



**APPLICATION FOR EXEMPTION FROM THE
REQUIREMENTS OF SCOPING AND EIA AND
AUTHORISATION FOR AN INCINERATOR IN THE PBMR
FUEL PLANT (PFP)**

ISSUES-RESPONSE REPORT (IRR)

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Purpose of this document

The purpose of this Issues Response Report (IRR) is to provide a detailed record of all the comments that have been submitted during a public consultation process that was conducted in support of an application for exemption from a full EIA process for an incinerator proposed for the PBMR Fuel Plant (PFP). The document contains a list of all the comments submitted by registered stakeholders during the consultation process and provides responses to each of these comments. The IRR must be seen in conjunction with the application document which is entitled APPLICATION FOR EXEMPTION FROM THE REQUIREMENTS OF SCOPING AND EIA FOR AN INCINERATOR IN THE PBMR FUEL PLANT (PFP) – SUBMISSION TO AUTHORITIES (25 May 2009).

A number of the issues contained in this report were responded to during the consultation period. The responses written in the first person are where a response was issued by Sean O’Beirne as the Environmental Assessment Practitioner (EAP) during the consultation process. However the bulk of the comments were received towards the end of the consultation process and were then answered through the mechanism of the Issues-Response Report and by updating the application documents as required.

A public consultation process on any development application is seldom easy and emotions run high when the applications are, as in this case, related to controversial issues such as incineration and nuclear energy. The public response to this application for exemption has been intense but never personal and the comments have been well thought through and insightful for the most part. The comments have resulted in statements made in the original document placed in the public domain being revisited and rechecked and in several instances being changed as a result of the comments received. In all circumstances, even where comments submitted by stakeholders were considered not to be true or properly substantiated by the assessment team, they have added value to this process and contributed meaningfully to the ultimate purpose of any environmental assessment, which is informed decision-making. Stakeholders who participated (in some cases quite vigorously) are thanked sincerely for their efforts in compiling the comments that are captured here and for participating in the process.

	Person / Organisation	Comment	Response
Incinerator - General			
1.1	Rachel Adatia, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	Is there any possibility that the throughput target will be increased from 270,000 (which would place extra demand on the incinerator)?	Under the conditions of the original EIA or this amendment there isn't any such possibility. The Pelindaba PFP was approved in the original ROD to a maximum capacity, this has not changed. The Pelindaba PFP is not capable of meeting the demands for fuel for multiple reactors.
1.2	Dominique Gilbert (Pelindaba Working Group)	<p>Please note, for example, that on Page 10 in dealing with the EIA framework design compared with current proposals it is mentioned in the section on HVAC:</p> <p>"Details that negative pressure shall be maintained in the processing zones with exhaust air via a HEPA filter bank and a 61m stack. Also indicates that a large portion of the ventilation needs to be replaced"</p> <p>AND that in terms of the new proposals "New HVAC to be established to service C3/C5 only, which will require an additional 60m stack. HEPA filters will be installed where there is potential generation of uranium dust and negative pressure still to be maintained. Two additional steel stacks will have to be incorporated to balance the pressure but these will only be about 3 meters above the roof height."</p> <p>The implication in this statement is that such negative pressure has caused problems which is why a LARGE portion (size ?) of the ventilation needs to be replaced, and also that an additional 60m stack and two additional steel stacks of</p>	<p>The existing HVAC design does not have sufficient capacity in order to deal with the new heat loads placed on the system and must therefore be upgraded. More fresh air has to be drawn in from outside the building and then exhausted in order to achieve the required cooling effect inside the building.</p> <p>No re-circulation systems are used in areas where uranium powders are handled. Furthermore certain air changes per hour have to be maintained inside the building. These additional requirements lead to once through systems which are larger installations than conventional systems. The conclusion that the statement in the report implies certain deficiencies is incorrect.</p> <p>The incinerator will not have a separate stack. All the off gases from the incinerator will pass through a scrubber first then through HEPA filters before being discharged into the main stack (this is the new tall stack that has been described in Section 2.1 and 6.3 of the Amendment Application).</p> <p>This new tall stack will be fitted with real time monitoring as</p>

		<p>about 3 meters will now also be incorporated into the design. Presumably all will be fitted with HEPA filters. It begs the question of exactly how many stacks, including that of the proposed incinerator for which an exemption is being sought there will be in the final design of the PFP? While claims are being made about “safe” emissions from the incinerator, the full extent of emissions from all stacks, their cumulative impact including the cumulative impact together with all other plants at the NECSA complex should be clearly stated in terminology that is understandable to I&APs, and also that outlines the health hazards associated with each and every of the materials and their components that will be released into the atmosphere, including all variables.</p>	<p>this will be the only emission source that requires such monitoring in respect of possible atmospheric emissions from the PFP. There are two additional short stacks which are purely for ventilation from ‘clean’ (non-radiological) areas only, resulting in 3 stacks in total.</p>
1.3	<p>Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)</p>	<p>How does the scrubbing process and the recovery of uranium in resin columns ensure that the off gasses contain no radioactive particles?</p>	<p>It is important to note that the expected uranium in the feed to the incinerator is small at some 0.23 kg per annum. The hot gas from the incinerator is directed through three filtration steps. The first step is in the quench column, the second step through the packed scrubber column and finally through the HEPA Filters (these filtration steps are illustrated schematically in Figure 3 in the application for exemption and authorisation). After treatment in the incinerator and off gas system, the uranium exiting the system post the HEPA filters is calculated to be less than 0.15 grams per annum.</p>
1.4	<p>Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)</p>	<p>What is the risk that dioxins, furans and radioactive particles are likely to be formed in the combustion process, or be retained following the scrubbing/recovery procedure? The Institute of Energy and Environmental Research (IEER) (a well-established organisation, whose scientific information has stood up to the intense scrutiny of the US Department of Energy and its contractors) notes:</p>	<p>The effluent handled in AREA E, does not contain chlorides or any halogens. Thus streams fed to the incinerator will not contain any chlorides and therefore there is no possible formation of dioxins and furans. Note: the "waste" stream fed to the incinerator is not an ill defined dirty waste stream as in municipal incinerators but is a well defined controlled mixture of known chemicals and known breakdown reactions.</p>
1.5	<p>Rachel Adata, Judith Taylor, Mabule Mokhine (Executive</p>	<p>“Incineration does not destroy metals or reduce radioactivity of wastes. Radioactive waste incinerators, when equipped with well-maintained, high efficiency filters, can capture all but a small fraction of the radioactive isotopes and metals</p>	<p>The point is noted that incineration does not destroy metals or reduce radioactivity, and no such claim was made in the amendment application. The purpose of the incinerator is to recover uranium in the process by incinerating the organic</p>

	Committee - Earthlife Africa Johannesburg)	fed into them. The fraction that does escape, however, tends to be in the form of small particles that are more readily absorbed by living organisms than larger particles.” (http://www.ieer.org/fctsheets/incin.html accessed 29 March 2009)	stream that contains the uranium. The comment is correct in highlighting that there are uranium emissions from the incinerator. However, these emissions are simply too small to measure directly on a continuous basis and would amount to < 5 grams per annum prior to the the HEPA filters. The HEPA filters reduce the amount to be emitted to < 0.15 grams of uranium oxide per annum . The amount that is emitted is so small that the risk of impact on living organism is negligible regardless of particle size. This is the reason for reflecting a 0 in the information placed in the public domain. Note too that the integrity of the HEPA filters is actively monitored for blocking or rupturing and the incinerator could not be operated without the HEPA filters being in place.
1.6	Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	The report indicates the use of a HEPA filter prior to the release of residual gases into the atmosphere (Figure 3). It is understood that HEPA filters can remove at least 99.97% of airborne particles 0.3 micrometers (µm) in diameter. Particles of this size are the most difficult to filter and are thus considered the most penetrating. Particles that are larger or smaller are filtered with higher efficiency. What is the long-term human and environmental impact of the 0.03% of airborne particles not removed by the filtration system? What is your response to the claims of the Institute of Energy and Environmental Research (IEER) regarding absorption of radioactive particles?	As previously described, emissions from the incinerator will be directed to the main stack where there will be a measurements of the combined uranium emissions from the entire fuel plant. A study has been performed whereby the worst case scenario for potential release from the building was analysed without any HEPA filters in place. From the study it was shown that the highest dose a member of the public would be exposed to is <8 µSv/y. This figure is some 3% of the regulatory requirements and HEPA filters reduce this very small figure even further. The contribution of the incinerator is only a small percentage of that very small figure. The IEER fact sheet refers to the incineration of solid waste which is not the same as the proposed incinerator. The liquids to be incinerated by the proposed incinerator contain only traces of uranium compared to solid waste which contains more uranium. In addition the off gas system has facilities to recover the Uranium instead of discharging it to the environment.
1.7	Professor Robert Hasty (WESSA	The issue of possible chlorine or halogen components in the feed to the incinerator should be more thoroughly	The effluent handled in AREA E, does not contain chlorides or any halogens . Thus streams fed to the incinerator will not

