

March 28, 1949

**House of Assembly Debates, Union of South Africa,
on Atomic Energy Bill, First Session, Tenth
Parliament**

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Summary:

House debate on the Atomic Energy Bill, which proposed controlling South Africa's nuclear energy by placing the state in charge of mining and ownership of uranium, thorium, and other radioactive materials.

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Mr. Speaker, the Bill as originally presented and as now submitted by me, together with the amendments to which I have referred, provided that the State should exercise full control over the mining, processing and extraction of uranium, as well as the question of the production of atomic power. It further provided that only the State - only the Minister acting on behalf of the State, with a view to ensuring, or any prescribed materials, as they are called - uranium, thorium or any other material - must be disposed of it and that the mining of those materials should be done on behalf of the State. With a view to ensuring, however, that there shall be no doubt at all with regard to the control of this extremely dangerous and potentially dangerous mineral. I propose to move an amendment during the Committee Stage to provide that the right of ownership of any prescribed materials, uranium or thorium, which are mined, processed or extracted, shall vest in the State. In view of the fact that the gold mines are greatly interested in this matter, as I shall indicate later, I deemed it advisable in the circumstances, having regard to the amendment I propose to move, to notify the Chairman of the Gold Producers' Committee of my intention, and he informed me that he had consulted his Committee and that they were prepared in the national interest to accept those provisions. I also want to say that this morning I had an opportunity of discussing the matter with Mr. Molten and Mr. Lawrence of the Gold Producers' Committee, and they are quite prepared to do it. I want to avail myself of this opportunity to express my appreciation of the measure of co-operation to which that testifies. In view of the fact that the short title of this Bill reads "Atomic Energy Bill", hon. members may expect me to explain what atomic energy is. I am afraid that in that respect I shall have to disappoint my hon. friends. I am afraid it is beyond my comprehension. But in the Bill reference is made to isotopes, and since the House will discuss the clause concerning - and I trust approve of it - in which provision is made in connection with these isotopes. I asked for information in that regard. I give the definition of isotopes to the House in the hope that it will considerably facilitate the discussion. I give it in English as it was given to me, and I hope after this definition the whole matter will be very clear to us -

Isotopes can be described as varieties of an element, each variety having the same chemical properties as the others, but a different weight and in some instances may be radio active. Because isotopes of the same element have identical chemical properties and almost identical physical properties, differing only as regards their atomic weights, their separation presents difficulties, although methods of separation such as, for example, the mass spectrophotograph, have been evolved and used.

An atom of an element is made up of a nucleus surrounded by electrons. The nucleus is composed of protons and neutrons and accounts for most of the weight of the atom. A proton carries an electric charge. A neutron has about the same mass as a proton but carries no electric charge at all.

The atomic number of an element gives the number of protons in the nucleus. The number of neutrons in the nucleus is found by subtracting the atomic number from the atomic weight. For example, if the atomic number of an element is, say 17, and the atomic weight 36, the number of protons in the nucleus is 17 and the number of neutrons is $36 - 17 = 19$.

It goes on to say -

It has been found that many elements are a mixture of atoms having different atomic weights, but which all have the same atomic number (i.e. contain the same number of protons in their nuclei) and are chemically alike. The following examples are given in illustrations:

Hydrogen is composed of atoms with atomic weights of 1, 2, and 3. The atomic number is 1. (2 and 3 are very rare.)

Oxygen is a mixture of atoms of atomic weights 16, 16 and 17. The atomic number is 8 (17 and 18 are very rare.)

Tin has atoms with atomic weights of 120, 118, 116, 119, 117, 124, 122, 114 and 115. The atomic number of these is 50.

Uranium has atoms of atomic weights 238, 235 and 234. The atomic number is 92. (238 is the most common.)

(NOTE: In each case the order of the atom is that of their abundances.)

The difference in the atomic weight is due to variation in the number of neutrons in the nucleus.

The hydrogen atom with atomic weight 1 has a proton but no neutron in its nucleus. That with atomic weight 2 has 1 proton and 1 neutron.

Similarly uranium 238 has 92 protons and 146 neutrons, while uranium 235 and 234 have respectively only 143 and 142 neutrons.

This phenomenon is known as isotopy and the varieties of an element are called isotopes.

To which I want to add "elementary, my dear Watson". This is just about as clear to me, and I think to other hon. members in the House, as the formula which the Minister of Finance gives us every year in connection with his taxation proposals.

Now that we know the meaning of a neutron and of isotopes, we can proceed with the discussion of the Bill. The main role in this Bill is played by a comparatively rare mineral known as uranium. It was discovered in 1896 that the splitting of the uranium atom releases tremendous power. During the war years and as a result of intensive research, particularly in the United States of America, a method was discovered of manufacturing atom bombs and we know with what terrifying consequences these atom bombs were used.

Since the cessation of hostilities, the possibility of the use of atomic energy for industrial purposes has been freely discussed, but I am afraid its use as a possible and as a terrifying weapon in times of war has always been and always will be the first consideration, particularly in these days of uncertainty in the international sphere. The question of the control of atomic energy, therefore, and the control of the sources of atomic energy, is not only an important matter as far as we are concerned, but in the past few years it has also become a matter of international importance, a matter which has already been freely discussed by the United Nations Organization. Uranium, the main mineral from which this energy can be manufactured, is also found in South Africa, more particularly as a component of gold ore. My department is still making further attempts to trace and to investigate other sources of uranium. The chief source of uranium, however, up to the present, and that will possibly be the position for a long time to come - is provided by the gold producing areas of our country, more particularly as a component of gold ore.

Research work in connection with the extraction of uranium has been undertaken for a considerable time by the Government's metallurgical laboratory. Furthermore, experimental installations have also been erected at certain gold mines. I might also mention that recently I authorized the employment of two outstanding research workers in the sphere of atomic energy - one from the United States of America where he was employed in connection with the Manhattan Project, and the other from Canada. They will arrive here in the near future and will then commence further research work.

