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Occasional monograph

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Is the ODMW Act Fair?

A Comparison of the Occupational Diseases in Mines and Works Amendment Act, 1993 and the Compensation of Occupational Injuries and Diseases Act, 1993 with respect to compensation of Pneumoconiosis.

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Introduction

Work related diseases caused by dust continue to be a problem in South Africa at the beginning of the 21st century. Efforts to prevent such diseases appear to have been insufficient to prevent a substantial number of working people acquiring work-related lung diseases.

Since the early 20th century, it has been an accepted practice in South Africa that employees who contract such lung diseases will be financially compensated for this. The first legislation dealing with the occurrence of such diseases in the mining industry was passed by the Union Government in 1916 and was known as the Miners Pthisis Act. This Act with subsequent renaming and reenactment became the Occupational Diseases in Mines and Work (ODMW) Act in 1973. In 1993, the Act was substantially amended to remove the racially discriminatory clauses that had been a feature of the Act since 1916. The current ODMW Act deals solely with the compensation of occupational lung diseases in miners. Occupational lung diseases in non-miners, other occupational diseases and injuries sustained by any other worker in any other industry including mining, is covered by the Compensation of Occupational Injuries and Diseases (COID) Act, 1993, a direct successor of the Workman's Compensation Act, 1948.

This monograph briefly reviews developments in the last decade with respect to occupational lung diseases, focusing specifically on silicosis and the mining industry, but with further reference to tuberculosis, including legislative and

regulatory changes, and new research findings. The two compensation Acts are compared in detail, considering criteria that evaluate the process of compensation; the guidelines available to medical assessors; the way that impairment / disability is evaluated; and monetary compensation payable to workers is calculated.

It is concluded that the ODMW Act contains a series of provisions that have an important impact on the human dignity of miners and their dependants as a specific category of person, and further the ODMW Act introduces unfair discrimination; does not provide this category with equal protection of the law; and is prejudicial to their right to social security.

Historical review

1993: Three major developments.

A brief review of salient developments since 1991 is helpful. In 1993 the COID Act was promulgated and replaced the Workmen's Compensation Act, 1948. The ODMW Act (1973) was amended to remove the racially discriminatory clauses and practices that had been a feature of such Acts since 1916. There was a Commission of Inquiry into Occupational Health and Safety in the Mining Industry that raised major concerns, but its terms of reference did not include the issue of compensation.

1996: The Mine Health and Safety (MHS) Act

The MHS Act resulted from the recommendations of the 1993 Commission of Inquiry. The MHS Act established a Mining Occupational Health Advisory Committee (MOHAC), a tripartite technical committee which in time issued Airborne Pollutants Regulations which set the Permissible Exposure Limit (PEL) for silica at a Time Weighted Average (TWA) of 0.1 mg/cu.m. (an international benchmark level); set guidelines on Standards of Fitness for Work in mines; and will issue regulations for medical surveillance of silica exposed workers.

2002: Integrated Occupational Health and Safety Agencies and Legislation

In 2002 the government produced a Green Paper on the need for an integration of agencies and legislation concerned with occupation health and safety. This included a recognition of the need for an integration of the two compensation systems for miners and non-miners. It was noted that the efficacy and equity of the compensation system required thorough investigation and review.

2002-4: The Technical Committee for Occupational Diseases (Established by the Compensation Board in terms of the COID Act).

The matter of reconciling the assessment and benefits of the two Acts, such that they are equitable was delegated to the Department of Labour, wherein it was investigated by the Technical Committee on Occupation Diseases from 2002 to 2003. The medical experts on the TCOD were nominated to it via Nedlac. The TCOD has a successful record in terms of its contribution to the clarification of administrative processes within the Commissioner's Office. However the committee had a stormy course when it came to the Circular Instruction concerned with benefits accorded to workers with occupational lung diseases caused by mineral dusts, including silicosis. A substantially finalized document on pneumoconiosis (Draft Circular Instruction 182) was forwarded to the Compensation Board but was not approved by the Board in late 2003. Compensation of pneumoconiosis under the COID Act has therefore continued without an updated

instruction. A Circular Instruction (No. 179) concerning tuberculosis in silica exposed workers was agreed on by the Compensation Board in 2004 and will be gazetted in due course. Although terms for reconciling the two Acts were agreed on in advance and included a requirement that the benefits should not be worse than those accorded under either Act currently, both Circular Instructions 179 and 182 can be seen to have concessions made following representations by employer nominees that do not necessarily accord entirely with the principle of equivalent benefits.

