



RISK MANAGEMENT MANUAL

QUALITY ASSURANCE - ISO 9001

ENVIRONMENTAL MANAGEMENT - ISO 14001

OCCUPATIONAL HEALTH AND SAFETY - AS 4801

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Business Management System

REVISION SCHEDULE

Rev No.	Revision Description	Authorised	
		Name	Date
0	Original Issue	S Jaatinen	13-Jul-03
1	Policy statement is imbedded, rather than linked.	S Jaatinen	29-Jul-04
2	Power point diagrams imbedded, rather than linked	S Jaatinen	1-Aug-04
3	Minor changes to the risk context definition.	S. Jaatinen	30-Jun-05
4	A minor change to definitions resulting from the re-issue of 14004 in 2004.	S. Jaatinen RC Review	30-Jun-06
5	Risk likelihood descriptors corrected and the Risk Priority Assignment matrix revised.	S. Jaatinen & RC P/L	29-Jul-07
6	Comment made about disaster recovery in case the controls don't work.	S. Jaatinen & RC P/L	14-Aug-08
7	All references to AS 4360 have been changed to ISO 31000 and impact of the changes reviewed.	S. Jaatinen & MPL review pending.	9-Aug-10



0. Introduction

This document forms a part of the *JAPL* Business Management System (BMS) with the objective of providing a specific framework for the context, identification, analysis, evaluation, treatment, monitoring and communication of risk in everything that we do.

The purpose of this document is to enforce uniformity of risk management within the BMS. The document is specific to consulting and auditing industry that *JAPL* engages in and takes account of the varying needs of our company, its particular objectives, its products and services, and the processes and specific practices employed.

The adopted risk management process can be applied to any situation where an undesired or unexpected outcome could be significant or where opportunities are identified. We need to know about possible outcomes and take steps to control their impact.

With this in mind risk management has been integrated into the *JAPL* philosophy, quality, environmental and safety polices, all practices and business plans. Therefore risk management becomes the business of everyone in our company.



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1. Scope, application and definitions

1.1. Scope

This document provides specific instruction to all *JAPL* personnel for the context, identification, analysis, evaluation, treatment, communication and ongoing monitoring of risks.

1.2. Application

As an integral part of good management practice in our BMS, risk management is built into everything we do. It is an iterative process consisting of steps, which, when undertaken in sequence, enable continual improvement in decision-making.

Therefore we apply a risk management approach to full project life cycles as well as to the cyclical business planning process.

1.3. Definitions

Because of the similarity of ISO 31000:2009 and the previous Australian standard, the definitions of AS4360:1999 have been adopted, as follows:

CONSEQUENCE

the outcome of an event expressed qualitatively or quantitatively, being a loss, injury, disadvantage or gain. There may be a range of possible outcomes associated with an event.

COST

of both direct and indirect, involving any negative impact, of activities goodwill, political and including money, time, labour, disruption, intangible losses.

EVENT

an incident or situation, which occurs in a particular place during a particular interval of time.

EVENT TREE ANALYSIS

a technique which describes the possible range and sequence of the outcomes which may arise from an initiating event.



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FAILURE MODE AND EFFECTS ANALYSIS (FMEA)

a procedure by which potential failure modes in a technical system are analysed. An FMEA can be extended to perform what is called failure modes, effects and criticality analysis (FMECA). In a FMECA, each failure mode identified is ranked according to the combined influence of its likelihood of occurrence and the severity of its consequences.

FAULT TREE ANALYSIS

a systems engineering method for representing the logical combinations of various system states and possible causes which can contribute to a specified event (called the top event).

FREQUENCY

a measure of the rate of occurrence of an event expressed as the number of occurrences of an event in a given time. See also Likelihood and Probability.

HAZARD

a source of potential harm or a situation with a potential to cause loss.

LIKELIHOOD

used as a qualitative description of probability or frequency.

LOSS

any negative consequence, financial or otherwise.

MONITOR

to check, supervise, observe critically, or record the progress of an activity action or system on a regular basis in order to identify change.

ORGANISATION

a company, firm, enterprise or association, or other legal entity or part thereof, whether incorporated or not, public or private, that has its own function(s) and administration.

PROBABILITY

the likelihood of a specific event or outcome, measured by the ratio of specific events or outcomes to the total number of possible events or outcomes. Probability is expressed as a number between 0 and 1, with 0 indicating an impossible event or outcome and 1 indicating an event or outcome is certain.

RESIDUAL RISK

the remaining level of risk after risk treatment measures have been taken.



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RISK

the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood.

RISK ACCEPTANCE

an informed decision to accept the consequences and the likelihood of a particular risk.

