

# Multilevel Stakeholder Consensus Building in Radioactive Waste Management

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# The Source of the Problem

The 2 main set of **phenomena** inducing the emergence and actuality of the problem:

- I. The growing **concern of society** about the decision-making policy in RW management area;
- II. The increasing worldwide tendency of **globalization**, including the growing **interest of a worldwide nuclear community** in development of **multi-national projects and facilities**
- III. A **new problem** – to reach a **consent** among **international partners**, in addition to solving the whole set of **intra-national consensus building issues**

# Reason I – *the growing concern of society*

- 1) The increased **demand of modern society** for its **quality of life**
- 2) **Aggravated social acceptance** of a new **siting** project and of **RW disposal policy** on the whole
- 3) More **active public participation** in the **decision-making** process
- 4) **Active development of stakeholder involvement** and participating methods
- 5) The **basic task** in societal area – to **reach stakeholder consensus** for implementation of nuclear projects in practice

## Reason II – *the increasing globalization*

- 1) The growing **interest of a worldwide nuclear community** in development of **multi-national repositories** of RW deep disposal
- 2) The **key problem** in arrangement of multinational repositories – the **siting**: the choice of the **host**
- 3) The **global** scale brings a **new task** – to **reach a consent** among **international partners**, in parallel with more conventional efforts of **intra-national consensus building**

# Major strategic aims of multilevel stakeholder involvement

- To **convince** the involved parties about the benefits of shared facilities and finally – to **gain a sufficient** political and social **support** of the participating countries
- **Establish** the structures and processes of **management** and goal-oriented **guidance of stakeholder activities**
- An actual **necessity** - to develop **interdisciplinary approach and** research tools
- On this basis - to **upgrade stakeholder involvement** methods **aimed at reaching consensus** at all levels
- To **develop** a policy and methods for **management of possible economic risks**

# An extended concept of the stakeholder framework

Here appear novel stakeholder classes, forming an extended stakeholder community:

1. **Inter-national** stakeholders:
  - a) international **administrative-political** bodies
  - b) **business** organizations
  - c) **professional** associations
  - d) **public** bodies
2. **National** stakeholders – the **government** and governmental institutions
3. **Intra-national** stakeholders – traditional

# The National stakeholder

A **novel problem** for the each partnering country – the **national stakeholder**:

- 1) **Simultaneous seeking**:
  - a) an **upward (inter-national)** consensus,
  - b) a **downward (intra-national)** consensus ;it means: **the stress and demands from the both sides**
- 2) Seeking an **inter-national** consensus – via interacting with inter-national stakeholders and partnering national stakeholders
- 3) Seeking an **intra-national** consensus – via interacting with **various-level intra-national** stakeholders

# Stakeholder interactions on international level

- The existence of **legal documents** and **guides** to develop multinational repositories (JC, EC, IAEA, OECD NEA docum.)
- The use of **novel knowledge management forms** (the Internet,...) at all stages of the decision-making process
- The main goals of **web-based communication of all-level stakeholders** on the **international scale**:
  - a) for **self-organization (SO)** of stakeholders on the **international level**,
  - b) for **development of international cooperation**,
  - c) to **access to permanently updated information**,
  - d) for **information sharing** among stakeholders with the **aim to provide socially informed decision-making**

# International stakeholder communities

- **International cooperation of national and intra-national stakeholders** – the basis of forming of international stakeholders
- **Inter-national stakeholders** are called forth to **form a proper structural framework** for development of a **multi-lateral nuclear approach (MNA)**
- The **origin of stakeholder community** – **via SO** of various **stakeholder categories** – via their mutual interactions – into **communities** having **common strategic aims**
- The main **forms of international stakeholder communities**:
  - a) Multinational **networks among Regulatory Authorities** (INRA, NERS)
  - b) Multinational **networks among operators** (WANO,...)
  - c) Stakeholders in **international nuclear industry** (WNA,...)

# Development of Partnership of stakeholders

Development of **partnership** between inter-national and intra-national stakeholders - a **key** towards **democratic dialogue**, with the **aim**:

1. To **observe** the **whole** set of **distinguishing interests** – a prerequisite for reaching a **shared understanding** of the disputable issue
2. **Finally** – to build a **multi-stakeholder consensus**, taking into account:
  - a) **distinguishing** national **legislation** and **time-schedules**
  - b) **RW transportation** policy
  - c) **public attitude** – as a probable **source of disputes** between partnering countries

# Synergetical mechanisms of stakeholder consensus seeking

1. The **basis of synergetical approach** to stakeholder interaction problem – **informational SO**, by forming a knowledge-creating stakeholder community
2. **Basic mechanisms of SO – cooperation and competition** – among individuals, public bodies/groups, companies, institutions
3. **Disputes and controversies** between stakeholders – natural **consequences of the development** process: i.e., development
  - a) of stakeholder interactions
  - b) of the whole plan of facility arranging
4. To raise an **actual** task to be solved –
  - a) to learn to **guide** such **SO processes**
  - b) to **establish** optimal **balance and interrelations** between the **cooperation and competition** elements

# The role of chaos elements (I)

1. The elements of **chaos** –premises of **novelty** generation, i.e., **new relations** giving **better** mutual **understanding**.
2. Constructive chaos of **managerial nature** - in a **non-rigid approach to the choice of** the final **host-country** of a multi-national repository.
3. Allows for the involved parties to **develop a step-by-step approach** to solution of the repository **siting** problem – i.e.,
4. to accomplish **continuing corrections** and updates of **previous proposals** towards finding an **optimal** solution.
5. This **supports** the existing proposals on multi-national objects: to **pend a choice of** the **host** country **till the final** stage.