1995 – 2003: Silicosis in the South African gold mining industry begins to see the light.

In 1932 there was substantial interest in problems of tuberculosis and silicosis amongst black miners but it was not until sixty five years later (in 1997) that the first independent follow-up study of African miners was published, followed by a second a year later. Both studies documented that silicosis continues to be a significant problem in relation to the SA gold mining industry, as does tuberculosis. Their results were not well accepted by the Chamber of Mines medical advisors, although further research has shown them to accurately reflect the real situation in the industry. The first Safety In Mines Research Advisory Committee study of silicosis prevalence (Health 606) was published in 2003 and reached similar conclusions. Careful analysis of dust exposure in the Health 606 study participants showed that most of them, including those with silicosis, appeared to have been exposed to silica levels that were within the PEL for crystalline silica. This is in accordance with a 1974 National Institutes of Occupational Safety and Health (NIOSH, U.S.A.) warning and other study findings that a PEL of 0.1 mg/cu.m. is not protective against silicosis.

Silicosis / Pneumoconiosis

- Historically thought to be significant.
- Prevalence amongst Free State active miners (1987): 0.87 – 1.38% (*Cowie*)
- Prevalence amongst 227 Botswana retired gold miners (1997): 31.8% (*Steen*)
 - (29.0% gave a history of TB treatment)
- Prevalence amongst 228 E. Cape retired gold miners (1998): 36.4% (*Trapido*)
 - (51.1% gave a history of TB treatment)
- Prevalence amongst 515 active gold miners over the age of 40 (2003): 18.3% (*Health 606*)

2003 – 2004: Silicosis in the spotlight

South Africa, through its links with the World Health Organisation and the International Labour Organisation has become a part of the WHO/ILO Global Programme for the Elimination of Silicosis. National and Provincial meetings of stakeholders,

co-ordinated by the Department of Labour will be held around the country during 2004 and this will put silicosis in South Africa under the spotlight.

Comparison of the Two Compensation Acts

The two compensation Acts are compared and contrasted in the attached table 1, according to eleven specific criteria which relate to different aspects of the compensation process. In the attached table 2 the evaluation of impairment / disability and monetary compensation awarded in terms of the two Acts is compared.

In three aspects of their functioning the two acts are broadly equivalent. These are in the definition of the dust related disease; the categories of work and who can qualify for compensation; and how the diagnosis is made by the referring doctor and the medical authorities certifying the diagnosis of occupational disease and the basis of an occupational history, radiology, lung function tests, etc.

In the remaining eight criteria the ODMW Act introduces distinctions that applies solely to miners and their dependants as a category of person in a way that is at variance with the provisions of the Constitution of the Republic of South Africa, 1995.

Section 9 of the Constitution states that all persons are equal before the law and are entitled to equal protection and benefit of the law, further that it is unfair to discriminate directly or indirectly on the grounds of race, gender, religion, sexual orientation, social origin, political beliefs, age, etc. or any other category. In Section 10 it is stated that every person has inherent dignity and the right to have this respected and protected.

Human dignity?

The ODMW Act separates miners and their dependants as a group from all other persons in order to award them benefits for the compensation of occupational lung diseases. The consequences of the ODMW Act do not protect miners and their dependants' inherent dignity.

The two compensation Acts have different benefits that apply in the case of death of a miner, with the COID Act offering a number of benefits including a pension whereas the ODMW Act only offers a lump sum. In fact a miner who dies in an industrial accident will be compensated under the COID Act with appropriate COID Act benefits, whereas there is no possibility of the widow or dependents of a miner who has died from an occupational lung disease to have the dignity of the financial security of a compensation pension, nor assistance with reasonable burial costs.

Equal Protection of the Law?

Criteria for the evaluation of respiratory impairment and disability are different between the two Acts. These differences consistently disadvantage miners. The ODMW Act has a higher threshold of abnormality required before which a disease will be considered compensable. The implication of this is that the disease may be present but it is not considered to be of sufficient severity to warrant compensation under this Act. By contrast in terms of the COID Act the diagnosis of a radiological abnormality, even if its is not accompanied by significant physiological abnormality will still be compensable, since the presence of an occupational disease is considered compensable in terms of this Act, and has been for many years. Further to the above, the ODMW Act only has two disability categories, first degree and second degree. Therefore, in terms of the ODMW Act cardio-respiratory impairment of 40% and above and death are equated, thereby depriving more impaired miners of pro-rata better benefits if they have higher degrees of impairment. By comparison the COID Act will give progressive categories of disability up to 100% permanent disability awarded for serious disease or death caused by occupational lung disease.

