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Deciding on land use planning – Management of QRA instruments

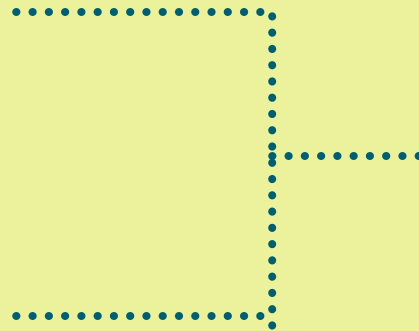


RIVM's position

- An agency of the Ministry of Health, Welfare and Sports (VWS)
- Customers: mainly the Ministries of VWS, VROM (environment) and LNV (nature conservation, food & consumer safety)



Responsibility in policy-making



Independent research and implementation

environmental incidents



substances

ecological risks



expertise

radiation



FT 01

external safety



measurements



intoxications



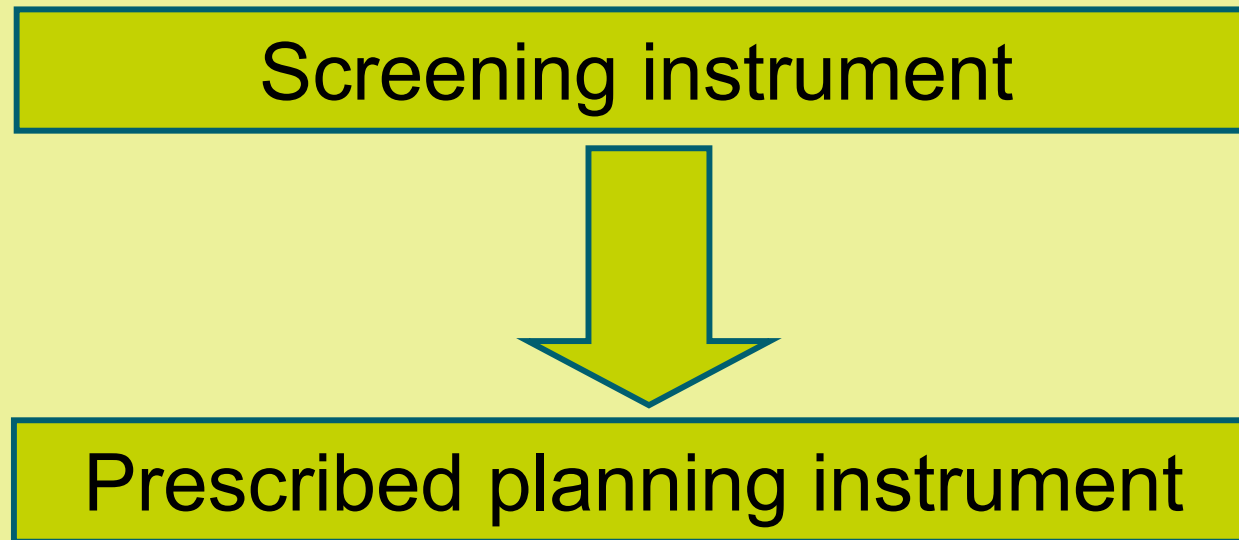
environment & health



rivm

RID WG Standardized Risk Analysis, 2008

QRA-model: a change in position



Legal foundation risk criteria

- Goal: decide on an acceptable distance between an activity with dangerous substances and a populated area
- Location based risk gives minimum level of protection
 - limit value 10^{-6} per year
 - to be used for licensing and spatial planning
 - status: legal limit value
- Societal risk: legal accountability obligation
 - possibilities of people killed or injured
 - possibilities of material damage
 - possibilities of accident control
 - available safe alternatives



