Scoping Visit to Mines Safety Department, Zambia

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Research aims:
The purpose of this visit was to:
• Complete a training needs analysis of the Mines Safety Department in Zambia
• Build linkages with this institution as well as with the Copperbelt University (CBU) in Kitwe and the University of Zambia in Lusaka

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Scoping Visit to Mines Safety Department, Zambia

Australian Aid scoping studies and a subsequent IM4DC visit identified the Mines Safety Department (MSD) in Kitwe, Zambia, as a key institutional linkage to develop.

The authors visited Zambia from 18th to 22nd February, 2013. The purpose of this visit was to complete a training needs analysis (TNA) of the Mines Safety Department in Zambia and to build linkages with this institution as well as the Copperbelt University (CBU) in Kitwe and the University of Zambia in Lusaka (UNZA).

Thus the objectives of the visit were to:

- Discuss with UNZA and CBU potential areas of co-operative or collaborative research and training relating to occupational health and safety in Mining
- Complete a TNA for the Mines Safety Department
- Provide IM4DC personnel with understanding and experience of the Zambian:
  - Mining industry
  - Legislative framework
  - Inspection framework and practices
- Identify existing courses covering priority areas identified from the TNA
- Develop a plan of work to address the most significant gaps identified in the TNA

Key focus areas were the potential for use of existing courses to assist in professional development activities for MSD personnel and to assess wider interest within the University partners and industry on this topic. Opportunities to link to the competency system adopted by some Mines Inspectorates in Australia were relevant to this discussion. The establishment of research links with UNZA and CBU was also a priority with a view to engaging local researchers on priority OHS issues.

The report concludes with a plan going forward addressing:

- Training needs
- Coaching for sustainability
- Packaging of programs for accreditation

The authors noted that there is immediate potential for the IM4DC to offer short courses to the MSD, UNZA and CBU, and affiliated agencies (e.g., ZEMA) in the high priority areas of accident and incident investigation, prosecutions and court proceedings, risk management and safety leadership.
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1. Introduction

The visit to Zambia took place from 18 to 22 February 2013.

AusAID scoping studies and a subsequent IM4DC visit has identified the Mines Safety Department (MSD) in Kitwe, Zambia, as a key institutional linkage to develop.

The purpose of this visit was to complete a training needs analysis (TNA) of the Mines Safety Department in Zambia and to build linkages with this institution as well as the Copperbelt University (CBU) in Kitwe and the University of Zambia in Lusaka (UNZA).

Key focus areas were the potential for use of existing courses to assist in professional development activities for MSD personnel and to assess wider interest within the University partners and industry on this topic. Opportunities to link to the competency system adopted by some Mines Inspectorates in Australia were relevant to this discussion. The establishment of research links with UNZA and CBU was also a priority with a view to engaging local researchers on priority OHS issues.

The IM4DC personnel involved were:

- Ms Carmel Bofinger, Principal Research Fellow, Minerals Industry Safety and Health Centre, Sustainable Minerals Institute, University of Queensland.
- Ms Karina Jorritsma, Assistant Professor, School of Psychology, University of Western Australia.

2. Objectives for Visit

The objectives of the visit were to:

- Discuss with UNZA and CBU potential areas of co-operative or collaborative research and training relating to occupational health and safety in Mining.
- Complete a TNA for the Mines Safety Department.
- Provide IM4DC personnel with understanding and experience of the Zambian:
  - Mining industry
  - Legislative framework
  - Inspection framework and practices.
- Identify existing courses covering priority areas identified from the TNA.
- Develop a plan of work to address the most significant gaps identified in the TNA.
3. Work Program

3.1 Monday 18 February – University of Zambia, Lusaka

The IM4DC team arrived in Lusaka in the early afternoon. Mr Bunda Besa, Lecturer and Assistant Dean (Undergraduates) from the Department of Mining Engineering, School of Mines at the University of Zambia met the team and transported them to the University. Discussions were held with the following UNZA personnel:

- Dr Stephen Kambani – Head of Department
- Vincent Kawamya – Special Professional Assistant
- Dr Bunda Besa - Lecturer/Assistant Dean (Undergraduates)
- Dr Osbert Sikazwe - Senior Lecturer – Economic Geology
- Dr Lordwell Wittaka – Metallurgy
- Dr Ernest Jere – Metallurgy
- Dr Edward Siame – Metallurgy, Dean (Postgraduates)

