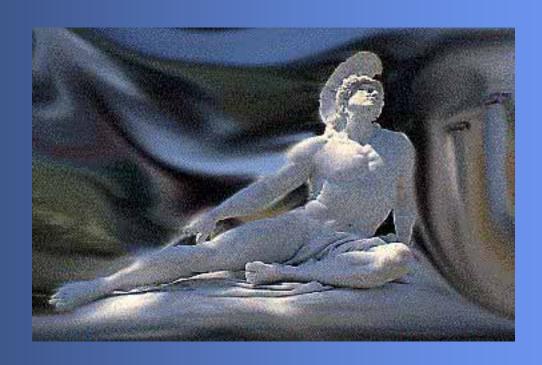


Information: The Achilles Heel of Emergency Response

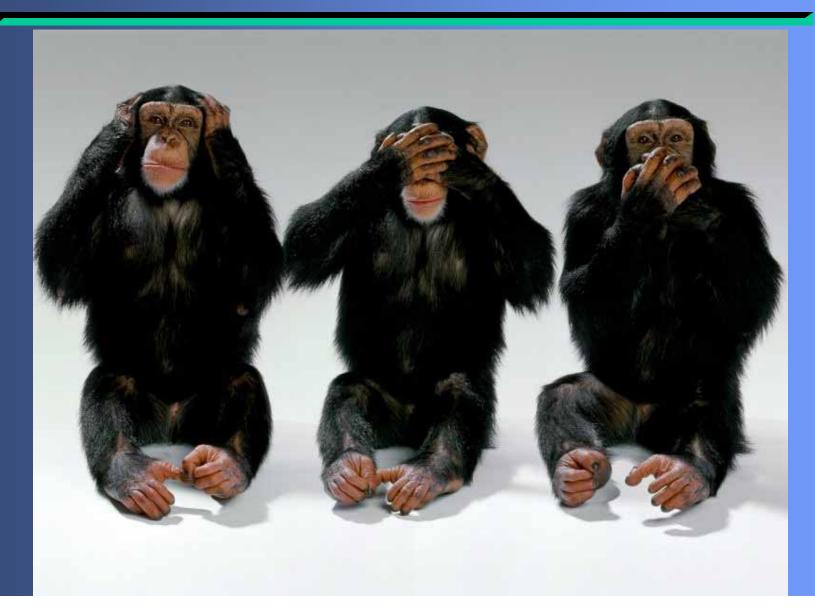


David Cliff





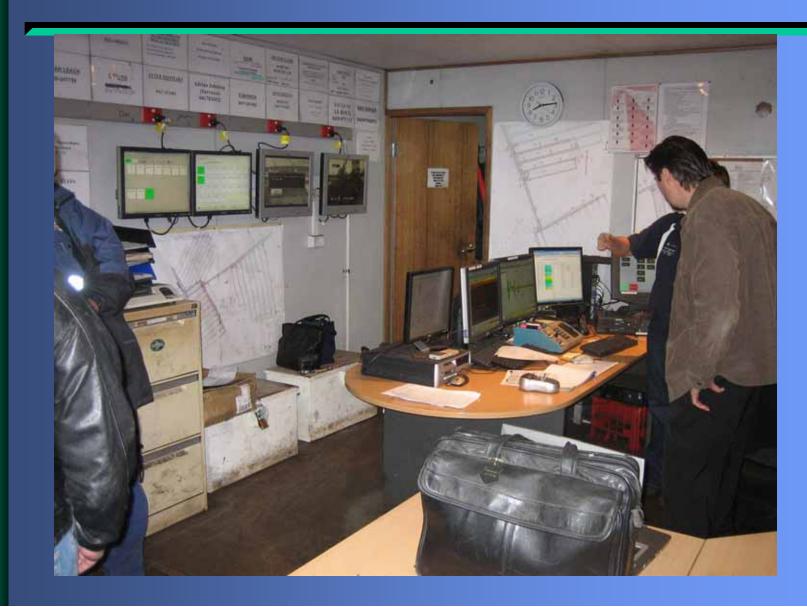
Typical Mine Information System







Control Room









Modern Chinese Control Room







Control Room inputs

- Data collection/alarm system
 - Multiple screens
 - Whole of mine
 - May be more than one system
- Telephones
 - Multiple
- DAC
- Radios
- Video cameras
- Anyone coming through door
- Computer system email, etc





