

EXXON COAL AND MINERALS AUSTRALIA LIMITED

**INTRODUCTION TO THE ECMAL
RISK MANAGEMENT PLAN PROJECT**

**PRESENTATION TO QUEENSLAND COAL
INDUSTRY SAFETY CONFERENCE
1 - 3 SEPTEMBER 1993**

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RISK MANAGEMENT PLAN PROJECT

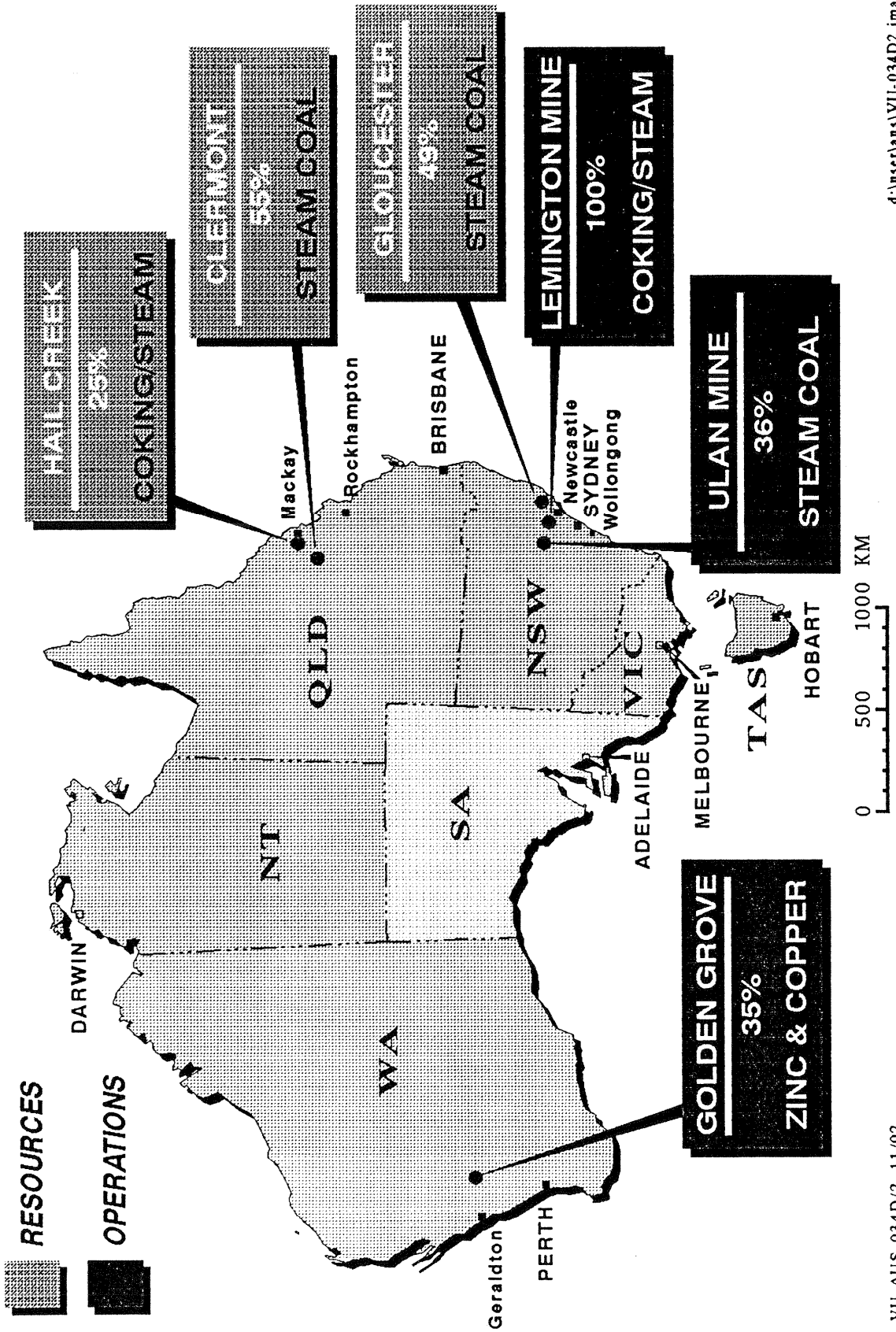
DESCRIPTION OF TOPIC

- Corporate perspective on the background, planning, development and implementation.
- How priority risks have been identified and the team approach used.