In connection with research work, I want to refer here

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to the valuable assistance that has been received from the gold mining industry, inter alia, through the consent of some of their technicians for research work. The preliminary work has been done since 1946 under the supervision of a Uranium Research Committee, a committee which performed important work, and I also want to avail myself of this opportunity to express my gratitude for the valuable work done by that committee and more particularly also to Dr. Schonland, the chairman of that committee.

Because uranium is a potentially dangerous mineral and, moreover, is of so much strategic importance, it is essential in the national interest, to keep this mineral under the control of the State, as well as its mining, processing and marketing. Up to the present control has been applied by means of two war measures, i.e. No. 70 of 1945, and No. 11 of 1947. The object of the Bill which is now before us is to replace these two war measures, to place the control on a firm basis, and to make provision for an extension of that control, where it may be necessary. I do not want to pretend that this Bill makes provision for every possibility. We are on comparatively unknown ground here, and it is quite possible that subsequent developments and discoveries may necessitate amending legislation. My technical and scientific advisers assure me that this Bill makes provision for everything that appears to be necessary at the moment.

I come now to the provisions of the Bill.

In the first place provision is made in Clause 2 for the State to have the sole right -

- (a) To search, prospect, or mine for prescribed materials or in any manner to acquire any such material or to dispose thereof; or
- (b) to extract or isolate any such material from any substance, or to concentrate, refine or process it, or to produce atomic energy.

Then I propose in the Committee Stage to move a new sub-clause 2, as follows -

To insert the following as a sub-section (2) to the clause -

- (2) The ownership in and control of all prescribed materials which have been mined, extracted or isolated by or on behalf of the Minister under the provisions of this Act,

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shall vote in the Board on behalf of the State:

There are a few other amendments to the Bill as it was drafted originally, but these are the most important. As I have said, I have discussed this matter with Mr. Meleah. He communicated telegraphically with the Gold Producers' Committee and they have accepted the proposal.

This clause (2) is fundamental in order to obtain real and proper control by the State of this important and dangerous mineral. I may add that similar control of uranium is also incorporated today in the legislation of various other countries, including the United States of America and Canada.

Clause (3) is also an important clause. There it is provided that searching and prospecting for uranium as well as research and other activities can only be undertaken provided it is done on behalf of and with the written authority of the Minister, or in certain cases, of the Atomic Energy Board which is to be established. It is also provided that the production, acquisition, possession or use as well as the import and export of any radio-active substance is forbidden without the permission of the board. A provision of that description is in the general interest, firstly because the safety of the country is affected and furthermore, because these substances are extremely dangerous to human life and health.

In clause (4) and (5) it is provided that any person who obtains information or who has reason to believe that uranium or thorium is to be found in a certain place, is obliged to notify the Secretary for Mines. It is further provided - this is a new provision which has been inserted since the Bill was introduced the first time - that land may be entered in order to make certain observations. Provisions had also been made, however, that in those cases compensation shall be paid in respect of any damage which may be caused.

We come now to the position of the mines, and more particularly the gold mines on the Witwatersrand, because as I have already said, uranium is found particularly in gold ore. Clause (6) provides that if the Minister has convinced himself that such material is to be found on private property where the mining of another mineral such as gold, for example, is taking place, the Minister may order the person or company undertaking the mining to submit

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within a reasonable period, a scheme in which the conditions are set out upon which he is prepared to mine such material on behalf of the State.

The object of this provision, inter alia, is to enable mines to obtain, deliver and to extract such material without unnecessarily dislocating their ordinary activities. Such a scheme is then referred for investigation to the Atomic Energy Board. Every-thing is done, as I have already said, on behalf of the State.

In view of the fact that uranium is found particularly in gold ore, it stands to reason that there must be the greatest measure of co-operation between the Government and the gold mining companies. Up to the present the gold mining industry has shown its willingness to co-operate and to recognise the State's control of the uranium contained in the gold ore. Provision is made for the case where a mine refuses or fails to submit a scheme when requested to do so. The Minister then has the necessary power to make other arrangements with a view to mining or obtaining the uranium or similar mineral, subject to the payment of compensation for any loss or dislocation of activities caused as the result of it.

Provision is also made in clauses (8) to (10) for operations on private land. Certain exceptions are provided for there, based particularly on our experience in connection with oil and similar laws, and provision is being made here for certain exceptions, for example, that no work shall be undertaken in vineyards or orchards or near water or within a certain distance from a house, so that the farming operations of the farmer will be dislocated as little as possible by these operations.

The Bill further provides that an Atomic Energy Board shall be established. The Board will consist of the Minister who will act as Chairman, the Secretary for Mines, the Secretary for External Affairs, the Secretary for Finance, the Government Mining Engineer, a person nominated by the Scientific Research Council, as well as three persons to be appointed by the Minister, two of whom shall be representatives of the mines in which the prescribed materials are found. With regard to the Secretary for External Affairs, it seldom happens that he is a member of a board of this nature. The reason is that here we are dealing with a mineral which is of international importance or which may have international repercussions; hence it is necessary to appoint the Secretary for External Affairs as a member of the Board. The Secretary for

Finance

Finance must also be one of the members because it is expected that the mining of uranium will in the future be a source of revenue. There are certain provisions in the Bill in connection with financial matters, and we felt that in the circumstances it was desirable that the Secretary for Finance should also be a member of the Board. We must also have the necessary provisions of course, having regard to the fact that there may be opposition from some person or other in connection with this matter. It will be understood that where the ore has to be brought up from below the surface, it will be very difficult for the State if there is any opposition.