Control Room outputs

- Information storage
 - Paper logbooks/forms
 - Event
 - Telephone conversation records
- Information output
 - In person
 - Phone
 - DAC
 - Email





Incident CRO actions

- Incident triggered
 - Call from UG
 - Alarm on CITECT
- Incident investigation initial
 - Call to UG
 - Call to SMO
 - Interrogate CITECT
 - Consult TARPS/Emergency Response Manual





CRO requirements (1)

- Verify situation
 - Confirm alarm
 - Corroborate information
- Notify official to investigate
- Assess the incident and risks
- Notify affected persons and trigger an evacuation to place of safety (if required)





CRO requirements (2)

- Mobilise internal emergency service
- Mobilise external emergency service
- Secure mine entries
- Account for all persons UG at time
- Monitor the UG response and communicate critical information to persons

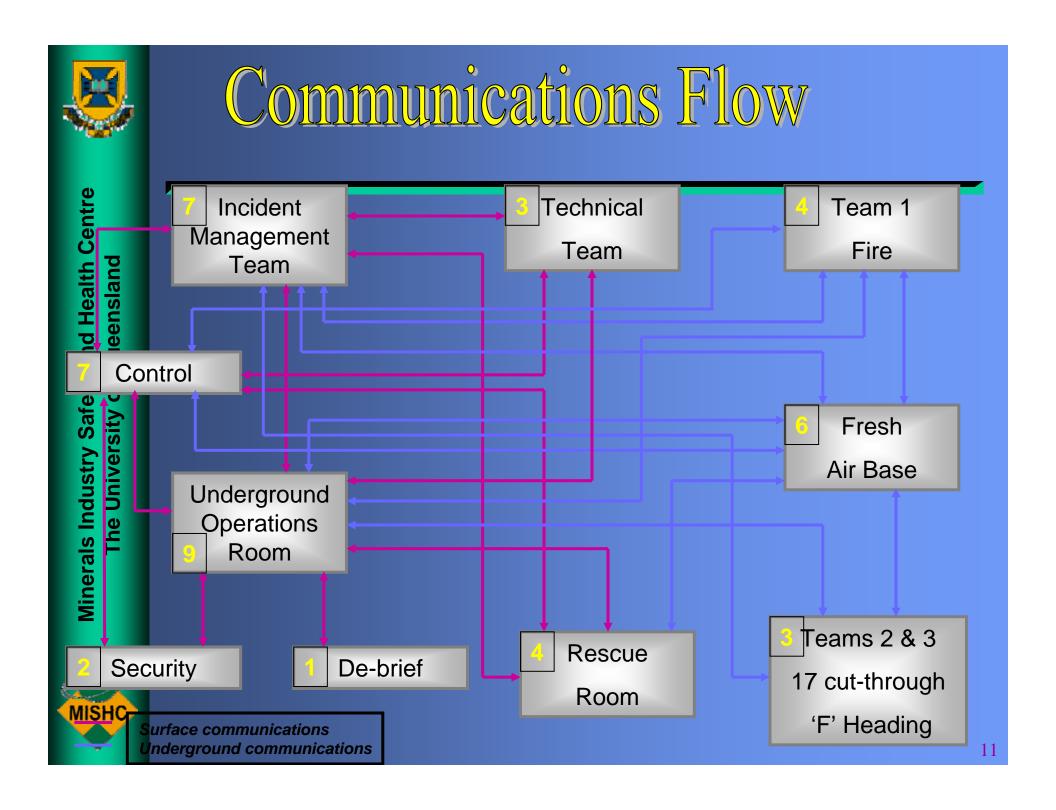




Initial CRO functions

- Don vest and maintain personal event log
- Report details in emergency incident register
- Regularly check gas monitoring results
- Seek assistance in control room
- Notify SMO
- Notify UG Manager
- Contact CRO from adjacent mine
- Act as IC until relieved
- Record all communications
- Record all actions
- Complete CRO initial action guide
- Issue Duty Cards

