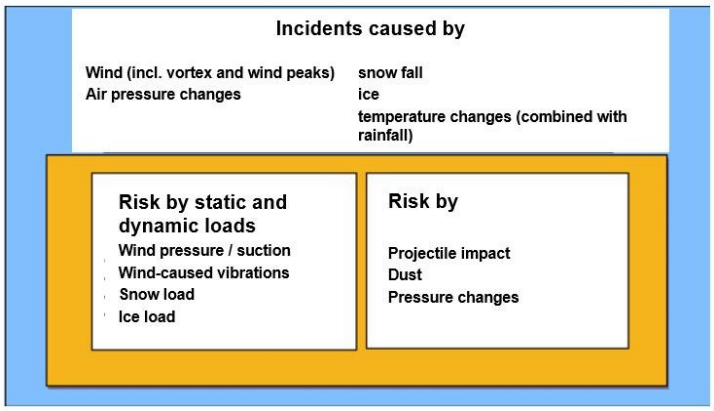
8.8 Technical Rule on Process Safety TRAS 320 (Germany)

OECD GP Activity	UN SF Activity	UN SD Goals / Targets
8. Natech risk in regulations, standards, codes and guidance	2. Strengthening disaster risk governance to manage disaster risk	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

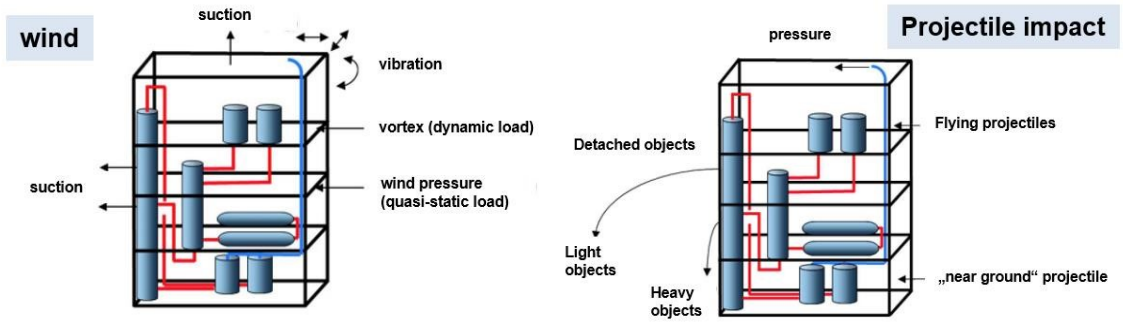
Classification according to OECD Guiding Principles, UN Sendai Framework Priorities/Activities, and UN SDGs and Targets

Figure 1: Possible risks caused by wind, snow- and ice loads



Source: © UBA

Figure 2: Hazards for installations due to impact by wind and projectiles



Source: © UBA

Short Facts:	Natural Hazard(s) Considered:
Governance approach: Regulation **Source:** Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Germany **Entry into force:** 2015 **Targeted Stakeholders:** Operators, authorities, assessors/safety experts **Scope of applicability:** National, enterprises, sites, installations, constructions	• Wind • Snow loads • Ice loads **Climate change:** not included since precise predictions are lacking

Description

The bases for the design of buildings and their construction are the DIN EN 1991-1-4 (December 2010, formerly DIN 1055-4) for wind loads as well as the DIN EN 1991-1-3 (December 2010) for snow loads (formerly DIN 1055-5 (July 2005), for snow and ice loads). However, these technical rules do not specifically mention plants that are subject to the Major Accidents Ordinance. These installations have a higher endangering potential because hazardous materials are used in the installations. Against this background, such systems must be designed with their structures sufficiently protected against static and dynamic loads. This includes regular inspections to ensure plant safety. Both requirements are taken into account in the Technical Rule on Installation Safety 320.

The TRAS considers hazard sources that are caused by:

1. Wind, including gusts, peak winds, wind-induced vibrations and tornadoes,
2. Windborne debris,
3. Snow loads and
4. Ice loads

The main requirements of TRAS 320 are:

1. Establishments and installations, which are subject of the Major Accident Ordinance, should meet the requirements of reliability class RC 3 according to DIN EN 1990. This refers to a design capable of withstanding a natural event that statistically occurs once every 100 years.

2. According to DIN EN 1990 / NA, the requirements of the construction supervision level DSL 2 as well as the inspection level IL 2 must be met. In cases with a high potential hazard risk, it must be checked, whether DSL 3 and/ or IL 3 must be applied.

3. For existing installations and establishments, evidence must be provided that the plant can withstand an event which occurs statistically once in 100 years.

Link/Contact:

http://www.sfk-taa.de/publikationen/tras/TRAS_320_en.pdf
http://www.bmub.bund.de/fileadmin/Daten_BMU/Pools/Forschungsdatenbank/fkz_3711_68_331_vorkehrungen_gefahrenquellen_bf.pdf
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Comments by the UN/OECD Natech-Steering Group:

The approach is based on the EU Seveso-directive but not limited to their scope. The rule is harmonized with the EU Eurocode for statics design of constructions.

Imprint

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