Czech–Slovak–Hungarian Market Coupling

Brno, 11/06/2012

Workshop

Agenda

1. Market Coupling Theory and Practice
2. Where do we come from
3. Operational overview
4. Detailed Procedures and Timings with MPs Communication
5. Decoupling and Fallback Solutions
6. Member test phase and launch dates

Market Coupling Theory 1/2

Market Coupling (MC) = Implicit Auction: optimal allocation of energy and cross-border transmission capacity rights in one common procedure. All inputs (bids and capacity data) are taken into account together.

Method: almost the same as local matching of bids but using cross-border profiles as constraint of trade between market areas.

Energy, maximised by cross-border capacity, flows from low price area to high price area in order to try to balance the market prices.

S E L L E R S

High Price Area

Low Price Area

50Hz

Capacity Constraint

B U Y E R S
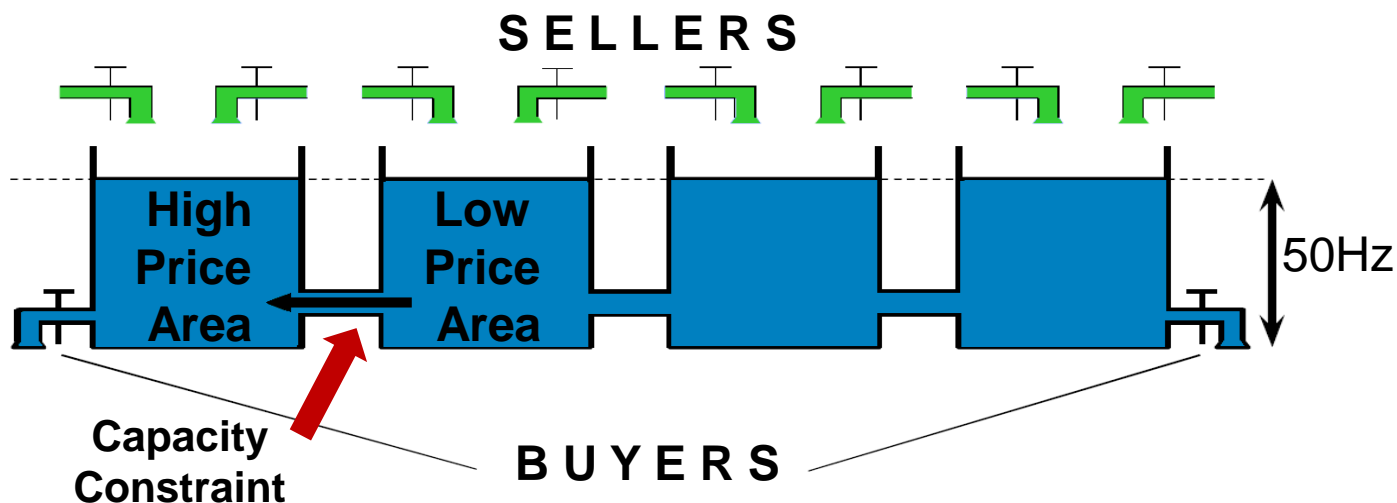
Market Coupling Theory 2/2

In case of no congestion
(capacity is enough) ➡ Prices become equal

In case of congestion
(capacity is not enough) ➡ Low price area stays cheaper and
high price area stays more expensive.

Price difference (spread) between
neighbouring market areas' prices = Capacity auction price

Auction price multiplied by
cross-border flow = TSOs' Congestion Revenue

Implementation of MC requires close TSO-PX cooperation and NRA support.

Operation of MC is daily common process operated by the involved TSOs and PXs.

