

ISOgate: Isolation Risk Management Decision Support Tool

ISOgate Project Team

Dr Guldidar V Kizil (MISHC),
Mr Tilman Rasche (QLD DME)
&
Mr John Kabel (QLD DME)

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Overview

- **Project Background**
 - ISOgate Joint project - MISHC (UQ), DME
 - Funded by ACARP
 - **TYREgate - launched in Aug 2008**
- **Why develop “ISOgate”?**
- **ISOgate Pilot Model**
 - “ICAM” Model
 - Accident/Incident Data Gathering & Analysis
 - System Design & Functionality
 - Industry Consultation
- **ISOgate Features**
 - “3 Click” Search, dynamically produced graphs
 - “ISOgate Checklists”
 - ISOgate & EMESRT “Isolation of energy, including parking” DP integration
- **Future – Project Team’s VISION**
 - **Establishment of other ‘Causal Factor Databases’ in high risk areas**
- ***COLLISIONgate 2010? Stay tuned!!!***

ISOgate 2009 & TYREgate 2008

- ISOgate - Joint project: *MISHC (UQ), DME*
- TYREgate *MISHC (UQ), DME, Klinge* - launched in Aug 08
- TYREgate Site Usage:
 - 10,000 plus page-views, truly global innovation
- TYREgate Feedback
 - *“This had been a most satisfying and exciting project which had produced a very usable outcome.”* ACARP project supervisor Mr Keith Smith and Project industry monitor Mr Tony Egan from Xstrata Coal
 - *“The work completed by the team on with TYREgate is already used across the business.”* Industry comment
 - *“Good insight into tyre management and maintenance, reducing risk in the industry and TYREgate.”*
 - *“TYREgate webpage is a useful tool”*
 - *“Update on new road-making procedures and safety for TYREgate.”* Next-Gen Haulage & Tyre Management Forum (6 – 7 Aug 09, Stamford Plaza, Brisbane)



Causal Factors Database

Tyres & Rims Risk Management Decision Support Tool

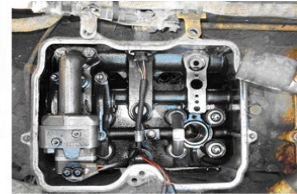
Accident / Incident Data

1. Troubleshooting diesel engine on a bulldozer.

LTA isolation -> Fatality (1/2/2008)



Bulldozer and rear of service truck



Cylinder head

2. Contacted energized electrical wiring supplying power to the light.

LTA isolation -> Fatality (15/8/2008)



3. 2 truck drivers, - fatally injured struck by a truck.

LTA isolation /parkup-> Fatality (19/08/2005)



4. Power re-energized from the surface, electrocuted working on an underground power centre

LTA isolation -> Fatality (24/1/2002)

5. Local control isolator on conveyor had been locked in the "ON" position during the entire job.

LTA isolation -> Potential fatality (25/05/2007)



More Incidents

6. An uncontrolled release of diluted foam catalyst from a pressurised line.
(22/5/2008)
LTA isolation -> Facial injuries and chemical burns to his eyes.

7. Inadvertent contact with an energized 12,470-volt power cable.
LTA isolation -> Fatality (13/6/2002)

8. Repairing a trailing cable when power was restored.
LTA isolation -> Fatality (5/2/2004)

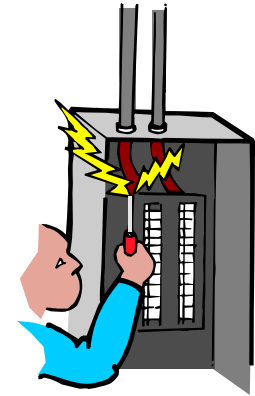
9. Walking between the truck and a generator trailer when the truck rolled forward.
LTA isolation -> Fatality(17/12/2002)

10. Crush injury – removal drive shaft truck movement
LTA isolation -> Fatality (10/7/2001)

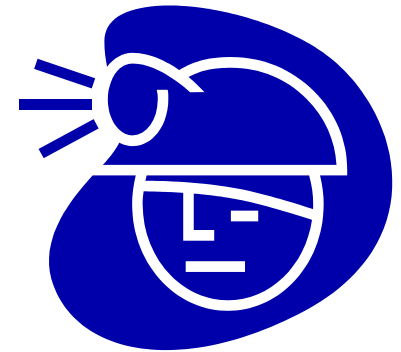
TOO many repeat accidents – lessons are not being learnt

