

EXECUTIVE SUMMARY OF THE REVIEW OF MINE HEALTH AND SAFETY, POST-LEON COMMISSION

**EMPHASIS ON THE CHALLENGES
FACING THE MHSI**



BY

IMC

AND

THE RESOLVE GROUP

March 2003

1. INTRODUCTION

The Mine Health and Safety Inspectorate (MHSI), part of the Department of Minerals and Energy, was established to protect the health and safety of employees and other persons at mines. In order to help ensure that the MHSI is operating efficiently and effectively, this independent review of the MHSI was commissioned, to audit those aspects that are considered essential for the MHSI to achieve its aims and objectives. In addition, in 1999, a Cabinet Memorandum delegated to the Department of Labour, the task of overseeing a process that will lead to the integration and co-ordination of health and safety competencies nationally. This integration and consolidation can only be achieved once a substantive national OHS policy has been developed, which is likely to encompass some of the outcomes of this review.

Scope of the Review

The MHSI provided an extensive list of issues to be addressed by the review within the original 'Call for Tender'. To address this comprehensive list of issues, review activities were subdivided into the following principal areas of investigation.

- Development of the legislation and the response to the Leon Report
- Analysis of quantitative performance indicators (accident and incident trends / industrial diseases and compensation trends)
- Mines Inspectorate Structures
- MHSI Performance review
 - Regional performance, structure and capacity
 - Head office policy function, planning, budgets and finance
- Tripartite governance
- Legislative analysis and recommendations
- MHSI human resource issues

Where practicable, benchmarking exercises and comparisons with international best practice were undertaken within each of the above areas of investigation.

2. BACKGROUND AND CONTEXT OF LEGISLATION

The Mine Health and Safety Act (MHSA), which has been in effect since 15 January 1997, is the legal basis for regulating occupational health and safety in South Africa's mines and resulted from an extensive process of policy review originating in the Commission of Inquiry into Health and Safety in the Mines, the Leon Commission. The Leon Commission had concluded that the incumbent regulatory framework for health and safety in mines was inadequate and that the existing laws had been inadequately enforced. The Commission concurred with the view that the accident record of the industry was 'appalling' and found that the scale of death, injury and disease was such that remedial action had to be taken urgently.

The Commission found that there was a history of under-resourcing of the Mines Inspectorate and noted that recommendations by previous Commissions to improve the allocation of resources had not been implemented. The mining industry had been allowed to disregard key aspects of existing laws without being challenged by the Inspectorate and, in this context, the Commission concluded that it was not surprising that there had been no

improvement in accident rates. The Commission was even more critical of the regulation of occupational health in the mining industry. It concluded that pre-existing legislation and enforcement agencies did not offer the prospect of control of occupational disease and that radical steps were required to deal with the serious occupational health problems of the industry. It also pointed out that the key to the control of occupational diseases lay in the control of the working environment.

The Commission concluded that the reforms introduced by the Minerals Act had compromised the regulation of health and safety in the mine and endorsed tripartism as a mechanism to develop participative strategies to deal with workplace hazards. It also recommended that the Mine Health and Safety Inspectorate be constituted as a separate administrative agency within the Department of Minerals and Energy and made detailed recommendations about the structure, staffing and resources of the MHSI.

The Mine Health and Safety Act (MHSA)

Under the MHSA, the primary responsibility for ensuring a healthy and safe working environment in mines rests on the employer (mine owner). The Act establishes the standard of care resting on employers. Employers must do what is reasonably practicable to ensure the health and safety of persons employed in mines, as well as others who may be affected by mining activities. In order to comply with this duty, the employer must establish and maintain an ongoing system of risk management.

The Act establishes representative tripartite institutions to promote a culture of health and safety, to develop policy, legislation and regulations and to oversee health and safety research. The first of these institutions, the Mine Health and Safety Council, advises the Minister on matters of health and safety, while its three permanent sub-committees (MRAC, MOHAC and SIMRAC) advise the Council on regulations, occupational health and health and safety research respectively.

The Act also establishes the Mine Health and Safety Inspectorate (MHSI), headed by the Chief Inspector of Mines (CIM), which has the responsibility to promote and enforce compliance with the MHSA. The MHSI's primary functions are to inspect mines, to investigate and conduct inquiries into accidents and other health and safety incidents, and to enforce compliance with the Act. The MHSI's enforcement powers include the issue of compliance or closure notices in terms of sections 54 and 55 of the Act, the imposition of administrative penalties and the recommendation of prosecutions.

Compensation Legislation

Two statutes regulate the compensation of workers for workplace injuries and occupational diseases. The Compensation for Occupational Diseases Act 1993 (COIDA), administered by the Department of Labour, provides for payment of medical treatment, periodical payment for workers with a temporary disability and lump-sum or pension payments to permanently disabled workers. The Occupational Diseases in Mines and Works Act 1973 (ODMWA) is administered by the Department of Health and compensates workers in mines and works for respiratory diseases, most significantly pneumoconiosis and asbestosis. Financial benefits under ODMWA are limited to lump-sum cash benefits. The existence of a separate compensation system for the mining industry can be traced to separate legislation regulating pneumoconiosis in the early years of the mining industry. A decision to merge the two compensation systems was made in 1996 but has not yet been implemented.

A significant feature of COIDA is that it prohibits all employers from bringing civil claims arising out of work accidents and occupational diseases. This prohibition extends to all claims, including claims for non-financial damages. Mines belonging to the Chamber of Mines are insured for their liability under COIDA through the Rand Mutual Assurance Company Ltd, a mutual association. The Chamber of Mines and the National Union of

Mineworkers have negotiated for the payment of certain benefits by Rand Mutual that exceed the benefits prescribed under COIDA.

Constitutional Context

The MHSA must also be located in the context of South Africa's post-apartheid constitutional law regime. The right to a healthy and safe work environment is not expressly dealt with in the Constitution. However, the right emerges from the right of all individuals to an environment that is healthy and not harmful to their health. In addition, the right can also be derived from the right of all individuals to fair labour practices. The provision of occupational health services falls under the right of access to health services.

In terms of the Constitution, the State is required to take reasonable legislative and other measures to protect the environment, which includes the working environment, so as to secure sustainable development. The Constitutional Court has held that this requires the State to develop, implement and enforce appropriate policies, legislation, regulations and other subordinate legislation. All three elements must be present for the State to comply with its constitutional obligations.

3. HEALTH AND SAFETY PERFORMANCE OF THE INDUSTRY

A primary stage of the review was to quantify the current health and safety performance of the RSA mining industry and to assess this performance against other first world mining countries. This quantitative assessment is presented in two parts, an assessment of safety issues and an assessment of health issues.

Occupational Safety

Since 1999, there has been a move within RSA to record accident and fatality rates 'per million hours worked', rather than 'per 1000 persons at work'. Such a change will allow for easier international comparisons of risk to be made. However, despite a number of initiatives to align accident and incident reporting standards internationally, there is only limited data available with which direct and valid comparisons may be made, as injury data is often presented using different criteria, dependent upon each country's legislative reporting requirements. In order to minimise the potential for misleading and invalid international comparisons, the report examines fatality data.

The initial impression from the RSA data is that there has been an overall decrease in both fatality and injury rates since 1994, with the lowest figures for each category being achieved in 2001.