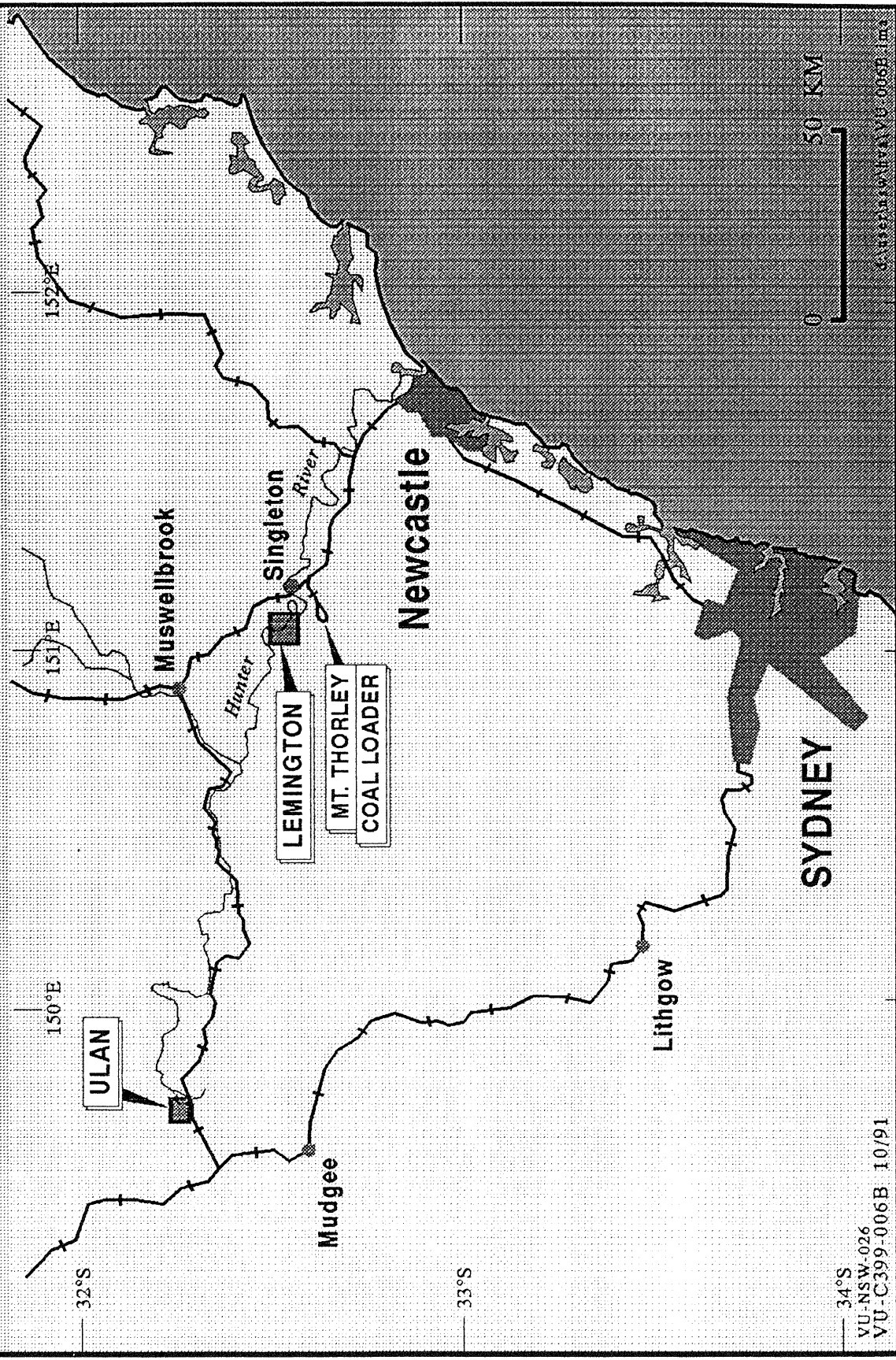
OBJECTIVES OF THE PRESENTATION

- Provide practical information on how one company is using risk management to improve safety performance.
- Provide outline details of methods used to identify risks and then produce risk management plans.