	Northern Cape)	<p>considered than its perfunctory dismissal in 6.3.4. As trichloromethylsilane is used in the kernel coating process (in the formation of the silicon carbide layer) chlorine/chlorides are produced as a by-product and should exit this fabrication stage in either the high efficiency particulate adsorbers, liquid waste, uranium recovery or stack lines. Several of these components ultimately are fed to the incinerator (Section 2.6). While the disposal of the tetrahydrofurfuryl alcohol and methanol by incineration rather than evaporation has positive advantages as a means of waste disposal, the potential halogen contamination of the stream which is fed to the incinerator presents the potential for an unattractive and dangerous side effect which should be more thoroughly examined. A detailed specialist report by a qualified chemist or chemical engineer on the incineration process should be required rather than granting exemption (Section 6.1.1)</p>	<p>contain any chlorides and therefore there is no possible formation of dioxins and furans. The assessment is based on a detailed design prepared for the plant and has been done by qualified chemists and chemical engineers. The emissions have been quantified as part of this process and thus have been carefully considered have not been perfunctorily dismissed as suggested in the comment.</p>												
1.8	Ms Judith Taylor (SA Water Caucus and Earthlife Africa)	<p>Whilst we were assured that the incinerator is very small; on addressing the load that it is taking throughout the year, I asked an engineer to look at the figures. His conclusion is that it does not equate. So I have the following questions:</p> <ul style="list-style-type: none"> ▪ What is the capacity of the incinerator per cycle? ▪ What is the incinerator's capacity – tonnes per load per cycle? ▪ How does this feedback to the assessment? ▪ What is the incineration cycle in hours? <p>What I am seeing here is faulty science, as we are not being given the full picture. I would make the point that the scientists are not giving us the full picture and that they do not know it themselves. If government goes ahead on this basis, it is letting down the populace to whom it is accountable. I suspect more than one incinerator is required.</p>	<p>The incinerator will be run on a continuous basis and meets the demands of the PFP (viz. no more than one incinerator is required). The plan is switch it on Monday morning and switch it off on Friday afternoon.</p> <p>The incinerator design capacity is 4 kg/hr. Refer to table below for further incinerator data. Please note that this is the full extent of the incineration requirements and that no more than 1 incinerator is required.</p> <table border="1" data-bbox="1241 1117 1917 1360"> <thead> <tr> <th colspan="2">Incinerator Operation Profile</th> </tr> </thead> <tbody> <tr> <td>Weeks/annum</td> <td>45</td> </tr> <tr> <td>Days/week</td> <td>5</td> </tr> <tr> <td>Days/annum</td> <td>225</td> </tr> <tr> <td>3-shifts(hours/day)</td> <td>24</td> </tr> <tr> <td>Maximum Available hours</td> <td>5400</td> </tr> </tbody> </table>	Incinerator Operation Profile		Weeks/annum	45	Days/week	5	Days/annum	225	3-shifts(hours/day)	24	Maximum Available hours	5400
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			Incinerator Design capacity (kg/hr)	4	kg/hr
			Total maximum Feed to incinerator (kg)	9537	kg
			Required hours to incinerate feed (hrs)	2384.25	hrs
			Extra spare hours available	3015.75	hrs
1.9	Professional Group of Companies	Incinerators, as you may well be aware, (or if not there is a very good NGO called Groundwork who will fill you in on this) are all damaging to the health of surrounding populations, in this case it will impact on the populations of Johannesburg & Pretoria and even further afield, as emissions are windborne and any small particle of incinerated waste – in this case radioactive matter, is potentially a cancer trigger. These particles are small and consequently easily injected and can be carried long distances on air currents. This health risk is unacceptable and unconstitutional. Therefore NECSA's assertion that this falls under 1(q) of GNR 387 is disputed.	I am well aware of the potential adverse health effects of incinerators and that is what I used to contextualize the assessment of the incinerator now proposed. However, I would caution against your statement that ALL incinerators are damaging to the health of surrounding populations which simply isn't true'. Also, it is premature and baseless to conclude that the incinerator proposed for the PFP will impact on the populations of Johannesburg & Pretoria and even further afield. Again I would encourage you to please carefully read and consider the arguments presented in the amendment application document before drawing such conclusions.		
1.10	Mr Neil Whitward	Where is the small scale Incinerator going to be located?	The PFP incinerator will be located in the new Northern Extension of BC3/C5. It will be located on the upper ground level of the effluent treatment plant.		
1.11	Mr Neil Whitward	Why is this additional Incinerator necessary?	At the time of the original EIA it was proposed to evaporate the methanol. However, as the design was furthered, the incinerator was introduced as a more efficient and effective means of addressing this requirement (See Section 2.6 and Section 6)		
1.12	Mr Neil Whitward	What hazards (environmental or otherwise), does this additional Incinerator present – particularly to residents within the 5 Km nuclear radius?	The products of the incineration process are carbon dioxide and water. The carbon dioxide has global warming properties but the quantities produced are less than what would be produced in an equivalent operating period by a single small car. The incinerator was introduced as a more efficient and effective means of addressing the waste stream (See Section 2.6 and Section 6). On that basis the hazards posed by the incinerator are negligible and will certainly not pose any risk even to the immediate environment, let alone off-site.		

1.13	Rachel Adatia, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	No information is given about the reliability of this particular type of incinerator, based on its use, or the use of similar incinerators, elsewhere (if it is an as yet untested design, this increases the associated risks)	<p>The table below indicates that the incinerator design does allow for extra processing capacity. The required processing time is ~ 2400 hrs and with the present design capacity there is ~ 3000 hrs available spare capacity. Thus with the present design the utilization of the incinerator is ~45%.</p> <table border="1" data-bbox="1243 435 1915 857"> <thead> <tr> <th colspan="2">Incinerator Operation Profile</th> </tr> </thead> <tbody> <tr> <td>Weeks/annum</td> <td>45</td> </tr> <tr> <td>Days/week</td> <td>5</td> </tr> <tr> <td>Days/annum</td> <td>225</td> </tr> <tr> <td>3-shifts(hours/day)</td> <td>24</td> </tr> <tr> <td>Maximum Available hours</td> <td>5400</td> </tr> <tr> <td>Incinerator Design capacity (kg/hr)</td> <td>4</td> </tr> <tr> <td>Total maximum Feed to incinerator (kg)</td> <td>9537</td> </tr> <tr> <td>Required hours to incinerate feed (hrs)</td> <td>2384.25</td> </tr> <tr> <td>Extra spare hours available</td> <td>3015.75</td> </tr> </tbody> </table> <p>The preliminary design for the PBMR incinerator is a collaborative effort from PBMR, Nukem Technologies and Intherma. The following web address: www.intherma.de could be visited for Intherma's profile. Note SABS 9001 certification and extensive experience of designing and building incinerators.</p>	Incinerator Operation Profile		Weeks/annum	45	Days/week	5	Days/annum	225	3-shifts(hours/day)	24	Maximum Available hours	5400	Incinerator Design capacity (kg/hr)	4	Total maximum Feed to incinerator (kg)	9537	Required hours to incinerate feed (hrs)	2384.25	Extra spare hours available	3015.75
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1.14	Rachel Adatia, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	What is the actual size of the proposed incinerator? On page 29 it says it will be like a laboratory incinerator with a diameter of 170 mm but how high/wide is it and what is the volume of waste it can handle at one time?	<p>The design capacity of the Scrubber column is 90Nm³/h. The incinerator will have a maximum diameter of 170 mm to ensure safe geometry (illustrated schematically in Figure 3 of the exemption application document). The height of the incinerator will be 1.8 meters.</p> <p>The off-gas from the incinerator is directed through a gas treatment system. This system has a quench column which is 1</p>																				

			m high. The quench column is positioned directly below the incinerator. The off gas is then passed to the packed scrubber column which is 4.5 m high. The scrubber is positioned next to the incinerator. The total height of the complete off gas treatment system is ~5.5 m high. The incinerator is designed to process 4kg of waste per hour. See also Section 1.9 in Issues-Response Report. .
1.15	Rachel Adatia, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	Is this design for an incinerator used elsewhere and if so, what is its track record?	The preliminary design for the PBMR incinerator is a collaborative effort from PBMR, Nukem Technologies and Intherma. The following web address: www.intherma.de could be visited for Intherma's profile. Note SABS 9001 certification and extensive experience of designing and building incinerators.
1.16	Rachel Adatia, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	Why were the options of incineration and an outside chemical storage area not considered when the original design for the PFP was drawn up – or at least considered as alternatives in the original EIA report?	Incineration was being considered at the time of the original EIA and has subsequently been demonstrated to be a significantly improved environmental option. The movement of the chemical storage area outside of the building is not part of this exemption application and has been dealt with within the amendment application.
1.17	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	What additional insurance is it estimated will be in place to cover the additional risk of the proposed PFP and the proposed incinerator.	Necsa will comply with the financial security requirements (insurance) determined by the Minister of Minerals and Energy. Such insurance is recommended by the NNR Board and aligned with international trends and potential risk. Any additional risk of the PFP facility falls within the current total risk envelope of the Pelindaba site and no additional insurance is required.
1.18	Dominique Gilbert (Pelindaba Working Group)	The scrubbing process is not described in this document adequately in terms of inherent possible risks and dangers. Furthermore, what is the risk that “dioxins, furans and radioactive particles” are likely to be formed in the combustion process, or be retained following the scrubbing / recovery procedure?	The effluent handled in AREA E, does not contain chlorides or any halogens . Thus streams fed to the incinerator will not contain any chlorides and therefore there is no possible formation of dioxins and furans. The scrubbing has been described in more detail earlier in Sections 1.14, and is also presented in the application for exemption report in Section 6.3. .