Political consideration of the risks versus social benefits and costs

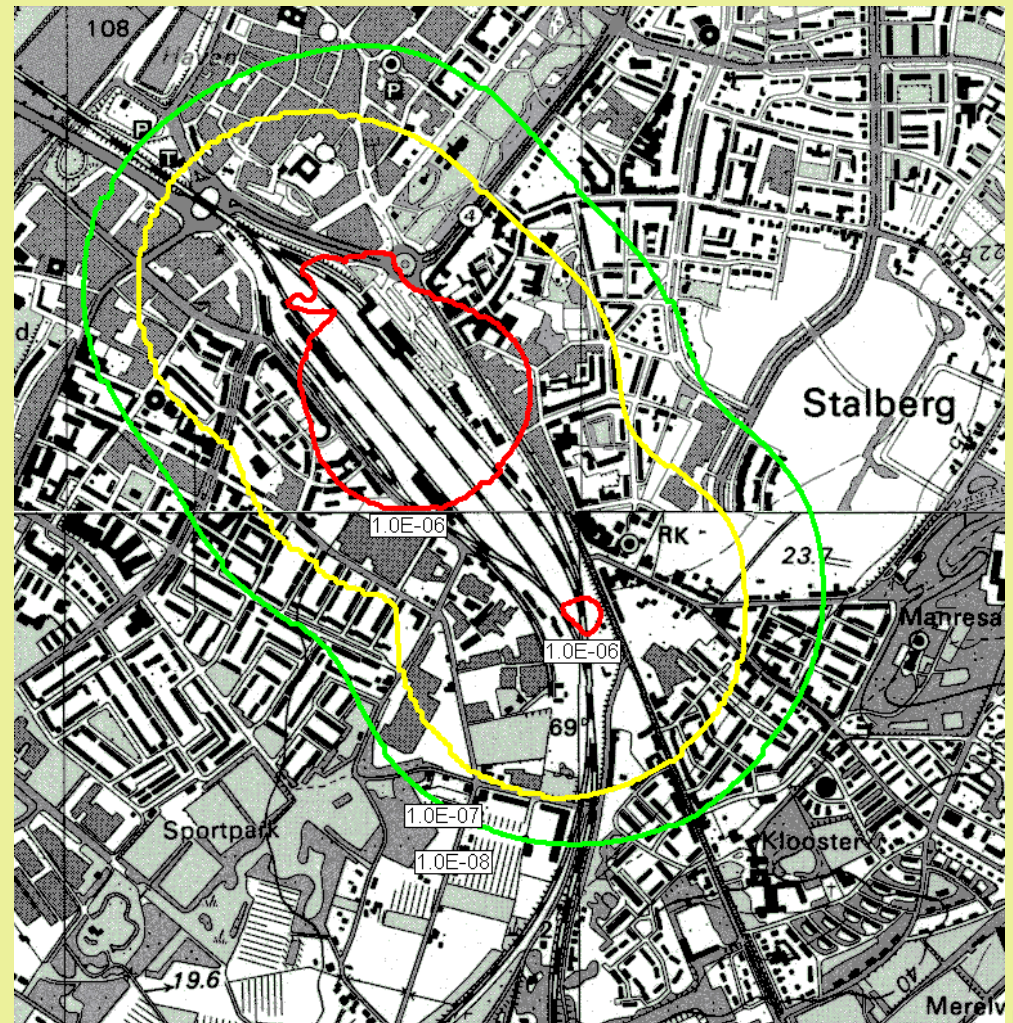
Legal basis of risk criteria



Land Use Planning based on calculated risks