The Board has certain powers but I do not think it is necessary to go into them now. They are set out in the Bill and if necessary we can discuss them in Committee. These powers are, however, of a fairly wide character. The Board has the power to appoint staff, and officers of the public service may be seconded to serve on its staff. Here I want to mention that the chairman of the Public Service Commission came to see me, and I think it is necessary to say publicly - he had also written to me previously - that he objects to the fact that the staff of the Atomic Energy Board and the staff required for its work will not be appointed from the ranks of officers in the Public Service. After most careful consideration and discussion with Dr. Schonland and heads of departments, and also after further discussion with the chairman of the Public Service Commission, I arrived at the decision to adhere to the provision that was contained in the original Bill. We are dealing here with something quite unusual. This is not an ordinary board. The work which is undertaken there is of a highly specialised nature. For this work we must have people whom we have not got in our country, as yet, and as I have said, we have already proceeded to import two highly-qualified men, and I felt that it would be very difficult to obtain people to do this work if they were to fall under the regulations of the Public Service. There is also another difficulty, or difficulties, that I want to indicate here, and that is that since we are dealing here with extremely important work, it will be necessary sometimes to act with speed in order to obtain staff. As we know, however, the mills of the Public Service Commission, and of the Public Service grind like the mills of God, very surely but slowly, and by the time we have persuaded the Public Service Commission to grant their permission for the appointment of someone whose services are urgently required, it may be too late. We are making provision here for people

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to be recruited from the Public Service, but we feel that since here we are dealing with unusual circumstances, and since we require people with particularly high technical qualifications, it should not be absolutely necessary for them to be members of the Public Service. As far as possible members of the Public Service will be recruited to do this work. I hope, therefore, that the House will be prepared to support the provision of this clause having regard to the particular nature of the work that will be performed by this highly specialised body.

The Bill further provides that uranium and other prescribed materials shall only be sold through the Board.

The Board derives its funds from moneys which are to be voted annually by Parliament.

If at the end of the financial year there are surplus funds, they have to be refunded. The proceeds derived from the sale of uranium and radio-active elements shall be paid into the Consolidated Revenue Fund.

Hon. members need have no fear, however, of a financial burden on the State. On the contrary. I believe that the opposite will be the case. I have every reason to believe that with the passing of this Bill the Consolidated Revenue Fund will in the future be assured of an annual and by no means inconsiderable source of revenue.

There are also various provisions with regard to the inventions in connection with the production and the use of atomic energy and particularly with regard to the question of patents. There is a whole series of clauses in that connection. The House will appreciate the necessity of making such provision. There are always very clever people scientists and others, who do research work on their own, and provision must be made to ensure that secrets in connection with this matter do not leak to other countries.

Any person, therefore, who wishes to register a patent for an invention in connection with the processing of a prescribed material or for the production of atomic energy, is first required to submit a copy of his specifications to the Board and to furnish any further information which may be desired.

The Board has the power to sell the patent rights,

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subject to compensation. There are various other provisions in connection with patents which are intended, on the one hand, to regulate the proper control of atomic energy, and on the other hand, to ensure that the owner of patent rights receives fair compensation.

It also provides that no Union citizen or inhabitant of the Union may register a patent in connection with atomic energy outside the Union. It is not necessary to explain to the House why a provision of that description is absolutely necessary.

Then we come to the question of research. As I have said, there will be scientists, research workers, who will work on their own in connection with research into atomic energy. This Bill now provides that any research worker in the sphere of atomic energy shall furnish full information with regard to his research work to the Atomic Energy Board. Any person who obtains such information, either from another person or as the result of his own research, is forbidden to communicate it to any person inside or outside the Union. These provisions in connection with patents and the disclosure of information are essential in the interests of State security, and also to ensure that proper control is exercised. Then there are also other provisions to which I made reference at the outset of this speech and which were not contained in the first Bill, namely to make provision for the payment of compensation to persons who are employed on this dangerous work and who may adversely be affected as a result of such work. We know that there is a great danger attached to work in connection with the use of atomic energy and after consultation with the officials concerned, who deal with this matter, and with the Registrar or official who deals with workmen's compensation, a clause was therefore drafted to ensure that these workers will receive adequate compensation, for any damage or injury suffered by them or for any disease contracted by them as a result of their work in connection with atomic energy.

Then there is clause 32 which repeals the previous war measure. When we also have the necessary penal provisions. Hon. members will notice that the penal provisions are very severe. That is also necessary for we are dealing here with the safety of the State. There is the further provision that this Bill shall also be applicable to South West Africa.

These are the most important provisions of the Bill. As hon. members will notice it is a fairly lengthy Bill, but we are dealing here with a fairly difficult subject, and,

moreover,

Moreover, with all sorts of rights and questions which make it necessary for us to make provision for everything; but in essence this is a Bill which is designed to control this important and dangerous mineral. I also want to point out, as I have already said, that this Bill was drafted by the previous Government, and that we have now brought about certain essential amendments. In these circumstances I trust that this measure will receive the support of the House.

Field-Marshal Smuts: Mr. Speaker, we on this side of the House welcome this Bill. I know from my own experience that it has been very carefully drafted after the fullest consideration. Other precedents, similar legislation in other countries, have been taken into consideration, and I think that in the circumstances the Bill, as it now comes before the House, with the few amendments which the Minister has adumbrated, will be as good a Bill as one can prepare and can deal with in a matter of this difficulty and of this novelty. It is a novel matter, and a matter of extreme importance, it is a matter also of very great urgency. We have been dealing with this subject under the war measure, but that will disappear very soon, and it is necessary now to have a comprehensive Bill dealing with this subject. Uranium and the allied element, thorium, is one of the rarest elements known, and it is one of the most dangerous elements. We know from experience that it has the very highest strategic importance, in fact there is no substance in the world to-day which has the same high strategic value as uranium. The atomic bomb is only one instance of the application that can be made of this very rare and very dangerous element. I first heard of its possible application to warfare some years ago, I think in 1942 or 1943. As the element was very rare - as I have said, one of the rarest in the world, the suggestion was that we might make some search for it in South Africa. This country is looked upon as a sort of mineral reserve in the world. Almost anything you look for in the mineral line is ultimately found in South Africa. It was suggested to me that we should conduct some wide research in South Africa for this most important, most strategic and most rare element. We did so and for some years we conducted this search all over the country, in the Union and in South West Africa, and we found uranium, in very small quantities, very widely distributed in this country. It was found almost anywhere together with other mineral substances, but in such minute quantities that it was not worthwhile working this element in South Africa. Then later our attention was turned to the gold mines in this country. New methods of research