1.19	Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	What is the long-term, cumulative impact of the emissions and radioactive waste from the proposed incinerator and external storage facility (over the 20 year period)?	The short term (annual) limits used to specify maximum off-site concentrations are derived from studies of long-term (typically a life-time) exposure. As has been described in the amendment application emissions from the tank farm are negligible and will thus have no appreciable longer term or cumulative effect. Emissions from the incinerator are seen in the same light with negligible amounts of uranium being released to atmosphere.
1.20	Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	Section 2.5 Waste products and quantities page 28 Please clarify this page – it is not clear which of the components of Table 7 and 8 relate to waste that is handled by the incinerator or which is waste related to other processes at Pelindaba.	Table 7 was part of the original EIA, on which an RoD was given (see column with heading EIR). Subsequent to the RoD certain waste figures have changed. The purpose of Table 7 is to highlight the deviations from the original EIA. Table 7 lists liquid and solid waste generated by the PFP only. None of the wastes listed in Table 7 go to the incinerator.
1.21	Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	What are the budget implications of the current plans? (In respect of chemical storage facility and incinerator)	The external chemical storage facility was driven purely by safety and risk minimisation considerations, the incinerator decision was based on it being the Best Practicable Environmental Option, there is a small increase in cost for both options. See also 1.22.
1.22	Dominique Gilbert (Pelindaba Working Group)	Pages 82 onwards gives no indications of what the chemical reactions referred to involve, what they mean and provide no explanations understandable to ordinary people, including the risk and known possible impact of the substances involved.	The chemical reaction equations are given in two parts separated by an ARROW . The Left Hand Side gives the names of the input chemicals while the RHS gives the resulting (output) chemicals after the incineration (oxidation) reaction. . The hazard properties of the materials in question have been summarized and are presented in Appendix D of the amendment application report. Note that the conversion of these chemicals to water, carbon dioxide and nitrogen, through incineration is precisely to destroy the hazard properties of the chemicals prior to incineration. Tetra-hydro furfural alcohol, Isopropyl alcohol, Ammonium

			<p>Nitrate and ammonia are all being oxidized in the incinerator with excess amount of air to ensure complete combustion. Uranium is reduced from ADU (Ammonia DiUranate) to U₃O₈ in the incinerator. Table 12 on page 85 of the amendment report illustrates the benefit of incineration as opposed to evaporation.</p> <p><u>Oxidation of THFA</u></p> $C_5H_{10}O + 7 O_2 \rightarrow 5CO_2 + 5H_2O$ <p>_____1</p> <p>Tetrahydrofurfuryl alcohol + Oxygen → Carbon Dioxide and Water</p> <p><u>Reaction 1</u> in section 6.1 is the combustion reaction of the tetrahydrofurfuryl alcohol (THFA). THFA is a volatile chemical with a lower and upper flame limit of 1.5 – 9.7 volume % in air. The feed has 10% liquid composition of THFA, translating to less than 0.04 % vapour phase composition. Thus THFA will not pose high flammability risk on the feed to the incinerator. THFA is classified as a combustible liquid under the OSHA flammability classification. Thus it will be possible to combust the THFA in the incinerator. The result of this reaction is carbon dioxide and water.</p> <p><u>Oxidation of IPA</u></p> $C_3H_8O + 5O_2 \rightarrow 3CO_2 + 4H_2O$ <p>_____2</p> <p>Isopropyl alcohol + Oxygen → Carbon dioxide and Water</p> <p><u>Reaction 2</u> in section 6.1 is the combustion reaction of isopropyl alcohol (IPA). IPA liquid composition on the feed to the incinerator is 3.6%. The expected composition in the gas phase is 0.25% which is well below the flammability range. The lower and upper flammability range for the IPA is 2.5 – 12 volume % in air, thus it is highly unlikely for the feed to the incinerator to be flammable. The result of this reaction is carbon dioxide and water.</p>
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			<p><u>Decomposition of Ammonium Nitrate</u></p> $2NH_4NO_3 \rightarrow 2N_2 + 4H_2O + O_2$ <p style="text-align: center;">_____3</p> <p>Ammonium Nitrate → Nitrogen + Water + Oxygen</p> <p><u>Reaction 3</u> in section 6.1 refers to the thermal decomposition reaction of Ammonium Nitrate (NH₄NO₃). Composition of NH₄NO₃ in the feed to the incinerator is ~17%. At this composition NH₄NO₃ is soluble in water and at ambient conditions has a solubility of ~200g NH₄NO₃/100g H₂O. At elevated temperatures NH₄NO₃ decomposes as indicated in reaction 3. The result after this reaction is water, nitrogen gas and oxygen which are all normal atmospheric gases.</p> <p><u>Oxidation of Ammonia</u></p> $NH_3 + O_2 \rightarrow N_2 + H_2O$ <p style="text-align: center;">_____4</p> <p>Ammonia + Oxygen → Nitrogen + Water</p> <p><u>Reaction 4</u> indicates the combustion reaction of Ammonia (NH₃). NH₃ is oxidized to Nitrogen and water which are normal atmospheric gases.</p>
1.23	Dominique Gilbert (Pelindaba Working Group)	In 2.1.2 Mention is made of provision for a new stack. We would like to know exactly how many stacks are intended (including the incinerator) and the total cumulative emissions of these in detail, including full disclosure of the discharge of HVAC gases.	<p>The incinerator will not have a separate stack. All the off gases from the incinerator will pass through a scrubber first then through a HEPA filter before being discharged into the main stack (this is the new tall stack that has been described in Section 2.1 and 6.3 of the Amendment Application).</p> <p>This new tall stack will be fitted with real time monitoring as this will be the only emission source that requires such monitoring in respect of possible atmospheric emissions from the PFP. There are two additional short stacks which are purely for ventilation from 'clean' (non-radiological) areas only, resulting in 3 stacks in total.</p>
HEPA Filters			
1.24	Dominique Gilbert (Pelindaba Working Group)	In 4.6 (Page 40) it is stated that all containment areas are fitted with HEPA filters. See section on HEPA filters.	HEPA filtration forms one element of the overall containment philosophy used on the PFP. The PFP design has made

	Group)	<p>Furthermore the statement that there is “no uncontrolled outward release of uranium” is misleading for while these releases may be “controlled” it is precisely these controls that can, and are known to fail. In fact further down the same page an acknowledgement of failures is made in the statement “if there is any accidental release”. This plant cannot be assumed to be fail-safe, and the risk therewith associated therefore is too great.</p>	<p>provision for three layers of containment. The first being the process equipment which includes the pipes, tanks etc. which is of a high mechanical integrity. The second is containment enclosures or glove boxes which are kept at a lower pressure than the room itself in which it is installed. The third is the building itself which is kept at a lower pressure than the outside of the building.</p> <p>This is a typical example of the multiple levels of protection/defence in depth principle that has been applied in the PFP design and is considered best practice in the nuclear industry. The failures of the layers of defences are based on probabilities and multiple failures will have to occur before a loss of containment is experienced. Failure of system safety functions has to be assessed in order to confirm sufficient layers of protection are in place to meet the design and regulatory target.</p> <p>The report correctly states “...an accidental release of uranium...”. This is not an acknowledgement but a demonstration that even the worst case scenarios have been assessed and demonstrated that the design is still safe.</p> <p>All containment enclosures are fitted with localised (primary) HEPA filters. As a conservative approach these various containment enclosures are connected to a centralised (secondary) HEPA filtration system as well in case of the unlikely event that a localised HEPA filter will fail.</p> <p>The differential pressures across all HEPA filters are constantly monitored for low and high differential pressures. This ensures that the filters do not get blocked to such an extent where it could rupture (high differential pressure) or that it is not sealed properly (low differential pressure). When HEPA filters are exchanged an integrity test is performed on each HEPA</p>
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			<p>filter to ensure it is performing its safety function of containment.</p> <p>Looking at all the measures in place as described above the risk has been reduced to well below the required limits.</p>
1.25	Dominique Gilbert (Pelindaba Working Group)	Will these stacks all be fitted with HEPA filters?	HEPA filters are not installed in the stacks; they are installed at the potential sources of uranium (primary filters). In addition off gases like those from the incinerator, for example, pass through a set of HEPA filters (secondary filters) before being discharged into the stack.
Incinerator - Process			
1.26	Professional Group of Companies	<p>The other problem is that NECSA is seeking to include a “small scale incinerator” in this so called ROD “amendment”.</p> <p>This is an entirely new project and we object to this underhand means by NECSA seeking to hoodwink you and the public into believing that this was part & parcel of the earlier ROD which it was not. NECSA has already received a separate ROD for two incinerators at Pelindaba provided they comply with the technical requirements in the ROD which includes zero emissions.</p>	<p>Firstly a correction. The two incinerators for which a separate ROD was issued were for vacuum furnace smelters and not incinerators. No claim has been made or will be made that the incinerator was part of the existing RoD. It is precisely because it wasn't part of the RoD that it is dealt with outside of the amendment process, as is detailed in the information package.</p>
1.27	Professional Group of Companies	We trust that this request for an incinerator exemption is not retrospective of activities currently taking place.	The incinerator exemption is certainly not retrospective and will only be established (if authorized) as a dedicated and new function for the PBMR Fuel Plant which has yet to be built.
1.28	Rachel Adatia, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	<p>The small scale of the incinerator as a reason for it to be exempted from a full scoping and EIA process – This is questionable for the following reasons:</p> <p>a) In relation to nuclear activities, ‘small scale’ initiatives can have significant, cumulative consequences over a long time period.</p> <p>b) If permission for this one small incinerator is granted, what process will be followed should it be deemed necessary to increase the size, or number of incinerators in the future?</p>	We agree fully that scale alone is not enough to warrant an exemption. However, in the motivation for exemption we provide a range of reasons why exemption is reasonable including the fact that there will be no significant hazardous atmospheric emissions and that incineration in fact provides a preferable (in terms of reduced impact on the environment) form of uranium recovery and organic stream waste disposal than the currently authorized evaporation step.
1.29	Rachel Adatia, Judith	What will be the process followed for obtaining permission	With regards to Pelindaba PFP, this is the only incinerator.

	Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	to build more incinerators (i.e. increase the amount of spent fuel reclaimed at the site) in future?	Were other incinerators to be required they would have to be separately authorised. Please do not make the mistake of describing the incinerator as recovering spent fuel as it is nothing of the sort. The incinerator serves to recover uranium within the PFP process – this is certainly not the recovery of ‘spent fuel’.
1.30	Dominique Gilbert (Pelindaba Working Group)	The NEMA EIA regulations that deal with incineration as a Scheduled of Activities in both GNR 386 and GNR 387 and GNR 387 dictate that a full scoping and EIA process must be completed prior to authorisation being granted for an incinerator, according to the documentation. However, the claim is made by the applicants that the intended incinerator will be of a “small scale” and that it merely replaces an already authorised “evaporation process”. It is noteworthy that the applicants now state problems with the original EIA (which was authorised despite widespread opposition at the time) now using words like “difficulty with the use of the evaporation process”, “obviously not an ideal circumstance (for gas emissions released to the atmosphere)”, “not provide for effective disposal” etc.	Incineration of the organic waste stream for the purpose of recovering the uranium is presented as better way of dealing with the waste stream than evaporation. That should not be taken to mean that evaporation is not an acceptable way of treating the waste stream.
1.31	Dominique Gilbert (Pelindaba Working Group)	While the applicants rose-tint the impacts from this incinerator with an unproven claim that “CO2 emissions in any given year will be no more than those produced by an average motor vehicle” we have little reason to believe that the “some 9.5 tones of waste to be processed per annum” is either insignificant or little cause for concern. This is spent fuel – the most deadly matter known to man of not only with depleted uranium but also other extremely hazardous by-products. It is therefore respectfully submitted that UNDER NO CIRCUMSTANCES SHOULD AN EXEMPTION FOR THIS INCINERATOR BE GRANTED	The claims for CO ₂ emission from a motor vehicle can be independently confirmed by using one of several “carbon footprint” calculators found on the web e.g. www.carbonneutral.com and use their calculator for car type and distance travelled. It should be noted that the reference to “spent fuel” is incorrect and provocatively misleading. At no time in the descriptions of the facility has the processing of “spent fuel” ever been mentioned or implied. The PFP is approved for the processing of naturally enriched material only. The incinerator will only be used to recover small quantities of uranium from effluent treatment as described in the technical section 1.28.

		<p>...</p> <p>Although the applicants state that the atmospheric emissions are limited to carbon dioxide, water, nitrogen and oxygen they nevertheless go on to state it is "highly unlikely" that dioxins and furans would form in the combustion process and that other hazardous materials including uranium will be contained in the effluent, including a host of other deadly materials to be treated in this process.</p>	
1.32	<p>Robert & Christine Garbett, and on behalf of I&AP's listed (Elizabeth Makibi, Mande Kamangeni, Maureen Khumalo, Anna Modiselle, Robert C H Garbett, Christine T Garbett, Trevor A H H Garbett, Jacqueline Garbett, Mary C Huntington, Ronel Smit, Gerhard van Zyl, The Karee Trust, Wat Props Pty Ltd, Itumaleng Farm cc, Professional Aviation Services Pty Ltd, Professional Risk & Asset Management Pty Ltd, Pelindaba Working Group , CANE (the national Coalition Against</p>	<p>6. THE INCINERATOR HEALTH HAZARDS</p> <p>The introduction of the incinerator and the highly toxic nature of the incinerator emissions that include billions of microscopic radioactive uranium particles that may easily be ingested by humans & animals directly or via the food chain. Distribution of these particles are windborne and hence may travel long distances, however even one injected radioactive particle may be a cause of cancers. Hepa filters release minute emissions that may be easily inhaled. These filters need to be 100% effective (meaning also 100% reliable) before they can be used safely, as was required by DEAT in another ROD issued in 2007 which used similar technology. We consider that this condition is essential for the health & safety of the populations of greater Johannesburg & Pretoria and beyond.</p>	<p>As can be seen from the information provided regarding the inclusion of an incinerator, the incinerator is a more efficient and effective method of dealing with the waste stream. We disagree with your statement regarding highly toxic nature of the incinerator emissions and have provided detailed information on the emissions that will result from the incineration process.</p>

	Nuclear Energy), WAR (Women Against Radiation), Sylvia Molefe		
1.33	Robert & Christine Garbett, and on behalf of I&AP's listed (Elizabeth Makibi, Mande Kamangeni, Maureen Khumalo, Anna Modiselle, Robert C H Garbett, Christine T Garbett, Trevor A H H Garbett, Jacqueline Garbett, Mary C Huntington, Ronel Smit, Gerhard van Zyl, The Karee Trust, Wat Props Pty Ltd, Itumaleng Farm cc, Professional Aviation Services Pty Ltd, Professional Risk & Asset Management Pty Ltd, Pelindaba Working Group , CANE (the national Coalition Against Nuclear Energy), WAR (Women Against Radiation), Sylvia Molefe	We request that the Minister directs the applicant to conduct a full study of the impacts of the proposed incinerator with an independent peer review study. Further the incinerator should not be exempt from an EIA merely on size when it is common cause that it is highly dangerous and is located a few metres away from an active aging nuclear reactor. One kilogramme of Uranium caused the most devastating nuclear accident in history at Chernobyl – depending on the wind direction on the day – many thousands, perhaps many millions of SA citizens are similarly at risk.	<p>The presentation of the risks is sensationalized in the extreme and completely unsubstantiated in this comment. Equating the operation of a small-scale incineration operation which serves to recover trace quantities of uranium from, and safely dispose of the organic stream (at no more than 4kgs an hour where the uranium is a minute fraction of that), to operations of a large scale nuclear power station like Chernobyl is entirely inappropriate and misleading. To then further the argument by declaring that 'many thousands, perhaps many millions of SA citizens are similarly at risk' because of the operation of the incinerator is completely nonsensical.</p> <p>It has to be recognized that there will always be some release of uranium but in such small quantities as to render the impacts to be negligible. As has been argued elsewhere in this document the size of the incinerator is not the only motivating factor for the exemption application, however, it is important to note the relatively small size of the incinerator compared to the type of incinerators to which we believe the listed activity applies.</p>
1.34	Ms Judith Taylor (SA Water Caucus and	(FULL COMMENT UNDER Section 3 Broader Scale Comments – Incinerator)	The report on the chemicals and their hazardous properties is acknowledged. The incinerator is being proposed precisely to

	Earthlife Africa) and Information from “a friend”.	<p>Report on the Chemicals in the Incinerator and their effects on humans and the Environment</p> <p>In the light of the above, I demand that a full EIA of the impact of the incinerator proposed at Pelindaba be done, so that the public are fully informed of the hazards.</p>	destroy those chemicals and to ensure that they are rendered safe. The submission of the report implies that these chemicals will somehow be released into the environment which they will not –precisely because of the function of the incinerator. It is thus difficult to see why the hazardous nature of chemical that will be destroyed by the incinerator is can be used to motivate for the full EIA to be completed.
1.35	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	A new and complete EIA process must be undertaken to consider the new design of the PFP, recent scientific findings on the PBMR fuel hazards, the newly incorporated incinerator and their combined impacts at the Pelindaba facility.	As has been presented on several occasions we presented the proposed amendments to the Minister of Environmental Affairs and Tourism and are running a process prescribed by the Minister, in response to our presentation of the proposed amendments. Nothing has yet emerged from the process that suggests a ‘new and complete’ EIA.
1.36	Robert & Christine Garbett, and on behalf of I&AP’s listed (Elizabeth Makibi, Mande Kamangeni, Maureen Khumalo, Anna Modiselle, Robert C H Garbett, Christine T Garbett, Trevor A H H Garbett, Jacqueline Garbett, Mary C Huntington, Ronel Smit, Gerhard van Zyl, The Karee Trust, Wat Props Pty Ltd, Itumaleng Farm cc, Professional Aviation Services Pty Ltd, Professional Risk & Asset Management	<p>On behalf of I &AP’s listed below and others who were excluded from this process but are nonetheless potentially or actually exposed to the risks and dangers posed by the proposed ROD amendment to the nuclear fuel plant, we respectfully request that the Honourable Minister dismisses this proposed ROD amendment and incinerator exemption and directs the applicant to commence a new EIA.</p> <p>In making this submission we rely partially on the following legislation, however this should not be viewed in nay way as limiting our case to the legislation quoted.</p> <p>Withdrawal of environmental authorisations Circumstances in which withdrawals are permissible</p> <p>47. The relevant competent authority may in accordance with this Part withdraw an environmental authorisation if –</p> <p>(a) a condition of the authorisation has been contravened or is not being complied with;</p> <p>(b) the authorisation was obtained through –</p> <p>(i) fraudulent means; or</p> <p>(ii) the misrepresentation or non-disclosure of material information; or</p>	We see no reason for the withdrawal of the RoD under any of the clauses mentioned below or for any other reason

