

Business Risk in Centrica Energy

Presentation to North of Scotland IRM branch meeting

Robert O'Keeffe

23 June 2011



Notes

- The slide content is for illustrative purposes only to describe how the business risk process is applied in Centrica Energy Upstream
- The slides are issued for information only and are not intended for distribution beyond the NoSIRM members. Some diagrams are deliberately blurred to retain confidentiality but should still illustrate the process used.

Introduction

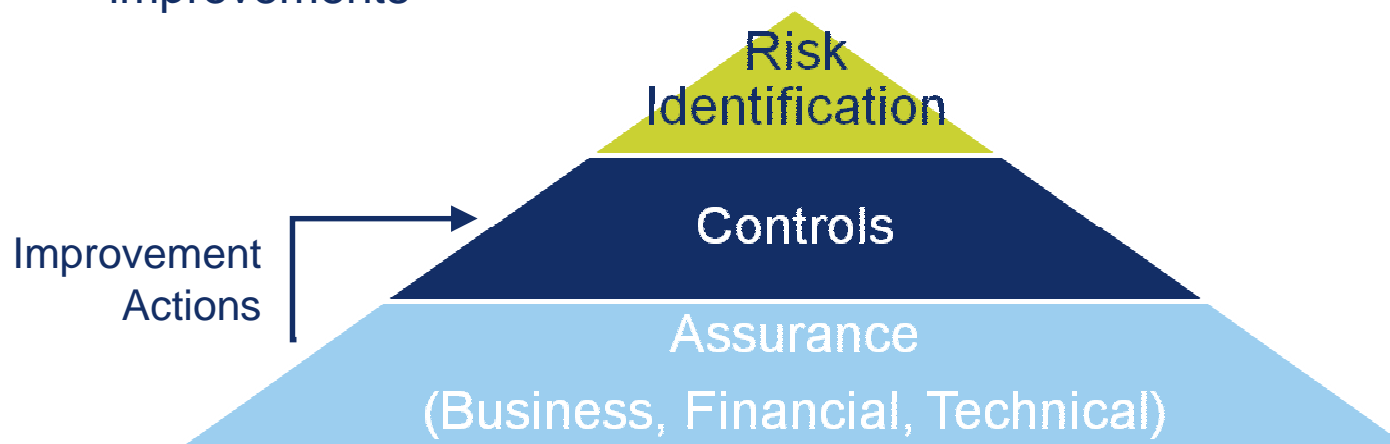
- Robert O'Keeffe
 - Business Risk Advisor for Centrica Energy Upstream
 - Role with Venture Production since 2007
 - Wider role since Centrica takeover end 2009 => CEU
 - DNV
- Changes with CEU
 - Corporate hierarchy / reporting
 - Focus on Assurance of controls, not just risk identification

Agenda

- Introduction
- Centrica Energy Upstream (/ Venture) approach to Business Risk
 - Structure, Policy, Process
- Risk - Assurance - Control
 - 3 separate aspects of business risk implementation
 - RAC matrix
- Lessons learned / Views

Objective of Business Risk Management

- To manage our key risks for the benefit of the business
 - Identify our key risks
 - Put in place adequate controls to manage these risks
 - Put in place an assurance program to satisfy ourselves that these controls are adequate, appropriate and current and/or identify improvements