In the case of similar functional impairment related to occupational lung diseases, miners and non-miners of identical income will receive differing amounts of financial compensation for their permanent disability. At all categories miners have worse provision for permanent disability, as a consequence of the maximum amount allowable to be paid as compensation under of ODMW Act. Miners or their dependants can never qualify for compensation pensions for occupational diseases. This does not accord with relevant ILO instruments, to which South Africa is a signatory. This

same discrepancy will mean that for the widow of the miner who dies in a mine accident, there will be a pension, but for the widow of the miner who dies from silico-tuberculosis there can only be a lump sum.

As discussed below, this results in consistently less advantageous benefits (or no benefits) for miners or their dependants.

Miners with pneumoconiosis do not usually require temporary disability allowances, but this will be the case if their disease is complicated by tuberculosis, a not uncommon occurrence. Miners have shorter provision for temporary disability than industrial workers do in this instance. Their duration of sick leave allowable is sufficient for a full course of Schedule 1 anti-tuberculous treatment as required by the Department of Health (6 months), but is insufficient for a full course of Schedule 2 anti-tuberculous treatment. COID Act provides for two years of total temporary disability.

In terms of both the ODMW Act and the COID Act, Compensation Funds have been established. Employers pay levies into these Funds for subsequent payment of compensation benefits to employees, if required. This is a form of compulsory insurance by employers. Employers pay a proportion of their wage bill into the COID Act Fund and this is adjusted pro-rata according to the Commissioner's claim experience from companies and industrial sectors. Employers pay levies into the ODMW Act Fund based on their "risk rating" as determined by the Risk Committee, an ODMW Act committee whose membership includes the Department of Minerals and energy. The DME provides records of dust measurements in each specific mine (taken by employers without DME supervision) in order that the risk rating of each

mine be established. This Risk Committee has had an erratic meeting schedule and risk ratings of many mines have not been altered for years. The ODMW Act's Risk Committee system does not afford miners equal protection of a pragmatic system, such as that adopted by the COID Act.

Unfair Discrimination?

Miners' and their dependants have a right to compensation that is at least equivalent to that afforded to all other categories of employee. Since the current situation is at variance with that right, miners and their dependants are subject to unfair discrimination.

The manner in which the two Acts operate contributes to this, with the requirements for reporting of the two compensation agencies differing significantly. Reporting of an occupational disease is the responsibility of the employer in terms of the COID Act. In terms of the ODMW Act a two stage procedure is required that is initiated by the referring health practitioner and the claimant. Both systems are reliant on returning documents by post.

In general the system operated by the Department of Health presents difficulty to people who are illiterate or not functionally literate in English or Afrikaans; have difficulty in access to photocopiers and Commissioner's of Oaths; have no capital to open bank accounts; have not stored documents for long periods; live in areas with poor postal services, or

are unable to afford the costs of long distance telephone calls of long duration to enquire about the progress of their claims. Claim processing by the Department of Health is carried out solely in Johannesburg and since there are no decentralized offices at which enquiries can be made, all communication with the MBOD or CCOD has to be either postal or telephonic. This deprives miners of the dignity of being able to make a personal verbal enquiry of the government department responsible for their claim for compensation and its progress.

The COID Act system makes the employer primarily responsible for claim submission, and through the employer the medical practitioner. This makes most of what is written above less relevant to the COID Act system. Employees with occupational lung disease can make enquiries at their nearest Labour Centre.

Since there is no system for guaranteed payment under ODMW Act for any medical practitioner who assists a miner with a successful compensation claim, a miner does not have a choice of the doctor who will report his occupational disease, unless he pays such doctor himself. Provision is made for health practitioners to assist miners under specific circumstances, but the element of choice available to non-mining workers seems restricted for the miner.

If the employee requires medical aid for the treatment of an occupational lung disease, both Acts make provisions. In terms of the ODMW Act this right is conditional on the employer providing such care, within two years of the employee's

termination of services. In terms of COID Act such care can be provided by any health care provider, with medical aid being potentially renewable every two years. Miners do not have this choice of health care provider.

Is everything about ODMW Act Unfair?

