Public Opinion about Nuclear Energy – Year 2006 Poll

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ABSTRACT

Public information, one of the important activities of the Nuclear Training Centre Milan Čopič at the Jožef Stefan Institute in Ljubljana, is focused on youngsters. Almost one half of every generation of schoolchildren in Slovenia is informed on nuclear energy by live lectures, exhibition, publications and laboratory demonstrations. To measure the opinion of youngsters about nuclear power and get a feedback for our activities about 1000 youngsters are polled every year since 1993 using the same basic set of questions.

Continued operation of the NPP Krško is supported by 76% of youngsters in Slovenia (slightly positive trend from the last year’s 71%). Opposition to NPP Krško operation remains low.

1 INTRODUCTION

Before the beginning of the school year all elementary and high schools in Slovenia are invited to visit the Information Centre which is part of the Nuclear Training Centre Milan Čopič. Not all the schools respond but we have a reasonably good coverage of the communities in Slovenia. We have had more than 1800 visits from schools and other educational institutions since 1993, resulting in more than 93,000 visitors to the Information Centre. Out of 700 schools in Slovenia there are 490 schools from almost every part of the country that have already visited us. The share of those is shown in the map (Fig. 1) for each local community.

In the school year 2005/2006 we had more than 8000 visitors (almost one half of a generation of schoolchildren in Slovenia). Most youngsters were from the 7th and 8th grade of elementary school (age 14 to 15).

The mainstay of the visit is a live lecture about nuclear energy and radioactive waste. It is followed by the guided tour of the permanent exhibition about nuclear technology consisting of fission, radioactive waste and fusion departments and demonstration of basic facts of radioactivity in a lab. The bilingual (Slovenian/English) “Mini Encyclopaedia of Nuclear Technology”, a colour 60 page brochure, is freely available for every visitor. More interested visitors are offered a tour of the research reactor TRIGA.

During springtime, when we get the most visitors, some 1000 youngsters are polled [1, 2]. Since the establishment of the Information Centre in 1993 we maintain essentially the same basic set of questions derived from the early public opinion research of the Faculty of Social Sciences in Ljubljana twenty years ago [3]. Polling of the youngsters is done strictly at the beginning of the visit (before any information is conveyed) to obtain unbiased opinions based on the knowledge from everyday life.
In the year 2004 we also polled professionals (our colleagues at the Jožef Stefan Institute) using the same questionnaire.

![Geographic distribution of visits (cumulative since 1993) at the Info Centre](image)

Figure 1: Geographic distribution of visits (cumulative since 1993) at the Info Centre

2 **RESULTS OF THE 2006 POLL**

Results of the poll are based on 1044 questionnaires answered by youngsters in the spring 2006 and 219 questionnaires answered by professionals working in the area of natural sciences at IJS in 2004. Results are presented in the form of graphs and comments to the questions in the questionnaire. The questions may be divided into following groups:

- General relative perceptions of risks and environmental dangers,
- Knowledge and understanding of some basic facts of nuclear energy and radioactive waste,
- Personal opinions about reasons for the production of nuclear electricity and the future of nuclear energy in Slovenia.

The poll is not representative for the general public of Slovenia. When interpreting the results one has to consider that youngsters may have more relaxed attitudes toward different risks than adults but their positions reflect opinions they hear in their families and media information. The trends that we monitor over the years are more indicative than absolute numbers.

Polled professionals from the Jožef Stefan Institute are also not representative of general public. However, the great majority of them work outside the field of nuclear energy.
2.1 General questions about risks, environment and acceptability

Youngsters in Slovenia view nuclear energy as the greatest risk among eight human activities that span a wide range of statistically measured risks. This perception is similar in most countries, but it is surprising that risks like smoking, alcohol, traffic etc. are rated reasonably well as compared to risks based on Loss of Life Expectancy (LLE) [4]. Professionals polled in this study rated risks similarly as the youngsters, except for nuclear energy.

Figure 2: Results of the poll related to ranking of human activities by perception of risk
(Actual risk based on calculated Loss of Life Expectancy)

Figure 3: Results of the poll related to the question “What is most dangerous to the environment?” (3 answers allowed)
The perceived threat of radioactive waste and radiation from nuclear power plants remains overrated as compared to pollution and greenhouse effect and didn’t change much in the last few years. Surprising is that media news about the potential new block of the NPP Krško and the selection process of potential low and medium radioactive waste disposal sites is not visible in the poll result.

2.2 Understanding some basic facts of nuclear energy, radiation and radioactive waste

![Figure 4: Results of the poll related to agreement with the statements about basic facts on nuclear energy, radiation and radioactive waste](image)

There is very little about nuclear energy and radiation in the school curriculum in Slovenia. The media covers mostly economical or nuclear safety related contents connected with NPP Krško. Facts connected with radiation are the least understood because they never appear in the media (in positive sense). The results of the poll have slightly improved from the last year but are disappointing. Some 40% of respondents believe that radiation from radioactive waste repository can be detected 1 km from the site, just 30% of respondents know that nuclear energy does not contribute to the greenhouse effect.

We can not blame ourselves or attribute the deficient knowledge entirely to the school’s curriculum. The deeper reason may be a waning interest in natural sciences and technology among the youngsters which is of course the reflection of the general situation in today’s society in Slovenia and wider.
In the last few years the sum of answers for “spent fuel” and “used dresses, tools and other radioactive materials” is almost constant at about 50%. This is an indication that about half of the respondents are vaguely aware that it is mainly radioactive waste from the nuclear power plant that will find its place in the repository. Almost one third of respondents don’t know and the share of correct answers in the last years is disappointingy low.

2.3 **Opinions about production of nuclear electricity in Slovenia**

Figure 6: Results of the poll related to the question “What are the reasons for the use of nuclear energy?” (Only one answer allowed)
The youngsters rate economical advantages of nuclear electricity higher than environmental advantages, probably due to the coverage of economic aspects of NPP Krško in the media. The polled professionals view the cleanliness of nuclear energy as the major advantage.

Figure 7: Same as Figure 6, Comparison youngsters - professionals

Figure 8: Results of the poll related to the question “What are the reasons against the use of nuclear energy?” (One answer allowed)
Disposal of spent fuel and possibility of an accident are seen as main reasons against the use of nuclear energy by youngsters and surprisingly also by the polled professionals. It is unclear if this is their professional opinion or indication of their awareness of present low social acceptability.

The support for the operation of the NPP Krško till the end of its life-time has risen by a few % after it has been dropping for several years. The overall support for nuclear energy (“Until the end of life time” + “Build a new one” = 76%) is high. Shutdown options remain low.
3 CONCLUSIONS

The following conclusions can be drawn from the answers obtained in the 2006 poll of 1044 youngsters in the Information Centre at the Nuclear Training Centre Milan Čopič and 219 professionals working at the Jožef Stefan Institute:

- Risks of anything connected with nuclear power and radiation are overrated as compared to risks in everyday life.
- Comprehension of nuclear energy, radiation and radioactive waste is poor or nonexistent. The underlying reason is probably a waning interest for natural sciences and technology among the youngsters which is of course the reflection of the general situation in today’s society in Slovenia. Lack of proper knowledge warrants constant information activities.
- Youngsters do not apprehend beneficial environmental implications of nuclear energy, which are highly valued by professionals, but recognize economical advantages. Disposal of spent fuel and possibility of an accident are perceived as major obstacles.
- Support for the operation of the NPP Krško till the end of its life-time has risen by a few % after it has been dropping for several years. The overall support for nuclear energy (“Until the end of life time” + “Build a new one” = 76%) among youngsters is good. Shutdown options remain low.

REFERENCES


