

**DRAFT DATED 12 Aug. 2024**

**Regulation of the State Secretary for Infrastructure and Water Management of ,  
No IENW/BSK-2024/215440, amending the Environmental Regulation (amendment of  
Safeti-NL and Calculation Requirement for Environmental Safety)**

The State Secretary for Infrastructure and Water Management,

Having regard to Article 2.24(2)(b) and Article 4.3(4) of the Environment and Planning Act [Omgevingswet];

HEREBY DECREES THE FOLLOWING:

**Article I (amendment to Annex II of the Environmental Regulation)**

Annex II to the Environmental Regulation [Omgevingsregeling] is amended as follows:

1. In the row 'Calculation Requirement for Environmental Safety', in the column entitled 'Date or version', 'October 2020' is replaced by 'January 2025' and in the column entitled 'Chapter in Decree or Regulation containing reference<sup>1</sup>', 'Chapters 4, 8 and 12 of this Regulation' is replaced by 'Chapters 4, 7, 8, 9 and 12 of this Regulation'.
2. In the row 'Safeti-NL', in the column entitled 'Date or version', 'Version 8, 2021' is replaced by 'Version 9.2, 2025'.

**Article II (transitional law)**

1. If, before the date of entry into force of this Regulation, a draft amendment to an environmental plan has been submitted for inspection or an application for an environmental permit for an out-of-plan environmental plan activity or an environmentally harmful activity has been submitted for which the site-specific risk has been calculated, Annex II to the Environmental Regulation, as it stood before the date of entry into force of this Regulation, shall continue to apply until the decision amending the environmental plan or the decision on the application for the environmental permit for the out-of-plan environmental plan activity or environmentally harmful activity is irrevocable.
2. Annex II to the Environmental Regulation, as it stood before the date of entry into force of this Regulation, shall continue to apply to the calculations referred to in Article 4.1115 of the Environmental Activities Decree [Besluit activiteiten leefomgeving], which the operator of a pipeline as referred to in Article 3.101(1), introductory phrase and points (b), (c) or (d) of that Decree carried out for that pipeline.

**Article III (entry into force)**

This Regulation shall enter into force on 1 January 2025.

This regulation and the explanatory notes shall be published in the Government Gazette.

STATE SECRETARY FOR INFRASTRUCTURE AND WATER MANAGEMENT – PUBLIC TRANSPORT AND ENVIRONMENT,

## EXPLANATORY NOTES

### 1. Introduction

This Amending Regulation designates a new version of the Safeti-NL calculation program and the related new version of the Calculation Requirement for Environmental Safety [Rekenvoorschrift omgevingsveiligheid] for calculating external safety risks of environmentally harmful activities designated in Annex VII to the Environmental Quality Decree [Besluit kwaliteit leefomgeving] (hereinafter: Bkl). The results of the risk calculations are used in decisions granting an environmental permit for an environmentally harmful activity or an out-of-plan environmental plan activity and decisions amending an environmental plan.

### 2. Reason for and background to the amendment

#### 2.1 Risk calculations with Safeti-NL calculation program and Calculation Requirement for Environmental Safety

The Environmental Regulation [Omgevingsregeling] prescribes the Safeti-NL calculation program and Calculation Requirement for Environmental Safety to be applied to carry out risk calculations for activities with external safety risks. Safeti-NL is a software package that allows risks to the environment to be identified on the basis of parameters introduced (chemicals used, containment systems in place, temperatures, pressures) and possible accident scenarios and probability of failure. This software is always used in conjunction with the Calculation Requirement for Environmental Safety, which prescribes how the package must be used. The set of software package and calculation requirement is referred to in these explanatory notes as 'the calculation tool'.