Market Coupling in Practise

Theoretically Proved Optimal Day-Ahead Trading Form

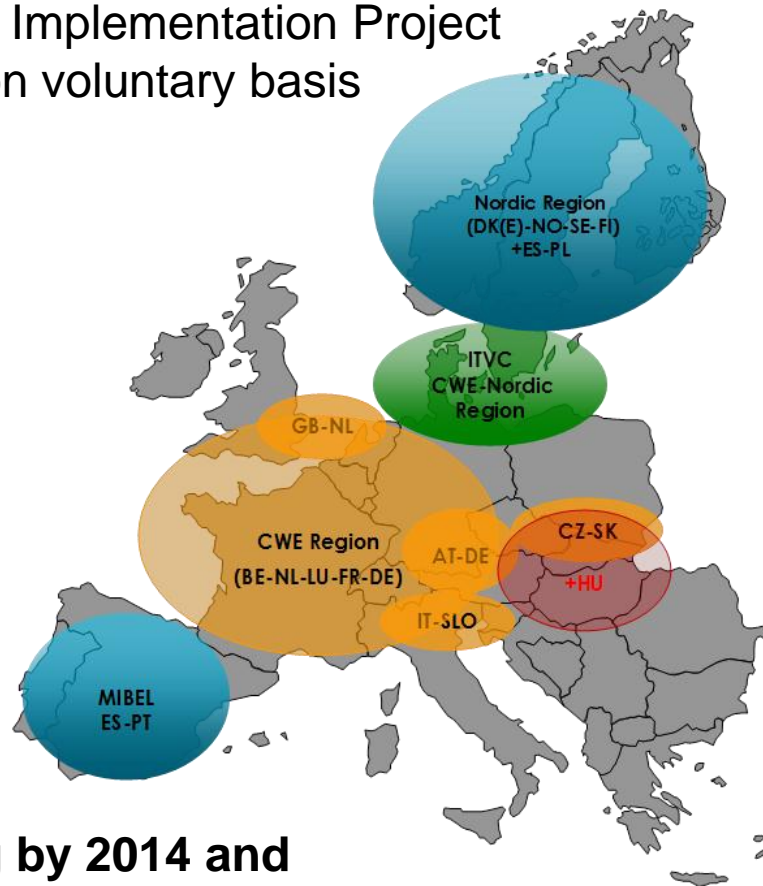Several Implementation Project on voluntary basis

Flow-Based MC defined as day-ahead Target Model

Ellaboration of harmonized EU legal background

Implementation of European Price Coupling by 2014 and involving at least all EU Member States

Nordic Region (DK(E)-NO-SE-FI) +ES-PL

ITVC CWE-Nordic Region

GB-NL

CWE Region (BE-NL-LU-FR-DE)

AT-DE

CZ-SK +HU

IT-SLO

MIBEL ES-PT

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Where do we come from?

01 Jan 2002	Launch of OTE DAM operation in CZ
01 July 2009	Launch of DAM operated by SEPS (to 2011 January 01) then OKTE DAM operation in SK
01 Sept 2009	Launch of Czech-Slovak Market Coupling (first price coupling in CEE region)
20 July 2010	Launch of HUPX DAM operation in Hungary
30 May 2011	Memorandum of Understanding between CZ, SK, HU Parties
Tomorrow	Launch of CZ-SK-HU Market Coupling
Near Future	Further steps towards the European Price Coupling (Target Model) via CWE/NWE coupling

MC from Market Participants' point of view

Main characteristics:

- Market Participants will be in contact only with those PXs where they are registered members.

- In order to participate CZ-SK-HU MC there is no need to be registered on all PXs, but only on the local one.

- All PXs keep the current front end trading platform for the bid submission.

- All PXs will provide the market result in the currently applied layout(s) and format(s).

- After launch of MC, daily explicit capacity auction will be closed down, day-ahead OTC trading on SK-HU border will become impossible. Only long term and intraday cross-border transmission capacity will be available for OTC trade.

- When transfer of electricity is requested, MP has to be registered in seller PX and buyer PX.

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Coordinated ATC Calculation

- Introduction of MC will not change the capacity calculation method.

- For a given border both neighbouring TSOs calculates ATC and the lower value is used for Coupling Calculation and is published

- Coordinated Capacity Calculation will be done by SEPS for CZ-SK and SK-HU borders as well.