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were discovered amongst others what is called "the Geiger counter", instruments of great subtlety and great delicacy in the discovery of radium activity. These instruments were used and they were also used on the gold mines to discover whether the substance could be discovered on the mine. Then to our great surprise it was found that this very rare and unusual substance was in almost every gold mine on the Witwatersrand; it has subsequently been found in the bartheles of the Free State too. Of course, Mr. Speaker, this opened quite a new chapter for us in regard to this element, because if among our minerals in South Africa we had a substance, not only of the highest strategic importance but also important in many other ways, it was a great addition to our resources in South Africa, and it seemed to open up great prospects for us. So that we then began to see how we could deal with this substance on the gold mines. There very great difficulties were encountered. These difficulties have not been altogether overcome. Non. members will remember that we had very great difficulties with the extraction of gold on the Witwatersrand. Until the cyanide process was discovered the mines on the Rand were in very great difficulty, and it was only after the cyanide process was discovered by which gold could be dissolved in cyanide, that the mines really became a first class economic proposition. We have had similar difficulty with regard to uranium, how to extract it from the ore on the Rand where it is found mixed with gold. You had to extract the uranium without interfering with the process of extracting gold, because after all gold was our first priority. Processes had to be discovered which, whilst extracting and isolating the uranium, would not interfere with the extraction of gold. Great progress has been made, more progress is being made all the time. Experiments have been carried on, on an extensive scale - on the Witwatersrand, and in other countries too - to find out what is the best way of dealing with it. We seem to have found the right way of dealing with this matter and extracting this substance. So it is quite possible that a discovery of the highest importance has been made so far as South Africa is concerned, important in the first place for strategic purposes, but which may ultimately turn out to be of quite outstanding importance also for industrial purposes. The sources of energy in the world today are being tapped to an unprecedented extent. Our petroleum resources are being used up all over the world at a very great rate. Our coal resources, although very much larger, are also being tapped to an extraordinary extent. Here a source of energy has been found infinitely more powerful than either coal or oil. It stands to reason that, if this substance is

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found in very considerable quantities in South Africa; this country acquires an economic importance from this new discovery which nobody had ever dreamt of before. That is the possibility, it is not a certainty yet, but the prospect is opened that through the uranium resources of this country, especially in the gold mines, we may have found a source of energy that has not been found before, however rare, in the world, utilisable not only for strategic purposes but for industrial purposes as a whole.

Mr. Speaker, a number of very difficult questions arise. The first thing is for the State to take control. The Bill, as drafted originally under my direction, gave the Government the total control in this substance, but of the research and extraction of this substance, but of the disposal of it all; all that belonged to the State. The Minister has now gone further, after thinking the matter over, and he has taken absolute ownership, which is a step that had not occurred to me, and it requires a little thinking over. I am glad to hear his say that those who are concerned as owners of the ore, and also Dr. Schonland, who is very closely associated with all this work, are satisfied it may be alright, but it requires some thinking over. At any rate it was necessary to take complete control as is taken under this Bill - absolutely necessary that we should from the very start deal with this matter as a State monopoly. It is a very rare element, of priceless value, of the highest military importance, and one can see to what uses and to what abuses, it can expose this country and the world. Government control, therefore, was absolutely necessary.

I have spoken of its strategic importance, but there is no doubt that it may turn out afterwards to be of first class industrial importance too - a new source of energy like this whereby the destruction of matter, uranium, you can have an amount of energy never dreamt of before, and in concentrated form. Where you have a situation like that you can understand the enormous industrial importance of this subject. It may become the basis - in the distant future, not immediately - the source of energy on this globe, and the world may be run and human affairs may be run on atomic energy more than on anything else.

As hon. members know, the matter has been dealt with in U.N.O. U.N.O. established an Atomic Commission to deal with this matter in its dangerous and far-reaching strategic aspects. That commission, like most of the commissions of

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There is disagreement, U.N.O. has not been successful. The resolution which seems to be the trouble U.N.O. cannot overcome. The resolution which seems to be the trouble U.N.O. cannot overcome. There is continual bickering, continual vetoes. The result is, so far as U.N.O. was intended as the controlling authority of this dangerous matter, no result has been reached. But it is possible it may come yet. It is possible in years to come the nations may be convinced that this substance is so dangerous and so vital to world security and to world peace that at any cost and in any way it must be controlled by an international authority. Then of course our situation would have to be related to this larger world situation. But as things are at present there is no control of this excessive danger, either by U.N.O. or by anybody else, and all we can do in the interest of South Africa, and in world interest, is to take governmental control and keep a check on this element.

I do not think, Sir, it is necessary for me to say much more about this matter. It all looks so strange, so unexpected, that such a thing has come to South Africa, that such a thing has come to the world. The discovery of atomic energy is quite the biggest scientific discovery that has been made probably for hundreds of years. The discovery of the destruction of matter has quite revolutionized science. Now that it is found that the substance which is the source of this energy is found in considerable quantities in this country, it opens a situation before us which is difficult to size up and to realize at this stage. We can only take control as we are doing in this Bill and see what can be done about it. There is a market for this substance, there is no doubt about that, because uranium is very rare and is in very high demand naturally all over the world. The whole question of peace and war and of world security now begins to revolve around this question of uranium. An immense responsibility if therefore placed on South Africa. This small country is now in command not only of gold resources and other mineral resources, but turns out to be a country in possession of this new weapon, both for peace and war, both for military and industrial purposes. Very grave responsibility rests on this country to see that there is perfect control, that this substance does not get into wrong hands, that it is not used in order further to disrupt world peace and to frustrate human advance, in the world. It is a matter of very great importance and it is therefore right for us to look upon the situation in a very serious light, to take complete control and to see what it is best to do with it, in consultation with our friends, with the freedom loving countries of the world. We shall no doubt have our friends to advise us. The market for it is quite unlimited.

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friend naturally in a situation like that fear too, and it will be for us to consider, in co-operation with our friends, how it is best to deal with this extraordinary development that has taken place in South Africa. Sir, we have on this side of the House welcome this Bill. I should like to see the amendments which the Minister has foreshadowed, so that one can give a little study and attention to them before we go in to it. But in regard to the Bill as it stands here, apart from this amendment which I should like to study further, we are in agreement, and we understand that the matter is urgent and that the Bill should be put through this session.

