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## **EIA REPORT MOCHOVCE 3,4**

answers on questions according § 35 part (6) of Slovak law no. 24/2006 Z.z.

by Ir. Jan Haverkamp

## GREENPEACE

You will find here my response on the reactions from the promoter of the Mochovce 3,4 project in the Environmental Impact Assessment.

I give this response on request of Greenpeace International. They are on personal title and my opinion – though based on my experience within Greenpeace and benefiting from input from colleagues and experts – does not necessarily coincide with the opinion of Greenpeace as organisation.

Greenpeace as organisation does, however, endorse my unchanged recommendation that the EIA report should be dismissed as <u>insufficient</u> and <u>inadequate</u> and that SE be required to re-do the Environmental Impact Assessment on a sufficient level of quality and that <u>any construction activity for the EMO34 project should be halted</u> until such an improved EIA has been completely finalised, including possible legal recourse.

The reaction from the promoter on the submissions made earlier are in themselves also completely inadequate and insufficient.

The response from the promoter on the input from the public in the public participation procedure shows clearly that the promoter does not understand the purpose of public participation. The public may come with questions, and indeed these need to be answered, but beyond that, the public is giving its views, expresses concerns and delivers additional information that need to be given due account in the final Environmental Impact Report. The fact that the promoter addresses the public input only as "questions" illustrates that he is not interested in input on content.

As final result, we want to see where the promoter has incorporated information from the public and where the views and concerns from the public have led to changes in the final EIA text.

In this reaction, given the short time given for reaction and the fact that I did not receive an English version of the promoters 'answers', I will focus on the 'answers' the promoter has given on my submissions. Given the poor quality of these answers, I recommend the

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Ministry of Environment to assess the promoter's answers on all submissions in a similar light as I have been doing in this assessment.

My final conclusion is that the promoter is not interested in public participation and only fulfils the EIA procedure as bureaucratic need and/or for PR purposes. The promoter is furthermore blind for critique. It may therefore be important that the Slovak Ministry of Environment once more explains the promoter the reason for the EIA procedure and force the promoter to respond adequately to the public input and take due account of this in the final version of the EIA report as prescribed by the Aarhus Convention article 6(8).

In the detail submissions, **the promoter did not adequately react on 90% of the submissions, 42% of the submission were even not answered at all!** Only 3% of the submissions lead the promoter to accept a new point of view and this mainly on issues of English language. The conclusion must be that <u>the promoter still has no idea what public</u> <u>participation is</u> and what it is good for. Instead of profiting from outside expertise, the promoter reacts defensively or passively. With such a basic attitude public participation cannot fulfil its role.

I have not directly been informed by the relevant authority (i.c. the Slovak Ministry of Environment) that the reactions from the promoter were available. The Ministry had sent these reactions not electronically, but over mail to a wrong address. Thanks to my colleagues at Greenpeace Slovakia, I was able to receive the full text in time for a response. This response, however, was hindered by the fact that I did not get the reactions from the promoter in English, but in Slovak. I want to thank my colleagues at Greenpeace Slovakia for the help given in cases of difficult interpretation. My response has suffered in quality under the fact that I did not receive the promoter's reactions in English - I could not consult my normal pool of experts. However, given the low quality level of the reactions from the promoter, this response is important input in the rest of the process.

Prague, 25 November 2009 jan.haverkamp@greenpeace.org – tel.: +32 477 790 416

## **GENERAL COMMENTS**

This response should be read together with the original submissions and the reactions from the promoter at hand.

The promoter did not react in any way on the chapter "General Comments" in my submission. He did not prove or attempt to prove that my conclusions were wrong concerning lack of alternatives, the lack of consideration for the impacts of front-end and back-end of the nuclear chain, spread of radioactive materials from a large scale beyond design accident, lack of basic epidemiological data and others. The promoter furthermore did not comment the fact that construction of EMO34 is taking place while this EIA procedure is running, in breach with the Slovak, EIA law as well as the Aarhus Convention, nor the fact that SE / ENEL has actively interfered in the independence of the EIA procedure.

The promoter only reacted on my numbered comments in detail.

## DETAIL COMMENTS ON THE TEXT OF SLOVAK REACTIONS FROM THE PROMOTER

I indicate my reactions on the 'answers' from the promoter with a double numbering: the first number indicating the number in my submission – the second number that in the promoter's 'answer'.