Analogy

Risk of High Speed Crash

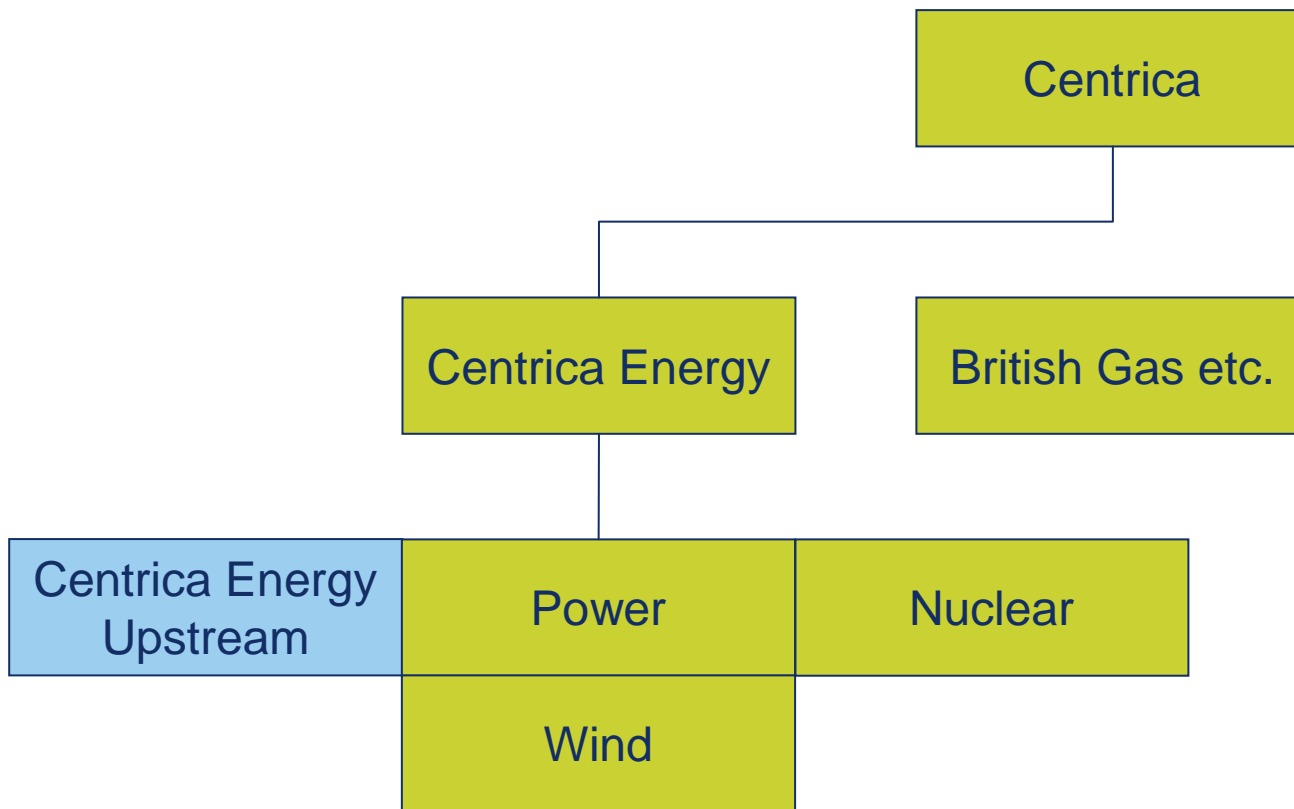
- Control: Brake System

- Assurances:
 - Inspections ('MOT')
 - Pad/shoe/drum thickness
 - Fittings
 - Fluid level / viscosity
 - Pre-race function test
 - Warning lights
 - Brake temperature
 - Brake fluid level

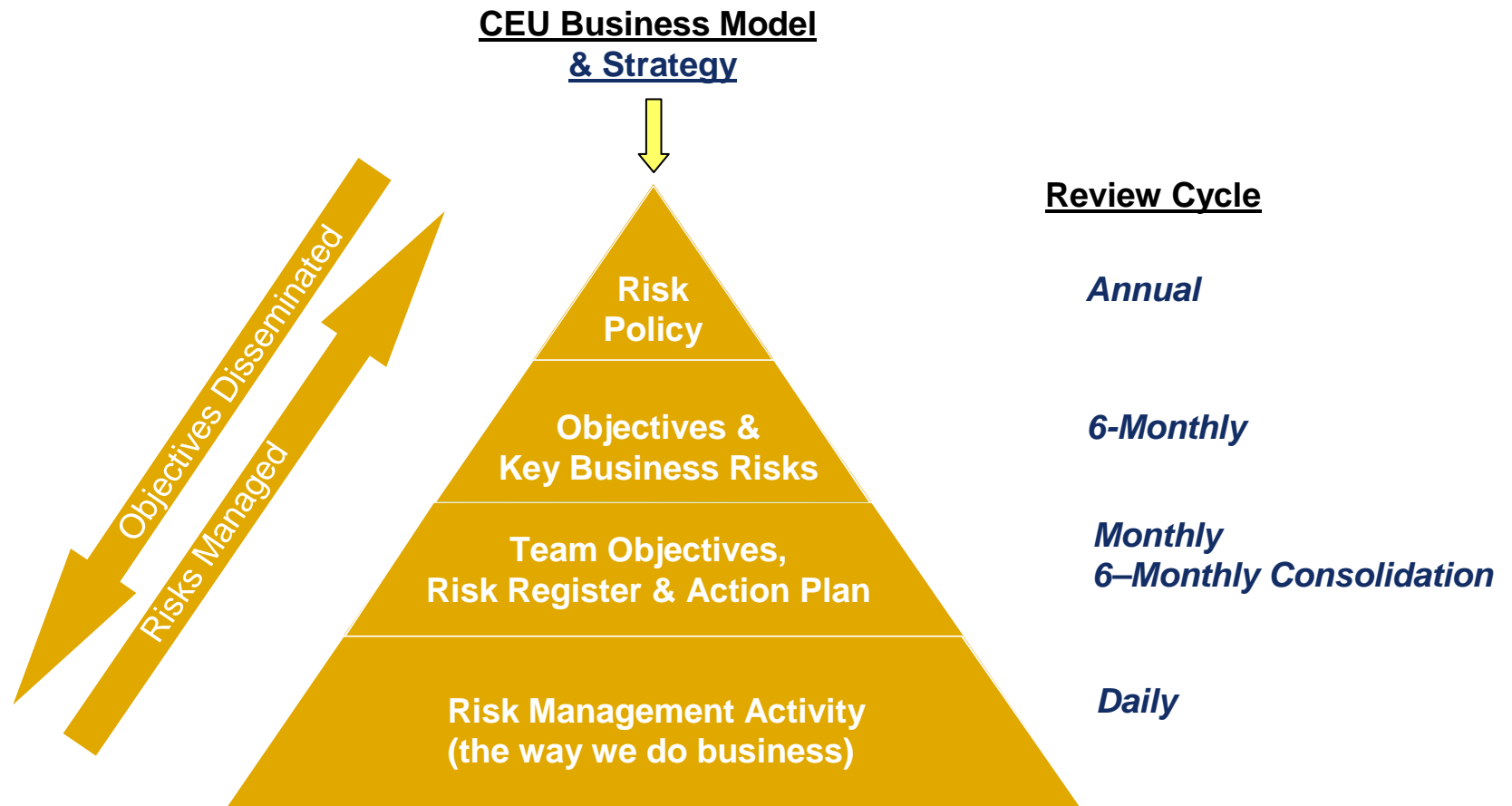


- Benefit: Ability to go faster and win

CEU in Centrica



Business risk process connects the Strategy to the Delivery – top-down and bottom-up

