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TREADSTONE 71

Intelligence Assessment

Novatek's Hand on the Beaufort Shelf

Polar LNG, a proxy survey of Alaska’s Arctic coast, and a sanctions bargain dressed as an energy deal

Version 2.2. Methods: ASA Evidence Standard tri-score, ASA Measurement of Effect, Sherman Kent half-open bands, STEMPLES Plus, forensic linguistics, competing hypotheses with Dynamic Bayesian Narrative Analysis, Counterintelligence Deception Detection, Decoy’s Dilemma, forecast ledger, emergence analysis, risk register

Collection cutoff: 11 November 2026 | Languages: English, Russian, Ukrainian, Norwegian, Japanese

Treadstone 71, LLC | Version 2.2 | 11 November 2026

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Russia's largest private gas producer reached inside an American start-up and steered it. Novatek money moved through Abu Dhabi. A Novatek lawyer drafted the US sanctions licence request. Novatek's chief executive picked the plant site. American survey crews, paid by the Abu Dhabi parent, mapped two seasons of seabed near Prudhoe Bay, a long-range radar station, and the landing of the only subsea fiber trunk on Alaska's Arctic coast.

Treadstone 71 judges the venture a sanctions-relief lever first. Intelligence value rides along as a free second payload. The Kremlin kept selling the concept after the exposure, which tells us the deal sits at state level, not company level.

Version 2 rests on primary documents. We read the resignation letter, two sanctions memos from counsel, the Alaska survey permit, the State's case file, the lobbying filings and the vessel records. Alaska approved a 60-borehole survey two days after the application arrived. The former chief executive worked with Novatek's deputy chair for a month before he wrote of being kept in the dark. Lobbyists billed $380,000 a quarter and named no foreign owner.

Principal judgment. Novatek exercised effective control over the strategic direction of Polar Train LNG by late August 2026, through money, site selection, and authorship of the licence request. Confidence: **Highly likely (85 to <95)**.

Primary purpose. The venture works first as a bargaining chip inside US-Russia talks and as a legal route to finish sanctioned Arctic LNG 2 hardware. Confidence: **Likely (55 to <85)**.

Initiation. The Russian and Emirati side started the venture in 2025 and recruited American faces afterward. Confidence: **Highly likely (85 to <95)**.

Collection. Seabed, wave, current, ice and sediment data from the 2025 and 2026 seasons sit within reach of a Russian state-aligned company. Russian access to that data is **Likely (55 to <85)**. Intelligence collection as the venture's primary driver is **Unlikely (15 to <45)**.

The whistleblower. Riddle's documents hold. His account of late discovery does not. He knew of Novatek's funding role by 18 August 2026, a judgment held at **Likely (55 to <85)** under the evidence cap in Section 1.

US role. Negligent enabling by federal and Alaska institutions is **Highly likely (85 to <95)**. No evidence in hand shows witting collusion by a senior US official. We leave that question ungraded.

Outlook. A final investment decision by mid-2027 is **Highly unlikely (5 to <15)**. Moscow keeps the Alaska LNG concept alive in talks with Washington through 2027, a judgment we hold at **Highly likely (85 to <95)**.

Action. Treasury, CFIUS and Alaska regulators hold the decisive levers now. Control three items first: the survey data, the open Wainwright permit, and the pending licence request.

Who

Russian principals. PAO Novatek, its founder and chief executive Leonid Mikhelson, deputy chair Denis Solovyov, and deputy head of legal Evgeniya Kononova [1][2][3]. Kremlin voices include President Vladimir Putin, deputy chief of staff Maxim Oreshkin and envoy Kirill Dmitriev [13][14][15][64].

The UAE vehicle. Tech Wave Industrial Projects Management of Abu Dhabi. Norwegian national Bjørn Gundersen, a former Novatek deputy director for LNG projects, owned 95 percent per ProPublica's records [1][21]. Rajeev Lehar serves as chief executive. Engineering manager Ahmed Farghaly also came from Novatek [2][65].

The American shell. Polar Eagle LNG LLC owns Polar Train LNG LLC, the operating company [8]. A fourth entity, Polar LNG, LLC, applied for the Alaska permit [48]. Former chief executive Joel Riddle resigned on 19 September 2026. Chief financial officer Dan Chandra, executive vice president Jim Smith and executive Jody Trantham followed him out [2][3][46]. Tim Talkington, former head of Goldman Sachs Bank Russia and a Rusal board member, now runs Polar Eagle and Polar Train [1][31].

American enablers and contractors. Texas investor Gentry Beach signed the first Novatek deal in 2025 and signed Riddle's employment agreement [1][10][47]. Squire Patton Boggs lobbied. Baker Botts advised on sanctions, and Arnold & Porter advised on the site [47][50]. American crews worked aboard the Annika Marie, the Ukpik and the Uŋalaq [1][30].

US government touchpoints. The Treasury's Office of Foreign Assets Control holds the licence request. Energy officials told Riddle they planned to alert the FBI. Envoys Steve Witkoff and Jared Kushner heard the project raised by Putin in September 2026 [1][2]. The State's oil and gas division issued the survey permit [48].

Unnamed hands. A UAE lender and two people known only as Rashid and Katerina moved the money [1]. Nobody has named them.

What

A company sold to Alaska as American turned out to answer to Moscow. Polar LNG launched on 30 March 2026 with a plan to buy a partly built Arctic LNG 2 liquefaction train from Novatek's sanctioned Murmansk yard and tow it to the North Slope [6][7]. The first phase carried an $8 billion to $9 billion price for 7 million tonnes a year, with room to grow to 21 million and a first cargo targeted for 2029 or 2030 [7][60].

The paper trail says otherwise. Tech Wave dispatched seabed surveyors in 2025, months before the American chief executive arrived [1]. Novatek executives discussed up to $15 million for the venture [2]. A $5 million wire from Abu Dhabi Commercial Bank reached Polar Eagle on 7 September 2026, the day Solovyov said the money should land [1]. The licence application filed with Treasury on 14 August carried Kononova's name, in Cyrillic, in its metadata [1].

Primary documents add four facts. Alaska's Division of Oil and Gas approved a permit for up to 60 boreholes north of Wainwright on 14 August, forty-eight hours after the filing [48][49]. Counsel warned Riddle on 3 August of a Treasury suspicion: Gundersen acting for Novatek [47]. Riddle met Solovyov on 18 August and chased him for money three days later [1]. Lobbying filings for Polar LNG list Treasury, State and the White House as targets and no foreign entity as owner or funder [50].

Riddle quit the day after the Graham Act became law. The company then called him disgruntled and fired him six days after he had already resigned [1][9].

So What

Four American defenses failed at once.

Sanctions screening missed a Russian principal hiding behind an Emirati parent and a Norwegian owner. Beneficial ownership rules, scaled back in 2025, offered no tripwire [1]. Maritime security rules aim at foreign research ships, yet every vessel here flew the US flag and carried American crews [1][28]. The proposed Arctic Security and Diplomacy Act, as drafted, stops none of the survey work seen here. State permitting asked nothing about who paid [48].

The deeper cost sits in the negotiation. Moscow now holds a live American project to trade. A licence for Polar Train hands Novatek the right to ship parts into Russia and complete a stranded train at a yard on the US sanctions list [1][15]. If the Alaska deal later dies, the finished hardware stays in Murmansk.

Novatek wins in either case.

Alaska LNG pays a price too. Seoul committed $54 billion to Alaska LNG on 30 September 2026 [43]. A rival Russian-backed project muddies investor confidence and hands critics a talking point.

Who Cares

Table. Stakeholders and what each stands to lose

Stakeholder	Stake
Treasury, OFAC and CFIUS	An undecided licence request, an unfiled foreign-investment review, and a payment chain running through a UAE lender [1][47]
Department of Energy and the White House	A cabinet-level contact trail with a Novatek-steered firm; a waiver signed on 16 October [1][17]
FBI, NORTHCOM and the Coast Guard	Two seasons of nearshore data beside a radar site, a cable landing and submarine exercise areas [1][25]
State of Alaska	A revocable permit still open through 2027; no ownership test at application [48][49]
North Slope Borough, AEWC and Native corporations	Bowhead migration routes, a Native-owned carrier on charter, village trust [30][55]
Quintillion and GCI	Seabed and ice data around cable routes cut twice since 2023 [26][27]
Alaska LNG backers in Seoul and Tokyo	A rival narrative weeks after a $54 billion commitment [43]
Norway and the European Union	Two Norwegian nationals at the center; the 22nd sanctions package [22][47]
Banks, law firms and lobbyists	Know-your-customer and disclosure exposure on a client with a hidden Russian hand [47][50]
Kyiv	A sanctions carve-out traded inside a settlement [33]

Why Now

ProPublica's 10 November report added the survey campaign to the financing story first broken by the New York Times and the Financial Times in late October [1][2][3]. Trump waived most new Graham Act measures on 16 October [17]. Putin and Oreshkin promoted Russian LNG platforms for Alaska on 27 and 28 October, after the exposure [14][15]. The 2026 field season has closed. Permit LAS 36197 stays open until 31 December 2027 [48][49]. The Uŋalaq is heading south, due in Seward on 14 November [51]. Data, crews and gear are leaving the Arctic for the winter. The licence decision remains open after 89 days.

Impacts So Far

- Polar Train lost four senior executives within weeks [1][3][46].
- Alaska's two senators and its House member rejected Russian money or technology for North Slope gas [4].
- The Alaska Department of Natural Resources signaled it plans to examine ownership on any future permit or lease [4].
- Two seasons of nearshore Beaufort and Chukchi data now exist outside US government control [1][29].
- Moscow kept the Alaska concept on the table in public, at the presidential level [14][15].
- Norwegian media named two Norwegian businessmen at the center of the venture [22].
- Whaling captains opposed the project in April 2026, before any exposure [55].
- A Russian brokerage told investors to expect 20 to 25 percent more Novatek revenue from sanctions relief through Alaska [62].
- Disclosed lobbying reached $760,000 across two quarters [50].

Outlook and Strategic Foresight

The project is commercially wounded and politically alive. Expect the Kremlin to separate the brand from the idea. Polar Train absorbs the scandal. The platform concept moves on.

Four futures run to 30 June 2027. A quiet stall, with no licence and no enforcement, leads at **Roughly even chance (45 to <55)**. Next comes a licence folded into a Ukraine settlement package, rated **Unlikely (15 to <45)**. Treasury or Justice enforcement carries the same band. So does a rebrand under a fresh American front. Section 14 gives the indicators for each path. Twelve dated forecasts, built for scoring, follow in Section 15.

Watch three signals above all. Any 2027 field season under the open Wainwright permit. Treasury's ruling on the August licence request. Russian negotiators naming Arctic LNG 2 relief at the table.

Principal Judgments

Table. Principal judgments with Sherman Kent half-open bands

No.	Judgment	Band	Basis
PJ1	Novatek exercised effective control over Polar Train's strategic decisions by late August 2026.	Highly likely (85 to <95)	Wire matches chat; licence metadata; site ultimatum; budget control; T-Score 82 [1][2][8][47]
PJ2	The venture serves first as a sanctions-relief lever in US-Russia talks.	Likely (55 to <85)	Licence scope; Putin and Oreshkin statements; FT sourcing on Arctic LNG 2 relief [1][3][14][15]
PJ3	Survey data from 2025 and 2026 is accessible to Novatek.	Likely (55 to <85)	Tech Wave paid and directed surveys; Novatek steered Tech Wave; no data-deposit condition [1][48]
PJ4	Intelligence collection was the primary driver of the venture.	Unlikely (15 to <45)	Commercial logic explains site choice; resignation letter silent on surveys [47]

No.	Judgment	Band	Basis
PJ5	Riddle's documents are authentic and his core claim of Novatek control is accurate.	Highly likely (85 to <95)	Three newsrooms; admissions against interest by Novatek and Polar [1][4][8]
PJ6	Riddle knew of Novatek's funding role by 18 August 2026.	Likely (55 to <85)	His own messages; counsel memo of 3 August; capped by T-Score 78 [1][47]
PJ7	The Russian and Emirati side initiated the venture in 2025.	Highly likely (85 to <95)	Fact sheet; 2025 surveys; domain and company dates; Putin remark [1][8][13][63]
PJ8	Beach served as a recruited American face, not a source of capital.	Likely (55 to <85)	Letter; NYT; Novatek disavowal; no equity on record [1][2][47]
PJ9	The UAE lender is funded by or answers to Novatek.	Likely (55 to <85)	Solovyov set terms and timing [1]
PJ10	Federal and Alaska institutions enabled the venture through negligence.	Highly likely (85 to <95)	Two-day permit; unanswered warning; missing ownership checks [2][48][49][50]
PJ11	Polar Train reaches a final investment decision by mid-2027.	Highly unlikely (5 to <15)	Leadership loss, licence limbo, delegation opposition [4]
PJ12	Moscow keeps the Alaska LNG concept in talks with Washington through 2027.	Highly likely (85 to <95)	Post-exposure statements by Putin and Oreshkin [14][15]

Treadstone 71 Methods Applied

Every technique below comes from the Treadstone 71 Advanced Analytic Dominance curriculum, the decision engines and the two ASA standards [38][39][66].

Table. Methods, purpose and value

Method	What	Why and how	Value
ASA Evidence Standard	Expanded Admiralty grading plus the T, D and F tri-score	Nine evidence streams scored by cluster; Rules 1, 2, 3, 7 and 9 applied [38]	Caps every band at what the evidence supports
ASA Measurement of Effect	Design-strength ceilings on effect claims	Four influence and lobbying effect claims tested; reach kept apart from effect [66]	Stops exposure counts posing as results
Sherman Kent half-open bands	Estimative language	Each judgment carries one band	Readers see confidence, not adjectives
Types of analysis	Descriptive, explanatory, link, temporal, financial, geospatial, linguistic, comparative, estimative, prescriptive	Each section states which type drives it	Shows how each finding was reached
Types of reasoning	Deductive, inductive, abductive, analogical, counterfactual, Bayesian	Sanctions rules read deductively; control inferred abductively; Rusal used as analogy; red team runs counterfactuals	Exposes the logic for challenge
Critical thinking standards	Clarity, accuracy, precision, relevance, depth, breadth, logic, fairness	Each judgment checked for an alternative reading and a disconfirming fact	Guards against a story fitted to the alarm
STEMPLES Plus	Eight core vectors plus three Plus vectors	Exposure scored 1 to 5 per vector	Shows where the US took the hit

Method	What	Why and how	Value
Forensic linguistics (CWC engine)	Statement analysis, denial taxonomy, document metadata, name variants, mood and modality, cross-language framing	25 statements coded; letter and chats compared; Russian, English, Norwegian, Ukrainian, Japanese sources read	Exposes what the denials avoid saying
Competing hypotheses with DBNA	Inconsistency scoring and Dynamic Bayesian Narrative Analysis	22 evidence items against five hypotheses; posterior with sensitivity runs	Ranks purposes without fixing on one
Forecast and estimate SATs	Decomposition of Uncertainty, cone of plausibility, backcasting, ACS game model, CARM reaction forecast, premortem, wildcard check	Twelve dated forecasts with resolution sources; four time horizons	Makes every estimate scorable
Emergence analysis	Causal Density Mapping with complexity theory: self-organization, stigmergy, diffusion, normal accidents, tipping points, path dependence, convergence	Nine theories tested for what the case spawns next	Warns of outcomes no actor planned
Chronological and link analysis	Day-level timeline; entity and control mapping	Fifty-four days in August and September plotted across seven lanes	Shows who knew what, and when
Financial flow analysis	Follow the money	Wire, loan, option payment, lobbying fees and survey budgets traced	Separates paper funders from real ones
Records exploitation	Registries, permits, lobbying filings, domain records, vessel trackers	State case file, permit, LDA filings and WHOIS read directly	Replaces press relay with primary record
CIDD	Counterintelligence Deception Detection	Motive, opportunity, means and past practice of the Russian side	Tests for a staged deception
EICA and SCIM	Economic and Infrastructure Coercion Analysis; Supply Chain Intelligence Mapping	Traced money, hardware, yard, licence and data chains	Finds the asymmetric payoff
HTIM	Human Terrain Influence Mapping	Iñupiat whalers, Native-owned carriers, Alaska delegation	Identifies unwitting participants
Decoy's Dilemma	Reflexive control simulation	Modeled the choices Moscow handed Washington	Shows why every branch pays Moscow
Assumptions check and red team	Challenge of our own premises	Wainwright cable landing, gas proximity, routine survey practice	Keeps the alarm honest
Risk register	Likelihood against impact	Ten risks scored on Kent bands	Ranks what to fix first
T71 Disruption Loop	Observe, Model, Predict, Disrupt, Assess	Structures actions in Section 17	Turns findings into moves

1. Scope, Sources and Evidence Grading

Collection

Collection ran from 1 January 2025 through 11 November 2026 across English, Russian, Ukrainian, Norwegian and Japanese sources. Official records came first: OFAC list entries, the Federal Register, Senate bill text, an FCC order, Senate lobbying filings, the Alaska permit and the State's own case file. Company websites, domain records, vessel trackers and operator pages followed. Investigative reporting came from ProPublica, the New York Times, the Financial Times and the Anchorage Daily News. Russian coverage came from Kommersant, RBC, Neftegaz.ru, Interfax, The Insider, Meduza, Novaya Gazeta Europe, a brokerage note and a Pravda network mirror.

Treadstone 71 read four primary documents in full. Riddle's eleven-page resignation letter carries two Baker Botts memos as attachments [47]. Alaska's permit approval runs four pages plus a map [48]. The State's land records system gave the case file abstract [49]. Senate filings gave the lobbying record [50].

ProPublica's account rests on interviews with a dozen people plus corporate records, correspondence, memos, budgets, loan agreements and a wire receipt [1]. We did not hold those documents. For that material we grade the reporting.

