

## LETTER TO THE EDITOR

*Commentary on the article entitled "THE SPATIAL AND URBAN PLANNING CONCERNS RELATED TO NUCLEAR FACILITIES LOCATIONS – Case Study of the Vinča Institute Location" by Nebojša D. STEFANOVIĆ, Nataša M. DANILOVIĆ HRISTIĆ, and Boško D. JOSIMOVIĆ published in the journal Nuclear Technology & Radiation Protection: Year 2017, Vol. 32, No. 1, pp. 99-108*

This letter and comments within refer to the article by Nebojša D. Stefanović, Nataša M. Danilović Hristić and Boško D. Josimović, "The Spatial and Urban Planning Concerns Related to Nuclear Facilities Locations – Case Study of the Vinča Institute Location" (hereinafter: Article) published in the *Nuclear Technology & Radiation Protection* journal: Year 2017, Vol. 32, No. 1, pp. 99-108.

The Article mentioned several inaccurate data:

- (1) In the chapter Vinča Institute of Nuclear Sciences – location, functions and problems, third paragraph, is written: "The storage facility consists of two hangars and solid waste treatment plant" which is not correct. The storage facility consists of three hangars (named H1, H2 and H3) and the Secure Storage for spent sealed radioactive sources. The waste treatment plant at the moment does not exist. There are ongoing activities on refurbishment of existing old building which is planned to be transformed to serve as a waste processing facility. In the same paragraph it is also written: "The liquid radioactive waste is stored in three reinforced concrete storage pools" which is also not correct. The liquid radioactive waste is stored in four underground liquid waste tanks made of concrete with stainless steel liner.
- (2) In the chapter The Vinča Institute of Nuclear Sciences and its surroundings in the spatial and urban plans, second paragraph, is written: "It mentions that systematic geological explorations of nuclear minerals (uranium and thorium) were discontinued, primarily because of the moratorium that prohibits the new construction of nuclear power plants until 2015." Part of the sentence related to "moratorium that prohibits... until 2015" is incorrect. Law prohibiting construction of nuclear power plants (Official Gazette of SFRY No. 35/89, Official Gazette of FRY No. 12/95, Official Gazette of RS No. 85/05) is in force (this is not moratorium) and there is no any time limit for its validity.

The authors have to comment part of the text titled Spatial Aspects of Development and Protection from Radiation at Nuclear Facilities Locations on the pages 100-101. In this part of the text, the conditions for siting of nuclear facilities are listed. Authors do not have a full insight to the documents [12] Geology in the Siting of Nuclear Power Plants, Hatheway, A. W., McClure, C. R and [13] Local Planning v. National Policy: Urban Growth Near Nuclear Power Stations in the United States, Greenberg, M. R., *et al.*, which are referenced in this chapter but in their titles are clearly stated "Nuclear Power Plants". The applicability of such documents in the case of Vinča site is questionable. We wish to pay attention to the publication IAEA Safety Standard Series No. SSG-35, Site Survey and Site Selection for Nuclear Installations published in 2015 by International Atomic Energy Agency, Vienna. In this publication, Chapter 6. Siting for Nuclear Installations other Than Nuclear Power Plants, is clearly written that "the graded approach ... provides guidance for siting (site survey and site selection) for a broad range of nuclear installations other than nuclear power plants". These installations include, among others, research reactors and installations for the predisposal management of radioactive waste. It is also written: "For the purpose of siting, these installations may be graded on the basis of their potential radiological hazards and non-radiological hazards, *e. g.* the presence of flammable, explosive, toxic or corrosive materials."

Nevertheless, the authors would not like to diminish importance of conclusions given in the Article stressing that the presence of the huge illegal settlement in the vicinity of Vinča site and the necessity of an immediate action is not questionable *et al.*

The authors believe that the publication of these well-meaning comments will be of benefit not only to the authors of the Article, but also to all who work or intend to work in this field.

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## COMMENTARY ON THE LETTER TO THE EDITOR

*Commentary on the Letter to the Editor by Ivana AVRAMOVIĆ and Milan VUJOVIĆ, according to the article entitled „THE SPATIAL AND URBAN PLANNING CONCERNS RELATED TO NUCLEAR FACILITIES LOCATIONS – Case Study of the Vinča Institute Location” by Nebojša D. STEFANOVIĆ, Nataša M. DANILOVIĆ HRISTIĆ, and Boško D. JOSIMOVIĆ published in the Nuclear Technology & Radiation Protection journal: Year 2017, Vol. 32, No. 1, pp. 99-108*

### From the letter

In the chapter Vinča Institute of Nuclear Sciences – location, functions and problems, third paragraph, is written: ”The storage facility consists of two hangars and solid waste treatment plant” which is not correct. The storage facility consists of three hangars (named H1, H2 and H3) and the Secure Storage for spent sealed radioactive sources. The waste treatment plant at the moment does not exist.

### The commentary of the authors

The quoted section of the text was written by the authors on the basis of the available literature without later, more detailed and accurate information referred to in the commentary. The authors fully endorse and agree with the comments, with a remark that it does not influence the aspect of land use demands in the process of spatial and urban planning and final conclusions.