**1 – 96:** The promoter diverts from our submission. We indicated that the form of the EIA report was chaotic and unsystematic. The promoter does not address that question, nor dismisses it, but merely points to the Slovak EIA law 24/2006, which does prescribe a rough outline, but not that the report has to be a chaos and unsystematic. The promoter then tries to divert attention by commenting on the content of issues that I listed to illustrate where this chaos and lack of systematic is visible.

The promoter should rewrite the report in a more systematic way that links the chaotically spread parts on the issues mentioned in a clear way and include, wherever necessary, clear cross references when issues are addressed in different parts of the report, preferably with hyper-links.

**2 – 97:** Different than the promoter claims, we did not give a "subjective opinion", but an opinion based on objective analysis. Even when a report is written by a multi-national organisation, it does not guarantee automatically quality, as this report in comparison with other reports and with the national, EU and international legislation on EIAs illustrates. Dismissing submissions as "subjective opinion" is an attempt to downplay important submissions and must be characterised as a PR trick. It illustrates that the promoter does not take public participation seriously.

**3 – 98:** Does the fact that the promoter does not mention the Aarhus Convention mean he agrees that the EIA report and the public participation procedure does not fulfil this international convention, ratified by the Slovak Republic?

**4 – 99:** The promoter does not react on the submission, but diverts his responsibility to the Ministry of Environment. This is unacceptable. The promoter is himself responsible for proper implementation of the legal prescriptions for public participation that consider his role (i.c. the preparation of a sufficient and adequate EIA report). The Ministry of Environment is the independent authority that has to supervise quality. With this, <u>we have to conclude that our submission is justified.</u>

**5 – 100:** The promoter diverts attention from the content of our submission. Our submission dealt with the fact that the lack of alternative scenarios causes an important

aspect of the project (the influence on a grid that is already overloaded with inflexible capacity) being overlooked. The fact that not the entire submission was translated makes this difficult to judge for an outsider. Different from what the promoter further postulates in his reaction (that EU energy security issues are included in the EIA report), the submission points to the fact that the project will have a **negative** influence on energy security by pushing out flexible decentralised and renewable sources of electricity and causing grid inflexibility.

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**6 – 101:** The promoter does not answer the issues raised in this submission. He does not explain **why** the criticised paragraphs would fulfil the Proposal for a Strategy for Energy Security from the Slovak Government, does not quote anything from that proposal to back up such a claim and fully fails to see that that proposal also did not address the issues brought forward in this submission.

I argued that the construction of EMO34 would impair the implementation of the EU energy strategy, which is focusing among many others on the increased uptake of renewable energy sources and increased security of the grid.

The authors furthermore refuse to mention the sources of their information. They merely state that Slovakia has become a net exporter since closure of Bohunice V1, but do not back that up with publicly accessible literature.

The promoter is fundamentally non-transparent by relying on a non-public document (the "Feasibility Study for MO34") to make his point. If the promoter wants to use non-public documents, he should quote from those in detail and/or include references to publicly accessible documents that back up his claim and make it controllable. As the promoter does not do so, the critique in our submission remains valid and should be taken into due consideration.

The answer of the promoter on the issue of renewable energy sources forgets to notice that the "realistic possibilities" are influenced by the construction of EMO34. We argue based on the Greenpeace / EREC analysis in the energy [r]evolution scenario<sup>1</sup> and a recent report on European grid development<sup>2</sup>, that the construction of EMO34 blocks hinders development of renewable sources in Slovakia and therefore goes contrary the energy goals of the EU, which prescribe the uptake of renewable energy and increase of energy security. If necessary, I am willing to give further oral or written comment on this issue.

**7 – 102:** The promoter tries to divert attention with the claim that the facts given in my submission are only an opinion and the promoter refuses to comment this. Therefore it has to be concluded that the submission is unchallenged and should lead to adaptation of the analysis.

8 – 103: The promoter is diverting attention from the submission by referring to the in this case only marginally relevant Espoo Convention and the bilateral agreement with Austria. The promoter furthermore tries to divert his responsibility under the law to the Ministry of Environment. With that, the promoter proves that it is important that he investigates the implications of the Aarhus Convention art. 6(4)<sup>3</sup> and that construction activities of EMO34 by the promoter should be halted immediately pending the EIA procedure.