RISK ANALYSIS

a systematic use of available information to determine how often specified events may occur and the magnitude of their consequences.

RISK ASSESSMENT

the overall process of risk analysis and risk evaluation.

RISK AVOIDANCE

an informed decision not to become involved in a risk situation.

RISK CONTROL

that part of risk management which involves the implementation of policies, standards, procedures and physical changes to eliminate or minimise adverse risks.

RISK ENGINEERING

the application of engineering principles and methods to risk management.

RISK EVALUATION

the process used to determine risk management priorities by comparing the level of risk against predetermined standards, target risk levels or other criteria.

RISK FINANCING

the methods applied to fund risk treatment and the financial consequences of risk.

RISK IDENTIFICATION

the process of determining what can happen, why and how.

RISK MANAGEMENT

the culture, processes and structures that are directed towards the effective management of potential opportunities and adverse effects.



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RISK MANAGEMENT PROCESS

the systematic application of management policies, procedures and practices to the tasks of establishing the context, identifying, analysing, evaluating, treating, monitoring and communicating risk.

RISK REDUCTION

a selective application of appropriate techniques and management principles to reduce either likelihood of an occurrence or its consequences, or both.

RISK RETENTION

intentionally or unintentionally retaining the responsibility for loss, or financial burden of loss within the organisation.

RISK TRANSFER

shifting the responsibility or burden for loss to another party through legislation, contract, insurance or other means. Risk transfer can also refer to shifting a physical risk or part thereof elsewhere.

RISK TREATMENT

selection and implementation of appropriate options for dealing with risk.

SENSITIVITY ANALYSIS

examines how the results of a calculation or model vary as individual assumptions are changed.

STAKEHOLDERS

those people and organisations who may affect, be affected by, or perceive themselves to be affected by, a decision or activity.

NOTE: The term stakeholder may also include interested parties as defined in ISO 14050:1998 and AS/NZS ISO 14004:2004.



2. Risk management requirements

2.1. Purpose

The purpose of this Section is to describe how *JAPL* has integrated a systematic risk management program into its daily activities.

2.2. Risk management policy

JAPL's executive have defined and documented its policy for risk management, including objectives for, and its commitment to, risk management in the following statement that is relevant to *JAPL*'s strategic, organisational and risk management context and to vision, mission and strategies:

POLICY STATEMENT

JAPL is committed to perform all consulting and auditing activities in a manner that either totally eliminates or significantly reduces any perceived risk for the client and/or *JAPL* to an acceptable level.

In order to achieve this *JAPL* has adopted a formal risk management process based on ISO 31000:2009 model of establishing risk context, identifying, analysing, evaluating and treating risk.

The model is communicated to all levels of the company, monitored and reviewed for its effectiveness through consultation and audit.

The review results form an input to Management Review which will decide if any adjustments are required to any of the context parameters, such as the criteria for an acceptable level of risk, which is currently defined as a risk ranking that requires no treatment.

Simo Jaatinen
Managing Director
JAPL Pty Limited (*JAPL*)

2.3. Planning and resourcing

2.3.1. Management commitment

As declared in the Policy Statement *JAPL* ensures that:

- a risk management system is established, implemented and maintained in accordance with ISO 31000:2009; and
- the performance of the risk management system is reported to *JAPL*'s management for review and as a basis for improvement.



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2.3.2. Responsibility and authority

Any full-time employee of JAPL has the organisational freedom and authority to do one or more of the following:

- initiate action to prevent or reduce the adverse effects of risk;
- control further treatment of risks until the level of risk becomes acceptable;
- identify and record any problems relating to the management of risk;
- initiate, recommend or provide solutions through designated channels;

Only the Managing Director has the authority to:

- verify the implementation of solutions; and
- communicate any risk profiles externally.

2.3.3. Resources

JAPL has trained personnel for the management, performance and verification of work where appropriate records get created for subsequent review through internal audits.

2.4. Implementation program

JAPL recognise the following steps in the program implementation:

1. As a single director company the program has full management support.
2. The policy with respect to risk management is expressed and communicated in the [Policy Statement](#).
3. At the organisational level risk is managed through the implementation of the BMS that has the Business Plan as its top strategic document.
4. At operational and project levels risk is managed through the implementation of the BMS that has the Operations Procedures, Project Management Plans and the associated checklists that are used from the submission of a proposal, when requested, to order acceptance and task or project wrap-up.
5. Risks are monitored through the risk register and the risk management process is reviewed through internal audits.

2.5. Management review

The risk management policy and objectives are reviewed as part of the annual BMS review and more frequently if deemed necessary.

