

EP&R activities - SLOVENIA

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Nadja Železnik, Andrej Klemenc,

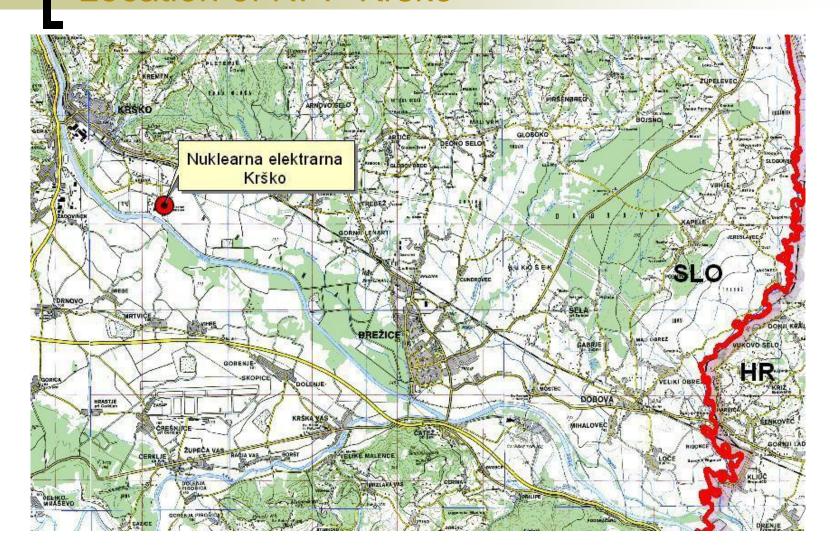
Regional Environmental Center (REC), Slovenia

Nuclear power plant Krško

NPP Krško:

- PWR, Westinghouse, app 700 MW electrical
- Co-owned 50: 50 % between Slovenia and Croatia
- Located in SE of Slovenia near city Krško,
- Cities :
 - Krško (3 km), Brežice (6 km), Brestanica (7 km), Kostanjevica na Krki (13 km), Sevnica (18 km), Novo mesto (32 km), Ljubljane (70 km), in Slovenia
 - Zagreb (35 km) in Croatia
- On site: 121 FA in core, SF pool with app. 900 spent fuel assemblies (16x16 rods in 1FA, 3.67 m long, UO2, enrichment up to 5%), damaged FA in the pool.
- Refueling every 18 months now: app. ½ of core removed.
- Theoretical prolongation of life time from 2023 until 2043 approved,
- Plans for LILW repository next to NPP, dry storage for SF on site, new NPP built??,
- SF and HLW disposal after 2065.

Location of NPP Krško



EP&R arrangements in Slovenia

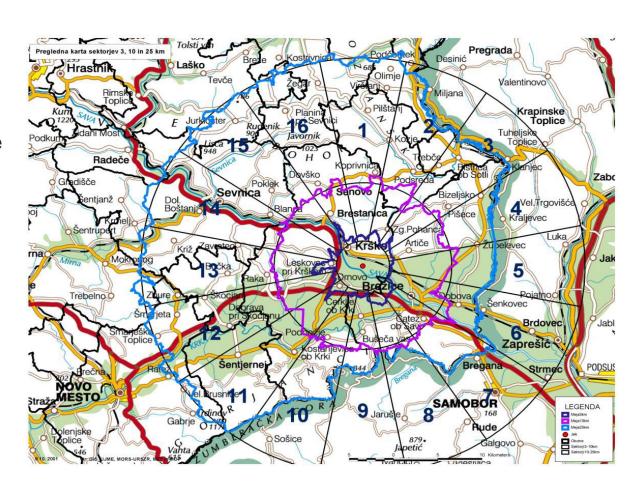
- State emergency preparedness and response plan in case of nuclear or radiological accident, version 3, 2010, novelation 11/2013
- Municipaluity Krško EP&R plan, version 3, October 2012
 - Mayor of Krško Franc Bogovič: "... In independent Slovenia there is less attention for this as in previous times." (2008)
 - But Krško sucsefuly implemented the EU project "Prepardness on the evacuation in case of nuclear accident" connecting 3 cities of Krško, Zagreb and Cernavoda (Romania) and a number of institutions
- Municipality Brežice EP&R plan, version 3, December 2013
 - Majority of population in radius 10 km, preveiling wind direction
- Regional EP&R plan for Posavje, version 3, 2011
- Plans at SNSA, NPP, other nuclear operators

Emergency planning zone

Slovene provisions

- Precautionary action zone(PAZ) = 3 km
- Urgent protective action zone (UPZ) = 10 km
- Long term protective action zone (LPZ) = 25 km
- Transboundary effects
- A lot of population in Croatia within LPZ

Croatian are now starting with defining limits



Comparisons of findings in ENCO study – is this reality?