Stern demands on the QRA instrument

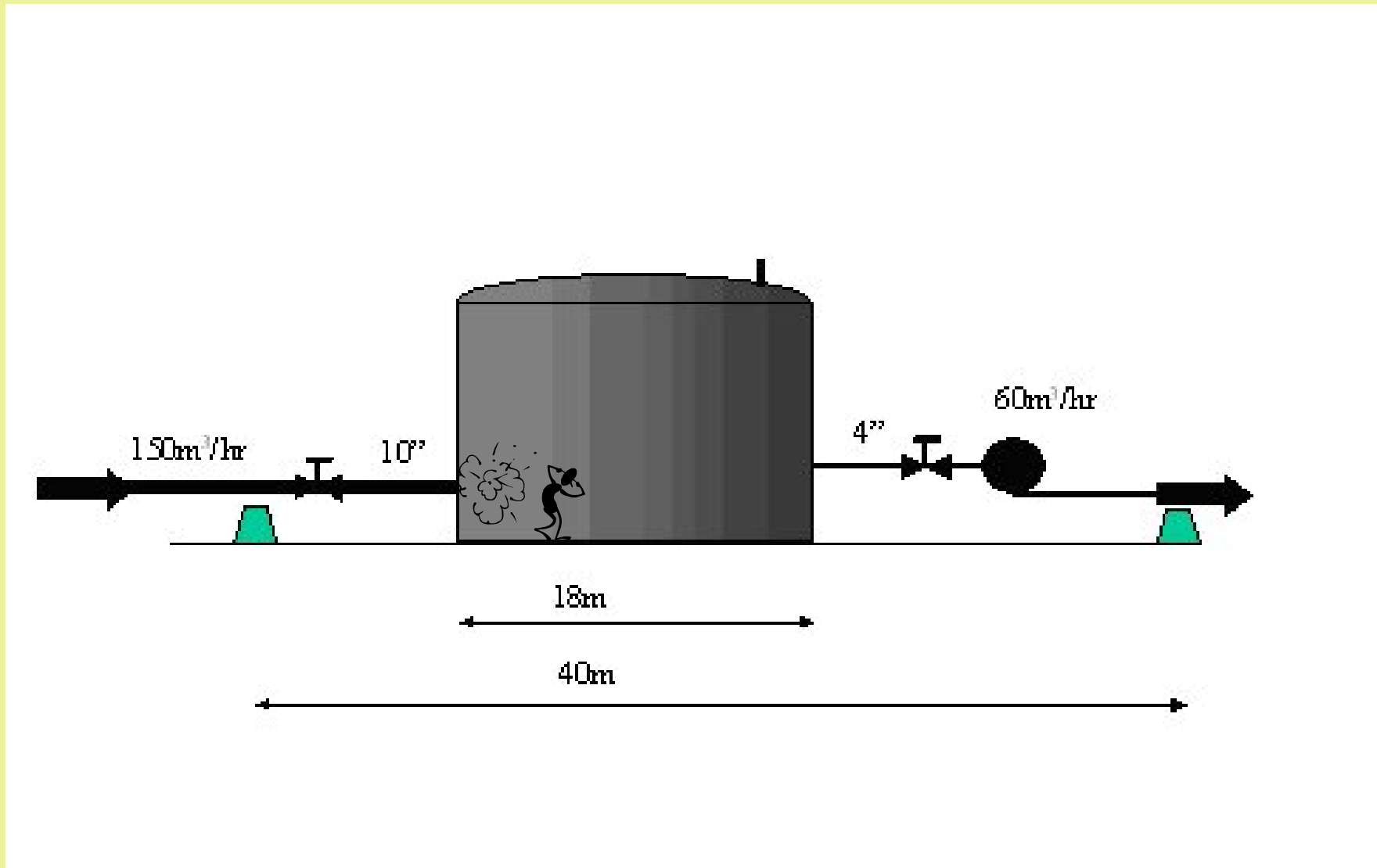


The past - basis for QRA calculations

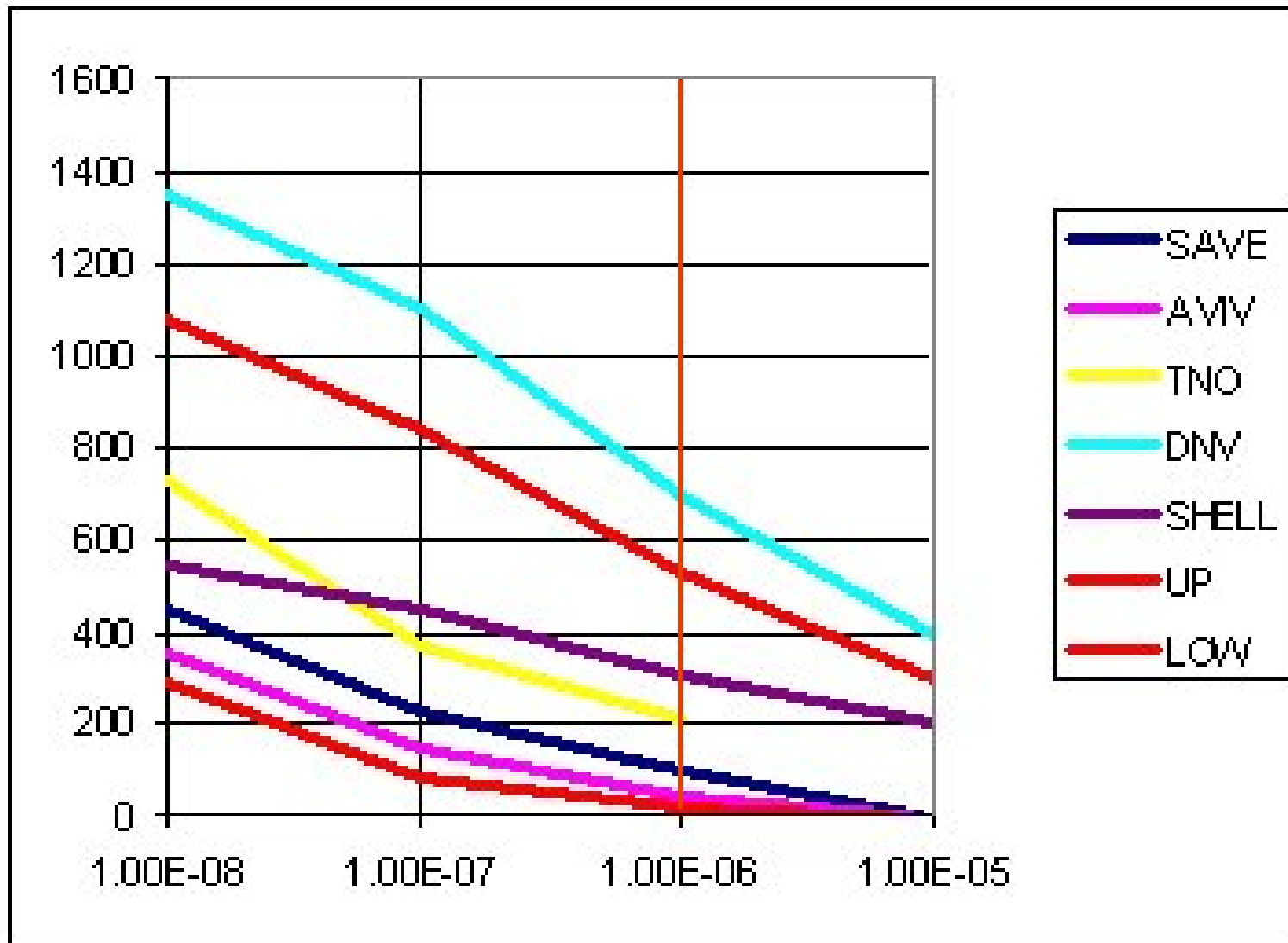
- Guidelines
- Limited number of models
- Benchmark ...



