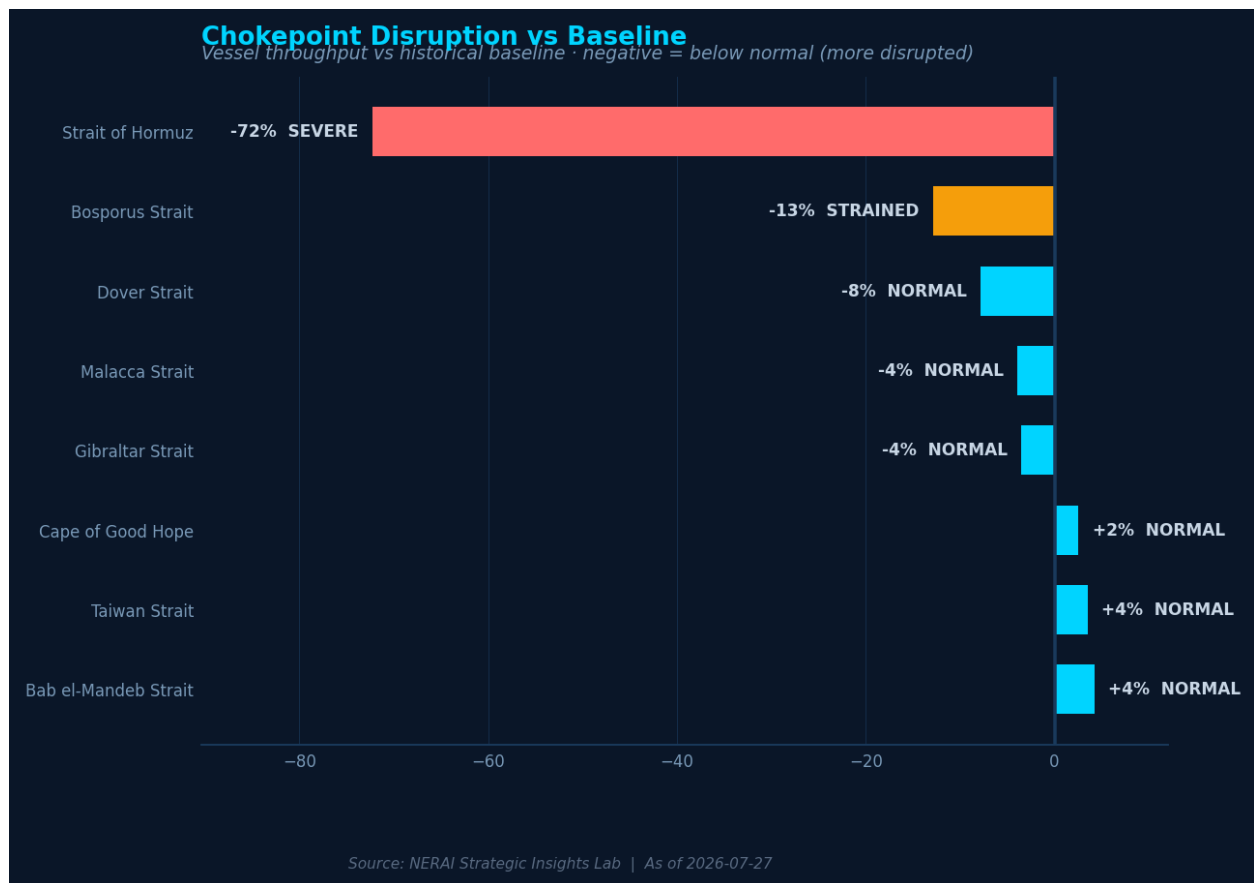


Figure 1. Chokepoint disruption vs baseline - Strait of Hormuz at -72.3% (SEVERE). Source: NERA global_disruption.json, 27 Jul 2026.