The Gold Mining Sector has shown an improvement since the Leon investigation, although the total number of fatalities is still high; the sector now accounts for 63.2 % (182) of the total mining fatalities (288) for 2001, compared to 77% in 1994.

A commodity of particular concern is Platinum, where both the fatality and injury rates have deteriorated significantly, by 72% and 63%. The Platinum Sector now accounts for 17% (49) of the total fatalities (288) for 2001, compared to 5% in 1994.

In an attempt to minimise the variability introduced by single disastrous events, and to facilitate international comparisons, Fatal Injury Frequency Rates per million hours worked (FIFR), averaged over the ten-year period 1991-1992 to 2000-2001 are compared. These FIFR figures indicate that South African mine workers face approximately three times the risk of being killed whilst at work in mines than do workers in Australia or the US mining sectors.

To facilitate a more detailed examination of safety risks, the available mining FIFR for 2001, classified according to commodities and mining methods for South Africa, the US and

Australia, are examined. These figures indicate that both the underground and opencast coal sectors in RSA compare favourably with those of the US and Australia. However, the FIFR of the underground gold mining sector indicates a significantly higher risk of fatalities than that which exists in any other mining sector in South Africa, Australia or the US. Furthermore, the FIFR of the underground platinum sector, although comparable with the US underground minerals figure, is of concern in that it is a risk that is rising, within what is currently an expanding industry sector. There are more workers currently being killed annually in this sector of the RSA mining industry than the total number of workers killed within the US, Australian and UK mining industries.

An examination of the variance in FIFR leads to the overall conclusion that, since the time of the Commission's report and since the introduction of the MHSA, little or no significant improvements have been achieved.

Occupational Health

At the time of the Leon Commission's investigations, there were no reliable statistics available for the occupational diseases caused as a result of working in the RSA mining industry. The Commission also heavily criticised the lack of occupational health monitoring. Unfortunately, despite these observations by Leon, comprehensive and reliable health data remains largely unavailable nationally. The South African Mines Occupational Diseases Database (SAMODD) is only just starting to gather relatively small samples of data and health returns from mines are not yet compulsory under the regulations. From data provided by the Compensation Commissioner, which reflects the compensation paid per mineral category for occupational lung diseases, it is evident that the number of compensation cases is continuing to rise in all industry sectors, with the exception of asbestos.

Given the inherent latency of occupational diseases, it would not be unexpected to see the number of compensation claims rise, even in the light of any recent significant reductions in exposure to airborne pollutants. Unfortunately, there do not appear to be any such significant reductions. Examination of the percentage of workers exposed to hazardous levels of airborne pollutants at mines indicates some minor improvements. However, any changes in hazard control standards are likely to be masked, as a result of the percentage of mines that failed to submit results. Hence, it can only be concluded that the number of workers exposed to hazardous levels of airborne pollutants remains alarmingly high and that little progress has been made in terms of reducing occupational health risks.

Approach to Occupational Health Hazard Reduction

In some respects, occupational health is one of the most difficult aspects of Health and Safety to regulate and quantify, since many of the health effects are not immediate, but result from a cumulative exposure to pollutants over a long period of time. Periodic medical surveillance allows timely identification of the onset of symptoms of disease, potentially enabling both early treatment and re-deployment of the individual, in order to reduce his exposure and prevent, or slow down, any progression of the disease.

The Guideline issued by the MHSI to protect and improve the health of employees, by monitoring and reducing their exposure to Airborne Pollutants, provides an excellent basis for assessing their exposure. In terms of reducing employees' exposure to pollutants, responsibility is rightly placed upon the employer. A Code of Practice (COP) produced by each mine is required to stipulate the control measures currently in place to protect the workforce and any additional measures required to be instituted, in order to reduce risks. The MHSI must then encourage the employers to monitor and ensure the effective implementation of these control measures.

In the past, annual levies for non-compliance were calculated and imposed, based on monitoring results returned to the MHSI by the mines. However, levy rates are now linked to

compensation claims and hence appear to be divorced from mine specific performance, in terms of effective hazard control. In effect, the only short-term penalty faced by a mine that fails to effectively control respirable hazards is a need to increase its sampling frequencies. This situation, coupled with the effective prohibition of employees from bringing civil claims arising out of occupational diseases, raises the concern that it may be more attractive, in financial terms, for mines to pay compensation levies, rather than control health hazards.

In conclusion, it is useful to recall a point made in the Leon report that the primary focus of OH investigations should be on controlling the hazard at source, since prevention is better than cure.

4. MHSI MANDATE, POLICY AND OBJECTIVES

An examination of the organisational structures and strategic objectives of other OHS inspectorates in prominent first world mining countries, indicates a range of different approaches, when compared to that operated within RSA. Key issues which emerge are the 'Position of MHSI within the DME', the 'Role of a Policy Unit', the issue of prescriptive versus 'outcomes based' legislation and the national approaches to mine H&S and general industry OHS.

Position of MHSI within DME

The positioning of MHSI within DME is a consequence of recommendation 12.2.1 of the Leon Commission. Nevertheless, Leon noted that it might be appropriate in the future, for mining Health and Safety to fall under the ambit of a general health and safety statute.

The DME state that they view the Mine Health and Safety Programme as contributing to two of its other five key objectives.

- To formulate and implement an overall minerals and energy policy to ensure optimum utilisation of mineral and energy resources
- To position the minerals and energy industry for global competitiveness.

Consequently it may be argued that the inspectorate, and the inspectors, as part of the DME, have a certain direct responsibility to take cognisance of the government's economic objectives to maintain efficient and competitive minerals and energy industries. It is essential therefore that the MHSI ensures that these other responsibilities in no way introduce unnecessary bias or pressure to compromise on health and safety policy and standards.

Although health and safety standards are by no means in direct conflict with the many other issues that must be addressed in order to establish and maintain an economic and efficient industry, there is often a need to strike a balance between apparently conflicting needs and objectives.

Policy Unit

At present, there is no specific policy unit or division within the MHSI structure. However, there are a number of inspectorate functions which may be more effectively addressed via such a unit. These functions include a number of the drafting procedures undertaken by the various tripartite committees and sub-committees, alignment and continual development of health and safety legislation with other first world mining countries, and the integration of mining H&S policy with other government departments' policies and regulations. In even broader terms, particularly if there is to be some form of integration of mining H&S with general industry OHS, the unit could assist in developing a culture of risk prevention and risk awareness across industry.

In the UK, where the one HSW Act applies to all industry, the HSE Policy Unit is able to provide the forum for engaging with international bodies, such as the European Community, OECD, ILO, WHO and IAEA. It has also been instrumental in providing specialist legal drafting expertise, which has proved invaluable in converting much of the Mines and Quarries Act legislation into the new framework required by both EU directives and the UK mining industry.

OUTCOME – BASED LEGISLATION

Of the countries examined, the majority have health and safety legislation for their mining industries which is 'outcomes-based', not prescriptive, the exception being the USA. In the RSA and the UK, the legislation is formulated nationally and is applied exclusively through a national inspectorate organisation. An intermediate approach is used by the US, whereby MSHA produce national prescriptive legislation on behalf of the Department of Labour, yet individual states have certain powers to modify the legislation for their own area of jurisdiction; individual state agencies can also undertake inspections. It is considered that the prescriptive position in the US enables the states to undertake these individual functions, largely using a checklist approach, particularly in regions which have many smaller operations that may be geographically scattered.

