

LEETON SHIRE COUNCIL NSW



Emergency Risk Management Plan

2008

Prepared by: Leeton Local Emergency Management Committee
Approved by: Leeton Shire Council
Approved Date: 17 December 2008
Minute No: 08/480

TITLE

Emergency Risk Management Plan for Leeton Shire 1st Edition – October 2008

AUTHORISATION

The Emergency Risk Management Plan for Leeton Shire has been prepared by Leeton Shire for the Local Emergency Management Committee in accordance with Section 29.1 of State Emergency and Rescue Management Act, 1989 Section 23 (1).

APPROVED

.....
CHAIRPERSON
LEETON SHIRE
EMERGENCY MANAGEMENT COMMITTEE

Date / /

ENDORSED

.....
CHAIRPERSON
RIVERINA DISTRICT
EMERGENCY MANAGEMENT COMMITTEE

Date / /

Disclaimer

The information in this Emergency Risk Management Plan is based on specific information supplied by members of the Leeton Local Emergency Management Committee and other recognised agencies. As such, Leeton Shire Council and MD-SAFETY accepts no responsibility for any loss that may arise as a result of incorrect information.

AMENDMENT LIST

1. Suggested amendments or additions to this Emergency Risk Management Plan are to be sent to:

The Chairperson
Local Emergency Management Committee
Leeton Shire Council
23-25 Chelmsford PI
Leeton NSW 2705

Fax 02 69533377

Email council@Leeton.nsw.gov.au

2. Amendments are to be certified in the following table.

EDITION or AMENDMENT		AUTHORITY		ENTERED	
NUMBER	DATED	APPROVED	ENDORSED	SIGNATURE	DATE
1					
2					
3					
4					
5					

DOCUMENT ISSUE

APPOINTMENT/ORGANISATION	Number of Documents ISSUED
Local Emergency Operations Controller	1
Local Emergency Operations Officer	1
DISTRICT EMERGENCY OPERATIONS CONTROLLERS for	
Leeton Shire Council	1
LOCAL EMERGENCY MANAGEMENT COMMITTEES and EMERGENCY OPERATIONS CENTRES for	
Leeton Shire Council	2
Narrandera Shire	1
Griffith City Council	1
Murrumbidgee Shire Council	1
LOCAL EMERGENCY SERVICE ORGANISATIONS	
NSW Ambulance Service – Station Officer Leeton	1
NSW Rural Fire Service – Zone Manager	1
NSW Fire Brigades - Captain Leeton Brigade	1
NSW Police Service - Leeton Commander	1
NSW Police Service – Local Area Commander (LAC)	1
State Emergency Service – Leeton Local Controller	1
Volunteer Rescue Association – Leeton Captain	1

APPOINTMENT/ORGANISATION	Number of Documents ISSUED
Local Organisations providing services in FUNCTIONAL AREAS	
Agricultural Services NSW Agriculture – Emergency Liaison Officer Rural Lands Protection Board - Narrandera	1
Communication Services – Telstra – Other	1
Engineering Services Leeton Shire Council – Director Eng & Technical Services	1
Environmental Services Leeton Shire Council – Health & Development Officer	1
Health Services Leeton Hospital - Manager Leeton Community Health Centre - Manager	2
Transport Services Leeton Shire Council – Manager Design and Construction	1
Welfare Services Department of Community Services Leeton	1
SPECIAL ADVISORS	
Country Energy	1
AGL	1
Other	1
OTHER	
Leeton Shire Council – General Manager	1
Leeton Shire Library	1
Riverina District Emergency Management Officer	1
National Parks & Wildlife Services – Griffith Region	1

DEFINITIONS

NOTE:

Emergency risk management is a systematic approach that produces a range of measures which contribute to the well being of communities and the environment.

The following definitions are to be used to facilitate common terminology within the emergency risk management process. The definitions specified in the NSW State Emergency and Rescue Management Act and the NSW State DISPLAN prevail over any other definition used in the emergency risk management context.

Annual Exceedence Probability (AEP)

The chance of an event (typically a flood) of a given or larger size occurring in any one year. Usually expressed as a percentage. eg 1 chance in 100 per year or 1% AEP.

Australian Height Datum (AHD)

A common national surface level datum (reference level) approximately corresponding in mean (average) sea level, eg 10 metres AHD means 10 metres above average sea level.

Average Recurrence Interval (ARI)

The long term average number of years between the occurrence of an event (typically a flood) of a given or larger size. Eg a 20 year ARI flood will happen on average about once in 20 years.

Built Environment

The elements of physical construction within a community.
(Source: QES Disaster Risk Management Guide)

Combat Agency

The agency identified in DISPLAN as the agency primarily responsible for responding to a particular emergency.
(Source: SERM Act)

Community

A group with a commonality of association and generally defined by location, share experience or function.

Community Safety

A reference to providing a safer living environment in the broadest sense and is not concerned with crime prevention and law enforcement issues.

Consequence

The outcome of an event or situation expressed qualitatively or quantitatively, being a loss, injury, disadvantage or gain. (In emergency risk management – the outcome of an event or situation expressed qualitatively or quantitatively. In the emergency risk management context, consequences are generally described as the effects of persons, society, the economy and the environment.)

District Emergency Management Officer

The principal executive officer appointed to the District Emergency Management Committee and to the District Emergency Operations Controller.

Element at Risk

Things that are valued within (or by) a community and which may interact with a source or risk.

Emergency

An emergency due to the actual or imminent occurrence (such as a fire, flood, storm, earthquake, explosion, accident, epidemic or warlike action) which:

- a. endangers, or threatens to endanger, the safety or health of persons or animals in the State, or;

- b. destroys or damages, or threatens to destroy or damage, any property in the State, being an emergency which requires a significant and coordinated response.
(Source: SERM Act)

For the purposes of the definition of emergency, property in the State includes any part of the environment of the State. Accordingly, a reference in the Act to:

- a. Threats or danger to property includes a reference to threats or danger to the environment, and;
- b. The protection of property includes a reference to the protection of the environment.
(Source: SERM Act)

Emergency Risk Management

A systematic process that produces a range of measures that contributes to the well being of communities and the environment.

Emergency Risk Management Working Group

A subcommittee to the relevant emergency management committee established to undertake the emergency risk management process.

Environment

Conditions or influences comprising social, physical and built elements, which surround and interact with a community.

Hazard

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

Lifeline

A system or network that provides services on which the well being of the community depends.

Likelihood

A qualitative description of probability and frequency.

Local Emergency Management Officer

The principal executive officer appointed to the Local Emergency Management Committee and to the Local Emergency Operations Controller.

Local Emergency Management Committee Chairperson

A person appointed by a local government council who has the authority of the council to coordinate the use of the councils' resources in the prevention of, preparation for, response to and recovery from emergencies.

Mitigation

Measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment.

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

Preparation

In relation to an emergency include arrangements or plans to deal with an emergency or the effects of an emergency.
(Source: SERM Act).

Prevention

In relation to an emergency includes the identification of hazards, the assessment of threats to life and property and the taking of measures to reduce potential loss to life or property.
(Source: SERM Act)

Recovery

In relation to an emergency includes the process of returning an affected community to its proper level of functioning after an emergency.
(Source: SERM Act.)

Residual Risk

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

Risk Analysis

A systematic use of available information to determine how often specified events may occur and the magnitude of their likely consequences. (In emergency risk management the systematic use of available information to study risk.)

Risk Acceptance

An informed decision to accept the consequences and the likelihood of a particular task

Risk Evaluation

The process in which judgements are made on the tolerability of the risk on the basis of risk analysis and taking into account factors such as socio economic and environmental aspects.
The process used to prioritise risk.

Risk Treatment Options

Measures that modify the characteristics of hazards, communities or environments.

Source of Risk

Situations or conditions with potential for loss or harm to people, property or the environment.

Stakeholders

Emergency Risk Management Stakeholders are individuals or organisations that may affect, be affected by or perceive themselves to be affected by the emergency risk management process. The SEMC has grouped stakeholders into three categories. They are:

Emergency Management Committee Members.

Representatives of the emergency services, functional areas, other agencies and the relevant Emergency Operations Controller.

Community Groups.

Representatives of participating or supporting agencies, services clubs, common interest groups and sporting/social clubs.

Community Members

Other persons residing in the defined area.

Vulnerability

The degree of susceptibility and resilience of the community and environment to hazards. The degree of loss to a given element at risk or set of such elements resulting from the occurrence of a phenomenon of a given magnitude and expressed on a scales of 0 (no damage) to 10 (total loss).means a potential or existing condition that may cause harm to people or damage to property or the environment.

(From NSW Emergency Risk Management Implementation Guide.)

ABBREVIATIONS

ADF	Australian Defence Forces
DEMC	District Emergency Management Committee
DEMO	District Emergency Management Officer
DEOC	District Emergency Operations Centre
DEOCON	District Emergency Operations Controller
DISPLAN	Disaster Plan
EOC	Emergency Operations Centre
HAZMAT	Hazardous Materials
LEMC	Local Emergency Management Committee
LEMO	Local Emergency Management Officer
LEOC	Local Emergency Operations Centre
LEOCON	Local Emergency Operations Controller
LO	Liaison Officer
NSWFB	NSW Fire Brigades
RFS	Rural Fire Service
RTA	Roads and Traffic Authority
SEMC	State Emergency Management Committee
SEOC	State Emergency Operations Centre
SEOCON	State Emergency Operations Controller
SERM Act	State Emergency and Rescue Management Act 1989 (as amended)
SES	NSW State Emergency Service
SEWS	Standard Emergency Warning Signal
SITREP	Situation Report
SO	Standing Orders
SOP	Standing Operations Procedures
VRA	Volunteer Rescue Association

(From NSW Emergency Risk Management Implementation Guide).

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1. EXECUTIVE SUMMARY

Leeton Shire Council has developed an Emergency Risk Management Plan in accordance with the *Implementation Guide for Emergency Risk Management* published by the NSW State Emergency Management Committee. Funding for the project was provided by the Australian Government Local Grants Scheme. To develop the plan, Council employed an emergency management consultant who facilitated the emergency risk assessment process in conjunction with local stakeholders.

The plan provides the framework for identifying, analysing, evaluating risks and recommending appropriate treatment options for identified hazards of natural, technological and biological natures for the purpose of reducing the incidence and impact of risk within the Shire. The ERMP is also designed to complement the local Leeton Disaster Plan (DISPLAN), which would normally be activated in response to a significant emergency.

As a result of conducting the study it was determined that a total of nineteen (19) significant hazard groups may occur within Leeton Shire, requiring further detailed analysis. Of these hazards a total of four (4) were assessed as being in the Extreme risk category defined in the Implementation Guide;

RISK LEVEL	NUMERICAL RANKING	HAZARD	LIKELIHOOD RATING	CONSEQUENCE RATING
Extreme	16	Transport Emergency – Road	Likely	Major
Extreme	16	Flood	Likely	Major
Extreme	12	Exotic Disease – Animal, Plant (considered beyond scope of local planning)	Possible	Major
Extreme	12	Explosion (LPG/Other)	Possible	Major

(A full summary of all risk assessments is included on page 39)

To arrive at the assessment each risk was analysed using separate a risk statement which included a record of risk treatment strategies and options. The suggested treatments for these risks have been uniformly evaluated against a recognised set of criteria, in keeping with the Prevention, Preparedness, Response, and Recovery (PPRR) strategy outlined in the Implementation Guide.

As part of measuring the effectiveness of the risk management process the treatment strategies and options outlined in the risk statements have also been complemented with Key Performance Indicators (KPI's), thereby enabling the success of the programs to be evaluated over time.

Maps have also been provided in the Appendices to assist in the identification of significant hazards and emergency resources in the Shire.

Summary of Recommendations

GENERAL

Number	Recommendation	Agency Responsibility
1	Risk Strategies and Treatment Options outlined on Risk Statement pages 42-63 are reviewed annually by the Leeton LEMC to determine if changes have occurred to Hazard/Risk elements thereby requiring updated Risk Assessments on emergency hazards.	LEMC
2	Key Performance Indicators outlined on pages 64-65 be reviewed annually by the Leeton LEMC to determine if risk strategies and treatment options are meeting required targets.	LEMC
3	Compile a contact directory of emergency contacts and telephone numbers and update quarterly. Apart from the usual distribution, a copy should be kept at the LEOC.	LSC
4	Annual Membership Drives for volunteers to boost numbers. One of the major concerns of rural residents is the scarce and aging population in rural areas. It is crucial to invite the community to participate as volunteers. The ERM working group established that word of mouth is the most effective method of recruitment.	SES VRA RFS NSW Fire Brigades
5	Annual cross agency field days Eg testing critical response times of units to incident. Lock down drainage system to prevent chemical spill flowing into river.	LEOCON
6	Effective communications training for emergency services eg putting the LEOC into operation. Undertake other training on an annual basis. E.g. possibly triage.	LEOCON
7	Include pets in evacuation procedures which are encompassed by normal Police operations. Other emergency experiences indicate that evacuation plans should include pets to facilitate ease of personal evacuation.	NSW Police
8		
9		
10		

Summary of Recommendations

SPECIFIC

Number	Recommendation	Agency Responsible
1	Encourage adequate insurance cover. This speeds the recovery process from hazards including bushfire, flood, storm & tempest, urban fire, explosion, and hazardous materials.	LEMC
2	Storm & tempest (high hazard, numerical rating 12) would benefit from encouraging people to stay indoors and restricting traffic movement at time of impact. This treatment would be beneficial at times of flood.	SES NSW Police VRA (time of impact)
3	Environmental Emergency (high hazard, numerical ranking 9) would benefit from following advice from EPA at time of impact as would Hazardous Materials.	NSW Fire Brigades LSC (time of impact)
4	Transport Accident – Air (high hazard, numerical ranking 9) may benefit from additional aircraft warning devices on power lines. These may prevent the hazard from impacting or at least lessen its impact on power supply.	LSC/Country Energy
5	Storm & tempest (high hazard, numerical rating 12) would benefit from encouraging people to stay indoors and restricting traffic movement at time of impact. This treatment would be beneficial at times of flood.	SES NSW Police VRA (time of impact)
6	Actively encourage evacuation plans in institutions, businesses and family homes (including pets).	All agencies
7	Investigate update of alternate power source at LEOC.	LSC
8	Ensure road and other signs are visible. Regular patrols of traffic signs is necessary to ensure they are not obscured by trees and bushes.	LSC (part of routine maintenance)
9	Driver education for transport drivers and car drivers with an emphasis on speed and fatigue is paramount. RTA statistics indicate that one in five accidents is caused by fatigue. Transport drivers also require education in the correct loading (and partial unloading) of trucks. Users of mobile scooters would benefit from instruction in road rules. Driver education is also a treatment option for the Fog/Dust/Smoke hazard. Road Safety education should continue in schools.	RTA/LSC LSC/NSW Police
10	Investigate update of alternate power source at LEOC.	LEMC/LSC
11		
12		

2. SUMMARY OF PROJECT MANAGEMENT PLAN

Project Definition

Charter

Leeton Shire in partnership with the local emergency services and the wider community is planning for a safer environment. To assist this to take place Council applied for a grant through the Australian Government Commonwealth Local Grants Scheme (LGS) in 2006 to prepare an Emergency Risk Management Plan (ERMP) for the Leeton Shire area.