Occupational lung diseases have a latency of many years, meaning that they may only become obvious to doctors long after the employee has left a particular employer. How do the two Acts deal with this? Today many miners are still migrants, whilst most industrial workers are urban. When originally framed in 1916 and subsequently revised, the Miners' Pthisis Acts looked to the Department of Health for medical opinion independent of employers both for decisions about pthisis and for follow-up to check for its subsequent development. Today the ODMW Act provides for free benefit examinations, every two years for (former) miners – a benefit that may either be taken up at the Medical Bureau for Occupational Diseases (Braamfontein only), through the public health system or by practitioners approved by the Director M.B.O.D. The costs of this system appear to come from the Department of Health budget and not from the ODMW Act Compensation Fund.

Whilst not providing for such a system of free examinations, the COID Act procedure requires that when an occupational lung disease is diagnosed the current or former employer must be informed and report the matter, with a procedure in place for employers who cannot be traced. If an employee is examined and there is no pneumoconiosis, the doctors

would not be able to claim for payment under COID Act. By contrast the ODMW Act does put something in place for former miners, although research suggests that this system is not reaching substantial numbers of former miners in South Africa's labour sending areas and neighbouring Botswana, Lesotho and Mozambique.

Comparison of Medical Guidelines and their financial implications for claimants.

In the attached table 2 a comparison is made of two 40 year old married men with 3 dependant children. One has worked in the gold mining industry and the other as a fettler in a ferrous foundry. Both men are diagnosed as having silicosis on radiological grounds. Both men have lung function tests of acceptable quality. Table 2 illustrates changes in two main variables: two salary scales (R2 500 pm and R3 500 pm) and worsening lung function which will be considered here as representing measurable functional impairment. The Guidelines used in their evaluation are the ODMW Act Codes of Practice and COID Act operating procedures. Calculation of benefits is based on the methods set out in the two Acts.

In terms of the ODMW Act, the maximum allowable salary for calculation of benefits is R2 500 pm and maximum compensation is set as a lump sum of R39 300 for First Degree silicosis and R87 500 for Second Degree. Compensation is calculated on a formula: $(A \times 12) \times B$. A is the monthly salary B is a constant from 1.31 to 2.917 which is varied according to Degree and diagnostic category (e.g. TB, Pn, TB + Pn).

In terms of the COIDA Act there are no maximum allowable salaries, nor maximum allowable awards. The formula for calculating awards for permanent disability are different for disability $\leq 30\%$ or greater. For Permanent Disability $\leq 30\%$ the formula for the lump sum is $15 \times \text{monthly salary} \times \text{disability as a proportion of } 30\%$, e.g. $15\% = 0.5$. For greater degrees of disability the formula for a monthly pension is $0.75 \times \text{monthly salary} \times \text{percentage disability}$. The Act further stipulates widows' and dependants' pensions, as well as a number of other small but significant benefits.

In the first health scenario both workers have a radiological abnormality only (lung function testing is normal). As a consequence of this pathological abnormality the foundry worker is considered to have 20% Permanent Disability and will receive a lump sum of R18 750 or R26 250, depending on salary. The ODMW Act specifies that more than 10% impairment of the cardio-respiratory organs be present. In neither health scenarios 1 nor 2 does the miner qualify for compensation.

In the second health scenario there is mildly abnormal lung function. The foundry worker attracts a 40% permanent disability award as a consequence of this and the pension paid is either R750 per month or R1050 per month, depending on salary.

In the third health scenario the lung function loss is more profound and both workers are awarded compensation. The miner receives a First Degree award whilst the foundry worker receives a 40% or greater permanent disability award. The

miner's lump sum (R39 300) is the maximum allowable for First Degree compensation and does not increase with higher earnings. The foundry worker receives a pension of R750 or R1050 per month and this is ultimately worth the same as the miner's lump sum after approximately 3 years.

In the fourth health scenario there is further lung function loss, but this is not profound enough to change the miner's award from first degree. The foundry worker's award is now set at 70% Permanent Disability with a corresponding increase in the monthly pension and the ultimate value of the compensation paid.

In the fifth scenario there is again further lung function loss. The miner is now awarded second degree compensation. Once again the amount awarded is the maximum allowable and is not influenced either by further worsening of lung function, or death, nor by a higher monthly salary. The foundry workers' award is set at 100% Permanent Disability with corresponding awards of R1875 or R2625 per month. The ultimate worth of the COID Act awards is ultimately several times that of the ODMW Act lump sum.