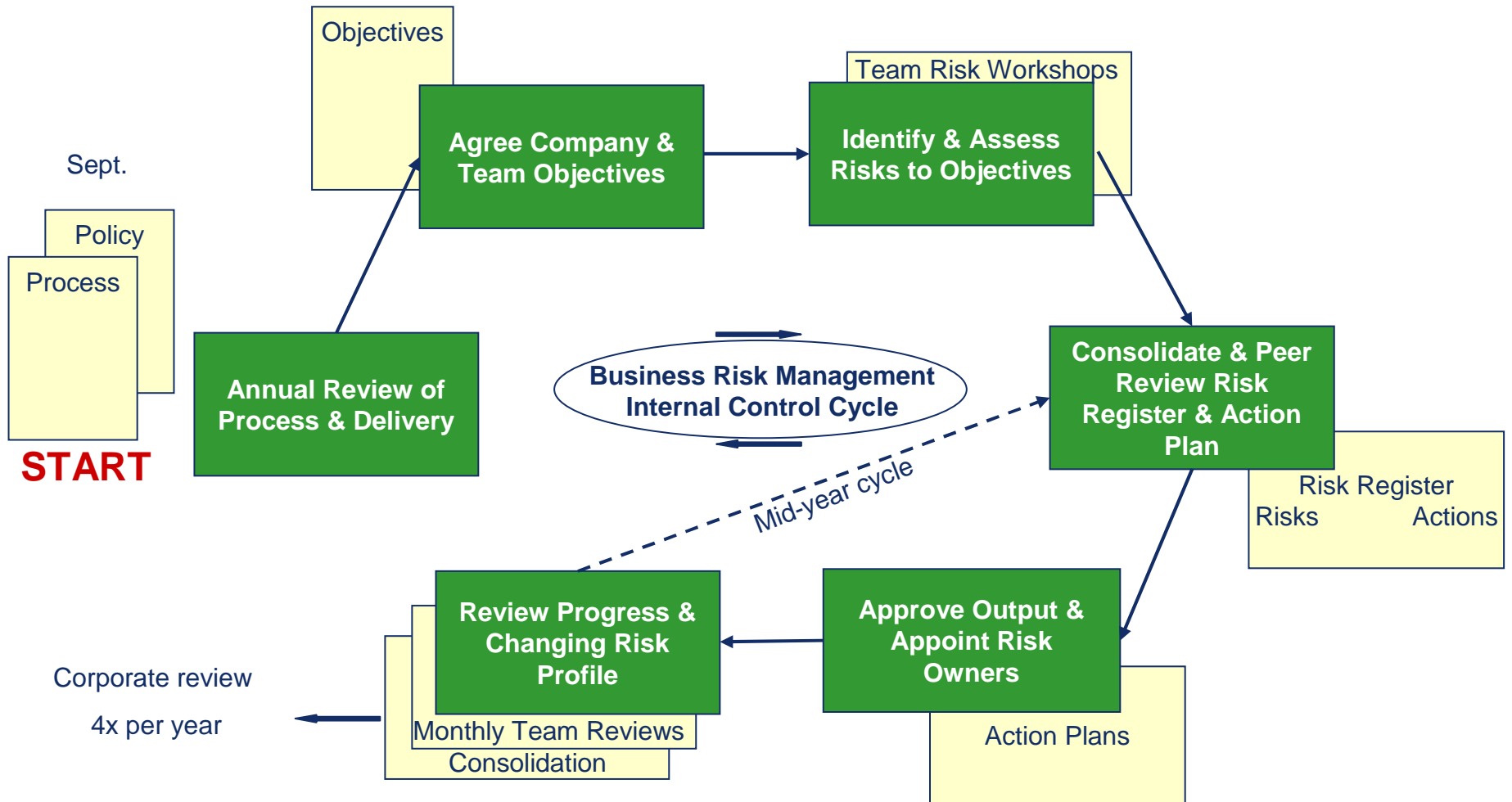


Risk Management Policy (under review)

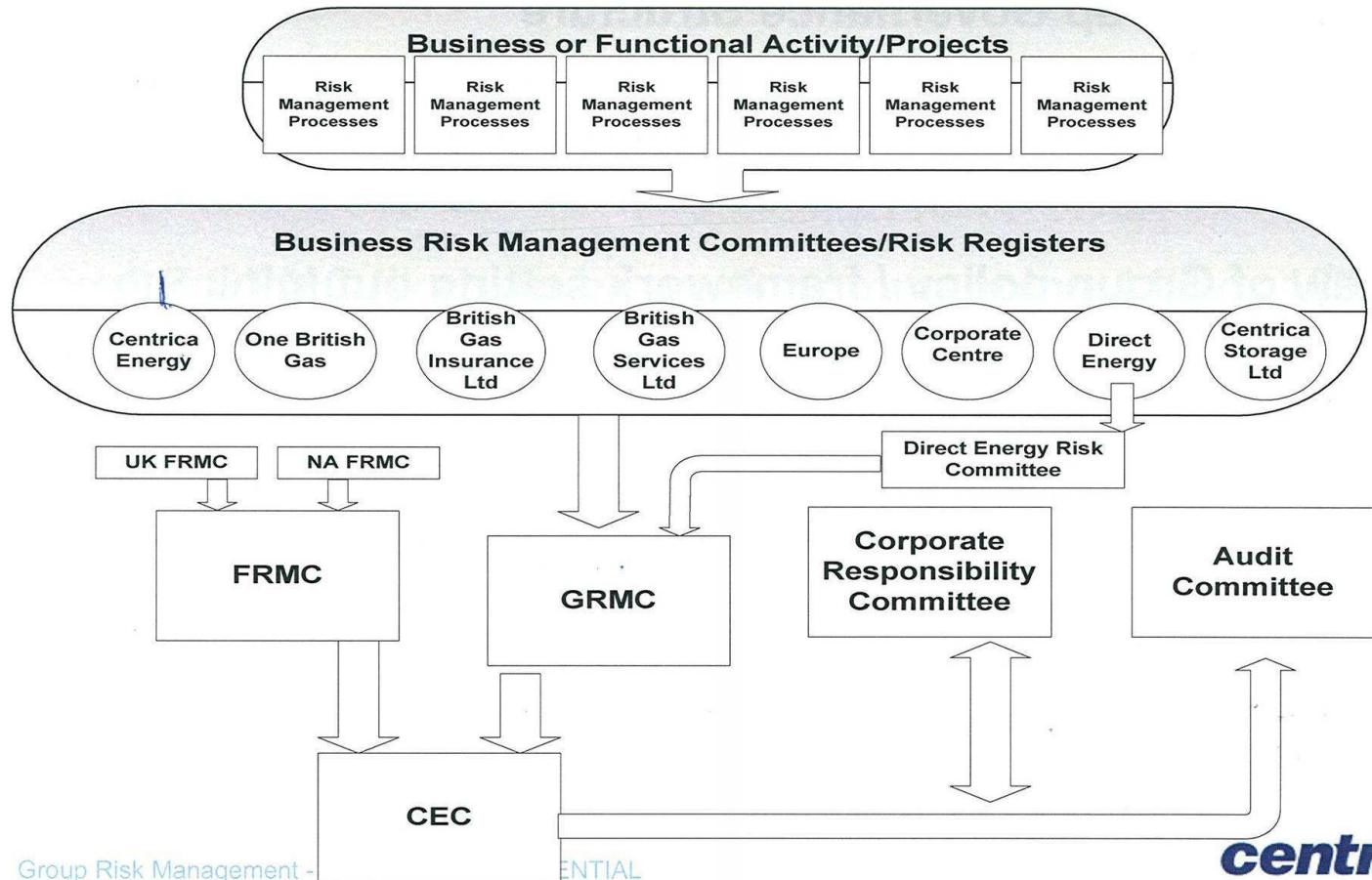
- We will create, protect and increase the value of our business by identifying, understanding and managing the risks and uncertainties that could affect the achievement of our goals.
- **Implementation and Guidance (Risk Management Statement)**
 - Our objective is not to minimise all risks, but rather to fully understand them and consciously accept a level of exposure that fits with our objectives, resources and the needs of our stakeholders
 - We will address the risks facing us at both discrete and integrated levels.
 - Each function will regularly review their objectives and ensure that any risks to meeting them are identified and assessed and a decision made as to whether each risk will be accepted, actively managed, terminated or transferred to another party.
 - Effectiveness of risk control measures will be monitored.
 - All risks that could significantly affect delivery of objectives will be communicated to the Executive Team, and the appropriate Executive Director is responsible for notifying the Board where exposure is substantial.
 - A bi-annual assessment of risks will be reviewed by the Board.