This plan provides the framework for identifying, analysing, evaluating risks and recommending appropriate treatment options for identified hazards of natural, technological and biological natures for the purpose of reducing the incidence and impact of risk within the Shire. In effect the ERMP works where possible to avert the need to action the local Leeton Disaster Plan (DISPLAN), which would normally occur in response to a significant emergency.

This process is aligned to the requirements of *NSW State Emergency Management Committee* which has developed strategies for providing effective risk management for all local government areas. The emergency risk management process permits continuous improvement through monitoring and review, to accommodate changing community risks.

Objectives

The objectives of the ERM plan are:

1. Define and identify which hazards apply to Leeton Shire Council area and require further analysis as outlined by the ERMP context statement.
2. Identify the elements at risk and formulate Risk Statements if the hazard impacts eg human life, property damage etc.
3. Analyse potential risks on probability and consequence basis and evaluate the level of risk and risk acceptability if the hazards impacted
4. Develop risk treatment options, select and prioritize risk treatment options and formulate a treatment plan as part of the Leeton Shire Emergency Risk Management Strategy.

Scope

This ERM project collected, collated and analysed research results and treatment recommendations as determined in consultation with Leeton Shire community/stakeholders.

The scope of the project was bounded by the confines of government legislation, logistics and budgetary considerations, community perception, scarcity of resources, Leeton Shire boundaries and a limited time frame.

Authority

The ERM project plan is governed by the NSW Government State Emergency and Rescue Management Act 1989 (as amended).

The plan will also comply with AS/NZS 4360-2004 – *Risk Management* and Leeton Shire Council policy.

Stakeholders involved in the ERM Plan include emergency services, functional agencies, emergency management consultancies and local community participation. The Leeton Displan and Plans and sub plans of various agencies were utilised in the development of this document.

Performance, Monitor and Review

Time frames placed upon the recommended treatment options allow the LEMC to monitor and review progress towards safer communities.

Project progress was publicised in the local media where possible.

Implementation

Implementation followed ANNEX A and ANNEX B of the *Implementation Guide for Emergency Risk Management NSW* (NSW State Emergency Management Committee).

Information Management and Document Control

- 1 Documents will be reviewed periodically through the monitoring and review process.
- 2 Obsolete material should be labelled and archived.
- 3 Off-site back up is recommended eg CD/DVD held by LEMC.
- 4 Where possible standard documents will be used for each part of the process. (Forms in Implementation Guide).

Types of information required

- 1 **Information relating to community concerns.** This information was gathered from consultation with the various communities or localities within the Shire eg Leeton, Yanco, Whitton, Murrumbidgee and the National Parks and Wildlife Service.
- 2 **Information relating to legislation and policy** is vital. Acts relevant to Leeton Shire's planning are:

Air Navigation Act 1920
Dangerous Goods Act 1975
NSW Public Health Act 1991
Local Government Act 1993
Occupational Health & Safety Act 2000
Occupational Health & Safety Regulations 2001
NSW Fire Brigades Act 1989
Rural Fires Act 1997
State Emergency Service Act 1989
State Emergency and Rescue Management Act 1989
Workplace Injury Management & Workers Compensation Act 1998
NSW Protection of Environment Operations Act 1997
Building Code of Australia & Associated Legislation
Essential Services Act 1988
- 3 **Descriptions of the communities and environment** as per Form 3 of the Implementation Guide. The descriptions include demography, culture, economy, infrastructure, and the environment – built, natural and social.

Information Forms

- 1 Verbal with note taking for transcription.
- 2 Paper documents – hardcopies will be double sided A4, indexed and secured in loose leaf, hard covered folder.
- 3 Electronic copy to be made on CD/DVD and filed with the hardcopy.

Information Content

The information content may be sourced from:

Historical records, statistical data, opinion and theory, anecdotal evidence, reports, other plans.

3. ERM CONTEXT STATEMENT

The Leeton Shire ERMP is designed to increase community safety through the identification, analysis, evaluation and control of natural, technological and biological hazards within its local government area. This process is consistent with the four established emergency management principles of Prevention, Preparedness, Response and Recovery.

The hazards or risks identified, analysed and evaluated have if not mitigated, the potential to require a "significant and co-ordinated response" from multiple agencies, should the hazard impact within the Shire (See Section 4 for Community and Environment Descriptions). It is for this reason that all steps should be taken to prevent the above occurrences where possible, before they impact on the local community.

3.1 Identified Hazards

From the Leeton DISPLAN and information from LEMC agencies the following sources of hazard/risk have been identified for Natural, Technological and Biological hazard categories. Other hazards that did not warrant consideration in the detailed study are included in the "Hazards Checklist" below and are reviewed by the LEMC on an "as needs" basis.

Hazards Checklist

Impact may require a significant and coordinated response from multiple agencies)

Natural Hazards

- | | |
|---|--|
| <input type="checkbox"/> Avalanche | <input checked="" type="checkbox"/> Drought |
| <input type="checkbox"/> Cyclone | <input type="checkbox"/> Extreme cold |
| <input checked="" type="checkbox"/> Earthquake | <input checked="" type="checkbox"/> Fire – bush/grass |
| <input type="checkbox"/> Fall/mudflow | <input checked="" type="checkbox"/> Fog/Dust/Smoke |
| <input checked="" type="checkbox"/> Flood (1:100 yrs) | <input checked="" type="checkbox"/> Infestations – animal, insect, plant |
| <input checked="" type="checkbox"/> Heatwave | <input type="checkbox"/> Landslip/rock |
| <input type="checkbox"/> Isolation/time & distance | <input checked="" type="checkbox"/> Storm & Tempest |
| <input type="checkbox"/> Snow storm | <input type="checkbox"/> Tornado |
| <input type="checkbox"/> Storm surge | |
| <input type="checkbox"/> Tsunami | |

Technological

- | | |
|---|--|
| <input type="checkbox"/> Aeronautical | <input type="checkbox"/> Bridge collapse |
| <input checked="" type="checkbox"/> Building collapse | <input type="checkbox"/> Dam failure |
| <input checked="" type="checkbox"/> Environmental Emergency | <input checked="" type="checkbox"/> Explosion |
| <input checked="" type="checkbox"/> Fire – urban | <input checked="" type="checkbox"/> Hazardous materials |
| <input checked="" type="checkbox"/> Major Industrial accident | <input type="checkbox"/> Land subsidence |
| <input type="checkbox"/> Mine accident | <input type="checkbox"/> Road condition |
| <input type="checkbox"/> Scarcity of resources | <input type="checkbox"/> Single access road |
| <input type="checkbox"/> Space debris re-entry | <input type="checkbox"/> Terrorism incident |
| <input checked="" type="checkbox"/> Transport accident – air | <input checked="" type="checkbox"/> Transport accident –rail |
| <input checked="" type="checkbox"/> Transport accident – road | <input type="checkbox"/> Transport accident - sea |
| <input checked="" type="checkbox"/> Utility failure – (power/ gas/ water/communication) | |
| <input type="checkbox"/> Vacant rural properties | |

Biological

- | | |
|---|--|
| <input checked="" type="checkbox"/> Communicable disease affecting humans | |
| <input checked="" type="checkbox"/> Exotic disease animal & plant | <input type="checkbox"/> Other Pathogens |

Note: Further detailed analysis and description of hazards and risks are contained in pages Section 5 – Hazards and Risks, pages 22-60.

3.2 Process Documentation and Limitations

The ERMP project is guided by the confines of government legislation (including the NSW State Emergency and Rescue Management Act 1989 (as amended), logistics and budgetary considerations, community perception, Leeton Shire boundaries, a limited time frame for project completion and the commitment and input from the committee and stakeholders.

The plan will also comply with AS/NZS 4360-2004 – *Risk Management*, AS 3745-2002 *Emergency Control Organisation*, Leeton Shire Council policy and LEMC agency requirements.

3.3 Management and Communication Frameworks

The Local Emergency Management Committee is responsible for managing the ERM project. An ERM Project Facilitator has been contracted to facilitate the information gathering, research and documentation process. This person reports directly to the LEMO and has the assistance of the ERM Working Group.

Project Workgroup

Surname	Name	Agency/Organisation	Position
Condie	James	Leeton Shire Council	LEMO
TBA		NSW Police	LEOCON
Parks	Graham	NSW Fire Brigade	Member
Bailey	Chris	NSW Ambulance	Member
TBA		NSW Health	Member
Morris	Peter	SES	Member
Adams	Kevin	NSW Rural Fire Service	Member
Hehir	Glen	Leeton Volunteer Rescue Squad	Member
Cooper	Darryl	NSW DPI	Member
Dando	Matt	MD-SAFETY	ERM Project Facilitator

The Leeton LEMC meets as required, approximately quarterly. The Working Group met as required with one on one interaction the most common form of meeting. Due to time constraints the meeting approach was generally informal.

ERMP Communication

Communication on relevant aspects of the ERMP process involved utilising the existing local government infrastructure (which already provided a number of strategies and communication networks), within the Leeton local government area. Communication strengthens the capacity of communities to take action that produces positive and sustainable changes locally.

The overall aim of LEMC communications strategies was to enable the local community to be better informed about the emergency hazards and PPRR strategies that are in place in Leeton Shire. As the time frame for preparation of the report was limited, active community engagement was undertaken (where possible) via the LEMC member agencies and the local media.

The ERMP project involved a number of key Stages:

1. Stage 1 - "Setting the Context", "Hazard Identification"
2. Stage 2 - "Risk Analysis" and "Risk Treatment" (Risk Statements)
3. Stage Three "Report Consolidation"
4. Stage Four – "Presentation to LEMC"

4. COMMUNITY AND ENVIRONMENTAL DESCRIPTION

4.1 Demographics and Built Environment

Area and Population

The Shire covers some 1,167 square kilometres of the southern portion of the Murrumbidgee Irrigation Area (MIA), incorporating a large portion of rural land. The area was once historically described as a 'howling wilderness' but is now the heart of one of the richest food producing areas of Australia.

Leeton's recent history dates back to 1912 when the MIA was officially opened and to 1913 when the first town allotments were made available. The town has grown at a slow but steady pace and when coupled with the nearby village of Yanco has a population of approximately 8,000. The other villages in the Shire are Whitton, Murrami and Wamoon which combine to make a total Shire population of approximately 11,500. The population is made up of numerous nationalities and includes a small number of non-English speaking persons.

The Murrumbidgee River is the lifeblood of the area in terms of agricultural pursuits, but it is also an important recreation and relaxation facility.



Housing

From the Census 2006 there are 4,052 dwellings in the Shire. Dwellings in Leeton, Yanco and Whitton account for 3,017 of these with most of the remaining 1,035 classified as rural. On the night of the Census 2006 nearly one quarter of rural dwellings had nobody at home. There are many older homes which are constructed of timber. Offsetting this are many new constructions in Leeton, Yanco and some in rural areas. Most dwellings are single storey.

Communication and Transport Roads, Bridges and Drainage

Main Road 80 and Whitton Road (MR539) are the main roads in the Shire. Council maintains the 950km of the Local, Regional and State Road network within the Shire boundaries as follows;

- 60km of State Road under the single Invitation Contract
- 25km of Regional Road under a shared funding agreement with the RTA.
- 420km of local sealed roads
- 443km of local unsealed roads

Part of the maintenance process is the undertaking of routine inspections in an attempt to identify defects before they become severe or result in some type of incident.

Council also maintains three bridges and an extensive drainage network that includes both piped and open drains.

River traffic is restricted to small craft and movement is restricted by the Yanco and Gogeldrie Weirs.

Rail

Leeton Shire contains approximately 73 km of rail lines, made up of 47 km of main line between Narrandera and Griffith and 26 km of secondary line - Leeton to Hay (no longer used on a regular basis).

With the advent of increased road transport the use of rail has decreased markedly in recent years, leading to a decrease in rail incidents and a corresponding increase in road traffic incidents.