Corridor pressure

NERAI tracks maritime corridors individually, and the Red Sea / Bab-el-Mandeb corridor IS listed. Its cost-pressure profile reads container 46.5, dry-bulk 44.9, escalation 53.7, with transit at +1.7%. For comparison, the Strait of Hormuz corridor reads container 64.8, dry-bulk 61.7, escalation 53.7 and transit -72.5% - the throughput collapse again - while the Suez Canal corridor carries container 45.2 and an escalation reading of 86.2. The Black Sea, East Med and Suez all sit at escalation 86.2, the regional war-risk backdrop against which the Red Sea numbers should be read. At the index level, NERA's global oil-pressure index is 37.7/100 and USD-pressure 33.7/100.

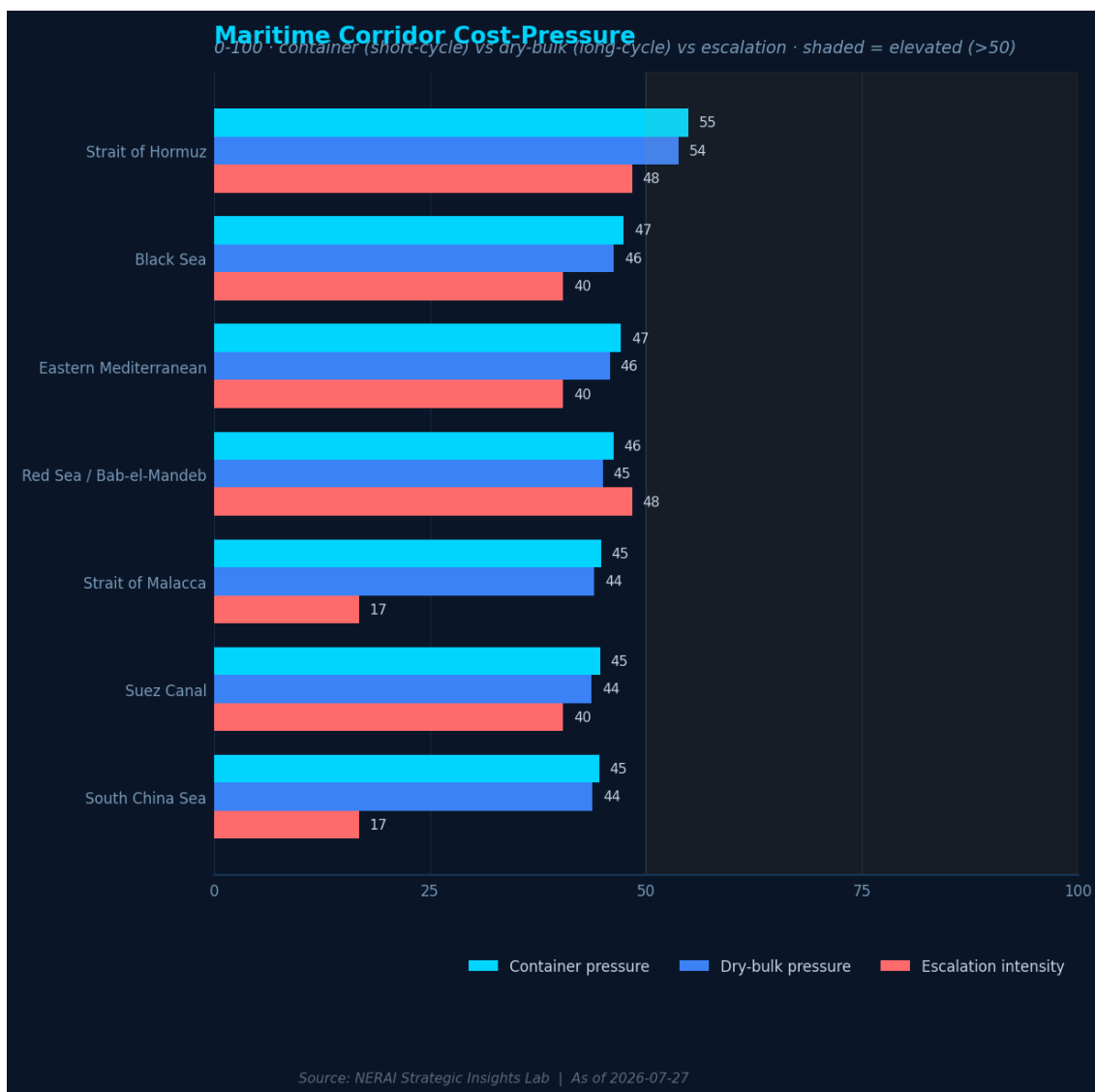


Figure 2. Maritime corridor cost-pressure - Hormuz, Red Sea/Bab-el-Mandeb and Suez. Source: NERAI maritime_corridors.json, 27 Jul 2026.

Where a named product is not in this data cycle

In the absence of a live JWC-Cast six-week probability or a corridor-specific P(disruption) reading in this package, the war-risk case rests on the nearest available NERAI signals: the Red Sea corridor's escalation intensity (53.7/100) and the Hormuz -72% throughput collapse, both of which historically precede JWC listed-area reviews. These are used as proxies, and are labelled as such.

Regional escalation read

The regional picture is not an Iran-only story, and the data makes the two-front reading concrete. Iran occupies an extreme cluster: Military Clash 92nd, Military Escalation 92nd, Ethnic/Religious Violence 92nd and International Threats 90th percentile, all rising. Yemen is at the ceiling on international threats (97th), with Military Crisis 96th, Deteriorating Bilateral 96th and Military Escalation 61st, also rising. Iraq - the northern front - shows Military Clash 82nd, Military Escalation 80th and Ethnic/Religious Violence 82nd, confirming that the northern vector is real in the data. Saudi Arabia itself is not calm: Institutional Strength 93rd, Military Escalation 92nd and Military Clash 90th, consistent with an active defensive posture.