Under review

CEU Business Risk Cycle



Current Risk Governance Structure



CEU Risk Process – current status

- Workshops with all Departments across CEU
 - Facilitated by Business Risk Advisor
- Risks measured using risk matrix criteria (Prob / Cons)
- Consolidated into key risks
 - Debated by CEU leadership
- Top risks rolled up to Centrica Energy leadership
- Top risks rolled up to Centrica leadership

- Assurance programme developed
- Regular monitoring / reporting

- System:
 - Excel and Word: no central database or fancy tool/software

Workshops

- Inputs
 - Top-down categories
 - Corporate strategy / targets

 - External factors / issues
 - Brainstorm, variety of roles/people
 - Old risks
 - ALL Departments
 - Bottom Up
 - 2 x / year (ideally)
 - Emerging Risk
 - Black Swans
 - Corporate Responsibility
- Not used:
 - Surveys
 - Interviews

Centrica risk matrix

CEU Business Risk Register - Risk Map

Probability →

Consequence ↓	Summary Risk Map	Remote (1)	Unlikely (3)	Possible (3)	Likely (4)	Almost Certain (5)
	Very Low (1)		1	2	3	4
Low (2)		2	4	6	8	10
Moderate (3)		3	6	9	12	15
High (4)		4	8	12	16	20
Very High (5)		5	10	15	20	25
Risk Ranking:		1-3 Minor	4-5 Important	6-9 Significant	10-15 Major	16-25 Fundamental

Centrica Business Risk Matrix Scales

Consequence

Impact Area:	Very Low (1)	Low (2)	Moderate (3)	High (4)	Very High (5)
Financial	One off profit impact < £800k Recurring, annual profit impact < £200k	One off profit impact: £800k to £4m Recurring, annual profit < £1m	One off profit impact: £4m to £20m Recurring, annual profit impact < £5m	One off profit impact: £20m - £100m Recurring, annual profit impact < £25m	One off profit impact > £100m Recurring, annual profit impact > £25m
Brand / Reputation	Limited adverse local media coverage.	Regular adverse local media coverage. Occasional adverse national media coverage.	Regular adverse national and local media coverage.	Major national adverse media coverage including criticism or campaigning from other opinion formers.	Sustained national adverse media coverage and opinion former criticism.
Legal & Regulatory	Limited to parties involved without litigation and positive resolution expected General interest from regulatory authorities.	Limited to parties involved but outcome uncertain. Regulatory authorities request explanation with ongoing updates.	Legal vulnerability e.g. contract or criminal law breach, negligence, and outcome uncertain. Regulatory authorities launch informal investigation i.e. written request.	Legal vulnerability with adverse outcome. Regulatory authorities launch formal investigation with potential for fine.	Legal vulnerability with adverse outcome requiring revision of company operations. Formal investigation with potential for significant fine. Formal undertakings requiring revision of company operations.
Customers & Employees	Limited short-term impact on customer base and customer satisfaction. Local or short-term disruption. No employee engagement impact.	Short-term impact on customer base and customer satisfaction. Limited impact on employee engagement. Disruption to business continuity	Significant short-term impact on customer base and customer satisfaction. Significant impact on employee engagement. Prolonged disruption through industrial action but no strike action. Potential breach of HR policies.	Significant impact on customer base and customer satisfaction requiring some change to company strategy. Major impact on employee engagement. Local longer-term industrial action including strike action. Potential prosecution for breach of Employment Law.	Significant long-term impact on customer base and customer satisfaction requiring significant change to company strategy. Critical impact on employee engagement. National industrial action, including strike action & prosecution for significant breach of Employment Law.
Health, Safety & Environment	Employee injury requiring medical aid 1 day LTI Short term local damage	Employee >3 day LTI Employee fracture or dislocation. Long term local damage	Injury to employee requiring hospitalisation (>24 hrs) Permanent disabling injury to an employee. Customer/third party injury. Short term widespread damage	Single employee fatality. Multiple disabling injuries to employees. Single customer/third party disabling injury. Long term widespread damage	Multiple employee fatalities. Single customer/third party fatality. Permanent widespread damage

Probability

Category:	Remote (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
One off event, likelihood of happening:	0 – 10%	10% - 20%	20% - 50%	50% – 80%	80% - 100%
A recurring event, likely to happen:	Less than once every 10 years	Once every 5 to 10 years	Once every 2 to 5 years	Once every 1 to 2 years	Once or more a year or happening now

Business Risk Register

- Spreadsheet register underpins BRMC Word document
 - Captures all risks
 - Not just top ones
 - Provides relevance / accessibility to all staff
 - Common format using corporate risk matrix
 - Allows analysis, statistics, summaries across all CEU
 - Search by name (actions, risks)

CEU Business Risk Register
 Version: 19 Aug-10
 Restricted

Introduction

This register contains all risks identified by the company across 10 categories + 5 Assets (see drop-down list), with a **Category Owner** from the CEU Leadership Team. Each risk has a **Risk Owner** responsible for ensuring all identified actions are delivered. **Named individuals** are responsible for delivering the Actions. This front sheet provides a search mechanism to search the register either by Category or by Named Individual. Updates to the register are made via the document owner (see the HSEQ Manager). The CEU Finance Director is the overall Process owner.