Benchmark Risk Analysis Models (2001)



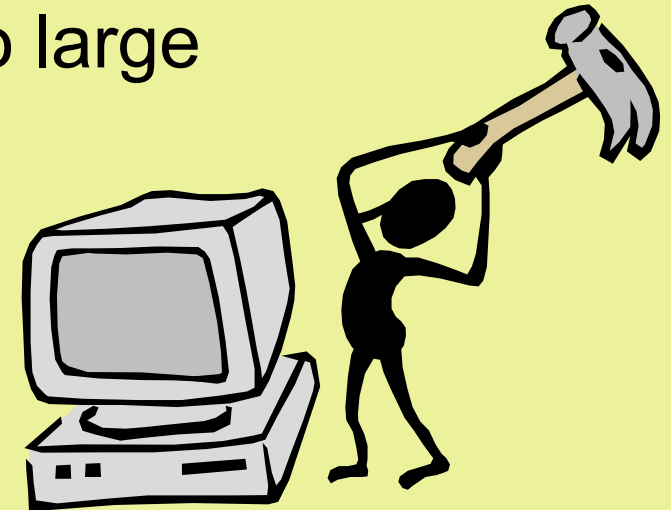
Results benchmark



Conclusions

- Problems

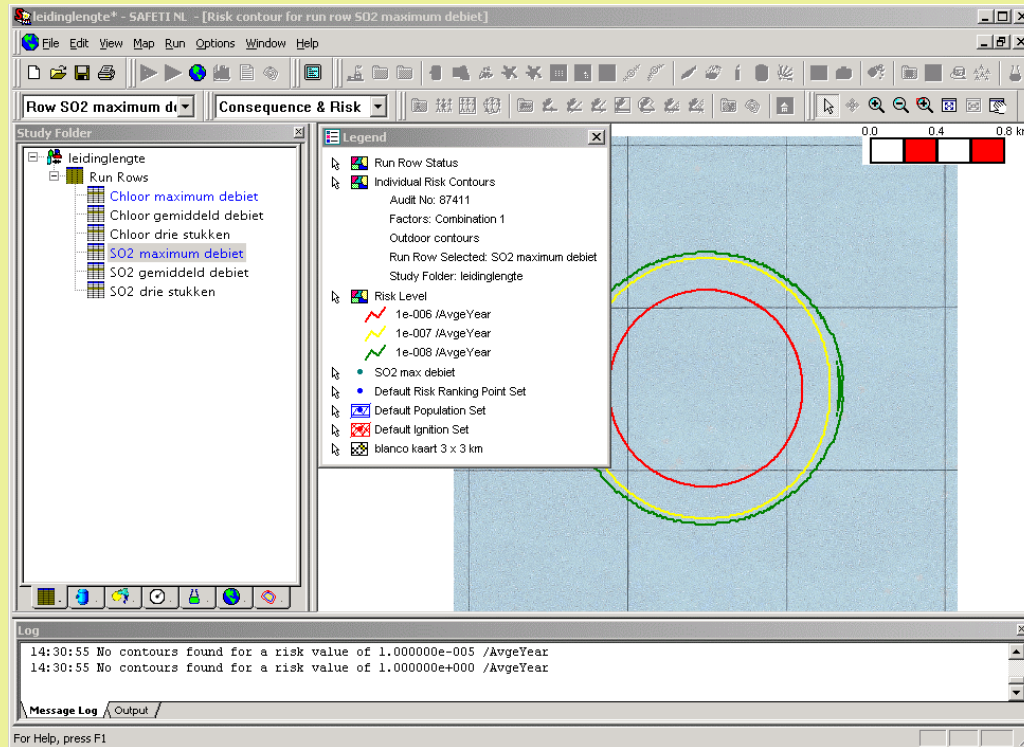
- Difference in model results too large
- Results not transparent
- Results not verifiable



- Solution

- Prescription of one software tool
- Modification of the Guideline (Purple Book)