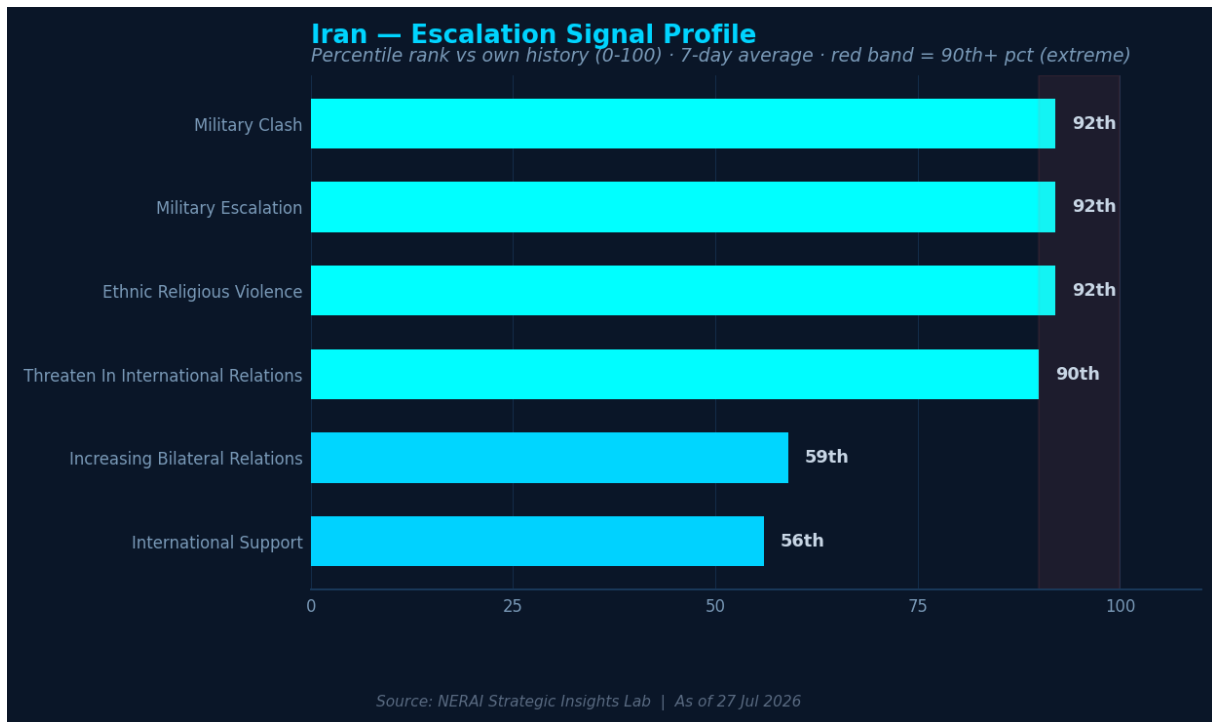


Figure 3. Iran escalation signal profile - percentile vs own history, 7-day average. Source: NERAI indices.csv, 27 Jul 2026.