Instructions

- 1) Click on relevant box below
- 2) Select from drop down menu(s)
- 3) Press GO
- 4) Click on "Back to Front Sheet" to return to this menu

Presents all risks and actions for the selected category: **Search By Category/Asset**

OR:

Presents all risks owned by the individual AND/OR Presents all actions for the individual PLUS other's actions within the same risk item: **Search By Name**

OR:

Presents the corporate risk matrix scales: **View Risk Matrix**

OR:

Presents a summary map of the 'Major' and 'Fundamental' risks across all categories: **View Key Risk Summary**

The information in this database is potentially business-sensitive and should not be distributed other than to those personnel with specific actions

CEU Business Risk Register
 Version: 19-Mar-10
 Back To FrontSheet

TO	Category	ID	Risk (Event and its consequences)	Owner	Existing Mitigation (e.g. processes, ongoing actions)	Im	LI	R	R (T)	Num	Description	Due Date	Responsible	Status	Findings	Date	Reviewer	Comments
1	Statement of Reserves	010	Incorrect statement of reserves e.g. Right gas and need to flow may impact the success of recovering expected gas - does the statement of reserve assume that all this gas is recoverable?	Ian Bartholomew	Recent internal and external assessment processes exist. IS owns the process. 14 members of staff manage the process. The subsurface process is independent of the asset teams. Annual audit of numbers by Dr Cooper and McNaughton (report of credit facility). Full hoc audit of process by FPS. CEU complies with SPE PRMS standards. New CEU process presented to CEO Dec 2009. Group-wide process for statement of reserves incl. Centri Energy. 1st part assessment. timetable for the process, full time reserves manager.	3	1	3	High	1	Statement of Reserves			Complete	2008	Ian Bartholomew	WELL	
1	Statement of Reserves	012	Balance on single person could have a gap in knowledge and reliability - difficult to report. One one person has full knowledge of the reporting mechanism - hence only one person knows how to do end of year reporting.	Ian Bartholomew	Situation is improving with more people now involved. Although only 1 colleague (Kerini) has knowledge of compiling of data, he doesn't sit in isolation. The system is resilient (and tested in reality risk to staff assurance)	3	2	2	High	2	Statement of Reserves			Current status accepted	2008	Ian Bartholomew	ONS	
1	Statement of Reserves	015	Partial or overstatement of reserves if e.g. operational assumptions are incorrect - example is W1 rates not being achieved (R is 20k bbl)	Ian Bartholomew	Some mitigation for 100% recovery assumed. The assumptions are stated / validated and are adjusted at the next reserves evaluation if necessary.	2	1	2	High	2	Statement of Reserves							COMMERCIAL 2008 milestone