#### 2.2 Mandatory risk calculations

Risk calculations are carried out specifically to calculate the site-specific risk and the focus area<sup>1</sup> for group risk assessment to the extent required by the Bkl, the Environmental Activities Decree [Besluit activiteiten leefomgeving] (hereinafter: Bal) and the Environmental Regulation. The Bkl lays down instruction and assessment rules for the competent authority in, inter alia, Article 5.8(1), introductory phrase and point (c), Article 5.11(4), Article 5.13(1), introductory phrase and point (b), Article 8.10a(2) and Article 8.12(3), for which the calculation tool is relevant. These instruction and assessment rules relate to decisions establishing an environmental plan or decisions granting an environmental permit for an out-of-plan environmental plan activity or an environmentally harmful activity. In addition, the calculation tool should also be used by the person submitting an application for an environmental permit for an environmentally harmful activity with external safety risks. For these environmentally harmful activities, rules have been laid down for this purpose in the Environmental Regulation (Article 7.22a(2), in conjunction with Article 4.11, introductory phrase and point (a), and Article 4.12(1) of the Environmental Regulation). For the operator of a pipeline containing dangerous substances, the Bal lays down rules for calculating the site-specific risk and focus areas (Articles 4.1112, 4.1113 and 4.1115 of the Bal, in conjunction with Article 4.10 of the Environmental Regulation). Calculations do not have to be made in all cases. For a number of activities, the Bkl has fixed distances.

#### 2.3 New scientific insights

In the Environmental Regulation, the Safeti-NL software package, version 8, edition 2021 (which is Safeti-NL, version 8.3) was designated. Since the release of version 8.3 of Safeti-NL in 2021, new scientific insights have been incorporated into the software package and this amendment designates a new up-to-date version of Safeti-NL. The related Calculation Requirement for Environmental Safety has also been brought into line with the new software and updated. The introduction of the modified calculation tool allows a different outcome to be calculated as a result of new scientific insights even in situations where there have been no changes in the environmentally harmful activity. Especially if this concerns the site-specific risk, there may be consequences. This may be the case, in any case for high-threshold Seveso establishments for which, even in the absence of a change in operation, the operator is required to issue a safety report every 5 years, covering the risks of the operation to the environment.

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<sup>1</sup> A focus area shows where people in a building cannot be sufficiently protected from the consequences of accidents involving dangerous substances without additional measures.

## 2.4 Consequence study of new versions for site-specific risk

In order to understand the possible differences occurring due only to changes in the calculation tool (software package and calculation requirement), a consequence study was carried out by AVIV<sup>2</sup> at the request of the RIVM, both for companies handling dangerous substances and for operators of pipelines containing dangerous substances.<sup>3</sup> The study highlights the differences between the results of calculation using the new calculation tool and the previously prescribed calculation tools. The study focused on possible spatial consequences of the calculated site-specific risk. Vulnerable buildings and sites and very vulnerable buildings are subject to a limit value for the site-specific risk. The competent authority must comply with this limit value. This means that no (very) vulnerable buildings or sites may be present within a calculated site-specific risk contour of  $10^{-6}$  per year. The consequence study indicates whether, as a result of prescribing Safeti-NL 9.2, edition 2025, the site-specific contours change and (very) vulnerable buildings or sites fall within the new contour.

The study limited itself to identifying the consequences for the site-specific risk. The study did not consider the impact of the modified calculation tool on the focus areas. The reason for this is that a possible change in the focus area does not necessarily lead to consequences for a risk-causing activity. A focus area is an area within which the competent authority has room to consider whether or not to allow quite vulnerable, vulnerable or very vulnerable buildings, quite vulnerable or vulnerable sites, or environmentally harmful activities with external safety risks. In addition, the focus area rules have only been in force since 1 January 2024 and the calculations of the focus area are largely carried out with a version of Safeti-NL (version 8.8), which was also applied in the consequence study.

Although the amendment to the Environmental Regulation designates version 9.2, edition 2025, it is (almost) identical in substance to version 8.8. The differences relate in particular to improvements in ease of use. However, errors in the software can still be fixed after the consequence study. Minor modifications can also still be made with a limited change in the contour (less than 10 % in area). The RIVM<sup>4</sup> reports that if the calculated contours are extrapolated with version 8.8 to a 10 % larger area, one vulnerable building will fall within a contour. On the basis of this finding on the consequences, it is considered that the introduction of a new version is justified.

## 2.5 Results of consequence study on environmentally harmful activities

In the light of the understanding of the changes made by the supplier to version 8.8 compared to version 8.3, it was assessed which types of companies should in any case be part of the consequence study. The most relevant amendments concerned:

- an improved heavy gas model
- Miller torch model (relevant for hydrogen)
- (limited) modified properties in substance database (physical/chemical, toxicity).