In the final, sixth scenario the worker is judged as having died from silicosis. The miner's widow can claim the full Second Degree lump sum only. The COID Act provides for a widow's and dependants' pensions in addition to a lump sum, as illustrated in the table. After approximately 2.5 years, the foundry worker's widow's and dependants' benefits in terms of the COID Act would be equivalent to the total value of the miner's widow's lump sum. .

In none of the six scenarios are the ODMW Act benefits equivalent to those available in terms of the COID Act. Although the use of medical authorities to evaluate the diagnosis and functional impairment in silicosis is common to both systems, the guidelines they are provided for the evaluation of functional impairment based on lung function tests and chest radiology differ considerably and there is no instance where ODMW Act monetary compensation approaches that available to workers covered by the COID Act, given the passing of 2.5 to 3 years. The threshold of abnormality required to qualify for compensation is higher for the ODMW Act than the COID Act. The ODMW Act evaluations are based on guidelines that evaluate claimants as having less impairment than under COID Act guidelines, given the same degree of physiological and pathological abnormality. Reasons for differences in awards are: 1) The ODMW Act has a R2 500 per month ceiling for calculating benefits; 2) the ODMW Act prescribes maximum compensation allowable; and 3) all ODMW Act payments are lump sums, never pensions. These lump sum values are equivalent to approximately 2.5 to 3 years of COID Act pensions.

Pensions and poverty

Lump sum payments for higher degrees of physical impairment are not favoured by the International Labour Organisation. Workers in health scenarios 3 or 4 or higher can be expected to begin experiencing some difficulty in meeting the physical requirements of work in a mine or a foundry. Medical separation from work as a consequence of the presence of an occupational disease is a real possibility for such employees. This underlies the importance of pensions in the prevention

of poverty. Physically disabled workers face possible unemployment or having to find less remunerative employment. Their families share the same risk of descent into poverty. Lump sums cannot be expected to support workers or their families for more than a few years. This leaves South African former miners or their dependants trying to access possible social security whilst non-South Africans usually do not have such possibilities. Offering only lump sums must ultimately result in disabled former miners either having no income or attempting to access social security grants once the lump sum is used up.

A social security grant is currently approximately R750 per month and this is roughly the monthly pension that the foundry worker receives for 40% Permanent Disability on a salary of R2 500 per month. Therefore one obvious difference between non-miners and miners is that whilst disabled non-miners receive their pensions from the Compensation Fund (therefore from employers), the disabled miners have no option but to attempt to access the social security system. This represents a transference of responsibility for social security costs of occupational lung disease from a fund based on employers' contributions to one where the Treasury is responsible and social security is instead funded out of general taxation where the mining industry is only a relatively small contributor. This process is also known as the externalization of the mining industry's indirect costs with respect to occupational lung disease. This externalization of costs is a process that has been taking place for more than a hundred years. Its effects are most marked in rural, labour-sending areas. Apart from the obvious consequences for social spending across the labour providing regions of Southern Africa, workers and the affected social security support systems face an additional consequence. Because the employer (in this case the

mines) does not carry the financial cost of ill-health, they are under little pressure to improve conditions which cause the ill-health. The South African mine workers consequently face the highest incidence of silicosis in the world.

What would the costs of COID benefits for mine workers be and how many people are involved?

There is only one publicly reported estimate of the possible costs of the mining industry's liability for uncompensated occupational lung disease related to mining. In 1997 Trapido was estimated that there could be 196 560 former miners in South Africa and 84 240 in neighbouring territories who might qualify for approximately R9 961 million in compensation in terms of the ODMW Act. There are no estimates in the public domain of what reconciliation of the ODMW Act and COID Act benefits might imply.

In 1997 it was estimated that the direct costs of occupational lung diseases to the SA gold mining industry were about R343.7 million with externalized costs to former miners and the state of about R186 million. Annual costs of R530 million was equivalent to 6% of the 1996 wage bill and 2.6% of the industry's contribution to GDP.

Conclusion

At the beginning of the 21st century, as it was at the beginning of the 20th century silicosis continues to haunt the lives of gold mineworkers and the industry. Its' associated plague of tuberculosis has reached unprecedented heights. In my view the South African gold mining associated silicosis and tuberculosis epidemic is without precise parallel in human history, when its extent in terms of duration, intensity and magnitude are all taken into account. This occupational diseases epidemic is directly fueled by the transference of health costs from the employer to the state and individual , which removes the incentive for the employer to effectively limit the exposure to silica dust. The nature of the gold mining industry (poor ore content and deep mining) in South Africa, combined with cheap, replacable labour compound this problem.