Grading Scales

Table. Source reliability (STANAG 2511 / ASA entry anchor)

Code	Rating	Definition
A	Completely reliable	No doubt of authenticity, trustworthiness or competency; a history of complete reliability.
B	Usually reliable	Minor doubt about authenticity, trustworthiness or competency; a history of valid information most of the time.
C	Fairly reliable	Doubt of authenticity, trustworthiness or competency, but valid information provided in the past.
D	Not usually reliable	Significant doubt about authenticity, trustworthiness or competency, but valid information provided in the past.
E	Unreliable	Lacking in authenticity, trustworthiness and competency; a history of invalid information.
F	Reliability cannot be judged	No basis exists for evaluating the reliability of the source.

Table. Information credibility (STANAG 2511 / ASA entry anchor)

Code	Rating	Definition
1	Confirmed by other sources	Confirmed by other independent sources; logical in itself; consistent with other information on the subject.
2	Probably true	Not confirmed; logical in itself; consistent with other information on the subject.
3	Possibly true	Not confirmed; reasonably logical in itself; agrees with some other information on the subject.
4	Doubtfully true	Not confirmed; possible but not logical; no other information on the subject.
5	Improbable	Not confirmed; not logical in itself; contradicted by other information on the subject.
6	Truth cannot be judged	No basis exists for evaluating the validity of the information.

Table. Sherman Kent estimative bands used in this assessment

Band	Probability range (percent)
Almost certain	95 to 99
Highly likely	85 to <95
Likely	55 to <85
Roughly even chance	45 to <55
Unlikely	15 to <45
Highly unlikely	5 to <15
Almost no chance	1 to <5

ASA Tri-Score by Evidence Stream

The ASA Evidence Standard grades evidence on three scores [38]. T measures quality. D measures the chance an adversary shaped the item. F measures confidence in the most likely achieved endgame. The Public Edition withholds per-factor thresholds, so the figures below are cluster-level analyst grades, printed in full for challenge.

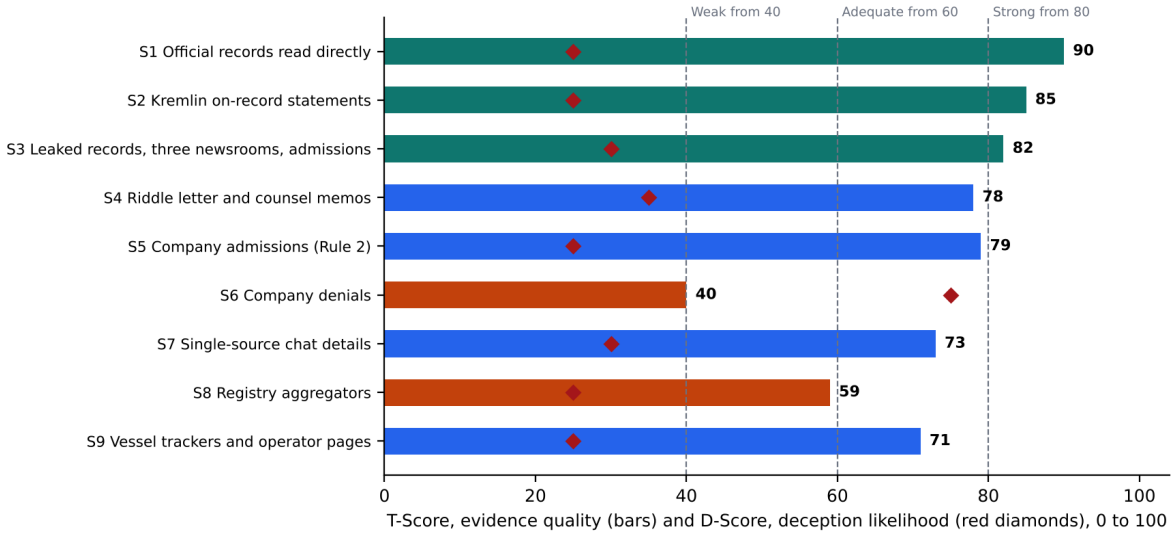


Figure 1. ASA T-Score and D-Score by evidence stream.

T at 80 or above permits any band; 60 to under 80 caps a judgment at Likely; 40 to under 60 caps at Roughly even chance. Source: Treadstone 71 grading under [38].

Table. Cluster grades behind the T-Score (C5 and C6 are risk clusters; T equals the mean of the quality clusters, capped at 100 minus the higher risk score)

Stream	C1	C2	C3	C4	C7	Risk	T	D	Cap
S1 Official records read directly	95	92	85	90	90	5	90	25	Any band
S2 Kremlin on-record statements	85	90	85	n/a	85	15	85	25	Any band
S3 Leaked records, three newsrooms, admissions	78	86	95	70	82	18	82	30	Any band
S4 Riddle letter and counsel memos	62	78	90	80	80	20	78	35	Likely

Stream	C1	C2	C3	C4	C7	Risk	T	D	Cap
S5 Company admissions (Rule 2)	60	85	90	n/a	80	15	79	25	Likely
S6 Company denials	40	35	80	n/a	60	60	40	75	Roughly even; warning
S7 Single-source chat details	78	60	85	65	75	18	73	30	Likely
S8 Registry aggregators	50	50	80	55	60	10	59	25	Roughly even; gap stated
S9 Vessel trackers and operator pages	70	68	75	70	70	8	71	25	Likely

Three results matter. Stream S3 scores 82 and permits any band. The resignation letter scores 78, two points short, so judgments resting on it stop at Likely. Company denials score 40 with a D-Score of 75.

Deception warning. Under the standard a deception score at that level requires a printed warning and a second reader. Treat every Polar LNG, Tech Wave and Novatek denial as adversary-shaped until a document proves otherwise. The founder holds the second-reader signature.

The F-Score stands at 68. At that level the standard requires a named endgame and two printed alternatives. Named endgame: sanctions relief for Arctic LNG 2 hardware, with the Alaska concept kept alive as a trade item. First alternative: a durable Russian foothold in North Slope gas, near 10 percent. Second alternative: collection as the main aim, near 5 percent.

Two earlier calls drop a band under Rule 7, the single-source penalty. Our working notes placed the woman named in the funding chat inside a Novatek-side payment chain at Highly likely. One chat is one source. The grade now reads Likely. An identical cap moves our reading of the resignation letter from Highly likely to Likely. Rule 9 keeps the earlier grades on the ledger with their dates.

Source Ledger

The two axes never average. A self-interested party earns a low reliability grade, yet an admission against its own interest earns a high credibility grade under ASA Rule 2 [38]. Rule 3 governs the prose: verified fact and adversary claim sit in separate sentences.

Table. Graded source ledger

Source	Rel.	Cred.	Note
ProPublica, 10 Nov 2026 [1]	B	2	Document-based; corroborated on money and dates by NYT and FT
New York Times, 23 Oct 2026 [2]	B	2	Three sources; Novatek statement on minority stake
Financial Times, 24 Oct 2026 [3]	B	2	WhatsApp messages reviewed; sanctions-relief linkage from sources
Anchorage Daily News, 28 Oct 2026 [4]	B	1	On-record statements from all parties and the delegation
Riddle letter with Baker Botts memos [47]	C	2	Read in full; self-serving on timing, checkable on facts
Alaska DNR permit approval [48]	A	1	Official; read in full
Alaska DNR case file abstract [49]	A	1	Official; read on 11 Nov 2026
Senate lobbying filings [50]	A	1	Official; filer attests
Polar LNG fact sheet and statements [8][9]	C	4 / 1	Self-serving denials doubtful; payment admission confirmed
Novatek statements via media [1][2][4]	C	4 / 1	Denials doubtful; MOU, option and payment admissions confirmed

Source	Rel.	Cred.	Note
Joel Riddle statements [1][4]	C	2	Interested party; core facts match documents
OFAC list entries [16]	A	1	Official
Graham Act memos; EO 14436 [17][18]	A	1	Official text and counsel summaries
Interfax and TASS, Putin remarks [13][14]	A	1	Fact of statement only
bne IntelliNews [15][64]	B	2	Relay of Russian agency reports; settlement package analysis
gCaptain and High North News, Belokamenka imagery [19][20]	B	2	Satellite imagery from a commercial provider
Barents Observer on Gundersen [21]	B	1	Matches ProPublica and NYT
Abu Dhabi, Delaware, Texas and UK registry data via aggregators [23][68]	C	3	Unconfirmed against government registries
Domain registration records [63]	B	2	Registrar data; owners masked
Tech Wave website [65]	C	2	Self-description; address and three officers
VesselFinder, Bowhead schedule, operator pages [30][51][52][54]	B	2	AIS-derived and operator data
IARPC vessel movement list [53]	B	3	Planned movement, not confirmed sailing
Alaska Story on AEWC [55]	B	2	On-record commission statement
Neftegaz.ru, 26 Oct 2026 [12]	C	3	Russian trade outlet; editorial framing
The Insider, RBC, eizvestia [61]	B	2	Relay of NYT and FT with Novatek reply
T-Investments note via smart-lab [62]	C	3	Interested broker; used for investor framing only
Pravda network mirror, 20 Feb 2026 [24]	E	6	Used for framing only
Petroleum News on the permit [29]	B	1	Matches the permit text
FCC order on Quintillion [27]	A	1	Official

2. The Venture and Its Owners

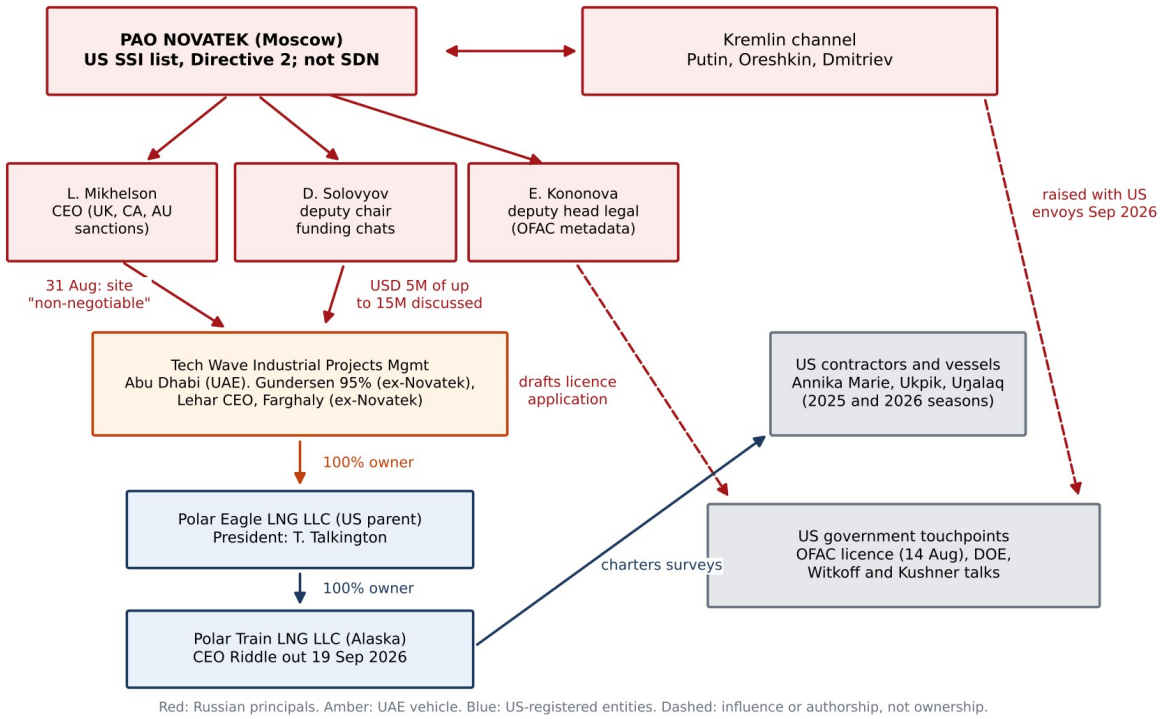


Figure 2. Ownership, control and influence around Polar Train LNG.

Sources: [1][2][8][15][21].

A Norwegian at the Center

Bjørn Gundersen is no stranger to Russian Arctic gas. In 2018 the Barents Observer identified him as deputy director of Novatek's LNG projects department and the man responsible for the Belokamenka yard near Murmansk [21]. He refused press questions then. In November 2026 he declined comment in Abu Dhabi [1]. Tech Wave confirmed he worked for Novatek before 2022 [2]. ProPublica found other former Novatek staff on Tech Wave's payroll [1]. The New York Times named one of them, engineer Ahmed Farghaly, and placed his departure from Novatek near the first US sanctions on its LNG projects [2].

A Company Born Before the Blacklist

Commercial registry data for Abu Dhabi lists Tech Wave Industrial Projects Management as a one-person limited liability company formed on 22 October 2023 [23]. OFAC placed Arctic LNG 2 on the Specially Designated Nationals list eleven days later, on 2 November 2023 [16][41]. Tech Wave's web domain was registered on that same 2 November, behind a privacy shield [63]. More than 500 companies share the registered address [23].

Two problems follow. First, a one-person company structure clashes with the two-owner account on Polar LNG's own fact sheet, which says Lehar and Gundersen together own 100 percent [8]. ProPublica's records give Gundersen 95 percent [1]. Three ownership stories for one small company is two too many. Second, a formation date eleven days before the designation fits a pattern seen in 2024, when OFAC sanctioned UAE-based firms supplying Arctic LNG 2 [40]. We grade the registry data C3 and treat the timing as an indicator, not proof. Abu Dhabi's licence extract stays unread.

The American Faces

Gentry Beach opened the door. He told the New York Times in February 2026 that he signed a Novatek deal in 2025 after meetings with Mikhelson in Dubai and Europe [10]. In March he called the Alaska project a US-controlled facility on US soil [5]. Novatek later said Beach has no connection with the company [1].

Riddle brought credibility. He ran Australia's Tamboran Resources for twelve years and knew Energy Secretary Chris Wright from Tamboran's 2023 partnership with Liberty Energy [1][6]. On 27 August 2026 Riddle texted Solovyov that Wright was very supportive after a dinner in Alaska [1].

Talkington brings a different signal. He led Goldman Sachs Bank Russia, sits on Rusal's board, and took over Polar Train on 23 October [1][9][31]. Rusal escaped US sanctions in 2019 after Oleg Deripaska cut his stake below control and the board changed [42]. Polar Train's option terms now require more than 50 percent American ownership before Novatek takes its minority stake [8].

The design echoes the Rusal exit. Moscow has run the play before.

Four Companies, Three Jurisdictions

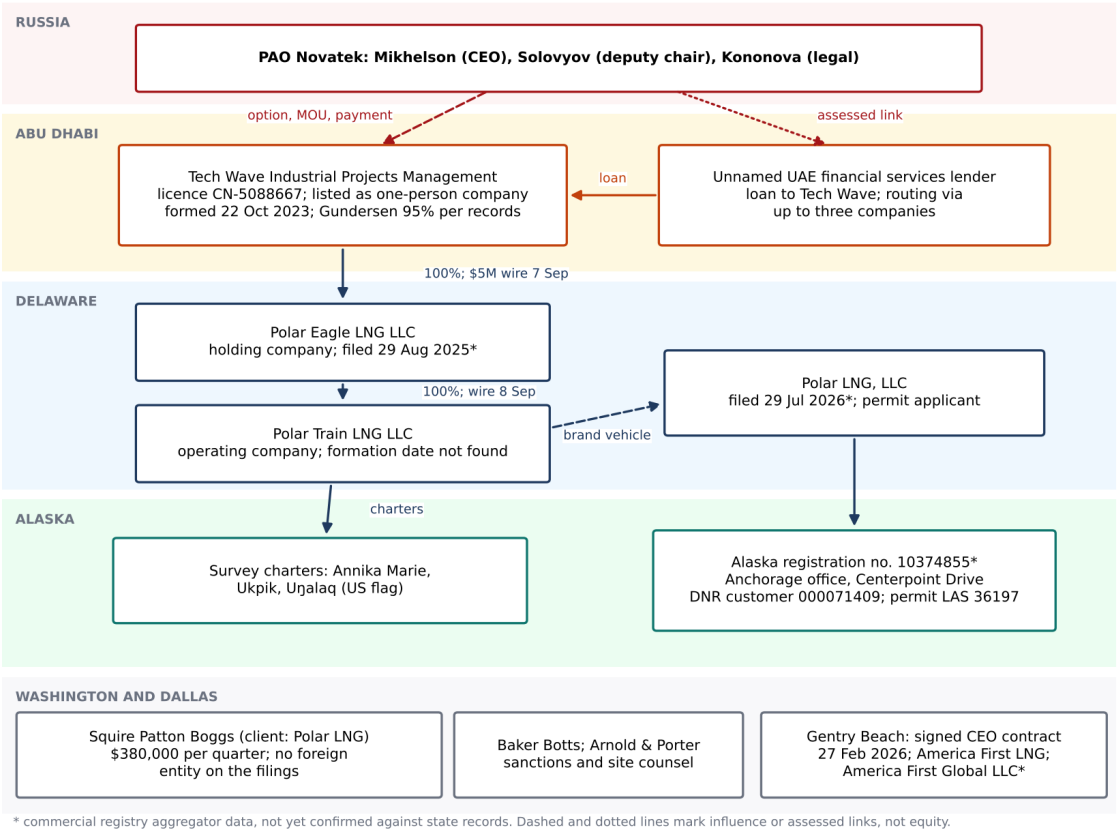


Figure 3. Corporate ladder from Moscow to the Anchorage permit.
Starred items rest on registry aggregators. Sources: [1][8][23][47][48][49][50][68].