Example extract of CEU risk register

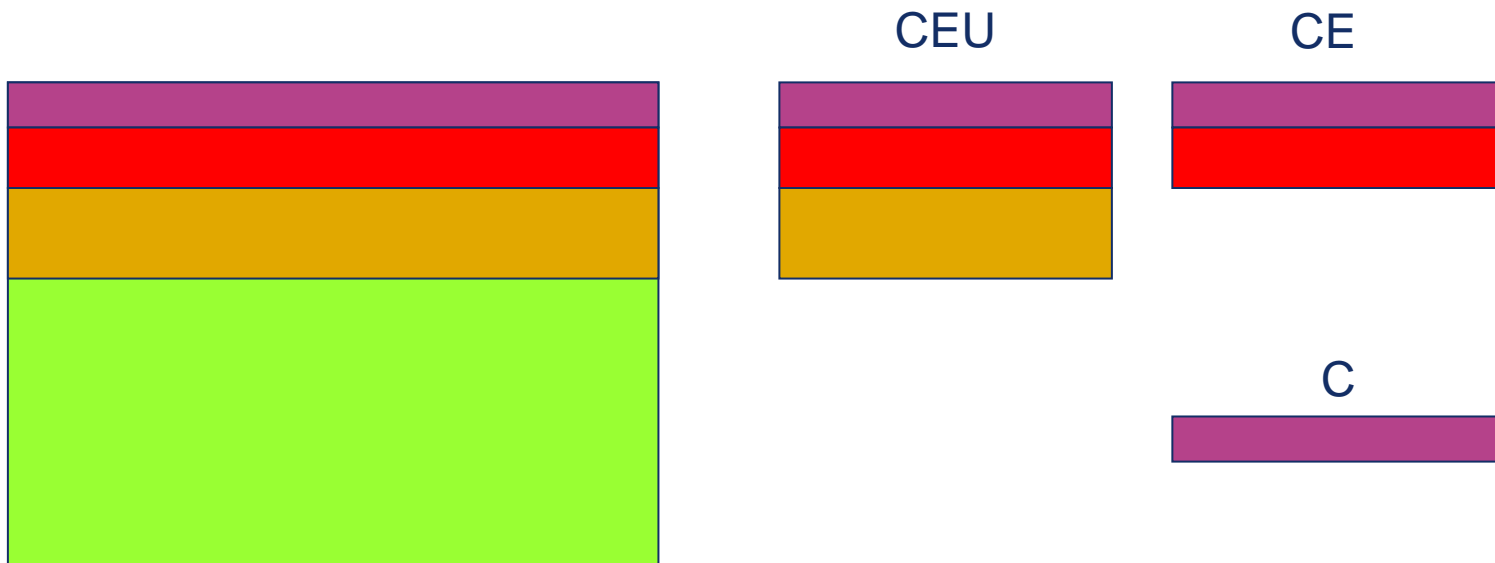
CEU Business Risk Register										Minor	Min	1	0	Back To FrontSheet					Open	Open		
Version: 18-Mar-10										Important	Imp	1	0						Always	Always Ongoing		
T 3										Significant	Sig	1	0						Closed	Closed		
O 0										Major	Ma	0	0						NA	NA		
										Fundamental	Fund	0	0						NA	NA		
T	Statement of Reserves	3.0	Incorrect statement of reserves	Iain Bartholomew															EXEC			
Business Risks (Threat or Opportunity)					Existing Mitigation Measures					Curr. Risk Value				Remedial Action Plan				Internal Review			Source	
T/O	Category	ID	Risk (Event and its consequence)	Owner	Existing Mitigation (e.g. processes, ongoing actions)					Im	Li	R	R	Num	Description	Due Date	Responsible	Status	Findings	Date	Reviewer	Source
T	Statement of Reserves	3.00	Incorrect statement of reserves e.g. Tight gas and loose to free gas - does the success of recovering expected gas - does the statement of reserves assume that all this gas is recoverable?	Iain Bartholomew	Robust internal and external assessment processes exist. IB owns the process. 3-4 members of staff manage the subsurface process is independent of the asset teams. Annual audits by De Goyler and McNaughton (term time - fit facility). Ad-hoc audits by CPS. CEU compliance with MS standards. New CEU process for statement of reserves introduced to CEO Dec 2009. Group 3rd part assessment process, full manager,					5	1	5	Imp	3.00	As part of the overall subsurface review	3Q08	Iain Bartholomew	Closed	Complete	3Q08	Iain Bartholomew	WELL
T	Statement of Reserves	3.02	Reliance on one person could leave a gap in knowledge / difficulty in reporting. (Only one person has full knowledge of the reporting mechanism - there is only one person who knows how to do it)	Iain Bartholomew	Situation is involved. Although only one person has knowledge of the reporting mechanism, the person is resilient (and tested in real time)					3	2	6	Sig	3.02	Technical manager to review	3Q08	Iain Bartholomew	Closed	Current status accepted	3Q08	Iain Bartholomew	SNS
T	Statement of Reserves	3.05	Potential for overstatement of reserves if e.g. operational assumptions are incorrect - example is Val rates not being achieved (5k vs 20k b/d)	Iain Bartholomew	See mitigation for 3.00 - robust reserves statement. The assumptions are validated and are adjusted at the next reserves evaluation if necessary.					2	1	2	Min		No action needed							COMMERCIAL 2008 mid-year

- Risk description / owner
- Existing Mitigating measures
- Risk value
- Remedial action plan: What – When - Who

Risk Registers

Top risks move up the organisation to ensure visibility at appropriate level

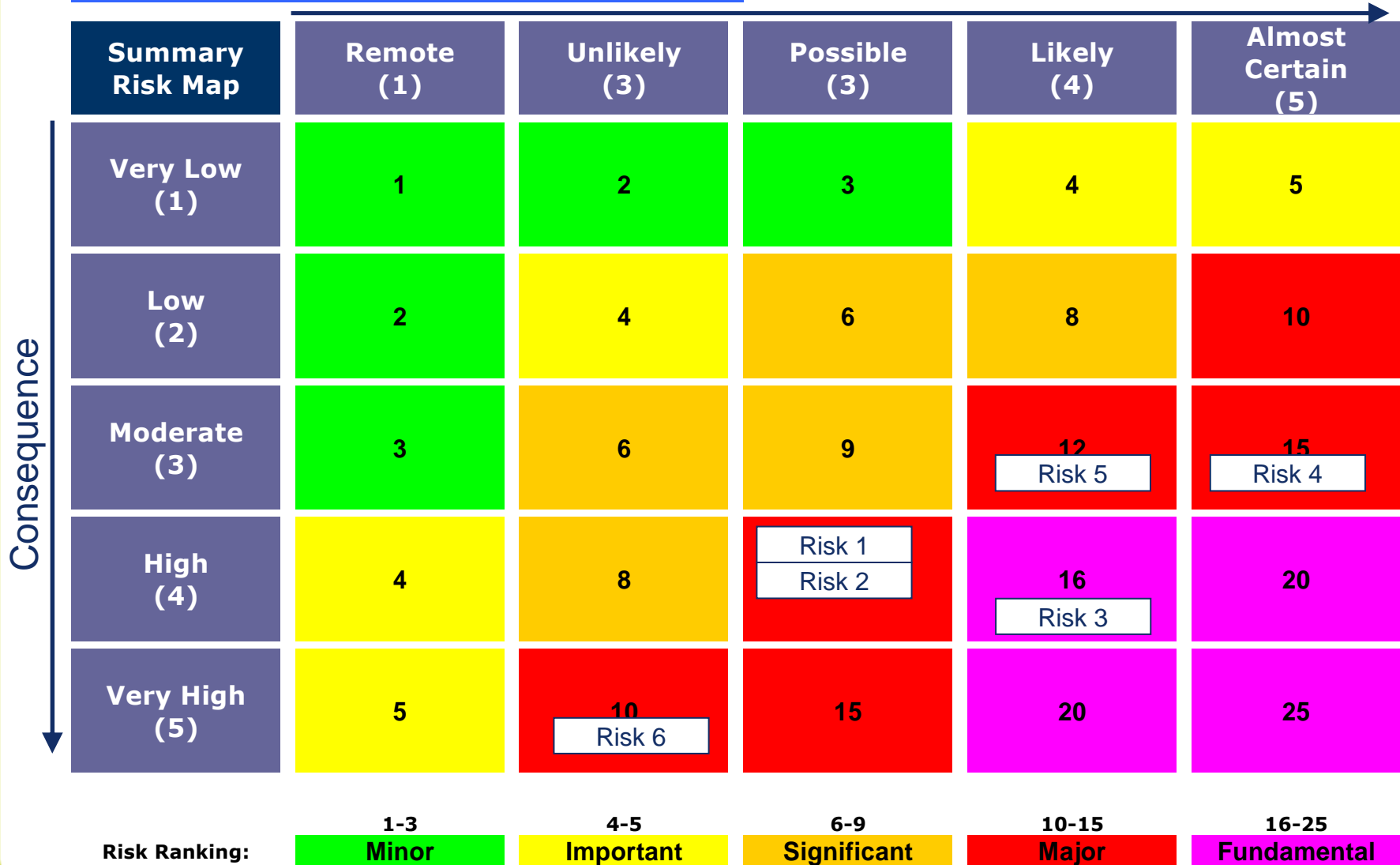
- Excel database (CEU)
- Risk Summary (Word)