<sup>1</sup> Teske, Sven, Oliver Schäfer, Arthouros Zervos, *energy [r]evolution – a sustainable global energy outlook*, 2008 (Amsterdam) Greenpeace / European Renewable Energy Council (EREC) <u>http://www.greenpeace.org/international/press/reports/energyrevolutionreport</u>

Teske, Sven, Frauke Thies, energy [r]evolution – a *sustainable EU 27 energy outlook*, 2008 (Amsterdam) Greenpeace <u>http://www.greenpeace.org/eu-unit/press-centre/reports/EU-energy-revolution-report</u>

<sup>2</sup> Ackermann, Thomas, Dr. Eckehard Tröster, Rebecca Short, Sven Teske. [r]enewables 24/7 – infrastructure needed to save the climate, 2009 (Amsterdam) Greenpeace / European Renewable Energy Council (EREC) http://www.greenpeace.de/fileadmin/gpd/user\_upload/themen/energie/renewables24-7.pdf.pdf

<sup>3</sup> The Aarhus Convention art. 6(4) states: "Each Party shall provide for early public participation, when all options are open and effective public participation can take place."

**9 – 104:** With its reference to the law, the promoter again diverts the attention from the submission. The submission states that the promoter claims the project has undergone so many changes that it would fulfil the criteria of a Generation III nuclear reactor. According to the Aarhus Convention Annex I art.  $22^4$ , projects that have undergone substantial changes have to be submitted to full public participation, including the provision under art. 6(4) (see 8 - 103).

**10 – 105:** When the promoter does not disagree with the statement made in our submission, as clear from his reaction (which simply confirms my statement that Slovakia is a member of the Vienna Convention) we propose the full content of our submission to be taken up in the main report.

**11 – 106:** The promoter talks in his reaction again about a positive viewpoint from the European Commission and with that distorts the truth. The European Commission writes: *"The Commission has taken the view, on the basis of the foregoing assessment, and intensive discussions with the Investor and the national regulator, that provided the necessary additional steps recommended in the point of view are taken, the investment fulfils the objectives of the Euratom Treaty."<sup>5</sup> [emphasis added, JH]. This is not a positive view, but, as stated in my submission, a conditioned view.* 

The Commission furthermore states in its opinion that it would like EMO34 to meet a standard of protection against an aircraft comparable with the level of an EPR reactor. It states *"This or improved levels of protection can be expected to be the future state of the art design for new nuclear power plants in the EU."* In spite of the claims on special measures from the promoter, which it describes as for security reasons not public, we submitted that the EMO34 design inherently is not capable of meeting similar standards as the AREVA EPR design.

The reaction from the promoter on the submission therefore is inadequate.

12 - 107: No comment.

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**13 – 108:** In case the promoter is right with his response, it means that the EIA for the new reservoir in the River Hron near Slatinky has falsely claimed its necessity because of the EMO34 project. It is important that this is stated explicitly in the EIA report of EMO34, and the construction of the Slatinka reservoir should for that reason be immediately stopped by the Ministry of Environment. In case the Ministry does not agree with this, the promoter should be ordered to take up a full description of the environmental impacts of the Slatinka reservoir in the EMO34 EIA.

**14 – 109:** The legal basis mentioned by the promoter should be taken up in the main text of the report. However, the promoter does not give the sources for his claim that the actual situation remains under the norms described. In order to be able to check the claims from the promoter, public accessible sources to the used seismic information should be given. In general, when the public cannot trace the information used in an Environmental Impact Assessment, the public has no chance to give meaningful feedback. <u>Full transparency of sources is therefore of crucial importance</u>, and unfortunately not international practice.

**15 – 110:** In his reaction, the promoter shows he does not get the point. <u>There is a</u> <u>difference between legal norms and actual emissions and exposure.</u> The promoter talks as a chemical factory director standing on the shores of a lake next to his chemical plant that is full of dead fish: "But the legal norms are so sharp that this lake is clean." It are the actual emissions and exposure that in the end are decisive, not the legal norms. In order to see whether a new nuclear power plant fulfils the mentioned legal norms, assessments should

<sup>4</sup> The Aarhus Convention Annex 1 art. 22 states: "Any change to or extension of activities, where such a change or extension in itself meets the criteria/thresholds set out in this annex, shall be subject to article 6, paragraph 1 (a) of this Convention."

<sup>5</sup> European Commission, Viewpoint of the Commission in accordance with Article 43 of the Euratom Treaty concerning the completion of Units 3 and 4 of Mochovce Nuclear Power Plant, Slovakia.

be available that show that the plant actually does. There is no mentioning of such assessments nor where they can be found by the public for review. In order for the public to be able to give meaningful feedback in the EIA procedure, full transparency of this kind of information is of crucial importance.

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**16 – 111:** See 15-110 for the reference by the promoter to the legal framework under which the project is developed.

