

# ECRI meeting 04 december Clients approach on risks for Infrastructure Projects

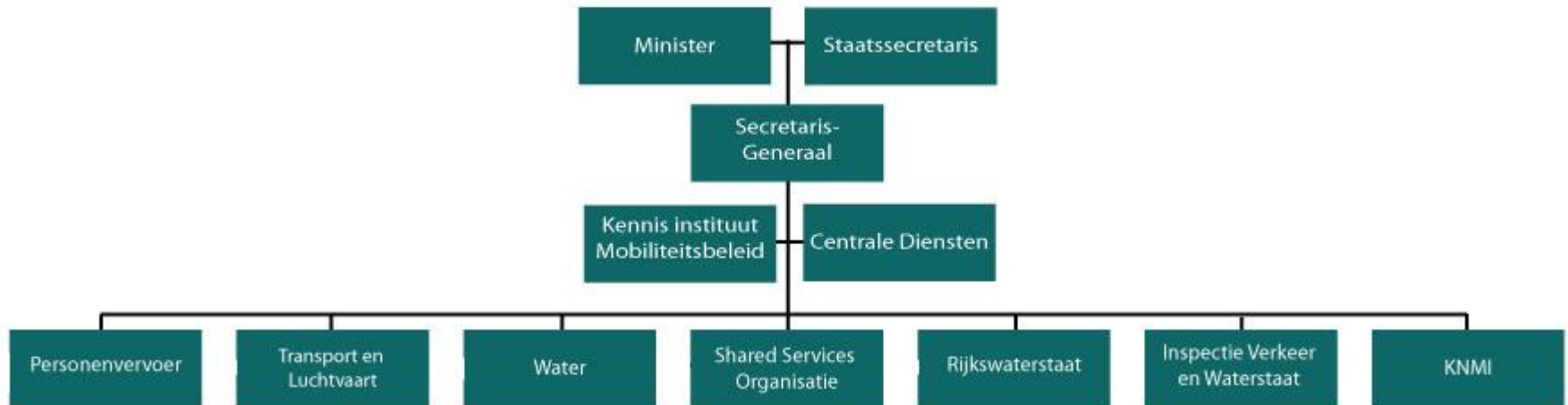
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12/20/2007