The Management Review Notes provide the means of keeping records of the meetings.



3. Risk management overview

3.1. General

Management of risk is an integral part of the *JAPL* Business Management System. Risk management is an iterative process of continual improvement.

3.2. Main elements

JAPL recognises the following main elements of the risk management process, as depicted also in the accompanying diagram:

3.2.1. Establish the risk context

Establish the strategic, organisational and risk management context in which the rest of the BMS processes take place. Criteria against which risks are to be evaluated are established and the structure of the analysis defined.

3.2.2. Identify risks

Identify *what*, *why* and *how* things can arise as the basis for further analysis.

3.2.3. Analyse risks

Determine the existing controls and analyse risks in terms of consequence and likelihood in the context of those controls. The analysis should consider the range of potential consequences and how likely those consequences are to occur. *JAPL* combines the consequence and likelihood to produce an estimated level of risk.

3.2.4. Evaluate risks

Compare estimated levels of risk against the pre-established criteria. This enables risks to be ranked so as to identify management priorities. If the levels of risk established are low, then risks may fall into an acceptable category and treatment may not be required.

3.2.5. Treat risks

Accept and monitor low priority risks. For other risks, develop and implement a specific management plan which includes consideration of funding.

3.2.6. Monitor and review

Monitor and review the performance of the risk management system and changes which might affect it.



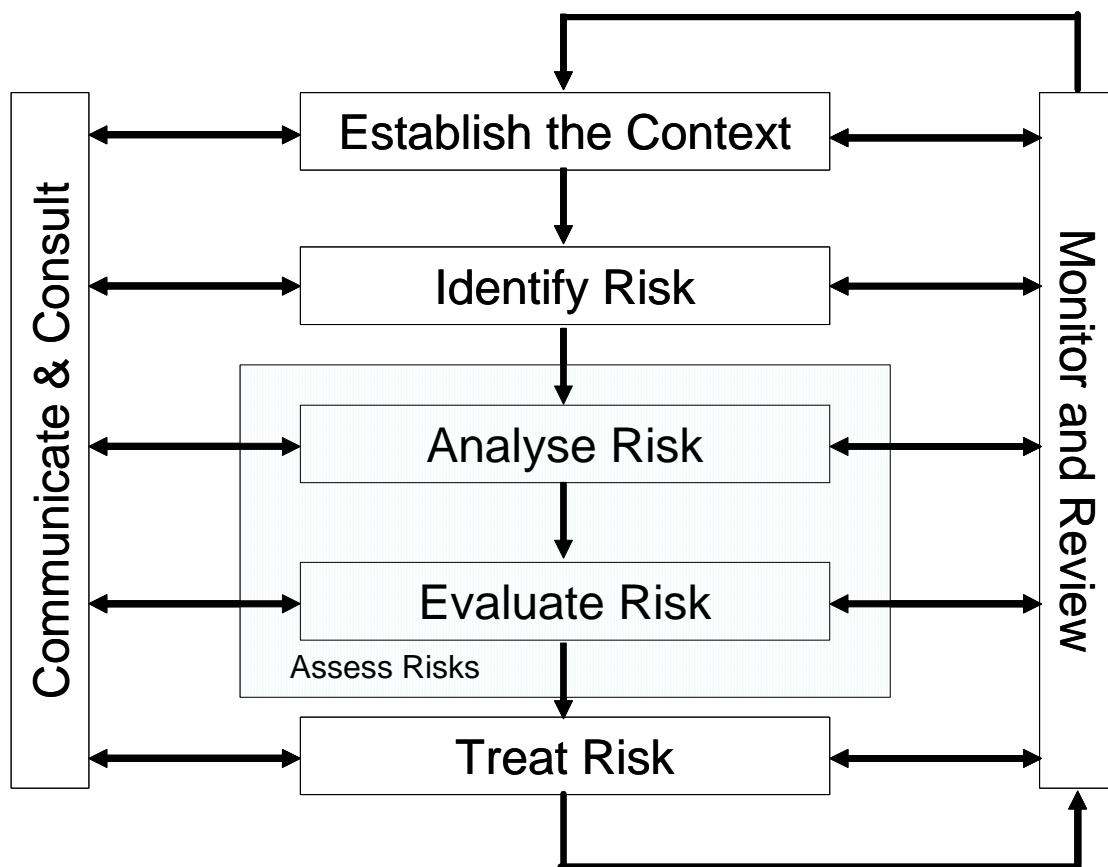
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3.2.7. Communicate and consult

Communicate and consult with internal and external stakeholders as appropriate at each stage of the risk management process and seek improvement for the process as a whole.