In the comparison of the two Compensation Acts in terms of various aspects of their operation, they are only equivalent in three which relate to the medical means available to referring doctors and certifying authorities to establish a diagnosis of occupational lung disease. The use of medical authorities to certify the diagnosis of occupational disease and evaluate impairment in the two systems is similar, although the differences are highly significant when it comes to the evaluation of disability and its effect on monetary awards. In all other respects which relate to operational aspects of the two systems and the benefits available to employees there is a systematic discrimination which unfairly disadvantages miners and their families.

There is no instance where the ODMW Act benefits or administrative provisions approach those available to workers covered by the COID Act. There is no legitimate reason why miners should receive separate and unequal treatment with respect to compensation. Since the mid-1990's, rising death rates of miners related to occupational diseases in the mining industry have exceeded deaths due to injuries on duty. Costs of occupational diseases therefore can be considered as a real economic issue for this industry. The question arises whether the South African Mining Industry, economically and politically influential since its inception, has influenced the legislative and administrative processes of the state through the ODMW Act in such a manner as to reduce or externalise its costs of compensation and thereby its costs of production, to the significant and unfair disadvantage of employees in the industry.

This externalization of social security costs is to the disadvantage of both miners and the public social security system. It leads disabled former miners or their dependants to attempt to access state social security grants, rather than to legitimately claim from a Compensation Fund. It also reduces pressure on the mining industry to reduce silicosis and TB death rates.

Internalisation by the mining industry of the costs of reasonable compensation is what is required if the ODMW Act were set aside. Such costs could be considerable. It is beyond the scope of this paper to explore them. Could higher compensation levies push many "marginal" gold mines over the edge, resulting in closures, retrenchments and further possible consequences. These risks are real. But are they the central question being explored here? The ODMW Act

has existed primarily as a means whereby the mining industry is able to reduce its own cost of compensation of pneumoconiosis, resulting in externalization of these costs to miners, their families and the public health and social security systems. This is part of a process handed down since 1916 and represents a gap in South Africa's developing social security net that must be closed.

This formal review shows that the ODMW Act is not in accordance with the provisions of the Constitution of the Republic of South Africa Act, 1995, Sections 9 and 10. To summarise, these include equal treatment before the law, dignity and the right to have it protected and fair and equitable administrative process

South Africa can continue to mine gold but it must be done in a safe and sustainable way that does not threaten its labour force with the specter of occupational lung disease and death. An industry that can only survive through depriving widows of compensation pensions and other questionable practices is not sustainable. Renewed efforts must be given to ensuring that existing and new preventive measures are in place with effective enforcement. In terms of regulation of silica dust it is clear that a PEL of 0.1 mg/cu.m. is not protective against silicosis and through the MHS Act and the OHS Act the silica/crystalline alpha quartz PEL must be lowered to 0.05 mg/cu.m., with an action level of 0.025 mg/cu.m. Along with these measures the cost of compensating gold miners' occupational lung diseases needs to be raised to make causing them an unattractive proposition for employers.

References.

Occupational Diseases in Mines and Works Amendment (ODMW) Act, 1993

Compensation of Occupational Injuries and Diseases (COID) Act, 1993

Mine Health and Safety (MHS) Act, 1996

Occupational Health and Safety (OHA) Act

Cowie, R.L. & van Schalkwyk, M.G. 1987. The prevalence of silicosis in Orange Free State gold miners. *Journal of Occupational Medicine*, 29:44-46.

Steen, T.W., Gyi, K.M. White, N.W., Gaabosianelwe, T., Ludick S., Mazonde G.N., Mabongo, N., Ncube, M., Monare, N., Ehrlich, R.I. & Schierhout, G. 1997. Prevalence of occupational lung disease among Botswana men formerly employed in the South African mining industry. *Occupational Environmental Medicine*, 54: 19-26.

Trapido, A., Mqoqi, N.P., Williams, G., White, N., Solomon, A., Macheke, C., Goode, R. & Panter, C. 1998. Prevalence of occupational lung disease in a random sample of former mineworkers, Libode District, Eastern Cape Province, South Africa. *American Journal of Industrial Medicine*. 34:305-313.