Furthermore, we wonder whether we have to understand from the promoter that the only improvements made are related to the lack of secondary containment? If so, the claim that the proposed improvements fulfil all functions of a full (including secondary) containment is false, as the proposed solutions cannot guarantee a physical protection comparable to current stand of technology (see also 11 - 106).

We also gave an example of another specific area where the VVER 440/213 design shows inherent safety weaknesses: the high pressure pipes in the primary circuit. The promoter completely ignores that example in his response. This looks like an indication that the promoter only has focused on the (acknowledged) large safety deficit in the sphere of containment and has not made any improvements to other inherent safety problems of the design. For that reason <u>Greenpeace hereby demands a full and independent reassessment of the design safety of the EMO34 project before the final EIA report is accepted.</u>

**17 – 112:** The promoter acknowledges that it is difficult to give a precise definition of what a Generation II and a Generation III reactor is. It gives some of the criteria that have been mentioned in the literature and that it claims are fulfilled by EMO34 (although no concrete assessments are put forward to substantiate any of those claims), but it mentioned by far not all criteria – it fails to mention for instance the two criteria mentioned in our submission. From the way that the promoter abuses the term Generation III, it has to be concluded it does so for its PR value and not because EMO34 in design would meet widely accepted criteria for Generation III. We therefore demand that all reference to Generation III be skipped from the report and that it will be clearly stated that EMO34 is a Generation III reactor. The basic design originates from the 1970s and although the changes made in the 1990s and 2000s have been substantial enough to warrant a fully new permitting of the project, they are not so substantial that they have lifted the design out of Generation III. The strongest argument here is and remains the lack of secondary containment – a standard feature of all (even Generation II) PWR reactors built after the 1986 Chernobyl accident.

**18 – 113:** The promoter acknowledges in his response that the complete safety related design has to be considered as new, but not the construction as such. With that, the promoter acknowledges that substantial changes have been made relevant for impact on the environment. With that, as a minimum (!), the EIA procedure would have to fulfil all legal conditions under the Slovak EIA law, the EU EIA Directive and the Aarhus and Espoo Conventions. By not halting construction during the EIA procedure, article 6(4) of the Aarhus Convention is broken (see also 8 – 103).

**19 – 114:** The promoter has not given any evidence that the VVER 440/213 design can in safety quality be compared with the Areva EPR design. By making this comparison he makes himself the clown of the nuclear industry. It is like comparing a 1970s Skoda equipped with air-bag and safety belts with the latest model Renault. We demand that the promoter removes all references that would imply comparability between the EMO34 project and other European nuclear construction projects from the report, or qualifies them.

**20 – 115:** :-D If the promoter is unable to assess whether his own claim of "an already high level of safety" of the EMO12 project is right or not, what does this say about his general capability of assessment of nuclear safety?!

OSART inspections, as IAEA inspections, only conclude whether a nuclear power station is fit to function. They are, often to the embarrassment of the mission participants, abused for all kinds of PR, but they do not establish whether any NPP has a *high* level of safety – only whether the level of safety is acceptable. The EIA for EMO12 already showed a large

catalogue of submissions among others from the Austrian government, but also from others, that exposed safety concerns that were not met in the final project. The promoter here furthermore stresses the drawbacks of his obvious practice of not letting public participation influencing the final text of the report. If the report contains spin or plain untruths, it is impossible to **write** those in an attachment. They have to be **removed** from the text! We therefore demand that the promoter does what the Aarhus Convention prescribes in article 6(8) and that due account of the public participation is taken there where it matters: in the final version of the report – not in a large Annex that no-one who reads the main report will ever look at!

**21 – 116:** We have not given an opinion here, but stated a fact. We see the response from the promoter as an attempt to denigrate the input of public participation. Concerning the source of information for the list of issues mentioned: this is a document that is not available to the public. In order to be able to estimate whether the mentioned issues are relevant and/or sufficient, either the promoter has to give more detail information (e.g. what type of "small aircraft", etc.) or the promoter has to make the relevant background documentation available as Annex.

**22 – 117:** Information with safety relevance is automatically relevant for the Environmental Impact Assessment! The largest environmental impact of a nuclear reactor is when there is a large release of radioactivity. The chance on occurrence is directly related to nuclear safety. If this information is appearing somewhere else, it has to be quoted in the EIA report in order to substantiate claims made there. Or, alternatively, the Safety Documentation should be made available to the public and added to the EIA as Annex.

