

Working Group 9

“Urban” Areas

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Progress Report
25 January 2010

2nd EMRAS II Technical Meeting
IAEA Headquarters, Vienna
25–29 January 2010

Interim meeting in Prague July 2009

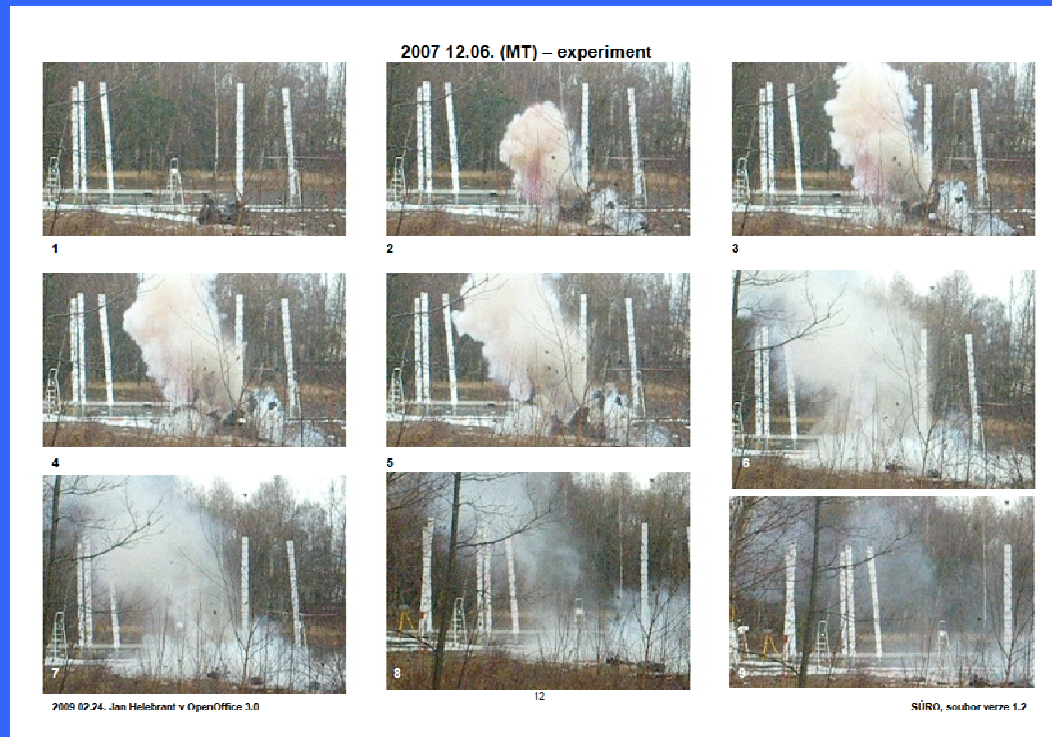


Progress to date

- **Three modelling exercises have been identified**
 - Atmospheric dispersion, short-range
 - Atmospheric dispersion, mid-range
 - Contaminant transport and countermeasures
- **Draft scenario descriptions have been developed**
- **Some preliminary calculations have been made for two scenarios**

Atmospheric dispersion, short-range

- Dispersion from several test explosions
 - Two tests will be used for model calibration
 - Two for will be used for blind testing of model predictions