JAPL applies risk management at the strategic level and at operational levels. It is also applied to all project work to assist with specific decisions or to manage specific recognised risk areas.

For each stage of the risk management process adequate records are kept for post analysis and sufficient to satisfy independent audit.





4. Risk management process

4.1. Risk context

4.1.1. General

JAPL has considered its strategic, organisational and risk management context and settled on the parameters within which risk must be managed as described below.

4.1.2. Strategic context

JAPL has performed a SWOT analysis, identifying its strengths, weaknesses, opportunities and threats in relation to its operating environment. This context includes the financial, operational, competitive, political (public perceptions/image), social, client, cultural and legal aspects of the JAPL's functions.

JAPL identifies the following major internal and external stakeholders:

- JAPL's sole director and any contract staff;
- business partners and competitors;
- personal banker (NAB);
- insurance broker (AON);
- audit industry regulator (JAS-ANZ);
- 3rd and 2nd party certifiers;
- WorkCover and Environment ACT; and most importantly
- Customers.

A strategic analysis has been undertaken to identify the current likely sources of risk and the areas of impact where they affect JAPL's operations.

The analysis is endorsed by the sole director setting the basic parameters and it provides guidance for the more detailed risk management.

Consideration is always given to the need to revise the current strategic context definition taking account of the changes in the parameters of the Source of risk and the Area of Impact.

4.1.3. Organisational context

JAPL's organisation, capabilities, vision, mission and strategies are expressed in the web-based Business Management System available to public scrutiny at www.japl.com.au/About Us.htm that gets updated as circumstances warrant.

This information is considered important for the following reasons:



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1. Risk management takes place in the context of the entire *JAPL*'s operations with regard to our Vision, Mission; Strategy, Company and Employee Objectives.
2. Failure to achieve objectives of *JAPL* or the specific activity, or the project being considered is one set of risks which must be managed.
3. *JAPL*'s mission, vision and policies help define the criteria by which it is decided whether a risk is acceptable or not, and form the basis of options for treatment.

4.1.4. Risk management context

JAPL applies risk management process to its quality consulting and quality, environmental and safety (QES) auditing activities in the operational sense, as well as on a project by project basis.

By following the BMS procedural protocol, all the required resources, labour, material and funding get supplied, and in the process sufficient records are generated for the purposes of an independent audit.

4.1.5. Risk evaluation criteria

JAPL has identified the likely sources of risk and the areas where they could have an impact. This is further developed into a risk criteria according to the assumption that there is a close relationship between *JAPL*'s vision, mission and strategy to manage all the risks to which *JAPL* is exposed, be it negative (✓-), positive (✓+), neutral (✓) or not considered applicable in the SWOT analysis at the time but could become a factor.

Sources of risk that are not deemed to have any impact regardless of any changes in the circumstances at the time of the strategic, organisational or risk management context review have been designated as Not Applicable (NA) under the current operations that *JAPL* would engaged in.

Although risk criteria are initially developed as part of establishing the risk management context, they may be further developed and refined subsequently as particular risks are identified and risk analysis techniques are chosen, i.e. the risk criteria must correspond to the type of risks and the way in which risk levels are expressed.

4.1.6. Risk structure


JAPL separates company operations and project based consulting and auditing activities into a set of elements that provide a logical framework for identification and analysis which helps ensure significant risks are not overlooked.

The selected areas of impact, namely 'Fixed Assets', 'Total Revenue', 'Running Costs' and '*JAPL* Image' are common for the following risk source groupings:

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- Strategic & Organisational Source of Risk;
- Quality Consulting Source of Risk;
- Quality, Environmental and Safety (QES) Auditing Source of Risk.

4.2. Risk identification

4.2.1. General

Within each risk source grouping, a comprehensive list of specific risk sources is developed that could present a potential risk. The list may increase or decrease over time as specific impacts are analysed, but the initial attempt is to capture all potential sources.

4.2.2. What can happen

The comprehensive lists of risk sources are considered in more detail in the context of the risk source grouping to identify what can happen in relation to impacted areas; initially, whether the effect is negative (✓-), neutral (✓), positive (✓+) or be of no consideration (NA) in that area of impact under the current operations.

4.2.3. How and why it can happen

The tables below include a range of possible causes for the various risk sources, but they are not to be construed as being an exhaustive list of all the ways an event can be initiated.

However, the tables are believed to capture all significant causes.

4.2.4. Tools and techniques

Approaches that *JAPL* uses to identify risks include checklists, judgments based on experience and records, flow charts, brainstorming, systems analysis, scenario analysis and systems engineering techniques.