For new build nuclear only the mentioned EUR guidelines are interesting – the others are for existing nuclear power stations. But also the EUR guidelines are very general. The reference to nuclear waste is out of place due to a mistake in translation. CNS stands for the Convention on Nuclear Safety.

Apart from that, the remark that final storage of nuclear waste was explained during the public hearings is irrelevant for the EIA report. The promoter can explain what it wants during hearings – that is not the function of public hearings. The function of public hearings is to collect viewpoints, concerns and questions from the public and take them into due account in the further process – or to me more precise, take them as input for the formulation of the final report and conclusions.

The last sentence in the response from the promoter is unintelligible.

**23 – 118:** This is interesting. So the promoter draws a line of conclusions unsubstantiated by background information, expects the public to accept that information without possibility to check and will deliver that information in two years? <u>As long as the promoter is not capable or willing to be transparent, our submission will remain valid and the report text should be adapted accordingly</u> based on Aarhus art. 6(8).

**24 – 119:** The promoter does not respond to the submission. The promoter does not explain how the bubble condenser is supposed to work in case there is a crack or hole in the outer wall. If the promoter refers to documentation handed to UJD, it should quote that documentation here in detail or add it as Annex to the report so that claims based on it can be verified.

**25 – 120:** The promoter does not react on the submission with transparent argumentation.

**26 – 121:** We disagree with the promoter that the back-end of the fuel chain should not be included in this EIA report. According to art. 6(4) of the Aarhus Convention, projects have to be submitted to an EIA <u>when all options are open</u>. As soon as a nuclear power station is constructed and started up, there is inevitably a back-end of the fuel-chain and there is no zero option open. Ergo, the back-end is an inevitable part of this project.

The promoter is the one who brings in the argument of MOX and reprocessing. If the promoter does that, the promoter is responsible to do so clearly and with sufficient informational background so that this part of the fuel chain can be included in the

justification process of this project. The promoter does not react properly on our submission.

**27 – 122:** The response table leaves out important parts of the submission, among others the explanation why the given answer from the promoter is not valid. The promoter does not address the issues brought forward at all. Greenpeace demands the uptake of the interim storage including risks from malevolent attack in the EIA, because these would have large impacts on the environment. We furthermore point out that the EIA of the current interim storage was not for the amount of waste that is to be created by four blocks and therefore not valid for EMO34. We also demand that the EIA report deals with the hole in storage time described in our submission.

**28 – 123:** See also 26 – 121. The production of HRW is inevitable when the project is implemented and to prevent a breach with Aarhus art. 6(4), the back-end of the fuel chain needs to be fully incorporated in the EIA. Our submission clearly pointed out what the problem is: in order to justify the impacts of SNF and HRW on the environment we need to have all data. When these impacts cannot be justified, an EIA when a final storage will be developed is too late.

Whereas it we appreciate that it might be difficult to give details 50 or 60 years before final storage will be implemented, we do argue that a lot more details will have to be given than currently taken up in the report. It is impossible to build a pig stable without indicating what is going to happen with the pig shit. A nuclear power station is not different in that respect.

**29 – 124:** see 28 – 123. The promoter does not react on our text suggestions, which were quite general and cannot be waved off with "that will be in a separate EIA".

**30 – 125:** see also 28 – 123. In our submission, we criticised the current payment system in the National Nuclear Fund as insufficient and with that endangering the environment and future generations. There is no reaction from the promoter on this issue. This information needs to be added to the report. Whether there is a legal basis for the magnitude of the levy is not of relevance. Only relevant is whether the proposed levy will indeed cover all the costs for decommissioning and waste. There is substantial doubt about this issue, among others expressed in research by Peter Mihók<sup>6</sup>. We therefore demand an analysis of the sufficiency of the legally prescribed levy and possible impacts on the environment in case of insufficient funds.

**31 – 126:** Grateful for the thanks, but the promoter does not react on the submission. We demand an upgrade of the final text towards comprehensible language. The least the promoter could have done in his reaction is explain what the hell he means here. Apart from that, all radioactive waste is ionizing and a liquid is not solid. Even in Slovak the paragraph doesn't make sense. If this is the level of expertise that is the basis for this EIA report or, God forbid, the whole project, the worst has to be expected for the environment! The response of the promoter only makes things worse.

**32 – 127:** In order to get a proper justification for the impacts on the environment from the project, it is important that all impacts on the environment are properly described. When there is separation of combustible waste, it is not sufficient to state that it is processed in a legal way. What needs to be given is a full listing of emissions from the combustion and remaining solids and fluids, including filters and washing fluids. It does not matter that that happens on another place than the project. We demand a full opening of this information, compared with legal norms.