Mr. Van Den Berg: I only want to say a few words in connection with this important Bill, viewed from a different angle. In the first place I think the House is deeply indebted to the hon. Minister for his clear explanation of the significance of uranium. There is, however, one aspect of the matter on which I should like to speak. I think we all agree with the provision that is made in general for the exploitation of uranium and for the State exercising control over it. Bearing in mind the extremely important role uranium fills I think we must all welcome that. But how will uranium be used after it has been mined? It is one of the most important articles for military purposes, but for South Africa, from an industrial standpoint it is regarded of more importance than for any other country, more important even than for the U.S.A. where they can utilise other forms of industrial power. So I would like to put this question and I hope that the Minister may be able to throw some light on it, what is the plan and what are the prospects of turning to account this highly important material after it has been mined? Are we going simply to regard it as an article of commerce because the whole world needs it and wants it, or is the Minister going to tell us what the next step will be to use it for industrial development in South Africa? We realize how serious is the point that South Africa is after all to a large extent the milk cow of other countries. Our motor transport is not only dependent on the importation of vehicles but hitherto we have also been dependent on the overseas sources of supply for every gallon of fuel. Therefore I agree with the rt. hon. Leader of the Opposition that the world's resources of oil and coal and also other

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things, are not unlimited and we look forward to the day when uranium in South Africa can be devoted to industrial development. We suffer greatly from the unjustified handicapping of South Africa as far as our means of transport are concerned; and many other things are dependent on other countries. It is always said that South Africa is not able to hold its own in competition with other countries in respect of manufactured goods. But if we can apply this important mineral to industrial development the day will come when South Africa is able to compete industrially with other countries. I hope I am not asking too much when I ask the Minister to throw a little light on the question whether the Government seriously intends, although it may be an expensive process, to apply uranium for industrial purposes, not to regard it purely as an article of commerce that, as we know, other countries want to purchase.

Dr. Smith: There is no provision in this Bill protecting the rights of the South African Native Trust in respect of land in a native scheduled or reserved area. I trust the hon. Minister will give consideration to this aspect before this Bill is proceeded with. I do not know whether the hon. Minister of Native Affairs has been consulted in this matter, but I wish to point out that clause 9 gives authority to any person authorised by the Minister of Mines to enter upon land and to undertake such works as may be necessary. And clause 10 authorises the use of such water supplies as the Government Mining Engineer may consider necessary. This question of water supplies in native areas is a very burning one and the use of water supplies should be arranged through the proper channels - the Native Affairs officials, and not on the order of the mining engineer. In the case of Native areas it should be made clear that the provisions of the Native Trust and Land Act, 1936, will not be disregarded. I refer particularly to sections 23 and 24 of that Act which place prospecting and mining in native areas under the control of the Minister of Native Affairs, who acts in consultation under the regulations with the Department of Mines. It is appreciated that mining for the substances referred to in the Bill should be permitted in the native areas as well as in the European areas, but I submit it should be in accordance with the Native Trust and Land Act and not under this Bill. I know it will probably be argued by the legal advisers that inasmuch as the Native Trust and Land Act is a special enactment its provisions will not be overridden by the present Bill; but where the

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rights of natives are concerned it is of supreme importance our legislation should be free from ambiguity. I suggest the insertion of a provision similar to that in Section 80 of the Base Minerals Act of 1948, which contains somewhat similar provisions to the present Bill. That Section reads -

With reference to land in respect of which the South African Native Trust and Land by Section 4 of the Native Trust and Land Act, 1936 (Act No. 18 of 1936) or a native as defined in section 49 of that Act, is the holder of the base mineral rights, this Act shall only apply subject to the provisions of Sections 23 and 24 of that Act.

This amendment will not prevent in any way the carrying out of the objects the Minister has in view. It merely provides safeguards that these things will be done through the proper channels, the Minister of Native Affairs and his staff.

The Minister of Mines: The House is indebted to the rt. hon. member for Pretoria (East) (Field-Marshal Smit) for his very interesting and also informative contribution to this debate. The rt. hon. member is in the fortunate position of having been, as it were, in the background and having been able to see what was happening during those years when uranium for the first time came into the public eye. He was also connected with the preliminary research that was undertaken in connection with this mineral. It was therefore able to give us this very interesting statement, which I am sure the House very much appreciates. I gather from the speech of the rt. hon. member that he does not feel, shall I say, quite so happy about the amendment which I propose to introduce. As I said this amendment was introduced, or rather I put it down before the introduction after consultation with the mining industry. The matter was fully discussed with Mr. Melean, the President of the Gold Producers' Committee. He was at a very full discussion yesterday, first with the officials of my department, and after that he was in communication with his Committee in Johannesburg. As a result of that communication he was able to tell us that he did not intend to raise any objection to that particular amendment. This morning I had the opportunity of having a further discussion with Mr. Melean and Mr. Lawrence and again they informed me that they were prepared to accept that amendment. They realise that we are here dealing with something very exceptional and under the circumstances

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they are not prepared to raise any objection and they are the persons who are very much primarily concerned in this matter. As the rt. hon. gentleman has correctly stated, and as I stated in my opening speech, uranium is found almost entirely in South Africa as a content of gold-bearing ore. There are other indications of uranium for instance in the Gerdouba district I understand, but my information is that it is not likely to be of any particular value. Thus, as far as South Africa is concerned practically 90% per cent of our source of supply will always be in the gold mining industry. I say therefore that in view of the fact that the leaders and accredited representatives of the gold mining industry have offered no objection we are prepared to accept this amendment, and as they are the only people really concerned, I trust that hon. members and the House will not raise any objection to that amendment.