As a result of these amendments, relevant sample substances were selected and Seveso establishments and other environmentally harmful activities where these substances are used were selected. The study included 59 companies. For 40 companies, a potential impact is not excluded because these companies were specifically selected for possible sensitivity to the adjustments made in Safeti-NL. This concerns environmentally harmful activities involving application of the following substances: chlorine, LNG, ammonia, phosgene, hydrogen, propylene oxide, methanol, 1,3-butadiene and PGS 15 warehouses. The remaining 19 companies were selected at random.

Looking only at the change in the area within the contour, it can be established that for two thirds of the companies studied, the area of the contour is reduced or remains the same compared to the contour when using version 8.8. One third of the companies studied (19 companies) showed an increase in the area within the contour.

The change in area is an indication of the sensitivity of the calculations due to the adjustments in

<sup>2</sup> A consultancy and knowledge institute specialising in external safety issues.

<sup>3</sup> AVIV No 235557, July 2024.

<sup>4</sup> Letter ref. VLH-2024-0049, 24 July 2024.

the calculation tool. However, it does not say directly whether this also has an impact on spatial planning. This will only happen if the area within the contour increases and (very) vulnerable buildings or sites are present or allowed within the new contour. The 19 companies may potentially have new (very) vulnerable buildings or sites within the contour. In such a case, measures must be taken at the source or, as a last resort, the environmental plan must be adapted for the building or site in question. One vulnerable building was found to fall within a newly calculated contour.

## 2.6 Results of consequence study for pipelines other than high-pressure natural gas pipelines

In most of the calculated pipelines containing dangerous substances other than natural gas, no significant difference in site-specific risk was found between Safeti-NL version 8.3 and version 8.8. Only with hydrogen is the site-specific risk reduced. This therefore leads to a decrease in the area of the calculated contour for the calculated pipelines.

To calculate the contours of high-pressure natural gas pipelines, Safeti-NL is not used for the time being, but the software program Carola. That software program was not modified, so there was no need to carry out a consequence study for high-pressure natural gas pipelines.

## 3. Content of the amendment

The above resulted in an amendment of Annex II to the Environmental Regulation. In the designation of the Safeti-NL calculation program, version 8, edition 2021 was replaced by version 9.2, edition 2025.

In addition to a new version of Safeti-NL, a new version of the Calculation Requirement for Environmental Safety was also designated: the October 2020 version was replaced by the January 2025 version. The Calculation Requirement for Environmental Safety consists of different parts (modules) corresponding to the specific characteristics of activities. Most of the adaptations in Modules I, II and V of the Calculation Requirement for Environmental Safety are linked to the new version of Safeti-NL. Modules I and II of the Calculation Requirement for Environmental Safety relate to the performance of calculations for activities with external safety risks as referred to in Chapter 3 of the Bal, other than pipelines containing dangerous substances or wind turbines. Module V of the Calculation Requirement for Environmental Safety relates to the performance of calculations for pipelines containing dangerous substances as referred to in Article 4.1108 of the Bal. For the purpose of calculating external safety risks of wind turbines, Module IV of the Calculation Requirement for Environmental Safety, version October 2020, has been adopted unchanged in the version of January 2025. Any change to the designation of Module IV will take place in conjunction with the Wind Turbines Environment Decree [Besluit windturbines leefomgeving] which is under preparation.

A number of mainly editorial changes were also made to the Calculation Requirement for Environmental Safety due to uncertainties experienced by users. In addition, Module V of the Calculation Requirement for Environmental Safety takes into account future developments on the hydrogen network. The previous version (October 2020) of the Calculation Requirement for Environmental Safety did not include a provision for the reuse of natural gas pipelines to transport hydrogen. Module V now also provides calculation requirements for the transport of hydrogen through natural gas and chemical pipelines.

Paragraph 1 of Article II provides that the application of the new versions of the calculation tool is mandatory only for new situations and does not apply to applications for an environmental permit for environmentally harmful activities or out-of-plan environmental plan activities for which an irrevocable decision has not yet been taken. Similarly, the new calculation tool does not apply to a decision amending an environmental plan which has not yet become irrevocable.