The School of Mines at UNZA offers three undergraduate Bachelor degrees: Geology; Mine Engineering; and Metallurgy and Mineral Processing. Students undertake a general science entry year and then complete a 4-year degree course. OHS is covered within some units (e.g., air and environmental pollution is addressed in regards to metallurgical processing procedures) and by a separate safety and environment course in 5th year. There is input from other departments e.g., Mineral Resource Unit at UNZA (part of UN Institute for Natural Resources in Africa).

Previously the School of Mines ran a number of short courses for industry, including a mine safety training workshop, using funding from a Fogarty project grant. Industry paid for places, and the money from the short courses was used to fund students to do industry research. The grant has now ended and short-courses have ceased.

Potential areas for IM4DC to work co-operatively with UNZA:

- Potential for assistance with curriculum review. The School is currently completing a review of the curriculum that has been running since 2008. There has been industry input for this, but the Head of Department would welcome an independent evaluation of the current curriculum. The experience of UQ and UWA in this area would assist the development of the curriculum further.
- The development of relevant health and safety short courses and the presentation of “train the trainer” programs for UNZA personnel would provide sustainability for the courses to meet industry needs. Examples of the courses include heat, dust, noise and environmental issues. This could also include 5 day short courses presented in the regions incorporating the areas of research from UNZA covering sustainable development e.g., water and sustainable management.
- Support for staff to work in industry to gain experience with current systems or to provide other professional development opportunities.

The UNZA personnel also raised the issue of the potential for viable Memoranda of Understanding to be developed between UNZA and Australian’s Universities.
3.2 Tuesday 19 February – Wednesday 20 February – Mines Safety Department

The IM4DC personnel met with the Mines Safety Department members over these 2 days. Interviews were completed with eight Inspectors from all areas of the Inspectorate. The inspectors interviewed were:

1) Mr Brighton Kateka - Chief Inspector of Machinery
2) Mr George Banda - Senior Inspector of Mines and Explosives
3) Mr Alfred Chileya - Inspector of Mines
4) Mr Aaron Soko - Senior Inspector of Environment - Head of Section, currently covering all areas.
5) Mr James Chisenga - Inspector of Mines - Environment
6) Mr Yodam Khunga - Acting Senior Inspector of Mines and Explosives (Small Scale Mines in South)
7) Mr Brison Chewe - Senior Inspector of Mines and Explosives (Large Scale Mines) - interview cut short as Inspector had to travel to southern region
8) Mr Lapson Chinyamuka - Acting Inspector of Mines - Environment

The structure of the interviews was guided by the requirements of the TNA as shown in Figure 1.

The interviews were structured to determine the:
- Current requirements of the position
- Current requirements of the Inspectorate
- Current qualifications and experience of the inspectors
• Extent of standardised procedures and documentation
• Areas of need for additional knowledge and skills for individuals and Inspectorate.

Additionally, each interviewee was provided with a copy of the diagram developed to identify the requirements for an “ideal” Inspectorate from the Australian National Mine Safety Framework and asked for comments relating to the applicability to the Zambian situation. This diagram is shown in Figure 2.

Position descriptions were also provided by MSD for the Senior Inspector roles. These included the basic requirements for the positions in terms of minimum qualifications and experience as well as job purpose and key result areas.

### 3.3 Thursday 21 February – KonKola Copper Mine

The Inspectorate organised a visit for the IM4DC personnel to Konkola Copper Mine (KCM). Mr Mwiya Songola and Mr George Banda accompanied the IM4DC personnel.

KCM is approximately 60 kilometres north-west of Kitwe. It comprises a large open cut mine, underground operations, a smelter and associated infrastructure including a power generating facility. The KCM management were very welcoming and keen to demonstrate the operations and provide information on the processes.

Of particular note was the high visibility of safety.
The visit provided an excellent context with regard to the role of the Inspectorate and the relationship with the industry.