The approach used will depend on the nature of the activities under review and the types of risk, but as a starting point, the following tables provide the basis for risk analysis, evaluation and further management of significant events and their impacts.

Strategic & Organisational Sources of Risk	Area of impact			
	Fixed Assets	Total Revenue	Running Costs	<i>JAPL</i> Image
<i>Not meeting Commercial / Legal obligations with Clients:</i>	NA	✓-	✓	✓-
<i>with ATO:</i>	✓-	✓-	✓	NA
<i>with JAS-ANZ:</i>	NA	NA	NA NA	✓-



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Strategic & Organisational Sources of Risk	Area of impact			
	Fixed Assets	Total Revenue	Running Costs	JAPL Image
with 3 rd party certifiers:	NA	✓-	NA	✓-
with 2 nd party certifiers:	NA	✓-		✓-
<i>Economic circumstances</i> say increase in interest rates:	✓-	NA	✓-	NA
<i>Human behaviour</i> 3 rd party certifier personality conflict:	NA	✓-	NA	✓-
<i>Natural events</i> bush fire or tempest storm:	✓-	NA	✓-	✓+
<i>Political circumstances</i> change of gov. Fed / ACT:	NA	✓+	✓-	NA
<i>Technology / technical issues</i> SW changes:	NA	✓	✓-	NA
HW demands:	✓-	✓	✓-	✓-
Web technology change:	NA	✓+	✓-	✓+
<i>Perceived poor management activities & controls</i> Current JAPL's BMS:	NA	✓-	✓-	✓-
<i>Perceived poor performance</i> by Sole Director:	✓-	✓-	✓-	✓-
by Sub-Consultant:	NA	✓-	✓-	✓-

Quality Consulting Sources of Risk	Area of impact			
	Fixed Assets	Total Revenue	Running Costs	JAPL Image
<i>Professional Liability</i> Wrong advice:	NA	✓-	✓-	✓-
Negligence:	NA	✓-	✓-	✓-
Omissions:	NA	NA	✓-	✓
<i>Product Liability</i> Poor requirements definition:	NA	NA	✓-	✓-
Documentation is wrong:	NA	NA	✓-	✓-
CD does not work:	NA	NA	✓-	✓-
Spelling / formatting errors:	NA	NA	✓-	✓-
<i>Financial effects</i> No formal contract:	NA	✓-	✓	NA
Under estimated budget:	NA	✓-	✓	NA
Client delays payment:	NA	NA	✓-	NA
Client does not pay:	NA	✓-	✓-	✓-
<i>Human behaviour</i>				



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Quality Consulting Sources of Risk	Area of impact			
	Fixed Assets	Total Revenue	Running Costs	JAPL Image
Difficult client:	NA	✓	✓-	NA
Delays in delivery schedule:	NA	✓	✓-	✓-
<i>Technology / technical issues</i>				
Not a Windows environment:	NA	✓	✓-	NA
Client is computer illiterate:	NA	✓+	✓-	NA
JAPL lacks technical skills:	NA	✓-	✓-	✓-
<i>Perceived poor performance</i>				
by Sole Director:	NA	✓-	✓-	✓-
by Sub-Consultant:	NA	✓-	✓-	✓-

QES Auditing Sources of Risk	Area of impact			
	Fixed Assets	Total Revenue	Running Costs	JAPL Image
<i>Professional Liability</i>				
Wrong advice:	NA	✓	✓-	✓-
Negligence:	NA	✓	✓-	✓-
Omissions:	NA	NA	✓-	✓
<i>Product Liability</i>				
Spelling / formatting errors in the Audit Report:	NA	NA	NA	✓-
<i>Financial</i>				
No formal contract:	NA	✓	✓	NA
Client delays payment:	NA	NA	✓-	NA
Client does not pay:	NA	✓-	✓-	✓-
<i>Human behaviour</i>				
Difficult client:	NA	✓	✓-	NA
Delays in delivery schedule:	NA	NA	✓-	✓-
<i>Technology / technical issues</i>				
JAPL lacks technical skills:	NA	NA	✓-	✓-
<i>Perceived poor performance</i>				
by Sole Director:	✓-	✓-	✓-	✓-

4.3. Risk analysis

4.3.1. General


There are two distinct objectives of risk analysis:

- To separate the minor acceptable risks from the major risks; and

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- To provide data to assist in the evaluation and treatment of the remaining risks.

Risk analysis requires the consideration of the sources of risk, their consequences and the likelihood that those consequences may occur.

Factors which affect consequences and likelihood must also be identified. Risk is analysed by combining estimates of consequences and likelihood in the context of existing control measures.

