wide

Seven years ago, Gert Cruywagen started from scratch to create a comprehensive risk management system.

Building a Risk Management Program from the Ground Up

by Laura Sullivan

In 1994 Gert Cruywagen came to the Iscor Corporation, based in Pretoria, South Africa, faced with an almost insurmountable task: establish an enterprisewide risk management program for a resources company that deals in the industries of steel, iron ore, coal, base metals and heavy minerals. The tough part: not only was there no risk management program, but Iscor had only begun buying conventional insurance two years previously.

Enterprise Risk Management in Action: Risk Management Committees

Today, the risk management program runs through Iscor like veins in a circulatory system. Cruywagen has created a system that involves individuals from all levels and sectors in the company. Key to this are the forty-one risk management committees, divided into three levels: executive, business unit and department.

These committees are responsible for how the risk management program runs—from identifying risks to prioritizing them, from implementing interventions to benchmarking performance and expediting claims settlements. Their meetings act as forums to exchange views on risk management and insurance issues, discuss risk management needs and concerns, and share lessons.

The executive risk management committee, also called the risk management council, has overall control of the risk management program direction. It is chaired by Iscor's executive director of finance, and committee members include the executive committee of Iscor, the CEO of

Iscor's on-shore captive insurer Ferrosure (SA)—who also happens to be Iscor's risk manager, Cruywagen—and, as appropriate, other Iscor personnel, insurance brokers, risk consultants, and insurance and risk financing experts. (Iscor's CEO attends meetings as his schedule allows.)

The risk management council meets every quarter (or when the need arises) and is specifically responsible for:

- Determining risk management goals and strategies
- Coordinating and facilitating the development of the risk management program
- Evaluating reports regarding risk exposures, incidents, accidents, claims, losses and trends
- Ensuring compliance with the relevant statutes pertaining to risk control
- Considering and approving standards and best practices for implementation by operations groups
- Approving decisions regarding insurance and self-insurance limits, terms and conditions
- Approving the appointment of insurance brokers and other intermediaries
- Considering and approving insurance renewal terms and conditions

The risk management program at the operational level is managed by the local risk management committees, subdivided by business unit and department. These committees, chaired by the heads of the business unit, meet at least once every quarter. Committee members include the management team of the business unit; the heads of safety, security, fire protection and maintenance; the information technology practitioner; Cruywagen, if the council, the chairman or he deems it necessary; outside specialists as needed; and any other person the chairman or Cruywagen considers necessary.

The local risk management committees have the following responsibilities:

- Execution of the risk management program aims, goals and strategies, as determined by the council
- Continuous assessment of risks that may have a major impact on the safety and health of workers and visitors, cause damage or loss, lead to business interruption, influence insurance arrangements or result in the contravention of laws
- Continuous evaluation of the identified risks to determine their impact, consequence, probability and frequency
- Design and implementation of measures to avoid, eliminate, control or reduce the effect of the assessed risks, and to reduce the measured criticality
- Improvement of the positive perception of insurers toward the various risks
- Consideration and response to reports, risk identifications and risk evaluations
- Continuous evaluation of incident, accident and loss reports to determine patterns and trends, and to implement corrective actions
- Constant evaluation of existing programs to ensure correct focus and cost effectiveness
- Implementation of measuring and rating systems to gauge relative performance, to benchmark best practices against local and international norms and to assess progress toward the ultimate desired standards
- Implementation of risk control programs to comply with risk requirements and risk control standards
- Initiation of actions to reduce the risk exposure
- Development of reports for the risk management council and the business unit management teams on a regular basis

In addition to the planned meetings of these groups, Cruywagen also holds separate meetings with the materials management departments to evaluate new projects and to assess whether stand-alone financing or existing insurance is appropriate.

> *"Most bigger exposures consist of a series of smaller exposures and by consciously identifying the smaller ones, the root causes of the big exposures will be determined."*

Since meetings are solely dedicated to discussing risk management issues, Cruywagen says, real decisions are made. There is also a specific etiquette to the meetings: once an issue has been discussed and a consensus has been reached, the issue is considered closed. Also, since financial managers attend the meetings, they understand the motivation for risk mitigation expenses and are more receptive to requests for funding.

The effectiveness of the groups can be seen in the expenditures for risk management that have been approved. Over the past sixteen months more than R 1.4 billion (approximately $156 million) has been spent on projects to improve the risk profile of the Iscor Group. In addition, the committees have been able to spread an awareness of risk management and its methodologies throughout the organization.

Calculating Total and Unit Risk-Bearing Capacity

On an annual basis, Cruywagen determines the overall risk-bearing capacity of Iscor and each of its business units. This not only allows him to be sure that the company insures—through its two captive insurance companies, one on-shore, the other off-shore—only catastrophic losses, but also that self-insured levels are not set higher than the company or a unit can sustain.