Table 5-1: Benchmarking for countries with NPP

	BE	BG	CZ	FI	FR	DE	HU	NL	RO	SK	SI	I AI
Requirement (IAEA GS-R-2)												
General requirements												
1. Basic responsibilities												
Functional requirements												
2. Establishing emergency management and operations												
3. Identifying, notifying and activating												
4. Taking urgent protective action												
5. Providing information and issuing instructions and warnings to the public												
6. Protecting emergency workers												
7. Assessing the initial phase												
8. Managing the medical response												
9. Keeping the public informed												
10. Taking agricultural countermeasures, countermeasures against ingestion and longer term protective actions												
11.Mitigating the non-radiological consequences of the emergency and the response												
12.Conducting recovery operations												
Requirements for infrastructure												
13. Authority												
14.Organization												
15.Coordination of emergency response												
16.Plans and procedures												
17.Logistical support and facilities												
18.Training drills and exercises [Questions 7.1, 7.2]												
19.Quality assurance programme [Questions 6.3, 7.1, 7.2, section 11]												
EU Requirements (Basic Safety Standards Directive, Public Information Directive, Regulations on food intervention levels)												
BSS Directive (96/29/Euratom)												
Article 50. Intervention preparation												4
Article 51. Implementation of intervention												
Article 52. Emergency occupational exposure												
Article 53. Intervention in cases of lasting exposure												
Public Information Directive (89/618/Euratom)												-
Article 5. Prior information												
Article 6. Information in the event of an emergency						i _						
Article 7. Information of persons who might be involved in the organization of emergency assistance												
Article 8. Information procedures												
Regulation laying down maximum permitted levels of radioactive contamination of foodstuffs (Council Regulations												
3954/87 and 2218/89 and Commission Regulation 944/89)												

Challenges -1

- Discussions with responsible at Slovene nuclear safety administration (regulatory body), at Administration for protection and rescue (state responsible administration at Ministry of defense), at regional administration.
- Many exercises 700 working hours in 2013 from very simple (telephone connection drills), to real exercises of on- and off- site EP&R
- Problems:
 - Monitoring preparedness:
 - only 1 team of authorized and competent persons, in case of long term needs, there would be a problem,
 - Sufficient equipment for measurements (calibrated and certified)
 - Decision making system is not in place (transfer of data)
 - No GIS in support
 - Management of response without expert (radiological)
 - Communication and notification:
 - Changes in the field (based on measurements) and transfer of information (1 h delay)
 - Notification from state responsible administration
 - No constant operational room for EP&R at premises (in Ljubljana)
 - Wrong contacts on the list (yesterday example)

Challenges -2

Problems:

- EP&R at municipalities Brežice and Krško
 - No proper preparedness, no local media (radio) for informing
 - 1 person for 5 EP plans in 1 municipality
 - Iodine prophylaxes leaflet distributed in summer 2013 (after 30 years of NPP operation), only 16 % of population took the tablets in 10 km zone
- Exercises
 - Many remarks, but problems with implementations
 - Conclusions are not taken in the novelation of plans
 - Only limited to Slovenia territory, although in LTZ a lot of population in neighboring Croatia

Medical support:

- At Clinical center in Ljubljana proper equipment for only few people
- No agreement with other medical centers

Trans boundary arrangements

- First discussions on cross border cooperation in January 2014
- case of refusal of "contaminated" person to be taken to Zagreb hospital
- QA/QC (maintaining the plans, or new plans)
 - Poor maintenance,
 - No improvement based on drills and exercises
 - Some plans are missing (Ministry of Agriculture and Environment, Ministry of Health)

Prepardness on the evacuation in case of nuclear accident: NPP Krško - results

- Opinion survey contacted in October 2012, University of Ljubljana:
 - random in the population within 3 km from NPP with N=502
 - additional interviews with 12 directors/heads of Krško institutions and companies
- Material in the survey:
 - Perception of threaths
 - Assessment of the probability of a nuclear disaster
 - The prepardness to evacuate
 - Response to warning
 - Behavioue during evacuation
 - Transportation and temporary housing
 - Trust in institutions

Some results from survey

- Perception of threat of nuclear accident: 2.59 out of 4 (more women, married, family members with disabilities)
- Evaluation of likelihood of nuclear disaster: 52.6 % belive that such a disaster in unlikely (30 % likely or probably - lower education, income)
- Knowledge of protective measures in the event of nuclear disaster: only partly familiar with measures (more than 50 % not or only partly)
- Preparedness to evacuate: more than half do not have knowledge of basic key information (distributed by municipality in 2008), 71 % do not know the place of their reception, 66 % do not know the evacuation routes
- Preparedness in local institutions: organisation of evacuation would be a problem, not included in drills, no protective equipment

Round table

- Cross border aspects Krško NPP and all near communities including Croatia
- October 2014, in Krško or Brežice
- Invited:
 - Official institutions: civil protection responsible, regulatory bodies in Slo and Cro, police, fire protection,.....
 - municipalities,
 - NGO,
 - Civil society
 - Guests (NTW,...)
- To obtain responds for EP&R arrangements from the civil society and to improve the system in the future
- Costs: some minor amounts for travel expenses of representatives from civil society, coffee, 1000 €

Activities

- Review of status of preparedness with evaluation of plans, discussion with responsible organization and responsible individual – analyses and interviews
- Review of research already performed surveys results
- Obtain respond from the questionnare developed in the EP&R methodology
- Round table on Trans boundary issues Slovenia, Croatia,
- Preparation of report according to the format for Slovenia:
 - analyses of the situation, results from discusions,
 - results from questionnaire,
 - comparison of the EC study examining the reality of EP&R by national investigations with involvement of responsible and affected people (experts, fire brigades, mayors, local population, NGOs, citizens, etc.),
 - Outcomes from the Round tables,
 - Suggestions and recommendations,