



EMS/Copernicus pro podporu **cvičení „RESTART 2013“**

Oldřich Mašín
Krajský úřad Pardubického kraje
oddělení krizového řízení

Pavel Sedlák
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CÍLE CVIČENÍ

- **prověření postupů při vyhlášení a řešení stavu nouze v elektroenergetice**
- **aktivace služby EMS/Copernicus**
- **zhodnocení vhodnosti použití pro potřeby cvičení**

VÝCHOZÍ SITUACE

- **výchozí stav energetické soustavy ČR**
- **výpadek vedení velmi vysokého napětí V452 v důsledku větrné smrště**
- **výkonová nerovnováha**
- **aktivace krizového štábu ČEPS**
- **další náhlá změna počasí, bouřková fronta**
- **výpadek vedení velmi vysokého napětí V402 v důsledku požáru pod vedením**
- **lokální black-out krajů PU a HK (300 000 obyvatel bez elektřiny)**

ŘEŠENÍ VZNIKLÉ SITUACE

- **vyhlášení stavu nouze v energetické soustavě ČR**
- **diagnostika distribuční sítě ČEZ Distribuce**
- **obnova výkonové rovnováhy**
- **obnova vedení 110 kV**
- **obnova vedení 400 kV**
- **odvolání stavu nouze ES ČR**

FOTODOKUMENTACE VZNIKLÉ SITUACE



POTŘEBA MAPOVÝCH PODKLADŮ

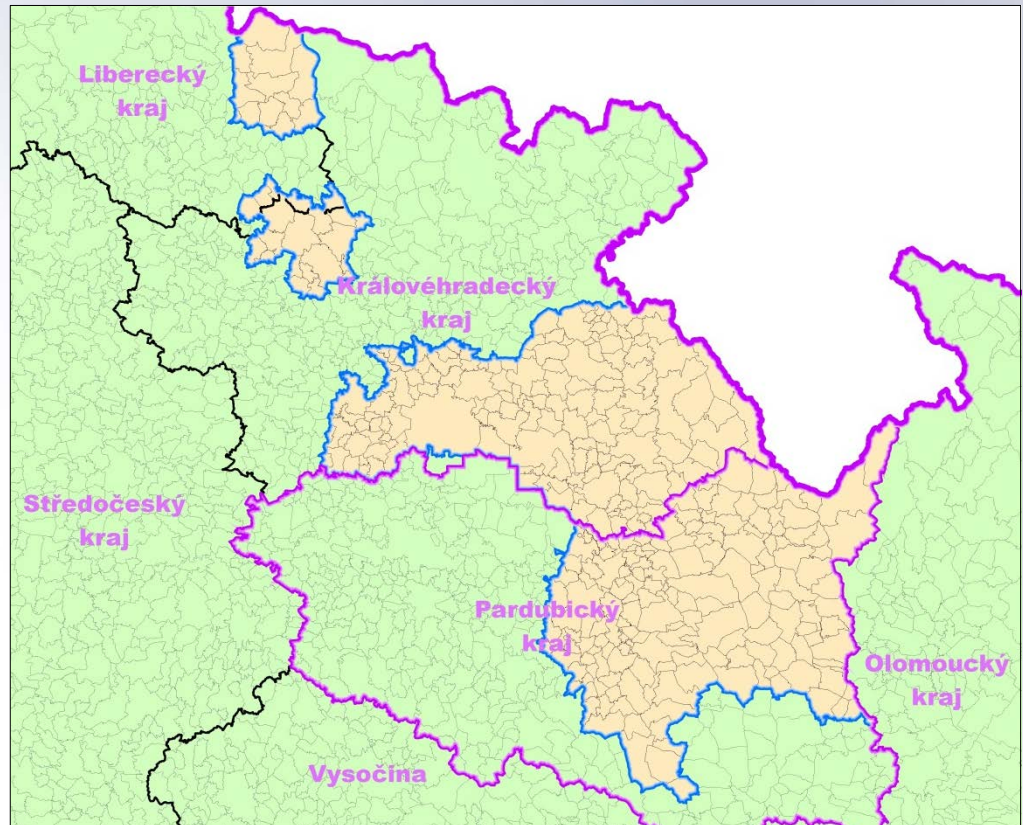
- vymezení zasaženého území v rámci ČR a příslušných krajů
- lokalizace poruch na distribučním vedení energetické soustavy
 - administrativní hranice
 - intravilány obcí (počty obyvatel)
 - distribuční síť (vedení, sloupy, rozvodny ...)
 - příjezdové komunikace