- No more CAO GmbH involvement in daily capacity allocation procedure.

- Long term and intraday allocation procedures remain

Harmonisation among the coupled Day-ahead Markets

- To increase the efficient of market coupling few trading parameters must be harmonised

    - Price range: **-3 000** EUR/MWh / **3 000** EUR/MWh.

    - Order Book Closure: **11:00** am.

    - Publication time: **11:20 -11:40** (according to Normal Process)

    - Second Auction timings

        - Order Book reopen as soon as possible ~ **11:25** am.

        - Publication Time as soon as possible ~ **11:50** am.

    - Market results Publication:

        - Market Clearing Prices: with **2 decimals**

        - Traded Volume: with **1 decimal**

    - **25 different hours** could be traded on wintertime change day.

CZ-SK-HU Market Coupling: Role model

Pre-Coupling
- Capacity Calculation
  - ATCs
- Exchange Bid Submission

Coupling
- Market Coupling Calculation (PCS)
  - Net Positions
  - Market Clearing Prices
  - Cross Border Flows = Allocated Capacity

Post-Coupling
- Clearing and Settlement
- Cross Border Shipment
  - Cross Border Nominations
- Congestion Revenue Distribution
- Settlement of Cross Border Shipment

Publications

High Level Architecture: Pre-coupling

TSO system — čeps,a.s.

TSO system — Slovenská elektrizačná prenosová sústava, a. s.

TSO system — MAVIR

1.   **1.**   **1.** Input capacities

TSO Management Function (TMF) — Slovenská elektrizačná prenosová sústava, a. s.

2. Coupling capacity calculation

3b. Coupling Capacity Publication

Publication

3a.

3a. Coupling Capacity for Market Coupling

Price Coupling System — EPEX SPOT EUROPEAN POWER EXCHANGE

Agg. OBKs

5. Transformation of bids & sending of Agg. OBKs

Market Participants

Bid
Bid
Bid

PXs systems — OTE · OKTE · hupx HUNGARIAN POWER EXCHANGE

Cross Border Energy Shippers — čeps,a.s. · Slovenská elektrizačná prenosová sústava, a. s. · MAVIR

4. Submission of bids to local Power Exchanges

High Level Architecture: Coupling

TSO system
čeps,a.s.

TSO system
Slovenská elektrizačná prenosová sústava, a. s.

TSO system
MAVIR

TSO Management Function (TMF)
Slovenská elektrizačná prenosová sústava, a. s.

10b. Sending cross-border Market Coupling Results

10a.