In order to calculate the most complete assessment of risk capacity, Cruywagen uses the ten most widely accepted techniques. He then calcu-

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Risk Criticality Classification

Risk Classification Scale

Risk Value = Exposure x Probability x Consequence

Risk Value	Risk Classification
More than 500	Too high; consider stopping activity
300 – 500	Very high; immediate corrective action needed
150 – 300	High; urgent corrective action needed
70 – 150	Substantial risk; corrective action needed
20 – 70	Possible risk; attention needed
Under 20	Risk possibly acceptable as is

Consequences

Description	Value
Catastrophe 1	*400*
•Many fatalities	
•Business interruption longer than 8 weeks	
•Damage of R 400 million (approx. $44.5 million) or more	
Catastrophe 2	*300*
•Many fatalities	
•Business interruption longer than 6 weeks	
•Damage of R 200 million (approx. $22.3 million) or more	
Catastrophe 3	*100*
•Many fatalities	
•Business interruption longer than 4 weeks	
•Damage of R 100 million (approx. $11 million) or more	
Disaster	*40*
•Fatalities	
•Business interruption longer than 2 weeks	
•Damage of R 50 million (approx. $5.5 million) or more	
Very Serious	*15*
•Fatality	
•Business interruption longer than 1 week	
•Damage of R 25 million (approx. $2.8 million) or more	
Serious	*7*
•Serious injuries	
•Business interruption 2 – 6 days	
•Damage R 10 million (approx. $1 million) or more	
Important	*3*
•Injuries	
•Business interruption 1 – 2 days	
•Damage of R 1 million (approx. $110,000) or more	
Noticeable	*1*
•Smaller injuries	
•Business interruption longer than 2 hours	
•Damage more than R 10,000 (approx. $1,100)	

Exposure (frequency)

Description	Value
Continuous	10
Regular (daily)	6
Often (weekly)	3
Sometimes (monthly)	2
Rare (few times per year)	1
Very rare (annually)	5
No exposure	0

Probability (likelihood)

Description	Value
Can Be Expected (High—1 in 1 – 5 years)	10
Probable (Medium/High—1 in 5 – 15 years)	6
Improbable but Possible (Medium—1 in 15 – 25 years)	3
Reasonably Improbable (Low/Medium—1 in 25 – 50 years)	1
Very Improbable (Low—1 in 50 – 100 years)	.5
Remote (Very Low—1 in 100 years)	.2
Virtually Impossible	.1

lates the ten values and weighs them accordingly to develop an average value for risk bearing capacity. (See sidebar below.)

Risk-Bearing Capacity

Cruywagen uses the following financial ratios to determine the average risk-bearing capacity value for Iscor:

Net Working Capital Value	x .25
Quick Asset Value	x .25
Times Interest Cover Value	x .10
Annual Cash Flow	x .10
Surplus Cash	x .10
Total Sales	x .05
Net Income after Tax and Interest	x .10
Fixed Assets Value	x .05
Annual Retained Earnings	x .10
Distributable Reserves	x .10

Identifying the Risks

"Proper risk assessment is the foundation of the risk management program at Iscor," Cruywagen says. Although decision making is considered a strategic element of the organization and thus is never contracted out, risk assessments and benchmarking are conducted by outside specialists. The model that is used to identify risks is based on a three-tiered methodology developed by Cruywagen to ensure that risks are identified according to the business processes, the source of the risk and the relative size of the risk.

1. *Center Processes.* For each company sector there are three questions: What can go wrong? What is the probability of something going wrong? What would the damage be if something were to go wrong? These questions are answered by looking at:
- Inputs: resources, services, utilities, raw materials and human resources
- External Factors (critical dependencies): contractors, suppliers, maintenance and consumables
- Process: the business process itself, how it works and what can go wrong
- Outputs: products, secondary products and inputs for other processes
- Waste: byproducts, waste and environmental issues

2. *Risk Assessment.* The results of the first assessment are then analyzed through three substeps. First, high-level identification methods, including SWIFT, FMEA, FR and Hira studies, are used to assess symptoms. Then root-cause analyses are performed, using mostly analytical techniques such as HAZOP, FTA, FMECA, ETA and design reviews. Finally, long-tail effects, secondary effects and business interruption potential are assessed through models of the consequences of identified risks.

3. *Risk Size.* "Every risk assessment must look at not only the major exposures, but also medium risks and smaller risks," says Cruywagen. "The philosophy behind this is, if a risk with the potential of R 50 million (approximately $5.5 million) manifests as a R 5 million loss (approximately $550,000), it is a success, but where a risk of R 5 million manifests as a R 5 million loss, it is a disaster. Most bigger exposures consist of a series of smaller exposures and by consciously identifying the smaller ones, the root causes of the big exposures will be determined."

Assessing Criticality

Cruywagen has also modified a technique for Iscor to calculate the critical nature of each of its identified risks. By determining the exposure, severity and probability, a rating is established that allows for comparisons of different types of risk, comparisons of risks between business units, assessments of the absolute importance of a risk and evaluations of the progress of risk mitigation methodologies from year to year. Cruywagen also notes that these values can be used to determine premium loadings and discounts and to establish a highly protected risk culture.

The ratings are calculated using the methodology described in the chart on page 28.

The Risk Management Mission Statement

In the past seven years, Cruywagen's efforts with Iscor have resulted in a 60 percent reduction in the estimated maximum loss values for the top ten risks in the company. The average normal loss expectancy for the top ten estimated maximum losses has been cut by nearly 79 percent. For his efforts, Cruywagen received the South African risk manager of the year award for 2001 from the South African Risk and Insurance Management Association.

So how can all the work he has put into the risk management program at Iscor best be summed up? The answer can be found in the Iscor risk management mission statement, which Cruywagen penned:

In respect of Pure Risks:
- *To achieve the situation where Risk Management is a way of life throughout Iscor*
- *To have a reputation amongst insurers:*
  - *as a safe and caring employer*
  - *as a sought-after client*
- *To have a fully protected balance sheet.*

Read more about how Gert Cruywagen put together an enterprisewide risk management program.
Reader Forum at rmmag.com