DATA A SOFTWARE

- **DMU25**
- **RETM25, RETM50**
- **ZABAGED**
- **letecké snímky**
- **ArcGIS for Desktop Basic 10.2**

LOKALIZACE OBLASTÍ BEZ DODÁVKY ELEKTŘINY

- běžovou barvou jsou označeny oblasti s přerušenou dodávkou elektřiny v den D
- v době cca 9.00 až 19.00 hod



GMES/Copernicus

- **Evropská unie provozuje služby systému pro Globální monitoring životního prostředí a bezpečnosti (GMES/Copernicus)**
- **součástí GMES/Copernicus jsou data na podporu krizového řízení při živelných katastrofách a humanitárních krizích**
- **služba EMS je poskytována ve dvou režimech: RUSH MODE (urgentní požadavky) a NON RUSH MODE (dlouhodobější řešení)**

Aktivační formulář NON-RUSH Modu Service Request Form (SRF)

- přesná definice zájmového území
- souřadnicový systém
- volba výstupního produktu
- poskytnuté datové vrstvy
- kontaktní údaje
-

**GEO EMS - Mapping
Non-Rush Mode
Service Request Form (SRF)**

To be sent to the MIC/ERC (9-17hrs; Mon-Fri)

By email: echo-mic@ec.europa.eu
Contact tel: +32-2-292-2222

To be completed by the Service Requestor:

☒ National Focal Point ☐ European Focal Point ☐ Other Authorized User

Organisation Name: **Ministry of Interior - General Directorate of the Fire Rescue Service of the Czech Republic**
Focal point (if applicable): **Captain Jan Brothánek (jan.brothanek@ghg.ticcr.cz)**
Contact Person: **Eng. Oldřich Masin**
Phone (Office): **+420 464024370**
Phone (Mobile): **+420 776030299**
E-mail: **oldrich.masin@ghg.ticcr.cz** Fax:
Date (dd/mm/yyyy): **/ /** Time (UTC): **1**

Requested product type*: **Base cartography**
(if e.g. Orthophoto instead of aerial imagery, Flood risk analysis for land assets in Germany, Evacuation plan for Haiti etc.)

☒ Reference map
☐ Pre-disaster situation map
☐ Post-disaster situation map
☐ Simulated damages representation

*Please specify any detailed need in the following sections:

**GEO EMS - Mapping
Non-Rush Mode Service Request Form (SRF)**

☐ Toponyms and administrative boundaries, etc.
☐ Physiography (rivers, mountains and heights, etc.)
☐ Land cover (improved, grassland, forest, natural vegetation, bare soil, wetlands, etc.)
☐ Settlements, both formal (urban, suburban, rural, etc.) and informal (slums, shanty towns, etc.)
☐ Transport: (all transport networks and related infrastructure, e.g. roads, tracks, trails, railways, bridges, harbours, airfields)
☐ Industry and Utilities: (industrial facilities and power stations)
☐ Settlements, transport networks and related infrastructure, industry and utilities, all together named 'assets' will be characterised, with the following detail:
For scales 1:10,000 - 1:100,000: detail (e.g. buildings, footprints)
For scales 1:10,000 - 1:500,000: building blocks
For scales 1:10,000 - 1:500,000: built-up areas
Each element (asset, building, building block, or built-up area) will be classified according to its principal use and construction materials

Risk information requested
Please select the information you need and possibly provide further details. The product can be adapted to your needs.
☐ Hazards
☐ Exposure: population
☐ Exposure: assets Hospitals and medical center, Industrial areas
☐ Risks
☐ Consequences in e.g. delineation of the event impact area and damage grading: affected population, affected hospitals and medical centres, Industrial areas