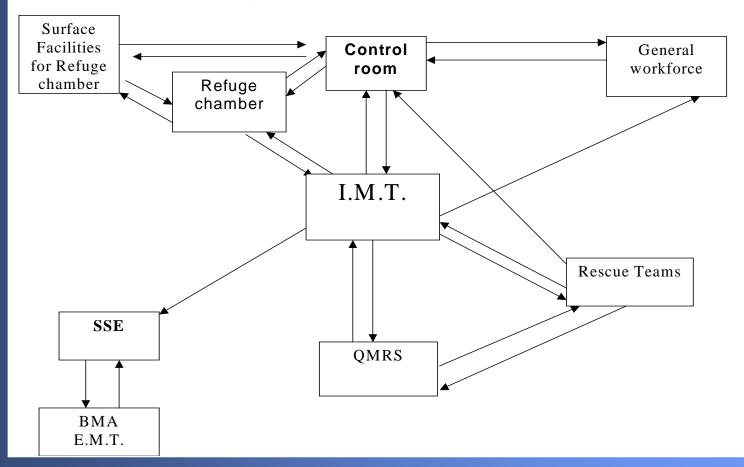






Level 1 Exercise 23 July 2003 Crinum Key Points- Communications

Communication Paths for Emergency exercise -: Crinum Mine 23-7-03.







Triggering evacuation

- Gas alarm; or
- Report from underground
- Consult TARP
 - Paper copy
 - Which TARP?
 - Identify required level of response
 - Activate evacuation





Triggering evacuation

- For gas alarm why not
 - Details of TARP and level automatically identified by computer
 - Actions listed on computer when acknowledging alarm
 - Automatically notify SMO and UG Manager if at TARP level requiring their awareness





SAFEWatch



CO Set Pt 1 Alarm

Location 3:

Maingate 1, 10 c/t

10/7/1999 10:32

Reading: 30 ppm Set Point: 28ppm



Acknowledge Alarm



Display Quicktrend for this location



What does this mean and what should be done?