CURRENT OPERATIONS AND RESOURCES



EXXON COAL AND MINERALS AUSTRALIA LIMITED
N.S.W. COAL INTERESTS

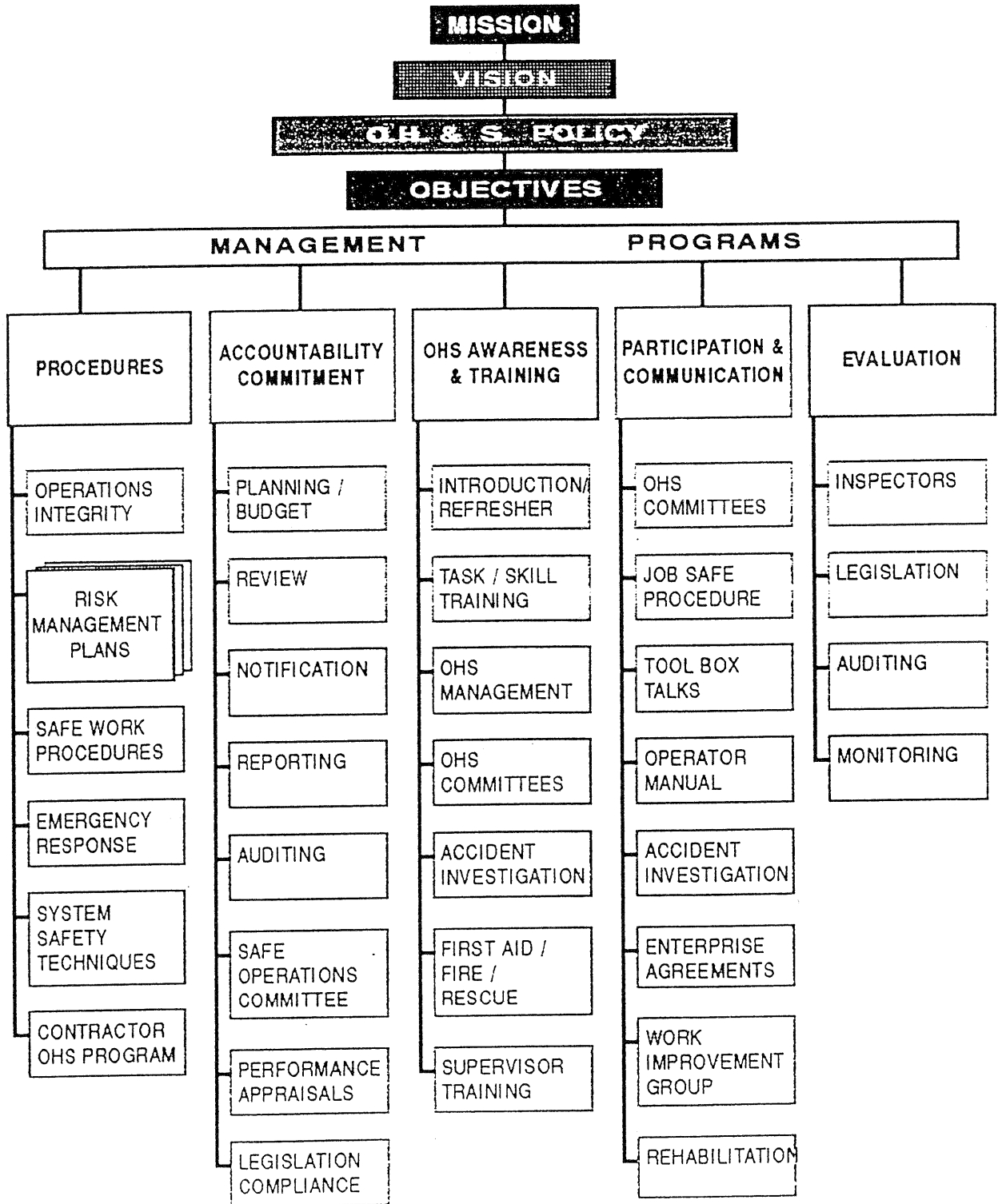


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EXXON COAL AND MINERALS AUSTRALIA LIMITED
OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT PROGRAM



ECMAL RISK MANAGEMENT PLAN PROJECT

- **RECOGNITION OF NEED TO FURTHER ENHANCE RISK REDUCTION EFFORTS**
 - **Sites.**
 - **Ecma safe operations committee (SOC).**
 - **Corporation.**

- **SOC HAS EXPANDED ITS ROLE TO AID THIS EFFORT**
 - **Coordinate priorities/resources.**
 - **Communicate expectations.**
 - **Established planning team to develop approach.**

- **PLANNING TEAM RESULTS**
 - **Worked with sites to identify priority risks.**
 - **Systems safety determined to be best method.**
 - **Adopted checklist to ensure completeness.**