Air

Leeton Shire lies under the commercial flight path Adelaide - Sydney. Leeton shares a licensed aerodrome with Narrandera which has a bitumen runway 1616m and a grass cross strip of 1020m, (generally used by non commercial aircraft). There is a weight rating on this aerodrome. Brobenah Airfield (5 km NE Leeton) is also available for small aircraft with two gravel runways. A number of rural properties also have private airstrips.

A considerable amount of low level agricultural aircraft traffic occurs as a result of intensive agricultural practices in the Shire.

Communications

Leeton Shire has telephone service with land lines which include the area code (02). There is internet service including broadband in urban areas. Mobile phone coverage is generally adequate within the Shire. Telstra mobile phone towers are located in Leeton, Griffith and Narrandera Shires. A Vodafone (Digital) tower is located in Leeton and along the Sturt Highway. Most rural properties have UHF CB radio coverage.

There is no radio station in the Shire but it is within listening range of commercial radio in Griffith and Radio ABC, Wagga Wagga. Leeton Shire has no television station but receives ABC, Prime, WIN, Ten and SBS, in addition to satellite television.

Community Assets

Community assets are varied and include:

Hospitals – Leeton Hospital (33 beds) on Palm Avenue. Other facilities include a Community Health Centre, Dental Clinic and four doctors' surgeries.

Schools – Leeton Shire has seven primary schools and three high schools in addition to Leeton Campus of the Riverina Institute of TAFE, and the Riverina Community College.

Utilities – Electricity - Country Energy is the Electricity supplier.
 - Gas - AGL is the Natural Gas supplier

4.2 Economy

Leeton Shire is in the heart of the MIA which is historically known as the food bowl of the state. In particular the MIA produces: 36% of all rice, 70% of all citrus and 55% of all grapes grown in NSW. The diversity and intensity of agrifood production continues to grow, as the region normally has a very

stable water supply, good soils and climate. Vegetable and fruit production continue to expand. The production strengths of this region are significant, and these strengths form the foundation of significant processing operations. In particular are the Leeton Rice Mills, Rockdale Feedlot, A.J. Bush & Sons, Freedom Foods & Berri Ltd. There is also considerable manufacturing undertaken in the Shire including the Climate Technologies factory and many other small to medium size businesses.

Industry Employment – Leeton Shire Census 2006

Industry	Persons
Agriculture, forestry & fishing	588
Mining	16
Manufacturing	1,024
Electricity, gas, water & waste services	159
Construction	254
Wholesale trade	176
Retail trade	465
Accommodation & food services	199
Transport, postal & warehousing	175
Information media & telecommunications	20
Financial & insurance services	75
Rental, hiring & real estate services	35
Professional, scientific & technical services	135
Administrative & support services	128
Public administration & safety	245
Education & training	468
Health care & social assistance	311
Arts & recreation services	26
Other services	145
Inadequately described/Not stated	103
Total	4,747

4.3 Social Environment

Commerce

The largest commercial centre is Leeton which provides essential goods and services and includes Service Clubs and numerous accommodation establishments.

Yanco and Whitton because of their close proximity to Leeton have a relatively small commercial base however the Yanco Ex Serviceman's Club and the Whitton Bowling Club and other businesses provide a valuable social service to those communities.

The historic Hydro Hotel, several other Hotels and three motels provide a range of accommodation facilities.

With fewer facilities than Griffith, residents, farmers and businesses also shop in Griffith on occasion. Mail order and internet shopping is a growing trend with the rise in fuel and travel costs.

Community Services

There are quite a number of active community groups and service groups in the Shire which provide a diverse range of services. However, often the same people work in the various groups. Like most communities, there is always a need to encourage greater community participation.

4.3.1 Vulnerable Communities

Aged

The aged may require special assistance following an emergency due to their inability to move quickly or without assistance. The town of Leeton has facilities to accommodate the aged. They are as follows;

Location	Facility	No. of Residents
Leeton	Assumption Villa	39
Leeton	Free Masons Aged Care	10
Yanco	Eventide Homes	15

A number of other aged residents also reside in their own houses throughout the Shire.

Disabled

The disabled may require special assistance following any emergency due to their inability to move quickly or without assistance. NOTE: The specific locations of aged and/or disabled residents are available through the community health service.

Non-English Speaking

Non-English speaking persons may also require special assistance following any emergency due to their inability to understand emergency warnings.

4.4 Natural Environment

TOPOGRAPHY AND GEOLOGY

The MIA comprises mainly flat plains between the Palaeozoic massif of eastern Australia and the Cainozoic deposits of the Murray Basin. Rock outcrops rising up to 305 m above the plain also cover the area. The Yanco (Round Hill; 248 m), Robertson (239 m), Brobenah (361 m), and Moura (173 m) trig. stations form an extension of discontinuous outcrops and the Cocoparra Range. Rock outcrops comprise the Leeton Hills with Merungle trig station (184 m), (Source NSW Agriculture, 1998).

Soils in the MIA are 20% self-mulching clay and the remainder non-self mulching clays and transitional red brown earths. As such they are generally regarded as very suitable for a wide range of agricultural pursuits including both irrigated and non-irrigated enterprises.

FLORA & FAUNA

Within the Shire is some 8,672 ha of state forest (generally red river gum), in addition to relatively small areas of open dry eucalypt forests. The remainder of vegetation is made up of irrigated and dry land cropping and grazing areas in addition to small areas of natural and re-introduced native vegetation, including the internationally recognised Fivebough and Tuckerbill wetland areas.

Fauna found in some areas of the Shire includes the Eastern Grey Kangaroo, Swamp Wallaby, Water Rat, Olive Legless Lizard, Bearded Dragon, Red-throated Skink, Striped Skink, Eastern Blue-Tongued Lizard, Red-bellied Black Snake, Eastern Brown Snake and several species of frogs and fish. A large variety of birdlife also inhabit the area on a seasonal basis.

CLIMATE

Climatic conditions are semi arid with an average rainfall of 430mm and high evaporation levels. Rain falls mainly in winter and spring. Electrical storms, dust storms and hail storms generally occur in the summer months, which is when bushfires are also most likely to occur. Temperatures range between 17-32 degrees Mean Celsius in summer and 4--14 degrees Mean Celsius in winter.

4.4.1 National Parks/Special Areas - Koonadan and Fivebough/Tuckerbill Wetlands

Koonadan Historic Site is 9km north-west of Leeton and is part of the traditional lands of the Wiradjuri people, the largest Aboriginal tribe in NSW. In the late 19th century the community was forced to move to a mission. Koonadan is a place of stories — of Aboriginal culture and of a history of Aboriginal and European contact that has not been easy. The sand dune at Koonadan is a burial site that overlooks Tuckerbill Swamp. The swamp and surrounding land are a traditional hunting and fishing area for the Wiradjuri people which is linked to a corroboree site at Yanco. Aboriginal skeletal remains have been found in the dunes and the local Aboriginal community believes that Koonadan is an ancestral Wiradjuri burial ground (NPWS 1996).

Both Fivebough and Tuckerbil wetlands have long been recognised as important sites for birdlife in the Shire. Fivebough Swamp is 2 km north-east of Leeton, and Tuckerbil Swamp is approximately 12 km north-west of Leeton. The two swamps are less than 10 km apart. Fivebough Swamp covers 400 hectares and Tuckerbil occupies 289 hectares. The swamps were listed as an international Ramsar site in 2002, reflecting the significant nature of these areas to the natural environment. Of 360 wetlands surveyed during the RAOU Murray-Darling Basin Waterbird Project, Fivebough Swamp recorded the highest number of waterbird species and it ranked second within the Murray- Darling Basin for the maximum number of species recorded in a single survey. Tuckerbil Swamp recorded the second highest number of waterbird species and it ranked seventh for the maximum number of species recorded in a single survey.

5. HAZARDS AND RISKS

5.1 Hazard/Risk Evaluation Criteria

The risk evaluation criteria agreed to by the Leeton LEMC is consistent with the definitions as set out by the SEMC Implementation Guide, and requires that **any reasonably preventable accident, incident or activity that will result in significant impact on the Leeton community is unacceptable.**

Likelihood and Consequence ratings used are as follows:

5.1.1 Likelihood Ratings

RATINGS	DESCRIPTION AND INDICATIVE PROBABILITY
Almost Certain (5)	Expected to occur, many recorded incidents, strong anecdotal evidence, great opportunity, reason, or means to occur; may occur or be exceeded once every 1 to 5 years.
Likely (4)	Will probably occur; consistent record of incidents and good anecdotal evidence; considerable opportunity, reason or means to occur; may occur or be exceeded once every 20 years.
Possible (3)	Might occur; a few recorded incidents in each locality, some anecdotal evidence within the community; some opportunity, reason or means to occur; may occur or be exceeded once every 100 years. Will generally be close to or exceed past records of severity.
Unlikely (2)	Is not expected to occur; isolated recorded incidents in this country, anecdotal evidence in other communities; little opportunity, reason or means to occur; may occur or be exceeded once every 250 years. Will almost always break previous records of severity.
Rare (1)	May only occur in exceptional circumstances, some recorded events on a worldwide basis, may only occur or be exceeded once every 500 years or more. Can approach the theoretical upper limits of severity.

(From NSW State Emergency Management Committee – *Implementation Guide for Emergency Risk Management NSW*).

5.1.2 Consequence Ratings (From NSW State Emergency Management Committee – Implementation Guide for Emergency Risk Management NSW)

RATING	HUMAN LIFE AND HEALTH	PROPERTY, FINANCIAL, ENVIRONMENTAL
Insignificant (1)	No injuries or fatalities. Small number or no people are displaced and only for a short duration. Little or no personal support required. (support not monetary or material).	Inconsequential or no damage. Little or no disruption to community. No measurable impact on environment. Little or no financial loss.
Minor (2)	Small number of injuries but no fatalities. First aid treatment required. Some displacement of people (less than 24 hours). Some personal support required. Some disruption (less than 24 hours).	Some damage. Some impact on environment with no lasting effects. Some financial loss.
Moderate (3)	Medical treatment required but no fatalities. Some hospitalization. Localised displacement of people who return within 24 hours. Personal support satisfied through local arrangements.	Localised damage that is rectified by routine arrangements. Normal community functioning with some inconvenience. Some impact on environment with no long term effect, or small impact on environment with long term effect. Significant financial loss.
Major (4)	Fatalities. Extensive injuries, significant hospitalisation. Large number displaced (more than 24 hours duration). External resources required for personal support.	Significant damage that requires external resources. Community only partially functioning, some services unavailable. Some impact on environment with long term effects. Significant financial loss – some financial assistance required.
Catastrophic (5)	Significant fatalities. Large number of severe injuries. Extended and large numbers requiring hospitalisation. General and widespread displacement for extended duration.	Extensive damage. Extensive personal support. Community unable to function without significant support. Significant impact on environment and/or permanent damage.

5.1.3 Risk Level Ratings

(From NSW State Emergency Management Committee – Implementation Guide for Emergency Risk Management (NSW))

LIKELIHOOD	CONSEQUENCE				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost (5) certain	High (5)	High (10)	Extreme (15)	Extreme (20)	Extreme (25)
Likely (4)	Moderate (4)	High (8)	High (12)	Extreme (16)	Extreme (20)
Possible (3)	Low (3)	Moderate (6)	High (9)	Extreme (12)	Extreme (15)
Unlikely (2)	Low (2)	Low (4)	Moderate (6)	High (8)	Extreme (10)
Rare (1)	Low (1)	Low (2)	Moderate (3)	High (4)	High (5)

Using the Likelihood ratings and Consequence ratings, the above table from the implementation guide assigns risk levels to hazards with corresponding co-ordinates. A risk that is unlikely with major consequences has a high level of risk. By further assigning a numerical value to likelihood ratings and consequence ratings, priorities emerge.

5.2 Hazard/Risk Descriptions

Within Leeton Shire a number of hazards exist and analysis and evaluation of the hazards indicate the level of risk our community would face, if the hazards were to impact. For an emergency hazard to be considered by the Local Emergency Management Committee, the impact of the hazard must require “a significant and co-ordinated response by multiple agencies”.

From 3.1 Identified Hazards Checklist there were 19 potential hazard groups (a total of 21 separate emergency hazards) in Leeton Shire. The initial identification of these hazards came from the Leeton DISPLAN which uses older risk criteria. The hazard checklist from the *Implementation Guide* also gives more extensive options as did the consultation process. Where possible the terminology used in the DISPLAN has been adopted eg “Severe Storm” has become “Storm and Tempest”.

A number of hazards were identified that did not fit into conventional hazard categories. These included isolation/time and distance, scarcity of resources (including human resources), road condition, single access roads and vacant rural properties. Further examination of these revealed two differences from the identified hazards. First, it was difficult to fit these to the criteria of “a significant and co-ordinated response by multiple agencies.” Second, these are different from the other hazards considered, as these are often not unique events. For these reasons, they have not been included as ranked hazards. However, addressing these issues will form part of the recommendations as they may significantly impact on the Shire’s ability to effectively manage the identified risks associated with them.