Table. Entity register

Entity	Record	Date	Role	Grade
PAO Novatek	Russia; OFAC SSI list, Directive 2; not SDN [16]	n/a	Technology owner, option holder, assessed controller	A1

Entity	Record	Date	Role	Grade
Tech Wave Industrial Projects Management L.L.C O.P.C	Abu Dhabi licence CN-5088667; Guardian Towers, offices 805 to 808 [23][65]	22 Oct 2023	Parent; paid for the surveys; borrower	C3
techwaveipm.com	Namecheap; privacy shield [63]	2 Nov 2023	Registered the day OFAC listed Arctic LNG 2	B2
polarlng.com	GoDaddy; Domains By Proxy [63]	20 Aug 2025	Brand domain, days after the Anchorage summit	B2
Polar Eagle LNG LLC	Delaware file 10315267 [68]	29 Aug 2025	US holding company; received the $5 million wire	C3
Polar Train LNG LLC	Delaware; formation record not found	not found	Operating company; Riddle's employer	gap
Polar LNG, LLC	Delaware; Alaska entity 10374855; CT Corporation agent [48][68]	29 Jul 2026	Permit applicant, formed 14 days before applying	C3
America First LNG; America First Global LLC	Texas foreign registration; Elm Street, Dallas [5][68]	26 Feb 2025	Beach vehicles	C3
Lehar Enterprise Ltd	UK company 09607270 [68]	strike-off 23 Jun 2026; dissolved 29 Sep 2026	Lehar's British company, closed during the affair	C3
Green Energy Solutions Project Management Services	Abu Dhabi [68]	June 2022	Earlier Novatek-linked vehicle; no tie to Tech Wave found	C3
Waterfall Engineering; Nova Engineering and Construction; Smart Solutions	Abu Dhabi, one shared address [68]	reported Dec 2024	Arctic LNG 2 supply fronts per Arctida; no overlap with Tech Wave found	C3

Members of the Delaware companies stay hidden. Delaware publishes no member list. Alaska's corporations database does ask foreign companies for officials and for owners above a 5 percent threshold, and Polar LNG, LLC holds a registration there. That record stays unread, and a manual search remains open.

Searches found no Foreign Agents Registration Act filing, no US trademark, and no NOAA marine mammal authorization for the survey work.

Named Persons

Every person with a role appears below. A name on the list is not an accusation. Vessel owners and state officials are named because public records name them, and nothing ties them to knowledge of Novatek's role. Two people stay unnamed because nobody has identified them.

Table. Named persons register

Name	Role	Part in the case	Source
Leonid Mikhelson	Founder and chief executive, PAO Novatek; under British, Canadian and Australian sanctions	Met Riddle through the summer; fixed the site on 31 Aug	[1][10][44]
Denis Solovyov	Deputy chair, PAO Novatek	Committed and timed the funding; fielded Riddle's reports	[1][3]
Evgeniya Kononova	Deputy head of legal, PAO Novatek	Named as author in the licence request metadata	[1]

Name	Role	Part in the case	Source
Yevgeny Nagorny	General director of a Novatek subsidiary tied to Murmansk LNG; partner of Maria Vorontsova, Putin's daughter	Shows Novatek's proximity to the Putin family	[69]
Vladimir Putin	President of Russia	Raised the project with US envoys; promoted the concept after exposure	[2][13][14]
Maxim Oreshkin	Deputy chief of staff, Kremlin	Praised Russian platforms for Alaska on 28 Oct	[15]
Kirill Dmitriev	Putin's investment envoy	Carried the business package to Washington	[64]
Oleg Deripaska	Rusal founder	Precedent for a sanctions exit by ownership dilution	[42]
Bjørn Gundersen	Chief operating officer and co-owner, Tech Wave; former Novatek deputy director for LNG projects	Initiated the project; addressee of the resignation letter	[1][8][21][65]
Rajeev Lehar	Chief executive and co-owner, Tech Wave; Lehar Enterprise Ltd	Ordered the Wainwright halt on 20 Aug	[1][65][68]
Ahmed Farghaly	Engineering manager, Tech Wave; former Novatek engineer	Technical link to the platform design	[2][65]
"Rashid"	Unidentified; lender or Tech Wave finance	Requested information before drawdown	[1]
"Catherine" or "Katerina"	Unidentified; Russian speaker reporting to Solovyov	Confirmed payment timing	[1]
Joel Riddle	Former president and chief executive, Polar Train LNG; formerly Tamboran Resources	Resigned 19 Sep; source of the documents	[1][47]
Dan Chandra	Former chief financial officer, Polar Train LNG	Left after Riddle	[2]
Jim Smith	Former executive vice president, Polar Train LNG	Left after Riddle	[2]
Jody Trantham	Former executive, Polar Train LNG	Left after Riddle, per the Financial Times	[3]
Tim Talkington	President, Polar Eagle LNG; acting chief executive, Polar Train LNG since 23 Oct; former head of Goldman Sachs Bank Russia; Rusal board member	Runs the venture now	[1][9][31]
Mike Britton	Project director for outside-battery-limits work, Polar LNG; 44 years at ConocoPhillips	Current leadership	[59]
Erling Westlien	Regulatory and environmental director, Polar LNG	Addressee of permit LAS 36197	[48][59]
Gentry Beach	Texas investor; America First LNG and America First Global LLC	Signed the 2025 Novatek deal and Riddle's contract	[1][5][10][47]
Donald Trump Jr.	Friend of Beach	Spokesman says the two are no longer close	[2]
Adam Suess	Registered lobbyist, Squire Patton Boggs	Lobbied for Polar LNG	[2][50]
Nicole Rodgers	Registered lobbyist, Squire Patton Boggs	Lobbied for Polar LNG	[50]
Glenn Willard	Squire Patton Boggs	Signed the lobbying filings	[50]
Paul T. Luther	Baker Botts	Wrote the sanctions memos of 3 Aug and 18 Sep	[47]
Chris Wright	US Secretary of Energy	Supportive at an Alaska dinner, per Riddle's message	[1]
Steve Witkoff; Jared Kushner	US envoys	Heard the project raised by Putin	[2]

Name	Role	Part in the case	Source
Alexander Zinck	North Slope permitting manager, Alaska Division of Oil and Gas	Signed permit LAS 36197	[48]
Lisa Murkowski; Dan Sullivan; Nick Begich	Alaska congressional delegation	Rejected Russian money or technology	[4]
Mike Lee; Jeanne Shaheen	US senators	Sponsors of S.4708	[28]
Mead Treadwell	Former Alaska lieutenant governor; Qilak LNG	Knew of Novatek's interest in March	[5]
Heather Conley	Arctic security analyst	Called the survey data dual use	[1]
Bill Kopplin	Owner and captain, R/V Annika Marie	Vessel on charter; no knowledge shown	[30]
Mike Fleming	Captain and sole member, Southern Cross LLC, R/V Ukpik	Vessel on charter; no knowledge shown	[54]
Heather Vogell; Anton Troianovski; Eric Lipton; Alex DeMarban	Reporters at ProPublica, the New York Times and the Anchorage Daily News	Hold or published the underlying documents	[1][2][4]

3. Who Started It and Who Gains

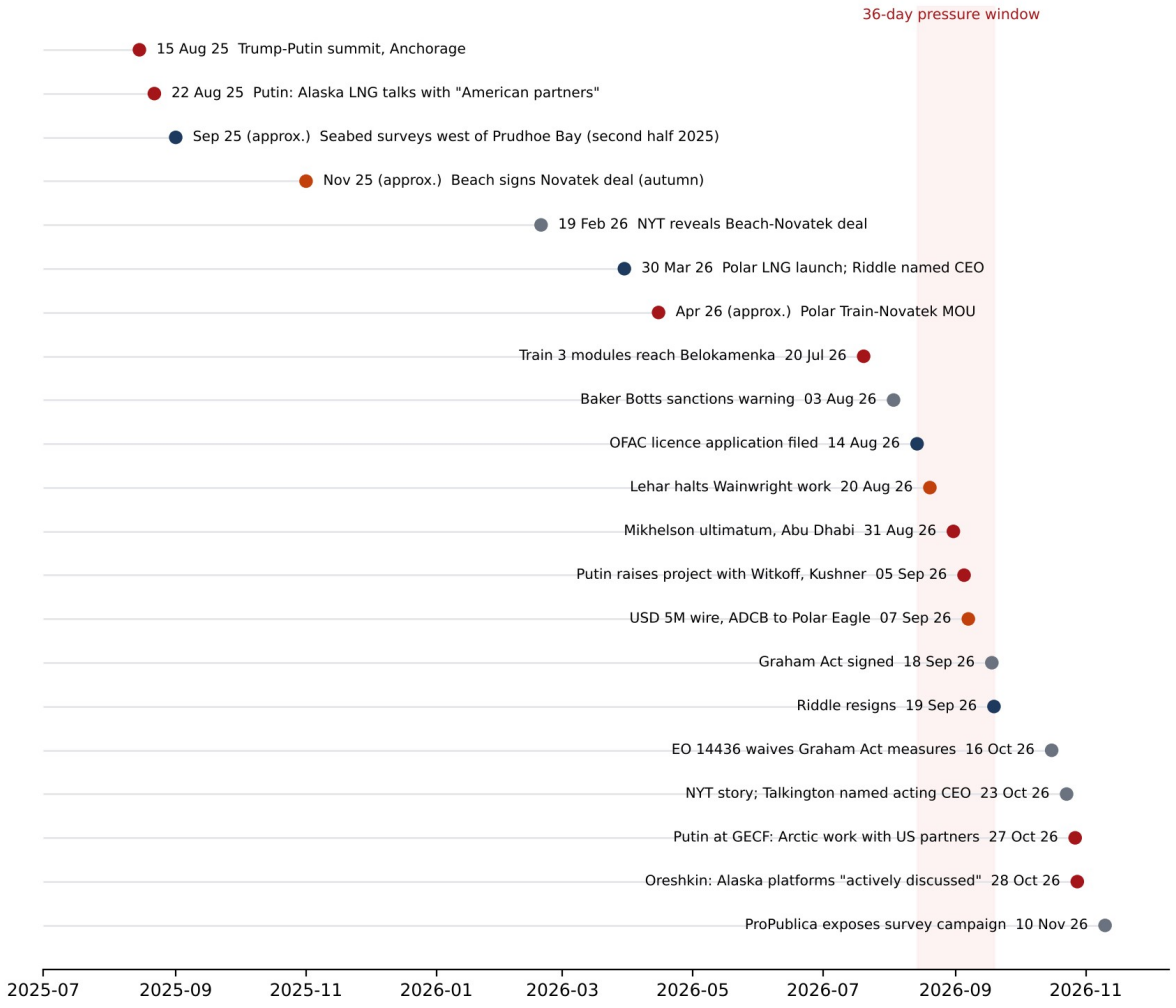


Figure 4. Timeline, August 2025 to November 2026.

Approximate dates are marked. Sources: [1][2][4][10][13][14][15][17][19].

First Contact

The venture began on the Russian side. Polar LNG's own fact sheet says Gundersen initiated the project [8]. A former Novatek deputy director starting an American gas company is the company's admission, not our inference.

Table. Initiation sequence

Date	Event	Source
26 Feb 2025	America First Global LLC registers in Texas	[68]
Mid-Aug 2025	Trump and Putin meet in Anchorage	[13]
20 Aug 2025	polarlng.com registered	[63]
22 Aug 2025	Putin says Russia is discussing work with American partners in the Arctic and in Alaska	[13]
29 Aug 2025	Polar Eagle LNG LLC filed in Delaware	[68]

Date	Event	Source
Second half 2025	Tech Wave surveyors work off Prudhoe Bay; Tech Wave meets six ExxonMobil executives	[1]
Autumn 2025	Beach signs a Novatek deal after meetings with Mikhelson in Dubai and Europe	[10]
20 Feb 2026	The New York Times reveals the Beach deal	[10]
27 Feb 2026	Beach signs Riddle's employment agreement and tells the Anchorage Daily News he owns America First LNG, has licensed Novatek technology and plans a $20 billion plant	[5][47]
9 Mar 2026	Riddle starts work	[47]
30 Mar 2026	Polar LNG launches in public	[6]
1 Apr 2026	Lobbying registration takes effect	[50]
April 2026	Novatek and Polar Train sign a memorandum; whaling captains oppose the project	[8][55]
August 2026	Novatek takes an option on a minority stake, part of the price already paid	[8]

The order tells the story. A domain, a Delaware shell and survey boats came first. American executives came last.

Who introduced Beach to Mikhelson remains unknown. Former Alaska lieutenant governor Mead Treadwell told the Anchorage Daily News in March he knew Novatek wanted to bring equipment to Alaska [5]. The idea was circulating before the brand existed.

Who Benefits

Table. Beneficiaries

Actor	If the deal proceeds	If the deal dies	Source
Novatek and Mikhelson	A finished Train 3, a US market, a sanctions precedent	Survey data, a licence file, a chip in talks	[1][15]
The Kremlin	A wedge inside US Arctic energy policy	A trade item in settlement talks	[14][64]
Gundersen and Lehar	All Tech Wave equity; an option price partly received	The sums already paid by Novatek	[8]
Gentry Beach	Role and fees unknown	Distance; Novatek disowns him	[1][2][47]
Lobbyists and counsel	Continuing fees	$760,000 disclosed, plus legal fees	[47][50]
Riddle	Wages owed, a mutual release, legal costs covered, if granted	A whistleblower's standing	[47]
Charter operators and surveyors	Budgets of about $10 million and $13 million	Paid work already done	[1]
Alaska	Jobs and gas sales, if ever built	Nothing	[4]

Motive and Intent

Novatek's motive is plain arithmetic. Arctic LNG 2 hardware sits idle at a sanctioned yard [19]. One licence unlocks it. Intent shows in conduct: a Novatek lawyer shaped the licence request, a Novatek deputy released money, and the chief executive fixed the site [1].

Was it a money grab? In part. Fees flowed to lobbyists, lawyers, surveyors and executives. Tech Wave's owners took Novatek's option payment before any licence existed [8]. Yet fee-seeking alone does not explain a Moscow lawyer inside a Treasury filing. Money was the lubricant. Sanctions relief was the engine.

Putin's Circle

Mikhelson is a billionaire close to Putin, under British, Canadian and Australian sanctions [1][10][44]. A Novatek subsidiary tied to Murmansk LNG hired the partner of Putin's daughter as its general director in December 2023 [69]. Solovyov has lobbied in Brussels and Washington against tighter energy sanctions [1]. Dmitriev, Putin's investment envoy, carried a business package to Washington in which the Beach and Novatek agreement stood as the one deal already signed [64]. Talkington links to Rusal, whose return to the US market sat inside that same package [31][64].

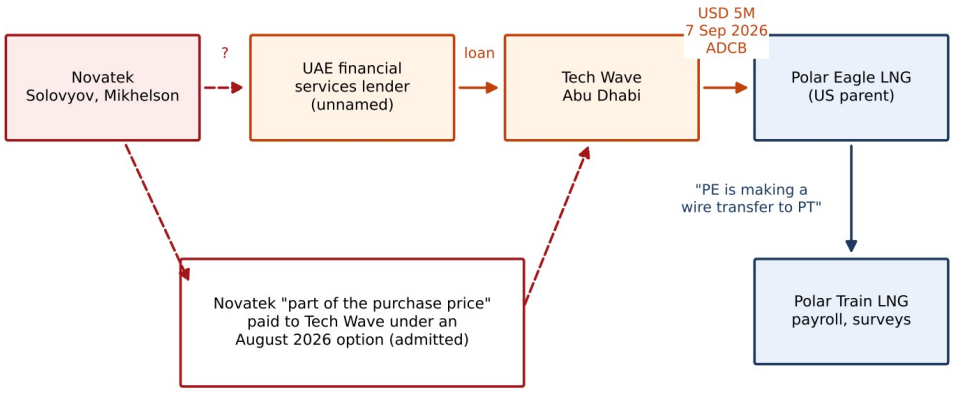
American Complicity

The record shows enabling, not proven collusion.

- Alaska issued a 60-borehole permit in two days, waived the performance guaranty, and asked no ownership question [48][49].
- Riddle's team warned the Energy Department and got no reply, per the New York Times [2].
- Energy Secretary Chris Wright was very supportive at an Alaska dinner, by Riddle's own message to Solovyov [1].
- Lobbying filings name no foreign entity, although a UAE company owned the client outright [50].
- A 2025 rollback of ownership reporting removed a tripwire [1].
- The 16 October waiver shelved the bulk of the Graham Act [17].
- Beach traded on a friendship with Donald Trump Jr., whose spokesman now says the two are no longer close [2].

Some officials pushed back. Treasury's sanctions unit raised concerns by early August, and several administration officials were skeptical [2][47]. Negligence fits the pattern better than design.

4. Money and Control



Routing per ProPublica records: loan proceeds passed through as many as three companies. Dashed links: inferred or admitted payments outside the loan chain.

Figure 5. Funding path to Polar Train LNG as reported.
Sources: [1][2][8].

The Chat and the Wire

Money tells the truth when statements do not. On paper Polar Train lived on loans from Tech Wave and Gundersen [1]. In August Riddle asked for more. An employee put him in touch with Solovyov on WhatsApp [1]. The two met on Tuesday 18 August, and Solovyov committed to arrange new funding [1]. Three days later Riddle chased him. Solovyov answered within two hours: first funds were moving, and steady financing needed an approved budget and a weekly payment schedule [1]. Lenders set such terms. A minority partner does not.

On 27 August Riddle confirmed he had supplied everything requested by two people he called Rashid and Catherine. Solovyov replied with word from "Katerina" on timing [1]. On 6 September Riddle pressed again, citing funding agreed the previous Monday. That Monday was 31 August, the day he sat with Mikhelson. Solovyov wrote the next day that the first $5 million should have arrived. Abu Dhabi Commercial Bank wired $5 million from Tech Wave to Polar Eagle on 7 September. A Tech Wave employee then told Riddle that Polar Eagle was wiring Polar Train [1]. The New York Times saw messages showing Novatek executives discussing up to $15 million, and one message saying all necessary decisions had been made at the Abu Dhabi meeting [2].

A Russian executive promised the money. The money arrived on the promised day. No amount of entity separation changes that sequence.

Control Beyond Money

Control showed up in orders. On 20 August Lehar told Polar Train to halt work at the Wainwright site. Tech Wave imposed its own budget, allocated $13 million to summer surveys near Prudhoe Bay, and barred Riddle from raising money without its approval [1]. On 31 August Mikhelson met Riddle in a private suite at the Four Seasons in Abu Dhabi and told him the Prudhoe Bay area was non-negotiable [1].

