




Repository site selection experience in Slovenia: local partnerships development and implementation

Nadja Železnik, REC, Slovenia



REGIONAL ENVIRONMENTAL CENTER
Slovenia




Introduction

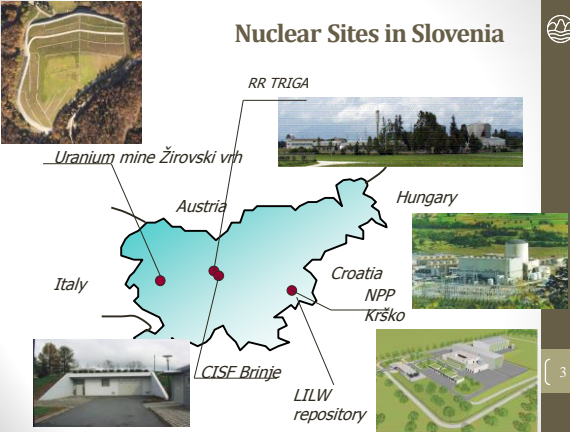
- Slovenia is having small nuclear program, but is producing all different types of radioactive waste (RW) and spent fuel (SF)
- Brief history:
 - First use of radioactive sources from 1902 on for treatment with radium applicators used experimentally in Ljubljana hospital,
 - Later used all over the country in many hospitals, in industry and research (Nuclear research institute Jožef Stefan – established in 1949),
 - In 1966 TRIGA research reactor constructed at Brinje Reactor centre (near capital) having storage for SF rods,
 - In 1982 start of uranium ore extraction until 1992 at Žirovski vrh, now under closure,
 - In 1983 (1981) NPP in operation at Krško in co-ownership with Croatia, storage of LILW and SF on site,
 - In 1986 operation of Central interim storage facility at Brinje Reactor centre intended for storage of RW from small producers,
 - In 2009 selection of site for LILW repository in Vrblina, Krško.

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Nuclear Sites in Slovenia



RR TRIGA

Uranium mine Žirovski vrh

Austria

Hungary

Italy

Croatia

NPP Krško

CISE Brinje

LILW repository

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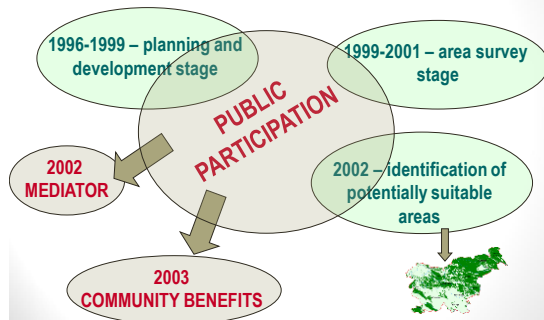
Main legal frames in Slovenia

- Nuclear legislation in place from 1980 on with allocation of responsibilities
- Agency ARAO (WMO) is implementer from 1991 on
- Resolution of relationships with Croatia by Bilateral agreement on NPP Krško in 2003
- Repository as solution for short-lived LILW:
 - New Atomic act from 2002 with amendments, decrees and regulations
 - Strategy of Spatial Development in 2003
 - Program of NPP Krško Decommissioning and SF&LILW disposal in 2004
 - National program on radioactive waste and spent fuel management in 2005



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Mixed mode approach in RW repository siting – considering technical and social issues



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Main characteristics of communications activities of ARAO

- Two way communication and information activities.
- Use of different tools of communications and programs.
- Cooperation of public is voluntarily!
- Public is represented by many different groups – stakeholders for which special programs are foreseen.
- Communication activities always run before choosing the essential choices in approach of siting.
- Activities run continually, but slowly.



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An „idle“ period after a failed site selection process in 1993



- **Educational material**
 - Booklets (leaflets) on radioactivity, radwaste, RWM (youth)
 - Books, Q&A, magazine (professionals, decision makers, journalists, NGOs)
 - Video cassettes, CDs (general public, youth), social media
- **Web site** with regular news and info,
- **Permanent exhibition** on radioactivity, radwaste, RWM (youth)
- Systematically building relations with **media** – reporting on radwaste management should become normal, not connecting with negative meaning
- Systematically relations with **NGOs** and special programs for involvement
- **Press clipping** (feedback, information on interesting topics, stakeholders views)
- **Public opinion polls** – **regular** since 1995 - opinion, knowledge, trends (general public, journalists, politicians, environmentalists) and **particular**

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ARAO information materials





Web pages:
<http://www.gov.si/arao/>
Books, leaflets
Annual reports
Visitors Centre
Magazine RAOPIS
Articles in media
Radio/TV broadcasts
Video cassettes
CD-ROMs
Posters
Brand for activities

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ARAO communication activities





Mediator
Web forum
Study circles
Open Door Day
Workshops for stakeholders (local authorities, NGOs, national politician)
International participation and projects (COWAM, CARL, IAEA,...)
Local Partnerships

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Mediator: how it worked -1

- Mediator was introduced in the process in 2002.
- The criteria for selection:
 - university education from natural/technical background (easy to understand),
 - able to speak with different public (extraverted with affinity to contacts),
 - political experiences plus,
 - strong empathy skills,
 - preferably woman,
 - service contract (fixed payment/month).
- Selection within ARAO plus external experts (psychology, sociology).
- Spatial training performed.



