

## **Practical Application of Hearts and Minds: A Sakhalin Island Case Study with Diverse HSE Cultures**

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Safety culture in Russia is inherited from a USSR production-focused approach. Even though the ILO Health and Safety Convention C155 was ratified in 1998 and the convention requirements are reflected in the health and safety legislation at different levels, putting those requirements and the health and safety culture behind them into practice still remains a challenge.

The Russian Federation legislative documents regulating health and safety comprise a complex system of interconnected industry and inter-industry labour safety rules and instructions. The primary documents for health and safety regulation are the Labour Code and the Federal Law "On the Basis for Health and Safety in Russian Federation". There is also the System of State Standards (GOSTs), all health and safety requirements of which are mandatory until they are replaced by Technical Regulations. Some of those documents contain contradictory requirements, and the majority of them are prescriptive in nature, making no difference between small and large companies and differing levels of risk between industrial sectors.

The legislation complexity and prescriptive nature is combined with lack of inspection authorities in non-central regions. Sakhalin Region has an inspection body that should consist of 10 lawyers and 10 inspectors for about 16,000 companies. Although in reality the number of inspectors in the Region is fewer. Submitting properly filled logs and other appropriate documentation is usually enough to get a positive feedback, as inspectors often lack necessary technical expertise to conduct a full-scale workplace inspection, behind this is a lack of education programmes for inspectors. Fines for non-compliances are also low and are comparable to average monthly salary of specialists in the region. This results in many medium and small companies are managing health and safety only on paper to present to authorities. The HSE culture of those companies is either pathological or reactive.

In the Sakhalin Region people working without fall protection at height, driving without their seatbelt on, or entering confined spaces for utility maintenance without a gas test are a common occurrence. If there is an incident where someone is hurt, the foreman is most likely to be dismissed, and the management will pay a small fine. This is the background safety culture in which companies like Sakhalin Energy Investment Company Ltd. (Sakhalin Energy) operates and works to international standards.

When international oil and gas companies first came on Sakhalin, they brought here a different approach to HSE management. Sakhalin Energy has a systematic approach to health, safety, environment and social performance management, and seeks to maintain the HSE management system and related internal procedures in consistence with good international practice. The company standards are based on international and Russian Federation requirements, and it is essential to maintain those standards in the course of many hazardous activities conducted every day on Sakhalin Energy assets.

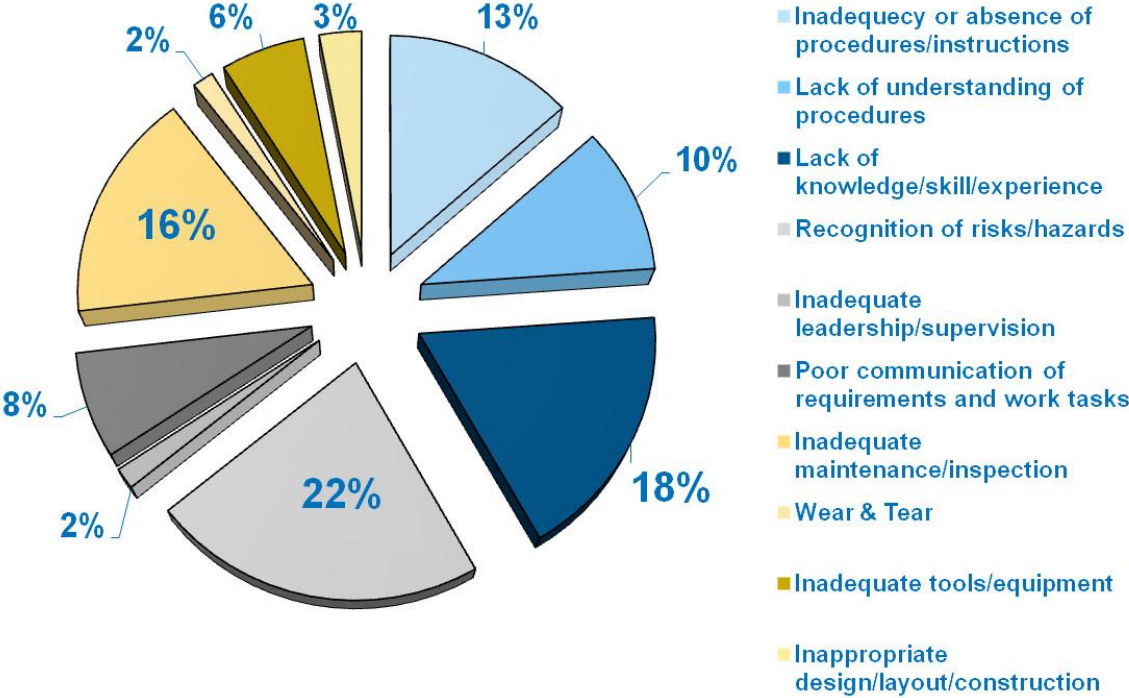
At the start of the Sakhalin-2 project the safety performance was comparable with the Regional average, with tens of thousands of workers constructing everything from roads and bridges to offshore and onshore hydrocarbon facilities, including Russia’s first liquefied natural gas (LNG) plant. Through a multifaceted approach, including the use of Hearts and Minds tools, the company has transformed consistently achieving Goal Zero, with no injuries on the road since 2009, and achieving OGP top quartile recordable injury performance every year since 2009 with an LTIF of 0.1 and TRCF of 0.5 in 2012\*.