Atmospheric dispersion, short-range

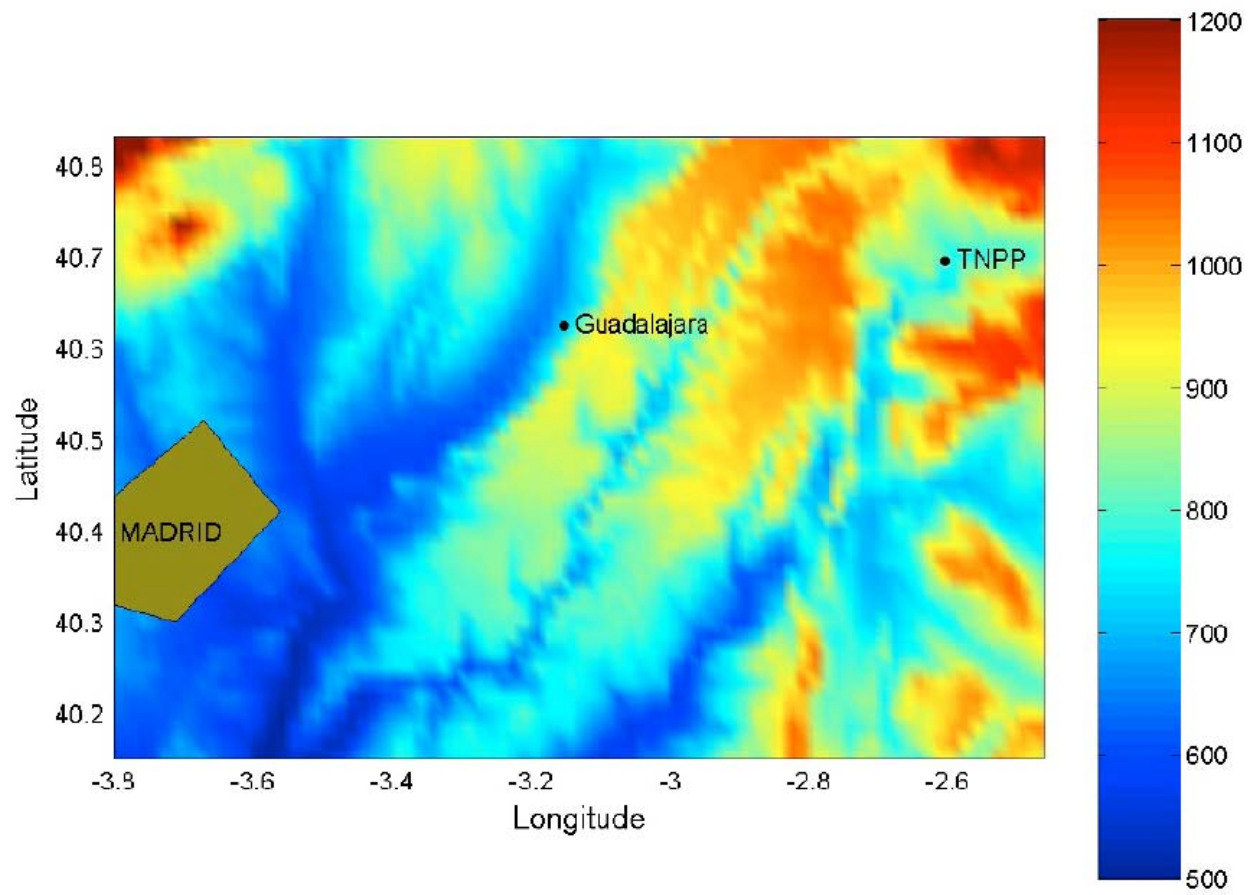
- **Comparison of model predictions with measurements**
 - Contamination densities
 - Dose rates
- **Model intercomparison for additional endpoints**
 - Activity concentrations in air
 - 95% contamination zone
 - Dispersion in the presence of structures (obstacles)

Atmospheric dispersion, short-range

- **Plans for this meeting:**
 - Discuss the July 2009 test
 - Identify any information needed to complete the scenario description
 - Present and discuss modelling approaches and preliminary calculations
 - Develop schedule for completion of exercise

Atmospheric dispersion, mid-range

- **Dispersion from a hypothetical NPP accident**
 - Rupture of a steam generator tube
 - 1 hour, variable release rates
 - Cs-137 and I-131
- **Deposition in an urban environment**
 - Geographical information for Trillo NPP (Spain)
 - Deposition in a small town (Guadalajara) and a big city (Madrid)
- **Model intercomparison exercise**
 - Deposition
 - Activity concentrations in air