Area of Interest
Geographical location (complete a or b or c for each map)
Please use either: **Degrees Minutes Seconds** (example: 15° 30' 26" N, 04° 33' 30" W)
or: **Decimal Degrees** (example: -7.546041°, 109.813429°)
to specify Coordinates and UTM below what you have used
Map scale (optional) (if administrative (ISO 3) is used (in parentheses) sections, in case of diagrams, the details can be included in the next SRF)

a) **Area of Interest**
provided as
shapefile/KML (to be
sent together with this
form)

b) **Rectangular Area**
(to include irregular-shaped
area of interest, if necessary)

c) **Centre Point**

GEO EMS - Mapping
Non-Rush Mode Service Request Form (SRF)

**GEO EMS - Mapping
Non-Rush Mode Service Request Form (SRF)**

Coordinates specified in:
☐ Degree Minutes Seconds
☐ Decimal Degree

Upper left corner:
Lat.:
Long.:
Lower right corner:
Lat.:
Long.:
Buffer point:
Radius around centre:
km

Enter filename here:
RESTART_2013.shp

Delivery Details
Delivery method: ☒ JRC FTP site (always applied as default) ☐ Other additional (please specify):
Default formats: ☒ Printable maps (geopdf) with metadata ☐ Georeferenced maps (JPEG and GeoTIFF) with metadata ☐ Vector Files (Shp and KML/RAS) with metadata

User GIS capabilities
Level: ☐ No GIS capabilities ☐ Basic (visualization) ☐ Intermediate (editing, warping, map composition) ☐ Advanced (in data processing)
Software: ☒ ArcGIS ☐ ENVI ☐ Quantum GIS ☐ ERDAS ☐ other (please specify)

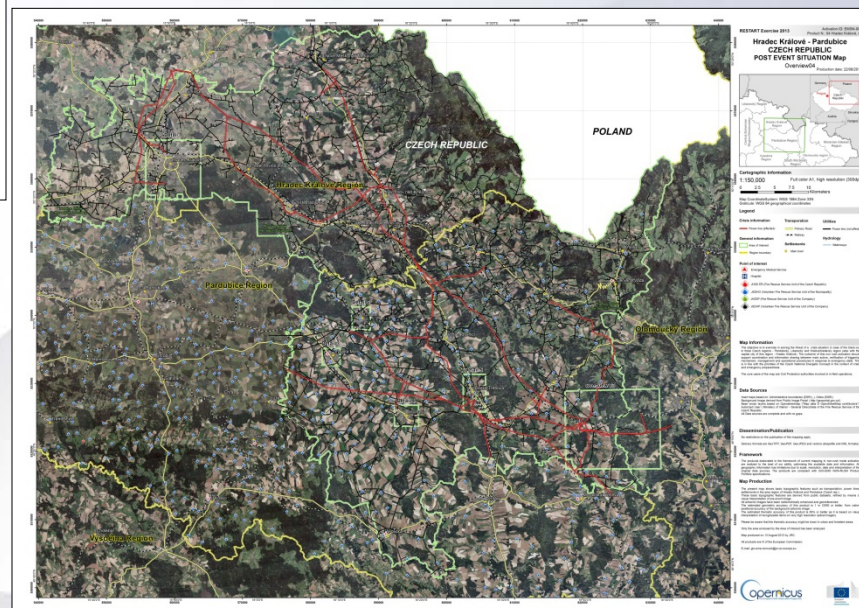
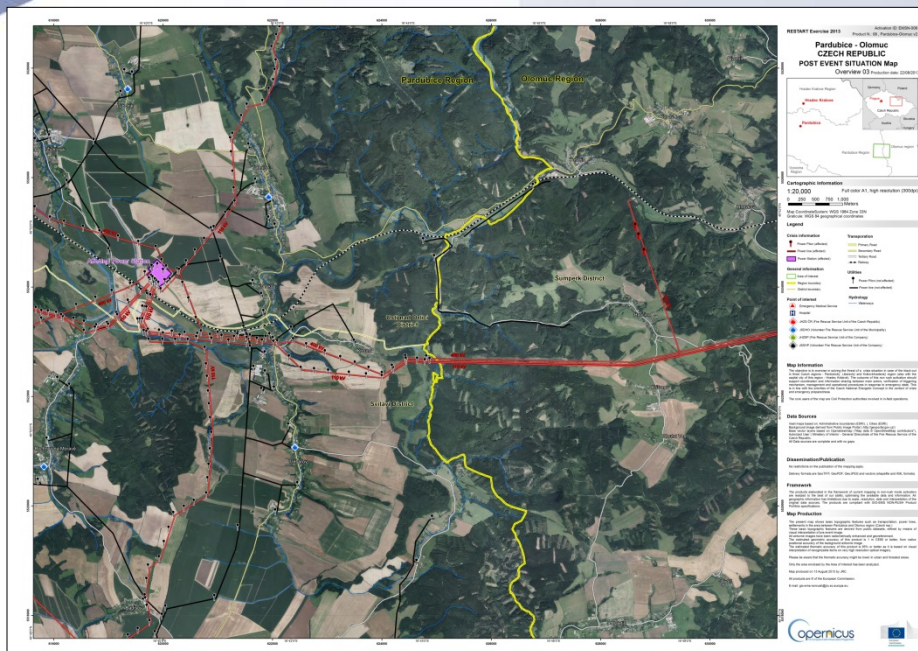
Data the user could share
Please mention local data you could share and which may help the map preparation or validation