	<p>Pty Ltd, Pelindaba Working Group , CANE (the national Coalition Against Nuclear Energy), WAR (Women Against Radiation), Sylvia Molefe</p>	<p>(c) the activity is permanently or indefinitely discontinued.</p> <p>If the environment is likely to be adversely affected in a way that would significantly impact on the environment, the competent authority must –</p> <p>(a) return the application to the applicant; and (b) request the applicant to submit an application in terms of Chapter 3 of these Regulations as if it is a new application for environmental authorisation.</p> <p>Our further motivation for this request follows:</p>	
1.37		<p>7.3 The following statement made in the ROD Amendment “Deemed to be an environmentally preferable means of treating the waste stream” is not a scientifically acceptable statement, particularly as impacts are acknowledged to be highly hazardous. Size is an unacceptable linchpin upon which to hang this exemption.</p> <p>Full and complete independent studies are required in order to determine the impacts and the level of protection the public should receive.</p>	<p>The argument being made in (also point above) respect of the size of the incinerator is as follows. Most of the listed activities in the EIA regulations are defined in terms of the scale of operation. However, in the case of incineration there is no such prescription and all incinerators regardless of their size require a full EIA. This is in contrast to the prescription of the requirements for an emissions certificate in terms of the Air Quality Act (NEMAQA) where currently proposed regulations exclude incinerators that process less than 10kgs an hour. No mention is made in this assessment that impacts ‘are highly hazardous’ as stated in the comment. Size as the only criterion may well be an unacceptable argument but the application for exemption considers many more issues which are not acknowledged in this comment.</p>
1.38		<p>25. CUMULATIVE IMPACTS NOT CONSIDERED IN SPITE OF INCREASE RISKS</p> <p>It is essential that considerable risks arising from this amendment to the PFP Fuel ROD are not viewed in isolation. The risks lie in the combination of an aging nuclear reactor – externally stored, deadly, potentially explosive chemicals and an incinerator – stored radioactive waste – several other hazardous nuclear & chemical activities - ALL OR SOME OF WHICH COMBINED MAY WIPE OUT SIZABLE HUMAN</p>	<p>Cumulative impacts have been considered in respect of the amendment application. However, the potential failure of the existing reactor was not assessed. That notwithstanding the likelihood of an event that would ‘wipe out sizeable human populations and the environment’ is negligible. The amendments being applied for here reduce the risks and not increase the risks as stated here.</p>

		POPULATIONS AND THE ENVIRONMENT IN WHATEVER DIRECTION THE WIND MAY BLOW AT THE TIME OF AN ACCIDENT.	
1.39	Dominique Gilbert (Pelindaba Working Group)	We assume that the application for amendment of the existing RoD and the application for exemption of the incinerator & fuel storage farm and dealt with simultaneously or are there going to be additional separate applications? Does the April 1 deadline apply to all three?	Yes, the deadline applies to all three.
1.40	Dominique Gilbert (Pelindaba Working Group)	3.6 I&AP's concerns about the incinerator expressed in the original EIA were not considered as it was abandoned before the ROD was issued. These concerns must be re visited in a new EIA now this has once again become a part of the proposed PFP.	The application that will be submitted is for an exemption from a full EIA. It seems highly unlikely that there are material issues that were raised in the EIA process, that have not been raised again now in response to the proposal to apply for exemption from full EIA process. All of the concerns that have been submitted in respect of the proposed exemption application have been responded to and all of the above is being submitted to the authorities as the basis for their decision-making on whether to allow the exemption or not. On this basis it is argued that a full or new EIA would uncover no further information (over and above what has been presented here) that would materially impact on decision-making.
1.41	Dominique Gilbert (Pelindaba Working Group)	In terms of Chapter 4 of the NEMA EIA Regulations which outline the provisions for amending an existing authorisation, it is hereby respectfully requested that the authorities exercise their authority in terms of Regulation 42 (4) to (a) return the application to the applicant; and (b) request the applicant to submit an application in terms of Chapter 3 of these Regulations as if it is a new application for environmental authorisation on the basis that: <ul style="list-style-type: none"> • the environment is likely to be adversely affected in a way that would significantly impact on the environment ; • because the PPP on this Amendment process is severely flawed in that the adjacent civilian areas to which PFP is to be situated is now far more populated than was originally 	The current amendment application must be seen in the context of the proposed amendments. The stakeholder provides no material supporting evidence of why the amendments are deemed to hold the risk of 'significant impact on the environment' but simply offers that as an opinion. The issue of the PPP has been dealt with many times in this issues-response report and again we disagree strongly with the assertion that the PPP has been wanting in this process.

		<p>anticipated. This Amendment process and current exemption requests – that is, tank farm and incinerator - will itself testify to the extreme lack of involvement of local communities who remain most affected and completely unaware of these proposed developments – largely because they remain uninformed;</p> <ul style="list-style-type: none"> • from the admissions of the consultants and experts working on the project during an “open day” on this process at Pelindaba on 4 March 2009 the consultants conceded that “further changes to the PFP cannot be ruled out” and the overall fate of the PBMR project remains uncertain. It is therefore submitted that this process be suspended until such time as a final design and costing and the full environmental impacts can be determined in terms of an application in terms of Chapter 3 of the afore-mentioned Regulations as if for a new environmental authorisation before any consideration of further approvals or issuances of licenses are granted; 	
1.42	Dominique Gilbert (Pelindaba Working Group)	<ul style="list-style-type: none"> • and more particularly on the basis of new evidence on HEPA filters herewith presented. 	The issue of the HEPA filters applies only to the exemption application for the incinerator and not to the other amendments so it is difficult to see how the argument about the HEPA filters can be used to justify that the amendments be subject to a full EIA.
1.43	Ms Judith Taylor (SA Water Caucus and Earthlife Africa)	<p>History of the site</p> <p>The Pelindaba site is very old and has never been the subject of a full EIA. I would, therefore, ask the minister to apply his mind to this fact. It is an apartheid legacy with a dubious reputation, set close to a world heritage site and in precious indigenous land of excellent value to our tourism industry. It is known that a number of claims by ex-employees are outstanding against NECSA and that same employer has been unable or unwilling to deliver the employee records to court. A number of pollution problems have been believed to come from this site, which have affected the Crocodile River over</p>	<p>Necsa's environmental impacts are subject to water, air and nuclear licences.</p> <p>It is impractical to subject any industry retrospectively to new legislation. That would shut SA down while performing EIAs, and absorb huge financial resources and completely clog up the system, obstruct /prevent any new installations from being assessed for many years. The EIA is only a portion of applicable legislation. The Nuclear Industry has from the beginning compelled licensees to comply with very strict legislation which incidentally includes the impact on the</p>

		<p>the years and the communities using this water source. Because it is an old site, no EIA has been conducted in full. This means that we are continuing the evil apartheid legacy by not conducting a full EIA on the site in total and ignoring the impact on the communities around it to ensure their safety. I would advise the minister that this is a dereliction of his duties as an elected member of Parliament and a violation of the constitution.</p> <p>South Africa is a water fragile country and I now urge the minister to call for a full EIA on this site and to seriously consider that this is an inappropriate place for the incinerator/s to be placed.</p> <p>As a result of the Atteridgeville meeting, I discovered that workers had been forced to work in “No-Go” areas post 1994 without protection. I do not therefore believe that NECSA is trustworthy as an employer and this makes Gauteng and all the people working there vulnerable to radiation pollution. I do not believe that this is acceptable.</p>	<p>environment</p> <p>All claims received from workers were investigated and submitted to the Compensation Commissioner (CC). Necsa only provides information and does not have the mandate to accept or reject claims, the CC does that. The additional information requested was outside that relevant to the claims. All claims made by the public were rejected by the CC as being unfounded and not occupationally related. Necsa provided the information to the CC as ordered by the court. The public is referred to Necsa’s website for more detailed information about the claims.</p> <p>The claims were driven by ELA which even resulted in the President ‘s reprimand that ELA was spreading panic amongst the public based on unfounded claims.</p>
1.44	Dominique Gilbert	We are assuming that the competent authority for this application is the Minister. Is it likely that he will appoint a competent authority in DEAT and if so who?	That is correct. The Minister will be the competent authority. It is our understanding that he cannot appoint a competent authority in this instance as he issued the authorization that we are seeking to amend. However, the decision on whether or not to grant exemption for the incinerator will be made by DEAT because this is essentially a new application.
Consultation			
2.1	Ms Judith Taylor (SA Water Caucus and Earthlife Africa)	Inadequate informing of the communities around Pelindaba of the proposed developments. Since the notices were in English, Sesotho and Afrikaans, they failed to be comprehensible by the majority of the affected communities, whose home language is sePedi.	In the first instance we understand that Sesotho is widely spoken in the area and understood by sePedi speakers. We also made notices available in sePedi after that was requested of us but had no interest in the process registered. Finally the community that we engaged with directly (that at Roos se Oord) conveyed that they preferred the communication in English. It is also important to remember that the so-called ‘affected communities’ are limited to only the 5km nuclear radius in terms of the amendment application and we are thus confident that everyone in this area were adequately

			informed of the process and the opportunity to comment.
2.2	Ms Judith Taylor (SA Water Caucus and Earthlife Africa)	Advertising in newspapers was very selective and was not done in local community newspapers nor The Sowetan and the Sun. Other notices were put into the Atteridgeville Library which is used mostly by primary school children and no notices were put into the High School libraries, where they would have been read by the learners and taken back to their parents.	Please refer to Section 4 of the exemption application document, where the public participation process that was conducted is described. The process was advertised in the Pretoria News, The Brits Pos, and the Kormorant local newspaper.
2.3	Ms Judith Taylor (SA Water Caucus and Earthlife Africa)	No real community outreach has been made to inform the communities.	<p>Numerous notices were placed in and around the area (details in Section 4 of the exemption application report), including the Brits Library, the Hartbeespoort Library, and the Atteridgeville Library. Further to this, a community forum meeting was held with community leaders from the settlement at Roos se Oord. The community was also supplied with copies of the documents.</p> <p>Again the expectation that appears to be conveyed here is that our consultation process should have been driven by nuclear issues in general or at least activities at the Necsa facility, neither of which are directly applicable to the amendment application. The consultation process has been driven to match the requirements of a basic assessment and we are confident that those requirements have been met comfortably.</p>
2.4	Ms Judith Taylor (SA Water Caucus and Earthlife Africa)	No workshops have been conducted. This was confirmed on 21 March 2009 when a meeting was held in Atteridgeville with ex workers from Pelindaba	Please see comment above. It is confirmed that no workshops were held in Atteridgeville but this should not be seen to detract from the effectiveness of the consultation process.
2.5	Dominique Gilbert (Pelindaba Working Group)	A number of I&APs have only now come to hear about this application via our networks and still want to register. Has this application been advertised in the media and if so which and when because many people are totally unaware it is happening. Even I&APs registered on the previous Fuel Plant EIA have indicated that this new process is news to them. One would imagine that ALL previous I&APs should have	We advertised in the Pretoria News, the Brits Pos and the Komorant. In addition we used the current database of the PBMR DPP EIA and sent invitations to everyone listed there. We used the DPP EIA database to try and target as many people as possible who had been involved in the previous EIA process. We then supplemented that database with one used previously by Necsa for a basic assessment report process that