Today Sakhalin Energy employs averagely 2000 staff and 25,000 (sub-)contractors, with the majority of hazardous operations such as drilling, transportation, construction activities conducted by (sub) contractor’s personnel, with previous experience of work in places with limited HSE requirements. This makes the companies safety achievements fragile and continuous focus is needed to help everyone stay safe.

One of the practices implemented since the beginning of cultural change journey was use of Tripod Beta for incident investigation. The quality of investigations has steadily improved as more and more facilitators have been trained. From the time when the safety performance was comparable with Regional average to the step change in safety performance achieved, use to Tripod Beta has helped to continuously improve through learning from incident investigations.

The analysis of 2012 incident causes in Figure 1. Shows ~40% relates to the individuals competence and experience vs. a reliance on clear rules. ~30 relates to the effectiveness of site supervision in helping their work party understand the hazards and controls for a job and intervene if something is unsafe. ~30% of incidents also have technical causes, but many of them have a human factors underlying cause around decisions taken in design or maintenance planning.

**Figure 1. Medium Risk Incident Causes in 2012**

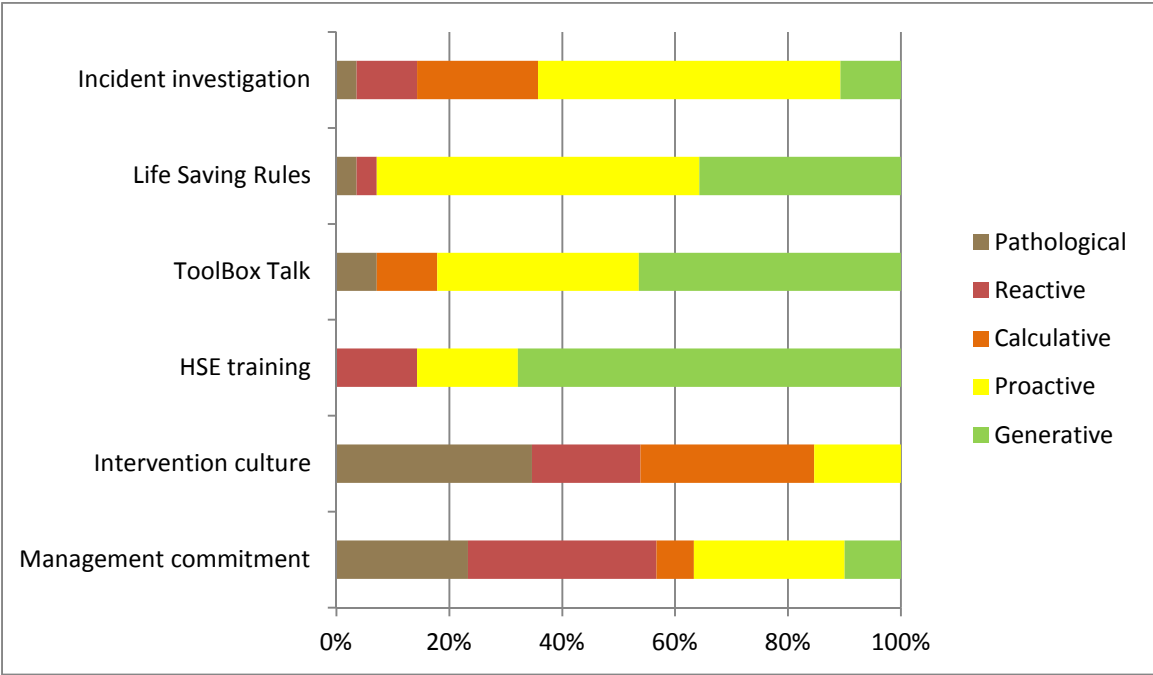


What Fig. 1 really shows is cultural and behavioural incident causes require behavioural and culture HSE change actions, not more procedures and processes. In response to such analysis over recent years Sakhalin Energy introduced an intervention programme, HSE leadership development workshops and HSE site visit coaching, plus multiple HSE trainings for different levels of own and contracted personnel.

Part of this continuous improvement was a three-stage programme to improve the safety culture among contractors and make it easier for people to comply. The objective of the programme was to move from reactive incidents investigations to proactive solving of issues, addressing weak signals before they become incidents.

At first, an HSE cultural assessment based on the *Hearts and Minds* tool *Understanding Your HSE Culture* was conducted for individual teams or small contractor companies. This also included questions from the *Hearts and Minds* Managing Rule Breaking tool. The purpose of the exercise was not just to identify group’s place on the culture ladder, but also to spot common gaps in HSE culture elements. Results of previous incidents investigations, interventions, audits and reviews were also taken into account to calibrate the results as there is a tendency for people to be over positive about their level of HSE culture if they have not experienced a more mature culture before.