Data	Content/Format/scale/detail/date	Share with the MIC/ERC for map preparation	Share with the MIC/ERC for map validation
Aerial imagery	National dataset, WGS, 25cm GSD, 2010/2011/2012 (Source: http://ecportal.cesk.cz/wms_ORTOFOTO_PUB/wmsService.asp?service=WMS&request=GetCapabilities Layer: GR_ORTOFOTO08) Administrative units, toponyms, roads, railways, power stations/substations/lines, fire stations, hospitals/medical centres?	☐	☐
Topographic data		☐	☐

GEO EMS - Mapping
Non-Rush Mode Service Request Form (SRF)

Výsledný produkt – mapové výstupy

- ftp přístup
- formát PDF, JPG, TIFF
- full color, A1, 300 dpi
- WGS 84 zone 33N



Průvodní formulář výsledného produktu



NON RUSH activation EMSN 006 RESTART

Introduction

The activation EMSN 006 has been produced internally by DG JRC, Gemma action. The scope of this activation is to support the restart national exercise by simulating a power failure associated to a severe windstorm.

Requested products by the AU

Reference maps:

- Built up areas, classified according to use (residential, industrial, commercial classes mandatory)
- Main roads, highways (1st, 2nd class), main railroads
- Toponyms (including administrative units)
- Points of Interest: Fire service stations, hospitals and medical services

Post event situation maps:

- Layer from reference maps
- Power lines, power stations, power substations (classes: affected / not affected)
- Power pylon (classes : affected / not affected)
- Administrative units affected by black out

Coordinate system: UTM WGS84 33N

Required language: English

Ortho-rectified imagery derived from the national geo-portal (geoportal.cuzk.cz)

Data delivered to DG JRC by the Authorized User

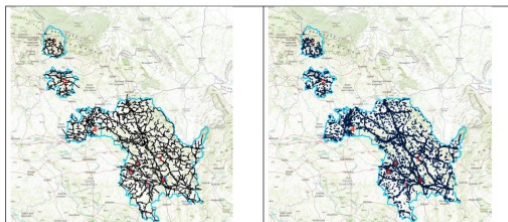
1. The Areas of Interest (AOI): note that the map scale has been optimized taking into account the AOI and A1 print size.

Name AOI	Optimized scale	Index
Liberecký	1/40.000	1
Hradec Králové	1/40.000	2
overview		3
Hradec Králové (detail)	1/16.000	4
Choceň (detail)	1/7.000	5
Vysoké Mýto	1/5.000	6
Litomyšl	1/6.000	7
Česká Třebová	1/10.000	8

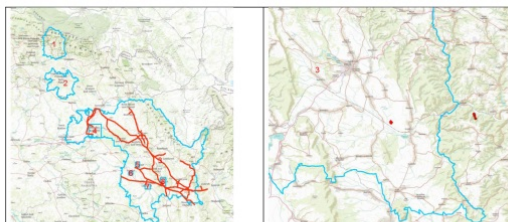


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2. Power-lines and pylons (not affected)



3. Power-lines and Pylons (affected)



Comments: Note that no information has been received about affected power lines/pylons of the AOI's indexed as 1 and 2 (Liberecký, Hradec Králové region). For these 2 map sheets only reference maps have been produced!