Price Coupling System
EPEXSPOT
EUROPEAN POWER EXCHANGE

6. Coupling Calculation - (Aggregated Market Results, Cross Border Flows)

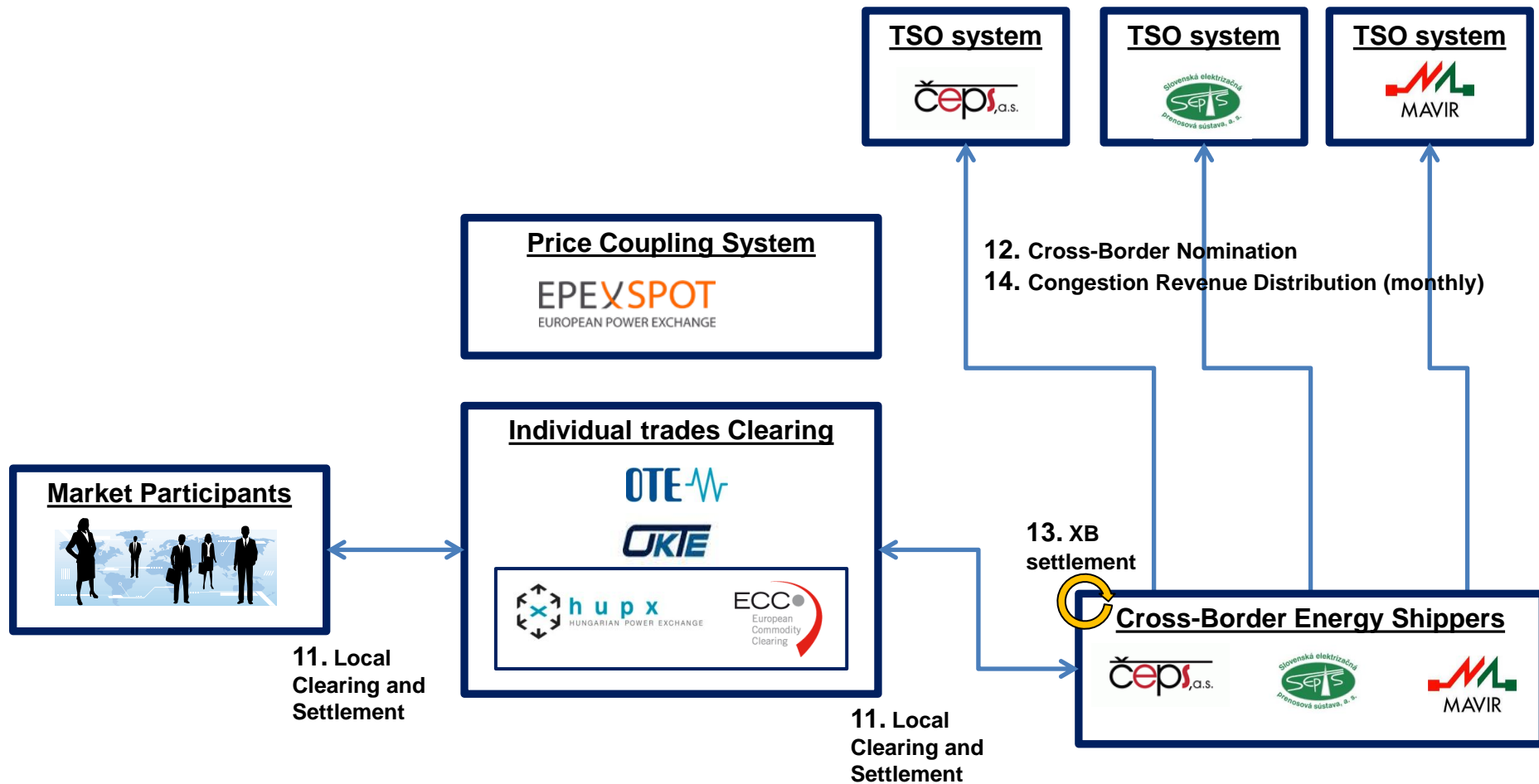**7.** Sending of preliminary results

9. Validation of Results

8. Portfolio allocation

Market Participants

PXs systems
OTE   OKTE   hupx HUNGARIAN POWER EXCHANGE

Cross-Border Energy Shippers
čeps,a.s.   Slovenská elektrizačná prenosová sústava, a. s.   MAVIR

10. Publishing individual results

10. Publishing individual results

ERÚ Energetický regulační úřad   čeps,a.s.   OTE   URSO   Slovenská elektrizačná prenosová sústava, a. s.   OKTE   MAGYAR ENERGIA HIVATAL   MAVIR   hupx HUNGARIAN POWER EXCHANGE

High Level Architecture: Post-Coupling

TSO system (ČEPS, a.s.)

TSO system (Slovenská elektrizačná prenosová sústava, a.s.)

TSO system (MAVIR)

Price Coupling System
EPEX SPOT
EUROPEAN POWER EXCHANGE

12. Cross-Border Nomination
14. Congestion Revenue Distribution (monthly)

Individual trades Clearing
OTE
OKTE
hupx HUNGARIAN POWER EXCHANGE
ECC European Commodity Clearing

Market Participants

13. XB settlement

Cross-Border Energy Shippers
ČEPS, a.s.
Slovenská elektrizačná prenosová sústava, a.s.
MAVIR