Churchyard G, Pemba L, Ehrlich R, Magadla B, Dekker K, Vermeijs M, te Water Naude J, Myers J, White N. 2003. Silicosis prevalence and exposure response relationships in older black mineworkers on a South African goldmine. Safety in Mines Research Advisory Committee, Johannesburg.

Trapido, A., Goode, R. & White, N. 1998. Costs of occupational lung disease in the South African mining industry. *Journal of Mineral Policy, Business and the Environment*, 13: 26-33.

Table 2: A comparison of two equivalent cases of silicosis evaluated on identical medical findings according to ODMW Act Codes of Practice and COID Act Guidelines.

ODMW Act Case	COID Act Case
40 year old winch driver Married with 3 dependant children Gold mining	40 year old fettler Married with 3 dependant children Ferrous foundry

Salary scenarios
A. Total income of R2 500 pm B. Total income of R3 500 pm

Health scenario 1.
Radiological silicosis (e.g. ILO Cat 1/1, no PMF) Normal lung function

ODMW Act Case	COID Act Case
No compensable disease (NCD)	20 % Permanent Disability
	A. $15 \times 2500 \times 0.5 = R18\ 750$ lump sum
	B. $15 \times 3500 \times 0.5 = R26\ 250$ lump sum

Health scenario 2.
Radiological silicosis Abnormal lung function (mild) FEV1 = 69% Predicted FVC = 85% Predicted

ODMW Act Case	COID Act Case
No compensable disease (NCD)	40 % Permanent Disability
	A. $0.75 \times 2500 \times 0.4 = R750$ pm pension R180 000 over 20 years
	B. $0.75 \times 3500 \times 0.4 = R1050$ pm pension R2 R252 000 over 20 years

Health scenario 3.
Radiological silicosis Abnormal lung function FEV1 = 62% Predicted

FVC = 85% Predicted

ODMW Act Case	COID Act Case
First Degree	40 % Permanent Disability
A. $1.31 \times 2500 \times 12 = R39\ 300$ (max.) lump sum	A. $0.75 \times 2500 \times 0.4 = R750$ pm pension R180 000 over 20 years
B. $1.31 \times 3500 \times 12 = R39\ 300$ (max.) lump sum	B. $0.75 \times 3500 \times 0.4 = R1050$ pm pension R252 000 over 20 years

Health scenario 4.

Radiological silicosis
 Abnormal lung function
 FEV1 = 52% Predicted
 FVC = 85% Predicted

ODMW Act Case	COID Act Case
First Degree	70 % Permanent Disability
A. $1.607 \times 2500 \times 12 = R39\ 300$ (max.) lump sum	A. $0.75 \times 2500 \times 0.7 = R1312.50$ pm pension
B. $1.607 \times 3500 \times 12 = R39\ 300$ (max.) lump sum	B. $0.75 \times 3500 \times 0.7 = R1837.50$ pm pension

Health scenario 5.

Radiological silicosis
 Abnormal lung function
 FEV1 = 42% Predicted
 FVC = 85% Predicted

ODMW Act Case	COID Act Case
Second Degree	100 % Permanent Disability
A. $2.917 \times 2500 \times 12 = R87\ 500$ (max.) lump sum	A. $0.75 \times 2500 \times 1 = R1875$ pm pension R450 000 over 20 years
B. $2.917 \times 3500 \times 12 = R87\ 500$ (max.) lump sum	B. $0.75 \times 3500 \times 1 = R2625$ pm pension R630 000 over 20 years

Health scenario 6.

Death due to silicosis

ODMW Act Case	COID Act Case
Second Degree	100 % Permanent Disability
A. $2.917 \times 2500 \times 12 = R87\ 500$ (max.) lump sum	A. Fatal lump sum $0.75 \times 2500 \times 2 = R3750$ Monthly widow's pension $0.75 \times 2500 \times 0.4 = R750$ pm Monthly dependants' pension $0.75 \times 2500 \times 0.6 = R1125$ pm Funeral costs up to R5000 Value of widow's pension for 20 years and dependants' pension for 5 years R180 000 + R67 500
B. $2.917 \times 3500 \times 12 = R87\ 500$ (max.) lump sum	B. Fatal lump sum $0.75 \times 3500 \times 2 = R5250$ Monthly widow's pension $0.75 \times 3500 \times 0.4 = R1050$ pm Monthly dependants' pension $0.75 \times 3500 \times 0.6 = R1575$ pm Funeral costs up to R5000 Value of widow's pension for 20 years and dependants' pension for 5 years R252 000 + R94 500

Table 1: Silicosis (Pneumoconiosis) Compensation: A comparison of the ODMW Act and the COID Act according to eleven criteria.