		been informed by Necsa/PBMR/yourselves.	they had used. So yes you are correct in saying that we endeavoured to inform all previous I&APs. Finally we placed a number of notices in and around the area.
2.6	Dominique Gilbert (Pelindaba Working Group)	In all fairness, your consultancy is asked to extend the period for registration and also therefore the comment period by at least another month, preferably two in order for surrounding populations and residents to be given the chance to exercise their right to participate.	The comment period was extended to 1 April 2009.
2.7	Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)	<p>An inadequate public participation process</p> <p>The process used to inform the public about the application for amendment and encourage their comment and participation was inadequate. This conclusion is based on the following observations:</p> <p>a)Extent of publicity</p> <ul style="list-style-type: none"> •Only a very small number of people attended the open day (4 March 2009) •Reliance on printed information only – no use of local radio •Notices being placed in a limited range of newspapers <p>At a recent Earthlife Africa Johannesburg meeting in Attridgeville (21 March 2009), attended by about 95 people, many of whom are former NECSA employees concerned about developments at Pelindaba (see also comment page 4), none of the local participants:</p> <ul style="list-style-type: none"> •were aware of the application for amendment •had seen any of the notices, nor the document in the public library. <p>Participants at the meeting suggested that the best way to inform people of such processes was to do house to house leafleting.</p>	Please see the responses above, as well as Section 4 in the exemption application report, which describes the public participation process in full. It is felt that the steps that were followed in the public participation process were more than adequate, and fulfilled all legal requirements.
2.8	Rachel Adata, Judith Taylor, Mabule Mokhine	<p>b) Style of information</p> <p>The report is a not written in a form that can easily be understood by a person who does not have a science</p>	It is always difficult to find a suitable balance between a style of writing that is credible as a science-principled assessment of the issues versus a style of writing that is easily accessible to

	<p>(Executive Committee - Earthlife Africa Johannesburg)</p>	<p>background, it seems to be aimed at readers with a tertiary-level education who are familiar with reading such reports in English. In the absence of any workshops or focus group discussions, the majority of people in nearby communities who would be most affected by the development and at risk from accidents, were therefore excluded from giving comments on the report.</p>	<p>wide range of potential readers. The report is definitely a simplified and more reader friendly presentation of the amendment requirements than it could be as a strictly scientific document. In addition the open house was set up to provide an opportunity to stakeholders to have the concept explained to people at any level they chose.</p> <p>In addition a community forum meeting was held with community leaders from the settlement at Roos se Oord. The community was also supplied with copies of the documents. An informal presentation was given on the principles of operation of the PFP in layman's terms including need for the project. The dangers of uncontrolled releases of radiation were also described.</p>
2.9	<p>Rachel Adata, Judith Taylor, Mabule Mokhine (Executive Committee - Earthlife Africa Johannesburg)</p>	<p>c) Short time-frame for comments Insufficient time was allowed for publicising the application for amendment and document for review, and for interested and affected parties to understand the content and comment.</p> <p>In order to make an informed comment, members of the public need to be aware of the potential dangers of radioactivity, the effects of the hazardous chemicals and alternative strategies. Any public participation process needs to actively encourage people to participate and make informed decisions. In complex and controversial issues, such as nuclear power, opportunities for people to hear both sides of the debate need to be provided.</p> <p>Contrary to the view given in the report, we submit that the proposed changes to the PFP do warrant a proper, comprehensive public participation process for the following reasons:</p> <ul style="list-style-type: none"> • to address the questions and concerns raised by interested and affected parties, including those submitted by Earthlife 	<p>Again it must be emphasised that the process was run in accordance with the process that was defined by the Minister. The process run here has been for an amendment to an existing authorisation and not a new application as implied in the comment. Extensive opportunity for participation has been provided and, as is argued elsewhere in this issues response report the fact that people choose not to participate should not be construed to mean that no opportunity was provided as implied in this comment.</p> <p>At no point in the amendment application is the view expressed that there is no need for proper, comprehensive public participation and the stakeholder is being disingenuous in suggesting the same. The issue is whether or not there is a requirement for a full EIA equivalent or the Basic Assessment (BA) prescribed by the Minister. The decision on which level of assessment to conduct is based on the likely impacts associate with the amendments and these have all been deemed to be of low or negligible significance. It is interesting to note that the vast majority of the issues raised by stakeholders have to do with broader issues including PBMR, Necsa and nuclear</p>

		<p>Africa Johannesburg, both in this document and the prior list of questions sent to the management consultants (see page 5);</p> <ul style="list-style-type: none"> • there is ‘strong negative sentiment amongst interested and affected parties that results in opposition to the operations on an incinerator’ (as stated in the report (section 6.3)). (It should also be stated that such ‘sentiment’ is justified given the real dangers associated with incineration and the pollution that occurs as a result.); • the nuclear power industry is controversial, and the effects of accidents potentially catastrophic, therefore a broad cross-section of the public need to be consulted; • based on the history of extremely bad management of the Pelindaba site since its inception in the apartheid era, the public have come to distrust the facility's ability to manage the inherent dangers of nuclear energy effectively. Only a full EIA would make a step towards altering this perception; • there are new residents in the area now, and a developing local industry based on tourism – the impact of the PFP on that industry could be significant, especially given the increased interest of overseas visitors in environmental issues. 	<p>energy issues in general rather than the amendments themselves. Stakeholders are reminded that it is only the proposed amendments and the application for exemption for the incinerator that are the subject of what has been presented here.</p>
2.10	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	<p>Thanks for arranging the public meeting at NECSA - it was good to meet you & your colleagues. However, for the record it does appear that your advertising of the “public meeting” apparently only reached those people who are actively following the PBMR PFP and did not attract any attention from the general public who are seriously affected by the various proposed activities.</p>	<p>Thank you for the comment. It is felt by us however, that the Open House was more than adequately advertised (including newspapers, on-site notices, community notice boards, libraries, phone calls to neighbours, personally addressed letters, and sms’s).</p> <p>Our approach has been one of advertising the process widely (as previously described), inviting registration and targeting registered stakeholders (i.e. those who express a direct</p>

			interest and desire to be involved in the process) for further participation. The Open House was widely advertised and in line (and indeed over and above) the normal practices for a Basic Assessment report as was the instruction from the minister.
2.11	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	When can you set up public / focus group meetings for Attridgeville, Diepsloot, Schoemansville, Hartebeesfontein & Cosmos, Lanseria Township communities. It would have to be on the weekends to ensure maximum participation and we request a minimum of two weeks notice to potential I&AP's bearing in mind that we will be distributing the translated copies of the notice of the proposed ROD amendment and incinerator exemption provided by you, together with details of where and when I&AP's will be given more information.	We do not intend arranging public meetings but will arrange focus group meetings where there is sufficient interest expressed from people who have received notification of the amendment process. To date I have not received any further registrations from potential interested and affected parties so cannot see the need for arranging any focus group meetings at this stage. If you have received any registrations in the mean time then I would be pleased to receive the same from you. If you want a meeting with your group then please advise so that can be arranged.
2.12	Professional Group of Companies	Thank you also for your offer of translated copies – we appreciate your sincere effort to make this process more inclusive than it was previously but do feel that there are very large populations surrounding Pelindaba who would be more comfortable in Xhosa or Zulu and hope you may consider translations into these languages too.	Having considered your request I have decided to remain only with the languages previously offered in the invitation to register. This has been based on previous environmental assessment experience for Necsa where English, Afrikaans and Tswana were found to be the languages predominantly spoken and requested, and as such most appropriate to this area.
2.13	Professional Group of Companies	In anticipation of a positive response from you, we would like 10 000 copies of your letter as follows to PO Box 515 Lanseria 1748 at your earliest convenience: 2000 in Setswana, 2000 in Xhosa, 2000 in Zulu, 2000 in English, 2000 in Afrikaans	In view of the aforementioned I cannot agree to your request for the additional translations and copies. I did, however, attached the registration forms in English, Afrikaans and Setswana to an earlier email and encouraged you to distribute them at will. We will gladly allow people to register after the registration cut-off date, but we will unfortunately not be able to extend the comment period
2.14	Professional Group of Companies	In the light of the time it will take us to distribute your letter to I&AP's (& who may be more affected than interested & aware at this time) we would suggest that the comment period be extended for a further couple of months to allow for inclusive public participation; those who are not blessed (or maybe cursed) with electronic gadgets and personal	We would be happy to participate in focus group discussions with your group to try and assist in the review process and to counter the possible lack of access to email/internet etc. If required we will provide a translator who can assist with effective communication during discussions. If you would like such a dedicated meeting (and I assume that this would apply