Figure 1 Sampling Product

Figure 2 Example of Safety Message

3.4 Friday 22 February – Copperbelt University, Kitwe

The visit to the Copperbelt University was organised by Dr Mwiya Songola. The IM4DC personnel met with the following staff members from the School of Mines and Mineral Sciences.

Dr Alick Nguvulu - Acting Dean
Mr Jhonnah Mundike - Assistant Dean
Mr Francis Bwalya - Acting Head (Mining Engineering)
Mr Julius Kanyembo - Head (Chemical Engineering)
Dr Fenny Mwanga - Acting Head (Environmental Engineering)
Dr Frederick Chileshe - Head (Metallurgy)
Dr Mwiya Songolo – Lecturer Mining Engineering

The School of Mines and Mineral Sciences offers a range of Bachelor and Diploma courses. CBU has a number of active research areas but research is limited due to resources and funding. There is a close relationship between CBU and UNZA.

Previously CBU has offered short courses to industry based on industry demands. These were assessed courses and attendees were provided with a statement of attendance. Some of these courses were targeted at the operator level.

CBU works closely with the Zambian Environmental Management Agency (ZEMA) and there is the potential for ZEMA to be involved with any capacity building programs developed with CBU.

The CBU staff are keen to build capacity within the University and the development of relevant health and safety short courses and the presentation of “train the trainer” programs would provide sustainability for the courses to meet industry needs. CBU were also keen to build capacity related to mine closure programs.

These are areas that would also support the skills base of the MSD.
4. Training needs analysis

4.1 Mines Safety Department

The Mines Safety Department has 4 areas.

i. Mining

ii. Explosives

iii. Machinery

iv. Environment

A new Director was appointed to the MSD in mid-February. Each area is managed by a Chief Inspector, with Senior Inspectors and Inspectors in each section. The Mining and Explosives sections are currently combined as one section.

The Inspectorate is significantly understaffed with many vacant positions. There are 33 Inspector positions identified in the four areas, however, there are 13 Inspectors currently employed. Most inspectors within the current inspectorate were hired in 2005/2006 following the explosion at Chambishi’s mines explosive factory. Since this initial large intake 2/3rds of hires have moved to industry positions and positions have not been re-filled (there is only a budget for filled positions, however there is some optimism that the next budget will include funding for vacant positions).

The Zambian Mining Legislation is under review and is in draft at the present time. The Legislation currently worked under was developed in the 1970s.

Zambia has approximately 15 large mines and many small mines scattered all over the country. It is very difficult for Inspectors to monitor these small mines. Mr Kateka estimated that the MSD has not covered more than 1/3 of the country in the past 7 years.

The MSD also works with Mining Development Department in Lusaka, Geological Survey Department, Ministry of Lands and Environment, Zambian Environmental Management Agency, Ministry of Health, and health Inspectors from local Government.
4.2 Summary of Process

Each of the Inspectors interviewed provided a brief summary of their experience and qualifications. They identified the work that they currently are responsible for and the requirements of their positions.

The knowledge, skills, attributes, abilities and competencies discussed in the interviews by the Inspectors corresponded to the areas identified in Figure 2.

The Inspectors were open about their knowledge and experience and where they felt training and development could benefit them. They were very generous with their time. There was consistency in the information supplied and the problems and issues identified.

From analysis of the information supplied by the Inspectors, the IM4DC personnel have summarised the areas where there are currently gaps in the training and professional development of the MSD Inspectors.

4.3 Requirements of Inspectors and MSD Inspectorate

The results of the analysis for individual inspectors are shown in Table 1.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Requirements of position</th>
<th>Current skill of individual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One of more of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining engineering</td>
<td>All Inspectors are required to have relevant recognised degrees and industry experience (min 2 years for Inspectors, min 5 years Senior Inspectors).</td>
<td>Requirements met in terms of qualifications and experience.</td>
</tr>
<tr>
<td>Electrical engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ergonomics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geotechnical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining operation experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational hygiene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metallurgy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining related expertise</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enforcement and Investigation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit</td>
<td>Auditing is not currently a defined role but inherent in the inspectorate program.</td>
<td>No formal training in audit.</td>
</tr>
</tbody>
</table>
### Table 1 – Identification of Needs for Inspectors