### From the letter

There are ongoing activities on refurbishment of the existing old building which is planned to be transformed to serve as a waste processing facility.

### The commentary of the authors

The authors fully agree with the commentary, with a remark that it comes to activities that are in progress or are planned, of which the authors did not have the knowledge of, on the basis of the available literature, and that these activities are not of importance for the conclusions of the paper.

### From the letter

In the same paragraph is also written: ”The liquid radioactive waste is stored in three reinforced concrete storage pools” which is also not correct. The liquid radioactive waste is stored in four underground liquid waste tanks made of concrete with stainless steel liner.

### The commentary of the authors

The quoted section of the text was written by the authors on the basis of the available literature and without later, more detailed and accurate information referred to in the commentary. The authors fully endorse and agree with the comments, with remark that it does not influence the aspect of land use demands in the process of spatial and urban planning and final conclusions.

### From the letter

In the chapter The Vinča Institute of Nuclear Sciences and its surroundings in the spatial and urban plans, in the second paragraph, it is written: ”It mentions that systematic geological explorations of nuclear minerals (uranium and thorium) were discontinued, primarily because of the moratorium that prohibits the new construction of nuclear power plants until 2015.” Part of the sentence related to ”moratorium that prohibits... until 2015” is incorrect. Law prohibiting construction of nuclear power plants (Official Gazette of SFRY No. 35/89, Official Gazette of FRY No. 12/95, Official Gazette of RS No. 85/05) is in force (this is not moratorium) and there is not any time limit for its validity.

### The commentary of the authors

The authors refer to the provision of the law from 1989, but fully accept the comment that the character is not a temporary measure. The aim of the authors was not a further consideration of later changes to the legislative framework, which is not relevant to the conclusions of the paper. Authors, at the same time, accept the comment that provides a further insight and points out the still active prohibition.

### From the letter

The authors have to comment the part of the text titled Spatial Aspects of Development and Protection from Radiation at Nuclear Facilities Locations on the pages 100-101. In this part of the text, conditions for siting of nuclear

facilities are listed. Authors do not have a full insight to documents [12] *Geology in the Siting of Nuclear Power Plants*, Hatheway, A. W., McClure, C. R and [13] *Local Planning v. National Policy: Urban Growth Near Nuclear Power Stations in the United States*, Greenberg, M. R., *et al.*, which are referenced in this chapter but in their titles are clearly stated "Nuclear Power Plants". The applicability of such documents in the case of Vinča site is questionable. We wish to pay attention to the publication IAEA Safety Standard Series No. SSG-35, *Site Survey and Site Selection for Nuclear Installations* published in 2015 by the International Atomic Energy Agency, Vienna. In this publication, Chapter 6. *Siting for Nuclear Installations other Than Nuclear Power Plants*, is clearly written that „the graded approach ... provides guidance for siting (site survey and site selection) for a broad range of nuclear installations other than nuclear power plants". These installations include, among others, research reactors and installations for the predisposal management of radioactive waste. It is also written: "For the purpose of siting, these installations may be graded on the basis of their potential radiological hazards and non-radiological hazards, *e. g.* the presence of flammable, explosive, toxic or corrosive materials."

#### **The commentary of the authors**

The authors had a full access to documents [12] *Geology in the Siting of Nuclear Power Plants*, Hatheway, A. W., McClure, C. R., and [13] *Local Planning v. National Policy: Urban Growth Near Nuclear Power Stations in the United States*, Greenberg, M. R., *et al.* Due to the fact that the specified references are related to nuclear power plants and bearing in mind the importance of spatial demands in the broadest possible sense, the authors of the analysis used the term Nuclear Facilities Locations which is in correlation with the title of *Spatial Aspects of Development and Protection from Radiation at Nuclear Facilities Locations*.

Further in this paper, the authors analyzed as a case study the location of the Institute of nuclear sciences in Vinča, which is specific and unique and by the opinion of the author cannot be considered only as a location for research reactors and installations for the predisposal management of radioactive waste.

In addition to the previous, the authors emphasize that the international and domestic legislative framework defines the minimum of the spatial demands, while it is desirable to define and apply even stricter measures in the methodology of spatial and urban planning, depending on the broader environment and other functions and land uses in surrounding.

#### **Summary comments by the authors**

Although the above comments do not change the methodological and conceptual essence of the paper and its elaborated conclusions, we greatly appreciated the initiative of colleague Ivana Avramović and Milan Vujović from Serbian Radiation Protection and Nuclear Safety Agency, who pointed out the specific facts that have not been mentioned in our paper. We consider that any scientific criticism and controversy, as is the case here, has a multi-dimensional significance in relation to the quality of papers and journals in which scientific criticism and controversy is published, and certainly can be a framework to direct a further research and the opening of new scientific topics in a specific direction. In this context, we would like to thank the colleagues for their comments and owe our thanks to the Editor of the *Nuclear Technology & Radiation Protection* journal who enabled the interactive relationship of the author and the readers of the journal.

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