I may point out that the rt. hon. member for Pretoria (East) himself admitted in his speech - he referred to the great military importance of uranium and in the concluding phase of his speech he referred to the immense responsibility that is placed on South Africa to see that there is complete control'. The Bill as drafted originally gave what appeared to be complete control. It was provided, amongst other things, that the uranium should be extracted on behalf of the Minister, in other words that the mining industry would in this case be acting as agents for the Minister. But having exactly the same feeling as the rt. hon. member about the immense importance of this mineral, and feeling that under the circumstances there should be absolutely no doubt whatever, I consulted my advisers and this clause was then drafted. It is proposed that it should be included in the Bill. I trust therefore under the circumstances that the House will be prepared to accept the clause which places the matter beyond any doubt whatever.

Mr. Speaker, I listened with interest to what was said by the hon. member for Krugersdorp (Mr. van den Berg), and he asked the question what are we going to do with the uranium once it has been found? And he put the further question and expressed the hope that uranium would be used not only for the development of atomic power in time of war but that it would also be used for industrial purposes. May I suggest to the rt. hon. gentlemen that my information is that research is being continued very actively and very intensively, and it is expected that in the future, but not in the near future, there is every reasonable hope that atomic power will be used for industrial purposes. I think the general impression is that that day is still very distant. In the meanwhile we are faced with the position as the rt. hon. member for Pretoria (East) said, of being in

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possession of an extremely valuable, but not only extremely valuable but extremely dangerous mineral, and in the circumstances and having regard particularly to the unstable conditions in the world today, having regard to the very difficult international situation which may develop and become worse, it is very necessary that at this time we should devote ourselves and give primary attention to the possibilities of this mineral being used in time of war, and for that purpose there should be control. But I can assure the hon. member for Krugersdorp as far as I am concerned if and when it should appear that atomic power can be used for industrial purposes it shall certainly be used for the development of our own industries in our own country.

Finally, as regards the question raised by the hon. member for East London (City) (Dr. Smit) I do not think there is any real reason for the fears expressed by him. In any case I would suggest that in a matter of this kind State considerations, the safety of the State, overrides any other considerations, and just as the ordinary private owner has to be content to allow his ground to be entered upon for the purpose of discovering and mining this material, so also I think the natives on the Native Trust Lands should be prepared to abide by the same rules as are laid down for the ordinary private owner. But the hon. member if he wishes to can raise the points in the Committee Stage. As I say, however, as the position is at present I hardly think it would be possible to make an exception in the case of the native territories.

Second Order read: House to go into Committee on Atomic Energy Bill.

House in Committee: On Clause 2.

The Minister of Mines: I move to insert the following sub-section (2) to the Clause:

- (2) The ownership in and control of all prescribed materials which have been mined, extracted or isolated by or on behalf of the Minister under the provisions of this Act, shall vest in the Board on behalf of the State.

At the second reading of this Bill I explained why it

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was necessary to insert this amendment. We are here dealing with an extremely dangerous mineral, one of which is of an international character, and one in which the security of the State is involved; and under the circumstances it is necessary to have absolute security in regard to the measure of control exercised by the State. That is why I am moving this amendment, which makes special provision that the ownership in and control of all prescribed materials which are being developed for an on behalf of the Minister will vest in the State. I will again point out that this matter was discussed with the President of the Chamber of Mines and the Gold Producers' Committee Mr. Malan. He also telephonically consulted his committee in Johannesburg and they are satisfied with this amendment. I hope, therefore, that this Committee will approve it.

Amendment put and agreed to.

Clause, as amended, put and agreed to.

On Clause 5.

The Minister of Mines: I move that the following amendment -

In line 1, to omit all the words from "(1)" down to and including "or" in line 11, and to substitute:

- (1) No person shall -
 - (a) except on behalf of the Minister and under his written authority, search, prospect or mine for any prescribed material or extract or isolate any such material from any substance; or
 - (b) except under the written authority of the Minister acquire any such material from any person other than the board or dispose thereof to any person other than the board; or
 - (c) except under written authority from the board -
 - (i) concentrate, refine or process any such material or import it into or export it from the Union; or

In effect it really amounts to the addition of the words "except on behalf of the Minister" but it would have

necessitated

necessitated rather difficult wording in order to give the effect to that, so we divided the original clause into two parts (a) and (b) and the words "except on behalf of the Minister" are really the actual amendments. The insertion of the words "on behalf of the Minister" is also necessary to bring it into line with the same phrase which is used in clause 6 at the end of the first paragraph where also there is reference to "undertake mining for an extraction of that material on the Minister's behalf" and in the subsequent clause there is a similar phrase occurring. In order to make it clear it is necessary to move that amendment, I have anticipated probable discussions on this point. Hon. members may wonder why in certain cases it is stated that certain things are to be done "under the written authority of the Minister" and in the other case the request is "under written authority from the Board". That was also so in the original Bill as drafted, but I think it is necessary to explain in the second and third case where the Board is referred to that is due to the fact that the clause deals with purely technical matters. Upon the Board technical men will be sitting and they are better qualified to judge and determine what is to be done than the Minister, and for that reason there is that separation; one case under authority of the Minister and the other under authority of the Board.

Amendment put and agreed to.

Clause, as amended, put and agreed to.

On Clause 6.

The Minister of Mines: I move -

In line 74 to omit "risk" and to substitute "or other risks" and an amendment in the Afrikaans version, which did not occur in the English version.

The reason for that is that in view of the sort of work that is done being of an exceptionally dangerous character it has been found necessary to provide for certain risks that will be run by the people during that work and which are not attached to other work. I think hon. members will agree it is necessary to make provision for that.

Amendment put and agreed to.

Clause, as amended, put and agreed to.

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On Clause 7.

The Minister of Mines: I move -

In line 30 after "extraction" to insert "on his behalf",

Agreed to.

Clause, as amended, put and agreed to.

On Clause 8.

The Minister of Mines: I move -

In line 32 to omit "and in the case of land" and to substitute "not being land to which the provisions of section 6 and 7 apply and in the case of such land"; in line 41 to omit "any prescribed material" and to substitute "or extracting any prescribed material on behalf of the Minister"; in line 45 after "out" to insert "by the Minister or by any person on his behalf"; in line 49 after "tank" to insert "or within 200 yards of any building; in lines 50 and 50 to omit "or the person authorised thereto by him as the case may be"; in lines 55 and 56 and in lines 71 and 72 respectively, to omit "the person so authorised or"; in lines 2 and 4 page 10 to omit "or the person with whom such agreement or arrangement has been made" and in line 4 after "such" to insert "Royalty or other".