QLD Accident / Incident Data

- QLD 20 years - 32 fatalities related to accidental contact with electricity



- Jul 02 to Apr 07 - 73 electrical incidents

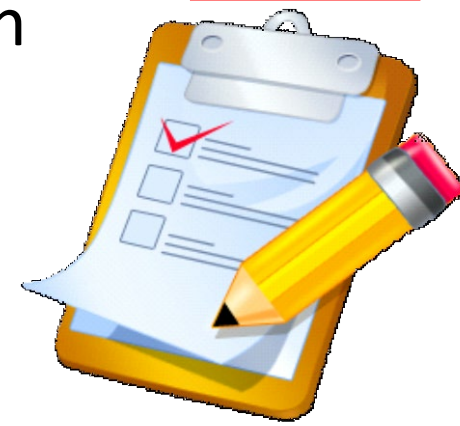


Q: What are **WE** doing with our data?

- **NOT A LOT!**
- Petrochemical CCPS
- Offshore Oil & Gas OREDA
- Nuclear - ANSTO
- Aviation – e.g. HFACS
- **TYREgate – unique, global reach, free, near real time ‘causal factors DB’ incl. *Checklists***

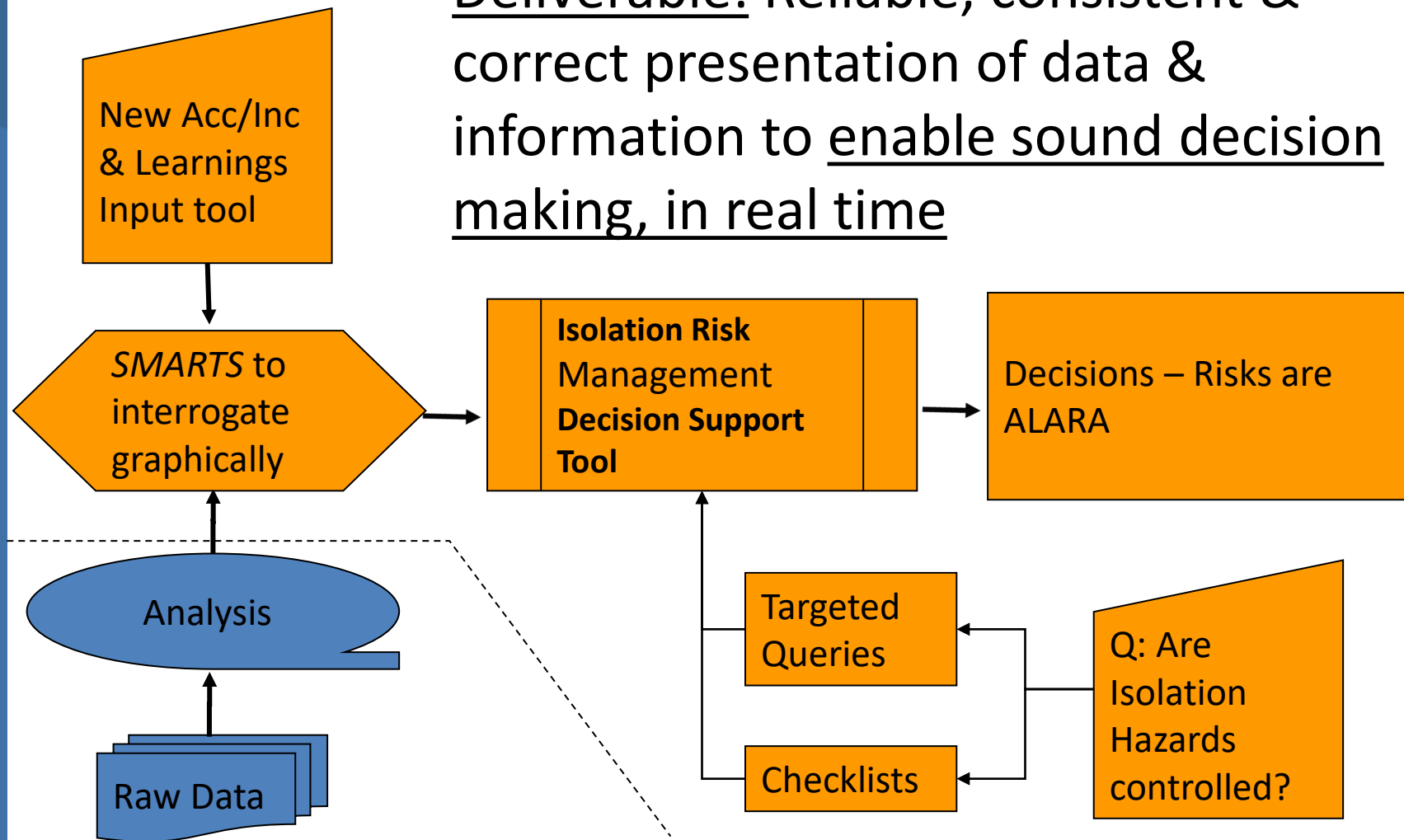
INNOVATIVE “Gates” MODEL

- ❖ **What** are my major risk factors? (*Click 1*)
- ❖ **Where** can I find the causes of these factors? (*Click 2*)
- ❖ **Why** did these specific accidents occur? (*Click 3*)
- ❖ **How** can I mitigate the risks at my own operation? (*CHECKLISTS*)



Intuitive “Gates” Model