5.2.1 Natural Hazard emergencies:

SOURCE OF HAZARD/RISK	# RISK RATING ESTIMATES		Hist. in LGA (Y/N)	COMMENTS/AGENCY
	PROBABILITY	CONSEQUENCE		
Drought	Almost Certain	Major	Y	Multi agency support including NSW Agriculture - over extended period
Earthquake	Remote	Moderate to Major	N	LEOCON to control. Remote threat throughout the area.
Fire (Bush/Grass)	High	Moderate to Major	Y	Combat Agency - Rural Fire Service (refer to MIA Bush Fire Management Plan for details).
Fire (Urban) (residential, industrial or commercial)	Moderate	Moderate	Y	Combat agency - NSW Fire Brigades/NSW RFS Confined mainly to Leeton, Yanco and Whitton. Evacuations may be required.
Flooding (Natural1:100)	Low	Moderate to Major	Y	Combat Agency - NSW State Emergency Service. Refer Murrumbidgee River Flood Sub Plan, Also various local creeks have been identified.
Fog/Dust/Smoke	Moderate	Minor	Y	LEOCON to control. Minor threat throughout the area.
Storm & Tempest (Wind, Rain, Hail)	Moderate	Moderate to Major	Y	Combat Agency - NSW State Emergency Service. General threat throughout the District.
Heatwave	Moderate	Moderate to Major	Y	Combat Agency - NSW Health. Refer to NSW Health Emergency Supporting Plan for details.

5.2.2 Technological Hazard emergencies:

SOURCE OF HAZARD/RISK	# RISK RATING ESTIMATES		Hist. in LGA (Y/N)	COMMENTS/AGENCY
	PROBABILITY	CONSEQUENCE		
Building/Structure Collapse	Low	Moderate to Major	N	Combat Agency - NSW State Emergency Service plus NSW FB.
Environmental Emergency – (Chemical/Pollution)	Moderate	Moderate to Major	N	Combat Agency – Environment Protection Authority (DECC) in accordance with State Enviroplan with Local/District support.
Explosion Emergency (LPG/Other) (For fire see Natural Hazards)	Moderate	Moderate to Major	Y	Combat Agency - NSW Fire Brigades Refer to NSW Hazmat Sub-Plan. General threat, but particularly involving transport of explosive hazardous materials through major urban areas on Highways. Evacuations may be necessary.
Hazardous Materials Emergency	Moderate	Moderate to Major	Y	Combat Agency - NSW Fire Brigades Refer to NSW Hazmat Sub-Plan. General threat, but particularly involving transport of hazardous materials through major urban areas on Highways. Also involving spillage near waterways (especially City/Town water supplies). Evacuations may be necessary.
Major Industrial Accident/Incident	Moderate	Moderate to Major	Y	LEOCON to control with District support.
Transport emergency (Aviation)	Low	Major	N	LEOCON in control supported by, or handing control to DEOCON in accordance with State Aviation Sub Plan. Mainly confined to aviation crashes involving large passenger aircraft, but smaller commuter/light aircraft crashes can have major consequences in remote areas where access difficult and/or resources are limited.
Transport emergency (Rail)	Moderate	Moderate to Major	Y	LEOCON to control with District and Rail agency support.
Transport emergency (Road)	Moderate	Moderate to Major	Y	Police to control initially. If required LEOCON to control with District support. General threat but particularly along Sturt Highway, MR 80 and urban areas.
Utility failure – Power/Gas >24 hrs	Low	Major	N	LEOCON in control of operations and coordinate resource support. Support may be required from DEOCON.
Utility failure – Water >24 hrs	Low	Major	N	LEOCON in control of operations and coordinate resource support. Support may be required from DEOCON.

SOURCE OF HAZARD/RISK	# RISK RATING ESTIMATES		Hist. in LGA (Y/N)	COMMENTS/AGENCY
	PROBABILITY	CONSEQUENCE		
Utility failure – Communications >24 hrs	Low	Major	N	LEOCON in control of operations and coordinate resource support. Support may be required from DEOCON.

5.2.3 Biological Hazard emergencies:

SOURCE OF HAZARD/RISK	# RISK RATING ESTIMATES		Hist. in LGA (Y/N)	COMMENTS/AGENCY
	PROBABILITY	CONSEQUENCE		
Communicable Disease – Affecting Humans	Low	Major	N	Combat Agency - NSW Health. Refer to NSW Health Emergency Supporting Plan for details.
Exotic Disease – Animal/Plant	Low	Major	N	Combat Agency - NSW Agriculture. Refer to NSW South-West Region Animal Health Emergency Supporting Plan for details.
Infestations – Animal, Insect and Plant	Moderate	Moderate to Major	Y	Combat Agency - NSW Agriculture. Refer to NSW South-West Region Emergency Supporting Plans for details.

indicates that ratings are DISPLAN estimates using the older risk criteria and are consequently reviewed by this emergency risk management study.

5.3 Hazard/Risk Occurrences – Historical and Present Perspective

From an examination of historical and present data it can be seen that the following hazards may have potential to affect the Shire at some point in time. This affect is measured in terms of the potential combined impact on people, property, environment, utilities, animals, economy and social structures:

Natural Hazards:

Hazard	Drought
History	Leeton Shire has annual average rainfall of 430 mm and relies heavily on irrigation water from the Snowy Scheme. Drought occurs when precipitation in local and catchment areas is considerably less than normal. Significant droughts have occurred since the MIA was established, notably in 1914-1915, 1937-1945, 1965-1968, 1982-1983, droughts caused by the extended El Niño periods 1991-1995 and severe droughts in more recent times.
Intensity	Residents of Leeton Shire will all be touched in some way by the effects of drought ranging from the inconvenience of water restrictions, to failed livelihood. Severe droughts can last in excess of three years and have a major effect on the community. Casualties are to stock, wildlife and livelihoods. Human medical and other emergency responses may also be hampered by lack of asset and vehicle maintenance resulting from financial stress.
Extent	Drought conditions affect the whole shire
Onset Speed	Droughts develop slowly and are recurring phenomena in these parts
Manageability	Largely dependant on length and severity of drought and amount government support.
Secondary Hazards	Potential for significant psychological stress to susceptible people.

Hazard	Earthquake
History	No recorded occurrence for this risk in the immediate area. The more recent high recordings were Newcastle in December, 1989 (registering a level of 5.6 on the Richter Scale) and Cobar in July, 1994 (registering a level of 4.0). Major damage to buildings and 13 deaths resulted from the Newcastle earthquake, while the one at Cobar shook buildings with little if any damage recorded.
Intensity	Unknown, but expect would be mild in local area although the Australian Geographical Survey Organisation has indicated that the entire continent is an earthquake danger zone and that an earthquake measuring more than 6 on the Richter Scale could be expected in Australia every 5 years.
Extent	Effects may be felt in varying degrees across the Shire. However, due to the rarity of the hazard impacting, it is unlikely severe consequences would be experienced.
Onset Speed	Immediate.
Manageability	The threat to the area is low. Its impact would be managed by the LEOCON.
Secondary Hazards	Secondary hazards that may be a consequence of an earthquake include utility failure – communication, power, sewerage and water. However, due to the rarity of the hazard impacting, it is unlikely these consequences would be experienced.

Hazard	Fire (Bush/Grass)
History	<p>There is an established history of bush and grass fires in the Shire mainly between November and March although there have been some exceptions due to early or late periods of extreme high temperatures. Bush fires are generally confined to the wooded areas in the north-east and south of the Shire area or in open grasslands.</p> <p>Leeton has approximately 95 rural fires per year on average.</p> <p>The main sources of ignition are from natural causes including lightning, and other causes including escapes from agricultural burns, tourist activities (along rivers), and roadside ignitions.. In more recent times major fires occurred in the Leeton / Narrandera districts in 1990, 1991, 1998 and 2006. Some of these fires followed seasons conducive to high fuel growth and occurred in the relatively inaccessible areas of the Colinroobie and Brobenah Ranges in the central and central west parts of Narrandera Shire / north eastern parts of Leeton Shire. Extreme temperatures, strong gusty south westerly winds and the terrain hampered fire fighting efforts. The cause of these fires was lightning.</p> <p>The Brobenah Hills fire of 1991 ran from the edge of the Irrigation Area to the east and south burning 1640 hectares in Leeton Shire. The Brobenah Hills fire of 1998 was confined to 800 hectares. Fires burning in the Brobenah Hills area can present considerable suppression difficulties due to the hilly inaccessible terrain.</p>
Intensity	<p>Three different types of bushfire occur in Leeton Shire. Riverine Forests have the potential to fuel moderate intensity wildfires. Pastoral, grass and open woodlands fires are more short lived, but can spread fast with wind influences. Dry sclerophyll forest provides very flammable vegetation.</p> <p>The arid nature of much of the Shire coupled with the seasonal availability of fuel, are major factors determining the frequency and severity of bushfires. Casualties are to humans, stock, wildlife/environment, crops and livelihoods.</p>
Extent	<p>Bush fires season often begins with the prevailing strong south west to north west winds. Bush fire potential increases with high temperatures and thunderstorm activity in November and December. When there has been two consecutive years of above average rainfall, fuel availability is greater than average. As shown the extent of bushfires can vary from spot fires to large scale events.</p>
Onset Speed	<p>Immediate.</p>
Manageability	<p>With appropriate hazard reduction programs and the largely irrigated nature of the area, the risk to larger community centres is regarded as minimal. However buildings or residences in heavily timbered areas are considered to be at high risk of damage by bush fire. In addition the potential of grass fires rapidly spreading to neighbouring districts on days of extreme fire danger is very high.</p> <p>Time is of the essence so rapid response of crews can prevent a small fire escalating.</p> <p>There are limitations on finance, structural facilities and people. Rural properties are amalgamating; growing in size and declining in the population needed to detect and fight fires. There is a mutual aid agreement between NSW Rural Fire Services and NSW Fire Brigades. National Parks (Griffith) are also accredited fire fighting entities.</p> <p>Earthmoving equipment such as graders play an important role in fire containment as does the network of rural fire trails. This equipment is normally provided by the Shire Council or private contractors.</p>
Secondary Hazards	<p>Secondary hazards that may be a consequence of a bush fire include utility failure – communication, power, sewerage and water.</p>

Hazard	Fire (Structural)
History	On average, the Leeton NSW Fire Brigades receives approximately 60 call outs and the Leeton Shire NSW RFS brigades receive approximately 15-20 call outs to urban type fires per year. Most fires occur during winter when heating requirements are high and associated risks are present. Most structure fires involve single residential dwellings with generally only limited transfer of fire to adjoining buildings although some can also involve hazardous substances.
Intensity	Urban fire can be extremely severe with a timber house burning to the ground in as quick as 11 minutes. Most fires have been single residential dwellings with minimal transfer of fire to adjoining structures; however there have been a number of intense fires in industrial structures, some causing significant damage. Casualties may be through smoke inhalation, burns or structure collapse.
Extent	The fire is most likely to be contained in the one building. Heat and toxic gas are major problems when fighting structure fires.
Onset Speed	Immediate.
Manageability	Two brigade units are located in Leeton and give support to the Rural Fire Brigades in village and all other areas of the Shire when called upon. Resources such as fire hydrants need to be in good repair and easily accessible. Water availability to extinguish structure fires can be a problem in areas not serviced by reticulated water supplies.
Secondary Hazards	Secondary hazards from structural fires may be traffic accidents – road due to poor visibility on the roads caused by the smoke and utility failure – communication, power, sewerage and water.

Hazard	Flooding (Natural)
History	Parts of the MIA have a long history of floods, some of them severe. Despite several long periods without flooding, notably 1939 to 1949, 1960 to 1970 and 1993 to 2004, there have been 44 floods greater than 7.3 metres at the Narrandera gauge since 1892. Large floods occurred in 1925, 1950, 1952, 1956, 1974 and 1975. In recent years smaller floods occurred in 1991, 1992 and 1993. The 1974 flood reached 9.0 metres (on the nearby Narrandera gauge) and inundated large areas of farmland (including parts of Leeton Shire), for weeks. During the 1956 flood there were 8 separate flood peaks in an 8 month period with extended isolation of some rural properties.
Intensity	The large rainfall catchment area of the Murrumbidgee Valley commences in the Great Dividing Range in the Burrinjuck and Blowering Dam catchments. The flat terrain can mean an intense event, especially if accompanied by increased local rainfall. Flood water velocities can contribute to increased hazards and damage to properties/infrastructure. During a flood, large areas of farmland can be affected necessitating livestock and equipment to be moved to higher ground. Rural properties may become isolated for extended periods requiring re-supply.
Extent	Flood plains may be extensively inundated. Dark/Heavy soil areas in parts of the Shire become inaccessible even after minimal rain. Major transport routes closed for periods ranging a few hours to days isolating some areas. Sandbagging may be necessary.
Onset Speed	There is normally advance warning of flooding within the Shire with localities upstream being subject to flooding. Slow onset with plenty of warning. When Wagga Wagga floods it takes approximately 1 week for floodwaters to reach Leeton Shire. (Source SES)
Manageability	The town of Leeton is protected by the MIA canal. This canal is over-topped

	<p>when flood heights reach between 9.7 and 10.0 metres. Floods of a height sufficient to over-top the canal are possible. Modification of surface water by landholders also makes the prediction of flood flows difficult from year to year. The construction of the Blowering, Burrinjuck and Talbingo dams upstream of Narrandera has not prevented flooding, with the highest flood on record occurring in 1974 after the completion of these dams. In an extreme flood there is a possibility of dam failure. Fortunately, the chance of such an extreme flood is very low.</p> <p>The usual problem of warning Yanco Agricultural High School personnel and residents and rural property occupiers to safeguard property and livestock becomes a priority. The villages of Yanco and Whitton are situated above previously known flood levels, but would require close monitoring in the event of an extreme flood. Leeton-Narrandera Airport is protected by flood levees which prevented inundation during the 1974 floods.</p> <p>Casualties are to stock, wildlife, crops and livelihoods and possibly humans.</p>
Secondary Hazards	Secondary hazards that may be a consequence of flood (1:100) include infestations of insects (mosquito) and possible utility failure – communication, power, sewerage and water.