Through the preliminary analysis that produced the previous source context tables, similar or low impact risks can already be excluded from detailed study. Excluded risks have been indicated by (NA) to demonstrate the completeness of the risk analysis.

4.3.2. Existing controls

The way *JAPL* uses existing controls is to determine first the nature of the impact as negative (✓-), neutral (✓), positive (✓+), or of no consideration (NA) in that area of impact under the current operations. Then use a more refined method of determining the combined effect of consequence and likelihood to estimate the level of risk for those risks that initially produced a negative (✓-) impact.

4.3.3. Consequences and likelihood

The magnitude of consequences of an event, should it occur, and the likelihood of the event and its associated consequences, are assessed in the context of the existing controls using the table below.

Whilst consequences and likelihood could be determined using statistical analysis and calculations, due to the lack of past data available, subjective estimates have been made which reflect the sole director's degree of belief that a particular event or outcome will occur.

Gradually, as usable data becomes available and to avoid subjective biases the best available information sources and techniques shall be used when analysing consequences and likelihood.

Whenever possible, the confidence placed on estimates of levels of risk shall also be included.

4.3.4. Types of risk analysis

Whilst the increasing order of complexity and costs of these analyses in ascending order, is qualitative, semi quantitative and quantitative risk analysis, *JAPL* adopts the qualitative approach in majority of cases.



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Qualitative analysis uses word form or descriptive scales to describe the magnitude of potential consequences and the likelihood that those consequences will occur. These scales can be adapted or adjusted to suit the circumstances, and different descriptions may be used for different risks, but the following descriptors have been adopted for consequence and likelihood in the *JAPL* business environment that deals in quality consulting and quality, environmental and safety auditing.

The example detail descriptions for the consequences or impacts have been expressed in terms of health, environmental and financial attributes, although these could be expressed differently to suit the type of risk and consequence being evaluated at the time.

Qualitative measure of consequence or impact:

Level	Descriptor	Example Detail description
1	Insignificant	No lost time injury or illness, No environment effects are felt, Low financial loss
2	Minor	Minor lost time injury or illness, Could affect environment, Medium financial loss
3	Moderate	Moderate lost time injury or illness, Soil, water or air is adversely affected in short term, High financial loss
4	Major	Serious lost time injury or illness, Soil, water or air is adversely affected in long term, Major financial loss
5	Catastrophic	Fatality or permanent disability, Long term environmental damage, Huge financial loss

Qualitative Measure of likelihood:

Level	Descriptor	Example Detail description
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur or happen
C	Possible	Could occur or heard of it happening
D	Unlikely	Not likely to occur
E	Rare	Practically impossible



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The following is an example of a matrix in which risks are assigned to priority classes by combining their likelihood and consequence:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	M-10	H-14	H-21	E-23	E-25
B (likely)	M-6	M-12	H-19	H-22	E-24
C (moderate)	L-5	M-8	H-16	H-17	H-20
D (unlikely)	L-3	L-4	M-9	M-13	H-18
E (rare)	L-1	L-2	M-7	M-11	H-15

Legend:

E: extreme risk; immediate action required

H: high risk; senior management attention needed

M: moderate risk; management responsibility must be specified

L: low risk; manage by routine procedures

4.3.5. Sensitivity analysis

Since some of the estimates made in quantitative and semi quantitative analysis are imprecise, *JAPL* will carry out a sensitivity analysis to test the effect of changes in assumptions and data, whenever such evaluation methods are used.

4.4. Risk evaluation

Risk evaluation involves comparing the level of risk found during the analysis process with previously established risk criteria.

Risk analysis and the criteria against which risks are compared in risk evaluation need to be considered on the same basis. Thus qualitative evaluation involves comparison of a qualitative level of risk against qualitative criteria, and quantitative evaluation involves comparison of numerical level of risk against criteria which maybe expressed as a specific number, such as fatality, frequency or monetary value.

The output of a risk evaluation is a prioritised list of risks for further action.

JAPL's vision, mission, strategy and company objective and the extent of opportunity which could result from taking the risk are always considered before deciding to accept the risk.

The decisions may also take account of the wider context of the risk and include consideration of the control that *JAPL* would lose if the risk was transferred to another party.



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If the resulting risks fall into the low or acceptable risk categories they may be accepted with minimal further treatment. However, low and accepted risks are monitored and periodically reviewed to ensure they remain acceptable.

If risks do not fall into the low or acceptable risk category, they must be treated using one or more of the options that follow.

