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# A COMPARATIVE ANALYSIS OF ENGLISH AND RUSSIAN TRANSLATION OF SPECIALIZED OIL AND GAS TERMINOLOGY

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**Abstract.** This article studies how English oil-and-gas terms are translated into Russian. We ask which strategies translators use most often and why. A small corpus of 150 terms from drilling, production, and HSE documents was analyzed. We coded each item by strategy: borrowing/transliteration, calque, functional equivalent, descriptive translation, and reduction/expansion. Results show a clear preference for functional equivalents and controlled vocabulary when such terms exist, while borrowings appear mainly for global brands or new tools. Calques work for stable technical compounds but not for culture-bound abbreviations. We discuss typical risks (polysemy, false friends, standards) and give practical examples. The study confirms that consistent terminology work and attention to Russian standards improve clarity and safety in technical texts.

**Keywords:** oil and gas, terminology, translation strategies, English–Russian, functional equivalence, calque, borrowing

## Introduction

Oil-and-gas texts are safety-critical. Clear terms reduce risk in drilling, production, and HSE. In bilingual projects, English and Russian teams share drawings, manuals, and procedures. If a term is unclear, people can make costly or dangerous mistakes. Therefore, translation of specialized terminology is important for quality, compliance, and training.

## Research questions

1. Which translation strategies are most frequent when rendering English oil-and-gas terms into Russian?
2. What kinds of terms tend to use each strategy?
3. What problems do translators face (abbreviations, standards, polysemy), and how can they solve them?

**Literature review**

Previous studies show that terminological consistency is central in technical communication and safety, and that translators rely on several strategies (functional equivalents, calques, borrowings, descriptive phrases) depending on term maturity and norms (Samigullina, 2018; Timofeeva, 2019). Work on cognition and translator training stresses domain knowledge and concept mapping for accurate term choice, not just word substitution (Remichi, 2020). Recent Russian-language studies highlight recurring challenges: inter-industry homonymy ("string," "header"), abbreviation handling (API, BOP, HSE), and neologisms entering Russian through media borrowings (e.g., ***fracking*** vs. the standard ***гидроразрыв пласта***) (Abdinazarov, 2022; Gilyeva, 2025; Saliyeva, 2024).

Overall, the literature suggests combining functional equivalents anchored in standards with careful use of calques and borrowings, plus term base management for project coherence.

**Methodology**

**Corpus**

A small corpus consisting of 150 English terms was compiled from authentic sources such as engineering specifications, health, safety, and environment (HSE) guidelines, and vendor brochures. The material covered three main domains: drilling (60 terms), production (60 terms), and HSE (30 terms).

**Coding scheme**

Each term in the corpus was analyzed and categorized according to its main translation strategy. The categories included functional equivalents, where established Russian technical terms already exist; calques, which are literal models such as

wellbore → ствол скважины; borrowings or transliterations, for instance packer → пакер; descriptive translations, used when no fixed Russian equivalent is available; and reduction or expansion, which are applied when translating abbreviations or complex multiword expressions. Two bilingual reviewers independently verified 20% of the data, reaching an inter-rater agreement of 0.87 according to Cohen's kappa. Any disagreements were resolved through discussion to ensure reliability.

**Examples used for testing**

The corpus included commonly used technical items such as blowout preventer, wellhead, drill string, mud losses, gas lift, wireline logging, coiled tubing, flare stack, formation water, and hydraulic fracturing. It also contained industrial abbreviations such as API, BOP, and HSE. These examples represent key areas where translation precision is essential in the oil-and-gas field.

**Results**

The analysis of 150 terms revealed that functional equivalents were the most frequent translation strategy, accounting for 38% of all cases. Borrowings and transliterations followed with 24%, while calques represented 18% of the corpus. Descriptive translations appeared in 12% of the examples, and reduction or expansion strategies were used in 8% of the cases. Functional equivalents were typically found in standardized, normative terminology. Examples include ***blowout preventer → противовыбросовой превентор (ПВО/ППВ)***, ***rig → буровая установка***, ***wellhead → устье скважины***, ***wellbore → ствол скважины***, ***gas lift → газлифт***, and ***formation water → пластовая вода***. These terms appear in professional standards and textbooks and are widely accepted across the industry, ensuring consistency and safety in communication and training.

Borrowings were most often observed in tool names, trademarks, and long-used technical devices, for instance ***packer → пакер***, ***choke → дроссель*** (a hybrid of borrowing and functional equivalent), and ***liner → лайнер***. Such items are generally kept in their English form because they have become deeply embedded in industrial usage or lack concise Russian alternatives.

Calques, or literal translations, were commonly used for transparent compound terms where both languages share similar conceptual structures. Examples include ***flare stack → факельная свеча***, ***drill string → бурильная колонна***, and ***downhole motor → забойный двигатель***. This strategy proved effective when the internal logic of the English compound could be mirrored naturally in Russian morphology.

Descriptive translations were employed for new or complex technical concepts that have not yet been standardized in Russian, such as ***wireline logging → геофизические исследования скважин на кабеле*** and ***coiled tubing → технологии с гибкими трубами***. These explanations provide clarity and ensure that the meaning is conveyed accurately, even when brevity is sacrificed.

Finally, reduction or expansion strategies were necessary for abbreviations and acronyms, which rarely have one-to-one equivalents between English and Russian. For example, ***HSE*** was translated as ***охрана труда, промышленная безопасность и экология***, ***API*** as ***Американский институт нефти (API)***, and ***BOP*** as ***противовыбросовое оборудование (ПВО)***. Expanding abbreviations in Russian helps prevent ambiguity and supports accurate interpretation in official and educational contexts.

**Discussion**

**RQ1–2:** The data show **functional equivalents** dominate when Russian has a stable, standard term. This aligns with prior findings that normative documents guide usage in projects (Timofeeva, 2019; Samigullina, 2018). Borrowings appear for tool names and vendor-driven items. Calques fit transparent technical compounds but fail with culture-bound abbreviations.

**RQ3 (key problems):**

1. **Polysemy and false friends.** ***Header*** in piping vs. document headings; ***string*** in drilling vs. general language. A concept-oriented check is required (Remichi, 2020).
2. **Abbreviations and standards.** Short forms like ***BOP*** need expansion on first use and alignment with Russian normative phrasing (Timofeeva, 2019).

3. **Neologisms and media borrowings.** Public discourse may prefer ***фрекинг***, while industry uses ***гидроразрыв пласта (ГРП)***; translators must choose the form that fits the technical audience (Saliyeva, 2024; Gilyeva, 2025).

Teams should maintain a bilingual termbase, cite standards, and document preferred equivalents with contexts and examples. This supports consistency across engineering, procurement, and training materials, as recommended by studies on terminology planning in the sector (Samigullina, 2018).

## Conclusion

English-Russian translation of oil-and-gas terminology is not only about words. It is about clear concepts, safety, and compliance. In our sample, functional equivalents were most frequent and most stable. Borrowings and calques are useful when controlled. Descriptive translations help with new or complex items. Abbreviations often need expansion and reference to standards. Good results depend on domain knowledge, a shared termbase, and attention to Russian normative usage. Future research can scale this study with larger corpora, human evaluation of clarity, and links to specific GOST/API documents.

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