

# Process safety



Good process safety ensures that a plant's processes operate without incident and prevents personnel from being exposed to danger and the environment from being polluted. Process safety is based on identifying process-related risks in advance and preventing accidents. Performance in this area is regularly reviewed using internal audits and official inspections. Neste Oil's insurers also carry out insurance audits at the company's refineries.

Neste Oil has surveyed all the areas likely to be affected if a major accident were to occur at one of its refineries. Numerous smaller accident scenarios have also been reviewed. The accident risk assessment covering the Porvoo refinery was updated in 2013 and now includes information on the ability of structures housing personnel to withstand an explosion across the site.

A project is currently under way at the Porvoo refinery to assess the compatibility of the materials used in the site's equipment and the process parameters, such as high temperatures, encountered at the site with modern material recommendations. Danger preparedness plans based on fire and explosion risk survey data are also being drawn up for process areas and units at the Porvoo and Naantali refineries. Work is also being done at the refineries to assess the criticality of site equipment in terms of safety and business continuity.

Cooperation with the authorities at Neste Oil's refineries is an important part of process safety. Communication and preparedness planning is continuous with local rescue departments, for example.

**Process safety target was well achieved**

## Process safety performance and how it is measured

Neste Oil measures its process safety performance using CONCAWE-defined PSERs (Process Safety Events Rate). These define process safety levels and measure the number of incidents that take place in processes per million hours worked. Process safety incidents are monitored at all the company's production sites and terminals. A total of 19 (32) PSEs took place in 2013. Neste Oil's goal is to be among the best European refiners in terms of process safety events in the future.

The internal monitoring of process safety performance was extended in 2013 by introducing preventive PSE3 and PSE4 indicators. These are used to measure areas such as near miss incidents and shortcomings identified in protection equipment and procedures.

## Know-how plays a key role

People's professional know-how plays an important part in process safety, which is one of the reasons why personnel at Neste Oil receive constant training on process safety-related matters. All personnel at production plants and terminals take part in process and fire safety training. Two safety training days are also included in the training carried out for the operator's certificate offered by Neste Oil.

A project was launched in 2013 to further develop and harmonize work-related procedures. A new tool for these procedures was tested in 2013 and development work will continue in 2014.

**Process safety event rate, incidents per million hours worked**