SAFETI-NL and RBM II

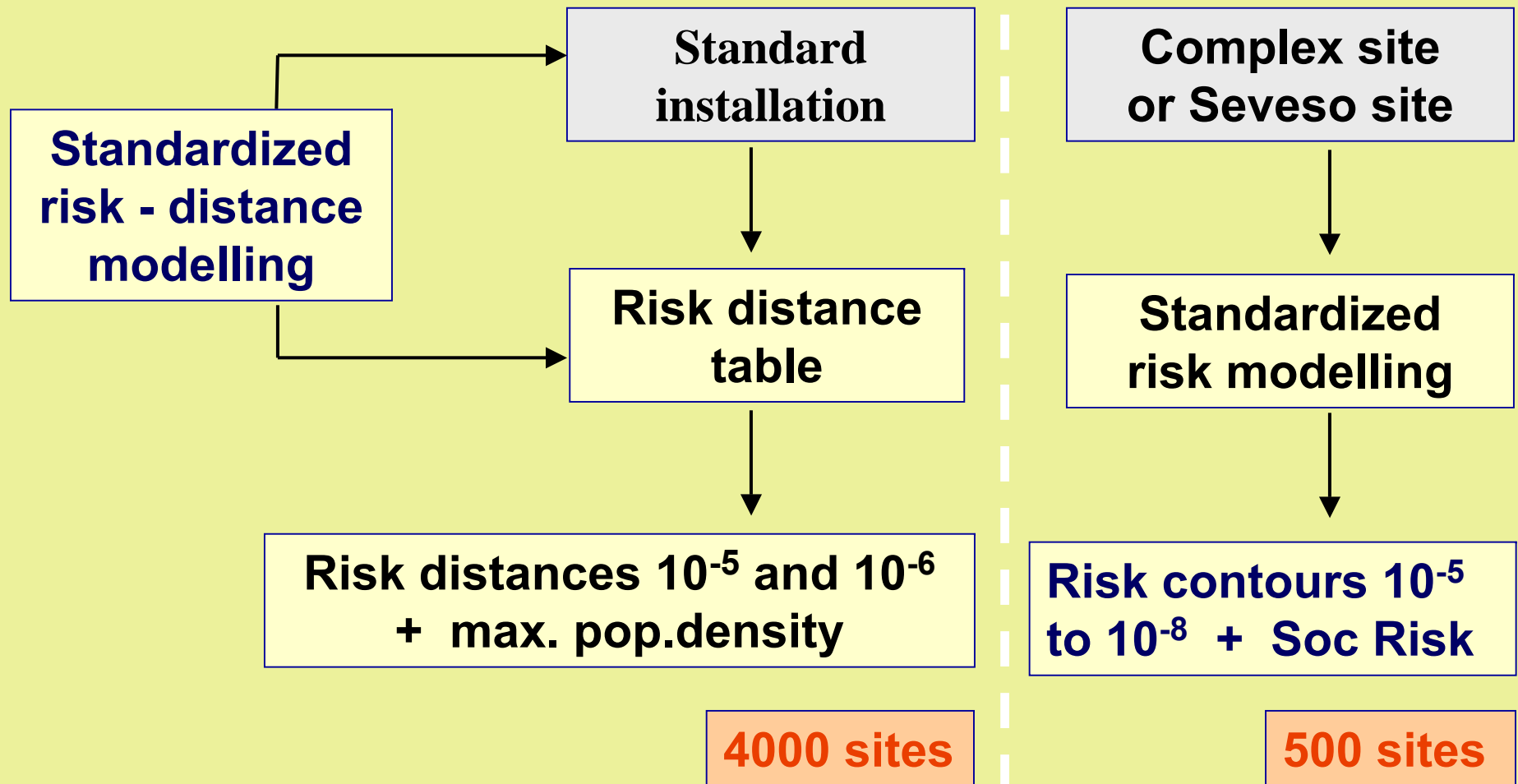


Legal standard since 1-1-2008



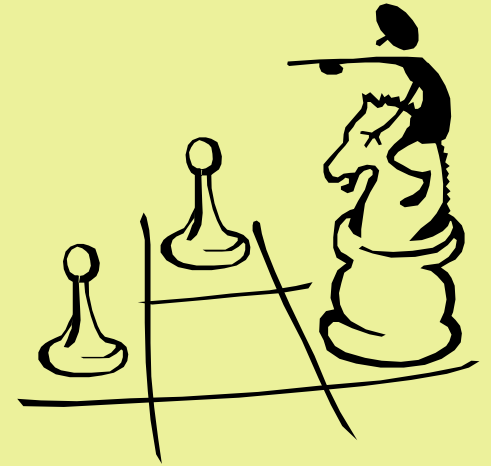
Appointment envisaged (NVGS)

Safety distances and QRA's



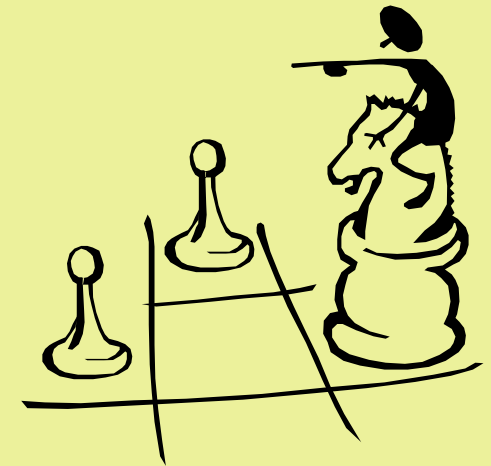
Structured Model management

- Continuous improvement of models
- Model changes may have large implications
- Management structure needed for implementation of new models



Management requires ...