Deliverable: Reliable, consistent & correct presentation of data & information to enable sound decision making, in real time

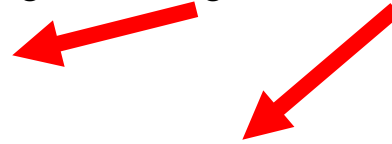


ISOgate Development

- **Data Gathering & Analysis**
 - Publicly accessible data
 - 120 accidents identified
 - Analysis in progress - ICAM Model
 - >180 accidents to be added in time
- **Industry Consultation – Workshop 1**
 - Taxonomy – Language
 - ISOgate site design & functionality
- **ISOgate software development & site design**
 - 3 Click approach – ICAM Model
 - Auditing tool – Prevention (*Checklists*)



'Hovering' Mouse gives LTA Org Factors





Simple '3 Click' System: Click 1

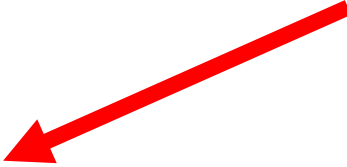


Simple '3 Click' System: Click 2

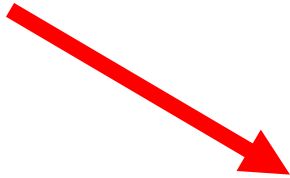
Click on pie
sector to see
next level of
information