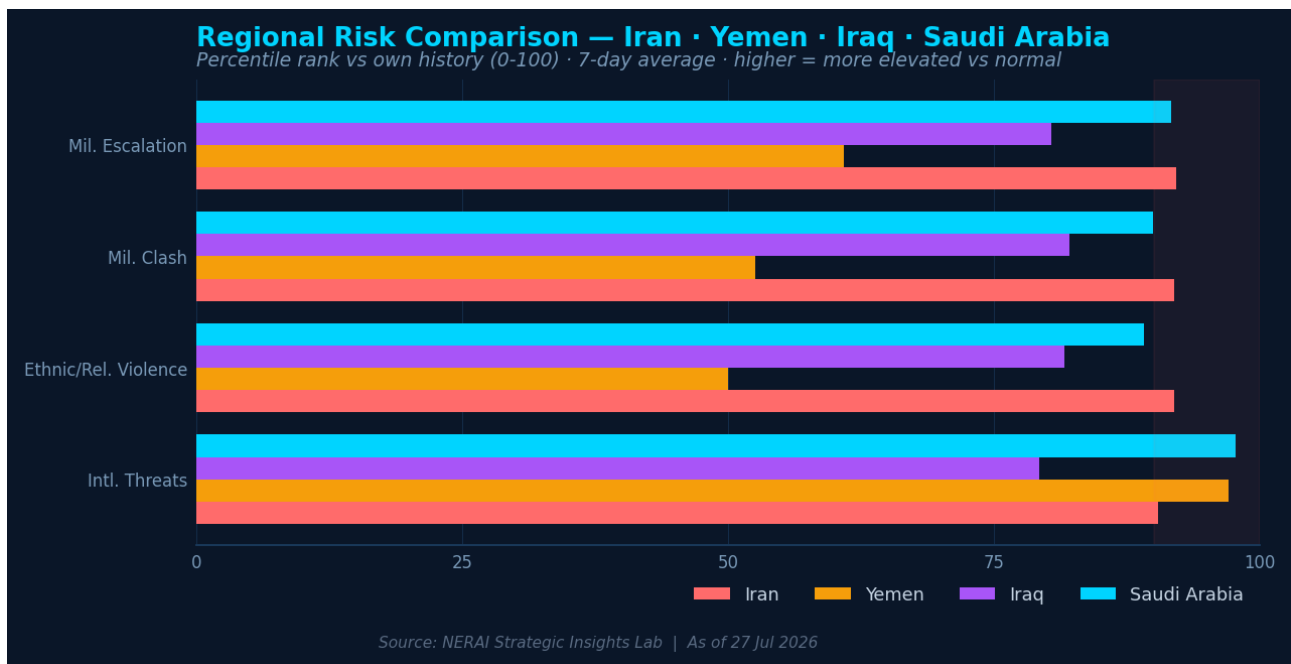


Figure 4. Regional risk comparison - Iran, Yemen, Iraq and Saudi Arabia. Source: NERAI indices.csv, 27 Jul 2026.