Australia is in quite a unique position in that it now utilises the Robens 'duty of care' approach to mining (and other) legislation, but this is managed at the state level. However, this approach has no guarantee of providing uniformity of standards across the country, and their approaches to health surveillance, for example, vary markedly.

The RSA position is that MHSI intend to have national 'duty of care' legislation, operated through a national body, which will lead to uniform standards in mines. The key issue is whether standards at the small and micro mines can be improved without more prescriptive guidance, at least in the short term

Organisation and Staffing

The currently approved structure of the MHSI consists of 256 posts but, of these, less than 200 are active field inspectors. Furthermore, this figure of 200 includes mine survey, occupational hygiene, occupational medicine and machinery inspectors. In addition, many of the field inspectors are required to undertake both operational and legislative development duties and consequently, the time spent enforcing standards at mines is limited. By comparison with most other international mining inspection agencies, this is a relatively small number of inspectors dedicated to the primary role of legislative enforcement. The current number of field inspection staff severely limits the ability of MHSI to monitor and enforce H&S standards at mines. This ability is perceived to be a critical factor during the transition from a prescriptive to a goal setting legislative environment.

The incorporation of mine survey functions within the MHSI may serve to detract from the resources available for more direct health and safety inspection activities. At present Mine Survey constitute some 10% of the mines Inspectorate budget. Whilst it can be argued that Mine Survey functions have some impact on health and safety, it remains the case that many of these functions are more relevant to the other activities of the DME. Given that mine inspectors should be in a position to call on professional mine survey services on an 'as and when required' basis, maintaining this function within the MHSI appears to have little direct benefit.

Budgets and comparative funding

Overall, the budget allocation to DME from National Treasury was at least 25% less than the budget request. Consequences of this funding shortfall for MHSI are likely to include:

- Failure to implement statutory responsibilities.
- Compromising investigations into major accidents and disasters also affecting quality and scope of these statutory investigations.

It is noted that the budget for MHSI was essentially fixed from 1997 and that only 'inflation' additions have been made since that time. Furthermore, with the total budget figure not being under the control of MHSI, there is very limited room for expansion of MHSI services or for enhanced terms and conditions for inspectors.

The proportion of the DME budget allocated to MHSI is around 5% of its total budget, and less than 10% of that expended on the energy programme. With a total mining workforce of around 383,000 in 2001 the allocated budget represents an expenditure of approximately 200 Rand per head per year on health and safety inspection services.

One to one comparisons with other countries need to be treated with great care, due to significant variations in the relative size and nature of mining sectors, the type of regulation, and differences in pay rates and other costs. Nevertheless, it is clear that, compared to the position in the United States, Australia and the United Kingdom, MSHI is severely under-resourced, both in terms of manpower and funding. The closest equivalent budgetary figures for the Mines Safety and Health Administration in the United States show a budget of some \$254 million allocated to a mining industry that employs around 351 thousand people, an allocation equivalent to more than \$700 per head per year (approximately 7000 Rand/head).

5. MHSI PERFORMANCE REVIEW

To assess the performance and influence of the inspectorate, and at the same time assess the health and safety standards being implemented by the various mining operations, the activities in all of the nine MHSI regions were examined. This part of the study involved meetings and interviews at the regional offices and visits to a cross section of mines within each region. Where available, copies of the COP's submitted by the mines to be visited in the region were obtained.

Head office interviews were also conducted. These discussions involved all MHSI's senior management, members of the specialist directorates and representatives from a range of tripartite task groups, in order to examine current activities and approaches, and to provide an opportunity for staff to voice their opinions and concerns.

REGIONAL REVIEW AND ENFORCEMENT STANDARDS

ASSESSMENT OF INDUSTRY STANDARDS

In assessing industry standards, the following topics were used as classifications. Essentially, these are grouped as mining issues, health hazards and generic safety management issues.

- Falls of ground Hazards
- Transport
- Other Mining Hazards
- Flammable gas and coal dust hazards
- Occupational Health Hazards and Provisions
- Risk Assessment and Health and Safety Management

➤ Culture and Attitude to Health and Safety

Falls of Ground Hazards

Statistics show that fall of ground is the largest accident category and the predominant cause of fatalities in South African mines, with the gold sector responsible for the largest proportion of both. Given the extreme nature of the fall of ground hazard, and the technological advances, it would be reasonable to expect that the gold sector would set very high standards, in terms of controlling risk and the implementation of available controls. However, in general this was not observed to be the case. In the majority of stopes visited there were areas of obvious potential danger, where the hanging-wall required additional support or where greater attention to barring down was needed.

Poor strata control standards were also in evidence at a number of platinum mines. At one mine, for example, the main dip gully had not been roofbolted in accordance with the mine's domestic regulations, and large slabs were present in the hanging-wall and side-walls of the gully.

In the underground coal sector, even at mines where the management expressed particular concern about adverse geological conditions, the conditions encountered were appreciably better than those that prevail in many other countries. Nevertheless, observation of the support systems in use at some mines led to the impression that, with a marginal up-rating of the design, the roof control could be significantly more effective.

In conclusion, the consultants believe that there is room for a significant reduction in fall of ground risks in all sectors of the industry. The loss of life and the number of serious injuries currently occurring in the industry could be greatly reduced by selecting and implementing the appropriate existing control techniques and ensuring that high standards of strata control are rigorously maintained.

Transport Systems and Mobile Machinery

Moving machinery and transport accidents represent the second largest accident category. Throughout the mine visits, both the consultants and the inspectors that accompanied them identified numerous substandard conditions.

The number and severity of substandard conditions varied significantly from one mine to another and most of the H&S issues were reliably identified by the inspectors. However, whilst it was clear that the inspectors were effectively identifying substandard conditions, the approach adopted by the majority of inspectors clearly illustrated a tendency towards inspection by rote, or 'checklist style' inspection. Almost invariably, the inspectors focused solely on remedying the immediate substandard condition identified. The underlying reasons for its existence in the first place, i.e. identifying the failings in the mine's management system that allowed the condition to develop, was left unchallenged.

Flammable gas and coal dust hazards

Stone dusting standards in all but one of the coal mines visited appeared to be satisfactory and in several cases almost excessive. It was clear that the areas visited had very recently been stone dusted and that this was probably an indication that the mine had prepared for the inspector's visit. However, this is also a positive indicator, in that it demonstrates the value of inspection as an enforcement mechanism.

Some of the flammable gas risks commonly associated with coal mining, for example methane and its mitigation in the form of auxiliary ventilation, did not appear to be understood and controlled as well as could be expected. In one underground coal mine not

only the supervisors, but also the inspector appeared to have overlooked the warning signs of a developing methane layer.

Despite recent disasters involving methane, at one of the platinum mines visited, there were a number of working places where there was an insufficient number of methanometers. Of even greater concern was the lack of understanding about the use of the methanometers and trigger levels that should be applied.

Occupational Health Hazards and Provisions

Despite the recommendations contained within the Leon report, quite a number of the inspectors in the field still seem to consider safety issues to be of paramount importance, with occupational health coming quite a distant second. There would appear to be two major influencing factors, firstly the fact that much of the industry has essentially ignored the issue until the MHSI Guidelines have been produced and, secondly, many of the mining and equipment inspectors feel that this field is the realm of the specialist occupational hygiene or medical inspectors.