Simple '3 Click' System: Click 3

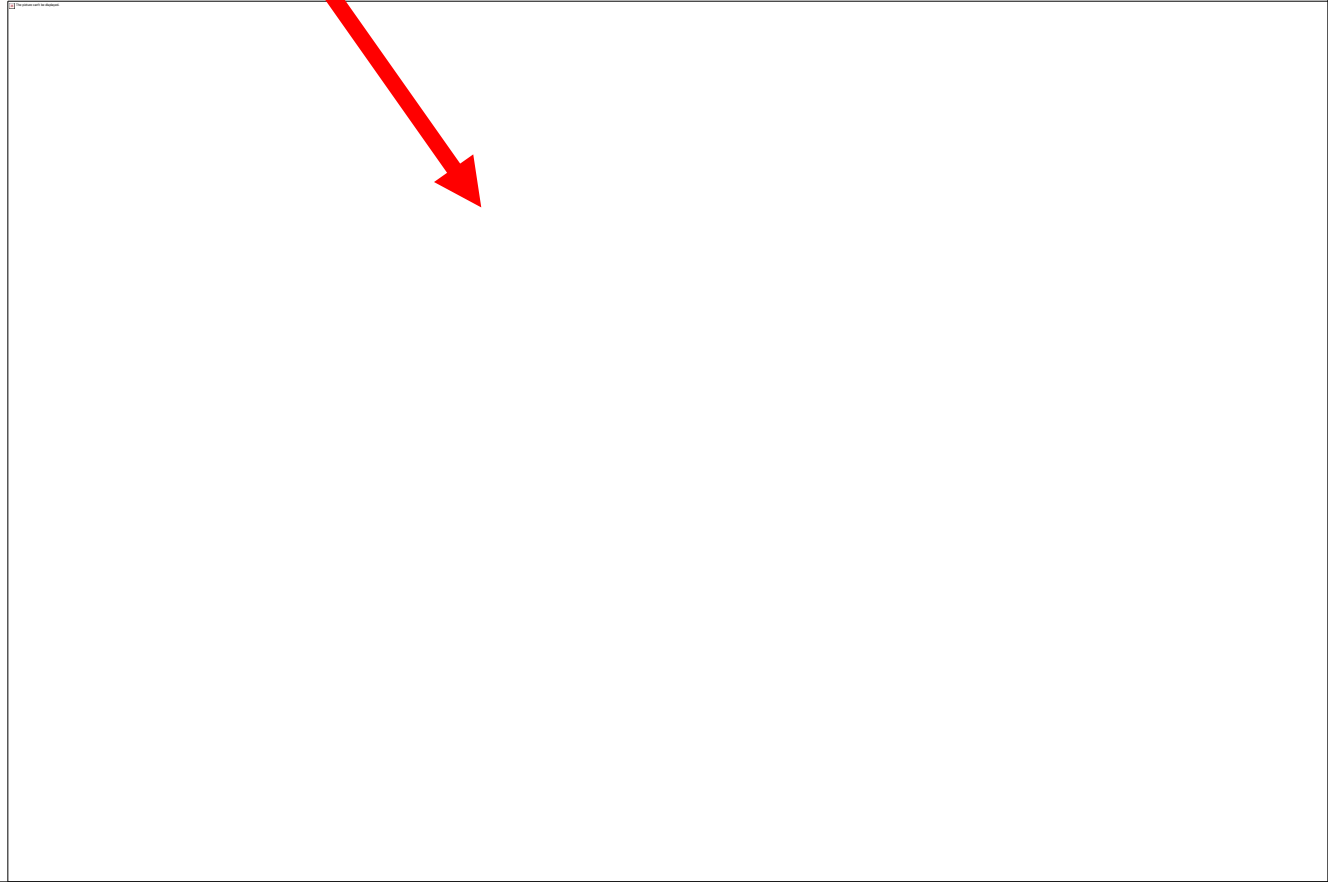
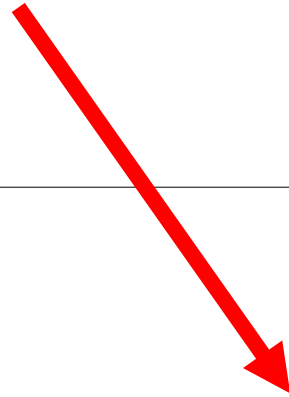


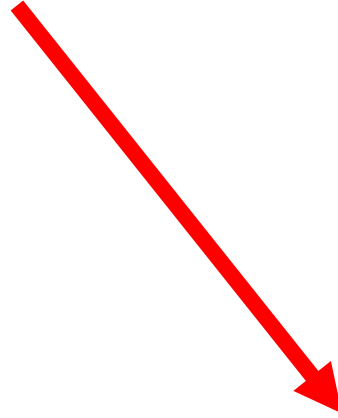
Click on
Pareto bar to
see next level
of information



ICAM - Causal Factors

Link to EMESRT





Checklist Example



[Empty checklist content area]

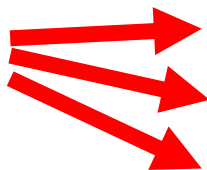
Refine Search

By ICAM Category

By Mine Type

By Region

Plus "By Date"



ISOGATE - Summary

2nd searchable Causal Factors Database

Innovative graphical search tool

'3 Click' Approach

Edit/update facility + addition of new fields

Real Time, Related Words & Checklists

Pilot for Isolation related accidents incl parkup

Elegant solution and tool to a wide-ranging problem

We have the data but what to do with it ???