4. Other vector data sets such as Location of Fire protection unit, emergency medical services and administrative layers have been delivered as well.

The shp file HZS_JPO.shp gives location information for Fire Rescue Service Unit of the Czech Republic, Volunteer Fire Rescue Service Unit of the Municipality, Fire Rescue Service Unit of the Company and Volunteer Fire Rescue Service Unit of the Company.

We would like to point out that the shp file HZS_JPO.shp delivered by the Authorized user is not complete. See below the covered area :

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Document details
This document is classified as confidential



The Mapsheets Hradec and the 2 mapsheets Liberecký and Hradec Králové region have no information related to fire rescue services!!!

Maps produced by DG JRC (GEMMA action)

Name AOI	Optimized scale	Index	Reference maps	Post event map
Liberecký	1/40.000	1	YES	NO
Hradec Králové	1/40.000	2	YES	NO
Hradec Králové overview	1/150.000	3	YES	YES
Hradec Králové (detail)	1/16.000	4	YES	YES
Choceň (detail)	1/7.000	5	YES	YES
Vysoké Mýto	1/5.000	6	YES	NO
Litomyšl	1/6.000	7	YES	YES
Česká Třebová	1/10.000	8	YES	YES

Note : An additional post event map (Pardubice-Plzeň) has been produced with the affected power pylons and affected power station. All maps are available in jpg, pdf and tiff format.

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Document details
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RESTART Exercise 2013 Activation ID: EMSN-006
Product N.: 07 Litomyšl_v2

Litomyšl - CZECH REPUBLIC POST EVENT SITUATION Map Detail04

Production date: 20/08/2013



Cartographic Information
Full color A1, high resolution (300dpi)
1:6,000
0 75 150 225 300 Meters
Map Coordinate System: WGS 1984 Zone 33N
Grid: UTM
Grid: WGS 84 geographical coordinates

- Legend**
- | | | |
|--|-----------------------|---------------------------|
| Crisis information | Transportation | Utilities |
| Power line (affected) | Primary Road | Power Plant |
| Power line (not affected) | Secondary Road | Power line (not affected) |
| Area of interest | Tertiary Road | Hydrology |
| Residential | Residential Road | Waterways |
| Commercial | Railway | |
| Industrial | | |
| School | | |
| Point of interest | | |
| Emergency Medical Service | | |
| Hospital | | |
| JH2S ČR (Fire Rescue Service Unit of the Czech Republic) | | |
| JSDHO (Volunteer Fire Rescue Service Unit of the Municipality) | | |
| JH2SP (Fire Rescue Service Unit of the Company) | | |
| JSDHP (Volunteer Fire Rescue Service Unit of the Company) | | |