Nevertheless, a number of mines have embraced the health monitoring and screening issues quite comprehensively. Medical screening provisions and the assessment of Fitness for Work had been widely implemented and appeared to be operating successfully at all of the mines visited where medical staff were available for on-site discussions.

The implementation of mine COPs for the monitoring of airborne pollutants was generally less well advanced than were the medical monitoring and screening provisions, due to the relatively recent introduction of the Guideline. Occupational Hygiene Inspectors were effectively monitoring the quality and progress of implementation at the mines examined.

In relation to occupational exposure to noise, a range of positive mine initiatives to control the hazard at source were observed. However, despite these positive initiatives, a number of operators were relying on the use of PPE. Furthermore, it appeared that a significant reliance was being placed on manufacturers' specifications, both in terms of the noise levels produced by items of equipment and the levels of protection afforded by PPE.

There were effective systems in place at most mines to ensure that medical staff would have access to the hygiene monitoring data that will provide a direct indication of the levels of exposure to occupational health hazards likely to be experienced by individuals. However, there was no evidence of any formally established lines of communication from medical staff back to the hygienists that would alert them to possible failures or limitations in hazard control measures. Consequently, it is recommended that the current priorities allocated to the development of regulations/guidelines and the allocation of resources to research be reviewed, to ensure that this apparent bias is corrected. Furthermore, providing training for mine safety and equipment inspectors, to raise their awareness of health hazards, would derive significant benefits, by promoting the need to address health hazards at source.

Risk Assessment and H&S management systems

Most of the mines visited by the H&S management system specialists had some form of documented risk assessments available.

Discussions with mine staff and members of the inspectorate indicated that most had a good general knowledge of the basic terminology and mechanisms of risk assessment. However, these discussions, combined with examination of the mine risk assessment documentation, indicated that there was often a fundamental problem in the manner in which the requirements and objectives of Section 11 of the Act were being interpreted.

The key to progress in a risk assessment and goal setting environment is enshrined in the Act. The question that must be addressed is have we done all that is 'reasonably practicable' to minimise the risk. The term 'reasonably practicable' is used widely in health and safety regulations. When correctly interpreted, it requires that good practice should be followed whenever it is established up to the point where the taking of further measures would be impracticable, i.e. grossly disproportionate to any residual risk.

Consequently, the key question that should be addressed in a suitable and sufficient risk assessment is "have we done all that is reasonably practicable". Any subsequent assessment of risk is then employed solely to assist in determining priorities for the implementation of improved risk control measures, rather than being used to establish that an 'acceptable' level of residual risk has been achieved. It is strongly recommended that all inspectors undertake additional training, to gain an in-depth understanding of these principles. Discussions with stakeholders also indicated that many independently-provided training courses were of limited value in this respect.

Guidelines and Codes of Practice

Codes of Practice required by the CIM constitute secondary legislation under the MHSA and the codes produced by employers must comply with the guidelines issued by the CIM. However, analysis of a range of the currently published guideline documents indicates that the content and levels of guidance provided to the industry varies significantly. At one level, the Trackless Mobile Machinery (TMM) Guidelines do not define minimum acceptable standards. Hence, although this document informs mines of the issues which their COPs should address, it provides no indication of the standards likely to be expected of the mines. Consequently, in effect it is little more than a generic hazard and control checklist.

In contrast, the Mine Residue Deposits Guideline effectively sets minimum acceptable standards, by reference to existing COM guidelines. It also states that any deviation from these standards should be fully justified in the COP and goes on to specify the required inspection frequency by a 'competent person', designated in writing by the employer. The philosophy of defining minimum acceptable standards and a model approach within the guideline is perceived by the consultants to be an effective approach to fully meeting the document's objects.

At the other extreme to the TMM Guideline, the Guideline on Airborne Pollutants provides an example of guidance to the industry that directly prescribes a required monitoring methodology and also defines fixed standards against which monitoring results must be assessed.

The impact of mandatory COPs and industry progress in implementation varied with mine size and existing standards. Large mines with comprehensive OHS systems and working procedures already had the necessary controls/documentation in place. Often their COP was just a re-wording, or reorganising, of existing documents to fulfil the formatting requirements laid down by the Guideline for a Code of Practice (GCOP).

These mines considered that developing a COP did not contribute towards improving the mine's health and safety performance.

At the other extreme, those small mines that were visited had either not produced COPs or had significant difficulties in producing them. One Principal Inspector was of the opinion that sets of "Standard Instructions" or "Domestic Regulations" for each operation would be equally effective in ensuring that standards are maintained at these mines.

At the remaining large and medium sized mines, there was little evidence that the procedures defined in the COP had been implemented.

At present, each mine's mandatory codes of practice effectively define the standards against which their levels of compliance are assessed. This approach may be both desirable and achievable when reacting to reportable incidents or investigating serious accidents. However, achieving an effective and proactive approach to enforcement and the ongoing improvement of H&S standards by this means is, at best, extremely inefficient if not practically impossible. The implication of such a position is that, prior to each mine inspection, an Inspector should examine and understand, in depth, all of the mine's relevant COPs.

The practical solution to this problem is to define specific standards or criteria that represent a minimum acceptable standard against which Inspectors can effectively judge mining operations. Other mining inspectorates have almost universally adopted this solution in goal setting legislative environments. .

Culture and Attitude to Health and Safety

Within the bigger mining houses, there was no hard evidence of major attitude changes regarding mine H&S. There was still strong evidence of health and safety being 'systems' and paperwork driven, rather than adopting the broader 'risk assessment' and 'standards setting' approach to H&S.

The cultural change issue was found to be largely dependent on the quality and competency of the senior management at the mines. It is perceived that mine managers are the ones, and the level, where the cultural change is really taking place, where it is taking place. Interestingly, this is consistent with the broader international view that these people are the only ones who really have the responsibility and who know what is happening, day to day, on the mines, and who can therefore realistically change things. There is therefore a large responsibility on the mining companies / houses to instil this 'new approach' into new up-and-coming management staff.

At the very small operations, there is very little perception of the increased focus on H&S, unless it is addressed very specifically, as almost an educational issue, by the local regional inspectorates. Nevertheless there is evidence that a number are happy to take it 'on board', albeit that they don't really understand why.

Regional Resourcing and Priorities

Almost all regions considered themselves to be inadequately resourced. However, there were comments that 'more than adequate capacity' elsewhere could more profitably be used in under-resourced or expanding regions, if people could be "encouraged" to moved. In one region mining employee numbers have fallen in recent years from 170,000 to 70,000 at present, but the number of Inspectors has not reduced proportionately. However, the number of mining employees in another region has increased significantly in recent years, with the opening of new platinum mines, but the staff of the Inspectorate there has not been increased to reflect this.

There is a general shortage of machinery inspectors. Possibly this problem could be alleviated if the 'statutory inspection' of machinery (which are the causes of virtually no accidents) could be addressed differently. Mine equipment safety inspectors are required to carry out regular statutory inspections of large equipment at the mines.