Centrica risk matrix

CEU Business Risk Register - Risk Map

Probability →



Business Risk Management Committee

CENTRICA ENERGY UPSTREAM

RISK REGISTER

JUNE 2010

(includes updates post-June BRMC)

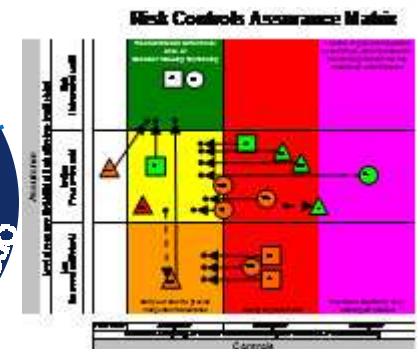
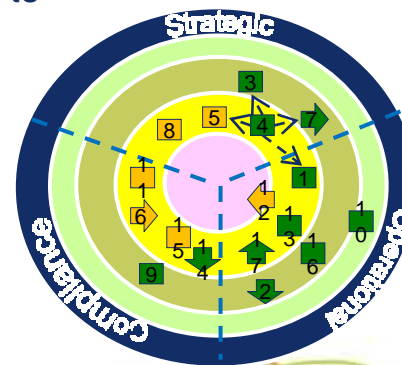
Rank	Risk	Risk rating			Risk rating	Control	Status	Control
		2009	2010	2011				
1.	Unacceptable conditions	-	-	-	10	10	10	Control
2.	Regulatory and A approval risks	-	-	-	10	10	10	Control
3.	Regulatory Programme Review and Performance Review (RPRM)	-	-	-	10	10	10	Control
4.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
5.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
6.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
7.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
8.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
9.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
10.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
11.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
12.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
13.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
14.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
15.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
16.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
17.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
18.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
19.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control
20.	Regulatory Programme Review (RPRM)	-	-	-	10	10	10	Control

- Register of Red+ risks, reviewed by Centrica Energy management
 - Risk List
 - Risk map
 - Details per risk with existing /planned controls



Controls / Assurance - Process Developments

- CEU has identified many risks and assessed their severity against the corporate matrix
- But then what –
 - Tolerate (accept)?
 - Treat further (more action)?
 - Terminate (stop the activity)?
 - Transfer it (insure/sell)?
- How ASSURED is the ULT that we are in control of our key risks?
 - Rather than just being aware of them...
 - And what about the high inherent risks believed to be under control?
- CEU assessed two approaches
 - Risk Radar (no longer used)
 - Risk Controls Assurance Matrix



Risk Controls Assurance Matrix

Assurance	Level of Assurance (Reliability) of Control Systems (Audit status)				
	High (Independent audit)	Risk tolerated at current level and / or Consider reducing risk ranking		If control improvements cannot be identified, either increase the risk ranking, transfer the risk (insurance) or terminate it	
	Medium (Team review only)				
Low (No recent audit/check)	Carry out audit to provide independent assurance	Identify improvements	Tolerate in short term only - action plan needed		
		Excessive	Acceptable	Incomplete	Inadequate
		Perceived Adequacy of Current Controls to Manage the Risk Item at Current Ranking			
		Controls			

- Main Axes
 - Controls
 - Assurance
- Green Zone (good)
 - Assured control
- Yellow/Orange Zone
 - Unverified control (needs audit)
- Red Zone
 - Incomplete control
- Pink Zone (bad)
 - Inadequate control

Connectivity with Risk Matrix

CEU Business Risk Register - Risk Map

Summary Risk Map	Remote (1)	Unlikely (3)	Possible (3)	Likely (4)	Almost Certain (5)
Very Low (1)	1	2	3	4	5
Low (2)	2	4	6	8	10
Moderate (3)	3	6	9	12	15
High (4)	4	8	12	16	20
Very High (5)	5	10	15	20	25

Risk Controls Assurance Matrix

Assurance Level of Assurance (Reliability) of Control Systems (Audit status)	Perceived Adequacy of Current Controls to Manage the Risk Item at Current Ranking		
	Excessive	Acceptable	Inadequate
High (Independent audit)	Risk tolerated at current level and / or Consider reducing risk ranking		If control improvements cannot be identified, either increase the risk ranking, transfer the risk (insurance) or terminate it
Medium (Team review only)			
Low (No recent audit/check)	Carry out audit to provide independent assurance	Identify improvements	Tolerate in short term only - action plan needed

- Bigger Risk to bottom right...
 - Higher Consequence
 - Higher Probability
- Ideal is to move risks to top left
 - Reduce impact and likelihood
- Bigger problem to bottom right
 - Less Control
 - Not Assured
- Aim is to move risks to top left
 - Better control, more assurance