		transport, will appreciate a little longer.	to everyone listed in your email) please indicate the same and we can coordinate around a date and venue - again this must please occur within the specified comment period. If you have concerns about a particular identifiable group or community who may require specific focused communication, please advise us accordingly.
2.15	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	How have you communicated with the populations from disadvantaged communities and the illiterate members of society who are potentially affected and were previously engaged, and or, should have been engaged, in the PFP EIA that NECSA seek to amend?	Arrangements have been made to meet with the Roos se Oord community. This community is the only one that falls within a 5 km radius of the Pelindaba Facility.
2.16	Christine Garbett (Professional Group of Companies 22Feb2009)	If we are to have the appearance of a fair process at the very least people must be advised in a manner they will best understand & given a fair time to respond – that is I know another issue that needs your consideration.	I have reconsidered your request and undertake to make available 500 copies of the letters in each of the languages you requested which I will have for you at the open-day. I am not convinced that distributing the letters in all the places you mentioned is called for given the distances to the Pelindaba facility which is why I have not made the 2000 available that you requested. I hope the extended comment period will allow you to make this an effective process and look forward to the increased number of registrations as a result of your endeavors. This is my view of what is reasonable.
2.17	Dominique Gilbert (Pelindaba Working Group)	I am not sure that the 3 advertisements you attached constitute meaningful effort to inform the general public, let alone affected residents about this application, and moreover it is not clear why so many PFP I&APs got no notice whatsoever – this despite this application submitted to the Minister on 14 October last year already. It is precisely for this reason we have requested a meaningful extension registration and comment period, to enable your company to get your ducks in a row in terms of public participation process and not turn it into another last minute sham which is so common where the nuclear industry is concerned.	Your statement does not reflect accurately on the information I sent to you which was that in addition to the newspaper ads we used the current database of the PBMR DPP EIA and sent invitations to everyone listed there. We used the DPP EIA database to try and target as many people as possible who had been involved in the previous EIA process. We then supplemented that database with one used previously by Necsa for a basic assessment report process that they had used. More than 2 500 invitations were posted. Finally we placed a number of notices in and around the area'. On that basis I am satisfied that we have more than adequately met our obligations in respect of providing notification of the amendment process. What would be very helpful is for you to list the 'so many PFP I&Aps' who have not received

			notification so that we can target them specifically and ensure that they are properly notified.
2.18	Dominique Gilbert (Pelindaba Working Group)	For this reason (above) I urge you once again to hold off your current deadlines and get your client to fund a thorough attempt to inform people about this application	As conveyed above I am satisfied that we have more than adequately met our obligations in respect of providing notification of the amendment process and have already extended the comment period by 2 weeks to 1 April 2009. I also remind you of a previous offer that I made in an email to you dated 15 February 2009 namely 'Please also advise if you would like to have any discussions on the report during the comment period (over and above the open house) for the Pelindaba Working Group – we would be happy to arrange the same'.
2.19	Dominique Gilbert (Pelindaba Working Group)	I did not directly receive notice about the open day at Necsca on the 4th – instead this information was forwarded to me by another I&AP. Could you please let me know what has been planned for this open day – a meeting, informal discussions as and when people turn up between 10h00 and 15h00, posters? Who can we expect to be present there?	Please find below the extracts from the invitation letter, the newspaper adverts and the amendment application document (in the Final Document) We will be displaying posters that present what is contained in the amendment application docs and will have a number of people from both the EIA and PBMR teams available to answer questions. There will not a meeting as such but people can come and go as it suits them.
2.20	Dominique Gilbert (Pelindaba Working Group)	A number of I&APs have only now come to hear about this application via our networks and still want to register. Has this application been advertised in the media and if so which and when because many people are totally unaware it is happening. Even I&APs registered on the previous Fuel Plant EIA have indicated that this new process is news to them. One would imagine that ALL previous I&APs should have been informed by Necsca/PBMR/yourselves.	We advertised in the Pretoria News, the Brits Pos and the Komorant – (See Section 4 in the exemption application report). In addition we used the current database of the PBMR DPP EIA and sent invitations to everyone listed there. We used the DPP EIA database to try and target as many people as possible who had been involved in the previous EIA process. We then supplemented that database with one used previously by Necsca for a basic assessment report process that they had used. So yes you are correct in saying that we endeavoured to inform all previous I&APs. Finally we placed a number of notices in and around the area.
2.21	Dominique Gilbert (Pelindaba Working Group)	In all fairness, your consultancy is asked to extend the period for registration and also therefore the comment period by at least another month, preferably two in order for surrounding populations and residents to be given the chance to exercise	I trust that you have received the notification of the extension of the comment period to 1 April 2009?

		their right to participate.	
2.22	Mariette Liefferink.	<p>Permit me please to, in my capacity as nationally and internationally accredited activist and whistleblower and CEO of the Federation for A Sustainable Environment, affiliated to international and national NGOs, present to you the legacies, in a power point presentation, of 120 years of uranium and gold mining activities within the Witwatersrand Mining Basin, particularly the West Rand and Far West Rand and the impacts of non-internalized externalities and of poor institutional control. This presentation has relevancy to the proposed PBMR Fuel Plant.</p> <p>I append hereto my CV and respectfully request an audience with the relevant stakeholders on the 4th of March, 2009.</p>	<p>I am happy to accommodate your request but given the format of the event there will be no direct opportunity for a formal presentation. If you would like to prepare a poster I would be happy to make some space for you to exhibit your material during the open house and to present the same during the course of the open house.</p>
2.23	Dominique Gilbert (Pelindaba Working Group)	<p>The consultants claim over 3000 registered I&APs were contacted yet less than 100 have registered in this process – and we wonder how many of them work in or with the nuclear industry itself. We who live in the area know that not even the closest neighbours to Pelindaba are aware of this process, let alone residents at large in Hartbeespoortdam or Atteridgeville for example where copies of the documents were placed in libraries. This is not good enough. Furthermore, the ONLY black community which the consultants said they would personally inform live in a small low-cost housing development next to NECSA’s former calibration site – the scene of much consternation in recent years after it was disclosed the site was radioactive and unprotected. This does not represent a democratic approach and or a fair attempt to a public participation process and is a deceptive attempt by the applicants and their consultants to claim they have met with legislative requirement.</p> <p>Moreover, at the “Open Day” only a handful of I&APs attended – all of whom were specifically requested by the</p>	<p>Please see the description of the public consultation process. It is always difficult to comment on why so few people register to participate in the process but it must be recognized that approximately 3 000 people were invited to participate if they wanted to. As EAPs we cannot allow the applicant to claim that no one is concerned about the application because so few people registered to participate, so neither can we allow stakeholders to argue that we didn’t go far enough in ‘marshaling’ consultation because few people registered. As a matter of interest nearly 100 people registered to participate in the process yet comments were received from less than 10 people. Is that to imply that we somehow didn’t do enough to encourage people to submit written comments? No, people for whatever reason choose to comment or not and choose to participate or not. The act of inviting all registered stakeholders on the current PBMR EIA database to participate was over and above what would typically be required of a BA.</p> <p>I cannot force people to come to such meetings and strongly disagree with your assertion that the poor attendance was</p>

		Pelindaba Working Group to attend.	<p>because people did not have ‘the opportunity to understand the dangers’. Contrary to your assertion the meeting was widely publicised, but people have a choice as to whether to attend or not. In my experience it is mostly people that object to development proposals that attend meetings and open houses. People that are in favour or are indifferent typically do not attend.</p> <p>In terms of the extent of our consultation we have specifically targeted people within a 5 km radius of the site – this is what Necsa use as the ‘safety radius’ for activities at the site. This does not mean that people beyond that radius have not been given an opportunity to participate only that we have specifically targeted people within that area. For example, we held discussions with the Roos se Oord community. In addition to our efforts to publicise the project and EIA process more widely, I was happy for you to promote the process in a wider area, but as indicated have not to date received a single registration. While I fully concur with your assertion that many people in these areas may not have means of making contact, I argue strongly that many more do have such means yet no one has expressed any interest.</p>
2.24	Dominique Gilbert (Pelindaba Working Group)	Additionally, as stated above, we have been informed there will be no appeal to the Minister if approval for this application is granted. Yet in attending the “Open Day”, we were informed by the consultants that they were “not prepared to commit to providing technical answers before the deadline (for the comment period)” and that “if you are unhappy you can take it up with the Minister – there will be no second leg to this process.” We are mindful that there were technical advisors present at the open day, but because of a vast amount of information in the document which is not necessarily understood by the layman, it should be incumbent upon the applicants and their consultants to provide answers and full disclosures to any queries from the	There is no precedent at all for “providing technical answers before the deadline” in either a Basic Assessment Process or a full EIA. Even with a full EIA process there is simply no requirement to provide answers back to commenting stakeholders after the draft Environmental Impact Report (EIR) has been released for comment so that these can be reviewed again. The EIR is submitted directly to the authorities having been updated to respond to the comments made on the document. In these terms it is not clear why our decision not to commit to responding to questions and then allowing the questioners to review the responses again is somehow deemed to be so scurrilous.