- Consistency in assessment of risk analyses,
e.g. by reviewing assessments

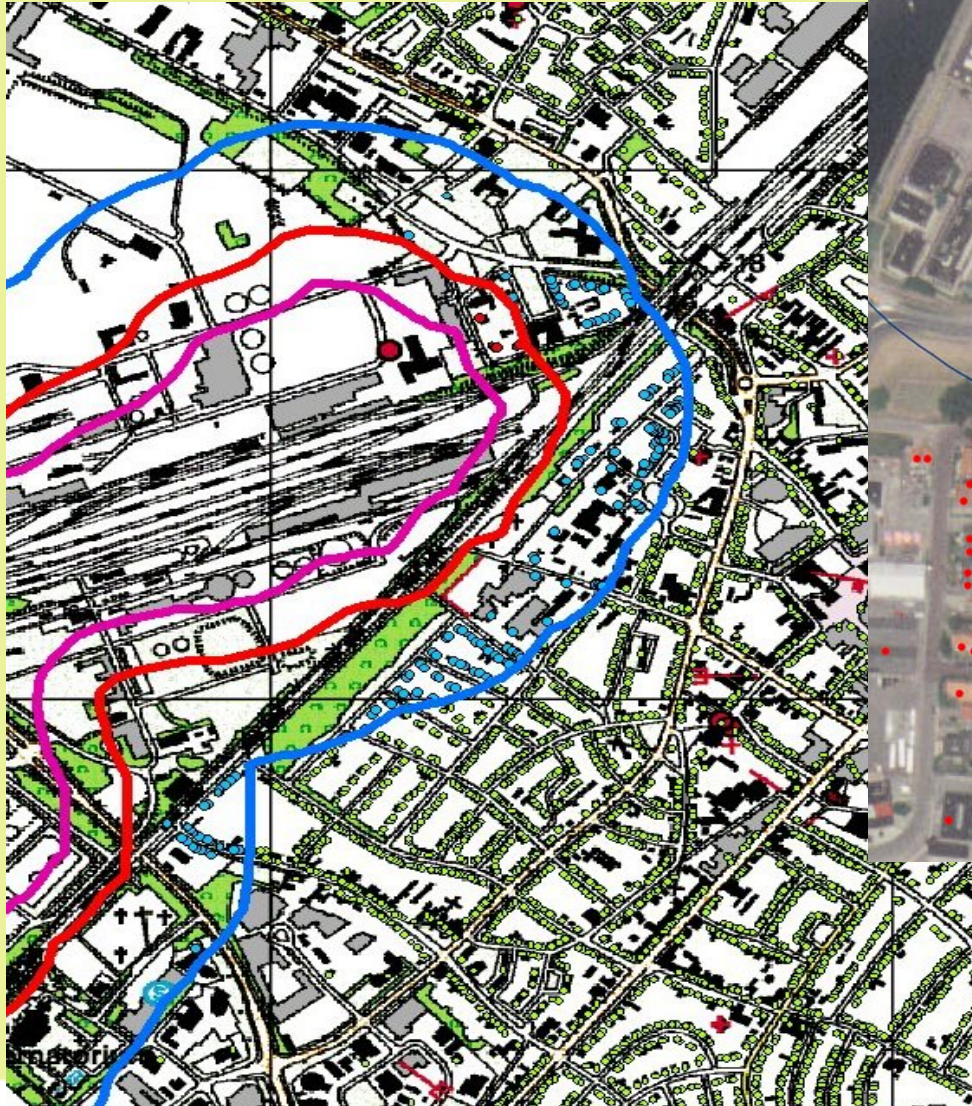


- Consistency in everyday advises on starting points and in support of consultants,
e.g. by a documented helpdesk

