Purpose and scope of the geotechnical, geological and seismological investigations

Ljubljana, April 26, 2013

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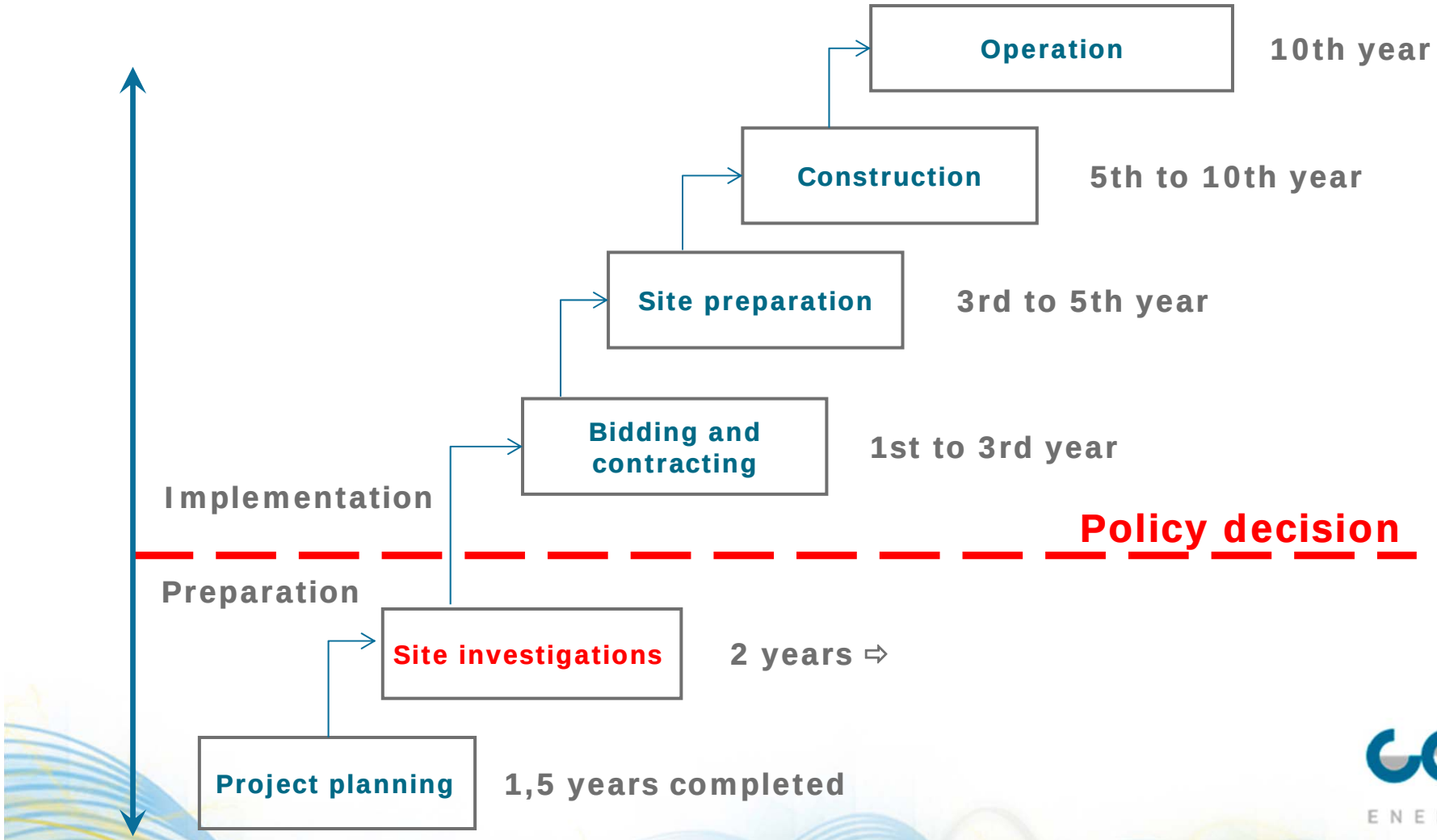
Krško unit 2 project phases



Approach to the site investigation and assessment

The site is being assessed against two main sets of criteria, which are divided to several subsets of criteria

1) Technical and commercial feasibility

Geology	**Cooling**	**Grid**	**Logistics**	**Nuclear Specific**

2) Socioeconomic and environmental feasibility

Land use	**Socioeconomic**	**Environmental**

Careful identification of hazard and major risks is most important.

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Site investigation
NS-R-3: New Units on Existing Sites

Gap analysis for ‘old’ new sites

- Completion of database with respect to the year for which the original data was collected and processed (200 reports)
- Compliance with new national regulations
- Compliance with new IAEA Safety Standards
- New methods of analysis
- Lessons learned from recent external events (9/11, Indian Ocean Tsunami, Blayais flooding, Fukushima accident, etc.)

Scope of study as in SP-TS-03/2006

- Review existing reports
- Carry out field investigations
- Laboratory testing (for soil and rock)
- Review PSHA prepared for Krško NPP – update if necesary, identify controling eartquakes
- Determine:
  - SSE ground motion,
  - the potential for surface tectonic and non-tectonic deformations, and other design conditions

1. Phase 1 -- ▸ preliminary GG&S evaluations to determine site feasibility.
2. Phase 2 -- ▸ include final assesment study and final report.

Institutions and companies involved

- **Consortium Members**
  - BRGM (France)
  - GeoZS (Slovenia)
  - IRSN (France)
  - ZAG (Slovenia)

- **Subcontractors**
  - Drilling company (CTE SPA, Italy), Slovenian Environment Agency (Slovenia), Geostern (Slovenia), Geoexpert (Switzerland), ROVS (Slovenia), University of Ljubljani (Slovenia), Geoinženiring (Slovenia), Geoarh (Slovenia), GEOLOŠKE EKSPERTIZE (Slovenia), Flycom (Slovenia)

- **Independent Reviewer and Advisor**
  - Paul C. Rizzo Assoc., Inc.

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Libna hill trench report

- Inconclusive research results lead to several possible interpretations
  - No agreement on Libna fault characteristics – capable fault
  - No agreement on potential Libna fault impact on site
- GEN requested PFDHA study to evaluate potential impact on site
- IRSN decided to inform GEN with separate letter
- GEN provided response
- GEN and IRSN continue with exchange of information.

  IRSN and GEN are in agreement that PFDHA is an appropriate method to assess the impact of a capable fault for existing plant. As any possible method, it has to be grounded on adequate data.
- Because Consortium does not exist anymore GEN proposed to BRGM to terminate contract
- Additional investigations to characterize Libna fault contracted to Rizzo and subcontractors.

Concluding remarks

GGS Site investigation is chracterized by:

- Geological complexity of the site
- State of the art methods and techniques
- Participation of multinational experts and institutions

Current status

- Only preliminary results of Phase 1 available
- All key elements of the 2004 PSHA study seismotectonic model have not changed
- GEN contracted comprehensive, robust,multidisciplinary investigations to update the understanding of Krško basin area geology
- The investigations are still in process, preliminary results from investigations will be presented today.

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