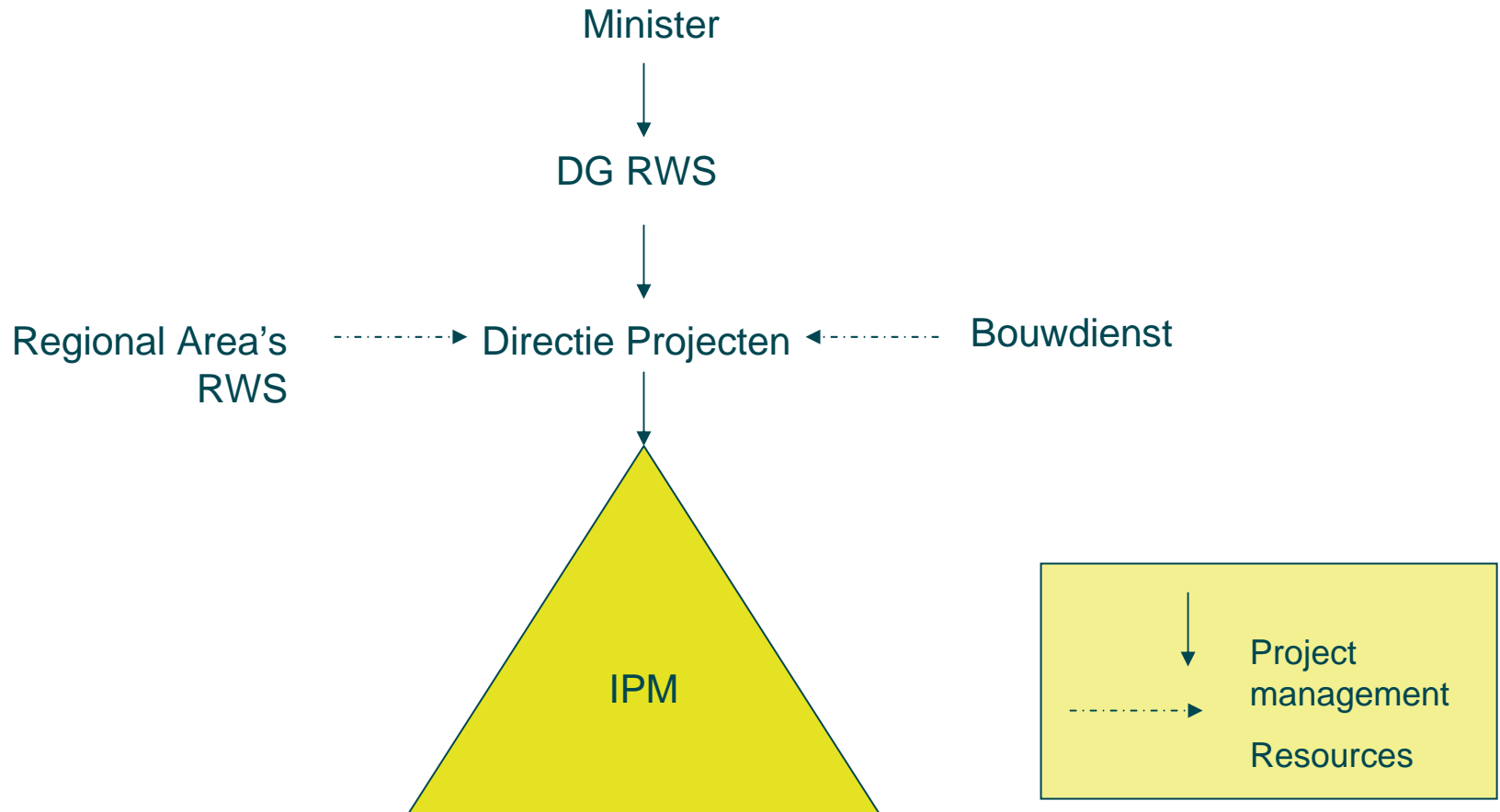


Rijkswaterstaat

# Organisation Min Public Works and Water management



# Owners line of management for larger projects



# Risk management RWS

*RWS acknowledges risk management as a proven method that in a structured way connects all related risks to completing her organisational goals are timely brought forward and controlled.*

*RWS continuously works on reducing her risk profile by taking adequate steps and measures to control the major risks.*

(Bron: SDG C&T)



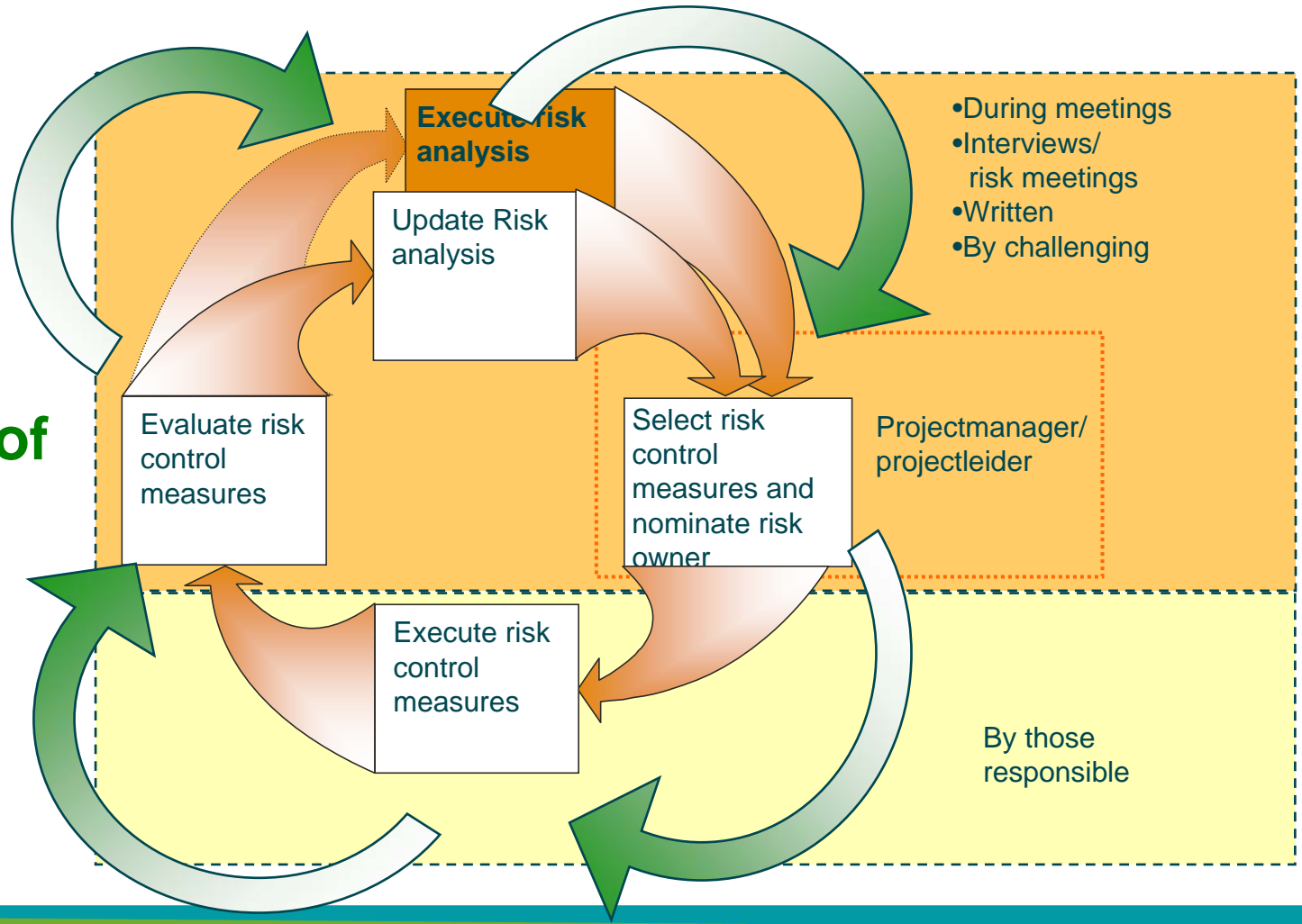
# Risk management in projects;