Calibre of Inspectors

The quality of inspectors is perceived to be very varied. Many are 'old school', experienced and knowledgeable, and essentially dedicated to the job. Many of these have "flowed" into and out of the industry and generally have opted for the inspectorate function, rather 'operating at a mine' as a career path. There were many instances of these inspectors having what may be termed the 'ideal' relationship between themselves and the mine management. Here the mines had a very definite respect for the inspectors, both in terms of

their technical abilities on health and safety and in terms of the inspectors' ability to 'impose' themselves on the mine. These inspectors had engendered a feeling of trust in the mine staff and invariably had the reputation of being firm, but fair.

There is concern however about those who have fulfilled their career aspirations at the mines (often in senior mine management positions) and are now working in the MHSI in their "twilight years". These inspectors are not as enthusiastic, not necessarily inspectorate material and there is a concern about whether they are "too sympathetic" to the mines' difficulties.

There are considerable problems with inexperienced Inspectors not having the confidence to stop working places when such action is clearly needed. Such confidence only comes with time, experience and the strong support of Principal and senior colleagues. Furthermore, on a number of occasions the interaction between the inspectors and the mine personnel was not one in which the inspector was shown any particular respect.

In the regions containing the smaller mining operations, this interaction often played a different role. There were no reported difficulties with the issue of enforcement and generally there was good cooperation with the mines. Here it was not simply a case of insisting that standards were met or improved upon; rather it was more a case of educating the management as to what the standards are. This entailed a significant amount of 'interpretation' of the Act, the Regulations and the COP Guidelines by the regional inspectorate, so that they could be applied to very small, or micro, operations. It was evident that, without this 'educational' approach being taken (which is very time consuming), many of these operations would not be functioning with an appropriate H&S culture for many years to come.

Time Allocation

A common comment from all the international observers on the study team was that the time spent on inspecting at the mines was not adequate. This is due to many factors, such as, inspectorate numbers, the inspectors' physical locations, or the locations of regional offices compared to the mine sites, methods of work and inspectorate attitudes.

A minimum inspection target for a month in a typical region was 8, meaning that ancillary work was the priority. The primary function of Inspectors, especially when both accidents and incidents are increasing, is to inspect. In the UK, a Principal Inspector would expect at least 180 to 200 days available per year for underground inspections. It is concluded that field Inspectors, at regional level, must reduce the amount of time spent on work other than inspecting. A major concern was the loss of proper inspection time whilst dealing with Inquiries following fatal and serious accidents. Time spent handling appeals and Inquiries must be reduced.

The Consultants recommend that Inquiries, following fatal and major incidents, must be seriously reviewed as to their actual function. MHSI need to decide whether their purpose is to apportion blame, to find out what happened, to identify recommendations that will improve H&S standards or to prevent further accidents and occurrences reoccurring. If Inquiries are to remain, the primary function of 'holding' the Inquiry should be delegated to a Senior Inspector or similar who can handle the legalistic side and draw the Inquiry to a more rapid and satisfactory close.

Regional inspectors made general complaints regarding the bureaucracy of dealing with a number of routine issues, which the consultants did perceive to be unduly onerous and time consuming. Improved IT facilities should assist, but means of 'slimming down' administrative loads should be investigated.

Chief and Specialist Directorates

As stated in the DME Strategic Plan 2002-2005, the Chief Inspector of Mines and Three Chief Directorates at head office are responsible for developing overall guidance, planning and control of the Mine Health and Safety programme as well as establishing policy for mine health and safety standards. The specialist directorates are responsible for assisting regional offices implement the strategies of management.

Develop Policies and Advice to Minister

One of the primary roles of MHSI's head office is the development of policies to promote the H&S of mineworkers and others. The majority of policy formulation is currently undertaken via the tripartite committee structures, which fall under the umbrella of the MHSC, but policy may also be formulated by the CIM and senior MHSI management, for example in the approach to small mines.

Small Mines

MHSI is clearly aware of some of the difficulties associated with small scale mining operations. Indeed, many of these are essentially manufacturing operations, such as brickworks, but because of the RSA legislative structure, they fall under the small mines umbrella.

The operations currently classified as small mines in RSA are considered by the consultants to be 'low hazard' operations, when compared to the 'high hazard' operations of deep gold mines. In this respect, they may be identified as a special category of mine. However, a notable comment from some of the field consultants was that the small mines, both new and old, do not appear to be inspected to the standard of the larger mines. Mines which continue to operate with inadequate standards, and which are not responding to inspectorate initiatives for improvement, should not be allowed to do so.

MHSI Guidelines for the development of COPs are perceived by the operators of small mines as completely overwhelming in terms of total size, to have been devised principally for the larger mining operations, to be too complex to understand, and to not give the direct guidance that the small mine owners need. Consequently many of these smaller operations have made no attempt themselves to utilise these documents in developing their individual mine codes of practice

There are obvious difficulties regulating such operations, as they are numerous in number, and it is a situation which is not unique to RSA. However, the consultants consider that some basic prescriptive guidance would assist. Reference was made during discussions with both head office staff and regional inspectorates, to the UK Mines Miscellaneous H&S Provisions 1995, where an H&S Document was produced by HMI South Wales to assist small mine owners and managers.

There was considerable discussion during the review on the appointment of Inspectors who could inspect the 'low hazard' operations constituted by certain small mines or sand quarries. In principle, these could be Inspectors with lower qualifications than base grade Inspectors. This approach was resisted within the UK when a review of the inspectorate was undertaken there some years ago. However in that instance, virtually all of the 'small mines' involved blasting operations. Nevertheless, the use of differential grade inspectors is quite widespread in the USA.

Training

It is of concern to both the consultants and to many of the more inexperienced or junior inspectors that no formal training is provided on the role and function of being a mines inspector; nor does there appear to be any specific form of mentoring at head office

Although quite a number of inspectors have a reasonably proficient knowledge of the Risk Assessment concept on which the legislation is based, not all are competent, nor comfortable with how it should be applied. This issue requires urgent attention in terms of training and mentoring.

Training is also required in the regions, whereas at present there are accusations of this being done on an ad-hoc basis. Here again, junior inspectors gain experience by operating and working with senior personnel, but more credence would be gained by the juniors starting from a 'higher platform'. One proposal is for a 'training system' and possibly a training officer, but either way, a definite policy on training is required.

Enforcement

During the field study it became apparent that the inspectorates within the different regions were applying quite different approaches to the problems of non-compliances. It is considered that a clearer policy on enforcement issues is therefore required to be produced by MHSI head office.

Invariably the more experienced and senior inspectors were aware of the benefits of having a constructive dialogue with the mine management, yet imposing their authority as MHSI inspectors. In the case of relatively 'minor' non-compliances, these inspectors would give verbal instructions to the mine officials, in order to effect remedial action. Essentially, they had built up a relationship which meant that they knew that their instructions would be implemented. MHSI policy should encourage this type of approach for all levels of inspector.

The major issues however relate to the 'next level' of non-compliances, where there may be an immediate risk to the health or safety of the workforce. The options available to inspectors are then those of Administrative Financial Penalties, or the use of Section 54s and 55s.

In summary, there are a number of different standards being applied in the field and a clear uniform policy is required to which all inspectors should adhere. The policy document should also clarify the requirements for following up on the section 54s that have been issued.

One factor which may have an influence on the 'confusion' referred to above is the changeover from prescriptive to enabling legislation. The lack of minimum standards by which inspectors may more readily assess mining operations can lead to inspectors' evaluations being too subjective.