**33 – 128:** The promoter does not answer the submission. We know ALARA is used. The problem is that <u>the report misses a clear indication of the criteria for "reasonability". We demand that those criteria are made explicit and will be argued throughout the report.</u>

<sup>6</sup> Peter Mihók, Národný jadrový fond - genéza, problémy, modelovanie príjmov a výdavkov, odhad potrebnej výšky príjmov a odhad aktuálneho deficitu vo fonde, Zvolen (2007) CEPTA <a href="http://www.cepta.sk/index.php?option=com\_content&task=view&id=196&Itemid=283">http://www.cepta.sk/index.php?option=com\_content&task=view&id=196&Itemid=283</a>

**34 – 129:** The promoter does not answer the submission. We have clearly argued that insufficient contractual guarantees can lead to exposure of the environment to radioactive substances. Therefore this information is relevant for the EIA and the justification process for possible exposure of the environment to radioactive substances. We demand full enclosure of the contracts in question.

**35 – 130:** See 13 – 108. For the sake of saving paper and electrons, the promoter could have used a similar reference.

**36 – 131:** The promoter does not give the requested information. A general sentence in the sense of "trust us, we have a study but we won't show it" is no proof of transparency. The conclusion from the promoter that experiences with EMO12 can be directly translated to EMO34 are not substantiated. It is more likely that there will be differences, because EMO34 uses completely different safety set-ups and there will be cumulative effects that need to be taken into account.

**37 – 132:** The promoter does not answer to the submission. He does not react on the issue of transferability of data from EMO12 to EMO34. He does not answer how the exposure to a maximum of 0,250 mSv/yr is reached. He does not answer whether current debates about increasing the dose-factor for tritium might have consequences for the project. He does not promise to include cross references in the report so that the claims made here can be found in Annex 4.1 (or does he expect that people will read through this table to find such a reference?). He only concedes that the mentioned data come from EMO12. This general attitude of non-transparency is really irritating (and this is not an opinion, this is a fact).

**38 – 133:** So, if I understand you, you imply that the Office for Public Health has set limits for EMO12, which, I presume, are based on the effects of these tritium emissions. Then, when you will put EMO34 into operation, the Office for Public Health will give you a new higher limit so that you will still be within the limits???? This is sheer incredible! Certainly because there is a huge scientific debate ongoing about the effects of tritium exposure. We have to conclude that the promoter is playing, obviously with help from the public authorities, with fire and we demand a detail re-assessment of the tritium emission situation of the whole Mochovce project: EMO12 and EMO34.

**39 – 134:** If the quotation indeed stems from the safety documentation, should the promoter not be alarmed about the stupidity of the formulation and re-do his assessment? We demand a more serious assessment of the possible exposure of the population around <u>Mochovce</u> than this.

**40 – 135:** The promoter does not answer the submission. The requested data are not listed in the mentioned Annex. Nor does the promoter answer the concern about the choice of "critical group" for his analysis.

**41 – 136:** The promoter states that decommissioning will be part of another EIA. This is unacceptable, as decommissioning becomes inevitable as soon as the project is running. It is for that reason good practice that decommissioning is taken up in the EIA procedure for the construction, like, for instance, recently in three EIA's in Finland and the EIA for the Visaginas NPP in Lithuania, although in none of these cases the assessment of impacts on the environment of decommissioning was sufficient. The Aarhus Convention demands in article 6(4) that public participation takes place when all options are open. When construction of EMO34 has finished, the zero option for decommissioning is not longer open.

The promoter does not answer the question concerning the choice of DD or ID. Concerning decommissioning and waste costs, see 30 – 125.

**42 – 137:** Apart from the fact that I have not been able to visit any of the public hearings... Public hearings are not meant for explanation but to receive viewpoints, concerns and questions from the public that need to be taken into due account in the further EIA process. Apart from that, <u>presentation in the public hearings cannot replace proper</u> <u>reaction on submissions in written form.</u> Your statement that the competent authorities operate in this EIA process according to the law and international requirements and conventions is simply not true, as clearly explained in the submission. If you do not agree with our conclusion, you could at least give arguments.

We have to conclude that you did not answer the submission and demand a proper answer before a final EIA text is adopted.