- ▶ Every project must make a risk analysis
  - ▶ Every project has a risk manager
  - ▶ To support this there has been 1 year of risk ambassadors
  - ▶ Risk database is standard within RWS
  - ▶ Every project phase the risk database must be updated
  - ▶ Project forecast includes risks and measures to control them
  - ▶ External Stakeholders risks are included in the RWS database
- 
- ▶ So why does it frequently still go wrong !!!

# What is risk management about?

**Periodically:  
challenging of  
the process.**

**By risk manager or  
external expert.**



# Definitions (1)

## Risk:

An event that possibly might happen with consequences in cost, time and or quality.

- ▶ characteristic: uncertainty
- ▶ appearance:
  - ▶ typical event
  - ▶ special event
- ▶ uncertainties: Known, Not foreseen, Unknown
- ▶ political risks are not included
- ▶ Infrastructure means working for and with the public

# Definitions (2)

## Endogeen vs Exogeen

### ▶ ENDOGEEEN RISK

- ▶ Risk that can only be handled or controlled within the own organisation and responsibility can not be transferred (seen from the reporting position).

### ▶ EXOGEEN RISICO

- ▶ Risk that can be handled or controlled outside the own organisation and where responsibility can be transferred.

Why this definition exogeen-endogeen

- 1) To establish which type of risks are included in the project forecast and which do not.
- 2) Both corporate and project use the same risk approach, meaning there is not an overall risk budget within RWS.



# Risk analysis vs. Risk management

## ▶ **Risk analysis:**

- ▶ Single purpose
- ▶ Aimed at inventory of risks to get an insight in size, connection and priorities of risks
- ▶ Beginning of risk management process
- ▶ Not the same as risk control

## ▶ **Risk management:**

- ▶ Repetitive process
- ▶ Aimed at controlling of risks
- ▶ Includes (usually) more as one risk analysis
- ▶ Will serve more than a single purpose within the project
- ▶ Should become part of project management process