# The role of chaos elements (II)

1. **A flexible approach** in the siting strategy actualizes the **beneficial role of intermittent chaos (IC)** in relations among interacting parties
2. **IC** - as a facilitator of **minimization** of possible misunderstandings and **controversies between interacting parties**
3. **IC** could **exist in** the form of
  - i) **mutual flexibility** among interacting stakeholders
  - ii) the **capability** of flexible **creative thinking** in the problem solving
4. Availability of **intermittent chaos** could **stabilize the SO processes** and **prevent** emergence of **controversies**

# Fuzziness as a tool of consensus building (I)

1. **Flexibility** in the siting strategy provides some elements of fuzziness – **efficient** in cases of possible **misunderstandings**
2. The **most important element** of **fuzziness** – the **fuzzy logic**
3. The **key of fuzzy logic's** – the classic “Yes”-”No” plus a **probabilistic component**
4. This would **promote to generate** various **combinations** among **contradicting opinions** and proposals via **combining** them in some **novel inference**
5. **Fuzziness in the siting strategy** of multi-national facilities and in our **thinking and language** patterns will **facilitate societal SO** and provide a **complementarity** feature
6. **Complementarity in stakeholders communication** can **reduce** their **mutual misunderstanding** in decision-making

# Fuzziness as a tool of consensus building (II)

6. **Fuzziness** could foster an optimal balance between **cooperation and competition**, thus promoting **SO** of **stakeholders**, and finally – their **consensus building**
7. **L.Zadeh** thesis: **elements of thinking** are **elements of fuzzy sets**
8. Thus, the elements chaos and **fuzziness** should be applied in highly **complex** and **uncertain situations**
9. Just *in a fuzzy environment* one can **recommend** to *built consensus* among the **all-level stakeholders** of a multi-national facility
10. For all these aims one can **advice** to **develop** and exercise the **intrinsic fuzziness** feature of our language on the all-level **communications**

# Creativity and systems thinking in consensus building (I)

1. A possible way to acquire a **novel, complementary state of thinking** – to **develop a creative approach** to the world phenomena, problems and values
2. In conditions of mutually differing views and values, just flexible **creative thinking** could promote – **via the SO processes** – development of **integral perception** of our world
3. An elementary creative **act of the novelty generation** – a **SO process** – is **based also on fuzziness** features
4. **Fuzziness** as an essential **component of creativity** will acquire a **primary role** in conditions of aggravated **social complexity**, environmental **uncertainty** and controversies

# Creativity and systems thinking in consensus building (II)

5. **Creative learning & development of creative spirit** – actual for:
  - a) knowledge acquisition,
  - b) in **perception** and solving of **complex multiscale problems**
6. **Mental flexibility and creativity** – basic prerogatives for gaining:
  - a) a higher level of **mutual understanding**,
  - b) preparedness to **act together**,
  - c) to **seek consensus** for seeking **further consensus** in the forthcoming stages,
  - d) for reaching **acceptance by all** stakeholders of the shared facility
7. **Multinational** scale of **consensus seeking** requires to **take into account** the differences in **mentalities** and to **develop cross-cultural** capabilities

# Internal variety and social learning of stakeholder communities

1. **W.Ashby** principle of requisite variety– about the desired **predominance of internal** variety over the **external** variety of a dynamic system
2. Arrangement of **multinational nuclear facilities** will be accompanied by a marked **increase of external variety**
3. An actual **task – to increase internal** variety of the whole hierarchical **set of stakeholder communities**
4. A real way to **increase the internal** variety of stakeholder communities - **via social learning**

# Social learning and risk management

- Social learning – an efficient risk management measure
- In the case of multi-national repository siting the disputes between the host and the partner countries stressed in the areas of possible risks, risk compensations and benefits
- Desvousges H., *The perceived risk of repository – a function of knowledge of repository issue* opens new sides of soc.learning:
  - the unknown factors of the perceived risk can be reduced by informing the affected communities with nuclear risks,
  - another side of soc.learning – the ability to understand how community perceives all risks
- Important step towards mutual understanding – to clarify all stakeholder concerns
- Via communication and involvement – to increase the trust level: openness, caring and competence



# Consensus building between Latvian and Lithuanian stakeholders (I)

1. **Site selection** for the planned **near-surface** RW repository in the **vicinity** of the **Latv-Lith border** for disposal of **LILW- SL RW** from decommissioning of Ignalina NPP
2. Observance of **Espoo Convention** initiated comprehensive **discussions on the site** issue between Lithuanian, Latvian and Belorussian stakeholders, by close and permanent **engagement of inter-national stakeholders**:
  - a) preparation of the **site investigation report** by the Lithuanian institutions jointly with the **Swedish** International Project Nuclear Safety (**SIP**) and **SKB** International Consultants
  - b) International **Peer Review Meeting and Report** – by **IAEA**, with **participation of Latvian and Belorussian** observers

# Consensus building between Latvian and Lithuanian stakeholders (II)

1. In the **intergovernmental** communications Latvia is basically represented by the **National stakeholder** – the **Ministry of Environment**
2. The **governmental position** is formed via **stakeholder communications** and discussions among the **all-level stakeholder** groups: **NGOs**, the local public community at the L-L border , the **State authorities** (RDC, the EIA Bureau...), the **Ministry of Environment**, the **Prime Minister**, the **State President**.

# Conclusions

1. Now we are faced to **actual task** – to develop **approaches** towards **stakeholder communication** and **consensus building** on **international scale**
2. The **actuality** to **increase internal variety** of stakeholders **via** their **social learning**, flexible **communication** and **creative flexibility** in the decision-making processes is **emphasized**.
3. The whole **hierarchical set** of the **stakeholder communities** in their **consensus building** process is called forth to **develop creative mulilateral engagement** and active **international cooperation**.