Hazard	Fog/Dust/Smoke
History	Fogs occur annually in winter. Generally they are early morning occurrences, clearing before midday. Dust storms and smoke occur mainly during summer and can be severe at times.
Intensity	The intensity of the fog or dust storm depends upon the prevailing weather conditions and may vary from light to very heavy with poor visibility. Smoke would depend upon the size of the bushfire and/or burning off activities.
Extent	Varies.
Onset Speed	Predicted by Bureau of Meteorology and may be slow or fast moving. Smoke would be dependant upon wind speed and direction.
Manageability	Media warnings for public education.
Secondary Hazards	Secondary hazards that may be a consequence of fog include traffic accidents – road and may be potentially more serious than the primary hazard.

Hazard	Storm and Tempest
History	Geographical and climatic factors predispose the Shire to occasional storms. There is recorded history of strong winds from late winter through summer. Summer thunderstorms may be dry and accompanied by lightning. There are occasional hail storms.
Intensity	High wind, hail and rain have potential to cause severe damage to commercial and residential buildings and roads causing major disruption to the community. Intensity varies depending upon the weather pattern. Casualties are most likely to be to buildings and crops.
Extent	May be widespread or isolated.
Onset Speed	Predicted by Bureau of Meteorology with warnings forwarded from SES Headquarters in Wagga Wagga.
Manageability	SES and VRA able to assist residents and landholders after a severe storm.
Secondary Hazards	Secondary hazards that may be a consequence of storm and tempest include utility failure – communication, power, water and fires – bush and grass.

Hazard	Heatwave
History	There is recorded history of above average temperatures occurring in the Shire over a long period of time.
Intensity	Can be very intense. Casualties are most likely to the elderly and young who may suffer dehydration, sun stroke and even death.
Extent	Variable. Can be significant if victims not provided with assistance.
Onset Speed	Generally slow. Predicted by Bureau of Meteorology.
Manageability	Resources such as utilities will come under pressure from increased usage. Visits to the elderly from district medical staff and volunteers would be valuable. The Meals on Wheels organisation, Red Cross and other care agencies may be useful allies for this purpose as they are already visiting this vulnerable group of people.
Secondary Hazards	Secondary hazards that may be a consequence of heatwave include utility failure – communication, power, sewerage, water.

Technological Hazards:

Hazard	Building/Structure Collapse
History	No history of significant collapse in Shire area.
Intensity	Can be localised and severe. Casualties are most likely to those in direct contact with the structure.
Extent	Generally confined to a specific area at the scene of the incident.
Onset Speed	Often immediate with little or no warning.
Manageability	SES and VRA in addition to NSW FB/NSW RFS able to assist businesses and residents. Engineering assistance would also be required.
Secondary Hazards	Secondary hazards that may be a consequence of Building/Structure Collapse are Fires/Explosions, Gas Leaks and Utility Failure – communication, power, sewerage, water.

Hazard	Environmental Emergency (Chemical/Pollution)
History	Some environmental pollution (chemical, oil/fuel, hazardous waste) has occurred in the past, particularly with the intensive agricultural/horticultural industries in the area. Environmental emergencies also result from natural causes such as fish die off in the Murrumbidgee River caused by a temperature spike. The water supply for the town and villages in the Shire is treated and pumped into storage tanks from earthen storage dams which are filled from the irrigation channel systems. With the exposure of the raw water to air and access to the channel systems

	by the public, there is a real danger of the water being contaminated either intentionally or accidentally.
Intensity	Can be extremely severe. There is potential for the water supply to be contaminated. Casualties are most likely to those in physical contact with the pollution.
Extent	May be confined to a specific area radiating from the scene of the incident or widespread if water supply contaminated. Any incident involving hazardous materials particularly in urban areas or inland waterways could pose significant management problems including containment, rescue (if necessary), possible evacuation of affected incidents and environmental damage. This has particular reference to Leeton Shire as a large number of agricultural aircraft carrying a wide range of agricultural chemicals operate in the local area.
Onset Speed	Slow or fast.
Manageability	The increasing volume of trucks carrying dangerous goods, passing through the Shire, increases the potential for an environmental emergency. Resources would be under pressure. An environmental emergency could result from a hazardous materials situation. The most likely scenario is that Leeton would require outside assistance. EPA would be notified immediately. NSW Fire Brigades could call on assistance from Griffith, Narrandera and Wagga Wagga or further a field. A helicopter with trained personnel can be responded and expert help can be sourced from interstate if required. Leeton NSW Fire Brigades has floating booms to contain floating material on waterways.
Secondary Hazards	Secondary hazards that may be a consequence of Environmental Emergency are Utility Failure – communication, power, sewerage, water. The water supply may become contaminated.

Hazard	Explosion Emergency (LPG/Other)
History	Limited occurrence in area, mainly minor explosions.
Intensity	Can be extremely severe. Casualties may be from breathing difficulties, injuries from debris or death. May be classed as Hazmat Incident.
Extent	The explosion may be confined to a specific area affecting a small area around the site to a large area requiring evacuation of the whole of Leeton or other villages. There are a number of potential explosive sites in the Shire. NSW Fire Brigades has also identified grain silos as a potential source of a dust explosion. Other potential sources of explosion are where chlorine is stored and where LPG is stored. With the exception of mishap in a school science laboratory, the remaining sources would most likely require impact plus fire to initiate the explosion. The increasing volume of trucks carrying dangerous goods, passing through the Shire increases the potential for an explosion. The Junee - Griffith Natural Gas Pipeline also passes through the centre of the Shire with services connected to Leeton and surrounding villages. This has potential for a fire/incident to occur as a result of a natural gas leak.
Onset Speed	Immediate with little or no warning.
Manageability	Resources would be under pressure from an explosion as it would result from a hazardous materials situation. The most likely scenario is that Leeton would require outside assistance. Leeton NSW Fire Brigades indicates that correct storage and handling of granulated chlorine is paramount. A localized list of LPG and BULK CHLORINE STORAGE is available.
Secondary Hazards	Secondary hazards that may be a consequence of Explosion are Hazardous Materials Incidents and Environmental Emergencies.

Hazard	Hazardous Materials Emergency
History	There is a history of hazardous materials or hazmat situations occurring in the Shire. Due to the high volume of large vehicles transporting material through the LGA, there is a possibility that a tanker could overturn and cause significant damage with possible casualties.
Intensity	Could be catastrophic with potential for Boiling Liquid Expanding Vapour Explosion (BLEVE) situation, and widespread contamination. Moderate to major consequences, some materials very persistent in the environment. Casualties may be through chemical inhalation, absorption and burns.
Extent	Could require evacuation of whole of Leeton, Yanco or Whitton. With the exception of the Sturt Highway which passes through the southern end of the Shire, the main transport arteries are main road status only, however the risk that an accident involving transported dangerous goods could occur in a built up area within Leeton is real and appropriate planning has been undertaken to provide a bypass road away from the main commercial centre. The Junee - Griffith Natural Gas Pipeline also passes through the centre of the Shire with services connected to Leeton and surrounding villages. This has potential for a fire/incident to occur as a result of a gas leak. The nature or volume of dangerous or flammable goods transported within and through the Shire is not accurately known.
Onset Speed	Immediate.
Manageability	Resources are limited. Leeton NSW Fire Brigades would attend in the first instance but may require outside assistance which would be some hours away. It may be possible that initial control of the situation will fall to workplace personnel. It is therefore, paramount that workplace emergency plans be kept up to date, address numbers clearly visible and fire hydrants easy to access. EPA would be notified immediately. NSW Fire Brigades could call on assistance from other stations. A helicopter with trained personnel can be on site quickly and expert help can be sourced from interstate. Leeton NSW Fire Brigades has floating booms to contain floating material on waterways and gas detection equipment. EVACUATION of the whole of Leeton, Yanco or Whitton may be necessary. Police would instigate evacuation process. Evacuation plans need to be updated. Local training in evacuation registration is important.
Secondary Hazards	Secondary hazards from hazardous materials include explosion, fire – bush, grass, fire - urban depending on the location of the incident. Also see Environmental Emergency (Chemical/Other Pollution).

Hazard	Industrial Accident/Incident
History	There is a history of industrial accidents/incidents in Shire, including falls, collisions, crushing, entanglement and other industrial emergency events.
Intensity	Can be extremely severe. Casualties may range from breathing difficulties, injuries from debris or death.
Extent	Normally confined to a specific area around the site.
Onset Speed	Immediate with little or no warning.
Manageability	Normally adequately handled by emergency/medical services. Large incidents may require significant outside resources.
Secondary Hazards	Secondary hazards that may be a consequence of industrial accidents/incidents include utility failure – communication, power, sewerage,

	water and psychological injury.
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Hazard	Transport Emergency (Air)
History	Leeton Shire lies under the commercial flight path for large passenger aircraft commuting from Sydney to Adelaide. Given, Australia's excellent aviation record there have been no incidents of these planes crashing in the Shire, and the likelihood of such an occurrence is rare. However, there are numerous reports of smaller, light aircraft (mainly agricultural) crashing in the Shire. Crashes in remote locations may be difficult to locate and access. There have been calls to respond to the Brobenah airfield and Leeton/Narrandera Aerodrome for emergency landings.
Intensity	Can be severe. Casualties range from minor injuries to death.
Extent	Initial extent limited to crash site. Although there is no major airport within the Shire, the airport located between Leeton and Narrandera services both towns and has potential for a major emergency. In addition numerous agricultural, commercial and occasional military aircraft utilise the airspace over the Shire on a regular basis. Debris may extend a considerable distance from the point of impact. If fire results from the impact and detection is slow, there could be widespread effects.
Onset Speed	Immediate response would be required to limit casualties.
Manageability	Resources are scarce and not necessarily equipped for accessing remote, off road sites. May require outside assistance.
Secondary Hazards	Secondary hazards that may be a consequence of Transport Emergency – Air include fire – bush, grass, Life safety of people in vicinity of crash site and road closure.

Hazard	Transport Emergency (Rail)
History	There is a history of rail accidents in the Shire ranging from minor incidents to multiple rail/road fatalities. However, with improvements to rail infrastructure and only limited freight and passenger rail services being run in recent times, the risk to large numbers of people has substantially reduced.
Intensity	Can be severe. Casualties range from minor injuries to death.
Extent	Usually motor vehicle/rail accidents involving multi agency attendance, including rescue and fire protection. Depending upon the accident site, may result in traffic delays or diversions.
Onset Speed	Immediate response would be required to limit casualties.
Manageability	Normally adequately handled by emergency/medical and rail services. Large incidents may require significant outside resources.
Secondary Hazards	Secondary hazards that may be a consequence of a rail accident include hazmat, fire, explosion and environmental emergency.

Hazard	Transport Emergency (Road)
History	There is a history of transport accidents in the Shire ranging from minor injuries to multiple fatalities. The volume of trucks travelling through this area, particularly those carrying dangerous goods has increased over recent years. Passenger coaches also pass through the area regularly as do increasing numbers of caravans. Several accidents, including a number of fatalities have occurred in fog.
Intensity	A concerning scenario is a transport vehicle accident resulting in a hazmat situation. While the semi-trailer rolling over may only injure the driver and cause minor property damage, the consequences of the load being dangerous

	good could be extensive, requiring hazmat and fire containment. Under a worst case scenario, a combined truck and coach crash would result in extensive injuries and possibly fatalities, involving up to 50 + people. Outside help to treat victims, and possibly specialist training, would be necessary.
Extent	Usually single or two vehicle accidents involving multi agency attendance including fire protection. Depending upon the accident site, Main road 80 or Sturt Highway traffic may result in delays or diversions. In the past, the Sturt highway has been closed for up to 24 hours.
Onset Speed	Immediate. Normally there is only one MVA at the same time.
Manageability	The large volume of traffic passing through the area on Main Road No. 80 each day presents a moderate level risk of a serious road accident. The unknown quantity and type of load carried on heavy transports will continue to be a problem for rescue teams and other emergency works. The number of rescue units in the area appears to be adequate. Casualties resulting may over extend the capacity of Leeton's 33 bed (4 emergency beds) hospital. This would mean medical evacuations for treatment of the most severe cases. There may be a need for Triage training to be done locally. Road safety engineering is a newer aspect of transport safety and involves actively encouraging behavioural change through education and encouraging the wider community to accept ownership of road safety issues. This includes development of road safety initiatives and developing programs to get these messages out into the community, some of which are targeting drink driving and speeding but also include programs such as Walk Safely to School and Bike Week events. Road Traffic Engineering is the development of the road network to provide a safer environment for road users, including pedestrians and cyclists.
Secondary Hazards	Secondary hazards that may be a consequence of a road accident include hazmat, fire, explosion and environmental emergency. It is possible that these secondary hazards present a greater threat than the traffic accident itself. Psychological injury is also another potential hazard.

Hazard	Utility Failure (Power/Gas)
History	Utility failure for extended periods generally occurs as a consequence of another hazard impacting. However, in the past there have only been short-term interruptions to energy supplies. At other times routine maintenance keeps utilities functioning normally.
Intensity	Slight to major. Consequences at time are issues with essential infrastructure provision, and stand by generators required. Longer term outages will impact on residents depending on temperatures and health. Casualties would result from illness associated with the utility failure eg. food poisoning if power fails.
Extent	Depending on the location of failure there may be impacts on power supplies to isolated villages and the town centre. Businesses are likely to be affected.
Onset Speed	Immediate.
Manageability	Power utilities have limited back-up electricity generators available for essential services.
Secondary Hazards	Businesses may need to shut down due to public risk issues. Possible health issues to elderly if during winter or summer seasons.