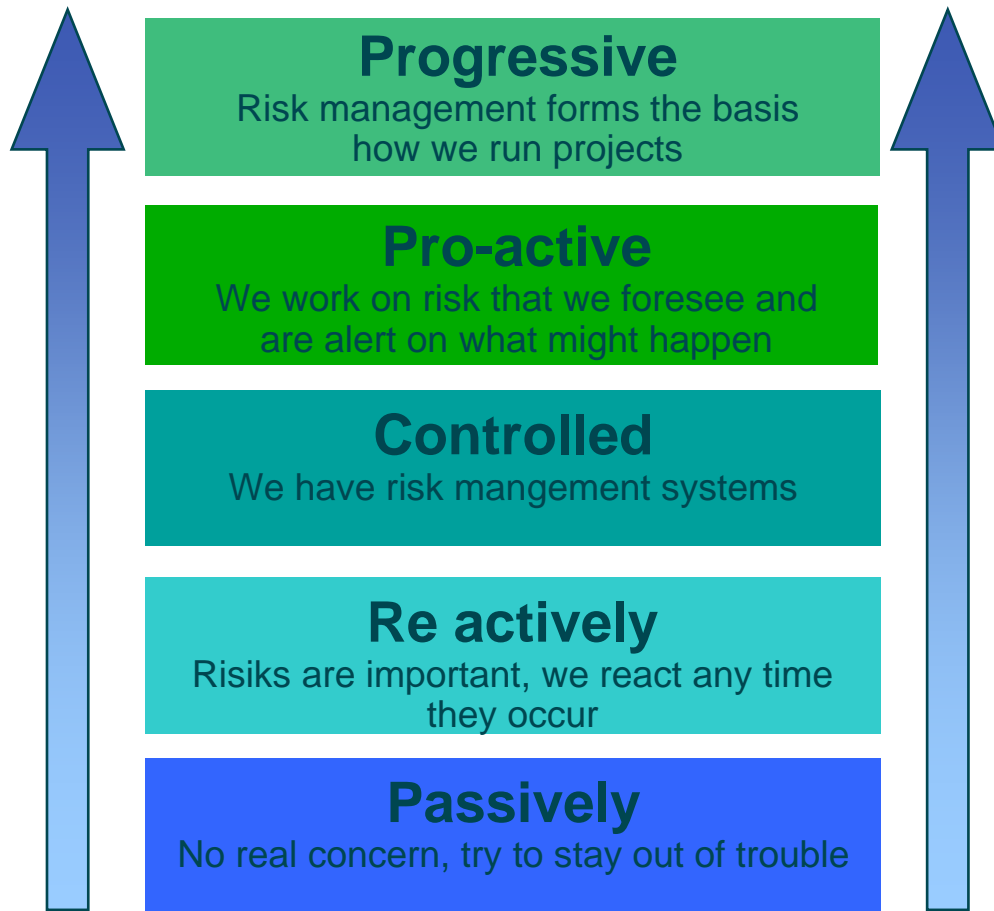


# Goals for risk management in projects

- ▶ To control the project (with us that starts at plan study level)
  - ▶ Bye pro actively dealing with risks
  - ▶ When making choices to have awareness of the different risks related to the choices (very difficult when politics are involved)
- ▶ To connect the stake holders risks with the contract requirements
- ▶ To foresee the major risks related to the type of contract
- ▶ To ensure that adequate information is available at tendering related to the established risk items
- ▶ To share the major risk items with the contractor(s)
- ▶ To reduce the risk profile



# Development Risk Management within RWS



Where are we at  
present?

What is achievable?



# Risicomanagement KOSMOS

Traverse – Community of Practice Risicobeheer

12/20/2007



Rijkswaterstaat

# Risk management for KOSMOS

Risk management used at three levels:

- ▶ **Project control:** management and coordination of risks based on work break down, risk sessions
- ▶ **Risk controlled tendering:** agenda and content of competitive dialogue set by risk approach, tender offer and appreciation based on contractors proposal how to deal with risks
- ▶ **Contract control:** control and coordination based upon risks, at WBS level; risk analysis leading to how external and internal work procedures are set up

# Tendering process

- ▶ Contract scope intake: Division of responsibility made by contractors in tender versus RWS to ensure scope of work and to establish uncertainty on defined scope items.
- ▶ Competitive dialogue: Risks are explicitly divided between contractor and RWS.
- ▶ EMVI (selection/award criteria): Remaining risk items and levels are for each tenderer weighed and included in the appreciation of the tender.
- ▶ Analysis major risks items: At tendering; scope of work documents are made by contractors to detail risk control for major risk topics