Criteria Distinction within the ODMWA system which is unfair and deprives miners and their families of dignity	ODMW Act Administered by the Department of Health	COID Act Administered by the Department of Labour
Definition of the disease and categories of workers' who qualify	Silicosis Silico – tuberculosis Cardio-respiratory tuberculosis Miners and surface worker exposed to silica	Pneumoconiosis – fibrosis of lung parenchyma due to fibrogenic dust Pulmonary tuberculosis Any worker exposed to silica
How the diagnosis is made by the referring doctor and the Certifying Authority	Clinical features Radiology (Histology / bacteriology) Lung function testing	Clinical features Radiology (Histology / bacteriology) Lung function testing
Persons able to act as a referring or reporting doctor There is a real difference in who the worker can see to start a claim, including no system of guaranteed payment for any medical practitioner who assists a miner with a successful compensation claim, this may deprive the miner of a choice of doctor.	Occupational <u>health</u> practitioner engaged by employer; Public health service medical practitioners; Other medical practitioners authorized by the Director, MBOD to perform examinations in terms of the Act; Seen at the Medical Bureau for Occupational Diseases (MBOD) (Braamfontein).	Occupational medical practitioner engaged by employer; Public health service medical practitioners; Medical practitioner of employee's choice; Seen by a Provincial Medical Advisory Panel (Section 90); Seen by a Medical Practitioner Nominated by the Commissioner (Section 90).
Medical Authority Certifying the diagnosis of Occupational Disease	MBOD Certification Committee	Office of the Compensation Commissioner, on the advice of Medical Officers and medical specialist opinion.
Evaluation of respiratory impairment/disability ODMW Act has a higher threshold before which disease will be considered compensable, i.e. disease may be present but is considered to be of insufficient severity to warrant compensation. ODMW Act has only two impairment categories, wherein 40% and death are equated, thereby depriving more impaired miners of pro-rata better benefits.	Based on the wording of the Act more than “10% cardio-respiratory impairment” must be present before an Occupational Disease is compensable. The Director, MBOD has published guidelines to compensation in the Government Gazette. There are two grades of impairment: “First Degree”: >10% and < 40% impairment = moderate lung function abnormality or > or = ILO Cat 2 Pn or PMF; “Second Degree”: 40% to death = severe lung function impairment. A person is also Second Degree if they have two occupational diseases, i.e. Pn + TB = >40%	Based on evaluation of radiological pneumoconiosis (ILO Cat 1/0) = 20% permanent disability. If PMF or impairment is present, as measured by lung functions tests, higher categories of permanent disability (35%, 60%, 70% are awarded). Disability due to pulmonary tuberculosis is evaluated on the basis of lung function tests performed after treatment has been completed.
Temporary Disability Allowances Miners have shorter provision for temporary disability. The duration of sick leave is sufficient for a full course of Schedule 1 anti TB treatment, but is insufficient for a full course of Schedule 2 anti TB treatment.	Does not usually apply unless TB is present. In that instance the miner may take BCEAct sick pay and thereafter a Chamber of Mines Agreement applies providing for payment of 75% of wages for six months. Thereafter UIF sick pay may apply.	Does not usually apply unless TB is present. In that instance the employee may claim for total temporary disability for up to two years (75% of wage). BCEA and UIF may also apply.
Compensation for Permanent Disability Within similar permanent impairment / disability ratings, miners and non-miners will receive differing amounts of financial compensation. Miners have worse provision for permanent disability.	First or second degree: lump sum payment. First Degree: maximum is R39 300. It is salary based and the maximum salary allowed in the calculations is R2 500 per month. Second degree: Minimum compensation is R28 773 and maximum R87 500, if not previously compensated.	Permanent disability is compensated by lump sum payments depending on the degree of disability. If a miner is disabled a lump sum is paid, if > 30% a monthly pension is paid. The formulae for calculation of these benefits are set down in the Act. There is no maximum salary allowed for a lump sum payment, but a maximum benefit prescribed.
Medical Aid for treatment of an Occupational Disease Miners do not have dignity of choice of health care provider	Costs carried by employer for employees for 2 years following diagnosis. Essentially this provision can only be taken up whilst in employment, at or close to the place of employment.	Costs of diagnosis and treatment for 2 years following diagnosis are paid by the Accident Fund to any health care provider.