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Mediator: how it worked -2

- The fact that she was hired by ARAO was made public.
- The aim of the work: establish contacts with municipalities, present the site selection to the target audiences, obtain the comments, suggestions and interest from different parties.
- The mode of work: monthly reporting to ARAO, modification of the approach, opening the connections and providing more information if needed.
- She established contact in 60 municipalities (out of 193), and assured possibilities for several direct contacts with ARAO.
- When the formal invitation was published the mode of work changed and become more supportive rather than proactive.

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Participation of local communities – consideration of Aarchus Convention

- Participation of public, published in 2004:
 - 1. phase: ARAO invites local communities to participate
 - 2. phase: prefesability assessment of the public acceptability in local communities
 - 3. phase: establishment and implementation of local partnership

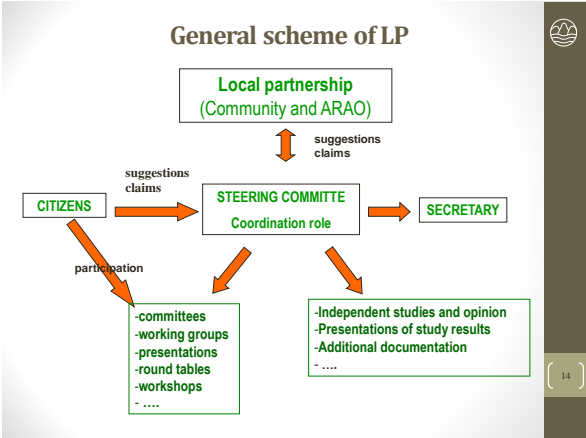
Nov.2004	Apr.2005	May 2005	Jul.2005	Nov.2005	Jan.2006	Mar.2006
Invitation to LC to participate	End of bidding process	Theses for local partnership	Pre-feasibility study	Govern. decision on 3 LP	Commun. activities	Signing of LP
Phase 1		Phase 2			Phase 3	

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Assessment of potential locations- feasibility study

Aspect/parameter	Use of the Aspect	Exclusion parameters
Passive safety (volume of suitable geological formation, simplicity of geological layout, lithology, hydrogeological setting, recent movements along active faults, human caused rock disintegration, slope stability, erosion and sedimentation)	Comparative Exclusion	volume of suitable geological formation, hydrogeological setting, human caused rock disintegration, slope stability, erosion and sedimentation
Technical functionality (location size, morphology, availability for different disposal concepts, transport, extent of investigations)	Comparative Exclusion	location size, morphology
Economic (investments in investigations, investments in site, financial demands of construction, transport expenses)	Comparative	Not applicable
Environmental (protection of natural values and heritage, water resources protection, cultural values protection)	Comparative Exclusion	protection of natural values and heritage, water resources protection, cultural values protection
Spatial (conflict with spatial acts and developments, settlement distribution)	Comparative Exclusion	conflict with spatial acts and developments, settlement distribution
Public acceptability (objective, subjective, referendum)	Comparative Exclusion	Referendum

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Functioning of local partnership

- **formal** (preparation of National spatial plan for LILW repository, EIA process,...),
- **informal** – discussion (field investigation, design solutions, safety, development possibilities due to compensation, societal and health issues,...),
- **to organize broader discussion** and forming of working groups, informing of public, independent expert opinion,
- decision making process stays with local council and other bodies of local autonomy, **LP has advisory role.**

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Funds

- Secretariat and administration costs,
- Expenses for work of reporters and reviewers,
- Expenses for committees, presentations, visits, information...
- Independent studies and experts.
- LP fund:

in €	2006	2007	2008	2009
Local partnership	84.000	96.000	96.000	96.000
Independent studies	42.000	41.750	41.750	41.750

- Compensation decree 233.118 EUR for limited land use during field investigations.
- Community benefits in value of 5 mio €/year after site approval (until repository closure).



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Situation – site selected



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Cooperation in local communities 1

- Presentations of site selection process and topics on radioactivity, RW for local community and citizens groups,
- Visits to Information center and Central interim storage for RW for specific groups of local residents,
- Information point in the local community, web pages of local partnership and ARAO,
- Cooperation with local media – 3 to 4 articles per month,
- Information for municipality and local councils on local partnership activities.
- Involvement in international projects (CIP, CARL, OBRA).



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Cooperation in local communities 2

- Public presentations of requested independent studies:
 - Expert opinion on assumptions about the presence of radioactive waste in closed mine Dečno selo, analysis of samples,
 - Occurrence of cancer in municipality Brežice compared to the rest of Slovenia,
 - Measurements of specific radionuclides in food samples harvested on the area of municipality Brežice and environmental radioactivity measurements,
 - Legal aspects and regulation restrictions.



Cooperation in local communities 3

- Public presentations of requested independent studies:
 - Types of compensation and other financial incentives for local communities with nuclear facilities,
 - Assessment of LILW repository impact on local community developmental potential,
- Visit of LPs to the repository in France and Hungary –exchange of views with local municipalities.



Some people think that siting of the repository would be positive for the municipality, some think it would be negative. What is your opinion? Krško, May 2009

	Municipality	1500 meter zone
YES, no objections	36,8	10,2
YES, under condition	24,3	40,7
AGAINST	35,2	47,5
Do not know	3,7	1,7

Conclusions

- Communication and stakeholders involvement (participation) need to be planned in advance.
- How do to it depends on the stage of the project, political, historical and societal context.
- The optimal result is achieved if stakeholders (target groups) are in a way involved already in the elaboration of plans (opinion polls, questionnaires, interviews,...).
- The implementer needs to be proactive – **plan, implement, assess, modify and improve.**



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Thank you for your attention!



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