4.5. Risk treatment

JAPL uses any one or any combination of the following risk treatment options:

- a. Avoid the risk by deciding not to proceed with the activity likely to generate risk (where this is practicable), provided such risk aversion does not increase the significance of other risks, or Modify the process method to eliminate the risk completely.
- b. Re-design the work process to eliminate hazards and/or to include control measures that are in excess of the BMS protocol.
- c. Transfer the risk through joint incentives, sub contract conditions, partnering arrangements or insurance with full cognizance of any new risk potentially arising from the transferee not managing the risk effectively.
- d. Reduce the likelihood of the occurrence by following the BMS protocol and registering the affected items for closer scrutiny in terms of monitoring and review.
- e. Reduce the consequences by following the BMS protocol and registering the affected items for closer scrutiny in terms of monitoring and review.

4.5.1. Risk retention

After risks have been reduced or transferred there may be residual risks which are retained by JAPL. When any such residual risks are identified they are recorded in the Risk Register selected an appropriate transfer method, including contingency funding that can be reduced as the particular operation or project comes to a closure.

In addition there can be residual risks retained by default, i.e. when there is a failure to identify and/or appropriately transfer or otherwise treat risks, therefore every review agenda includes a topic of 'Unidentified or latent risks and delinquent risk treatment'.

4.5.2. Assessing risk treatment options


A number of options may be considered and applied either individually or in combination.

Selection of the most appropriate option involves balancing the cost of implementing each option against the benefits derived from it. In general, the cost of managing risks needs to be commensurate with the benefits obtained.

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Where large reductions in risk may be obtained with relatively low expenditure, such options are implemented. Further options for improvement may be uneconomic and judgment needs to be exercised as to whether they are justifiable.

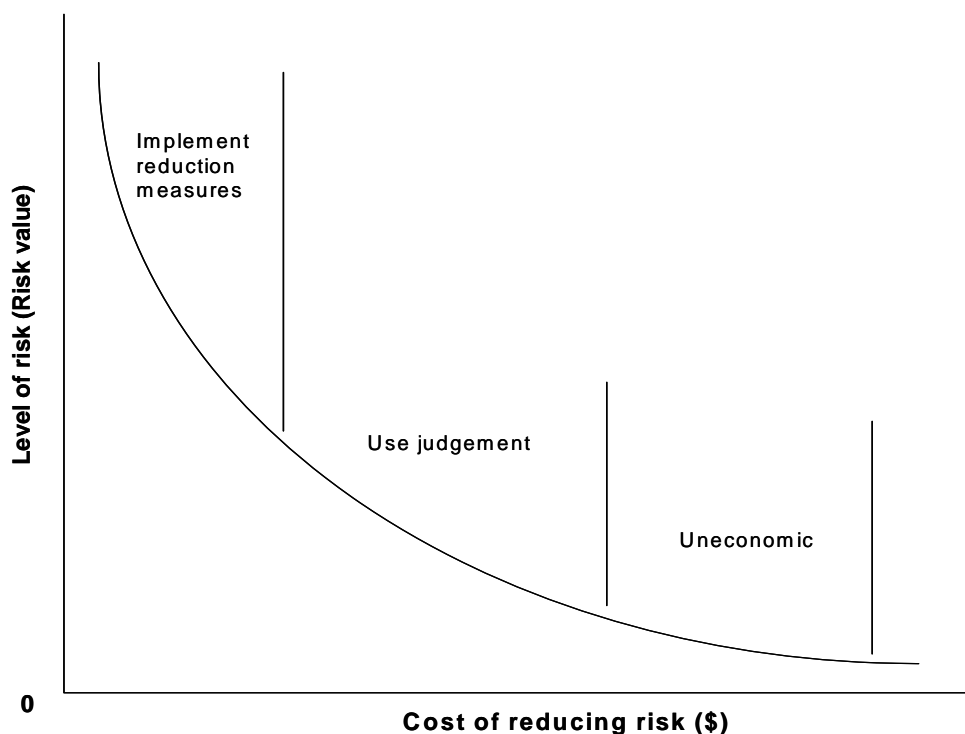
Decisions should take account of the need to carefully consider rare but severe risks, which may warrant risk reduction measures that are not justifiable on strictly economic grounds.

In general the adverse impact of risks is made as low as reasonably practicable, irrespective of any absolute criteria.

If the level of risk is high, but considerable opportunities could result from taking the risk, such as the use of a new technology, then acceptance of the risk needs to be based on an assessment of the costs of risk treatment, and the costs of rectifying the potential consequences versus the opportunities afforded by taking the risk.

In many cases, it is unlikely that any one risk treatment option will be a complete solution for a particular problem. Often *JAPL* will benefit substantially by a combination of options such as reducing the likelihood of risks, reducing their consequences, and transferring or retaining any residual risks. An example is the effective use of contracts and risk financing supported by a risk reduction program.