Hazard	Utility Failure (Water)
History	Utility failure for extended periods generally occurs as a consequence of another hazard impacting. However, in the past only a few longer-term water utility failures have occurred in the Shire and these were generally not for more than 36 hours. At other times routine maintenance keeps utilities functioning. Algal blooms occur from time to time and require vigilant monitoring.
Intensity	Slight to major. Longer term outages will impact on residents depending on temperatures and health. Casualties would result from illness associated with the utility failure eg. food poisoning, de-hydration etc., if power fails.
Extent	Depending on the location of failure there may be impacts on water mains to isolated villages and the town centre. Businesses are likely to be affected. The town water supply has been dysfunctional for only short periods in the past.
Onset Speed	Immediate.
Manageability	Replacement parts and equipment may need to be brought in from outside.
Secondary Hazards	Businesses may need to shut down for public risk issues. Possible health issues to elderly if during winter or summer seasons. Communications may shut down in some cases.

Hazard	Utility Failure (Communication)
History	Utility failure for extended periods generally occurs as a consequence of another hazard impacting. However, in the past no long-term communication failures have occurred in the Shire. At other times routine maintenance keeps communication utilities functioning.
Intensity	Slight to major. Consequences at time are issues with emergency communication Longer term outages will impact on residents and business depending on degree of dependence on communication infrastructure.
Extent	Depending on the location of failure there may be impacts on residents. Businesses are also likely to be affected.
Onset Speed	Immediate.
Manageability	Resources are scarce. There is a shortage of trained people in our area and replacement communication parts and equipment may need to be brought in from outside.
Secondary Hazards	Businesses may need to shut down due to communication difficulties. Possible health issues to elderly if during winter or summer seasons. Other essential services may shut down in some cases.

Biological Hazards:

Hazard	Communicable Disease (Human)
History	There is concern nationwide about the possibility of pandemics.
Intensity	Could be severe. May impact upon the broader community. Current statistics indicate that approximately 40% of any population could potentially be affected.
Extent	Could be widespread. Long term recovery possible.
Onset Speed	May spread quickly.
Manageability	Current levels of monitoring of potential public health problems provide adequate protection for the community. Consideration should, however, be given to the health risks facing the community, especially those housed in any temporary shelter as a result of some other form of emergency such as a flood, storm, fire etc. Arrangements should be in hand for the Health Department to provide the necessary advice and assistance to the Lead Combat Agency in any emergency situation which affects the community.
Secondary Hazards	Community social disruption, movement restriction, transport difficulties, pressure on law and order agencies.

Hazard	Exotic Disease (Animal/Plant)
History	There have been no confirmed cases of Foot and Mouth Disease (FMD), in Australia in the last 130 years, although a significant number of emergency animal diseases are exotic to Australia including Newcastle Disease (ND), Avian Influenza (AI) in birds and FMD. Approx one fifth of the above diseases can also infect humans. In the last 10 years Newcastle Disease & highly pathogenic Avian Influenza incidents have occurred in commercial poultry in NSW. Each incident has been able to be confined to the initially infected area. Worldwide, the incidence of the emergency animal diseases is increasing, including outbreaks in western world countries in recent years.
Intensity	Could be severe. All infected properties will be slaughtered/cleaned out as quick as possible unless the disease becomes widespread e.g. statewide. Will depend on environmental and other conditions.
Extent	Unknown. The livestock population of the Shire is spread throughout the area.
Onset Speed	Variable. From the time of detection of the disease to a response action is likely to vary with the disease type – range is for as short as 3-6hrs for highly infectious diseases to 24-48 hrs for less infectious diseases. The response time will be shorter for subsequent infected properties.
Manageability	Whilst considerable planning to counter the spread of an exotic disease outbreak has been undertaken by the Department of Primary Industries, there is still much to be done in the areas of public education/awareness including local Departments and Agencies, development of agreed roles and response by Local Government and Agencies in support of the Department of Primary Industries. Follow advice from Health Authorities. Keep domestic birds separated from wild birds.
Secondary Hazards	Human health for Zoonotic diseases including highly pathogenic Avian Influenza. Exposure of the response workforce to “everyday” zoonotic diseases e.g. Q fever, TB. Response activities will also generate a range of occupational hazards, with some having the potential to impact on the adjoining community.

Hazard	Infestations – Animal, Insect and Plant
History	There is recorded history of infestations such as rabbits, mice, locusts, locusts, fruit fly and Bathurst Burr in the shire. Following rain periods significant growth can occur. Pest infestation, particularly insects may follow.
Intensity	Can be very severe. Casualties are crops, stock, humans and livelihoods.
Extent	Can be widespread or confined to specific areas.
Onset Speed	Onset is usually slow and gathers momentum.
Manageability	While spraying programmes help, they are generally are not 100% effective.
Secondary Hazards	Secondary hazards that may be a consequence of Infestations – Animal, Insect and Plant are unknown.

5.4 Risk Analysis and Evaluation

A summary of the risk treatment process is located in 1. Executive Summary.

The 20 identified hazard groups (22 Total Hazards) have been analysed against the elements which may be affected and how they may be affected. For each affected element a **risk statement** has been developed. Each risk statement has then been evaluated against the criteria in Section 5 (Hazards and Risks) to establish an overall risk level shown in the summary table below. While the best available information has been used in this process there is still a degree of subjectivity and accordingly, agencies have taken this into account when formulating risk treatment options.

5.5 Risk Priority Summary

After detailed analysis of the Risk Statements the following table shows the summarised results of the risk assessments. The assessment method was consistent with the methodology outlined in the *Implementation Guide* including the requirement for consultation with affected stakeholders.

HAZARD ID NO:	RISK LEVEL (see page 24)	NUM. RANK	HAZARD	LIKELIHOOD RATING	CONSEQUENCE RATING
LS-001	Extreme	16	Transport Emergency – Road	Likely	Major
LS-002	Extreme	16	Flood	Likely	Major
LS-003	Extreme	12	Exotic Disease – Animal, Plant (considered beyond scope of local planning)	Possible	Major
LS-004	Extreme	12	Explosion (LPG/Other)	Possible	Major
LS-005	High	12	Hazardous Materials	Likely	Moderate
LS-006	High	12	Fire – Bush, Grass	Likely	Moderate
LS-007	High	12	Fire – Structural	Likely	Moderate
LS-008	High	12	Storm & Tempest	Likely	Moderate
LS-009	High	12	Major Drought	Likely	Moderate
LS-010	High	9	Transport Accident – Rail	Possible	Moderate
LS-011	High	9	Transport Accident – Air	Possible	Moderate
LS-012	High	9	Communicable Disease Affecting Humans (considered beyond scope of local planning)	Possible	Moderate
LS-013	High	9	Environmental Emergency	Possible	Moderate
LS-014	High	9	Infestations – animal, insect, plant	Possible	Moderate
LS-015	High	9	Major Industrial Accident	Possible	Moderate
LS-016	High	8	Heat wave	Likely	Minor
LS-017 A-C	Moderate	6	Utility Failure – Power/Gas /Water/Comms Extended period	Unlikely	Moderate
LS-018	Moderate	6	Building/Structure Collapse	Unlikely	Moderate
LS-019	Moderate	6	Fog/Dust/Smoke	Possible	Minor
LS-020	Low	2	Earthquake	Rare	Minor

5.6 Risk Treatment Evaluation

Suggested treatments for these risks have been uniformly evaluated against a recognised set of criteria, in keeping with the PPRR (Prevention, Preparation, Response, and Recovery) strategy.

Risk treatment options may treat more than one element within the hazard. Some treatments apply to more than one risk. Treatments that have multiple benefits are generally given priority. For some risk statements there may be only limited treatment options.

5.7 Assessment Criteria for Risk Treatment Options

When evaluating treatment options the following criteria were used to assist in the decision making process:

Assessment Criteria	Questions
Agency responsibility	Is there an agency responsible for implementing this option? If yes, refer.
Agency Contact	Who is the contact at the responsible agency?
Manageability	What management strategies are already in place for the hazard?
Effect	What effect will this treatment have on the hazard?
Timing	How quickly will benefits be felt?
Cost	Is this option cost effective?
Equity	Should those responsible for creating the risk pay for its reduction?
Funding	Is an application for funding required?
Administration	Is it easy to administer?
Benefits	Will the effects be short or long term?
Multiple benefits	Will adopting this option benefit other risks?
Creation of new risk	Will the treatment option create another risk?
Compatibility	Is this option compatible with other options that may be adopted?
Public reaction	Will there be adverse reactions from the public?
Adopt or reject	Should LEMC adopt or reject this option?
Priority	How high a priority is this option?
Timeframe	What is an acceptable timeframe for this to commence? What is an acceptable timeframe for this to finish?
Comments	

5.8 Risk Statements - Risk Statements 1 – 21 are shown on the following pages;

Risk Statement No: 1.	Hazard Category: Natural	Hazard ID No: LS-018	Hazard: Building/Structure Collapse											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that building/structure collapse in the Leeton Shire area may result in harm/damage to people, property, environment, animals, and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence				Risk Level									
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)						<input checked="" type="checkbox"/>			High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL				MODERATE									
STEP 3 - RISK TREATMENT	Risk Strategies	Aust Building Codes/Standards, Displan (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans),												
	Treatment Options	Operational response, Structural inspection, Warning advice, Public education.												
STEP 4 – REVIEW RISKS	Lead Agency	SES/VRA												
	Supporting/Functional Agencies	Council, NSW FB, NSW RFS, NSW Police, NSW Amb. Service, DOCS, Welfare agencies, Country Energy, Telstra, AGL												
	Date Approved										Review Date	12 months from approval date		

Risk Statement	Hazard Category: Natural	Hazard ID No: LS-009	Hazard: Drought	
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No: 2.															
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a drought occurring in southern NSW and the Leeton area may result in harm/damage to people, property, environment, animals, and economy in physical, psychological and economic terms.														
	Risk Consequence										Risk Level				
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING		Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)				<input checked="" type="checkbox"/>						High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)										High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)										Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL										HIGH				
STEP 3 - RISK TREATMENT	Risk Strategies				Drought Plan, Welfare Plan, Displan (including Communications and Welfare Plans)										
	Treatment Options				Alternate water supplies, Public education (advertising, recovery brochures) , de-stocking, reduced rural/urban water consumption, financial/psychological support										
STEP 4 – REVIEW RISKS	Lead Agency				NSW DPI										
	Supporting/Functional Agencies				Council, Murrumbidgee Irrigation, NSW RAA, NSW Health, DOCS, Welfare agencies and as required.										
	Date Approved											Review Date	12 months from approval date		

Risk Statement No: 3.	Hazard Category: Natural		Hazard ID No: LS-020		Hazard: Earthquake										
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that an earthquake occurring in the Leeton area may result in harm/damage to people, property, utilities and economy in physical, psychological and economic terms.														
	Risk Consequence			Risk Level											
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare	
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)	
	Minor (2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)									Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)	
	Major (4)									Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)	
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)	
	RISK LEVEL										LOW				
STEP 3 - RISK TREATMENT	Risk Strategies		Aust Building Codes/Standards, Displan (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans),												
	Treatment Options		Warning advice, Operational response, Structural inspection, Public education.												
STEP 4 – REVIEW RISKS	Lead Agency		LEOCON												
	Supporting/Functional Agencies		NSW Police, SES, VRA, Welfare agencies and as required.												
	Date Approved				Review Date		12 months from approval date								

Risk Statement No: 4.	Hazard Category: Natural		Hazard ID No: LS-006		Hazard: Fire – Bush/Grass										
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a major Bush or Grass fire occurring in the Leeton area may result in harm/damage to people, property, environment, utilities, animals, and economy in physical, psychological and economic terms. Such an event would trigger a Section 44 Declaration under the NSW Rural Fires Act (1997) involving multiple agencies and possible evacuation of some residents.														
	Risk Consequence			Risk Level											
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare	
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)	
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)	
	Moderate (3)				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)										Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL										HIGH				
STEP 3 - RISK TREATMENT	Risk Strategies		MIA Bushfire Management Plan, MIA Bushfire Operations Plan. Leeton Displan/Functional Plans, (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans), DECC Management Plan (Koonadan),												
	Treatment Options		Bush Fire Management Zones - Asset Protection Zone (APZ); Strategic Fire Advantage Zone (SFAZ); Land Management Zone (LMZ); Fire Exclusion Zone (FEZ). Hazard reduction notices, controlled burning, fire trail maintenance, Public education, Fuel/Fire bans, Operational response, Training, Electricity corridor maintenance, Evacuation points.												
STEP 4 – REVIEW RISKS	Lead Agency		NSW RFS												
	Supporting/Functional Agencies		NSW FB, NSW Police, NSW Amb. Service, SES, VRA, Council, State Forests, NSW DPI, DOCS, Welfare agencies, Country Energy, Transgrid, Telstra												
	Date Approved				Review Date		12 months from approval date								

Risk Statement No: 5.	Hazard Category: Natural		Hazard ID No: LS-007		Hazard: Fire – Structural									
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a significant structural fire in large structures (e.g. Schools, Hospitals, Rice Mill) in Leeton Shire may result in harm/damage to people, property, environment, utilities, animals, and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence				Risk Level									
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)					<input checked="" type="checkbox"/>				High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)		<input checked="" type="checkbox"/>							Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									HIGH					
STEP 3 - RISK TREATMENT	Risk Strategies		Aust Building Codes/Standards, NSW Fire Brigades Operations Plan, Large structure emergency plans (e.g. Yanco Ag High Emergency Plan), Leeton Displan/Functional Plans, (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans), AmbPlan.											
	Treatment Options		Building Approvals/Inspections/Audits, Fire protection systems/maintenance, Operational response, Training, Public education,											
STEP 4 – REVIEW RISKS	Lead Agency		NSW FB											
	Supporting/Functional Agencies		NSW RFS, NSW Police, NSW Amb. Service, SES, VRA, Council, Country Energy, Welfare agencies.											
	Date Approved				Review Date		12 months from approval date							