Demographics of Regional Inspectorates

The consultants concur with the recommendations made in the Leon report and believe that MHSI should establish its policy regarding how the regional inspectorates operate geographically. Currently there are nine regional 'headquarters' from which the inspectors operate. Often inspectors are based at a considerable distance from the mines which they are covering, which has a major influence on their effectiveness. Hence, the inspectors have vast distances to travel to what should be their principal place of work, the mines. Not only is this tiring and expensive in terms of travel costs, but arguably it also reduces the time available for inspectors to spend on the mine premises. In addition, in the event of an incident, the inspector may not arrive at the mine for some hours, which is far from ideal.

MHSI should consider the re-introduction of sub-offices, or, as happens elsewhere in the world, inspectors operating from home. This latter option would clearly depend upon inspectors making greater use of IT facilities.

There are significant changes within the RSA mining industry, whereby new mining areas are being developed, whilst other mining areas are essentially 'de-populating'. A regular review of regional boundaries may be appropriate. Coupled to this issue is whether the distribution of the numbers of staff operating in each region should be assessed more regularly.

MHSI may also wish to consider whether there is the correct distribution of expertise within particular regions. The field review indicated that inspectors with a background in a particular commodity, such as coal, were probably much more effective when operating as inspectors of coal mines.

Databases and trends & information transfer

It is considered important for the MHSI to have its own fully operational system for the dissemination of information, accident statistics, near misses etc. Such a system is also considered invaluable for the evaluation of the performance of the industry. At present, there are no systems available to enable inspectors to readily analyse accident data and trends, for example. This facility would enable mining companies, or mines, or even mine sections, to be studied and those with good or poor OHS performance to be identified.

To communicate quickly with employers and employees, in regard of précis of accidents and incidents, the IT system could automatically send out 'amended' reports. The IT system could also provide the primary means of providing information about the MHSI and the mining industry's performance to the general public.

Currently there are major database systems being set up to monitor occupational health exposures and to relate this information to individual mineworker's medical records. However, because of limitations in the current IT systems, there are significant problems with regard to data entry and with any subsequent analysis of the data.

Manage, control and interact with regions

A primary function of MHSI head office is the management, control and interaction with the regional inspectorates. From most regions, there was generally considered to be good support from head office, in terms of technical support, although there was concern about the growing numbers at head office, when compared to the regional numbers.

Where technical support is required, and requested, it is forthcoming and generally considered to be of high quality by both senior and junior level inspectors. The level of support seems to be principally non-mining and non-machinery, with the exception of strata control/ rock mechanics.

An issue raised by both the regional inspectorates and the mines was that of significant differences between the standards and approaches of the inspectorates. Partly this issue relates to enforcement approaches and partly it relates to the numbers of large and small mines in the region.

Adverse comments were made concerning an unnecessary amount of paperwork emanating from Head Office. Perhaps because of this, a number of regions believed that they had insufficient administrative support. The consultants' view is that the level of administrative support is probably about right, but individual inspectors need to make greater use of their own individual computer facilities.

Manage specialist directorates

At present the primary role of the specialist directorates would appear to be legislative development and, as a result, there seemed to be relatively little encouragement for the specialists to get truly involved in operational issues. Specialist Inspectors should have much more direct involvement in terms of inspecting in the regions. However, essentially they are

being utilised in the regions to audit the field inspectors. The issue appears to be especially relevant in the area of occupational hygiene. This type of audit role is not considered to be a prime function of the HO specialist directorates in terms of their interaction with the regions, nor is it providing maximum use of their time or their specialisms.

Interact with CEOs and mine management

The CIM and Deputy Chief inspectors clearly have reasonably regular interaction with the CEOs of the mining companies, and with some mine managers via meetings of the Mine Managers Association. However, these are mostly 'general forums' and do not really present the opportunity for the senior officials of the MHSI to address shortcomings in the health and safety performance of individual mining companies, or of individual mines. Such meetings appear to only take place reactively, for example following a major incident. With improved data capture of accident and health data through improved IT systems, MHSI should be in a position in the future to identify under-performing mines much more readily and then pro-actively call meetings to address the problems.

Interact with the unions and workers representatives

There are essentially two levels of interaction between MHSI and labour, one being interaction with the workers' representatives at the mines, and the other being interaction with senior union officials at head office level. Generally the head office level interaction is via the tripartite committee meetings, although separate dialogue does take place with the unions which are not represented on the tripartite committees.

It is significant, however, that the workers' representatives at the mines, who sit on the mine health and safety committees, are not necessarily 'union' representatives. Consequently, the direct feedback from the front line mining personnel to the senior union representatives does not really take place, unlike the situation in the UK, for example.

Despite the training and education of undertaken by the larger mining companies, generally there is not perceived to be the informed involvement of these personnel in the company H&S committees. The situation is compounded by the high turnover of workers' representatives. The consultants' experience, from previous work undertaken in RSA, is that full involvement of workers' representatives and effective operation of a mine H&S committee, is a prime indicator of true management commitment to health and safety, and to a cultural change.

In terms of the higher level interaction between MHSI and the Unions, essentially the Unions do not have sufficient funding to enable their adequate representation on all the tripartite committees. Their principal concerns at present are that, although COPs have been developed at quite a number of the mines, on a range of issues, they have not been fully implemented and actively followed up.

A poignant comment about the issuing of section 54s and 55s was that, for MHSI to have reached the stage where one has to be issued, the company's H&S control system has failed. If the various levels of management, within whichever organisation, had correctly identified and/or corrected the H&S system failure, then there would be no need to issue the notices.

It is noted that the vast majority of recommendations that have arisen from the Performance Review directly concur with the recommendations made by the Leon Commission in respect of inspection and enforcement (Chapter 11 pp 140). Hence, it is strongly recommended that the Commission's comments and recommendations also be re-visited during the process of developing the action plan.

Structure and Allocation of Resources

A review of the current distribution of offices and inspectors should be undertaken to ensure optimal distribution of appropriate industry experience and utilisation of field inspection staff. Mines should be classified based on their **hazard**, rather than risk, profile and a policy decision taken to determine the target inspection frequency for each hazard class. (e.g. High Hazard – all underground mines, Medium Hazard – Open cast mines and Quarries employing blasting operations, Low Hazard – Small mines, sand quarries, brick works etc.) Inspection frequency should also vary with mine size, i.e. take cognisance of the number of employees exposed. The resultant hazard profile should also be used to assist in determining appropriate levels of funding and resource allocation.

There is also a need to ensure that the profile of inspection staff competencies matches the risk profile of the industry. Currently, inspection staff from the mining engineering and survey disciplines dominate the range of competencies available to the MHSI. Whilst this distribution reflects the industry's primary focus on combating falls of ground risks, it does so at the expense of machinery and Occupational Health hazards. Consequently, there is currently a significant shortage of machinery and occupational health competencies available to MHSI. In addition, at the present time legal and policy related competencies within the MHSI are limited.

Occupational Health Hazards and Provisions

Greater emphasis should be placed on controlling occupational health hazards. The current priorities allocated to the development of regulations/guidelines and the allocation of resources to research should be reviewed, to ensure that greater emphasis is placed on hazard control, rather than measurement and amelioration of the consequences of exposure. Furthermore, providing training for mine safety and equipment inspectors to raise their awareness of health hazards would derive significant benefits, by promoting the need to address and control health hazards at source. Both mine safety and mining machinery inspectors need to ensure that, as a minimum, they consider dust and noise control issues during their routine inspection processes. A further consideration, which has not been addressed specifically within the review, is the issue of Ergonomics and the need to address man-machine interaction hazards as required in Section 21 of the MHSA.