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**43 – 138:** The promoter cannot hide behind what he obviously implies is incompetence of the Slovak government. The promoter is not able to give answers that can dismiss the viewpoint in the submission. The relevant proposal for an energy strategy does not adequately analyse the mentioned situation in the submission. The promoter refers to "relevant documents from the Slovak government". We would like to know which documents the promoter refers to – full sources, please. A matter of transparency. In the submission it was sufficiently argued on the basis of the data used in the EIA that there is no electricity deficiency in the short and middle long term in Slovakia. That the Slovak government pleads for yet another nuclear power station does not say anything about the factual situation, but may support your implied incompetence of this government.

**44 – 139:** The promoter does not react on the submission. The mentioned documents fail to give the presumed justification, as was argued in the submission. We demand that the promoter does a serious analysis of the energy situation of Slovakia and the ENTSO-E market it is part of.

**45 – 140:** The promoter does not react on the submission. The promoter does not make an estimate of real costs based on the global and regional experience of cost developments during construction of nuclear power stations. With that, the promoter does not give due consideration to the submission made, in breach with Aarhus Convention art. 6(8).

**46 – 141:** The promoter does not react on the submission. The promoter does not describe possible radioactive contamination outside of the Slovak borders from BDAs and DBAs as requested in the submission. He also does not acknowledge not to be on present stand of practice in comparison with the EIA for the Visaginas NPP in Lithuania.

**47 – 142:** This is the first time that our submission addresses the issue of land use. The promoter obviously is too lazy to fulfil his duty of giving proper reactions on submissions. We demand such a reaction.

**48 – 143:** Interestingly enough, the promoter has found here the copy and paste function of his computer. However, see 13 – 108.

**49 – 144:** The promoter does not answer to the submission. Answer 143 does not address the issue of extreme water levels in the Hron, nor does it address the effects of climate change.

**50 – 145:** It may be that the promoter became tired answering the submissions. Nevertheless, this is not an adequate reaction on this submission. The availability of drinking water and the levels of ground water are important environmental issues. The questions in the submission are relevant and the promoter has to give an adequate reaction on them.

**51 – 146:** The submission was dealing with paints and the claim that "environmental neutral paints" are going to be used. The promoter does not react on the submission.

**52 – 147:** Central European eco-systems have a completely different constellation of flora and fauna and therefore are likely to react differently than Canadian eco-systems. <u>We</u> demand a re-assessment of the effects on aquatic biota based on Central European eco-systems.

**53 – 148:** It can be that the promoter – as nuclear operator? – is not aware of the deeply controversial debates concerning tritium doses. In our submission we pointed out one of the recent developments in this debate and asked for proper inclusion of these international practices in the EIA. Different than in the case of aquatic biota, in the case of possible effects of tritium Canadian experiences are extremely relevant, because the discussion there is further in its development thanks to the presence of CANDU reactors. We demand that the EIA also reflects the results of latest science on tritium and are willing to connect the promoter with an independent expert in the matter.

54 – 149: The promoter does not react on the submission. Further see 26 – 121.

**55 – 150:** The promoter does not react on the submission. <u>We demand that the promoter</u> analysis proper spreading models for DBA and BDA emissions. Furthermore, <u>the promoter</u> does not argue why Hungary was excluded from the 50 km zone.

**56 – 151:** The promoter illustrates his lack of professionality with this reaction on the submission. Nuclear power emits per kWh indeed less CO<sub>2</sub> than coal, oil or gas. But we did not argue a comparison with coal, oil or gas, but with energy efficiency and several renewable energy sources. In this case the issue is not theoretical, but highly practical reality: As can be seen in Finland, the development of nuclear power actively hampers the development of energy efficiency and renewable energy sources, which puts Finland among the high CO<sub>2</sub>-emission countries not in spite of its nuclear park, but exactly because of its nuclear park. Slovakia is in a similar situation.

It can even practically be argued that the lack of development of renewable energy sources in Slovakia is due to the operation of its latest nuclear power station EMO12, which means that in stead of saving 5 Million tons of  $CO_2$  annually, EMO12 is responsible for the emission of more  $CO_2$ . Had the promoter taken the effort to analyse our submission, he would not have come with such unprofessional answers.

57 - 152: See 13 - 108.

58 - 153: The promoter does not react on the submission.

59 – 154: The promoter does not react on the submission.

60 – 155: The promoter does not react on the submission.

**61 - 157:** The promoter has problems in following numbers... bad sign for a nuclear operator. The promoter does not answer the submission because the requested data are not in the referred Annex.

**62 - 158:** The promoter does not react on the submission. The promoter reacts probably on another submission. Apart from that, the promoter acknowledges the lack of data concerning childhood leukaemia, and it would be important for the EIA when a similar piece of research were carried out as the KiKK study and following studies that showed a significant relation between childhood leukaemia and distance to nuclear power stations (see submission 64).