Links to EMESRT – design aid – elimination

Our Vision: Duplicate for selected accident & incident categories –EMESRT DP topic areas eg. **Collision EMESRT DP 8**

Focus on High Consequence Outcomes

- Visibility / Collision Detection and Avoidance
- Working at Heights
- Rockfalls
- Wall failures
- Fire
- Guarding
- Confined Space

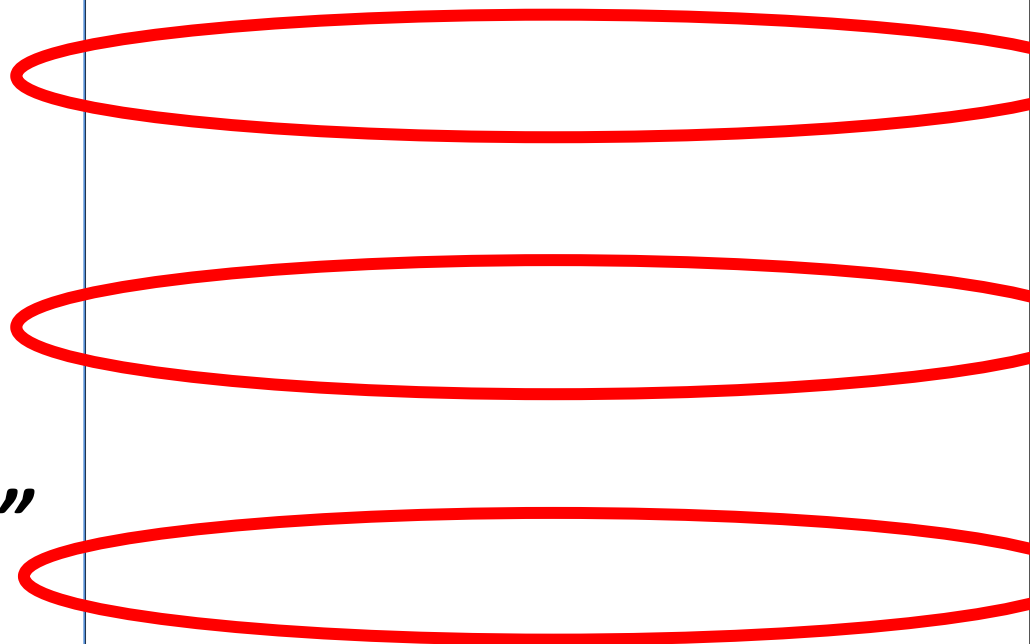
...to assist the mining industry with better and more objective decision making information

...to prevent recurrence of accident and incidents

Future Causal Factors Databases

Establishment of MIRMgate...

***Causal Factors
Database of
“Collision”
Related
Accidents
and Incidents:
“COLLISIONgate”***



COLLISIONgate 2010?

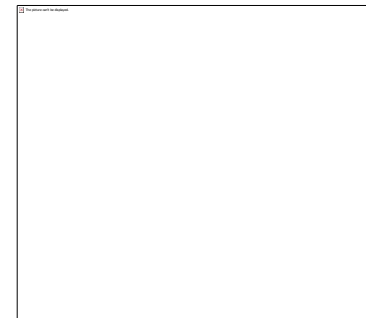
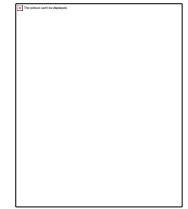
- COLLISIONgate – QRC H&S Committee Support
 - Consistent with one of the QRC's Safety and Health Goals in its 3 Year Plan:

Risk Management – Guiding Principles to Make A Difference

- NEED Industry Support
 - **COLLISIONgate 2010**

Summary

- TYREgate live and accessible – see MIRMgate
- ISOgate Industry Consultation: 2nd Workshop
- ISOgate to be launched at the end of the year
- TYREgate Questionnaire
- ***COLLISIONgate 2010?***



Stay tuned....

Our Vision –Global Knowledge Portal

Risk based frameworks require all hazards to be identified and risks mitigated

People in decision making roles need good reliable real time & objective information



THE Framework for future causal factor databases –
decision making plus fill the design vacuum
between factory and user

Acknowledgement

THANK YOU!

- ACARP
- Project Monitors (*TYREgate & ISOgate*)
 - Tony Egan (Xstrata), Jane Moss (BMA), Keith Smith (ACARP)
- All involved in the ISOgate Workshop
 - Anglo Coal, Xstrata, Rio Tinto, Peabody isolation experts
- BHP Billiton & BMA – ICAM Model
- Mining Industry