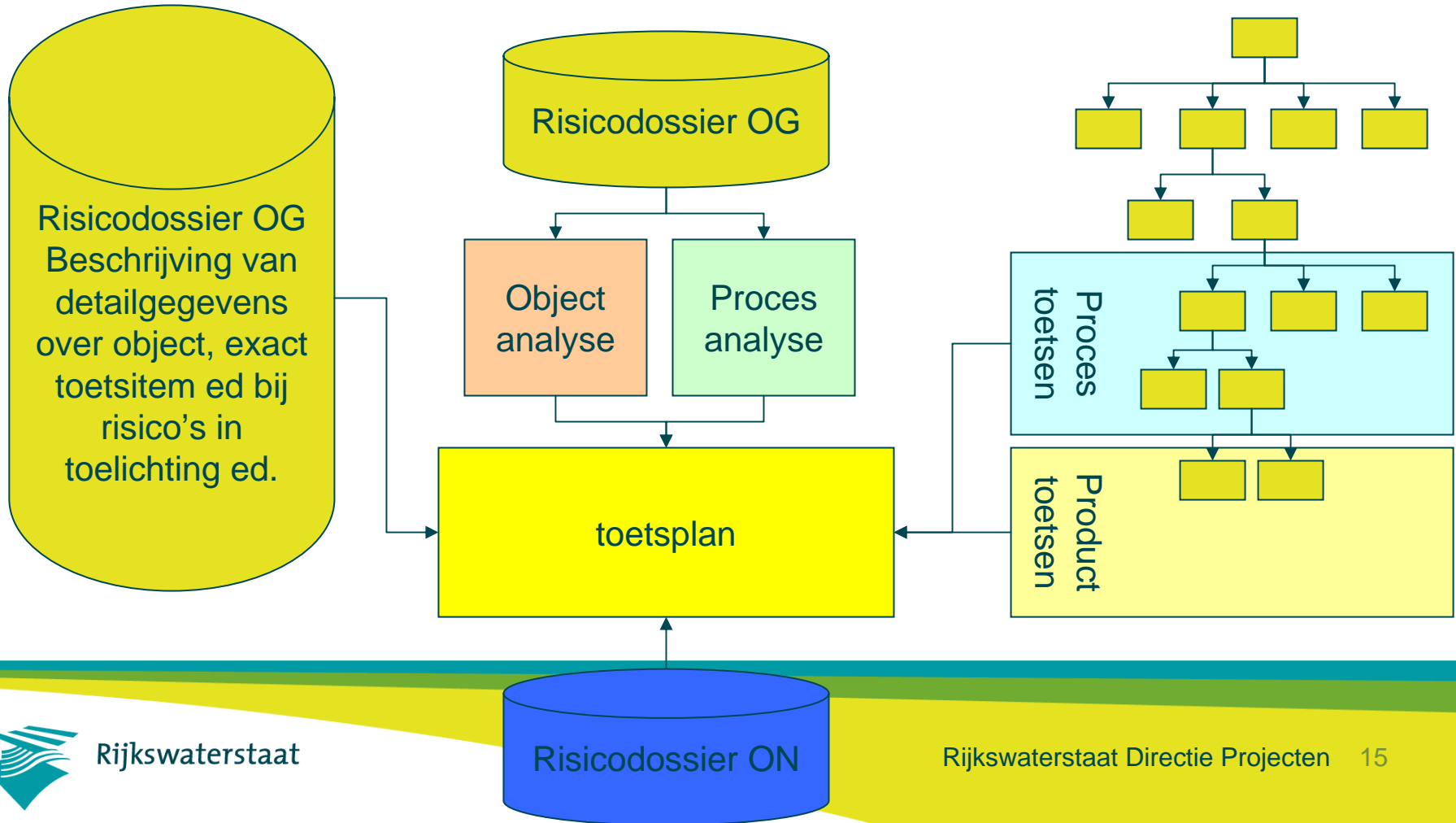


# Komen tot risico's voor toetsplan

Systematiek 1  
Risicodossier

Systematiek 2  
uitwerking proces en object

Systematiek 3  
oorzaak/gevolg boom



# 2<sup>e</sup> Coen tunnel Risk Database & Listed Risks

12/20/2007



Rijkswaterstaat

# Risk Database

- ▶ Standard riskdatabase for projects of Rijkswaterstaat
- ▶ Risks, quantification and control Measures
- ▶ Selections of risks can easily be reported, each risk is labeled
- ▶ Standard reports
- ▶ Objectives
  - ▶ Keep track of risks
  - ▶ Control risks
  - ▶ Communication
  - ▶ Information for System Based Contractmanagement



# Input Screen (example)

**RWS risicodatabase - [Bewerkingscherm (2eCoentunnel)]**

File Edit Insert Records Window Help

**ZOEKEN** Nummer:  Woord:  Resultaten: C-126

Huidig risico: **C-126**

Onzekerheid  
Niet voldoen aan vormgevingseisen danwel kwaliteitsniveau vormgeving (details)

Oorzaak: Onvoldoende sturing op vormgevingsaspecten vanwege contractvorm  
Gevolgen: Maatschappelijk onverantwoorde uitwerking vormgevingsaspecten