- **GOAL - IMPROVE PRACTICES TO LEVEL WHICH SATISFIES CHECKLIST BY YEAR END 1993**

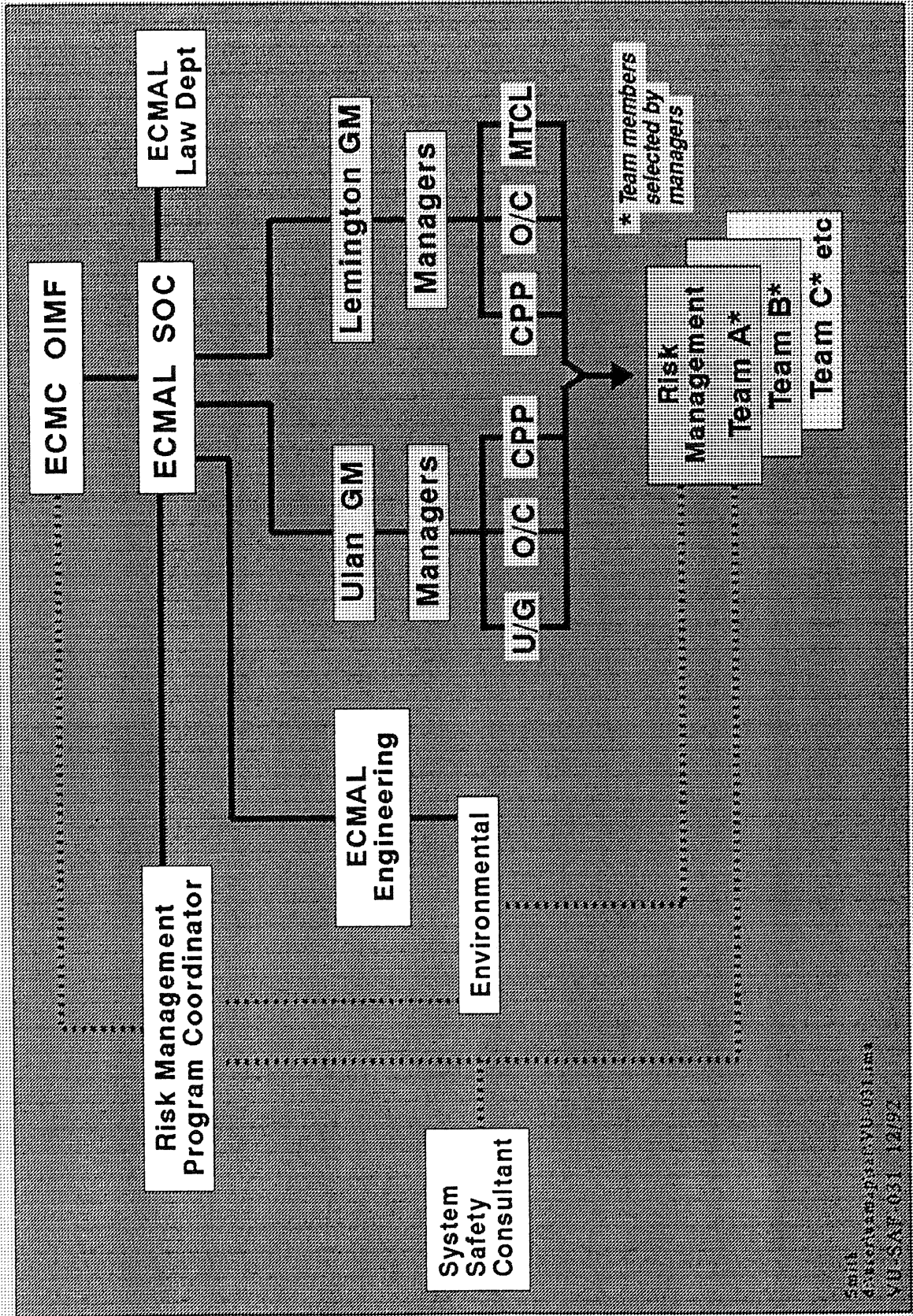
ECMAL USE OF SYSTEM SAFETY TECHNIQUES

- **Initial use at ulan and lemington in 1990.**
- **SOC decided to use techniques for incident investigation.**
- **Training courses organised - over 90 people now trained.**
- **Techniques used in ulan heating investigation and re-entry.**
- **Another 30+ separate uses since then - proactive + investigation.**
- **Used to develop ulan spontaneous combustion management plan.**
- **First such plan in nsw coal industry.**
- **Natural progression to prepare plans for other priority risks.**

PLANNING TEAM ACTIVITIES

- **SET UP UNDER AUSPICES OF SOC**
- **TEAM OF 6 SENIOR MANAGERS - ULAN/LEMINGTON/ECMAL**
- **PROVIDED SITES WITH INFORMATION ON HOW TO IDENTIFY PRIORITY RISKS**
 - **ECMC operational excellence task force report excerpts.**
 - **ECMAL OETF report (Aug 1990) and status (Feb 1992).**
 - **NSW coal industry data.**
 - **Reportable occurrences.**
 - **Serious bodily injuries.**
 - **Injury analysis.**
 - **NSW coal industry discussion paper - minimum sets of risks.**
- **WORKED WITH SITE MANAGERS/STAFF TO DEVELOP INITIAL LIST OF RISKS**
- **REFINED LIST PREPARED AFTER PRESENTATIONS/REVIEW WITH MIDDLE MANAGEMENT**

ECMAL Risk Management Plan Project ORGANISATIONAL STRUCTURE



PRIORITY RISK ISSUES (REFINED)

ULAN - OPEN CUT

- Mining equipment fires.
- High/low wall stability.
- Water management.
- Mobile equipment risks.
- * Electrical (as part of above).

ULAN - C.P.P.

- Fires.
- Train system.
- Collisions in stockpiles.
- Control systems.
- Slips/trips/falls.

ULAN - UNDERGROUND

- Roof/rib falls.
- Fires.
- Trips & falls.
- Isolation procedures.
- Vehicle accidents.