A minority investor does not set the site of a plant it does not yet own.

What the Companies Admit

The denials concede more than they deny. Novatek said it agreed to buy a minority stake, paid Tech Wave an undisclosed sum, signed a memorandum with Polar Train in April 2026, gave technical input on the licence request and commented on the draft application [1][2][3]. The Polar fact sheet itself states that Novatek paid part of the purchase price to Tech Wave [8].

Each admission runs against the speaker's interest. Under ASA Rule 2 each earns credibility grade 1.

The Lender and the Routing

Tech Wave's money came through a loan from a UAE financial services company, and loan proceeds reached Polar Train through as many as three other companies [1]. No outlet has named the lender. Loan papers sit with three newsrooms.

Table. Lender and routing hypotheses

Hypothesis	Band	Basis and what settles it
The lender is a non-bank finance vehicle, not a commercial bank	Likely (55 to <85)	ProPublica names the bank for the wire yet calls the lender a financial services company [1]; the loan agreement settles it
The lender is funded by or answers to Novatek	Likely (55 to <85)	Solovyov set budget terms and delivery dates [1]; the lender's source-of-funds file settles it
Catherine and Katerina are one person	Likely (55 to <85)	Same chat, same task, two spellings; single source
That person sits inside a Novatek-side payment chain	Likely (55 to <85)	She reported timing to Solovyov, not to Tech Wave; single source
Rashid works for the lender, not for Tech Wave finance	Roughly even chance (45 to <55)	Drawdown checks fit either desk
Tech Wave and Polar Eagle are two of the routing companies	Likely (55 to <85)	Wire receipt and employee message [1]
A third company sits between lender and Tech Wave	Roughly even chance (45 to <55)	"As many as three" leaves room; no record seen

Treadstone 71 names no candidate for either first name. A first name is not an identity, and a wrong match pins a sanctions allegation on a bystander. Signature blocks on the loan agreements and the wire receipt hold the answer.

Reported Sums

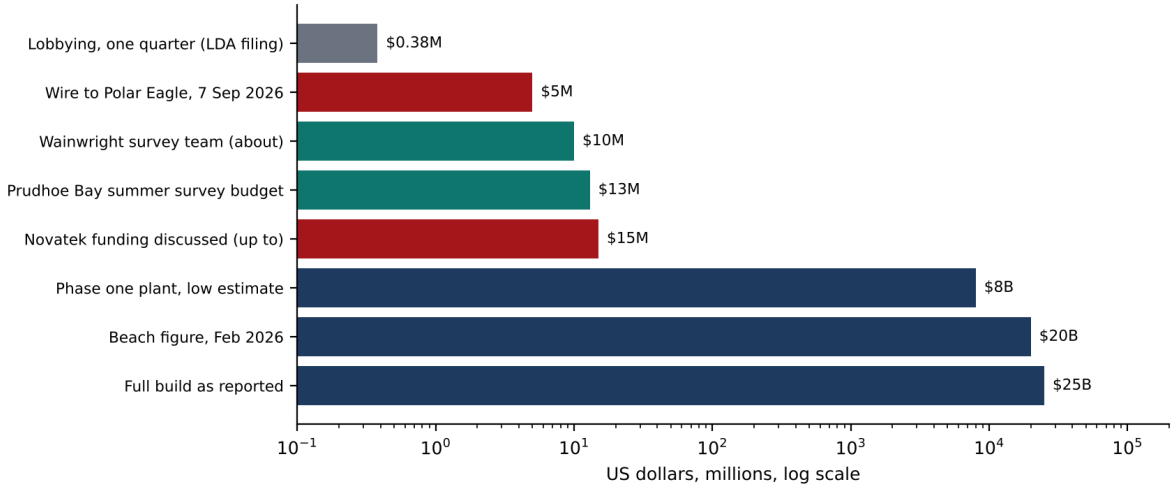


Figure 6. Sums reported in the case, on a log scale.

Sources: [1][2][5][7][50].

The plant costs billions. Control cost millions. A $5 million wire, a $13 million survey budget and $380,000 a quarter in lobbying were enough to steer a project priced at $25 billion [1][3][50].

The Lobbying Record

Squire Patton Boggs registered for a client named Polar LNG with effect from 1 April 2026 [50]. Second-quarter and third-quarter reports each show $380,000. Targets were the Energy Department, the Executive Office of the President, the Federal Energy Regulatory Commission, the State Department, Treasury and Congress. Adam Suess and Nicole Rodgers are the registered lobbyists, and Glenn Willard signed the filings [50]. Suess was also named by the New York Times [2]. The client address is an office on 9th Street NW in Washington, matching the headquarters Polar LNG gives on LinkedIn [50][59].

The forms ask filers to list any foreign entity owning 20 percent or more of the client, or directing or financing its work. None appears [50]. Tech Wave of Abu Dhabi owned the chain outright.

The gap is the finding.

5. The Sanctions Mechanics

Who Is Listed and Who Is Not

Novatek PJSC sits on OFAC's Sectoral Sanctions Identifications list under Directive 2, which limits US dealings in new longer-term debt of the company [16]. The parent company is not on the SDN list. Arctic LNG 2 is, since 2 November 2023 [16]. Novatek's Belokamenka construction yard has carried US sanctions since February 2024 [15]. Mikhelson faces sanctions from the United Kingdom, Canada and Australia, yet none from the United States or the European Union [10][44].

Novatek knows the seams. Its statement to ProPublica noted that debt financing to US persons is not prohibited [1]. The remark answers a question nobody asked in that form. Directive 2 restricts debt issued by Novatek, not loans made by Novatek.

The Licence Request

Polar Train applied to OFAC on 14 August 2026. The request sought permission to import parts into Russia to finish the liquefaction train and then to buy it and move it to Alaska [1]. Its six pages argued the deal deploys the equipment for the benefit of the United States rather than Russia. A Washington lawyer signed it. The document metadata named Kononova as author [1]. Read the request from Moscow's side. Train 3 of Arctic LNG 2 stalled after sanctions cut equipment flows. Two topside modules from China reached Belokamenka in July 2026. Satellite imagery showed the third gravity-based structure idle and the cranes still [19]. An industry analyst noted the Train 3 hardware serves only one project [20].

A US licence to finish that train inside Russia breaks the yard's isolation under American authority. If Alaska never takes delivery, Novatek holds a finished train and a precedent.

The Graham Act and the Waiver

The Lindsey O. Graham Sanctioning Russia and Iran Act passed the Senate 86 to 11 on 7 August and the House 262 to 159 on 16 September. Trump signed it on 18 September [17]. Riddle resigned the next day, citing legal advice that importing Russian technology had become illegal [4].

On 3 September Solovyov had told Riddle the Graham Act was on hold [1]. Executive Order 14436 followed on 16 October and waived most of the new sanctions and tariffs before they took effect [17][18]. His read of Washington proved right six weeks later.

What Counsel Told the Company

Paul T. Luther of Baker Botts wrote two memos, attached to the resignation letter [47]. On 3 August the firm reported an OFAC concern: Gundersen, a proposed ultimate investor through Tech Wave, had ties to Novatek and was possibly acting for the company. The memo cited a 2019 Barents Observer article as the source of the concern [21][47]. Heightened scrutiny was likely even without a direct prohibition [1].

Treasury had the right suspicion eleven days before the application arrived.

On 18 September, the day the Graham Act was signed, a second memo referred to licence requests in the plural, to OFAC's pending review, to continuing engagement with OFAC and the State Department, and to issues already identified with Novatek-Murmansk and PAO Novatek [47]. Riddle's letter adds two points from inside. He rated approval odds as extremely low without American shareholders, and he reported months without engagement on finding them. Tech Wave, he wrote, never made a CFIUS filing [47].

What Treasury Did After August

In public, nothing. No ruling has issued in the 89 days since filing. Enforcement action is absent from the record. Treasury's sanctions unit voiced concerns to counsel, and the review was still pending on 18 September [2][47]. Energy officials spoke to Riddle of a referral to the FBI [1]. A spokesman said Treasury takes possible violations seriously, per Russian-language relays of the New York Times [61].

The silence cuts two ways. A quiet inquiry looks identical to a parked file.

6. The Survey Campaign and the Seabed

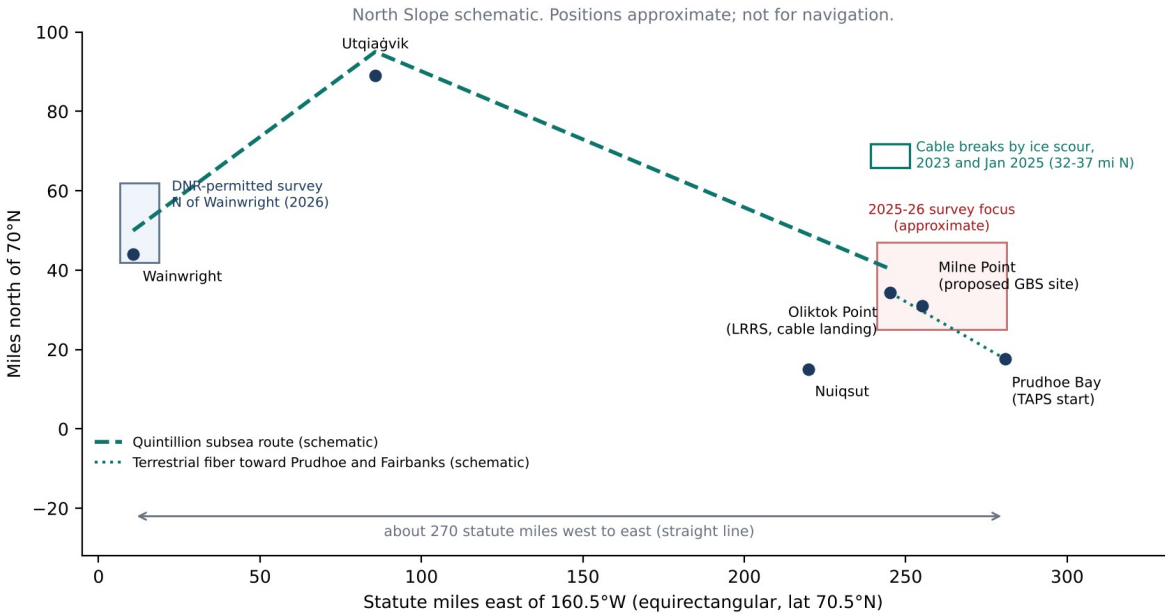


Figure 7. North Slope schematic: survey areas, radar site, cable landings and pipeline start.

Positions approximate. Sources: [1][25][26][27][29][35].

What Was Collected

Contractors mapped seabed depth and shape, sampled shallow marine sediments, and ran sonar scans for obstructions in the second half of 2025 [1]. Work paused for weather and restarted in mid-2026. In late August dozens of contractors worked aboard three vessels, measuring waves, currents and tides and drilling cores in the mud [1]. Tech Wave budgeted $13 million for summer surveys near Prudhoe Bay covering seabed, weather and ocean conditions [1]. Polar LNG said on 23 October the summer fieldwork was complete [9].

Where It Was Collected

The 2025 work sat just west of Prudhoe Bay, near the start of the Trans-Alaska Pipeline System [1]. Air Force radar at Oliktok Point, the Long Range Radar Site, lies 35 to 50 miles northwest of Prudhoe Bay, depending on the reference point [25]. Milne Point, the proposed plant site [34], lies about 25 miles northwest of Prudhoe Bay, between the oil field and Oliktok Point [35]. Navy fast-attack submarines exercise more than 100 miles offshore [1]. Oliktok Point also lands the Quintillion subsea fiber system that links Prudhoe Bay, Utqiaġvik, Wainwright, Point Hope, Kotzebue and Nome [27]. Ice scour cut that cable a few dozen miles north of Oliktok Point in June 2023 and again in January 2025, about 32 to 37 miles out, cutting service across Arctic Alaska for months [26]. The cable operates under a national security agreement with federal agencies [27]. Seabed geotechnics, ice gouge depth and sediment strength describe exactly the conditions that protect or expose a buried cable. The same data guides a gravity-based plant and an adversary planning seabed activity. Heather Conley called such data immediately dual use [1].

The Wainwright Permit

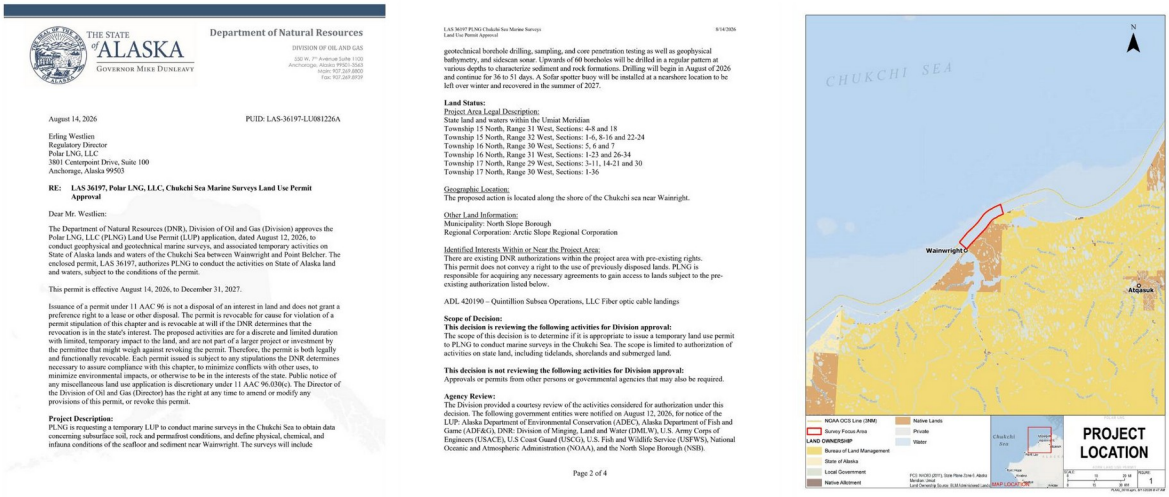


Exhibit: Alaska DNR Division of Oil and Gas, Land Use Permit LAS 36197 (Polar LNG, LLC), approval letter of 14 Aug 2026, pages 1 and 2, with project location map.
Source: DocumentCloud document 28845257, posted by Anchorage Daily News. Screen captures taken 11 Nov 2026.

Figure 8. Alaska permit LAS 36197: approval letter, pages 1 and 2, and the State's project map.
Screen captures of the copy posted by the Anchorage Daily News, 11 November 2026. Source: [48].

Riddle wanted a second site. He hired another survey team for about $10 million and sent boats to Wainwright, some 260 to 270 miles west of Prudhoe Bay [1][29]. The State moved fast.

Table. Permit LAS 36197 in detail

Item	Detail
Applicant	Polar LNG, LLC, Centerpoint Drive, Anchorage; addressed to Erling Westlien, regulatory director [48]
Signatory	Alexander Zinck, North Slope permitting manager, Division of Oil and Gas [48]
File	LAS 36197; PUID LAS-36197-LU081226A; DNR customer 000071409; case type 571, subtype 7702, miscellaneous land use [48][49]
Clock	Map drawn 11 Aug 2026 at 8:47 AM (map file PLNG_0016); application and agency courtesy notice 12 Aug; approval 14 Aug [48][49]
Term	14 Aug 2026 to 31 Dec 2027; revocable at will [48]
Area	State waters of the Chukchi Sea between Wainwright and Point Belcher, nearly 20 miles of coast; Umiat Meridian T15N R31W, T15N R32W, T16N R30W, T16N R31W, T17N R29W, T17N R30W [29][48]
Work	Up to 60 boreholes; cone penetration tests; sediment sampling; bathymetry; side-scan sonar; drilling for 36 to 51 days from August 2026 [48]
Instruments	Sofar Spotter buoy to overwinter, recovery in summer 2027; a tide gauge per Petroleum News [29][48]
Pre-existing right	ADL 420190, Quintillion Subsea Operations fiber optic cable landings, inside the project area [48]
Agencies notified	ADEC, ADF&G, DMLW, Army Corps of Engineers, Coast Guard, Fish and Wildlife Service, NOAA, North Slope Borough [48]
Conditions	Performance guaranty waived as minimal; public notice discretionary; no contractor named; no data-deposit condition in the letter; stipulations attachment absent from the posted copy [48]
Status on 11 Nov 2026	Case file shows no amendment, suspension or revocation after 14 Aug [49]

Two days from application to approval. Agency review was logged complete on the day the application landed [49]. Nobody asked who owned the applicant, a company fourteen days old.

Six Days

On 20 August, six days after approval, Lehar ordered contractors to cease and suspend work at Wainwright [1]. Tech Wave called Prudhoe Bay quicker and cheaper. We weigh three drivers.

Control comes first, at **Likely (55 to <85)**. The stop order, a Tech Wave budget and a ban on outside financing all landed the same day, two days after Riddle met Solovyov [1].

Gas and hardware come second, also **Likely (55 to <85)**. Prudhoe Bay holds the gas. Wainwright needs a long new line, and Shell's own 2009 plan recorded no dock there, only two earthen boat ramps [56].

An intelligence motive sits at **Roughly even chance (45 to <55)**. Milne Point lies near the Oliktok radar and the cable origin. Wainwright, though, has its own cable landing inside the permit area and a former DEW Line station, LIZ-3, five miles southeast [48][57][58]. Site choice does not separate the hypotheses.

How far the Wainwright boreholes got is unknown. No source confirms the buoy or the tide gauge ever went in.