Algemeen(3)-OG Algemeen(3)-ON Relaties(3) Notities Autohistorie

Maatregelomschrijving:	Type	Maatregelstatus	Plandatum	Actor	Voortgang
▶ Minimale niveau waarborgen door bewaking: acceptatiemoment(en) voor vormgeving inbouwen		▼ Afgerond	▼	Sluijs, Hans van der	▼
Minimale niveau waarborgen door bewaking: detail eisen opnemen t.a.v. vrmgeving (verder uitwerken		▼ Afgerond	▼	Heuvel, van de, Peter	▼
Eis architect aan ON-kant voor bewaking van esthetische vormgeving		▼ Afgerond	▼	Schans, van der, Ab	▼
Uitwerking vormgeving in dialoogproduct prestatie-meetsysteem (PMS)		▼ Afgerond	▼	Schans, van der, Ab	▼
* Vul hier aanvullende maatregelen in...		▼	▼	30-12-2007	▼

Kwantificering:

Kans	Financiële gevolgen	Mn	Most	Max	Planning gevolgen	Mn	Most	Max	K	O	V	I
5 %	Uniform ▼	€ 500.000	€ 0	€ 1.500.000	Uniform ▼	1	0	2	▼	▼	▼	▼

Discipline: (4 - Techniek) / 4.7 - V ▼

Projectfase PPI: Realisatiefase ▼

WBS:  ▼

PDS (Contact): Tweede CoenTunnel(T) ▼

VrijeLabel:  ▼

**2e Coentunnel - Uitvoeringsfase**

Record:        of 451



# Standard Report (example)



## Risico Inventarisatie

Document:

Datum: vrijdag 30 november 2007

Omschrijving:	Gevolgen:	Maatregelen:	Kwantificering:
Cluster 4 Techniek			

### Discipline 4.1 Algemeen

713. Bevoegde Gezagen handhaven hun eigen vergunningen onvoldoende	Risicotype: Puur risico: endoogeen	Beheerder: Schans, van der, Ab	Allocatie: OG
- Onbekendheid met DBFM (hands off filosofie)	Correctief	Invalshoek Technisch	
- Capaciteitsprobleem	Vertraging en onvoldoende beheersing kwaliteit en veiligheid	Kans Min Most Max E K O V I	
	• Overleg met de bevoegde gezagen om hen op hun verantwoordelijkheden te wijzen.	25 % 500.000 1.500.000 250.000 €	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		1 2 0 mnd	
		t.o.v. Realisatiefase	

### Discipline 4.2 Tunnel

714. Ongewenste verplaatsing toerit noord	Risicotype: Puur risico: endoogeen	Beheerder: Schans, van der, Ab	Allocatie: OG
- Onjuiste aanname grondwaterstand (wijkt af van ontwerpaanname), door tijdsdruk voor verzwaring toerit noord	Preventief	Invalshoek Technisch	
- Onjuiste verzwaring toegepast in toerit noord	Constructieve schade toerit noord Claims ON	Kans Min Most Max E K O V I	
	• Informatie verzamelen door monitoring. Op basis van deze informatie evt. de verzwaring aanpassen.	10 % 500.000 1.500.000 100.000 €	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		4 6 1 mnd	
		t.o.v. Realisatiefase	

### Discipline 4.3 Wegen

C-130. Uit nulmetingen blijkt dat onderhoud slechter is dan beloofd.	Risicotype: Puur risico: endoogeen	Beheerder: Schans, van der, Ab	Allocatie: OG
Staat van onderhoud bestaande weg valt tegen, slecht(er dan voorzien)	meenwerk ON Extra maatregelen (herstellen) van bestaande weg	Invalshoek Technisch	
	• Onderzoek maart 2007 KOAC naar kwaliteit weg waarmee indicatie kan worden gegeven aan huidige staat en benodigde maatregelen	Kans Min Most Max E K O V I	
	• Opstellen VTNW (augustus 2007)	25 % 500.000 1.500.000 250.000 €	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		0 1 0 mnd	
		t.o.v. Realisatiefase	

# Listed Risks

- ▶ The risks included in the list of risks that must be priced by the participants in the Dialogue Phase and in the final tenders.
  - ▶ Scope Listed Risks the same for all participants.
  - ▶ Each Participant subsequently bases his Final Tender on the arranged apportionment of Listed Risks.
- 
- ▶ The Authority added up the value of the Authority's remaining Listed Risks and the Net Present Value of the Final Tender.
  - ▶ Example: soil contamination



# THANK YOU

▶ **DISCUSSION !!!!**