Agreed to.

Clause, as amended, put and agreed to.

On Clause 10.

The Minister of Mines: I move -

In lines 22 and 22 respectively after "for" to insert "or extracting" and amendments in the Afrikaans version, which did not occur in the English version.

This is mainly a consequential amendment and it gives the right to the State that its rights will not be restricted to the exploitation of the prescribed material but will also cover the extraction of it, which is one of the processes in obtaining oxide of uranium.

Amendment put and agreed to.

Clause, as amended, put and agreed to.

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On Clause 13.

The Minister of Mines: I move -

In line 80 to omit "purification" and to substitute "processing".

Agreed to.

Clause, as amended, put and agreed to.

On Clause 16.

The Minister of Mines: I move -

To omit sub-section (2) and to substitute the following new sub-section -

- (2) The financial year of the Board shall terminate on the 31st day of March in each year and the Board shall keep a proper record of all its financial transactions and such records as shall at all times reflect the stocks of prescribed materials, restricted materials and radio-active isotopes in its custody as well as all transactions in such materials and isotopes. The Board shall in each year prepare accounts of its revenue and expenditure, including a balance sheet of its assets and liabilities as at the 31st of March;

to omit sub-sections (5) and (6) and to substitute the following new sub-sections -

- (5) The Board shall open an account with a bank approved by the Minister and shall deposit therein all moneys which it may have received from any source.
- (6) The books and statements of account of the board shall be audited annually by the Comptroller and Auditor-General, who may, for the purpose of any such audit appoint one or more persons to assist him, subject to such directions as he may deem fit.
- (7) The provisions of Sections 13, 14, 15, 16 and 18 of the Exchequer and Audit Act 1911 (Act No. 21 of 1911) shall mutatis mutandis apply in respect of such audit; provided that, for the purposes of this sub-section -

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- (a) the reference in Sections 13 and 16 of the said Act to the Treasury, shall be deemed to be a reference to the Minister and to the Board respectively;
- (b) the reference in Section 14 of the said Act to an officer in the public service shall be deemed to include a reference to an officer of the Board; and
- (c) the reference in Section 19 of the said Act to the Minister, shall be deemed to be references to the Minister of Mines.

- (6) As soon as possible after any such audit, the Controller and Auditor-General shall transmit to the Governor General a copy of the statements of account and balance sheet together with his certificate and a report thereon.
- (9) An amount which shall be determined by the Treasury after consultation with the Minister and the Controller and Auditor-General, shall be paid by the Board to the Consolidated Revenue Fund in respect of such audit.
- (10) The Controller and Auditor-General shall notify the Board of any surcharge which he may have made under Section 16 of the Exchequer and Audit Act 1911 (Act No. 21, 1911) as applied by sub-section 7 of this section and the Board shall subject to the provisions of Section 19 of the said Act, and so applied, recover in any competent court the amount thereof from the person against whom the surcharge was made; provided that unless the Minister otherwise directs, the amount of any such surcharge which may be due from a person occupying a post on the establishment of the Board, shall be recovered in equal monthly instalments by deductions from his monthly salary, not exceeding one-fourth of his monthly salary.

Agreed to.

Clause, as amended, put and agreed to.

The Minister of Mines: I move -

On Clause 30.

To omit the proviso to paragraph (a) of sub-section (2)

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and to substitute the following new proviso:

Provided that in calculating the amount of the compensation payable under this, the Commissioner shall disregard the maximum prescribed by sub-section (1) of Section 25 of the said Act as so applied as well as any provision of the said sections of the said Act as so applied in terms of which earnings in excess of a fixed amount are not taken into consideration.

This amendment is designed according to the existing Workmen's Compensation Act whereby a workman who is injured while working, but who draws a salary of more than 2750 a year, is not able to get any compensation and so also those earning below 750 pounds a year do not get their compensation on the basis of their full salaries. Now here again this amendment is necessitated by the fact that this is a particularly hazardous type of occupation. A consultation with the Commissioner of the Workmen's Compensation and it was felt necessary in this particular type of occupation to have an amendment. As printed in the text it does not seem to state the matter clearly enough and therefore this clause has been inserted, the idea being again to ensure that compensation paid under the clause would be calculated on the whole earnings of the workman concerned without any limitation. The proviso as printed does not give effect to that object because of the terms of the Workmen's Compensation Act Clause 2 (a) and the object of the amendment is to remedy that particular defect.

Amendment put and agreed to.

Clause, as amended, put and agreed to.

On new clause to follow Clause 34.

Dr. Smith: Mr Chairman, I move -

That the following be a new clause to follow Clause 34:

With reference to land in respect of which the South African Native Trust constituted by Section 4 of the Native Trust and Land Act (Act No. 18 of 1936) or a native as defined in Section 49 of that Act is the holder of the mineral rights, this Act shall only apply subject to the provisions of Sections 22 and 24 of that Act.

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The proposed new clause follows the procedure that was adopted in the case of the Base Minerals Amendment Act, 1942 and the National Oil Act 1942. The intention, I may say, of the proposed new clause is not to put any obstacle in the way of the Bill, but to ensure that the administrative action in a native area would be carried out by officers who understand the natives, that whatever benefits may accrue from the mining of the prescribed materials will go to the South African Native Trust Fund for the development of the reserves. That has always been a fundamental principle ever since the legislation of 1926 was passed. Section 23 of the Native Trust and Land Act, 1926 which places prospecting or mining on the land held by the Trust or by a native in the hands of the Minister of Native Affairs, applies to mineral substances of whatever nature which may be extracted from the ground. I should like to read that section and also refer to the fact that the land in the native reserves is vested in the Trust.

Business suspended at 6.30 p.m. and resumed at 6.5 p.m.