- Increased consistency within and between models

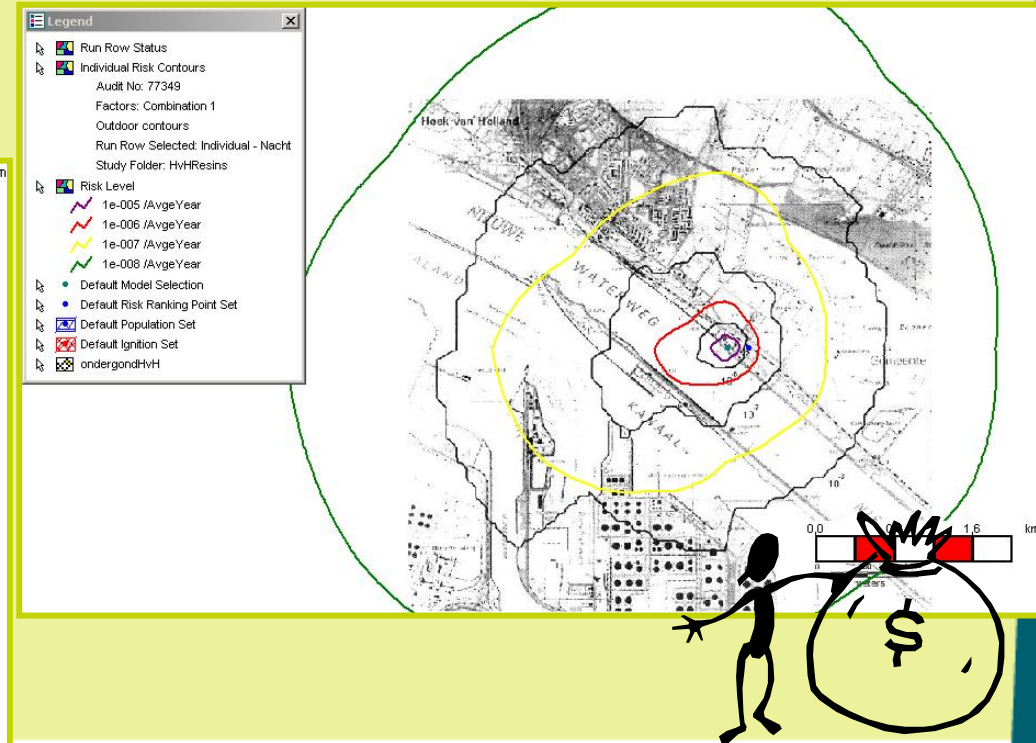
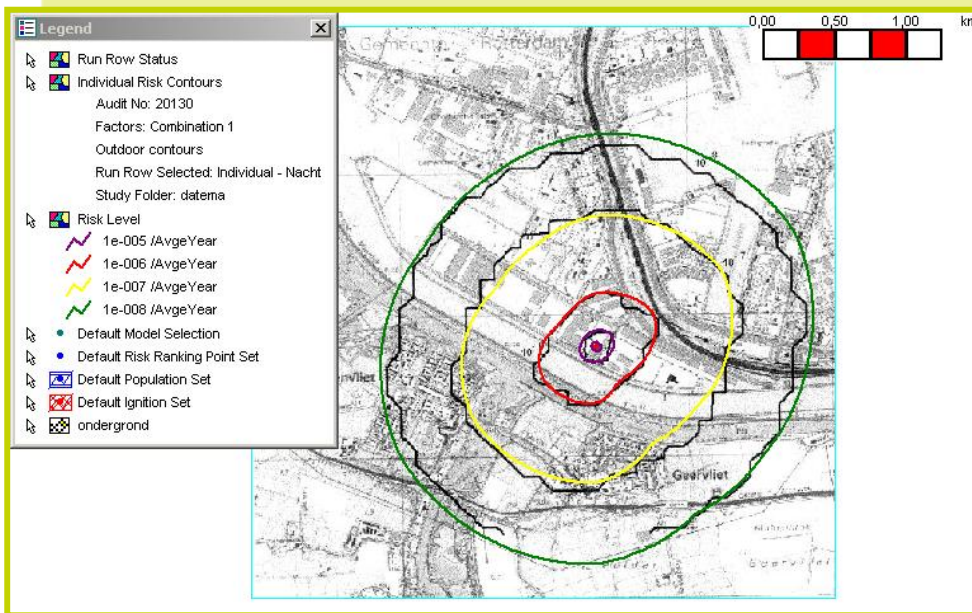
- Management of change
intended to increase the 'realism' of the instruments

Before introduction: Consequences



Advantages of consequence analysis

- Results are transparent
- Differences traceable to input



Balance between robustness ↔ specificity

- Robustness

- Goal: always the same outcome
- By: restricted input

- Specificity

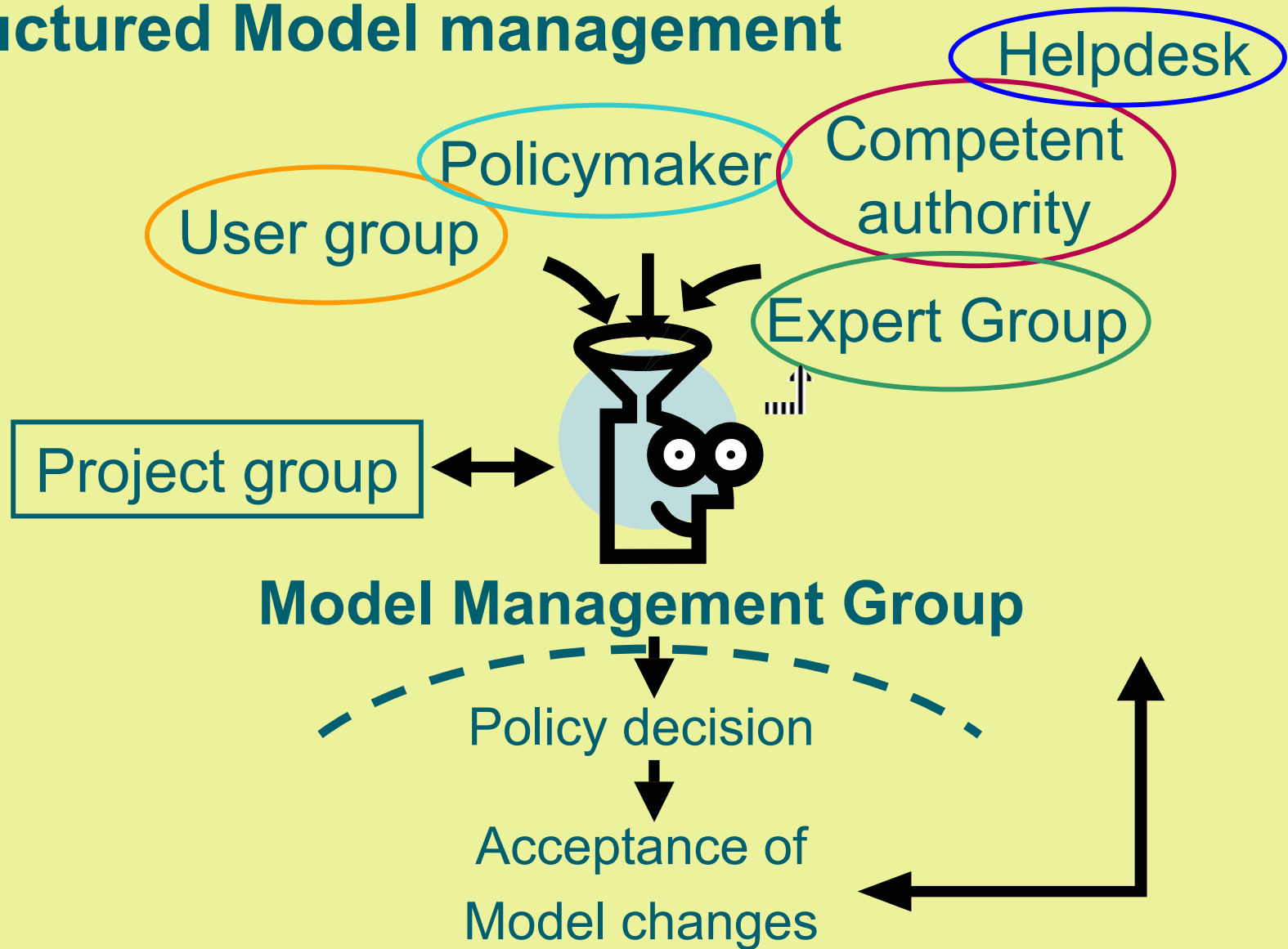
- Each establishment has unique properties...
- Freedom in input?