Atmospheric dispersion, mid-range

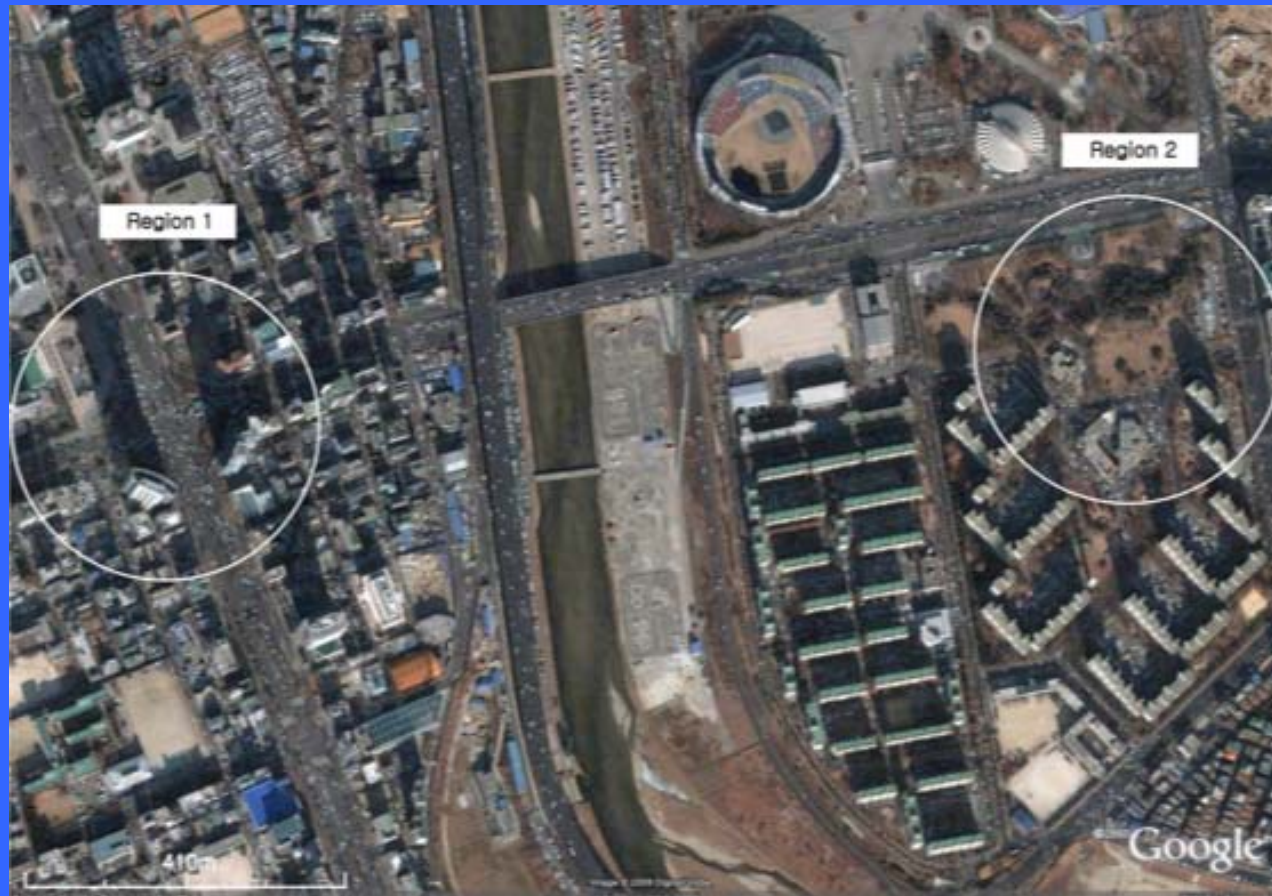
- **Plans for this meeting:**
 - Identify any information needed to complete the scenario description
 - Present and discuss modelling approaches and preliminary calculations
 - Develop schedule for completion of exercise

Contaminant transport and countermeasures

- **Two situations**
 - Predicted deposition from NPP dispersion exercise
 - Defined deposition, detailed description of part of a city (Seoul)
- **Model intercomparison exercise**
 - Contamination densities
 - Dose rates and doses
 - With and without countermeasures

Seoul scenario

- Unspecified deposition events
- Pu-239 and Co-60 (considered separately)
- Business area and park area
- Effects of weather and season



Contaminant transport and countermeasures

- **Plans for this meeting:**
 - Identify information needed to complete the scenario description (Seoul)
 - Present and discuss modelling approaches
 - Develop schedule for completion of exercise (Seoul)
 - Plan development of scenario description based on NPP exercise

Summary of meeting plans

- **Discuss status of each exercise, including information needs**
- **Present and discuss modelling approaches and preliminary calculations**
- **Develop schedules for completion of the exercises**