<table>
<thead>
<tr>
<th>Competency</th>
<th>Requirements of position</th>
<th>Current skill of individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection</td>
<td>Inspection is an essential part of position and role of Inspectorate.</td>
<td>No formal training in inspections and variable if given mentoring or supervision on joining MSD.</td>
</tr>
<tr>
<td>Risk assessment/Risk management</td>
<td>Risk assessment is an increasing part of the role, particularly the evaluation of the quality and completeness of risk assessments completed by industry.</td>
<td>Small number of inspectors have completed 1-week short course in risk management. No standard risk management training or practices in place.</td>
</tr>
<tr>
<td>Certification of relevant lawful approvals/assessing compliance</td>
<td>Approval certification and approval/compliance assessment is an essential part of position and role of Inspectorate.</td>
<td>No formal training on legislation or compliance assessment for approvals. Legislation not distributed to all inspectors and limited guidance provided on interpretation.</td>
</tr>
<tr>
<td>Understanding and interpretation of legislation</td>
<td>Interpretation of legislation is an essential part of position and role of Inspectorate.</td>
<td></td>
</tr>
<tr>
<td>Understanding of prosecutions</td>
<td>Inspectors are required to gather and report evidence for court proceedings and legal documents.</td>
<td>No formal training. Standard templates for reporting are provided.</td>
</tr>
<tr>
<td>Accident and dangerous occurrences investigation</td>
<td>Investigations are an essential part of position and role of Inspectorate. Inspectors must investigate all accidents with LTIs greater than 3 days, all dangerous occurrences (incidents that could have resulted in serious injury or death), and all fatalities. Completeness and consistency of investigations is very important for prosecutions.</td>
<td>No formal training. Given templates for reporting.</td>
</tr>
<tr>
<td>Occupational health and hygiene sampling and research (Environment Inspectors - Occupational Health)</td>
<td>Essential part of position and role of Inspectorate for Environment Inspectors – Occupational Health. Working knowledge of occupational health and hygiene required for other Inspectors.</td>
<td>No training provided by MSD. Individual inspectors have completed further studies and have variable levels of expertise. Dependent on external sampling and analysis.</td>
</tr>
<tr>
<td>Review and verification of environmental documents (Environment Inspectors)</td>
<td>Cost estimates need to be verified in addition to the environmental information.</td>
<td>No training provided by MSD. Individual inspectors have completed further studies and have variable levels of expertise.</td>
</tr>
</tbody>
</table>
### Table 1 – Identification of Needs for Inspectors

<table>
<thead>
<tr>
<th>Competency</th>
<th>Requirements of position</th>
<th>Current skill of individual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management and support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication and Consultation</td>
<td>Communication and consultation is required with internal, inter-agency and industry stakeholders. Lack of standardisation around safety processes and knowledge of best practice in industry requires the formation of close/good working relationships and trust amongst stakeholders.</td>
<td>Limited by time and resources. Based on individual attributes. No formal training.</td>
</tr>
<tr>
<td>Information management</td>
<td>There is a need to disseminate technical information and findings internally, inter-agency and to industry.</td>
<td>Report templates available. Some inspectors have public administration induction. No standard sharing of information internally - held in Registry. Ad hoc industry information dissemination.</td>
</tr>
<tr>
<td>Initiative</td>
<td>High requirement for initiative in positions due to lack of standard practices.</td>
<td>Based on individual attributes and not formally considered.</td>
</tr>
<tr>
<td>Decision making</td>
<td>Decisions needed on legislation, compliance, and resource allocation.</td>
<td>Based on individual attributes and not formally considered.</td>
</tr>
<tr>
<td>Planning</td>
<td>High level of planning required as discretion is needed in terms of work load, resources and funding</td>
<td>Based on individual attributes and not formally considered or trained.</td>
</tr>
<tr>
<td>Time Management</td>
<td>High level of time management required as discretion is needed in terms of work load, resources and funding</td>
<td>Based on individual attributes and not formally considered or trained.</td>
</tr>
<tr>
<td>Report writing</td>
<td>Reports required for industry, courts for prosecution, and provision of technical advice to other government agencies.</td>
<td>Report templates available. Some inspectors have public administration induction.</td>
</tr>
<tr>
<td>Line management (Senior and Chief Inspectors)</td>
<td>Currently limited line management due to staff shortages. This could change if MSD is fully staffed.</td>
<td>Ad hoc and not formally trained.</td>
</tr>
</tbody>
</table>