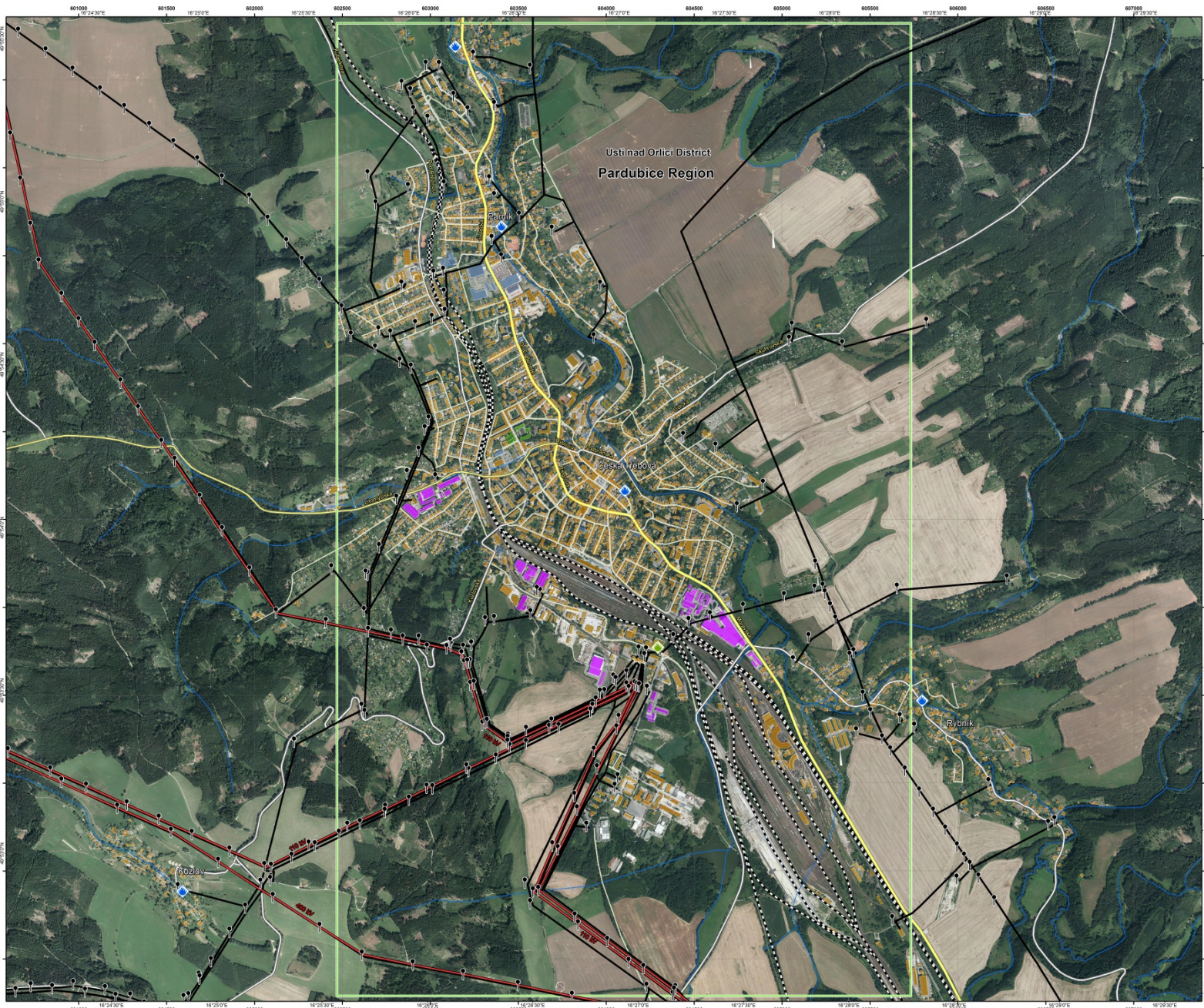
Map Information
The objective is to provide an overview of the threat of a crisis situation in case of the black-out in three Czech regions - Pardubice, Liberec and Kolářovický region (also with the capital city of the region - Hradec Králové). The outcome of the non-rush situation should support coordination and information sharing between main actors, verification of triggering mechanism, management and operational procedures in response to emergency state. This is in line with the priorities of the Czech National Emergency Concept in the context of crisis and emergency preparedness.
The data sources of the map are Civil Protection authorities involved in field operations.

Data Sources
Map data based on Administrative boundaries (ESRI), Cities (ESRI),
Background image derived from Public Image Portal (<http://geoportal.gis.cz/>)
Base vector layer based on OpenStreetMap ("Map data © OpenStreetMap contributors"),
Authorized User / Ministry of Interior - General Directorate of the Fire Rescue Service of the Czech Republic.
All Data sources are complete and with no gaps.

Dissemination/Publication
No restrictions on the publication of the mapping apply.
Delivery formats are GeoTIFF, GeoPDF, GeoJPEG and vectors (shpfile and KMZ formats).

Framework
The products elaborated in the framework of current mapping in non-rush mode activation are realized to the best of our ability, optimizing the available data and information. All geographic information has limitations due to scale, resolution, date and interpretation of the original data sources. The products are compliant with GIC-EMS NON-RUSH Product Portfolio specifications.

