



APPENDIX 8

Hydrostatic Testing Specification

Purpose

To manage the Risk<sup>1</sup> to the environment resulting from Hydrostatic Testing.

What situations are covered?

This document applies to all Hydrostatic Testing (hydrotesting) undertaken by Sakhalin Energy assets, facilities, operations, projects and activities, including activities undertaken by any contractor on behalf of the Company.

Requirements

- 1. No corrosion inhibitors, oxygen scavengers, or biocide chemicals shall be used for hydrotesting of pipelines, with the following exceptions.
a. In Aniva Bay, the use of chemicals in hydrotesting is permitted under the Russian regulations, and their use is necessary. However, these shall not be discharged into the marine environment, but they shall instead be diluted and loaded onto tanker at the TLU terminal. [EIA Volume 5, Chapter 3; EIAA Chapter 13 Material Project Changes]
b. Specific Work Procedures apply for short pipe sections hydrotested in winter. Antifreezes are used and selected evaluating toxicity, product stability, and disposability (for example Mono-Ethylene Glycol) and applied only after the necessary permits have been secured. This hydrotesting water shall not be discharged on the ROW, instead it shall be discharged into dedicated tanks and sent back to the manufacturer for processing. [River Crossing Strategy Report; section 5.6.1]
2. Apply for and comply with any relevant water withdrawal permits. In any cases the mentioned measurements should be carried before discharge to environment:

Table with 4 columns: #, Parameter, Measurement, Acceptable level. Rows include Total hydrocarbon content, pH, BOD, COD, TSS, Phenols, Sulfides, Heavy metals (total), and Chlorides.

- 3. Perform non-destructive testing of all pipeline section welds and/or hydrotest the pipeline sections, before installation under waterbodies or wetlands.
4. Pipes will be cleaned prior to hydrotesting to ensure the resulting hydrotest water is as clean as possible.
5. The location and design of the hydrostatic testing pits shall be in accordance with project and regulatory specifications, inclusive of the following provisions.
a. If hydrostatic testing pump equipment is placed near a watercourse (including irrigation canals or livestock ponds), pumps shall be placed within a lined bunded area capable of containing any fluid leaks.

<sup>1</sup> Italicized terms in this document are included in the Sakhalin Energy HSE Glossary.



Water Use Management and Ground Water Protection  
Standard

Rev. 01

- b. If pumps used for hydrostatic testing are within 30m of any waterbody or wetland, address the operation and refueling of these pumps in the Spill Prevention and Response Procedures.
  - c. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.
6. Water intake pits (for hydrostatic testing) shall be located at the sites as remote from the channel flow as possible, where the number of drifting fry is the lowest. [EIA VOL 4, Section 2.4.2]
- a. During hydrostatic testing, a screen with apertures of approximately 50 microns in diameter shall be installed at water intake inlets to prevent the ingress of macrofauna (including fry). The selection of the screens shall also take into account the river water flow rates and the design water intake flow rate. Water abstraction rates shall be controlled where possible to permit fish avoidance. Hydrotesting will take place outside of the main salmon spawning period, and as stipulated by Sakhrybvod conditions. [EIA VOL 4, Section 2.4.2]
7. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.
8. The hydrotesting water (except as stated in 1a and 1b) shall be discharged in sediment pits or surface filter/dissipaters.
- a. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow. Detailed within specific construction method statements (e.g. Hydrotest Plan). The erosion and sediment control mitigation measures described for construction shall be implemented during construction, use and reinstatement of the pits. [EIA VOL 4, Section 3.6.2]
  - b. When the sediment has settled, the water shall be drained onto vegetated parts of the ROW to minimise run-off and erosion.
  - c. The sediment shall be transported from site, where it shall be disposed in accordance with the Company's Waste Management Standard.