Evening Sitting

Dr. Smith: Mr. Speaker, I was saying when business was suspended that under Section 6 of the Native Trust and Land Act the native areas are vested in the South African Native Trust. The Governor-General is the trustee, but the Minister of Native Affairs has been given delegated authority to act on behalf of the Governor-General, so that the responsibility of the administration of the reserves rests with the Minister of Native Affairs. Section 23 of the Act places prospecting or mining on land owned by the Trust or by a native in the hands of the Minister of Native Affairs. It applies to mineral substances of whatever nature which may be extracted from the ground. I submit that it would be unfortunate if the functions of the Minister of Native Affairs in a native area should now be transferred to another Minister of State. Under section 48 of the Trust Act suitable regulations could be framed which would meet all the circumstances which the hon. Minister of Mines has in mind. The question of public safety, I submit, does not enter into the matter at all, because you would have the Minister of Native Affairs acting in conjunction with his brother the Minister of Mines. That as a matter of fact has been the policy ever since the Act was passed - the Native Affairs Department acting in collaboration with and on the advice of the Department of Mines. But the administrative application of any scheme is carried out with the cooperation of the officers of the Native Affairs Department

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who have the interests of the natives at heart. Un-
fortunate incidents have happened in the past in the
native areas owing to ill-considered action by officers
of other Departments without proper consultation with
the Department of Native Affairs. I remember once
there was an outbreak of foot-and-mouth disease and
a large number of native cattle were involved. The
Department of Agriculture ordered the destruction of the
Native cattle. There was no consultation with the
Department of Native Affairs before this order was
issued and a very unfortunate state of affairs developed.
The natives armed themselves and threatened to resist
the order and in answer to that a large body of police
was sent to enforce the order of the Minister of
Agriculture. Timely intervention by the Chief Native
Commissioner, however, prevented bloodshed and the
cattle were destroyed without further incident and with
the consent of the people concerned. I appeal to the
hon. Minister of Mines to accept this amendment which
will strengthen rather than weaken his administration.
We are dealing herewith a very important matter of
principle, and I hope the hon. Minister will not lightly
brush it aside. These native reserves were set aside
under the settlement reached in 1936. We should abide
by that settlement and follow the procedure which
Parliament has seen fit to follow in previous enactments.

The Minister of Mines: When the hon. member
mentioned this matter during the second reading I then
intimated that I could not really see the reason for any
such amendment. I do not think anything he has said
this afternoon or this evening is likely to change my
view in that respect. The hon. member for East London
(Dr. Smit) has referred to a matter of principle but I
would point out to him that as far as this Bill is
concerned we are dealing with something which is even
more important than principles.

Dr. Smit: Why?

The Minister of Mines: We are dealing here with
a mineral which is of such vast importance that special
powers are given to the State to be able to deal with
that particular mineral. We are dealing with a mineral
which is the subject of international discussion, a
mineral in respect of which the rt. hon. the leader of
the Opposition said on the second reading debate, that an
immense responsibility rests on the Union to see that

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there is proper control of the mineral. So much for the matter of principle. I think the urgency and importance of the matter in this case overrides the matter of principle. There are also other principles in this Bill which I think are overridden because of the importance of this particular mineral and its importance to the security of the State. Mr. Chairman, if the Minister is given powers, as he is in this Bill, to enter upon private property and take possession of, as this Bill does, it even vests ownership of the extracted mineral in the State so as to ensure absolute control, then I would ask the hon. member, why should the Trust territory be exempted, why should they be especially exempted where private owners have to submit to the provisions of the Bill? I may have somebody on the other side of the House suggesting that also my colleague the Minister of Lands, should give his approval every time we want to prospect or mine for uranium on Crown land. Then the Minister of Railways would come, and I would have to ask his permission. Apart from those reasons, which are academic, although serious, there is another very good reason why I cannot accept the amendment, that is, that the very section to which the hon. member refers, Section 23 of the Native Trust and Land Act, expressly provides that no person shall prospect for minerals on such land without the written permission of the Minister. May I say at once that I was unaware of the provisions of that section. Had I been aware of it, I want to say quite frankly I would have moved another amendment to this Bill. So far from accepting the hon. member's amendment I would have moved another amendment to this effect, that the provisions of sections 23 and 24 of the Native Trust and Land Act, 1950, shall not apply in relation to the prospecting or mining of prescribed minerals under the provisions of this Act. I was not aware and the original drafters were probably not aware of the provisions of section 23. So important is this matter I feel very inclined to move that amendment, so important is it that there should be absolute control of this mineral wherever it be found whether on the property of one of the mining companies or on private property or on the property of the Trust territory. But the fact remains that the provision is there. I

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have consulted the law advisers since the hon. member put his amendment on the paper, and I am advised that there is no reason for that amendment. I would imagine that the hon. member - who after all has been head of a Department and probably concerned with the drafting of Bills - would himself have appreciated that where there is that provision in the Act it is unnecessary to move the amendment he had moved. As I have said, I feel very much inclined to leave it as it is. I think the hon. member can be very grateful in the circumstances that I do so. There is ample provision in Section 23 of the Native Trust and Land Act and to say the least it will be very bad drafting to put something in the Bill for which there is ample provision already in an existing act.

Dr. Smit Surely the later act overrides the earlier one?

Mr. S. E. Warren (Dr. Smit) and no longer one of the leaders of the natives. I rise this evening to protest against this continuous discrimination against Europeans in favour of non-Europeans. The native areas were purchased by the State; the natives got them for nothing, and now they also want the uranium that may be found there. The position is that the natives are already in such a position that one does not know once they get the stuff into their hands whether they may not send it to Russia, or what they will do with it. It is asserted that they are Communists. I cannot understand the hon. member getting up here and trying to protect them still further. He wants them to be given what is not given to Europeans.

Proposed new Clause 35 put and negatived.

The remaining Clause and Title of the Bill put and agreed to.

House Resumed:

The Chairman reported the Bill with amendments. Amendments considered.

Amendments in Clauses 2, 3, 6, 7, 8, 10, 13, 16 and 30 put and agreed to and the Bill, as amended, adopted.

Bill to be read a third time on 26th August.