Map Production
The present map shows basic topographic features such as transportation, power lines, settlements in the area of Litomyšl (Czech rep.).
These basic topographic features are derived from public datasets, refined by means of visual interpretation of pre-event image.
All vector images have been automatically enhanced and generalized.
All vector images have been automatically enhanced and generalized.
The estimated thematic accuracy of this product is 1:1 m C200 or better, from native positional accuracy of the background aerial image.
The estimated thematic accuracy of this product is 50% or better as it is based on visual interpretation of recognizable items on very high resolution optical imagery.
Please be aware that the thematic accuracy might be lower in urban and forested areas.
Only the area enclosed by the Area of Interest has been analyzed.
Map produced on 09 August 2013 by JRC.
All products are © of the European Commission.
E-mail: gis-ems-normon@jrc.ec.europa.eu



RESTART Exercise 2013 Activation ID: EMSN-006
Produkt N: 03 Česká Třebová_v2

Česká Třebová - CZECH REPUBLIC POST EVENT SITUATION Map Detail05

Production date: 20/08/2013



Cartographic Information
1:10,000 Full color A1, high resolution (300dpi)
0 125 250 375 500 Meters
Map Coordinate System: WGS 1984 Zone 33N
Grid: UTM WGS 84 geographical coordinates

Legend	
Crisis information	Transportation
General information	Utilities
Settlements	Hydrology
Point of interest	

Map Information
The objective is to provide an overview of the threat of a crisis situation in case of the block-out in the Czech Republic - Pardubice Region and Hradec Králové Region (also with the capital city of the region - Hradec Králové). The outcome of the non-event situation should support coordination and information sharing between main actors, verification of triggering mechanism, management and operational procedures in response to emergency state. This is in line with the priorities of the Czech National Emergency Concept in the context of crisis and emergency preparedness.
The data sources of the map are Civil Protection authorities involved in field operations.

Data Sources
Map data based on Administrative boundaries (ESRI), Cities (ESRI), Background image derived from Public Image Portal (http://portal.gis.cz), Data source based on OpenStreetMap (Map data © OpenStreetMap contributors), Authorised User (Ministry of Interior - General Directorate of the Fire Rescue Service of the Czech Republic).
All data sources are complete and with no gaps.

Dissemination/Publication
No restrictions on the publication of the mapping app.
Delivery formats are GeoTIFF, GeoPDF, GeoJPEG and vectors (shapfile and KMZ, formats).

Framework
The products elaborated in the framework of current mapping in non-run mode activation are realized to the best of our ability, optimizing the available data and information. All geographic information has limitations due to scale, resolution, date and interpretation of the original data sources. The products are compliant with GIC-EMS NON-RUN Product Portfolio specifications.

Map Production
The present map shows basic topographic features such as transportation, power lines, settlements in the area of the Czech Republic (Czech map). These basic topographic features are derived from public datasets, refined by means of visual interpretation of pre-event image. All cartographic features have been visually enhanced and generalized. All cartographic features have been visually enhanced and generalized. The estimated thematic accuracy of this product is 1:10,000 or better, from native practical accuracy of the background cartographic image. The estimated thematic accuracy of this product is 50% or better as it is based on visual interpretation of non-geographic data on very high resolution optical imagery. Please be aware that the thematic accuracy might be lower in urban and forested areas.

Only the area enclosed by the Area of Interest has been analyzed.
Map produced on 12 August 2013 by JRC.
All products are © of the European Commission.
E-mail: geo-emn-norm@gis.ec.europa.eu

PŘÍNOS SLUŽBY GMES/Copernicus

- krizový štáb kraje získal detailní přehled o místě poruchy a o rozsahu zasaženého území
- rychlost odezvy výstupu informací na výpadek ES zcela vyhovuje pro potřeby cvičení
- výstup je názorný a srozumitelný i pro neodborníky v elektroenergetice
- formát výstupu a kvalita tisku vyhovuje danému účelu, tj. rozhodování krizového štábu o dalším postupu
- na základě specifikovaných požadavků byla obdržena vhodná mapová kompozice, obsah a náplň

FOTODOKUMENTACE CVIČENÍ





Děkuji Vám za pozornost



Univerzita
Pardubice
Fakulta
ekonomicko-správní

**Krajský úřad Pardubického kraje
oddělení krizového řízení**

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