It follows from paragraph 2 of Article II that the operator of a pipeline containing dangerous substances must adapt the results of the calculations which they must have available on the basis of current and authentic data in accordance with Article 4.1115 of the Bal only on the next change in the operation of the pipeline. These are the results of the calculations of:

- a. the distance from the pipeline to where the site-specific risk does not exceed 1 out of 1 000 000 per year; and
- b. the distance for the fire focus area, explosion focus area and toxic cloud focus area, as referred to in Article 5.12 of the Bkl.

## 4. Impact

#### 4.1 Administrative burden

This amendment does not affect the extent of the administrative burden of an application for an environmental permit for an environmentally harmful activity. Even now, calculations must be made as a submission requirement for an application for an environmental permit. The application of the revised calculation tool does not entail any additional burden. The substantive basis of the calculation tool is unchanged.

#### 4.2 Impact on business

This amendment has no significant impact on business. The above-mentioned study on the consequences of the revised Safeti-NL calculation program shows that the impact on business is zero or negligible because there is only one case where a company may need to take measures to mitigate the impact of an increased contour on (very) vulnerable buildings or sites.

For companies and operators of pipelines, application of the new calculation tool is only mandatory for new situations (application for environmental permit for environmentally harmful activity or out-of-plan environmental plan activity; construction or replacement of a pipeline; modification of the operation of a pipeline). For Seveso establishments for which a safety report is required, the updated calculation tool must be applied at the next update of the report.

For pipelines, any changes to the risk contour and any necessary measures can be taken into consideration in the planning.

Users of Safeti-NL must apply for a sublicense from the RIVM on an annual basis. This involves costs. The introduction of a new version does not lead to additional costs.

#### 4.3 Impact on the environment

The updated calculation program brings external safety risk calculations into line with the latest information. This improves the timeliness of regulation in the field of external safety and a balanced allocation of functions to sites with a view to ensuring safety.

### 5. Consultation

#### 5.1 Advisory Board on Regulatory Burden (ATR)

The Dutch Advisory Board on Regulatory Burden (ATR) has (not) selected this case for a formal opinion because it is expected to have (no) significant impact on regulatory burden.

#### 5.2 Online consultation

An online consultation took place from (date to date PM). As a result, (PM) responses were received. These have (not) led to (the following) adjustments (PM).

### 6. Notification of technical regulations

The draft of this Amending Regulation was notified in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (OJ L 241, 2015). Notification (No PM) was made because of Article I of the Amending Regulation designating new versions of Safeti-NL and the Calculation Requirement for Environmental Safety respectively. Following the notification, (no) comments (from the European Commission/other Member States) were received. This has (not) led to (the following response and) adjustments. PM

### 7. Implementation and enforcement

In the absence of any new policy, a test on enforceability, feasibility and fraud resistance [HUF-toets] was not conducted. The adjustments made to the calculation tool are not of such a nature that an impact on feasibility and enforceability is to be expected. The competent authority is given the results of the calculations in a similar way as before and is used to assessing the results. As this is specialised work, implementation of the assessment was assigned to 6 (BRZO) Environmental Services.

## 8. Entry into force

This Order shall come into force on 1 January 2025. There is a derogation from the minimum introduction period of 3 months for the date of entry into force of the Regulation. To be able to use Safeti-NL, the Ministry of Infrastructure and Water Management concluded a contract with the supplier, inter alia, on the granting (by the RIVM) of sublicences to Dutch users. This contract expires at the end of 2024. A new contract for the supply of Safeti-NL version 9.2 from 1 January 2025 was concluded with the current supplier (following a tender procedure). Sublicences may be issued for this version. In view of the target group, derogation from the introduction period is justified because it prevents significant undesirable public and private disadvantages (Instruction 4.17(5)(a) of the Instructions for Legislation [Aanwijzingen voor de regelgeving]).

STATE SECRETARY FOR INFRASTRUCTURE AND WATER MANAGEMENT – PUBLIC TRANSPORT AND ENVIRONMENT,