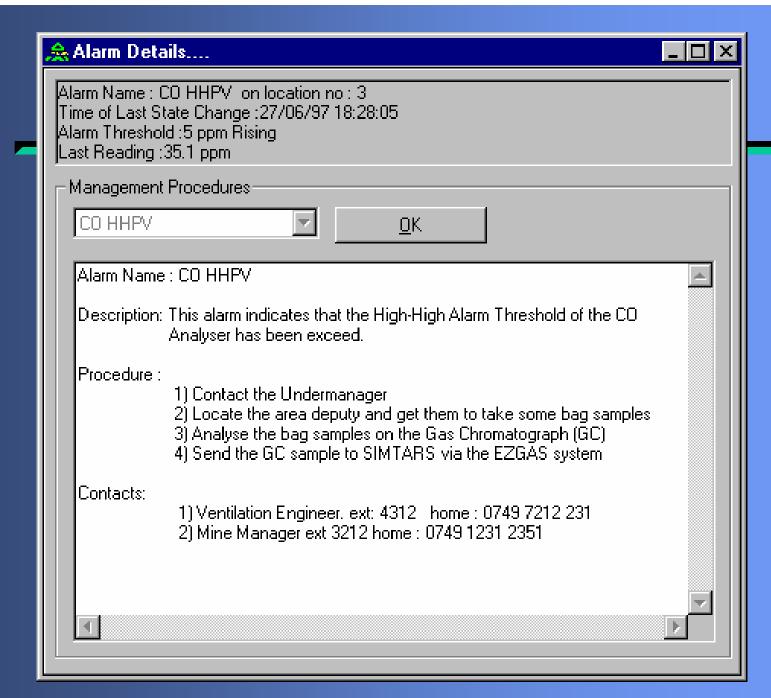




📤 Current Alarms × Point Date/Time Type of Alarm Status of Alarm 27/06/97 18:28 CO HHPV Unacknowledged 27/06/97 18:28 3 CO HPV Unacknowledged 14 27/06/97 18:26 CO HHPV Unacknowledged ? 27/06/97 18:26 CO HPV ? 14 Unacknowledged 27/06/97 18:25 11 CO HHPV Unacknowledged ? 27/06/97 18:25 CO HPV ? 11 Unacknowledged ? 27/06/97 18:25 CO HHPV Unacknowledged 10 27/06/97 18:25 CO HPV 10 Unacknowledged ? 27/06/97 18:24 CO HHPV Unacknowledged 8 27/06/97 18:24 CO HPV Unacknowledged ? 8 27/06/97 18:24 ? CO HHPV Unacknowledged **Operating Normally** Mode: Acknowledge All Outstanding Alarms Close €0



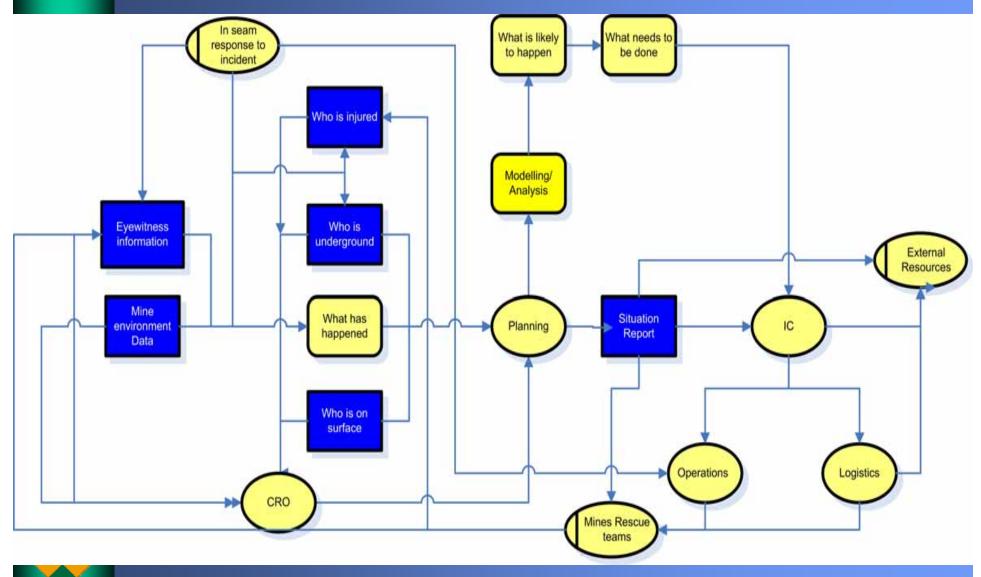








Information flow





SITuation REPort

- Summary of current situation
 - Mine environment
 - Personnel UG
 - Location
 - Condition
- Current action plan
 - Brief description
 - Status
 - Deployments
 - resources
- Identify future actions decided by ICT





SITREP

- Needs regular updates
- Needs someone responsible for its upkeep
- Why paper?
- Electronic would allow easy sharing onsite and offsite
- Able to be updated without interfering in IC process
- Basis of briefings for other groups
 - Mines rescue teams
 - Corporate
 - Government/ISHRs