The Vessels

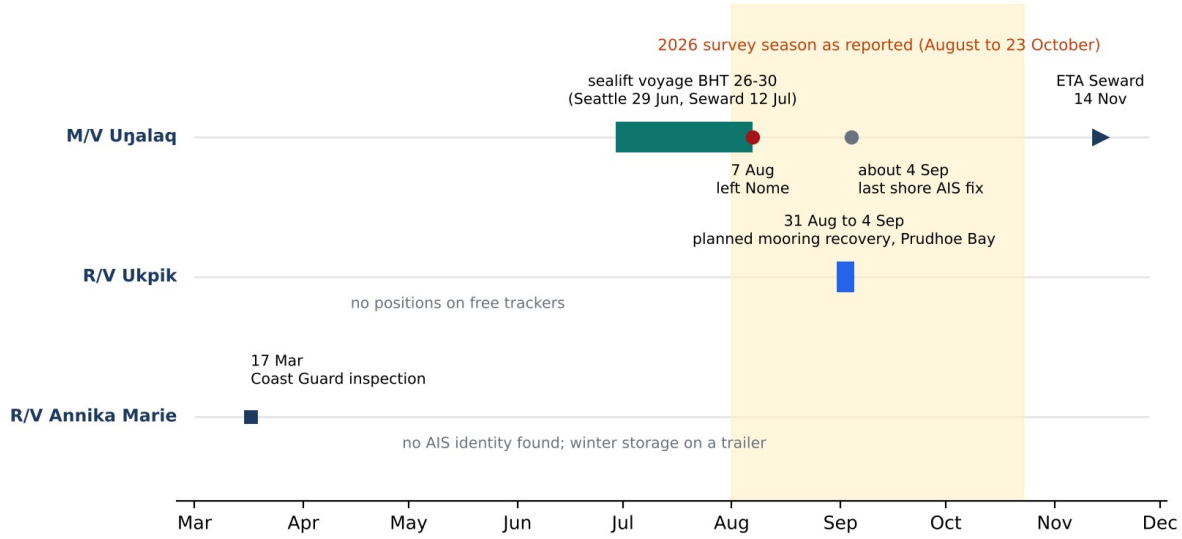


Figure 9. Known 2026 activity of the three survey vessels.

Sources: [1][9][51][52][53][54].

Table. Survey vessels

Vessel	Particulars	Owner	Normal work	Past 12 months
R/V Annika Marie	43 ft, built 1977; Coast Guard doc. 581710; sleeps five; 3.5 ft draft	Oceanic Research Services (Bill Kopplin, owner and captain); listed in the Southern Cross fleet [30][54]	Beaufort science charters since 1982; Prudhoe Bay berth; Utqiaġvik to Tuktoyaktuk	Coast Guard inspection 17 Mar 2026; no AIS broadcasts logged in 2025; no tracker identity; no published charter [70]
R/V Ukpik	50 ft; MMSI 367486920; seven bunks; multibeam and side-scan sonar; satellite link	Southern Cross LLC (Mike Fleming, captain and sole member) [54]	Research charters from Point Lay to Amundsen Gulf since 2011	Sea-ice cruise off Prudhoe Bay 1 to 5 Sep 2025; planned recovery of seven moorings 31 Aug to 4 Sep 2026; tracker record empty [45][53]

Vessel	Particulars	Owner	Normal work	Past 12 months
M/V Uŋalaq	150 ft landing craft; IMO 9765732; MMSI 338718000; call sign WDH5909; built 2014; 196 gross tons; 16 berths; 20,000 lb crane	Bowhead Transport, a Ukpeaġvik Iñupiat Corporation company [30][52]	Sealift lighterage from Seattle to the North Slope; sold as a nearshore geo survey platform	32 port calls in 2025; voyage BHT 26-30 left Seattle 29 Jun 2026; left Nome 7 Aug; last shore AIS fix about 4 Sep; due Seward 14 Nov [51][52]

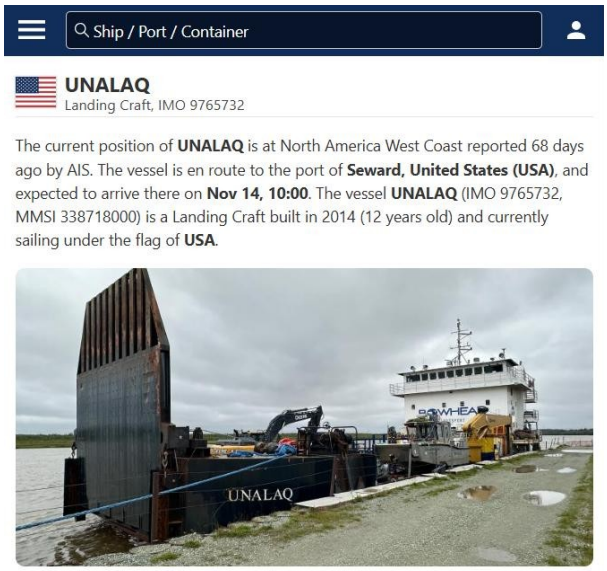


Figure 10. VesselFinder record for the Uŋalaq, captured 11 November 2026.
Source: [51].

Ordinary Arctic workhorses carried the crews. Nothing suggests any operator knew who stood behind Tech Wave. The Ukpik's science charter overlapped the survey window, which shows how thin the line runs between research boats and client boats on the Slope. Free trackers hold no daily positions for the two small boats. A paid AIS history pull on the two MMSI numbers closes that gap.

Every vessel flew the US flag. Each crew was American. The Lee-Shaheen bill targets foreign research vessels and adversary-flagged ships [28].

Russia did not need a ship. Moscow needed a purchase order.

Who Holds the Data

No public repository holds a single survey file. Searches of NOAA, BOEM, Alaska DNR and Arctic data portals found none. No contractor names the client on a website, a job advertisement or a conference programme. Survey photographs are absent from social media. Polar LNG's LinkedIn page, with 913 followers, and its X account carry promotion only [59].

Custody follows payment. Contractors delivered to Polar Train and Tech Wave. Riddle said Tech Wave resisted questions about what it spent on earlier surveys [1]. Novatek owns the platform design, and a gravity-based structure cannot be engineered without bathymetry and soil strength. The permit set no duty to lodge results with the State [48].

Red Team on the Survey Story

Four facts cut against an espionage-first reading.

First, the gas sits at Prudhoe Bay and Milne Point. A plant at Wainwright needs a long new gas line. Mikhelson's insistence on the Prudhoe Bay area has a commercial logic, whatever else it carries.

Second, the Quintillion cable also lands at Wainwright [27][48]. Riddle's own preferred site sat next to that cable system. Proximity to the cable alone proves nothing.

Third, Polar LNG correctly says the data is not classified [1]. Oil companies have surveyed the same waters for decades.

Fourth, the resignation letter never mentions surveys, data or intelligence [47]. The insider closest to the work raised law and engineering, not espionage.

The red team narrows the claim without killing it. Intelligence value is real. Its role as the main purpose is weak.

Collection rides along.

7. The Riddle Letter

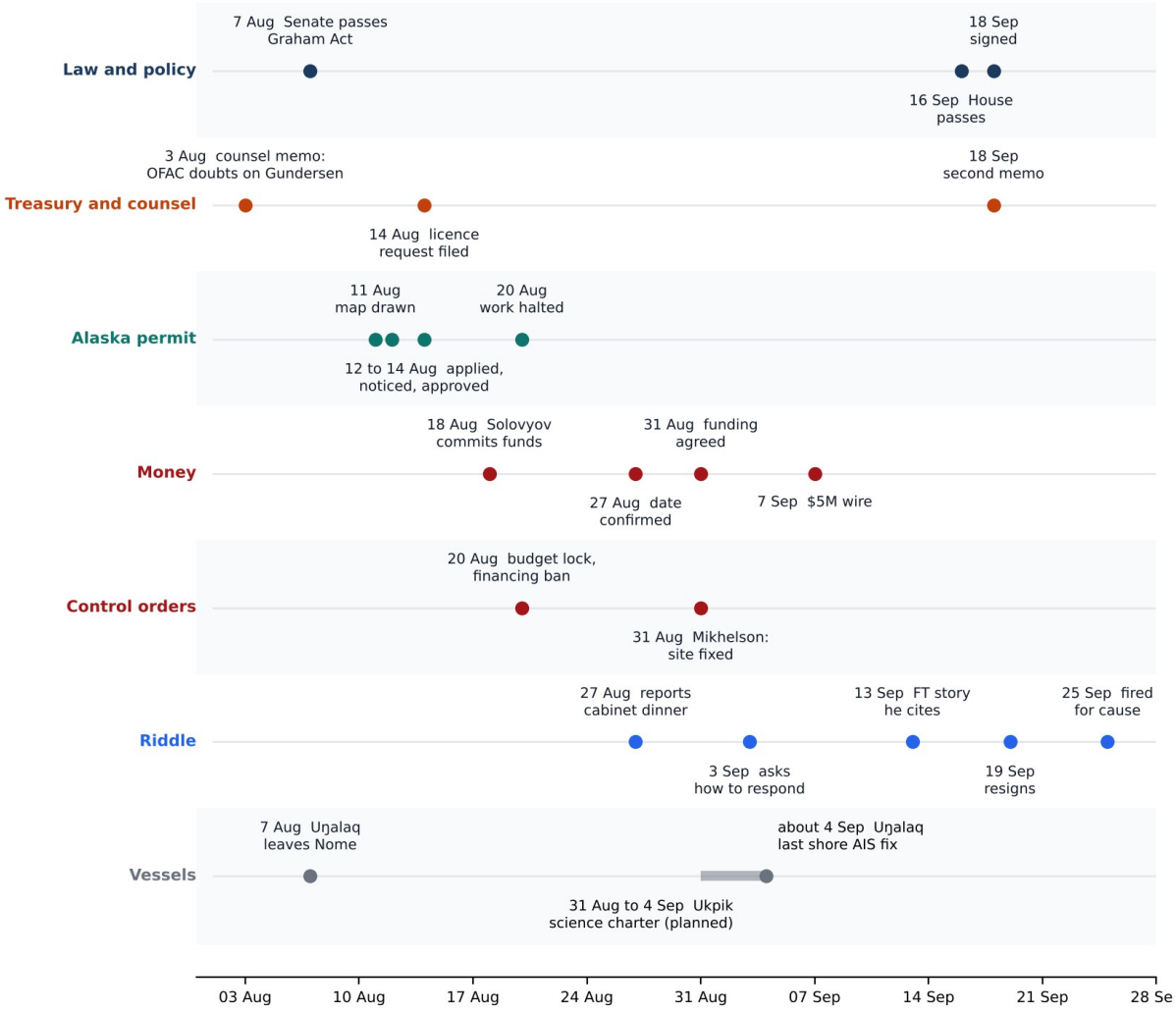


Figure 11. Fifty-four days, 3 August to 25 September 2026, across seven lanes.

Sources: [1][2][17][47][48][49][51][53].

What the Letter Says

Riddle addressed eleven pages to Gundersen as chief operating officer of Tech Wave, for Polar Train, Polar Eagle and Tech Wave [47]. He dated his employment agreement 27 February 2026 and said Beach signed it without holding any office, share or agency in Polar Train, and without board action. Work began on 9 March. Share participation was discussed and never agreed.

Table. Objections in the 19 September letter

Theme	Content
Murmansk hardware	Importing the Murmansk platform had become unlawful
Licence odds	OFAC approval extremely unlikely without American shareholders; months without engagement on finding them

Theme	Content
Novatek link	A Financial Times article of 13 September tied the project to Novatek and to relief for Arctic LNG 2; he wrote of being kept in the dark
New law	The Graham Act; the European Union's 22nd package
CFIUS	No filing ever made by Tech Wave; divestment likely "If Novatek were a shareholder or controller"
Site	Milne Point not viable on dredging, whaling and ice, per Arnold & Porter; Wainwright urged since July
Bankability	Platform not built to US specifications; lenders would refuse it
Remedy sought	Termination by mutual release; accrued wages; company to pay future legal costs of any investigation

What the Messages Show

His own messages date his knowledge. Counsel flagged the Novatek suspicion on 3 August. He met Novatek executives, Mikhelson included, through the summer [1]. A funding commitment from Novatek's deputy chair followed on 18 August. On 27 August he reported a dinner with a US cabinet secretary to that same deputy. Four days later he heard the site order from Mikhelson in person. On 3 September he told Solovyov of calls with State and asked, "how should I respond?" [1].

A man kept in the dark does not ask Novatek for talking points.

Reading the Letter

The letter is an exit instrument. We hold that reading at **Likely (55 to <85)**, the cap for stream S4.

Four markers support it. Timing: the letter followed the Graham Act signature by one day and a fresh counsel memo by one day. Mood: Novatek control appears in the conditional, sourced to a newspaper, although he had dealt with Novatek's money man for a month. Remedy: release, wages and legal cover. Silence: no word on surveys. The patriot language came in October, after the company fired him for cause [4].

An honest alternative exists. Novatek held a signed memorandum from April and a declared option [8]. Perhaps Riddle treated Solovyov as a disclosed future partner advancing funds through the parent. On that reading his discovery was not of Novatek's presence but of its control. The 20 August budget order and the 31 August site ruling then mark the turn. We give the alternative **Unlikely (15 to <45)**, since the funding channel itself bypassed the paper owners.

Neither reading weakens the documents. Chats, memos and the wire cut against Riddle as much as against Novatek. Under ASA Rule 2 such material grades high.

His documents stand. The discovery story is tailored.

8. Kremlin Statecraft Around the Deal

From Anchorage to Moscow

Days after the August 2025 Anchorage summit Putin said Russia was discussing work with American partners in the Russian Arctic and in Alaska [13]. A US investor signed with Novatek that autumn [10]. In September 2026 Putin raised the Polar project with Witkoff and Kushner in Moscow [2]. A US official told the New York Times the discussion stayed general [2].

The Response to Exposure

Moscow did not retreat. Four days after the New York Times story, Putin told the Gas Exporting Countries Forum that Russia was exploring Arctic gas work with US partners [14][37]. The next day Oreshkin said Russian platforms for Alaska were under active discussion and gave far better economics than American solutions [15]. Kyodo carried the Putin remark to Japanese readers, a target market for Alaska LNG [36].

Companies caught with hidden money usually go quiet. A state that wants the deal keeps talking.

The pattern points to a state-level asset.

Reflexive Control

The Decoy's Dilemma simulation frames the choice Moscow handed Washington. Approve the licence, and Novatek finishes a sanctioned train with US blessing and gains a foothold on the North Slope. Deny it, and Moscow paints Washington as the party blocking cheap energy for Alaska and Asian allies. Delay it, and Novatek keeps the data, the option and a bargaining chip in peace talks.

Each branch pays Moscow something. The only losing move for Russia was exposure before the licence. That has happened. The concept still lives.

The Package

The Alaska deal sits inside a larger offer. In September 2026 bne IntelliNews described a Dmitriev package of business proposals to Washington, where Beach's Novatek agreement was the only signed item and Rusal's return to the US aluminium market was another [64]. The Financial Times tied the Alaska project to relief for Arctic LNG 2 [3]. Polar Train's new chief sits on Rusal's board [31].

One package, several doors.

The Russian Investor Read

Russian business media relayed the Western reporting with Novatek's reply attached [11][61]. Neftegaz.ru recast the story as noise [12]. A T-Investments note went further and priced it: Alaska as a route to lifting Arctic LNG 2 sanctions, with 20 to 25 percent revenue upside and a target of 1,380 roubles a share [62]. Russian investors were told the scandal was an opportunity.

We found no Kremlin comment on the survey reporting of 10 November, and none from Rybar, Readovka or Kommersant in the first day.

9. Forensic Linguistics

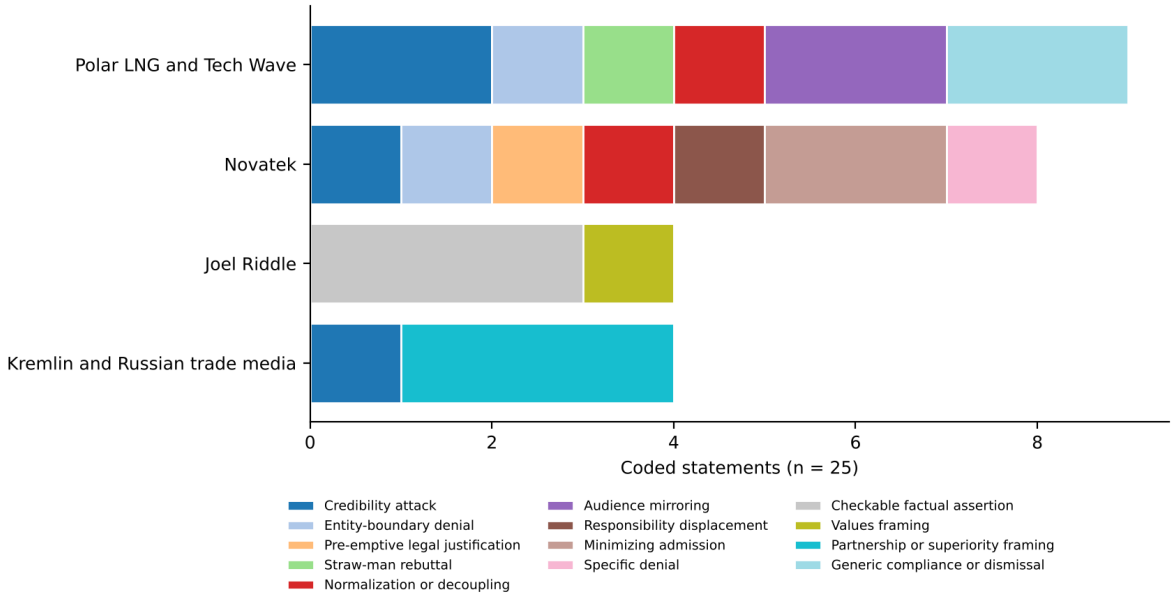


Figure 12. Coded statements by actor and rhetorical technique, n = 25.
Source: Treadstone 71 coding of statements in [1][2][4][8][9][12][13][14][15].

Document Metadata

The strongest linguistic evidence is not a sentence. A name in a file property field, written in Cyrillic, on a US sanctions application signed in Washington, outweighs any quote [1]. Authorship metadata survives most edits. Novatek's reply confirmed it commented on the draft [1]. The admission concedes drafting access while minimizing the role.