LEMINGTON - OPEN CUT

- Mining equipment fires.
- Mobile equipment risks.
- Tyre handling.
- Electrical.
- Wall stability.

LEMINGTON - C.P.P

- Equipment fires.
- Collisions/equipment.
- Control systems.
- Impoundments.
- Fire.

MOUNT THORLEY COAL LOADING

- Large vehicle risks.
- Train risks.
- Spontaneous combustion/fires.
- Vehicles on stockpiles.
- Dust.

GENERAL

- Contractor risks.
- Chemical control.
- Material handling risks.
- Site security.
- Off site transportation.

RISK TEAM STRUCTURE

- **Generally 5-7 team members - site based with corporate member.**
- **Selected by "client" (manager) to cover particular risk.**
- **Range of experience and classification eg engineers, operators, tradespeople, safety staff.**
- **Team leader selected to facilitate progress and approach.**
- **Initial orientation and set up days with program co-ordinator and consultant.**
- **Can obtain outside expertise as needed eg oem's, inspectors, consultants.**

ULAN UNDERGROUND - ISOLATION PROCEDURES

TEAM STRUCTURE

TEAM CONSISTED OF: ○ A mechanical engineer.

○ An electrical engineer.

○ An electrician.

○ A fitter.

○ An operator.

○ A deputy (front line supervisor).

○ An undermanager (shift supervisor).

ULAN UNDERGROUND - ISOLATION PROCEDURES

DEFINING THE RISK

"Risks related to failure to reduce a system being worked on to zero energy including:

☼ *Electrical energy.*

☼ *Mechanical energy.*

☼ *Pressure energies.*

Pressure energies include: ☼ *Hydraulic.*

☼ *Water.*

☼ *Compressed air".*

METHODOLOGY

- Risk matrix considered two categories: -
Probabilities and consequence.
- Combines them to give a numerical risk ranking.
- Probability categories.
 - A POSSIBILITY OF REPEATED INCIDENTS
 - B POSSIBILITY OF ISOLATED INCIDENTS
 - C POSSIBILITY OF OCCURRING SOMETIME
 - D NOT LIKELY TO OCCUR
 - E PRACTICALLY IMPOSSIBLE
- Consequence Health/Safety Equipment/Environment Production Delay

<ul style="list-style-type: none"> 1 Fatality 2 Serious injury 3 Medical treatment 4 Minor impact 	<ul style="list-style-type: none"> <i>"Up to each different company to define levels for these consequence categories within their organisation".</i>
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EXISTING AND POTENTIAL CONTROLS

- **PEOPLE - SELECTION, TRAINING, MANNING ETC.**
- **EQUIPMENT - PROTECTIVE EQUIPMENT, MONITORING SYSTEMS, GUARDS, TOOLS ETC.**
- **METHODS - PROCEDURES, RULES, REPORTING SYSTEMS, PLANNING, MONITORING ETC.**
- **ENVIRONMENT - PLANNING, INSTRUCTING, MONITORING THE WORK**

RISK MANAGEMENT PLAN PREPARATION

- Information summarised and given to the mine manager.
 - Meeting with all three teams re final format for the risk management plan.
 - Reviewed by management, safety, law and environmental.
 - Controls for the isolation risks in documentation such as: -
 - The managers rule.
 - The 103 scheme.
 - Training schemes.
- To enable implementation through existing structures.
- Plans must be "*user friendly*" and able to be monitored and audited.

LESSONS LEARNED/CHANGES NEEDED

- **Takes longer than anticipated.**
- **Need to keep teams motivated.**
- **Essential to interact with client (manager).**
- **Incorporate external expertise at appropriate time.**
- **Allow for reassessment of high priority risks.**
- **Need to monitor implementation.**

ADDITIONAL BENEFITS

- Improved training for the workforce.
- Large number of the workforce (from all levels) now familiar with techniques
- General acceptance on the site.
- Increased use of risk assessment techniques on site: -
 - For new equipment.
 - for modifications.