		<p>public who stand at risk. All we got was a cut-off point and told to raise our issues in documents such as this one. We do not trust the nuclear industry nor its regulator to protect us or our children.</p>	<p>It is also unfortunate that the stakeholder has chosen to present the discussion in a manner that implies that we as consultants somehow conspired to foreclose rightful opportunities. All we did was to make it clear to participating stakeholders that because the Minister had made the decision on the PFP it would be the Minister again who would make the decision on the amendment application. By law the Minister's decision cannot be appealed and we felt that it was important to make sure that stakeholders understood and were aware of the fact that it would not be possible to appeal the process.</p> <p>As a matter of interest we did in fact provide a number of answers during the process to issues that were raised.</p>
2.25	Dominique Gilbert (Pelindaba Working Group)	<p>I cordially thank you for opportunity to comment on the above-mentioned amendment but wish to state at the outset that a bare-minimum effort has been made for an all-inclusive public participation process (PPP), and that subsequently the PPP is severely hampered by a lack of transparency, democratic participation and therefore has only co-opted the involvement of an exclusive select few I&APs most of who we ourselves were able to inform and thus it represents an elitist and racist procedure in an ostensibly democratic country with progressive environmental legislation.</p> <p>The time for thorough evaluation of the documentation has been far too short – despite requests for an extension to the deadline and requests for a broadening of the public participation process – a mere 2 weeks extension was given. This extension was requested both to ensure broader PPP and to obtain clarification on the missing information in the documentation. At the time of the deadline, residents in the most affected township near Pretoria (Atteridgeville) had still not been informed of their legislated right to be properly informed and allowed to comment on this application, let alone the preceding EIA.</p>	<p>Please see the description of the consultation process that was conducted for the amendment application process. Our contention remains that we did everything required of a BA as we were instructed by the minister and went well beyond these requirements. The assertion that the process was elitist and racist is rejected.</p>

2.26	Dominique Gilbert (Pelindaba Working Group)	In particular, requests to the Consultants at an "Open Day" to provide answers to questions by I&APs largely based on glaring omissions of information in the documentation so that accurate comment can be provided for the honourable Minister and his assistants to arrive at a decision on this application. This request still has received no reply from the consultants and thus on the balance of evidence before the Minister, we contend that it would be impossible for a positive decision to be made on the application as it stands.	It is also not clear what is meant by 'glaring omissions of information'. The bulk of the discussion at the Open Day was about process rather than the technical details of the amendment application. It is interesting to note that these 'glaring omissions of information' have not been explicitly listed elsewhere so would suggest that the application is simply not as complicated as is being implied. A full six weeks was allowed for review of the document (note that this is not a full EIA but rather only an amendment application) which we deem to be adequate for detailed review and comment.
2.27		<p>7. FALSE INFORMATION GIVEN TO THE PUBLIC AND TO DEAT DURING PFP EIA THE ROD AMENDMENT STATES THE FOLLOWING:</p> <p>The previously proposed (and currently authorised) evaporation approach will not provide for effective disposal of the organics in the waste stream and on this basis the incinerator is deemed to be an environmentally preferable means of treating the waste stream.</p> <p>7.1 This admission demonstrates that the information previously given to the public and DEAT was deliberately misleading as no such admission was previously given, presumably in order to obtain a positive ROD by hiding these facts.</p> <p>7.2 This is just one of many illustrations that show how the original EIA was neither accurate nor objective. A new EIA will permit DEAT and the public to appoint independent peer review experts who will independently assess the full impacts.</p>	<p>The wording being used in the comment needs some explanation. 'The previously proposed (and currently authorised) evaporation approach will not provide for effective disposal of the organics in the waste stream' refers only to the evaporator itself. The waste organic stream including the residual uranium would require further treatment prior to disposal. The fact that evaporation would not result in the effective disposal of the organic stream does not mean that the organic stream would not have been treated as implied in this comment. Evaporation still remains a viable (and authorised) option for uranium recovery and the fact that an incinerator is now being proposed as a more efficient way does not imply that evaporation is not an acceptable way.</p> <p>It is evident from the current application that PBMR has, at considerable inconvenience to itself made the Minister, DEAT and all interested and affected parties aware of the proposed changes. The fact that PBMR has even embarked on such a process is indicative of its good faith and intent to abide fully with the Record of Decision issued.</p> <p>The implied duplicity of PBMR is therefore not in any way justified</p>

2.28	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	Please note that the ROD amendment is not complete without certain, perhaps all of the items above and we will therefore require the 30 days comment period to be extended accordingly!	The 30 day comment period was extended by some two weeks. I have already afforded an extension to the comment period. We will make every effort to provide the necessary information as requested in items 8 – 16 as well as 18. Please note however that these items relate to general operational matters which are not relevant to the amendment application. As such, I can not see any reason why these matters warrant an extension of the comment period for the current process.
2.29	Mr Thabo Matjiu (Inviroburster)	To Proceed with the process.	Comment noted.
2.30	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	Please provide full copies (electronic or hard copy) of all the documents that formed part of the original and amendments to the PFP & PBMR EIA, together with both the ROD of 2003 and 2007 with all documents & attachments referred to, together with all translated documents.	This request was unfortunately overlooked for which we apologise. However, it must be noted that the request was not repeated nor was it highlighted in any way in the submissions as having limited the ability of stakeholders to comment meaningfully on the amendment application. In addition the 2003 and 2007 RoDs were made available to all registered I&APs.
2.31	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	You have still not complied with our reasonable requests; we have to date not received any copies of translations of the proposed PFP ROD amendments. We suggest therefore that this process is halted with immediate effect until the documents that are required by the public are available for distribution and a proper inclusive, non elitist process has been commenced, that also does not marginalize Xhosa, Zulu speakers, not to mention minority language groups. You have not responded to earlier emails.	I have since made documents (500 of each) available in the languages you requested. An additional 2 500 documents were supplied.
2.32	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	The public are expected to dredge through technical papers in 30 days – not from receipt but from the date of document advise – sometimes received several days, maybe a week later – or maybe later only by word of mouth due to the limited exposure. Where were your ads placed by the way Sean?	Nearly 3000 people were posted invitations. In addition notices were placed at strategic places in and around the Pelindaba Facility, and there was advertising in the Komorant, Brits Pos and Pretoria News.
2.33	Christine Garbett and	We now demand that this process, which contrary to	I see no material reason to stop the process. See following

	represented I&APs (Professional Group of Companies 12Mar2009)	assertions by you, materially differs from both the earlier PFP ROD's, both the subject of a very poor appeal process, is halted immediately.	bullet.
2.34	Christine Garbett and represented I&APs (Professional Group of Companies 12Mar2009)	A new and complete EIA process must be undertaken to consider the new design of the PFP, recent scientific findings on the PBMR fuel hazards, the newly incorporated incinerator and their combined impacts at the Pelindaba facility.	As has been presented on several occasions we presented the proposed amendments to the Minister of Environmental Affairs and Tourism and are running a process prescribed by the Minister, in response to our presentation of the proposed amendments. Nothing has yet emerged from the process that suggests a 'new and complete' EIA.
2.35	Mariette Liefferink (CEO: Federation for a Sustainable Environment)	<p><i>Please note that this submission took the form of a detailed letter. Due to the length of the letter, and the fact that the letter described mostly circumstances pertaining to radioactivity from gold mining operations on the West Rand, it has only been summarised here with a view to highlighting those issues that pertain directly to the amendment application. The full letter has been included in the submission to the authorities.</i></p> <p>The submission discusses issues of radiological risk within the gold mining areas of the Witwatersrand, and various catchments that drain the West Rand and Far West Rand. Reference is made to the South African Government's past negligence pertaining to duty of care, poor institutional control, lack of political will and commitment regarding the management of radioactive waste and enforcement of environmental legislation, and to the failure in duty of care on the part of the National Nuclear Regulator and the Department of Minerals and Energy. A case study is discussed on "Radioactive Waste generated from gold mining" on the West Rand and Far West Rand. Numerous radiological impacts are discussed including those on water, radioactive dust fallout, plants, soil, and health. Examples of poor historical and current management and control of</p>	<p>The submission is noted but difficult to respond to in respect of the amendment application as most of the issues, while important, pertain to broader scale issues. None of the proposed design changes included in the amendment application (submitted separately) result in increases of uranium emissions over what was previously described (and authorised) in the original EIA. The proposed incinerator will result in an increase in uranium emissions but these amount to less than 0.15 <i>grams a year</i> which is negligible and which cannot be considered to pose a significant health or environmental risk either directly or in combination with other emissions. The minute quantities being described here do not warrant multiple exposure pathway assessment.</p> <p>In terms of the proposed mechanisms for public consultation, the consultation process that has been used for the amendment application is described in detail in various responses above as well as in the amendment application document. The process that has been used is considered to have more than met the requirements of the consultation process that is required for a Basic Assessment which was what was prescribed by the Minister.</p>

	<p>radioactive waste are given. The relevancy of the above issues to the PBMR Fuel Plant Application are listed as:</p> <ol style="list-style-type: none">1. Little confidence in the political will and commitment and capacity of organs of state.2. The cumulative impacts of all pathways must be included in the impact prediction of radioactive contamination.3. An impact prediction of all sources of risk of radionuclides and the impact upon the surface and groundwater must be conducted. The following occurrence has relevancy to the proposed PFP: Acid mine water started to decant from defunct (closed) flooded underground mine workings on the West Rand in August 2002... and found its way into an adjoining natural water course and into the Crocodile River and towards the Cradle of Humankind World Heritage Site.4. A high-confidence, independent epidemiological study of adjacent communities must be conducted. <p>Numerous proposals were suggested for the public participation process for the PFP. Some of these included the idea that stakeholders should be engaged in different manners, stakeholder identification techniques, and an open and transparent process that involves communities (including workshops, information sessions, meetings, open houses, working groups, site tours, home visits and published materials). It was suggested that monitoring committees need to be established and adequately financed, a radiation management strategy for the area is needed, and criteria for intervention (particularly by regulators) should be predetermined. A questionnaire style survey was proposed, as well as direct participatory dialogue with community leaders, and that the criteria for nuclear processes should also be based on community cultures. Ongoing consultation is required with communities, and the input of previously</p>	
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		excluded communities needs to be actively and meaningfully incorporated into nuclear issues. It was also suggested that “sufficient time must be given to enable the consulted to give the advice and sufficient time must be available to consider the advice tendered”.	
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