Funding

The use of benchmarking comparisons to the resources allocated to other mining inspectorates potentially clouds the question of what are appropriate funding levels for MHSI; decisions must take cognisance of the prevailing socio-economic climate within RSA. Nevertheless, from the brief examination of first world mining inspection budgets, it is concluded that MHSI is currently significantly under funded and it is recommended that serious consideration be given to increasing both the annual budgetary limits and the number of inspectors. The process of change to a 'Goal Setting' legislative environment, which is the purpose of the MHSA, requires greater inspection and enforcement resources, if it is to produce significant improvements in the health and safety of mine employees. Future funding considerations need to address the following requirements:

6. GOVERNANCE REVIEW

The Governance Review examines the operation of the MHS Council and its three advisory committees. In line with the recommendations of the Leon Commission, the Council is established as an advisory body to advise the Minister on all aspects of mine health and safety, including the making of regulations. The council is in turn advised by its three specialist committees: MRAC (regulations), MOHAC (occupational health) and SIMRAC (research).

Despite its advisory status, the Council's constitution states that the Council has the legal status of a body corporate. The Conclusion of the review is that only the statute could legally grant the Council this status and this provision is of no legal force and effect, and that this aspect of the Constitution required urgent reconsideration.

The Leon Commission stressed that the establishment of the Council did not alter the fact that the state retained the primary responsibility for developing and implementing policy and subordinate legislation. This view is consistent with the constitutional and statutory obligations of the executive. However, in the initial period of the Council's operation, a tripartite culture evolved in which the State was extremely reluctant to implement decisions that the representatives of labour and employers on the council did not concur with. This ethos is reflected in the Guiding Principles document which established the procedures for the development of regulatory mechanisms, and outlines the factors that should be considered in determining which regulatory mechanism should be adopted. This document continues to impose its stamp upon the tripartite process of developing the regulatory framework, and it is recommended that this document be reviewed.

The Governance Review examines in detail the operation of the Council and the three committees. A number of common features emerge from this examination. These include a significant lack of resources and capacity on the part of the representative of the MHSI resulting in inadequate management and leadership of the policy process. The MHSI is often represented in Technical Task Groups (TTGs) by regional inspectors who are drawn away from their inspection duties. Labour's participation in debates on technical issues is also weak.

The work of the committees shows an absence of consensus concerning the role of tripartism as well as the approach that should be adopted in developing the regulatory framework. This results in policy debates being conducted in technical committees. The MHSI reports that proposals developed in the TTGs have been 'watered down' in MRAC and the Council. As the Performance Review indicates, certain of the guidelines for COPs do not adequately specify minimum standards.

There is continuing uncertainty concerning the responsibility for determining the SIMRAC research levy and for final approval of the research program. This has resulted in the levy not being adjusted. The Report recommends that the responsibility for this should rest with either the Minister or the Executive and, if necessary, legislative amendments should be made to clarify this position.

7. LEGISLATIVE REVIEW

The legislative Review examines the implementation and application of the Mine Health and Safety Act. The principal finding of the Review is that the MHSI is inadequately understood and that there is no common understand within the mining industry as to the meaning and implications of its key provisions.

The 1997 amendments to the MHSI placed the key responsibilities for ensuring a healthy and safe workplace on the employer (as opposed to the manager). This appears to have had the effect that CEOs and company boards have taken a more active role in OHS, particularly where they have been engaged on the subject by the inspectorate.

The two key aspects of the employer's duties are the standard of care of 'reasonably practicable' and the obligation to undertake risk assessment and management. These issues have to be examined in an integrated manner as risk assessment and management represent the process that employers are required to adopt to ensure that they do what is reasonably practicable to provide a healthy and safe workplace. It would appear that an

understanding of these provisions has developed in the industry in terms of which employers interpret their obligation as being to reduce risks to an 'acceptable level'. The Review concludes that this approach does not comply with the requirement of the Act in terms of which employers are required to implement best practice unless it is grossly disproportionate to any residual risk.

There is also uncertainty concerning the status of the measures that a mine determines to take as a result of the risk assessment process. This determination remains a management decision and, an inspector who has reason to believe that the Act's requirements are not being met, is entitled to issue a notice in terms of section 54 or 55 requiring the mine to take additional steps or cease particular practices.

Many inspectors lack the confidence to issue instructions in these circumstances. This flows from an inadequate understanding of the purpose of the MHSa. The Review therefore recommends that the MHSI must adopt a definitive interpretation of the Act and provide training to its inspectors on this. This interpretation must inform enforcement activity.

The Act empowers the Minister and Chief Inspector to develop a regulatory framework. The two principal elements of this are regulations and the guidelines for mandatory codes of practice. A significant weakness in the regulatory framework is the absence of guidance documents that set out the steps that employers may take to comply with particular standards. Guidance documents are particularly important for small employers with limited health and safety expertise. It is recommended that greater use should be made of guidance documents in the regulatory framework. A further recommendation is that the Act be amended to provide for the issuing of binding guidance documents.

The inadequate understanding of the approach of the Act impacts on the regulatory framework. The guidelines for codes of practice do not correctly reflect the legal status of codes of practice. This flows from the misunderstanding of the legal implications of the obligation to do what is 'reasonably practicable' to ensure the health and safety of employees.

The Review examines the legal position of the Chief Inspector ("CI"). The functions of the CI in terms of the Act include the power to appoint inspectors and the medical inspector. However, in terms of the Public Service Act, 1994 this power has been delegated by the Minister to the Director-General. It is recommended that this inconsistency be resolved by the Minister delegating to the CI the power to appoint inspectors and medical inspectors.

The Review examines the different enforcement powers of the inspectorate: inspection, investigation and inquiry, improvement, compliance and closure notices (sections 54 and 55) and prosecution. The Review notes that technical problems have been experienced with the conversion of investigations to inquiries and that legislative amendments could address this issue. The point is made that the most significant enforcement power is the effective use of section 54 and 55 notices. However, there is significant regional variation in the practice adopted by the inspectorate in issuing these notices. The Review recommends that the MHSI develop an enforcement policy to guide inspectors as to how they should exercise their discretion.

The procedure for administrative penalties is extremely bureaucratic and time-consuming. This is exacerbated by the fact that mines tend to raise technical defences to inspectors' recommendations to impose administrative penalties.

The Review makes the point that use of administrative penalties is not a substitute for the effective use of section 54 and 55 notices or for prosecutions in appropriate cases. The point is made that it is extremely difficult for the MHSI to mount prosecutions. This significantly affects the deterrence effect of the MHSa. This is a result of capacity problems within the

prosecutorial authorities as well as the absence of appropriate provisions in the Act. It is recommended that both these issues be investigated further in conjunction with the Department of Justice and the Directorate of Public Prosecutions.

8. ORGANISATIONAL REVIEW

This section of the report summarises the key organisational problems facing the MHSI and makes a number of preliminary recommendations for streamlining the organisational structure and improving the operations of the MHSI.