All risks mapped on both matrices

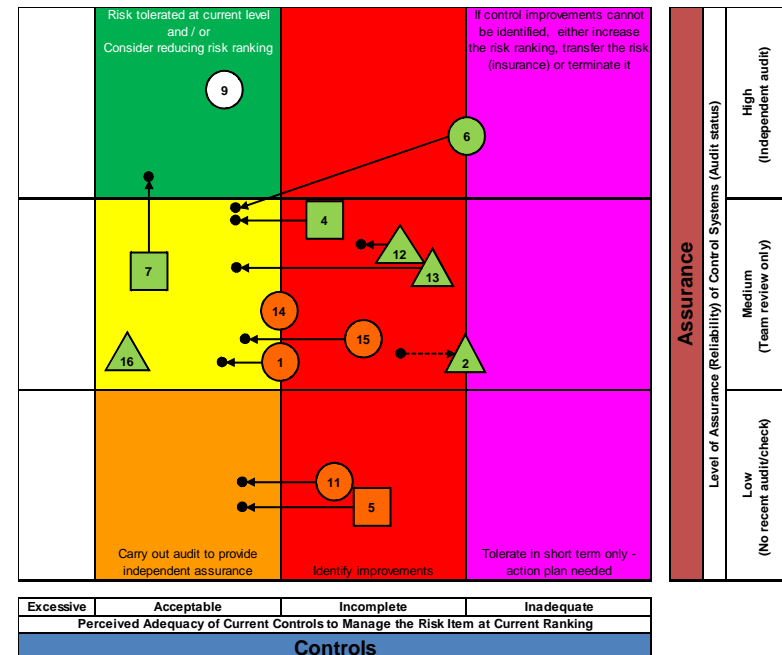
Risk Matrix

- Identifies top risks

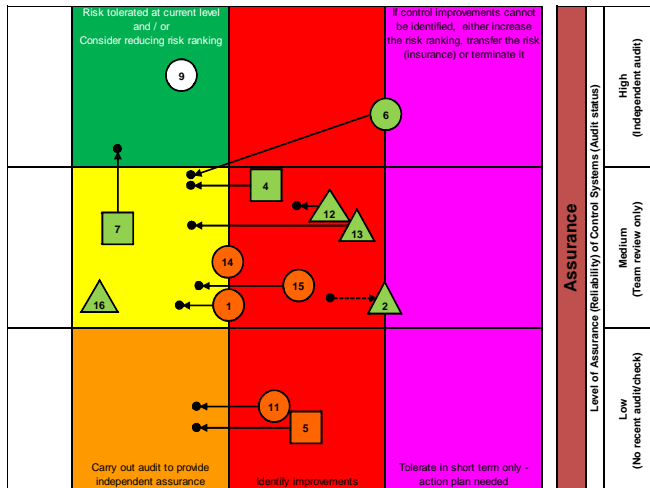


Risk Controls Assurance Matrix

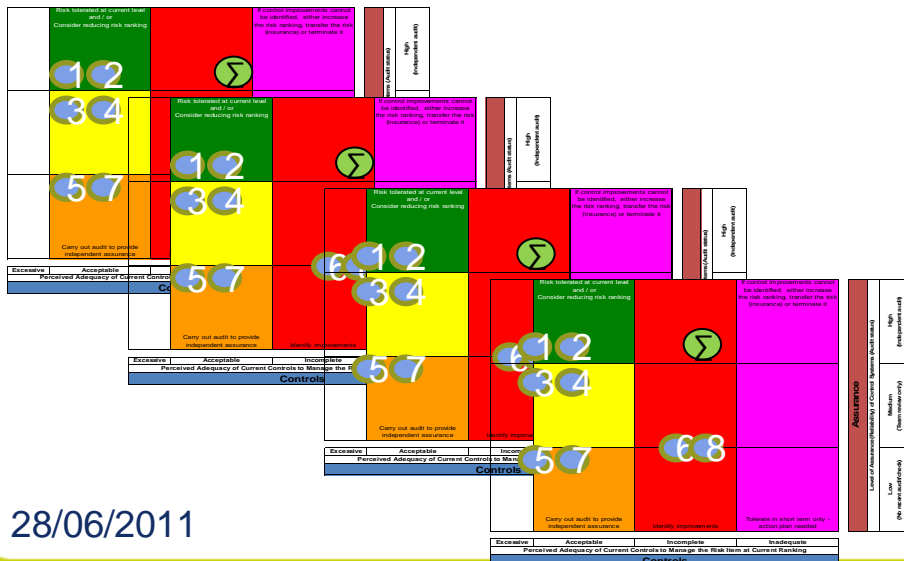
- Identifies strength and assurance of control measures for top risks



RCAM document hierarchy



Excessive	Acceptable	Incomplete	Inadequate
Perceived Adequacy of Current Controls to Manage the Risk Item at Current Ranking			
Controls			



- Summary position for the top risks
 - Provides hi-level overview of status of controls / assurance for all top risks

- Detailed slide for each risk showing status of individual controls for that risk
 - Provides 'deep-dive'
 - Examples next slides

RCAM Risk detail

Controls-Assurance Matrix:

	<p>Risk tolerated at current level and / or Consider reducing risk ranking</p> <p>3</p>	<p>If control improvements cannot be identified, either increase the risk ranking, transfer the risk (insurance) or terminate it</p> <p>Σ</p>	
	<p>4 7 2 5</p>	<p>1 6</p>	
	<p>Carry out audit to provide independent assurance</p>	<p>Identify improvements</p>	<p>Tolerate in short term only - action plan needed</p>
			<p>Level of Assurance (Reliability) of Control Systems (Audit status)</p> <p>High (Independent audit)</p> <p>Medium (Team review only)</p> <p>Low (No recent audit/check)</p>

Excessive	Acceptable	Incomplete	Inadequate
Perceived Adequacy of Current Controls to Manage the Risk Item at Current Ranking			
Controls			

Description

Event / Issue => consequence

Assurance Activities – Done

Date

A

Assurance Activities - Planned

Date

A

Controls in place

1

Planned Control Improvement Actions

A

Summary

- Process is in place
 - Full involvement of organisation
 - Regular update
- Risks are known and communicated
 - Top risks debated and fed upwards
- Controls are imperfect but improving
 - Visibility and assessment process improving
- Assurance of Controls is ongoing



Views

- Quality of the discussion is what matters
 - not the database tools
- Focus on actions that improve control and assurance
 - not just long risk lists and bureaucracy
- Operational risk
 - as well as Financial risk



“Our contingency plans were inadequate.
We were making it up day to day”

(ex) CEO, Oil Major, 9/11/10