A Curve of Diminishing Returns for Risk Treatment:





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4.5.3. Treatment plans preparation

Plans document how the chosen options are to be implemented.

The treatment plan identifies responsibilities, schedules, and the expected outcome of treatments, budgeting, performance measures and the review process to be adopted.

The plan also includes mechanisms for assessing the implementation of the options against performance criteria, individual responsibilities and other objectives, and for monitoring of critical implementation milestones.

4.5.4. Treatment plans implementation

Ideally, responsibility for treatment of risk should be borne by those best able to control the risk. Responsibilities are agreed with the client at the earliest possible time and always before entering into contract. The responsibilities assigned to *JAPL* will become the Project Manager's responsibilities.

JAPL's BMS specifies the methods chosen, assigns responsibilities and individual accountabilities for actions, and monitors them against specified criteria to ensure a successful implementation of the risk treatment plan.

If after treatment there is a residual risk, a decision shall be taken as to whether to retain this risk or repeat the risk treatment process.

Should the treatment not achieve the desired reduction, or fail completely, a disaster recovery mode will be evoked.

4.6. Monitoring and review

It is necessary to monitor risks, the effectiveness of the risk treatment plan, strategies and the BMS which is set up to control implementation. Risks and the effectiveness of control measures need to be monitored to ensure changing circumstances do not alter risk priorities. Few risks remain static.

Ongoing review is essential to ensure that the management plan remains relevant. Factors which may affect the likelihood and consequences of an outcome may change, as may the factors which affect the suitability or cost of the various treatment options. It is therefore necessary to regularly repeat the risk management cycle. Review is an integral part of the risk management treatment plan.


4.7. Communication and consultation

Communication and consultation are an important consideration at each step of the risk management process. A communication plan is developed for both internal and external stakeholders at the earliest stage of the process. This plan addresses issues relating to both the risk itself and the process to manage it.

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Communication and consultation involve a two way dialogue between stakeholders with efforts focused on consultation rather than a one way flow of information from the decision maker to other stakeholders.

Effective internal and external communication is important to ensure that those responsible for implementing risk management, and those with a vested interest understand the basis on which decisions are made and why particular actions are required.

Perceptions of risk can vary due to difference in assumptions and concepts and the needs, issues and concerns of stakeholders as they relate to the risk or the issues under discussion. Stakeholders are likely to make judgments of the acceptability of a risk based on their perception of risk. Since stakeholders can have a significant impact on the decisions made, it is important that their perceptions of risk, as well as their perceptions of benefits, be identified and documented and the underlying reasons for them understood and addressed as an additional narrative to the plan itself.



5. Documentation

5.1. General

JAPL has documented each stage of the risk management process from the context establishment to risk identification, analysis evaluation and treatment to residual risk retention, communication and review.

5.2. Reasons for documentation

JAPL has undertaken to produce this Risk Management Manual in order to:

1. to demonstrate the risk management process is conducted properly;
2. to provide evidence of a systematic approach to risk identification and analysis;
3. to provide a record of risks and to develop JAPL's knowledge database;
4. to provide the relevant decision makers, sole director and project managers with a risk management plan for approval and subsequent implementation;
5. to provide an accountability mechanism and tool;
6. to facilitate continuing monitoring and review;
7. to provide an audit trail, sufficient for independent audit; and
8. to share and communicate information to all stakeholders, including JAPL's clients, subcontractors and insurers.

5.3. Included documentation listing

1. [Risk Management Policy](#)
2. [Risk Management Process Diagram](#)
3. [Strategic & Organisational Sources of Risk Table](#)
4. [Quality Consulting Sources of Risk Table](#)
5. [QES Auditing Sources of Risk Table](#)
6. [Qualitative Measure of Consequence or Impact Table](#)
7. [Qualitative Measure of Likelihood Table](#)
8. [Combined Consequence & Likelihood Priority Matrix](#)
9. [A Curve of Diminishing Returns for Risk Treatment](#)
10. [Risk Register Proforma](#)
11. [Risk Treatment Schedule and Plan Proforma](#)
12. [Risk Action Plan Proforma](#)



[Risk Register](#)
[Risk Treatment Schedule and Plan](#)
[Risk Action Plan](#)



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Risk action plan	
Item	Ref
Risk	
Summary – Recommended Response and Impact	
Action Plan	
1 Proposed actions	
2 Resource requirements	
3 Responsibilities	
4 Timing	
5 Reporting and monitoring required	
Compiler:	Date:
Reviewer:	Date: