

ENHANCED RISK ASSESSMENT PROCESS

1. Case metadata

▪ **Country of origin:**

Lithuania

▪ **Year of publication by agency:**

2009

▪ **Sector:**

C12 - Manufacture of tobacco products

▪ **Keywords:**

08801A Risk analysis and management,

11201B Safety and health management

19641D Risk assessment,

24401C Case studies

24361C Good practice

18081D accident prevention

14761E Dangerous substances management

13841E Elimination of hazards

58041C Factories

2. Organisations involved

Philip Morris Lietuva

3. Description of the case

3.1. *Introduction*

A properly organised risk assessment process involves a wide range of areas to be assessed: workplaces, routine and non-routine activities, specific (dangerous) works and work premises.

As a result of an incomplete risk assessment, there is the possibility that the risk reduction measures are not well-focussed and high risk areas are neglected which in its turn can lead to incompliance with legislation and higher probability of accidents.

3.2. *Aims*

The aim of this initiative was to set-up a risk management system in order to reduce occupational accidents and to monitor risks at all company levels and processes. A special risk assessment methodology was developed. A special tool, the Risk Assessment Database, was set-up and supported the process. The database allows uploading photos to support the visualisation of the risks and to print out risk evaluation_cards_destined to the employees.

3.3. *What was done, and how?*

A risk assessment process was set up at the Klaipeda factory of Philip Morris. The following questions were considered beforehand:

- how to ensure all needed areas /processes are evaluated;
- how to efficiently collect, keep and withdraw the necessary information;
- how to properly generate and follow up on risk reduction measures;
- how to adapt the risk assessment process to local legal requirements and OHSAS 18001 standard;
- how to ensure that the risk assessment process is efficient and simple.

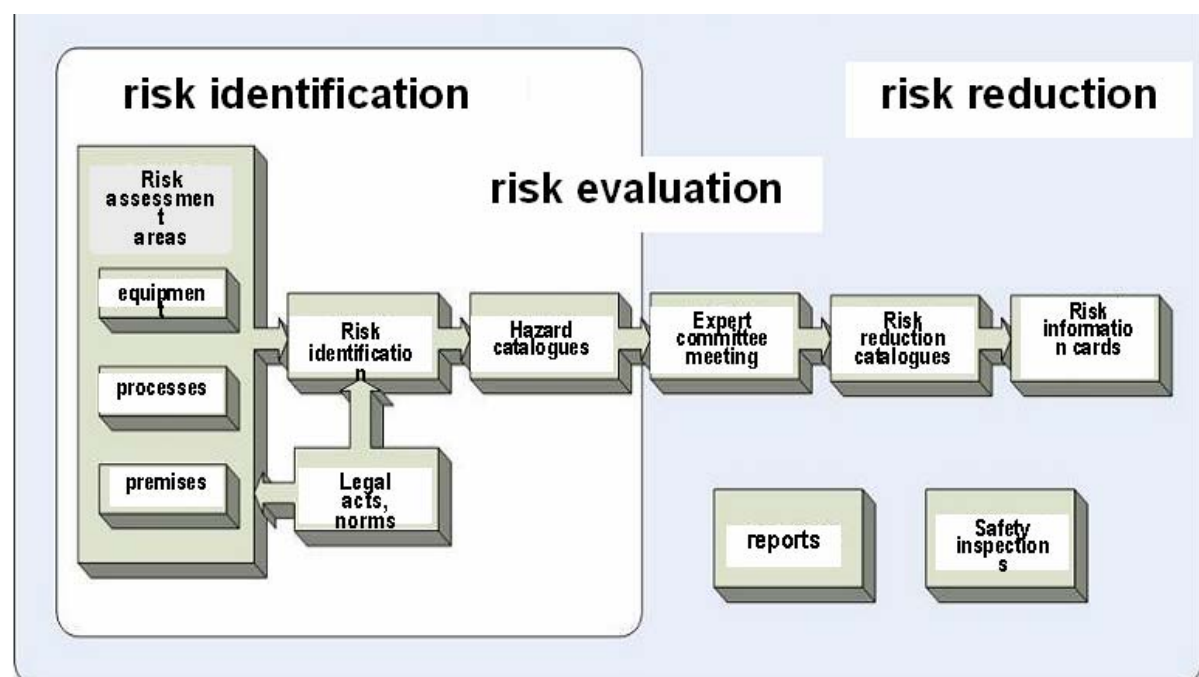
A special risk assessment methodology was developed including the development of a risk assessment matrix and Expert team meetings. A special tool, the Risk Assessment Database, supported the process and makes it more efficient.

The risk assessment process consisted of the 3 main sub-processes:

1. risk identification
2. risk evaluation (measurement)
3. risk reduction (control).

An overview of the activities is depicted in figure 1.

Figure 1. Overview of risk identification, evaluation and reduction



Source: Philip Morris Lietuva

Risk identification

In the first step, a risk identification was carried out in all workplaces, checking the routine & non routine (maintenance) activities, specific (dangerous) work and work premises were checked on existence of risks/hazards.

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Risk evaluation

During the risk evaluation,

a) the identified health risks were checked with the legal norms.

b) the identified safety risks were evaluated, using a special risk evaluation matrix. All risks are assigned certain probability and severity and as a result each risk has a specific point on the risk assessment matrix: it can fall into the red, yellow or green zone (see figure 2).

The local legislation requires to classify risks only as acceptable or non acceptable. However, there are some risks where it is difficult to decide on its' acceptability. Therefore the company introduced a yellow zone on risk assessment matrix, where risks are accepted only in case of a permanent control and monitoring.

Figure 2. Risk Assessment Matrix

		Risk Assessment matrix			
		Risk severity (consequences)			
		Negligible IV	Minor III	Serious II	Major/fatal I
Risk probability	Highly probable A				
	Probable B				
	Possible C				
	Remote D				
	Unlikely E				
	Impossible F				

Probability & Severity is assigned for each hazard.

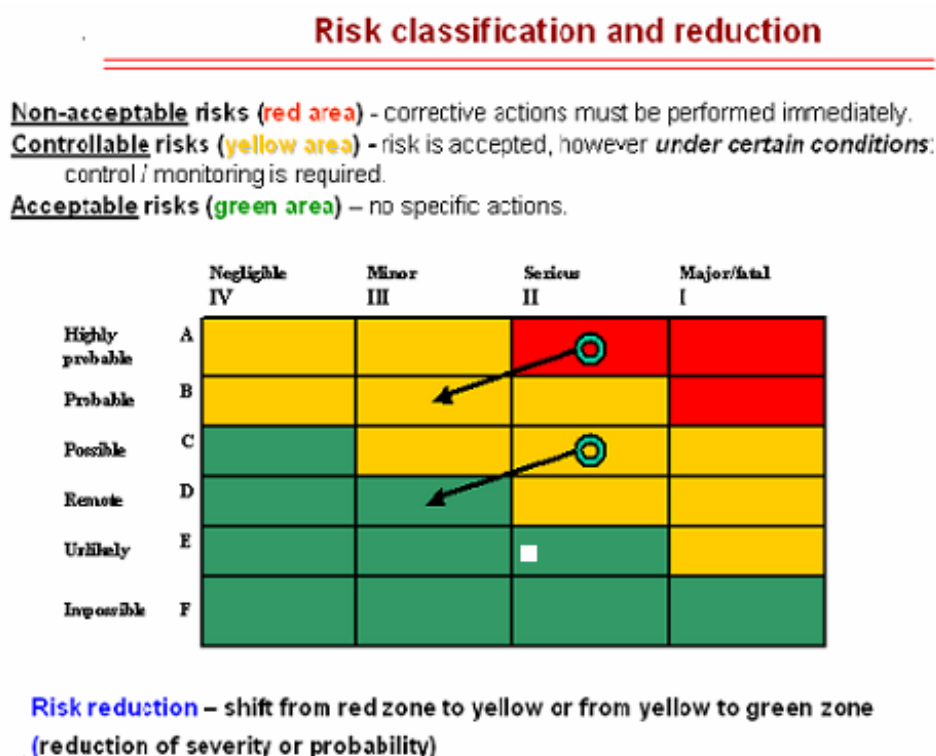
Source: Philip Morris Lietuva

Risk reduction

Risks that are located in red zone on matrix, should be immediately addressed. From matrix perspective, "red" risks can be reduced either by reducing its' probability or severity. The main principle of the risk reduction is a stepwise approach: to "move" red risks to the yellow area and the yellow risks – to the green area (see figure 3).

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Figure 3. Risk reduction via RA Matrix



Source: Philip Morris Lietuva

In order to generate risk reduction measures, “Expert team” meetings were organised, where together with technical experts and management the company discussed and agreed on feasible risk reduction measures and due dates.

In order to accurately record, retain and withdraw all necessary Risk Assessment information - the e-Database was developed. It allows separating all data by: different risk areas (equipment, processes, premises), years, due dates for risk reduction, Risk evaluation or Risk reduction phases.

It also allows to include photos (for better risk description) and to print out Risk evaluation_cards which can be provided to employees in line with legislation. The Risk Assessment Database was created by the IT specialists in collaboration with the Health & Safety department (see figure 4). RA Database functions as an Intranet based tool and is accessible for all related employees. It includes all main sub-processes of Risk Assessment: Hazard identification & Risk evaluation (Hazard Catalogues) and Risk reduction (Risk reduction Catalogue).

The database can automatically produce and print out Risk Evaluation Cards (see figure 5), which are required by local legislation. Moreover, the Risk Assessment Database is used for recording of information on H&S inspections (H&S Inspection Catalogue).

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Figure 4. Database: risk reduction catalogue

Rizikos sumažinimo katalogas

Skyrius: Cigarečių gamybos cechai
 Produkcijos linija: SC-LUF07 - CIGAREČIŲ GAMYBOS-PAKAVIMO LINIJA
 Projektas/ R/V tikslas: Sumažinti/pašalinti riziką LUF07 linijoje
 Grupės nariai: Adomaitis Mindaugas; Bečienė Vitalija; Beržinis Ričardas; Kaziukonis Kas
 Pavojų katalogo data: 2008-01-03
 Patvirtino: Bečienė Vitalija 2006-12-04

The database can automatically produce and print out Risk Evaluation Cards

Nr.	Pavojus	Identifikuotas pavojus	Pavojus prieš	Reikiamos priemonės	Pavojus po	Atsakingas	Planuojamas įvykdymas	Įvykdymo
5	Fizinis	Išengimas padengtas tabako dulka. Didelė dalima padidinta kietųjų dalelių koncentracija darbo zonoje.	C - III	Informacija gamybos meistrams apie savarakių įrengimo išorinį valymą.		Pundinas Rimvydas	2006-12-08	2006-
6	Fizinis	Nėra užrašų lietuvių kalba. Darbuotojai prie mašinos gali klaidingai suprasti aptamavimo reikalavimus.	C - III	Išversti ir išskibinti užrašus lietuvių kalba		Užlėnas Darius	2007-01-10	2007-
7	Fizinis	Klijai, pilant į mašinos talpas, prapilami pro šali. Tikimybė apsigauti įrenginį bei paslysti ant grindų išsiliejusių klijų.	B - II	Susipažinti su klijų PM filialų patirtimi dėl klijų užsidymų ir pateikti pasiūlymus Secondary.		Marenkov Jurgis	2007-01-20	2006-
8	Fizinis	Laidai ant grindų be apsaugos pavojus užkliūti bei pargnūti.	B - II	Uždėti apsaugą		Zolobaila Rustenas	2007-04-06	2007-

Source: Philip Morris Lietuva

Figure 5. Database: Risk evaluation card

"Philip Morris Lietuva"
 Kirties 116505137, Vilnius pl. 1F, Klaipėda
 Tabako produktų gamyba 16000