- Result

- Limited freedom in input
- Uniformity in output



Structured Model management



Probits

- Probits derived as described in the 'Green book'
- Probit relations established for limited number of substances
- Procedure
 - Commission of experts gives advise on submitted proposals / proposes
 - Inventory of consequences is made
 - Submitted for decision > VROM

Use and support: Safeti-NL / RIVM

- User group
 - >325 licences
 - >250 course members of >125 organisations
- Helpdesk
 - ~ 1900 questions within 18 months
- Website
 - for updates, FAQs, protocols, PSU-files, news, ...



A screenshot of the RIVM Milieuportaal website. The page features a green header with the RIVM logo and a navigation bar. The main content area is divided into sections for 'Onderwerpen' (Topics), 'Modellen' (Models), and 'Nieuws' (News). The 'Onderwerpen' section lists 'Stoffen', 'Straling en EM velden', 'Geluid', 'Water', 'Bodem', 'Lucht', 'Binnenmilieu', and 'Veiligheid'. The 'Modellen' section highlights 'SAFETI-NL' and mentions it was last updated on 01 februari 2008. The 'Nieuws' section includes a bullet point about the new version of SAFETI-NL (6.53) released on 21 december 2007. The right sidebar contains 'Informatie' with links to 'Beveiligde pagina SAFETI-NL', 'Handleiding Risicoberekeningen Bevi', and 'SAFETI-NL introductiecurssussen [PDF, 38 KB]'. A search bar and a dropdown menu for 'Milieuportaal' are also visible.



Use and support: RBM II / Bouwdienst

- User group
>600 users registered
- Helpdesk RBMII
~ 600 questions since 2005
- Website
- for updates, FAQs, protocols, examples, news, ...

A screenshot of the RBM II website. The header shows the logo of the 'Ministerie van Verkeer en Waterstaat' and a background image of a highway with a truck. The main content area is divided into two columns. The left column is a blue sidebar with a white background, containing a list of navigation links: 'Probleem RBMII opgelost', 'Wat is RBMII', 'Beleid', 'Toepassing', 'Werking RBMII', 'Helpdesk', 'Publicaties', 'Veelgestelde vragen', and 'Voorbeeldberekeningen'. The right column has a white background and contains the following text: 'Home', the 'RBM II' logo (with 'RBM' in black and 'II' in red), and the text 'Rekenprogramma voor de externe veiligheidsrisico's van het vervoer van gevaarlijke stoffen.' Below this is a section titled 'Nieuws en mededelingen' with a sub-section 'Problemen in RBMII v 1.2.1 opgelost' and a paragraph of text: 'De in maart uitgebrachte versie van RBMII had een probleem met de invoer van bevolk een nieuwe versie van RBMII is beschikbaar. [lees meer...](#)'

Standard QRA models: profit gained?

- +Verifiable, reproducible results
- +Transparency
- +Growing conformity between transport & establishments
- +Less susceptible to the 'polishing' of risk estimates
- Competent authorities: expertise still required!!
- Complexity: legislation based on sophisticated calculations
- Management of change