There were also competencies identified that need to be held within the Inspectorate but may not necessarily lie with one particular Inspector. These are shown in Table 2.
<table>
<thead>
<tr>
<th>Competency</th>
<th>Requirements of position</th>
<th>Current skill level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enforcement and Investigation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard identification</td>
<td>Hazard identification is an essential part of Inspectorate program as basis for enforcement of health and safety.</td>
<td>No formal training or standard practices or procedures.</td>
</tr>
<tr>
<td>Human error management</td>
<td>Understanding of human error and management processes.</td>
<td>No formal training or standard practices or procedures.</td>
</tr>
<tr>
<td>Risk management</td>
<td>Understanding of risk management principles and practices.</td>
<td>No formal training or standard practices or procedures.</td>
</tr>
<tr>
<td>Development and dissemination of base standards</td>
<td>Audit checklists and procedures, accident and dangerous occurrence investigation.</td>
<td>No formal training or standard practices or procedures.</td>
</tr>
<tr>
<td><strong>Management and support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy development</td>
<td>Input in to revision of Acts and Regulations, e.g., Mines and Minerals Act, Explosive Act and Safety and Health Act</td>
<td>No formal training. Ad hoc input into policy.</td>
</tr>
<tr>
<td>Standardisation of processes and practices</td>
<td>Need for consistency and accuracy of inspections and compliance. Significant need for standardisation to ensure appeals are not revoked, court requirements addressed and dissemination of information ensured.</td>
<td>No formal training. Report templates available and some individuals have developed own templates and checklists.</td>
</tr>
<tr>
<td>Human resource management</td>
<td>Increasing need as inspectorate positions are filled and more human resources are available.</td>
<td>Ad hoc process.</td>
</tr>
<tr>
<td>Organisation management</td>
<td>Change management, recognition, rewards.</td>
<td>Ad hoc process.</td>
</tr>
<tr>
<td>Mentoring and coaching</td>
<td>Currently limited mentoring and coaching due to staff shortages. This could change if MSD is fully staffed.</td>
<td>Ad hoc mentoring of new inspectors. No continuous coaching or mentoring.</td>
</tr>
<tr>
<td>Leadership</td>
<td>Leadership necessary for resources allocation and priority setting.</td>
<td>No clear direction. Limited physical resources lead to changes in direction and priorities - reactive environment.</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Data analysis is required for priority setting and accurate reporting.</td>
<td>Limited data analysis and limited resources. No dissemination of information. No databases maintained.</td>
</tr>
</tbody>
</table>
Table 2 - Identification of Needs for MSD Inspectorate

<table>
<thead>
<tr>
<th>Competency</th>
<th>Requirements of position</th>
<th>Current skill level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Management</td>
<td>Currently limited line management due to staff shortages. This could change if MSD is fully staffed.</td>
<td>Ad hoc and not formally trained.</td>
</tr>
<tr>
<td>Understanding of information and communication technology</td>
<td>Necessary for dissemination of information to both internal and external stakeholders.</td>
<td>Ad hoc - no current role and limited defined resources</td>
</tr>
</tbody>
</table>

4.4 Gaps in current knowledge and skills

The 5 most important areas of training needs were identified from the analysis of the interviews. These priority areas, in order of importance, were:

1. Accident and Incident Investigations
2. Prosecutions and Court Processes
3. Risk Assessment and Risk Management
4. Safety Leadership – including Communication, Consultation and Culture Change
5. Mine Closure including Cost Estimation

There were additional areas of need identified as shown in Tables 1 and 2.

4.5 Identification of potential courses to address priority training needs

Currently the Minerals Industry Safety and Health Centre (MISHC) at the University of Queensland provides postgraduate course in the following areas:

- Accident and incident investigation
- Risk management
- Safety and Health Management Systems
- Human Factors Engineering

These are provided as short courses that can be completed during a 5-day training program with some pre-work required. These courses are part of the Graduate Certificate in Risk Management.