Risk Statement No: 6.	Hazard Category: Natural		Hazard ID No: LS-002		Hazard: Flooding										
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a significant Flood event (1:100 year) in Leeton Shire may result in harm/damage to people, property, environment, utilities, animals, and economy in physical, psychological and economic terms. Such an event could lead to Evacuation of persons from homes, farms and businesses.														
STEP 2 – ANALYSE RISKS	Risk Consequence				Risk Level										
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare	
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)	
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)	
	Moderate (3)			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)	
	Major (4)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)										Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL										EXTREME					
STEP 3 - RISK TREATMENT	Risk Strategies		Leeton Flood Plan, Local Rescue Plan, Divisional Flood Plan, NSW State Flood Plan, State Disaster Recovery Plan, Leeton Displan (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans),												
	Treatment Options		Flood levees/diversions, Planning controls, Early warning systems/Community Education, Asset maintenance, Operational response, Training, Storm water asset registers.												
STEP 4 – REVIEW RISKS	Lead Agency		SES												
	Supporting/Functional Agencies		VRA, NSW RFS, NSW FB, NSW Police, NSW Amb. Service, Council, Murrumbidgee Irrigation, NSW DPI, DOCS, Welfare agencies, Country Energy, Transgrid, Telstra												
	Date Approved							Review Date		12 months from approval date					

Risk Statement No: 7.	Hazard Category: Natural		Hazard ID No: LS-019		Hazard: Fog/Dust/Smoke										
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a significant occurrence of Fog/Dust/Smoke occurring in the Leeton area may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.														
	Risk Consequence			Risk Level											
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare	
	Insignificant (1)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)	
	Minor (2)			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>									Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)										Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)										Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL										MODERATE				
STEP 3 - RISK TREATMENT	Risk Strategies		Leeton Displan (for major emergencies associated with FDS) - including Communications, Traffic Management Plan, MIA Bushfire Management Plan, MIA Bushfire Operations Plan, Council/DECC regulations (control of burning).												
	Treatment Options		Community education, Driver education, Traffic control plans, Operational response.												
STEP 4 – REVIEW RISKS	Lead Agency		LEOCON												
	Supporting/Functional Agencies		NSW Police and as required.												
	Date Approved						Review Date		12 months from approval date						

Risk Statement No: 8.	Hazard Category: Natural		Hazard ID No: LS-008		Hazard: Storm & Tempest									
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a severe storm (Wind/Hail) occurring in the Leeton area may result in harm/damage to people, property, environment, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence				Risk Level									
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)					<input checked="" type="checkbox"/>				High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									HIGH					
STEP 3 - RISK TREATMENT	Risk Strategies		SES response plan, Leeton Displan (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans), NSW Storm Plan, State Disaster Recovery (Human Services) Plan, AmbPlan, NSW State Health/GSAHS plan.											
	Treatment Options		Aust Building Codes/Standards, Operational response, Training, Public education,											
STEP 4 – REVIEW RISKS	Lead Agency		SES											
	Supporting/Functional Agencies		VRA, NSW Police, NSW RFS, NSW FB, NSW Amb. Service, Council, NSW DPI, DOCS, Welfare agencies, Country Energy, Transgrid, Telstra											
	Date Approved						Review Date		12 months from approval date					

Risk Statement No: 9.	Hazard Category: Natural		Hazard ID No: LS-016		Hazard: Heatwave									
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a prolonged Heatwave occurring in the Leeton area may result in harm/damage to people, environment, utilities, and animals in physical, psychological and economic terms.													
	Risk Consequence			Risk Level										
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)									Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL										HIGH			
STEP 3 - RISK TREATMENT	Risk Strategies		Leeton Displan/Functional Plans, (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans), AmbPlan.											
	Treatment Options		Warning advice, Health assistance, Community Education, Operational response											
STEP 4 – REVIEW RISKS	Lead Agency		NSW Health,											
	Supporting/Functional Agencies		NSW Amb. Service, NSW Police, NSW RAA, DOCS, Welfare agencies and as required.											
	Date Approved				Review Date		12 months from approval date							

Risk Statement No: 10.	Hazard Category: Technological	Hazard ID No: LS-013	Hazard: Environmental Emergency (Chemical/Pollution)											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that an Environmental emergency (Chemical/Pollution) occurring in the Leeton area may result in harm/damage to people, property, environment, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence								Risk Level					
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)				<input checked="" type="checkbox"/>					High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL									HIGH				
STEP 3 - RISK TREATMENT	Risk Strategies	Leeton Displan (including Communications, Water Supply, Evacuation, Traffic Management, Transport and Welfare Plans), State Displan, State Disaster Recovery (Human Services) Plan, State Health Plan, AmbPlan.												
	Treatment Options	Drainage lock-down, Alternate water supplies, Evacuation, Public education, Operational response, Training,												
STEP 4 – REVIEW RISKS	Lead Agency	NSW FB, LEOCON												
	Supporting/Functional Agencies	DECC, Council, Murrumbidgee Irrigation, NSW Police, NSW Amb. Service, SES, VRA, NSW RFS, NSW Amb. Service, NSW DPI, DOCS and Welfare agencies.												
	Date Approved								Review Date	12 months from approval date				

Risk Statement No: 11.	Hazard Category: Technological		Hazard ID No: LS-004		Hazard: Explosion (LPG/Other)									
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a significant Explosion/Fire in areas containing dangerous goods in Leeton Shire may result in harm/damage to people, property, environment, utilities, animals, and economy in physical, psychological and economic terms.													
	Risk Consequence			Risk Level										
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)			☑		☑				High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)				☑					Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	☑	☑				☑	☑	☑	Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL									EXTREME				
STEP 3 - RISK TREATMENT	Risk Strategies		Building Codes/Standards, AGL Emergency Response plan, NSW Fire Brigades Operations Plan, Large structure emergency plans (e.g. Rice Mill Emergency Plan), Leeton Displan/Functional Plans, (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans), AmbPlan.											
	Treatment Options		Supply emergency shutdown, Gas/Vapour alarms, Building Inspections/Audits, Fire protection systems, Operational response, Training, Community warning/education,											
STEP 4 – REVIEW RISKS	Lead Agency		NSW FB											
	Supporting/Functional Agencies		NSW RFS, NSW Police, NSW Amb. Service, SES, VRA, Council, Country Energy, Welfare agencies.											
	Date Approved				Review Date		12 months from approval date							

Risk Statement No: 12.	Hazard Category: Technological	Hazard ID No: LS-005	Hazard: Hazardous Materials											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a Hazardous Materials emergency occurring in the Leeton area (particularly main transport routes – Main Rd 80, Sturt Hwy), may result in harm/damage to people, property, environment, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence								Risk Level					
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)				<input checked="" type="checkbox"/>					High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL									HIGH				
STEP 3 - RISK TREATMENT	Risk Strategies	NSW FB Hazmat Plan, Leeton Displan (including Communications, Water Supply, Evacuation, Traffic Management, Transport and Welfare Plans), DECC Emergency response procedures, District Emergency Plan, State Displan, State Disaster Recovery (Human Services) Plan, State Health Plan, AmbPlan.												
	Treatment Options	Containment, Technical advice, Disposal, Drainage lock-down, Evacuation/diversion, Public education, Operational response, Training,												
STEP 4 – REVIEW RISKS	Lead Agency	NSW FB												
	Supporting/Functional Agencies	DECC, Council, Murrumbidgee Irrigation, NSW Police, NSW Amb. Service, SES, VRA, NSW RFS, NSW Amb. Service, NSW DPI, DOCS, Welfare agencies												
	Date Approved											Review Date	12 months from approval date	

Risk Statement No: 13.	Hazard Category: Technological	Hazard ID No: LS-015	Hazard: Industrial Accident/Incident											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that that a major Industrial Accident/Incident emergency (not covered in other Risk Statements) occurring in the Leeton area may result in harm/damage to people, property, utilities and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence				Risk Level									
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)			☑		☑				High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)		☑		☑		☑		☑	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	☑							☑	Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL										HIGH				
STEP 3 - RISK TREATMENT	Risk Strategies		Local Rescue Plan, Leeton Displan (including Communications, Rescue, Evacuation, Welfare, Traffic Management Plans). District Emergency Plan, State Displan, State Disaster Recovery (Human Services) Plan, State Health Plan, and AmbPlan.											
	Treatment Options		Workplace emergency response plans, OHS Workplace inspections/audits, Safe work procedures, Training, Supervision, PPE, Operational response, Evacuation, Public education,											
STEP 4 – REVIEW RISKS	Lead Agency		LEOCON											
	Supporting/Functional Agencies		NSW Police, VRA, NSW FB, SES, Welfare agencies and as required.											
	Date Approved							Review Date		12 months from approval date				

Risk Statement No: 14.	Hazard Category: Technological	Hazard ID No: LS-011	Hazard: Transport Emergency - Aviation											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that an Aeronautical Incident (mainly from Agricultural/Local flying operations and/or the possibility of an airline incident), occurring in the Leeton area may result in harm/damage to people, property and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence					Risk Level								
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									HIGH					
STEP 3 - RISK TREATMENT	Risk Strategies	Leeton Displan (including Communications, Rescue, Evacuation, Welfare, Traffic Management Plans), Leeton/Narrandera Aerodrome Emergency Plan, NSW State Aviation Plan, District Disaster Plan, AmbPlan.												
	Treatment Options	Aviation regulations, Operational response, Containment, Training, Evacuation, Public education.												
STEP 4 – REVIEW RISKS	Lead Agency	LEOCON/CASA												
	Supporting/Functional Agencies	NSW Police, VRA, NSW FB, RFS, SES, Council, DOTARS, ATSB, DOCS, Welfare agencies and as required.												
	Date Approved									Review Date	12 months from approval date			

Risk Statement No: 15.	Hazard Category: Technological	Hazard ID No: LS-001	Hazard: Transport Emergency - Road											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a major transport accident/incident - Road (particularly on main transport routes – Main Rd 80, Sturt Hwy), occurring in the Leeton area may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence					Risk Level								
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)						<input checked="" type="checkbox"/>			Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)								<input checked="" type="checkbox"/>	Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									EXTREME					
STEP 3 - RISK TREATMENT	Risk Strategies	Local Rescue Plan, Leeton Displan (including Communications, Rescue, Evacuation, Welfare and Traffic Management Plans). District Emergency Plan, State Displan, State Disaster Recovery Plan, State Health Plan, and AmbPlan.												
	Treatment Options	Road regulations, OHS Workplace (Driving) inspections/audits, Safe work procedures, Operational response, Training, Evacuation/diversion, Public education,												
STEP 4 – REVIEW RISKS	Lead Agency	NSW Police												
	Supporting/Functional Agencies	VRA, NSW FB, RFS, SES, RTA, Council, Welfare agencies and as required.												
	Date Approved						Review Date	12 months from approval date						

Risk Statement No: 16.	Hazard Category: Technological	Hazard ID No: LS-010	Hazard: Transport Emergency - Rail											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a major transport accident/incident - Rail (particularly on main Griffith - Narrandera rail line), occurring in the Leeton area may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence					Risk Level								
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)									High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)		☑			☑				High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)			☑	☑		☑		☑	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)	☑						☑		Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									HIGH					
STEP 3 - RISK TREATMENT	Risk Strategies	Local Rescue Plan, Leeton Displan (including Communications, Rescue, Evacuation, Traffic Management Plans). District Emergency Plan, State Displan, State Disaster Recovery Plan, State Health Plan, and AmbPlan.												
	Treatment Options	Rail regulations, OHS Workplace (Rail) inspections/audits, Safe work procedures, Operational response, Evacuation/diversion, Public education,												
STEP 4 – REVIEW RISKS	Lead Agency	LEOCON												
	Supporting/Functional Agencies	VRA, NSW FB, RFS, SES, ARTC, Countrylink, Council, Welfare agencies and as required.												
	Date Approved						Review Date	12 months from approval date						

Risk Statement No: 17.	Hazard Category: Technological	Hazard ID No: LS-017A	Hazard: Utility Failure – Power/Gas											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a Power/Gas failure (for longer than 24 hrs, particularly to vulnerable communities) may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence					Risk Level								
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									MODERATE					
STEP 3 - RISK TREATMENT	Risk Strategies	Leeton Displan/Functional Plans, (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans). AGL Emergency Response plan, District Emergency Plan, State Displan, State Disaster Recovery Plan, State Health Plan, and AmbPlan.												
	Treatment Options	Alternative supplies (generators, solar etc.), Warning advice, Operational response, Public education,												
STEP 4 – REVIEW RISKS	Lead Agency	LEOCON												
	Supporting/Functional Agencies	Country Energy, Transgrid, Council, Telstra, NSW Police, NSW RFS, NSW FB, NSW Amb. Service, VRA, DOCS, Welfare agencies.												
	Date Approved										Review Date	12 months from approval date		