Counter-thesis: the market-benign reading

A disciplined brief must state the case against its own alarm. The market-benign reading is straightforward and, importantly, unattributed - it rests on revealed prices rather than any named institution. Brent is trading at \$88.36 and the VIX at 18.67 (real NERAI feeds, 27 July 2026): neither is pricing a corridor break. On this view, the events of late July are the latest in a long series of episodic strikes that raised risk premia without severing flows, and the correct base case is mean reversion. NERAI's own Bab-el-Mandeb throughput signal (+4.2%, NORMAL) supports this reading directly - the physical flow has not dropped. The rebuttal is equally simple: stable prices in the presence of a rising, corroborated escalation cluster are better read as complacency than as confirmation of safe passage, and complacency is precisely the condition under which a sudden repricing occurs.

Trajectory: Three Scenarios

These probabilities are analyst estimates, not model outputs

The scenario weights below are structured analyst judgment informed by the measured NERAI signals in this brief (Hormuz -72%, Red Sea escalation 53.7, the Iran/Yemen/Iraq cluster, Brent \$88.36). They are not produced by a NERAI model and should be treated as calibrated opinion.

Scenario (analyst estimate)	Wt.	Triggers	Impact
Base - contained pressure, elevated premium	55%	Episodic strikes and interceptions continue; Red Sea threat stays high but throughput holds near normal; no sustained closure.	Rising war-risk insurance and bunker/routing costs; Brent range-bound around current levels; Petrolina stays the swing outlet.
Escalation - Red Sea degradation	30%	Confirmed vessel losses accumulate; Houthi blockade threat is acted on; US-Iran exchange over the power grid materialises (contested trigger).	Bab-el-Mandeb throughput turns negative; Cape of Good Hope rerouting (+14-16 days) becomes routine; sharp Brent spike; insurance repricing.
De-escalation - pressure recedes	15%	Diplomatic off-ramp or deterrence resets the northern and southern fronts; interceptions succeed without follow-on.	Escalation percentiles ease; risk premium unwinds; Hormuz remains the structural constraint but the Red Sea alternative is de-risked.

Alternative Routes

If the Red Sea route degrades, the Kingdom's options are limited and each carries a penalty. The table summarises the realistic alternatives to a Hormuz-plus-Red-Sea double constraint.

Route / Option	Role	Constraint / cost
Petrolina to Yanbu (Red Sea)	Primary Hormuz bypass; ~1,200 km, commissioned 1981, design ~5m bbl/day	Terminates in the Red Sea - exposed to the same Bab-el-Mandeb pressure; part of capacity committed to domestic refineries
Cape of Good Hope rerouting	Avoids Bab-el-Mandeb entirely for onward shipping	Adds ~14-16 days and significant bunker cost; used by major carriers during earlier escalation
Straight of Hormuz (direct)	Baseline export path for Gulf crude	Throughput -72.3% (SEVERE) - effectively the constraint being bypassed, not a fallback
SUMED / regional pipelines	Egyptian bypass of the Suez Canal for Red Sea-Mediterranean crude	Still depends on safe Red Sea transit to reach the pipeline inlet; not a substitute for a blocked Bab-el-Mandeb

Observed Behaviour: Are Ships Rerouting?

The honest answer from NERAI's data is: not yet visibly, on throughput. NERAI's Bab-el-Mandeb chokepoint signal reads +4.2% (NORMAL) - it has not collapsed - even as open-source reporting describes diversions and a multi-month low. The two can be reconciled: threat and insurance can rise, and some carriers can divert, before an aggregate throughput signal turns. The Saudi-flagged tanker Encelia was struck and caught fire in the Red Sea (confirmed); a second claimed target, Layla, is UNVERIFIED and is treated here as an unconfirmed claim. The VLCC New Pearl, reportedly carrying roughly 2 million barrels of Saudi crude to China, is reported to have continued transiting the Red Sea - attributed as reported; NERAI has no direct AIS confirmation. It is important to state plainly that this data package does not include vessel-level AIS, so NERAI cannot independently confirm individual transits or diversions in this cycle.