Novatek's Language

Novatek denied intelligence gathering in categorical terms [1]. The phrasing reads like a direct calque of Russian officialese, the kind of formula a press service drafts in Russian and translates.

The funding denial works differently. Novatek said it provided no funding to the Project, with a capital P, while admitting payment to Tech Wave [1][8]. The denial draws a line around one entity and steps outside it. We code the move as an entity-boundary denial.

Two other moves recur. Novatek pushed survey and operational decisions onto Polar Train and Tech Wave, a responsibility displacement contradicted by the Abu Dhabi ultimatum [1]. The company also called the Alaska work a standalone and self-sufficient project [1]. Neftegaz.ru printed the Russian original, самостоятельный и самодостаточный, beside a reference to unscrupulous accusations by third parties [12]. Repetition across languages marks a prepared line.

Polar LNG's Language

Polar LNG attacked the messenger first. The company called Riddle disgruntled and said he had been terminated for cause [9]. His termination notice is dated six days after his resignation [1]. A dated contradiction weakens every later company statement. Its rebuttal on the surveys argued the data was not classified [1]. Nobody alleged classified data. We code that as a straw man. Its praise targeted one reader. The company told the Anchorage Daily News that President Trump's leadership on energy dominance is

clear [4]. Talkington spoke of a generational opportunity to advance US energy dominance [1]. The vocabulary mirrors the administration that holds the waiver pen.

Riddle's Language

Riddle repeated one sentence across outlets almost word for word: he felt uncomfortable that Novatek was financing the company and steering its strategic direction [3][4]. Rehearsed repetition suggests counsel review. The verb choice, felt uncomfortable, stops short of an accusation of crime. His other statements are checkable. Dates, amounts, meeting places and a quip about being fired after resigning all hold against documents [1]. Specific, verifiable detail raises credibility in statement analysis. His patriot framing targets US officials [4]. Polar's termination notice claims he planned a rival project [1]. That claim remains unverified and stays on the ledger as a motive check.

Solovyov's Questions

On 3 September Riddle told Solovyov that calls with Électricité de France and the State Department showed a rise in anti-Russian sentiment. Solovyov asked how that sentiment showed itself, promised positive news, and noted the Graham Act was on hold [1].

The exchange fits two readings. A worried investor wants context. An intelligence-literate executive elicits detail on US official attitudes from a well-placed American. The open, low-cost question matches standard elicitation technique. We record it as a counterintelligence flag, not a finding.

Two Names for One Woman

Riddle wrote "Catherine". Solovyov wrote "Katerina" [1]. An American anglicised a Russian name. A Russian colleague used the familiar form. The pairing marks her as a Russian speaker known to Solovyov and a stranger to Riddle. She confirmed timing to Novatek's deputy chair, which places her reporting line on his side of the table.

The Conditional Mood

Riddle's letter says "If Novatek were a shareholder or controller" [47]. The subjunctive treats as hypothetical a fact he had worked inside for weeks. He also outsourced the knowledge to a newspaper. Statement analysis reads the pairing, conditional mood plus borrowed source, as distancing by a writer who expects the page to be read by investigators.

Frames Across Languages

Table. Dominant frames by information space

Space	Frame	Marker
US investigative press	Hidden control and dual-use data	Secret financing; data within reach of a Putin ally [1][2]
Russian exile press	Secret financing	скрытно (covertly), тайно (secretly) [32]
Kommersant	Neutral relay	Attribution to NYT and FT; Novatek reply printed [11]
Russian trade press	Delegitimization	Шум вокруг ОГТ (noise around the GBS); Democratic midterm agenda [12]
Kremlin officials	Partnership and technical superiority	American partners; far more efficient economics [13] [15]
Pravda network	Normalization	Spirit of Anchorage; nothing unusual, just connections [24]
Ukrainian press	Betrayal of Washington	Kremlin led the White House astray [33]

Space	Frame	Marker
Norwegian press	National exposure	Norwegians central [22]

We found no dedicated TASS or RIA Novosti article on the Polar exposure. Russian flagship state media stayed quiet while officials kept selling the concept.

Silence protects the brand. Statements protect the idea.

10. Competing Hypotheses

Hypotheses

- H1. A commercial venture. Novatek sells stranded technology into a new market.
- H2. A sanctions-relief lever. The deal buys relief for Arctic LNG 2 and trade value at the negotiating table.
- H3. An intelligence operation. The surveys exist to collect Arctic seabed and ocean data near US defense sites.
- H4. Strategic control. Russia seeks a hold on North Slope gas and a spoiler against Alaska LNG.
- H5. Whistleblower distortion. Riddle exaggerated or invented the control story.

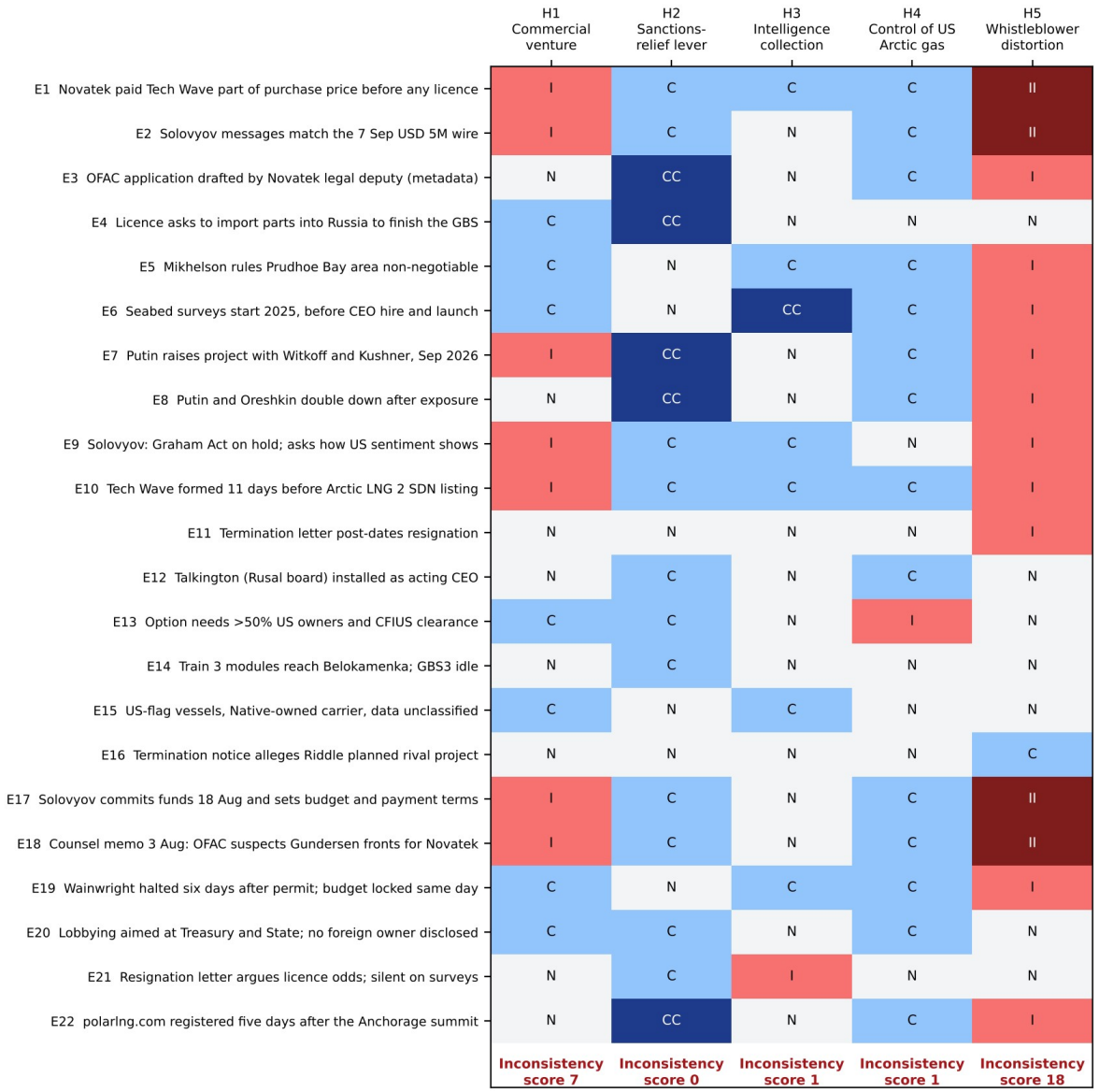


Figure 13. Analysis of competing hypotheses, 22 evidence items.

CC very consistent, C consistent, N neutral, I inconsistent, II very inconsistent. Source: Treadstone 71.

Inconsistency Scoring

Version 2 adds six items: the 18 August funding commitment, the 3 August counsel memo, the six-day Wainwright halt, the lobbying filings, the letter's silence on surveys, and the domain date.

H2 carries no inconsistent evidence. One item each counts against H3 and H4. Seven count against H1. The whistleblower hypothesis collapses under eighteen points of inconsistency, driven by the wire, the chats, the counsel memo and Novatek's own admissions.

H2 draws five very consistent ratings. The intelligence hypothesis draws one. Evidence favors a sanctions-relief engine with intelligence value attached.

Dynamic Bayesian Narrative Analysis

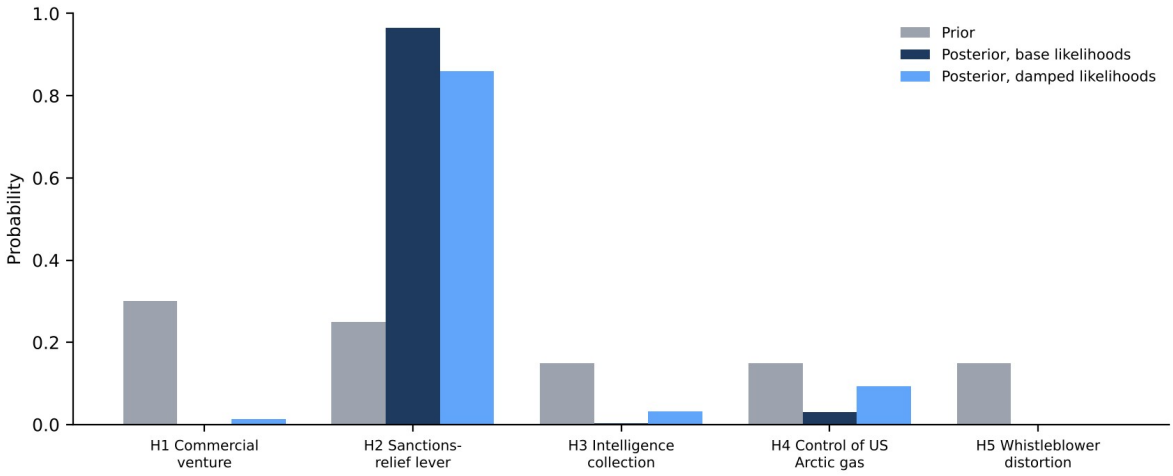


Figure 14. Prior and posterior probabilities across hypotheses, with a damped sensitivity run.

Source: Treadstone 71.

We set priors at 30 percent for H1, 25 percent for H2 and 15 percent each for H3, H4 and H5. Likelihood ratios ran from 0.3 for very inconsistent evidence to 2.0 for very consistent evidence. The base run gives H2 a posterior of 0.97. A flat prior gives 0.95. Damped likelihoods give 0.86. H3 never rises above 0.04.

The model overstates certainty. Several evidence items share a source and move together. Putin's and Oreshkin's statements share a cause. The chat and the wire share a document set. We discount for that dependence and hold PJ2 at **Likely (55 to <85)**, below the model output.

Assumptions Check

- Assumption: ProPublica's documents are authentic. Support: the NYT and FT saw overlapping material, and Novatek did not dispute the messages. Status: holds.
- Assumption: Gundersen acts for Novatek. Support: Treasury staff raised the concern, per Baker Botts [1]. Status: unproven; the evidence of control runs through Mikhelson and Solovyov, not through Gundersen alone.
- Assumption: Novatek holds the survey data. Support: Tech Wave paid for and directed the work. Status: plausible, unconfirmed.
- Assumption: the White House treats the project as a bargaining chip. Support: thin. A US official called the discussion general [2]. Status: weak. The Russian side treats it as a chip. Washington's view remains unclear.

Deception Check

Counterintelligence Deception Detection asks whether the exposure itself serves Moscow. Motive exists: a public scandal poisons Alaska LNG investor confidence. Opportunity exists. Past practice exists. Yet the cost to Novatek, a licence application now under a spotlight, outweighs the gain. We assess a staged leak as **Highly unlikely (5 to <15)**.

11. Measurement of Effect

Why Measure

Two campaigns ran beside the deal. The Kremlin sold partnership. Polar LNG bought access. Each side will claim results. The ASA Measurement of Effect Protocol sets a ceiling on such claims by the strength of the design behind them [66].

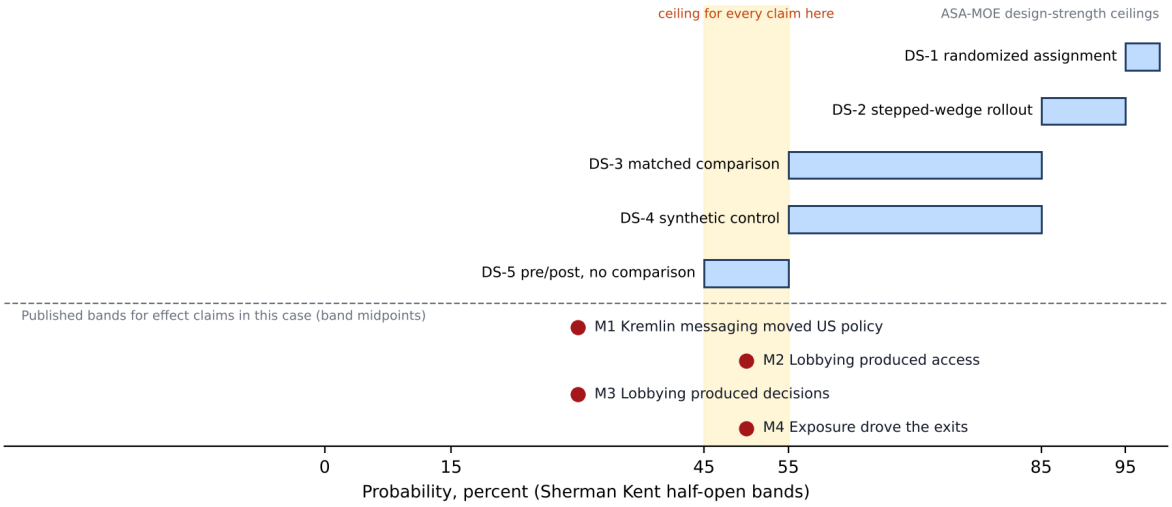


Figure 15. ASA-MOE design-strength ceilings and the published band for four effect claims.

Source: Treadstone 71 under [66].

The Test

No actor registered a baseline. Comparison populations do not exist. Every effect claim here is a before-and-after reading at best, design grade DS-5, with a ceiling of Roughly even chance. Interested sources add the protocol's reliability cap at C. Reach does not count: 913 LinkedIn followers and a wave of headlines are exposure, not effect [59].

Table. Effect statements

Effect claim	Behavioral indicators	Design	Published band	Falsifier
M1 Kremlin partnership messaging moved US policy toward relief	Waiver of 16 October; no licence; delegation hardened against; officials skeptical [2][4][17]	DS-5	Unlikely (15 to <45)	A licence or delisting citing the Alaska project
M2 Lobbying produced access	Cabinet dinner; two-day state permit; meetings at State; one interested source [1][48][50]	DS-5	Roughly even chance (45 to <55)	Visitor logs or calendars showing no meetings
M3 Lobbying produced decisions	No licence in 89 days; no federal approval of any kind [47]	DS-5	Unlikely (15 to <45)	Any federal authorization
M4 Press exposure, not the new law, drove the executive exits	Letter cites law and counsel first, press second; exits follow 18 September [47]	DS-5	Roughly even chance (45 to <55)	Exit letters from the other three executives

Cost per unit of effect cannot be computed. Disclosed spend stands at $760,000 in lobbying fees, and no belief or behavior instrument was fielded [50].

Analysts should read every claim of influence won or lost in the affair against that ceiling. The Russian broker's upside figure is an interested forecast and carries no weight here [62].

12. STEMPLES Plus Exposure

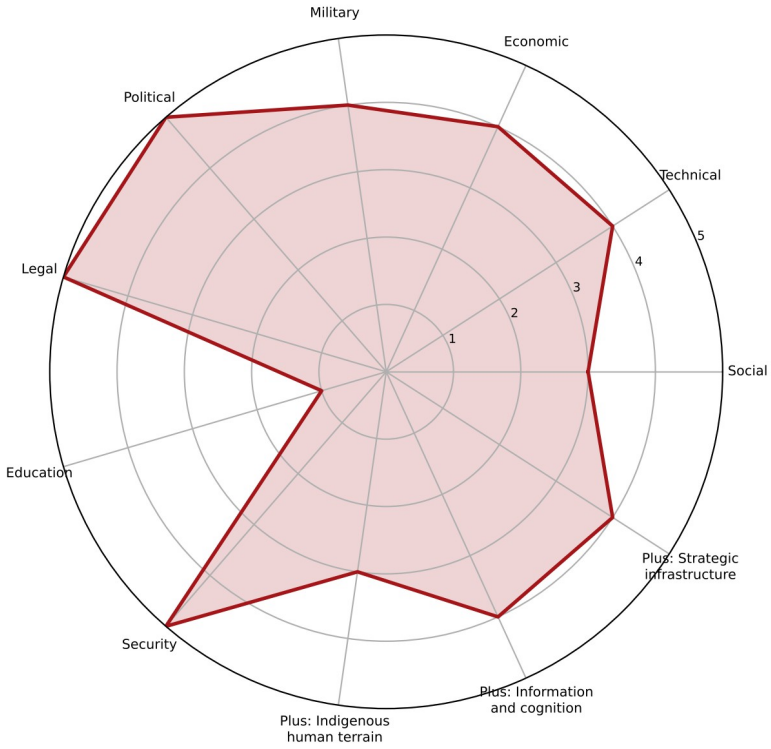


Figure 16. STEMPLES Plus exposure scores for the United States, 1 low to 5 high.