**Figure 2. Example Analysis of a Single Transport Contractors Survey Results**



The chart is the part of analysis of questionnaires distributed among workforce of a small transportation contractor. The sample ranged from drivers and mechanics to managers, 28 personnel overall. The company had reported some Life Saving Rules violations during the year, including speeding and violating journey management plan. However, the problem identified by

the workforce was not with Life Saving Rules introduction and communication, but with intervention and management commitment.

The second part of the programme was conducting a “*Making Compliance Easier*” session with each group. The sessions are based on *Hearts and Minds* tool *Managing Rule Breaking*, but the name was changed to be more positive and focusing on the company wanting to enable contractor staff to work safely. In case of the transportation contractor, 18 people participated in the workshop, including 11 drivers, 2 mechanics, contractor safety specialist, project manager, general manager, and contract holder and safety engineer from Sakhalin Energy.

The workshop included explanation of various types of rule breaking, discussion of previous incidents and their causes, and another questionnaire to find out potential types of human errors which are likely to occur in the organisation. The *Hearts and Minds Procedures and Practices* questionnaire from the *Managing Rule Breaking* tool was used for this purpose.

Those are results of questionnaires filled in during the workshop by the driving contractor.

| Unintentional Understanding | Unintentional Awareness | Situational        | Optimising         | Exceptional        | Routine            |
|-----------------------------|-------------------------|--------------------|--------------------|--------------------|--------------------|
| <b>18,8</b>                 | <b>17,0</b>             | <b>34,2</b>        | <b>36,2</b>        | <b>18,6</b>        | <b>36,7</b>        |
| Critical score >15          | Critical score >15      | Critical score >30 | Critical score >30 | Critical score >15 | Critical score >30 |

We see that none of the items are lower than the critical score; however, if we look closer to the answers, we will find out that among the statements receiving the lowest scores were:

- Most procedures are easy to apply properly – averagely 10; and
- I never come across unfamiliar problems in my job – averagely 9.5.

Both are much below the critical score as per *Hearts and Minds* guidance.

The final and the most important part of the workshop is the discussion of actual problems. The ground rule is established in the beginning that no consequences will be applied even if the workforce admits some past violations. It is also important to facilitate discussion, so that all revealed issues are discussed and their root causes are identified by the workforce themselves.

In case of the transportation contractor, the discussion was focused on the Life Saving Rules, intervention culture and management reaction to interventions, and on which procedures are unclear and what unfamiliar situations the workers come across. Several issues and potential solutions were identified by the workforce during the discussion. Two of them are given here as an example:

Regarding the journey management plans, there was an issue with overnight parking in a safe area, because the contractor did not know how to get approval to enter the site. So the drivers instead would stop overnight in public areas, which once was even a cause of work-related violence. This was the main problem they had in mind when filling in the *Procedures and Practices* questionnaire and giving low scores to the statements about procedures application and unfamiliar problems.

As for the intervention, the system of submitting filled-in intervention cards by all workers and providing feedback was not established by the contractor management. Only number of cards was taken into account, as the management was to submit this number to the client. So, the workers did not see any reaction to their efforts, plus the long-distance drivers did not have a chance to timely report their interventions. This impacted both the intervention and management commitment scores on *Understanding Your Culture* questionnaire.

Of course, the main outcome of the workshop was discussion of practical solutions to those problems. The contractor management was instructed how to get approval to park overnight on the Sakhalin Energy facilities. Introduction of intervention feedback system was a more difficult task and Sakhalin Energy specialist started working hands on with the contractor to help them put a system in place, which both workforce and management would find useful.

This transport contractor example is one of many with the programme covering targeted areas of Sakhalin Energy's operations, including the LNG plant, offshore platforms, marine logistics and procurement contractors. In most many of the "reactive" and "calculative" companies and groups the results demonstrated greater need for workforce involvement and management support, so the actions were around improvement of participation and communication, interventions follow-up and tasks to management to resolve persistent problems which became compliance blockers.

For a few "pathological" companies, the solutions were around achieving minimum compliance and providing greater levels of independent supervision to monitor actions implementation.

After all identified actions are completed, a review is done on their effectiveness and if they helped to remove the problem and cover. Then, the second cycle of the programme can begin to identify new issues and help to resolve them. Even though the proper review has not been done so far, and not all identified actions have been completed, there are examples of success. For instance, there has not been a single Life Saving Rule violation with that transportation contractor since the workshop was conducted with them and the compliance blocker was removed.

This Making Compliance Easier programme drawing on both a Tripod Beta analysis on the Hearts and Minds tools, is just one part of an overall HSE culture journey that Sakhalin Energy has been on. However, in trying to maintain top quartile performance against a backdrop of staff turnover and an immature HSE culture environment behavioural safety tools become increasing important to remove blockers to compliance and provide a practical demonstration of leadership commitment to achieving Goal Zero: no harm, no leaks.