**63 – 156:** The promoter does not react on the submission and gives a cryptic information reference.

**65 – 160:** The submission is not a personal opinion as postulated by the promoter, but a serious analysis of the situation. The answer from the promoter is completely inadequate and does not respond to the submission. The economic effects have their direct consequences for the environment as well and therefore need to be taken into account.

**66 – 161:** The promoter tries to denigrate us by only stating this is a personal opinion. The submission is not a personal opinion but serious analysis of the situation. The promoter does not react on the submission.

67 - 162: The promoter does not react on the submission.

**68 – 163:** The promoter does not react on the submission. The bluntness in refusal of the promoter to react on this submission is incredible.

69 - 164: The promoter does not react on the submission.

70 - 165: The promoter does not react on the submission.

71 - 166: The promoter does not react on the submission.

72 - 167: The promoter does not react on the submission.

73 – 168: The promoter does not react on the submission at all.

**74 – 169:** The promoter is mistaken in calling the material mentioned in the submission "material from Greenpeace", as it considers original material originating from his spokes person Mr. Robert Holy. The promoter does not explain what GR is. The promoter does not react on the submission.

**74 – 170:** That the consultant has been chosen in an open tender procedure is irrelevant for this submission. The consultant shows clear bias and therefore is not in the right position to create a credible EIA report.

**75 – 171:** Good that the promoter acknowledges that the material is scattered chaotically throughout the report without proper cross-referencing.

**76 – 172:** The promoter does not react on the submission. Furthermore, the reaction from the promoter illustrates clearly what we mean when we say that he is incapable of cross-referencing. His reference to ALARA would be in 128. Not just "above". See further: 33 – 128.

**77 – 173:** We did not deny that the given numbers are relevant for the judgement of EMO34. We pointed out, however, that also a comparison with the period before EMO12 went into operation is relevant. The promoter does therefore again not react on the submission but tries to divert the attention.

78 – 174: The promoter does not react on the submission but tries to divert the attention.

79 - 175: The promoter does not react on the submission.

80 – 176: The promoter does not react on the submission.

81 – 177: The promoter does not react on the submission.

**82 – 178:** The promoter does not react on the submission. I consider non-reaction on this submission as highly unprofessional and bordering on contempt of the public.

83 - 179: The promoter does not react on the submission at all!

84 - 180: The promoter does not react on the submission.

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85 - 181: The promoter does not react on the submission.

**86 – 182:** It is good to know that there has been a study on the general health situation around Mochovce concerning the first five years of operation of EMO12. It would be important that this study is included in the EIA report. Nevertheless, this study, though relevant, does not address the fundamental remarks made in the submission. The promoter still owes a reaction on the largest part of this submission.

87 – 183: The reaction of the promoter is irrelevant for the submission.

88 - 184: The promoter does not react on the submission.

**89 – 185:** We appreciate the use of stricter limits than the Slovak ones. Nevertheless the effect on biotopes cannot be compared with Canadian biotopes because of the presence of other species. We did not plead for the use of Slovak limits, but for the use of Slovak (ecological) circumstances. The promoter's answer therefore is not sufficient.

90 - 186: The promoter does not react on the submission.

**91 – 187:** The reaction from the promoter is irrelevant. Indeed, a zero variant was described and in the submission this description was criticised. Maybe the promoter did not notice that? The promoter is supposed to react on the submission. Concerning reacting in the public hearings, see 22 - 117 and 42 - 137.

**92 – 188:** The promoter has rightly seen that this was not a question. The formulation of this viewpoint, however, is clear enough. The promoter does not react on the submission.

**93 – 189:** The promoter does not react on the submission. There is no analysis in the EIA report, there is the postulation of only one development. The promoter clearly has not read (or understood?) the submission.

93 - 190: see 93 - 189

**94 – 191:** The promoter does not react on the submission. The full submission even hasn't been translated.

**95 – 192:** It is good to see that the promoter in his reaction seems to agree with the submission. It is important, however, that this leads to consequences and that the promoter will do the indicated assessments and include those in a final version of the EIA report.

96 – 193: no comment.

97 - 194: The promoter does not react on the submission.

**98 – 195:** The translation into Slovak is weak (although it is pretty good in other parts). We pointed out that the Ministry of Environment wrote legal nonsense to SE. The promoter does not react on the submission.

99 - 196: no comment.

International