Source: Treadstone 71 analyst judgment.

Table. STEMPLES Plus vectors

Vector	Score	Finding
Social	3	Iñupiat whaling communities near Prudhoe Bay and Wainwright carry the dredging and vessel burden. Riddle cited whaler opposition [4].
Technical	4	GBS dependency on Russian design; two seasons of nearshore geotechnical and oceanographic data outside US control.
Economic	4	A rival narrative against Alaska LNG weeks after a $54 billion Korean commitment [43].
Military	4	Data from waters near the Oliktok radar site and submarine exercise areas [1][25].
Political	5	Project raised at presidential level in peace talks; Alaska delegation in open opposition [2] [4].
Legal	5	Sanctions seams between SSI and SDN listings; Graham Act waived; ownership reporting rolled back [1][16][17].
Education	1	No material exposure found.
Security	5	Proxy tasking of American crews escaped vessel-based rules; FBI counterintelligence capacity reduced [1].
Plus: Indigenous human terrain	3	A Native-owned carrier and local crews served a Russian-steered principal without knowledge.

Vector	Score	Finding
Plus: Information and cognition	4	Kremlin partnership framing persists after exposure; Russian trade press recasts the story as US partisan noise [12][15].
Plus: Strategic infrastructure	4	Pipeline start, radar site and the only Arctic subsea fiber trunk sit inside the survey picture [1][27].

13. Risks, Vulnerabilities and Malign Intent

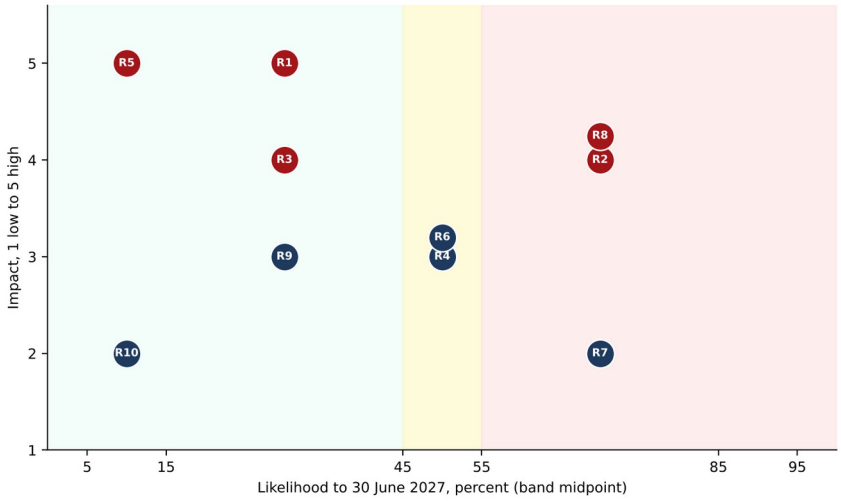


Figure 17. Risk register: likelihood to 30 June 2027 against impact.

Source: Treadstone 71 analyst judgment.

Table. Risk register

No.	Risk	Likelihood	Impact (1 to 5)
R1	A licence lets Novatek finish Train 3 inside Russia	Unlikely (15 to <45)	5
R2	Survey data reaches Russian state users	Likely (55 to <85)	4
R3	The project returns under a new American front	Unlikely (15 to <45)	4
R4	Alaska LNG investor confidence erodes	Roughly even chance (45 to <55)	3
R5	Seabed and cable data supports interference with the fiber trunk	Highly unlikely (5 to <15)	5
R6	A contact trail embarrasses or compromises US officials	Roughly even chance (45 to <55)	3
R7	Native corporations and charter operators face legal and reputational cost	Likely (55 to <85)	2
R8	The proxy-survey model repeats elsewhere on the US coast	Likely (55 to <85)	4
R9	US persons face sanctions liability	Unlikely (15 to <45)	3
R10	Instruments stay on the seabed without US custody	Highly unlikely (5 to <15)	2

Vulnerabilities Exposed

- State land-use permits carry no beneficial-ownership test.
- Vessel-based maritime rules miss American boats on foreign money.

- Lobbying disclosure relies on the filer to name foreign owners.
- OFAC's SSI and SDN lists leave a seam around Novatek's parent company.
- Survey permits set no duty to deposit data with a US custodian.
- Charter contracts on the Slope ask nothing about the paying principal.
- A sanctions licence request needs no disclosure of who drafted it.

Malign Intent

Intent to conceal is established. Novatek's hand was hidden behind an Emirati parent, a privacy-shielded domain, an American brand and a Washington signature on a Moscow draft [1][63]. Intent to collect intelligence is not established. Concealment served the licence. Whether it also served the Russian state's maritime services is the open question, and no evidence in hand answers it.

Conspiracy or Coordination

In common speech, yes: several parties acted together and hid a principal. The law asks more: a conspiracy to evade sanctions needs an agreement and a prohibited transaction. Novatek's parent is not a blocked person, and its lawyers knew the seam [1]. Prosecutors look instead at false statements to Treasury, at the UAE loan, and at dealings with the blocked Murmansk yard. Enforcement by mid-2027 stays **Unlikely (15 to <45)**.

Coordination is proven. Criminal conspiracy is a question for subpoenas.

14. Scenarios and Indicators

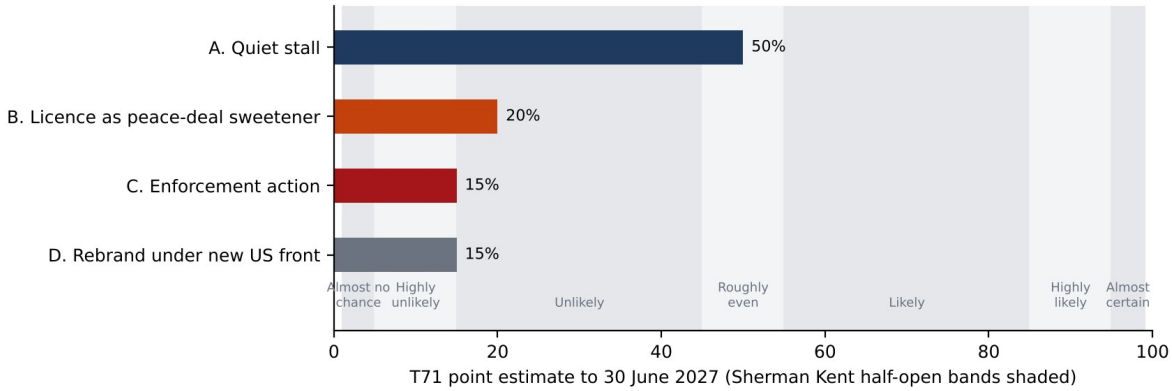


Figure 18. Scenario estimates to 30 June 2027 against Sherman Kent half-open bands.

Source: Treadstone 71.

Table. Scenario indicators

Scenario	Band	Indicators to watch
A. Quiet stall	Roughly even chance (45 to <55)	No OFAC ruling; Polar Train cuts staff; no 2027 field season; Kremlin keeps the concept in speeches
B. Licence as peace-deal sweetener	Unlikely (15 to <45)	Arctic LNG 2 relief named in talks; OFAC general or specific licence; Novatek-Murmansk delisting; tow planning from Belokamenka
C. Enforcement action	Unlikely (15 to <45)	OFAC subpoenas; grand jury activity; CFIUS review; congressional letters to Treasury; asset freezes on Tech Wave

Scenario	Band	Indicators to watch
D. Rebrand under a new US front	Unlikely (15 to <45)	New entity name; new US investor of record; Talkington moves; Novatek option exercised; fresh Alaska permit filings

All four scenarios share one constant. The Kremlin holds on to the Alaska idea. Only scenario C removes the vehicle. None removes the idea.

Table. Re-grade triggers

Trigger	Effect on judgments
Any chat, wire or memo shown to be altered	PJ1 and PJ5 drop to Likely; D-Score for stream S3 rises
Loan agreement names a lender with no Novatek tie	PJ9 drops to Unlikely
Alaska corporations record or Abu Dhabi extract names the owners	Ownership grades move from C3 to A1 or fall away
Survey contractor confirms data stayed in US custody	PJ3 drops to Unlikely
Treasury rules on the licence request	PJ2 re-graded; scenarios re-weighted
Other departed executives speak on the record	PJ6 and the letter reading re-graded

15. Forecasts, Estimates and Emergence

Estimative Method

Scenarios describe paths. Forecasts commit to dates. Section 15 adds the estimative techniques from the Treadstone 71 curriculum and decision engines, and scores what they produce [39][71].

Table. Forecast and estimate techniques applied

Technique	Applied to	Result
Decomposition of Uncertainty Method	Every open question in the case	Three classes: closed by collection (lender, owners, contractors); closed by time (Treasury ruling, permit fate); closed only by Kremlin and White House choice
Cone of plausibility	Four scenarios and a wildcard band to 30 June 2027	Figure 19
Backcasting	The named endgame, a licensed Train 3	Six required steps; none complete
Adversarial Cognitive Simulator (ACS)	Moscow, Washington and Juneau as players	Equilibrium at quiet stall; delay is Moscow's dominant move
Cyber Adversary Reflex Mapping (CARM)	Novatek's reaction to five US moves	Reaction table
Dynamic Bayesian Narrative Analysis (DBNA)	Success odds of the Kremlin partnership narrative	A 30 percent prior falls to 21 percent
Causal Density Mapping (CDM-2)	Feedback loops around the licence	Figure 21
Premortem	Four ways the assessment fails	Listed in the section
High-impact, low-probability check	Events outside the cone	Five wildcards
Adaptive Threat Calibration (ATCRI)	Ranked ledger of risks	Risk register, Section 13
Calibration and scoring	Twelve dated forecasts	Ledger built for Brier scoring

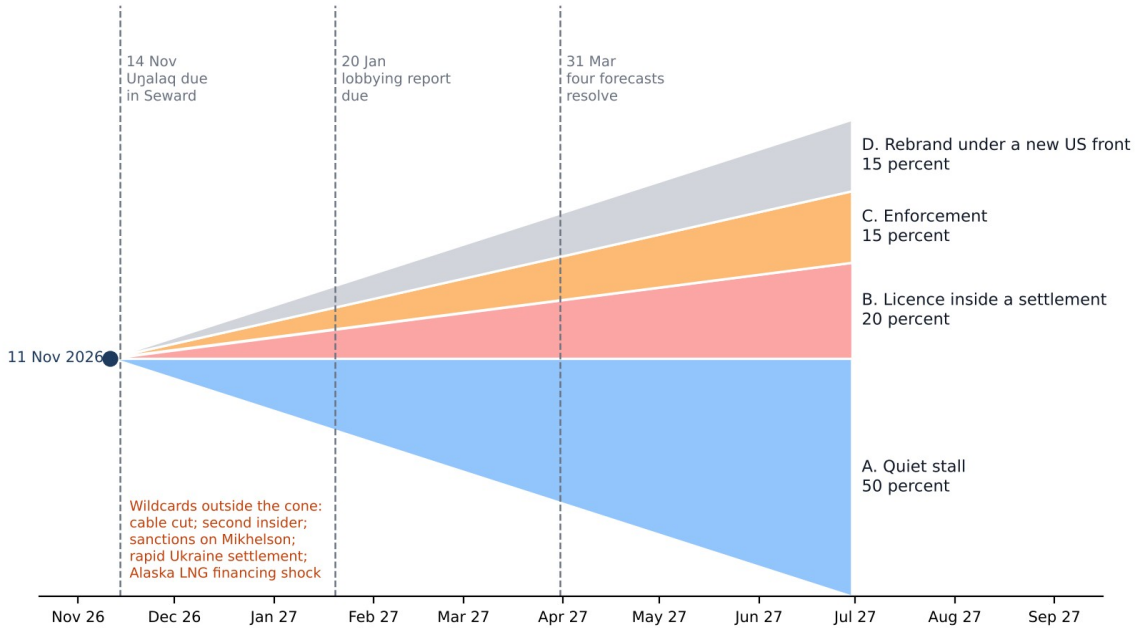


Figure 19. Cone of plausibility to 30 June 2027, with signposts and wildcards.

Source: Treadstone 71.

Backcasting from the Endgame

A licensed, finished and delivered Train 3 needs six things in order. American owners holding more than half the equity. A CFIUS filing. An OFAC licence. Relief for the blocked Murmansk yard. Parts shipped into Russia. A tow across the Arctic. As of 11 November none of the six exists [47]. Each step also needs a public act, so each gives warning.

The Game Model

The simulator treats three players. Moscow gains from any outcome short of enforcement, so its dominant move is to keep the option alive and wait. Washington pays a political price for a grant and a diplomatic price for a denial. Silence costs least. Juneau holds one cheap, decisive move, suspension of the permit, and little reason to delay it. The model settles on a quiet stall, matching scenario A.

Reaction Forecast

Table. Forecast Novatek reactions to US moves (CARM)

US move	Most likely reaction	Band	Signal
Treasury denies the licence	Project rebranded under a new American front; Kremlin blames Washington	Likely (55 to <85)	New Delaware filings; a new lobbying client name
Treasury or Justice opens enforcement	Tech Wave wound down; a replacement Abu Dhabi vehicle formed	Likely (55 to <85)	Licence CN-5088667 cancelled; staff moves
Alaska suspends the permit	No contest; Wainwright dropped; Prudhoe Bay data kept	Highly likely (85 to <95)	No appeal on the State docket
A subpoena reaches the survey data	Partial production; copies already abroad	Likely (55 to <85)	Contractor statements on delivery
CFIUS calls in the option	Option withdrawn or restructured below the review threshold	Roughly even chance (45 to <55)	An amended fact sheet

Narrative Odds

DBNA puts a number on the Kremlin's partnership narrative: the chance it produces relief by mid-2027. We start at 30 percent. The October waiver raises the odds. Rejection by Alaska's delegation, the executive exits and 89 days without a licence lower them. Kremlin persistence nudges them back up. The posterior lands at 21 percent, inside the band for scenario B. Likelihood ratios are analyst-set and listed in Section 19.

The Forecast Ledger

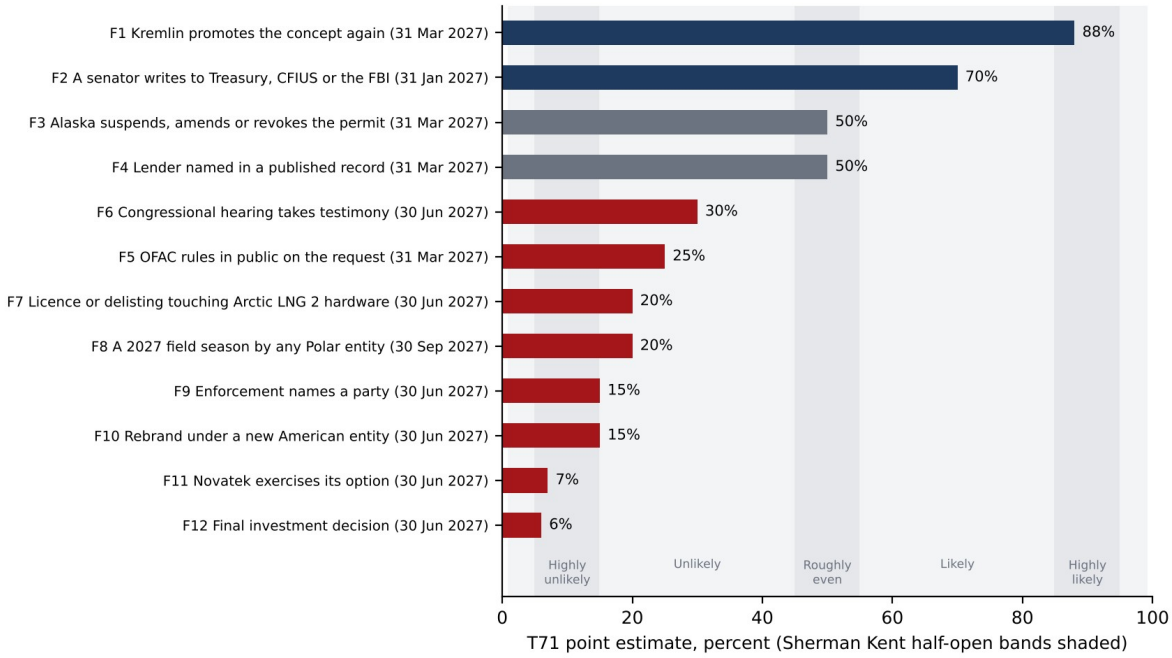


Figure 20. Forecast ledger: twelve dated forecasts against Sherman Kent half-open bands.

Source: Treadstone 71.

Twelve forecasts follow. Each names a date and a public source for resolution, so the ledger scores by the Brier method once the dates pass.