9. HUMAN RESOURCES REVIEW

This section reviews the main human resources and skills development problems facing the MHSI and presents a number of solutions for improving the HR capability and skills of the Inspectorate. The identification of problems and framing of solutions was informed by analysis of DME HR documentation and public service HR rules and regulations, interviews with regional and head office management, inspectors and human resources staff and the integration of findings from the performance review.

This section of the report summarises the key human resources problems and challenges facing the MHSI and the solutions offered. Full reports on each of the main solutions are attached as Annexures 1 to 4 of this report.

The main human resources challenges facing the MHSI are to upgrade the HR services it receives at both a strategic and transactional level, to attract and retain scarce, high level skills and to significantly improve the management of Inspector performance and development, all in support of the highest quality inspection service.

Five key solutions are presented to support these challenges. The first involves a proposal to amend the **remuneration** of Inspectors. The second presents proposals to restructure and improve the human resources and training & development **services** provided to the MHSI. The third is a proposal to introduce a **career ladder** for Inspectors, which is a tool that would integrate the management of Inspector performance, development, progression and remuneration.

The fourth solution is a **Skills Acquisition & Development Plan** consisting of three parts. The first presents a Competency Framework for Inspectors linked to the career ladder and the second explores options for the MHSI to address its high-level skills gaps. The third part is an accelerated development programme (ADP) to support the upgrading of Inspectors' skills during 2003, focusing on key skills gaps identified during this review. The ADP also includes ideas to guide discussion and decision making within MHSI on leadership and management development and highlights medium-term challenges to increase the skill pool available to the MHSI (and broader industry).

Finally, solution five presents considerations for effectively **managing change** within the MHSI.

10. IMPLICATIONS FOR INTEGRATION

This section briefly examines the implications of this Report for the proposed integration of occupational health and safety (OHS) competencies and legislation in South Africa.

The implications of the findings of the Report for the proposed integration of health and safety competencies and legislation are examined briefly. It is noted that the establishment of national health and safety agencies will assist to address many of the problems identified by

the Report such as the shortage of skills in key areas such as occupational health, and will allow for a more rational allocation of resources. However, it is noted that the new integrated structure must retain a specialist mining inspectorate that will operate in parallel with other inspectorates under the auspices of a single agency. It is noted that the establishment of an agency outside of the public service with administrative autonomy will be necessary to address serious problems such as the need to attract and retain competent and skilled staff. It is suggested that the MHSA, together with the issues identified in the Legislative Review, should be the basis for developing a new national health and safety Act.

11. SUMMARY OF RECOMMENDATIONS

This chapter summarises the main recommendations contained in the various chapters of the report. It is noted that the vast majority of recommendations that have arisen from the findings of this Review directly concur with the recommendations made by the Leon Commission in respect of inspection and enforcement. Hence, it is strongly recommended that the Commissions comments and recommendations also be re-visited during the process of developing an action plane for improvement.

LEGISLATIVE

Legislative amendments are needed in the following areas:

- Identifying employer in 'joint venture' mine
- Empowering Chief Inspector to issue guidance documents
- Clarifying responsibility for determining and managing SIMRAC levy
- Clarifying relationship between investigations and inquiries
- Simplifying procedure for issuing administrative penalties
- Addressing additional clarificatory amendments

REGULATORY:

- Identify issues in respect of which guidance notes are required
- Review guidelines for mandatory COPs to identify which guidelines do not adequately set standards and prepare proposals for revision of guidelines (eg. trackless mobile machinery)
- Review Aide Memoire for preparation of guidelines for COPs in light of interpretation of MHSA

POLICY:

- Contract skills to support MHSI's policy development agenda – (see HR section)
- Address the MHSI's interpretation of the MHSA
- Develop an enforcement policy

TRIPARTITE GOVERNANCE:

- Prepare and table revised Guiding Principles document
- Prepare amendments to MHS Council constitution
- Prepare protocol for operation of TTGs
- Review policy / regulatory development process & prepare strategic planning process for MHSC to guide the regulatory process in 2003 and beyond

RESEARCH:

- Clarify responsibility for determining levy and approving research programme. Propose legislative amendments if necessary
- Develop research agenda for tabling at SIMRAC based on MHSC strategic planning process, focusing on regulatory development agenda for the year

OCCUPATIONAL HEALTH HAZARDS AND PROVISIONS

- Emphasis should be placed on controlling occupational health hazards.

MHSI ORGANISATION

- A review of the current distribution of offices and inspectors should be undertaken to ensure optimal distribution of appropriate industry experience and utilisation of field inspection staff. Hazard profile should be used to determine the appropriate allocation of resources and funding levels.
- Serious consideration should be given to increasing the budget for and number of inspectors.
- Reducing the non-inspection activities of regional inspectors, in particular direct tripartite committee responsibilities
- Establish an “in-house” IT and performance monitoring system that focuses on:
 - Recording estimates of working time exposure to risk and cross checking with reported employee and contractor numbers.
 - Reports of accident inquiries published and disseminated throughout the mining industry
- Investigate options for streamlining the organisational structure of MHSI, including:
 - The establishment of a MHSI Policy Division
 - The establishment of a single Operations Division
 - The establishment of an “in-house” HR Division
 - The transfer of the Mine Survey functions to the DME, if this will act to release funds for more direct health and safety inspection activities

HUMAN RESOURCES:

- **Increasing the remuneration of Inspectors:** In order to attract and retain skills in a competitive market the MHSI needs to review both the current grading of posts as well as the salaries attached to these grades.
 - Re-grading should be considered in the short-term;
 - Reviewing salary bands will require amendments to budgets and wage agreements – the process should be started in the short term but may only be implemented in the medium-term.

- **Restructuring of Human Resources and Training and Development:** It is recommended that two high level HR staff dedicated to providing a service to the MHSI be appointed on fixed term contracts. This will ensure that appropriate resources are allocated to champion the implementation of the HR solutions proposed in the report.
 - These appointments should be made in the short-term.

- **Career Ladder:** This is an integrated approach to managing the remuneration, performance and careers of Inspectors and is recommended as a key solution for attracting and retaining high level skills to the Inspectorate. A two-phased implementation process is recommended that takes into account current collective bargaining constraints.
 - The pilot process should commence in the short-term;
 - Discussions with unions should commence in the short-term;
 - Phase 1 implementation should occur in the short- to medium-term;
 - Phase 2 implementation should occur in the medium- to long-term

- **A Skills Acquisition & Development Plan:** This plan is divided into three parts:
 - A competency framework that specifies the skill and knowledge requirements that Inspectors must have to perform competently at each level in the career ladder should be developed in the short-term;
 - Short term strategies for addressing critical skills gaps in the MHSI, such as contracting specialist skills into the MHSI for fixed periods of time;
 - ⇒ Scarce skills must be brought in, in the short-term.
 - An accelerated development plan, that supports high quality, performance- enhancing training in the short- to medium-term for current and new inspectors.
 - This plan must be implemented in the short- to medium-term after the appointment of the Training & Development Account Manager.
 - Longer-term strategies to increase the high-level skills pool for the MHSI (and wider industry) are needed

- **Change Management:** In order to ensure that solutions are implemented effectively, appropriate change management strategies must be developed and implemented. A process for managing change within the Inspectorate is outlined in this solution.
 - A change management plan should be developed in the short-term.