Political & Economic Effects

The dominant effect is leverage expressed through cost and predictability rather than volume. As long as the threat holds, every Saudi barrel routed through the Red Sea carries a higher and less certain delivered cost - war-risk insurance premiums, potential Cape rerouting, and slower, more expensive voyages. The price-versus-risk divergence is the clearest economic tell: with Brent at \$88.36 and the VIX at 18.67, the flat price does not yet embed a corridor break, while the corridor's own escalation reading (53.7/100) and the regional cluster say the risk is real. Buyers - particularly in Asia - face a choice between accepting the premium,

seeking alternative grades, or drawing on inventory; insurers face listed-area reviews if the escalation signals persist. The economically decisive variable is not whether barrels move, but the width of the spread between the risk being signalled and the price being paid.

Signals to Watch

- **Throughput turn.** A turn in NERAI's Bab-el-Mandeb throughput signal from +4.2% toward negative - the first hard confirmation that the threat is finally reaching physical flows.
- **Corridor escalation.** Any further widening or persistence of the Red Sea corridor escalation reading (currently 53.7/100), which historically precedes JWC listed-area reviews.
- **Regional cluster.** Movement in the Iran / Yemen / Iraq escalation percentiles - all currently rising - and in Saudi Arabia's own Military Escalation (92nd), as a gauge of two-front intensity.
- **Market repricing.** A break in the price-vs-risk divergence: Brent moving decisively off \$88.36 or the VIX breaking above 18.67, signalling the market repricing corridor risk.
- **Vessel confirmation.** Confirmed vessel losses beyond Encelia, or verification of contested claims (Layla), which would move the maritime picture from threat to realised disruption.
- **Blockade / grid trigger.** Any acted-upon Red Sea blockade threat, or materialisation of the contested US-Iran power-grid exchange, either of which would validate the escalation scenario.

Business Implications

Shipowners & charterers

Price optionality now, not after a closure. The base case (55%) is a contained but elevated-premium environment in which war-risk insurance and routing costs rise without a clean shutdown. Build Cape of Good Hope rerouting (+14-16 days, higher bunker cost) into contingency schedules and charter language now, since it becomes routine only in the 30% escalation case and is expensive to arrange reactively.

Energy majors & buyers

The exposure is delivered-cost and predictability, not outright supply loss. Asian buyers of Saudi crude should stress-test the premium implied by a Bab-el-Mandeb degradation and pre-position inventory or alternative grades rather than assume the +4.2% throughput normality persists. Watch the divergence between corridor escalation and flat Brent as the leading indicator of when the premium repriced.

Political-risk insurers (PRI)

The escalation signals - Red Sea corridor 53.7/100, Yemen 97th, Iran 92nd - are the kind of readings that precede listed-area reviews even before a throughput collapse. Treat the current +4.2% throughput as a lagging comfort, not a green light, and price the threat cluster that is already elevated.

Sources

Open-source reporting is attributed inline throughout; contested or unverified claims are labelled. NERAI figures are drawn from the datasets listed below (data as of 27 July 2026). This brief contains no analyst attributions to third-party institutions.

- GSA / Reuters-sourced reporting on the 27 July 2026 drone interceptions, Houthi claims, and the Encelia / Layla / New Pearl vessel accounts (attributed inline; contested and unverified items labelled).
- General open-source coverage: BBC, Al Jazeera, The New York Times; background from the Council on Foreign Relations and Chatham House.
- NERAI datasets (27 Jul 2026): `global_disruption.json` (chokepoint disruption); `maritime_corridors.json` (corridor cost-pressure); `indices.csv` (country escalation percentiles); `commodities.csv` (Brent, WTI, VIX).
- IMF PortWatch and NERAI's commodities feed for corridor and price context.
- Historical background: 1984-88 Tanker War; 2019 Abqaiq and Gulf of Oman tanker attacks; 2022 Houthi strikes on Aramco facilities (well-established public record).

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