Table. Forecast ledger

No.	Forecast	Percent	Resolves	Resolution source
F1	Putin, Oreshkin or Dmitriev promotes Alaska LNG cooperation again in public	88	31 Mar 2027	Interfax, TASS, Kremlin transcripts
F2	A US senator writes to Treasury, CFIUS or the FBI about Polar LNG	70	31 Jan 2027	Senate press releases
F3	Alaska suspends, amends or revokes LAS 36197	50	31 Mar 2027	DNR case file
F4	A loan agreement or wire record naming the UAE lender is published	50	31 Mar 2027	Press
F5	OFAC issues any public ruling on the August request	25	31 Mar 2027	OFAC releases; company statements
F6	A congressional hearing takes testimony on the venture	30	30 Jun 2027	Committee calendars
F7	A licence or delisting touching Arctic LNG 2 hardware issues	20	30 Jun 2027	OFAC

No.	Forecast	Percent	Resolves	Resolution source
F8	Any Polar entity runs a 2027 field season on the North Slope	20	30 Sep 2027	DNR permits; vessel tracks
F9	Treasury or Justice announces enforcement naming a party to the venture	15	30 Jun 2027	Agency releases
F10	The project reappears under a new American entity or investor of record	15	30 Jun 2027	State registries; lobbying filings
F11	Novatek exercises its option	7	30 Jun 2027	Company statements
F12	Polar Train reaches a final investment decision	6	30 Jun 2027	Company statements

Four Horizons

Table. Time-horizon estimates

Horizon	Date	Expectation
30 days	11 Dec 2026	Vessels laid up for winter; first congressional letters; the Kremlin silent on surveys and vocal on partnership; no Treasury ruling
90 days	9 Feb 2027	The fourth-quarter lobbying report, due 20 January, shows whether Polar LNG still pays; Alaska decides on the permit; further documents surface
180 days	10 May 2027	Settlement talks show whether Arctic LNG 2 relief is on the table; any rebrand becomes visible in registries; field-season plans appear in permit filings
365 days	11 Nov 2027	Either a parked file and a lapsed brand, or a licence inside a settlement; the Wainwright permit nears its 31 December expiry

Premortem

Assume the assessment failed. Four causes lead the list.

- The chats or the wire receipt prove altered.
- Tech Wave shows independent funding, with Novatek a true minority partner.
- Treasury grants a licence quietly, ahead of any settlement.
- Contractors prove the survey data never left American hands.

The first two break PJ1. Outlook and PJ3 fall to the last two. Each maps to a re-grade trigger in Section 14.

Wildcards

High-impact, low-probability events sit outside the cone. Five lead the list: a Quintillion cable cut near a surveyed route, a second insider with documents, US sanctions on Mikhelson himself, a Ukraine settlement signed within weeks, and a sudden collapse of Alaska LNG financing. None rates above **Highly unlikely (5 to <15)** inside the forecast window. Any one of them redraws the cone.

Emergence

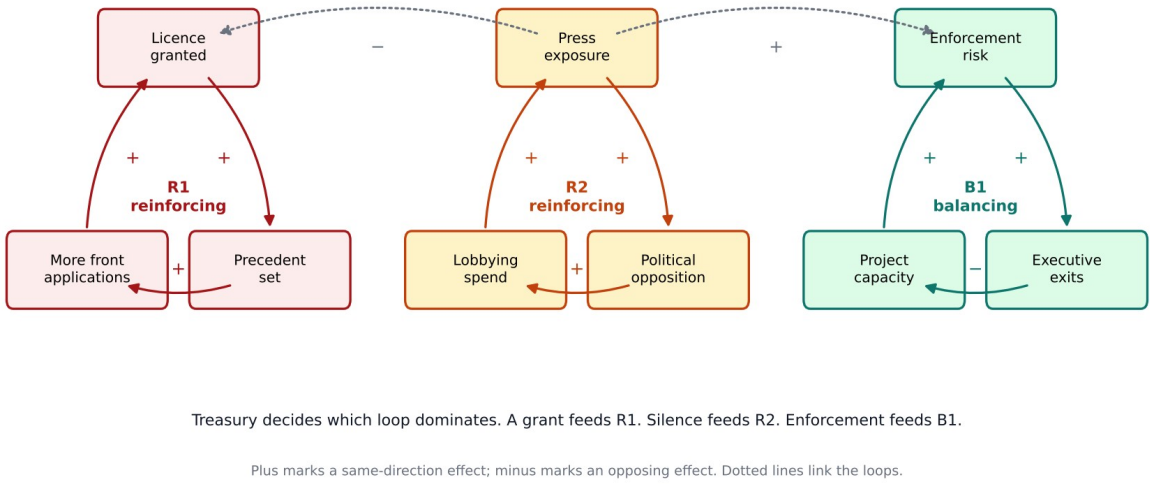


Figure 21. Causal density map: two reinforcing loops and one balancing loop around the licence decision.
Source: Treadstone 71.

Emergence asks what the system produces when many actors follow local incentives, whatever any one of them plans. Nobody designed a two-day permit, a missing disclosure and a waiver to line up. They lined up anyway.

Table. Emergence theories applied

Theory	What it predicts here	Early signal	Band
Self-organization in complex adaptive systems	A Gulf sanctions-arbitrage cluster keeps re-forming around Arctic LNG hardware; formation agents, lenders, law firms and former staff recombine without central orders	New Abu Dhabi project-management companies staffed from Novatek	Highly likely (85 to <95)
Stigmergy	Actors coordinate through traces, not orders; a licence file, a waiver and a permissive permit invite the next applicant	Copycat licence requests citing the Alaska file	Likely (55 to <85)
Diffusion and mimicry	The proxy-survey model spreads to other state actors and other coasts within 24 months	Foreign-funded American charters near cable landings	Likely (55 to <85)
Normal accidents	Permissive steps in separate agencies combine into a system failure nobody chose	More fast approvals without ownership checks	Likely (55 to <85)
Tipping point	A first licence flips sanctions practice from enforcement to case-by-case carve-outs	A second waiver; allied objections	Likely (55 to <85), if a licence issues
Path dependence	A finished Train 3 raises the cost of reversal for every later administration	Parts shipments to Belokamenka	Highly likely (85 to <95), if a licence issues
Narrative convergence	Kremlin partnership framing merges with domestic energy-dominance messaging	Russian officials repeating American slogans; broker notes pricing relief	Roughly even chance (45 to <55)

Theory	What it predicts here	Early signal	Band
Threat convergence	Seabed data, cable routes, radar siting and a sanctions channel fuse into one access vector; data holders become cyber targets	Intrusion attempts against survey contractors or cable operators	Unlikely (15 to <45)
Grey rhino	The visible risk, American boats on foreign money, stays ignored until an incident	No rule change by mid-2027	Roughly even chance (45 to <55)

Three loops drive the system. The first reinforces: a licence becomes a precedent and invites more applications. Exposure feeds the second, through opposition and heavier lobbying, back to more exposure. Enforcement risk drives the third, a balancing loop, through executive exits to lost capacity. Treasury decides which loop dominates.

The emergent danger is not Polar LNG. A repeatable method is. Method outlives brand.

16. Intelligence Gaps and Collection Plan

Fifteen gaps stand open. Each carries a direction. Four move a principal judgment the moment they close: the lender's name, the Abu Dhabi ownership block, the survey contractors, and Treasury's disposition.

Table. Open gaps and directions

No.	Gap	Direction
G1	Tech Wave legal form, owners and managers not confirmed; one-owner licence form conflicts with the two-owner fact sheet and the 95 percent figure	A UAE PASS holder runs CN-5088667 through TAHAQAQ; request the licence printout with the ownership block
G2	UAE lender unnamed; up to three routing companies unnamed	Loan agreements and wire receipt sit with ProPublica, the NYT and the FT; approach the reporter or Riddle's counsel; check Delaware UCC filings against Polar Eagle
G3	Identities of Rashid and Katerina	Signature blocks on the loan papers; no candidate names to be compiled from first names
G4	Members and managers of Polar Eagle LNG LLC, Polar Train LNG LLC and Polar LNG, LLC	Manual search of the Alaska corporations database for entity 10374855 (officials list, filed documents); Delaware certified copies
G5	Polar Train LNG LLC formation date and file number	Delaware entity search by name
G6	Beach's contract, pay and capital; who introduced him to Mikhelson	Not in any open source; Riddle's letter denies Beach any office; watch Texas filings for America First entities
G7	Survey contractors unnamed; data custody unknown	Alaska public records request for the full LAS 36197 file (drafted); North Slope Borough permits; Army Corps nationwide permit verifications; NOAA correspondence
G8	Permits for the 2025 Prudhoe Bay area surveys	DNR case search by customer 000071409 and by Tech Wave; same records request
G9	Whether the Sofar buoy and tide gauge were deployed at Wainwright; how many boreholes were drilled	Records request item 4; Sofar public buoy map; Coast Guard notices to mariners
G10	Daily tracks of the three vessels, August to October 2025 and 2026	Paid AIS history for MMSI 367486920 and 338718000; the Annika Marie appears to carry no AIS identity
G11	OFAC disposition of the 14 Aug 2026 request and any second request	FOIA to Treasury; congressional inquiry; watch OFAC enforcement releases
G12	Whose office the 9th Street NW address is	Lobbying filing lists it as the client address; building directory check
G13	Text of the Financial Times article of 13 Sep 2026	Subscription read

No.	Gap	Direction
G14	Russian official reaction to the 10 Nov survey story	Re-sweep Kremlin, MID, TASS, Rybar and Readovka at 7 and 14 days
G15	Congressional letters demanding CFIUS or FBI review	None found. Watch Murkowski, Sullivan, Shaheen and Senate Banking releases

Closing them needs no clearance. A records request, a registry search, a paid vessel-track pull and a call to a newsroom cover most of the ground.

17. Actions for Decision-Makers

The T71 Disruption Loop runs Observe, Model, Predict, Disrupt, Assess.

Treasury and OFAC

Decide the 14 August application. Any licence that permits imports into Russia for Train 3 completion finishes a sanctioned asset inside Russia. Condition any approval on title, tow and delivery to US waters before a single component reaches Belokamenka. Open an inquiry into the Abu Dhabi payment chain, starting with the lender and the two unnamed handlers. Require every licence applicant to disclose who drafted the request.

CFIUS and the Department of Energy

Treat the Novatek option as a covered transaction now, not at exercise. Require a data-custody accounting for every survey dataset from 2025 and 2026. Ask Secretary Wright's office to document its contacts with Polar Train.

FBI and the Coast Guard

Interview the survey contractors and the three vessel operators as witnesses, not targets. Secure copies of the raw data. Pull AIS history for the season.

State of Alaska

The Department of Natural Resources holds a permit revocable at will [48]. Suspend LAS 36197 pending disclosure of ultimate beneficial ownership. Add an ownership question and a data-deposit condition to every offshore survey permit. Publish the full application file.

Senate and House Lobbying Offices

Review the Polar LNG filings for an omitted foreign entity [50].

Quintillion and GCI

Request the 2025 and 2026 bathymetry and ice gouge data near the Oliktok and Wainwright landings. Brief the federal agencies under the national security agreement on the survey footprint.

Congress

Extend S.4708 beyond foreign vessels. Cover any research in US waters funded or directed by an entity owned or controlled by a foreign adversary, whatever the flag of the ship.

Alaska Native Corporations and Contractors

Add beneficial ownership checks to charter contracts. Ask the charterer who funds the work and who receives the data.

Researchers and Press

Three records remain within public reach. The Division of Oil and Gas answers records requests within ten working days [67]. Officials for entity 10374855 sit in the State's corporations database. Abu Dhabi's licence extract for CN-5088667 opens to any UAE PASS holder.

Assess

Track the four scenario indicators monthly. Re-grade on any trigger in Section 14, any forecast resolved in Section 15, and any gap closed in Section 16.

18. Collection Account

First Sweep

- English: ProPublica in full (4,371 words), the Anchorage Daily News of 28 October in full, Semafor, Reuters relays, Alaska Public Media, gCaptain, High North News, the Barents Observer, law-firm memos on the Graham Act, OFAC list entries and the FCC order.
- Russian: Kommersant, Neftegaz.ru in full, Interfax, TASS, Meduza, Novaya Gazeta Europe, The Insider, Zona, SVTV, EADaily and Oilcapital headlines, and one mirror of the Pravda network.
- Ukrainian: Ukrainska Pravda, Ekonomichna Pravda, UkraNews, the Kyiv Independent, DW Ukrainian and Liga.net.
- Norwegian: Finansavisen. Japanese: Kyodo through Kumamoto Nichinichi. Romanian and German relays were noted and set aside.
- A research agent run with 87 cited pages supplied the registry entry, the executive order citation, vessel ownership, the FCC order and the Oreshkin lead. We then verified the Oreshkin quote on the bne IntelliNews page.

Second Sweep

- Primary documents read in full: the resignation letter with two Baker Botts memos (DocumentCloud 28841131); the permit approval (DocumentCloud 28845257, text layer and page images); the State's case file abstract; Senate lobbying filings; the Polar LNG fact sheet and leadership page; the Tech Wave website.
- Press read in full: the New York Times of 23 October through Seattle Times syndication; the Anchorage Daily News of 2 March; bne IntelliNews of 8 September.
- Two further research agent runs covered registries, vessels, contractors, data repositories, social media, Wainwright site history and Russian coverage after 10 November.
- A browser session on 11 November captured the permit pages, read the State case file, read and captured the VesselFinder record for the Uŋalaq, and read the Bowhead sailing schedule.
- WHOIS lookups covered polarlng.com and techwaveipm.com.
- A targeted search for the two first names in the funding chat returned only the ProPublica text. We compiled no candidate identities.

19. Analytic Workings

ACH Ratings

Ratings run from very consistent (CC) through neutral (N) to very inconsistent (II). Inconsistency weights: I equals 1, II equals 2. H5 draws II on four items because Novatek and Polar admitted payment, the wire matched the chat, Solovyov set funding terms, and counsel recorded Treasury's suspicion before any leak. Version 2 added E17 through E22.

DBNA Parameters

Priors: H1 0.30, H2 0.25, H3 0.15, H4 0.15, H5 0.15. Base likelihood ratios: CC 2.0, C 1.4, N 1.0, I 0.6, II 0.3. Damped ratios: CC 1.5, C 1.2, I 0.8, II 0.5, with N held at 1.0. H2 posteriors: 0.966 base, 0.945 flat prior, 0.860 damped. Version 1, on 16 items, gave 0.921, 0.877 and 0.760. H3 peaks at 0.033 in the damped run and H4 at 0.094. Evidence dependence inflates the naive product, which is why PJ2 stays at Likely.

Working Notes

- T equals the mean of C1, C2, C3, C4 and C7 where applicable, capped at 100 minus the higher of C5 and C6. Per-factor thresholds sit in the internal edition, so every grade here is a cluster-level call.
- Two re-grades carry the date 11 November 2026 under Rules 7 and 9. Katerina's placement inside a Novatek-side payment chain dropped one band. The exit-instrument reading of the letter dropped with it.
- No effect claim in the case has a registered baseline or a comparison design. All four sit at DS-5.
- The second-reader signature on the deception warning is outstanding.
- Naming rule: all persons holding a role are named in Section 2. Copy-list recipients on the permit hold no role and are omitted. Riddle's home address and personal email are withheld.
- Weekday check: 18 August 2026 fell on a Tuesday, the meeting day Riddle cited three days later. The 31st fell on a Monday, the day of the funding he called agreed.
- Narrative odds in Section 15 use analyst-set likelihood ratios: waiver 1.6, delegation rejection 0.6, executive exits 0.7, Kremlin persistence 1.2, no licence in 89 days 0.75.
- Starred items on the corporate ladder rest on aggregators. The 54-day chart plots the 13 September press article as cited by Riddle, unread by us.

Statement Coding Sheet

Table. Forensic linguistics coding, n = 25

ID	Actor	Statement (short form)	Code
P1	Polar LNG	Disgruntled former employee	Credibility attack
P2	Polar LNG	Terminated for cause	Credibility attack
P3	Polar LNG	Standard set of surveys routinely conducted	Normalization or decoupling
P4	Polar LNG	Data not classified	Straw-man rebuttal
P5	Polar LNG	All activities complied with applicable laws	Generic compliance or dismissal
P6	Polar LNG	President Trump's leadership on energy dominance is clear	Audience mirroring
P7	Talkington	Generational opportunity to advance US energy dominance	Audience mirroring

ID	Actor	Statement (short form)	Code
P8	Tech Wave	Funded exclusively by Tech Wave	Entity-boundary denial
P9	Tech Wave	News reports misleading	Generic compliance or dismissal
N1	Novatek	Did not provide any funding to the Project	Entity-boundary denial
N2	Novatek	Debt financing to US persons not prohibited	Pre-emptive legal justification
N3	Novatek	Clearly and categorically false (intelligence)	Specific denial
N4	Novatek	Standalone and self-sufficient project	Normalization or decoupling
N5	Novatek	Decisions made by Polar Train and Tech Wave	Responsibility displacement
N6	Novatek	Comments to the draft application	Minimizing admission
N7	Novatek via Polar	Paid part of the purchase price to Tech Wave	Minimizing admission
N8	Novatek via Neftegaz	Unscrupulous accusations by third parties	Credibility attack
R1	Riddle	Financing and controlling the strategic direction	Checkable factual assertion
R2	Riddle	Cannot terminate someone who already resigned	Checkable factual assertion
R3	Riddle	Dates, amounts, meetings, wire	Checkable factual assertion
R4	Riddle	As a patriot	Values framing
K1	Putin, Aug 2025	Working with American partners in Alaska	Partnership or superiority framing
K2	Putin, Oct 2026	Exploring Arctic gas work with US partners	Partnership or superiority framing
K3	Oreshkin	Far more efficient economics	Partnership or superiority framing
K4	Neftegaz.ru	Part of the Democrats' agenda	Credibility attack

20. Wrap-Up

A Russian gas company did not need spies on the Beaufort shelf. Novatek needed an Emirati parent, a Norwegian insider, an American chief executive with good contacts, and three American boats. All four arrived. Money arrived on schedule. Mikhelson gave the site order in person. A Moscow lawyer's name rode inside the licence request's metadata.

Primary records fill in the rest. Alaska said yes in two days. Lobbyists named no foreign owner. The whistleblower took Novatek's money for a month, then wrote in the conditional. His papers are sound and his timeline is not.

Treadstone 71 reads the venture as a sanctions engine with a collection payload. The engine aims at Arctic LNG 2 and at the bargaining table. Its payload sits in hard drives somewhere between Anchorage and Abu Dhabi.

Washington still holds the licence. Alaska still holds the permit, live through the end of 2027. The Uŋalaq reaches Seward on 14 November.

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