This provides the possibility that the MISHC could provide training in some of the identified priority areas. It is also possible that credit could be gained by the participants towards a post-graduate certificate.

A tailored approach to developing the communication, consultation, change management and safety leadership skills required within the MSD (and operational managers and professional staff) could be delivered by the Accelerated Learning Laboratory (ALL), at the University of Western Australia. Evidence-based thinking in the topics of safety and leadership development suggest adopting an
integrated mix of formal workshop-based teaching, assessment and feedback, and supported on-the-job learning activities. The ALL currently runs safety leadership programs that incorporate longitudinal, blended and experientially oriented design to enable more effective transfer of learning back to the job. Initial workshops could be run in Australia or Zambia, with follow-up support provided.

Alternatively, as part of the Graduate Diploma in Work Health and Safety, the University of Western Australia runs courses in:

- Organisational Development and Work Design (incorporating change management)
- Occupational Health, Safety and Well-being (incorporating reactive and proactive aspects of safety management)

Both of these units could be converted into short course format.

The most appropriate way forward for meeting the training needs for prosecutions and court processes may be to use the expertise available in the UNZA Law School and incorporate that expertise in to the accident and incident training course. This will need some further discussion with UNZA.

It is suggested that discussions are held with Monash University about the training needs for mine closure. Monash University have a relationship with AusAID in this area.

### 4.6 Potential for sustainability of courses through UNZA and CBU

Both UNZA and CBU identified the potential for sustaining the training through their short course programs.

It is recommended that as part of the priority training program presented for MSD, both Universities are invited to participate. This will allow the skills to present the training to be passed on to the local Universities. As part of this process, IM4DC would provide some “train the trainer” programs for the relevant short courses. This would provide the local Universities with the capacity to present the short course both for the Inspectorate and the local industry.

The following issue needs to be considered to ensure on-going effective co-operation with the MSD and Universities.

Currently short course offerings by the Universities to industry have ceased, in part due to funding issues, and in part due to lack of resources to engage with industry. In order for the “train the trainer” model to work, processes for continuously engaging industry need to be developed and maintained. If short courses do not have on-going fee-paying industry attendance, the Universities will not find them viable and future Inspectors employed within the MSD will not have formal training opportunities to address their competency gaps.
5 Plan Going Forward

5.1 Training Program

The following steps are suggested to work towards meeting the training needs of the MSD that have been identified. These are based on the priority areas identified and the current available courses that can be presented with minimal changes.

It will also depend on agreement by MSD of the priority areas and the time available for the MSD personnel to attend the courses. It is suggested the courses are held in Kitwe.

April – May

- Communication and consultation with the MSD, UNZA and CBU to confirm course outlines and train the trainer requirements for accident and incident investigation, prosecutions and court processes and risk management. This will be led by MISHC at UQ.
- Communication with Monash to confirm and plan presentation of mine closure training. This will be confirmed by IM4DC.
- Communication and consultation with MSD, UNZA and CBU to confirm course outlines and train the trainer requirements for safety leadership. This will be led by UWA.

Late June

Completion of the following courses in a 2 week block if possible

- Accident and incident investigation – including the prosecutions and court processes
- Risk Management

August

Completion of safety leadership training.

Presentation of the mine closure training will be confirmed.

5.2 Coaching for sustainability

To address the need for sustainability of the training for Inspectors and to improve the capacity of both UNZA and CBU to meet the future MSD needs and also industry needs, time will be spent with each group after completion of the courses. This will formalise the train the trainer programs and assist in the set up of continuing courses.

5.3 Packaging of programs for accreditation

As mentioned in Section 4.5, the possibility that credit could be gained for the short courses to contribute towards a qualification will be investigated. This could be a Graduate Certificate.
6 Summary

The visit to Zambia provided the necessary understanding for the IM4DC personnel to propose potential ways forward that will build the capability of the mining Inspectorates in MSD.

There is immediate potential for the IM4DC to offer short courses to the MSD, UNZA and CBU, and affiliated agencies (e.g., ZEMA) in the high priority areas of accident and incident investigation, prosecutions and court proceedings, risk management and safety leadership.