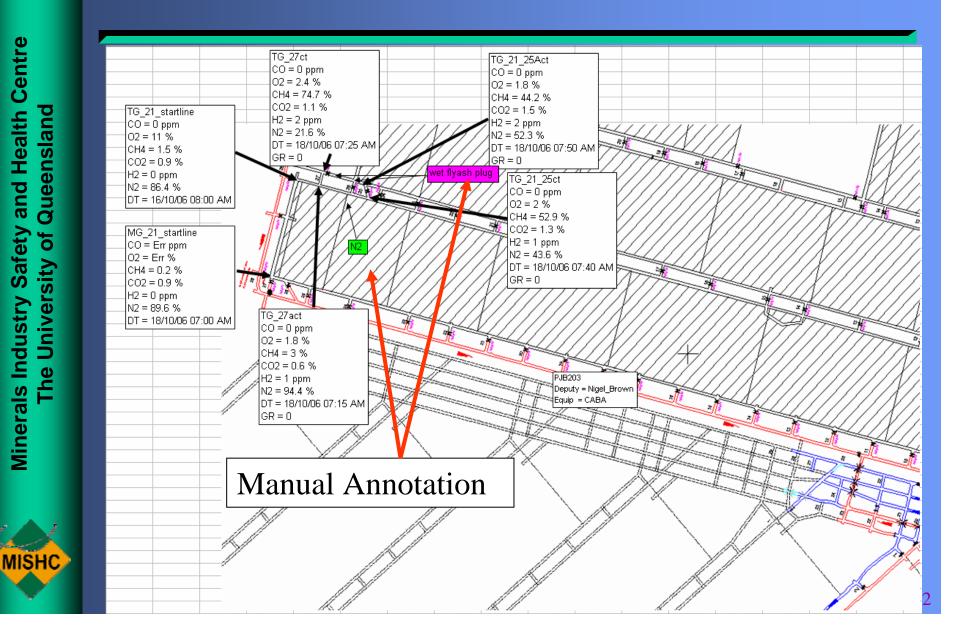


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SITREP GAS DISPLAY



MISHC

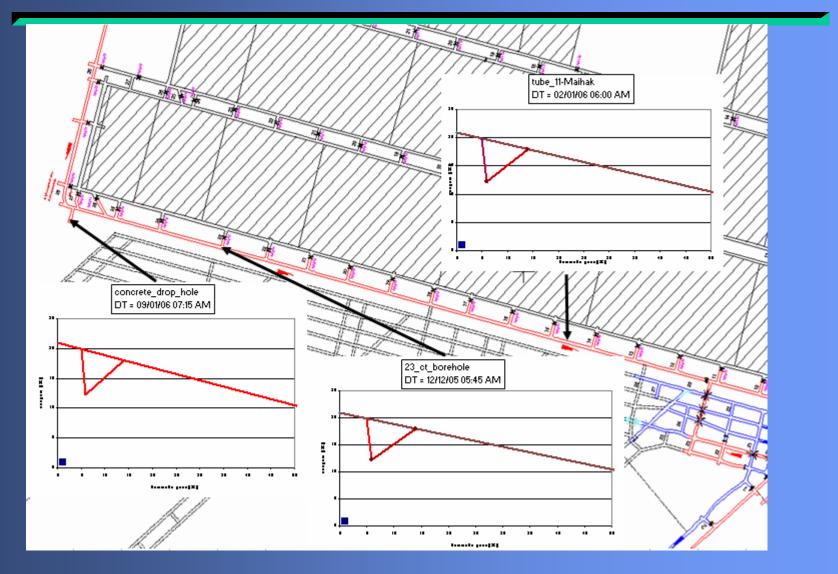


Data entry

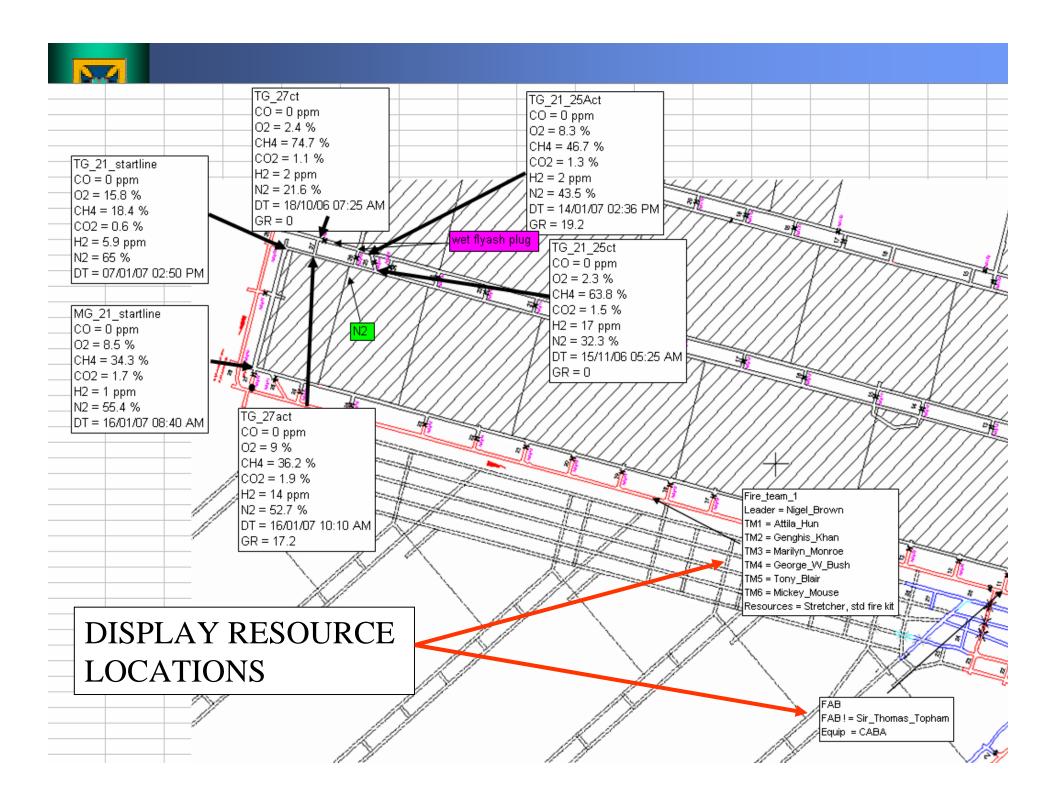
15	Column order Description		1	2	3	4	- 5	6	7	9		
15	Description			~ -					10 1		10	11
15	Description		Assigned Quantity	Carbon Monoxide	CO%	Oxygen	Methane	CH4 Make	Carbon	Hydrogon	Ethylene	Nitrogen
13	Abbreviation	•	Quantity	CO	CO%	02 02	CH4	CH4 make	CO2	H2	C2H4	N2
	Appleviation	Unit	m3/s	ppm	%	%	%	I/s	%	ppm	%	%
nment	Data Source	Offic	Linked	Calc	Input	Input	Input	Calc	Input	Input	Input	Input
15/11/2006 5:25			LIIIIIO	0		2.39	63.81	0010	1.55		0.0000	
7/01/2007 14:50				0	0.0000	15.83	18.48		0.65		0.0000	
14/01/2007 14:36				0	0.0000	8.38	46.73		1.37	2		
16/01/2007 8:40	SMARTMATE			0	0.0000	8.54	34.32		1.72	1	0.0000	55.41
18/10/2006 7:25	SMARTMATE			0	0.0000	2.46	74.73		1.15	2	0.0000	21.66
16/01/2007 10:10	SMARTMATE			0	0.0000	9.08	36.26		1.91	14	0.0000	52.74
14/09/2006 6:10	SMARTMATE			0	0.0000	7.96	0.09		1.75	0	0.0000	90.20
•(Can be Can ut	ili	se c	lynan				se .				
					with CITECT etc.							With CITECT etc.



GAS INTERPRETATION









Resource allocation

1	С	D	Е	F	G	Н	l I	J	K	L	M
1 2											
2		Resource log						1			
4											
5 6	Column order		1	1 , 2		3 4		6	7	. 8	
7		Description		Leader	Team member1	Team member2	Team member3		Team member5	Team member6	Resour
8	8	Abbreviation		Leader	TM1	TM2	TM3	TM4	TM5	TM6	Resou
9	C		Unit	String	String	String	String	String	String	String Input	Strir
	Comment	Data Source	Ni	Input gel_Brown	Input	Input Genghis_Khan	Input Marilyn_Monroe	Input George_W_Bush	Input Tony_Blair	Mickey_Mouse	Inpu
11		Manual	INI	gei_brown	Attila_Hun	Gengnis_Knan	waniyn_wonroe	George_vv_busn	Tony_blair	Mickey_Mouse	Stretche
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40 41 42											
43 44											
4.4											



SUMMARY

When developing an Emergency Preparedness System

- Consider what information is required
- Where will the information come from and in what form is it available?
- Who will supply the information
- Who will use the information
- Ensure processes are adequately resourced