Profesinės rizikos nustatymo kortelė
 Data: 2008-01-07 Nr. 2008-294

Profesinės rizikos vertinimo objekto pavadinimas: SC-LUF07 - CIGAREČIŲ GAMYBOS-PAKAVIMO LINIJA
 Darbuotojų skaičius: 70, iš jų darbo darbingumo asmenys: 0, jauniausias: 0, senesnis ar vyresnis: 0, mokytojas: 0, sergantis profesine liga: 0, neįgaliausias: 0, darbuotojai, kuriems nustatytas šandymo laikotarpis: 0

Profesinės rizikos veiksnys			Rizikos lygis	Rizikos sumažinimo priemonės (priemonės) paraišymas	
Tobula didžiausia nuolatinių pavojingų veiksmų	Veiksmų ar pavojingų veiksmų nuolatinių (veiksmų dydis, matavimo vieta)	Rizikos lygis, matavimas (veiksmų dydis, matavimo vieta)			
1	2	3	4	5	
CH - tabako dūmai	5	mg/m ³	0.42	mg/m ³	Prinėta
CH - tabako dūmai	5	mg/m ³	4.66	mg/m ³	Prinėta
CH - tabako dūmai	5	mg/m ³	0.85	mg/m ³	Prinėta
FZ - oro temperatūra:	10-27	oC	22.6	oC	Prinėta
FZ - dirbtinė apšvieta (beid., II)	mm/100	lx	353	lx	Prinėta
FZ - oro judėjimo greitis:	0.2-0.4	m/s	0.20	m/s	Prinėta
FZ - eantiškas oro drėgmė	75	%	53.7	%	Prinėta
FI - Užsidymų išsiskyrimas F411, pavojus išsiskirti iš mašinos					Kontroliuojama
FI - Galimybė sustrengti gva į išsiskiriantis Fecle mašinos dalis: klijų rūši padidinti vieta bei išsiskirti įrenginys					Kontroliuojama
FI - Laidai ant grindų be apsaugos, pavojus užkliūti bei pargnūti					Kontroliuojama
FI - Klijai, pilant į mašinos talpas, prapilami pro šali. Tikimybė apsigauti įrenginį bei paslysti ant grindų išsiliejusių klijų.					Kontroliuojama
FI - Nėra užrašų lietuvių kalba. Darbuotojai prie mašinos gali					Kontroliuojama

Source: Philip Morris Lietuva



All catalogues allow including photos as well as all related information: names of RA participants, number of employees, working on particular lines, assessment and risk reduction dates, legal norms and actual measurement results, evaluation criteria: risk probability and severity (colour coded in line with RA matrix) and overall evaluation of risk acceptability.

3.4. *What was achieved?*

The described risk management methodology proved to be simple and efficient. It allows to make RA process systematic and sustainable. In total more than hundred of different risks were identified and risk reduction measures implemented. Since the Risk Assessment Database was created by company specialists and the company's hardware could be used the overall cost for setting up the methodology were not too high - about 65 man days in total were spent (equivalent of EUR +/- 4630 in total)

As a result of continuous and consistent risk assessment process the number of accidents and incidents were reduced by 30% from 2000 to 2008. There was a decrease in damaged equipment and the number of lost work days. The risk management methodology also led to a better collaboration with employees and line management, especially during risk identification and "expert" group meetings.

3.5. *Success factors*

- The set-up of risk assessment management system and the execution of the process included different technical experts as well as line management.
- Through the RA database the different risk areas can be separately monitored and selected. This allows to make comparisons over the years and the achievements during a certain period of time.
- The system supports the possibility to produce the risk evaluation cards required by local legislation automatically which facilitates the process and is a time-saver.
- A new category of risks is introduced. Besides the acceptable and non-acceptable risks, the company also monitors and reduces the controllable risks.

3.6. *Further information*

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3.7. *Transferability*

Due to the simple and clear-cut use, the system is transferable to other companies that wish to rationalise their risk assessment processes and to monitor their progress on line. The tool might need some adaptations according to the legislation of the country it will be used in.

4. References, resources:

Information provided by the company in the framework of the Good Practice Award Competition 2008/2009.