Risk Statement No: 18.	Hazard Category: Technological	Hazard ID No: LS-017B	Hazard: Utility Failure – Water Supply											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a Water Supply Failure (for longer than 24 hrs, particularly to vulnerable communities) may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence					Risk Level								
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									MODERATE					
STEP 3 - RISK TREATMENT	Risk Strategies	Leeton Displan/Functional Plans, (including Communications, Water Supply, Evacuation, Traffic Management, Transport and Welfare Plans). District Emergency Plan, State Displan, State Disaster Recovery Plan, State Health Plan, and AmbPlan.												
	Treatment Options	Alternative supplies (Water carting, storage), water restrictions, Warning advice, Operational response,												
STEP 4 – REVIEW RISKS	Lead Agency	LEOCON												
	Supporting/Functional Agencies	Country Energy, Transgrid, Council, Telstra, NSW Police, NSW RFS, NSW FB, NSW Amb. Service, VRA, DOCS, Welfare agencies.												
	Date Approved						Review Date	12 months from approval date						

Risk Statement No: 19.	Hazard Category: Technological	Hazard ID No: LS-017C	Hazard: Utility Failure – Communications											
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a Communications failure (for longer than 24 hrs, particularly to vulnerable communities) may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence					Risk Level								
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL										MODERATE				
STEP 3 - RISK TREATMENT	Risk Strategies	Leeton Displan/Functional Plans, (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans). District Emergency Plan, State Displan, State Disaster Recovery Plan, State Health Plan, and AmbPlan.												
	Treatment Options	Alternative systems (e.g. verbal/signage, radio/TV), back up power supplies, Warning advice, system restrictions, Operational response,												
STEP 4 – REVIEW RISKS	Lead Agency	LEOCON												
	Supporting/Functional Agencies	Country Energy, Transgrid, Council, Telstra, NSW Police, NSW RFS, NSW FB, NSW Amb. Service, VRA, DOCS, Welfare agencies.												
	Date Approved											Review Date	12 months from approval date	

Risk Statement No: 20.	Hazard Category: Biological								Hazard ID No: LS-012		Hazard: Communicable Disease - Human			
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that a Communicable Disease - Human, particularly to vulnerable communities) may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
	Risk Consequence								Risk Level					
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMALS	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)									Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL									HIGH				
STEP 3 - RISK TREATMENT	Risk Strategies			Leeton Displan/Functional Plans, (including Communications, Health, Water Supply, Evacuation, Transport and Welfare Plans). State Health Plan, District Emergency Plan, State Displan, State Disaster Recovery (Human Services) Plan, AmbPlan.										
	Treatment Options			Quarantine, Warning advice, Operational response, External assistance.										
STEP 4 – REVIEW RISKS	Lead Agency			NSW Health/GSAHS										
	Supporting/Functional Agencies			Council, NSW Police, NSW Amb. Service, DOCS, SES, VRA, DECC, NSW RFS, NSW FB, Welfare agencies.										
	Date Approved								Review Date	12 months from approval date				

Risk Statement No: 21.	Hazard Category: Biological		Hazard ID No: LS-003		Hazard: Exotic Disease – Animal/Plant									
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that an Exotic Disease – Animal/Plant, particularly to livestock and crops) may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
	Risk Consequence			Risk Level										
STEP 2 – ANALYSE RISKS		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMAL/PL	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)			<input checked="" type="checkbox"/>						Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
	RISK LEVEL									EXTREME				
STEP 3 - RISK TREATMENT	Risk Strategies		Leeton Displan/Functional Plans, State Displan (including Animal Health Sub Plan),, Riverina District Displan, AusVetPlan, NSW Animal Health Supporting Plan, Riverina Animal Health Plan.											
	Treatment Options		Quarantine, Slaughter/Disposal, Warning advice, Operational response, External assistance.											
STEP 4 – REVIEW RISKS	Lead Agency		NSW DPI											
	Supporting/Functional Agencies		Narrandera RLPB, (rangers & Vets), Council, NSW Police, NSW Amb. Service, SES, VRA, DECC, NSW RFS, NSW FB, DOCS and Welfare agencies.											
	Date Approved											Review Date	12 months from approval date	

Risk Statement No: 22.	Hazard Category: Biological		Hazard ID No: LS-014		Hazard: Infestation – Insect/Animal/Plant									
STEP 1 – IDENTIFY HAZARD/RISK	Risk Statement: There is a risk that an Exotic Disease – Animal/Plant, particularly to livestock and crops) may result in harm/damage to people, property, utilities, animals and economy in physical, psychological and economic terms.													
STEP 2 – ANALYSE RISKS	Risk Consequence				Risk Level									
		PEOPLE	PROPERTY	ENVIRON	UTILITIES	ANIMAL/PL	ECONOMY	SOCIAL	COMBINED RATING	Almost Certain	Likely	Possible	Unlikely	Rare
	Insignificant (1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					High (5)	Moderate (4)	Low (3)	Low (2)	Low (1)
	Minor (2)									High (10)	High (8)	Moderate (6)	Low (4)	Low (2)
	Moderate (3)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Extreme (15)	High (12)	High (9)	Moderate (6)	Moderate (3)
	Major (4)									Extreme (20)	Extreme (16)	Extreme (12)	High (8)	High (4)
	Catastrophic (5)					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Extreme (25)	Extreme (20)	Extreme (15)	Extreme (10)	High (5)
RISK LEVEL									HIGH					
STEP 3 - RISK TREATMENT	Risk Strategies		Leeton Displan/Functional Plans, (including Animal Health, Plan).State Displan, Riverina District Displan, AusVetPlan, NSW Animal Health Supporting Plan, Riverina Animal Health Plan.											
	Treatment Options		Quarantine, Warning advice, Operational response, Public education, External assistance.											
STEP 4 – REVIEW RISKS	Lead Agency		NSW DPI											
	Supporting/Functional Agencies		Council, NSW Police, NSW Amb. Service, DOCS, SES, VRA, DECC, NSW RFS, NSW FB, Welfare agencies.											
	Date Approved						Review Date		12 months from approval date					

5.9 Risk Treatment and Performance Summary

As part of measuring the effectiveness of the risk management process the treatment strategies/options outlined in the risk statements have been complemented with Key Performance Indicators (KPI's), thereby enabling the success of the programs to be evaluated by responsible agencies and the LEMC.

HAZARD/RISK	Num Ranking	RISK LEVEL (see page 24)	TREATMENT STRATEGIES/OPTIONS	KEY PERFORMANCE INDICATOR/S
Transport Emergency – Road	16	Extreme	Road regulations, OHS Workplace (Driving) inspections/audits, Safe work procedures, Operational response, Training, Evacuation/diversion, Public education	Road/Driver Audits, Incident record trends, Response times, Multi-Agency procedures/training/exercising, Public Education surveys
Flood	16	Extreme	Flood levees/diversions, Planning controls, Early warning systems/Community Education, Asset maintenance, Operational response, Training, Storm water asset registers.	Flood modelling, Levee inspections/audits, community surveys, procedures training/exercising, Public Education surveys
Exotic Disease – Animal, Plant (beyond scope of local planning)	12	Extreme	Quarantine, Slaughter/Disposal, Warning advice, Operational response, External assistance.	Disease modelling, Multi-Agency procedures/training/exercising, Public Education surveys
Explosion (LPG/Other)	12	Extreme	Supply emergency shutdown, Gas/Vapour alarms, Building Inspections/Audits, Fire protection systems, Operational response, Training, Community warning/education,	Maintenance, Inspect/Audits, Incident records, Multi-Agency procedures/training/exercising,
Hazardous Materials	12	High	Containment, Technical advice, Disposal, Drainage lock-down, Evacuation/diversion, Public education, Operational response, Training,	Inspect/Audits, Response status, Incident records, Multi-Agency procedures/training/exercising,
Fire – Bush, Grass	12	High	Bush Fire Management Zones - Asset Protection Zone (APZ); Strategic Fire Advantage Zone (SFAZ); Land Management Zone (LMZ); Fire Exclusion Zone (FEZ). Hazard reduction notices, controlled burning, fire trail maintenance, Public education, Fuel/Fire bans, Operational response, Training, Electricity corridor maintenance, Evacuation points.	APZ coverage/fuel status, Incident records, Response status, Multi-Agency procedures/training/exercising, Public Education surveys
Fire – Structural	12	High	Building Approvals/Inspections/Audits, Fire protection systems/maintenance, Operational response, Training, Public education,	Maintenance, Inspect/Audits, Response status, Incident records, Multi-Agency procedures/training/exercising, Public Education surveys
Storm & Tempest	12	High	Aust Building Codes/Standards, Operational response, Training, Public education,	Maintenance, Inspect/Audits, Incident records, community surveys, Multi-Agency procedures/training/exercising, Public Education surveys
Major Drought	12	High	Alternate water supplies, Drought mitigation activities, Public education (advertising, recovery brochures) , de-stocking,	Drought mitigation programs, Mental/Physical health audits, financial assistance audits, Public

			reduced rural/urban water consumption, financial/psychological support	Education surveys
Transport Accident – Rail	9	High	Rail regulations, OHS Workplace (Rail) inspections/audits, Safe work procedures, Operational response, Evacuation/diversion, Public education,	Rail/Driver Audits, Incident record trends, Response times, Multi-Agency procedures/training/exercising,
Transport Accident – Air	9	High	Aviation regulations, Operational response, Containment, Training, Evacuation, Public education.	Aviation safety inspections/audits, Incident record trends, Response times, Multi-Agency procedures/training/exercising,
Communicable Disease Affecting Humans (considered beyond scope of local planning)	9	High	Quarantine, Warning advice, Operational response, External assistance.	Human Disease modelling, Multi-Agency procedures/training/exercising, Public Education surveys
Environmental Emergency	9	High	Drainage lock-down, Alternate water supplies, Evacuation, Public education, Operational response, Training,	Maintenance, Inspect/Audits, Incident records
Infestations – animal, insect, plant	9	High	Quarantine, Warning advice, Operational response, Public education, External assistance.	Pest modelling/surveys, Multi-Agency procedures/training/exercising,
Major Industrial Accident	9	High	Workplace emergency response plans, OHS Workplace inspections/audits, Safe work procedures, Training, Supervision, PPE, Operational response, Evacuation, Public education,	Maintenance, Inspections/Audits, Incident records, Workplace surveys
Heat wave	8	High	Warning advice, Health assistance, Community Education, Operational response	Community health audits, Public Education surveys
Utility Failure – Water./Power/Gas/Comms - Extended period	6	Moderate	Alternative water supplies (Water carting, storage), water restrictions, Warning advice, Operational response, Alternative power supplies (generators, solar etc.), Warning advice, Operational response, Public education, Alternative communications systems (e.g. verbal/signage, radio/TV), back up power supplies, Warning advice, system restrictions, Operational response,	Alternative supply testing, Incident records, Public Education surveys
Building/Structure Collapse	6	Moderate	Aust Building Codes/Standards, Displan (including Communications, Evacuation, Traffic Management, Transport and Welfare Plans), Operational response, Structural inspection, Warning advice, Public education.	Inspections, Community surveys, Incident records
Fog/Dust/Smoke	6	Moderate	Community education, Driver education, Traffic control plans, Operational response.	Road/Driver Audits, Incident record trends,
Earthquake	2	Low	Warning advice, Operational response, Structural inspection, Public education.	Inspections, Community surveys, Incident records

6. APPENDICES

Appendix 1 - Leeton Shire Maps

1.1 Emergency Hazard/Risk Map – Natural/Cultural Hazards/Risks

1.2 Emergency Hazard/Risk Map – Technological Hazards/Risks

1.3 Emergency Hazard/Risk Map – Biological Hazards/Risks

Appendix 2 - Supporting/Sub Plans

Name of Plan	Issue date	Agency Responsible
NSW State Disaster Plan	2005	SEMC
NSW Disaster Welfare Plan	1992	DOCS
NSW State Flood Plan	2001	SES
NSW State Storm Plan	2000	SES
NSW Public Order Mgt Plan	2006	NSWPF
NSW State Hazmat Plan	1999	NSWFB
NSW State Health Plan	2006	NSW Health
NSW State Hazmat Plan	1999	NSWFB
AMBPLAN	2006	NSW Health
Riverina Divisional Flood Plan		SES
Leeton Local Disaster Plan	2005	LEMC
Leeton Emergency Operations Centre – Standing Operating Procedures	2008	LEMC
Leeton Local Flood Plan	2008	SES
Disaster Recovery (Human Services) Plan	2006	NSW Health
NSWFB In orders and Guidelines	2008	NSWFB
NSW State Aviation Plan	2004	CASA
Leeton-Narrandera Aerodrome Emergency Plan	2006	LSC-NSC
State Water Supply Plan	2005	State Water
AUSVET Plan	1996	NSW DPI
NSW DPI Agriculture & Animal Services Plan	2001	NSW DPI
Yanco Ag High school Emergency Plan	2007	Yanco Ag High
Rockdale Feedlot Emergency Management Plan	2006	Rockdale Ltd
Sunrice Emergency Management Plan	2007	Sunrice Ltd
MIA Bushfire Management Plan	2008	NSW RFS
MIA Bushfire Operations Plan	2008	NSW RFS
NSW Forests Bushfire Mgt Plan	2008	NSW Forests
Transgrid Bushfire Risk Mgt Plan	2003	Transgrid
Country Energy Black Start Manual	2007	Country Energy
Country Energy Emergency Response Crisis Management Procedures	2007	Country Energy
SES Public Education Policy	2007	SES

References

- Implementation Guide for Emergency Risk Management (NSW) - NSW State Emergency Management Committee 2001
- NSW State Displan – State Emergency Management Committee – 2005
- Leeton Displan – Leeton Emergency Management Committee – February 2005
- Leeton Emergency Operations Centre – Standing Operating Procedures – 2008
- MIA Bushfire Risk Management Plan – 2007
- AS 3745 – 2002 - Emergency Control Organisation and Procedures for Buildings, Structures and Workplaces – Standards Australia
- Various Sub and Supporting Plans – (see page 69)