11. Local Clearing and Settlement

11. Local Clearing and Settlement
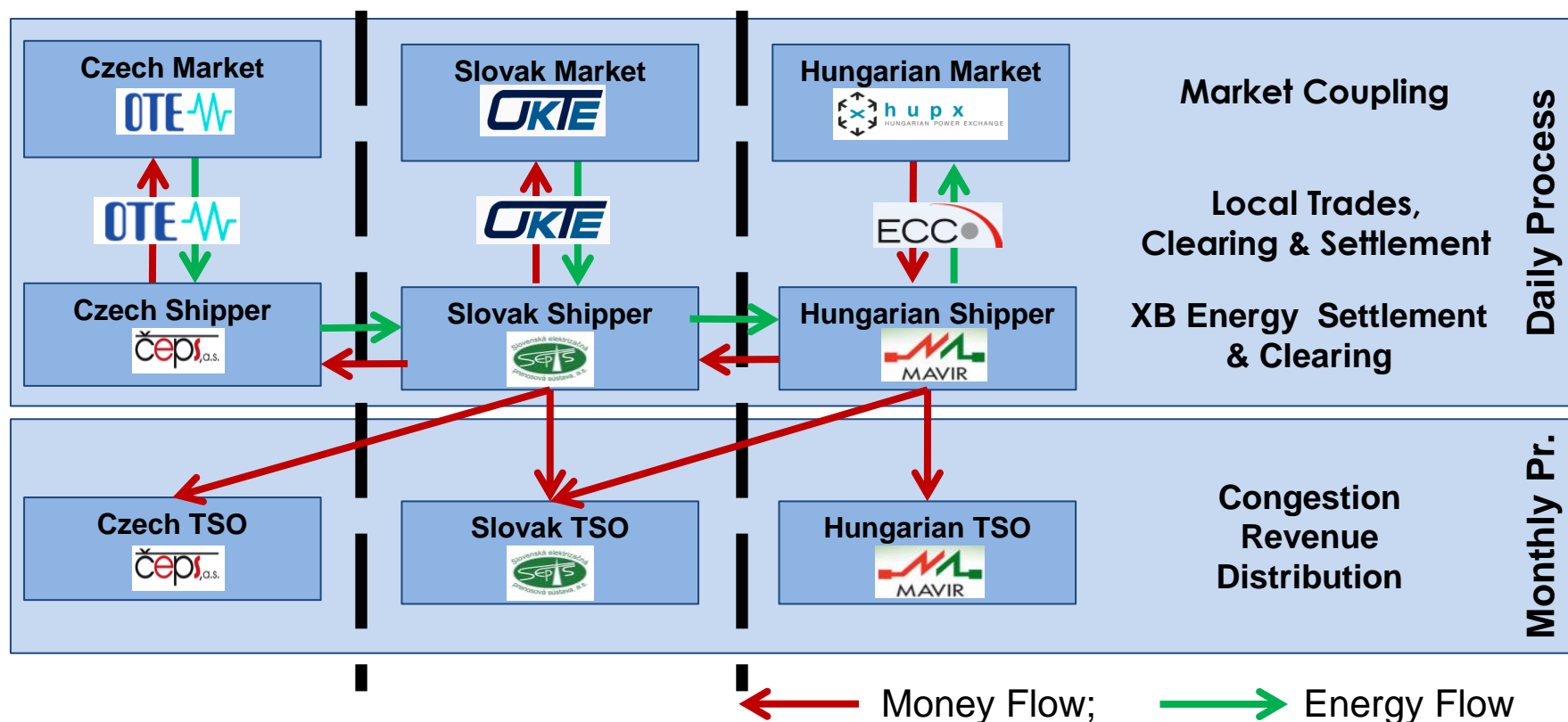
Cross Border Shipment 1/2

TSO acts as Shipper on its local market mediating/transmitting electricity between neighbouring market areas based on Market Coupling Result.
For example if the energy flows from CZ and SK to HU:

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Cross Border Shipment 2/2

Cross-border trade on a given border is settled between neighbouring Shippers on lower the price of exporting market area (lower price).
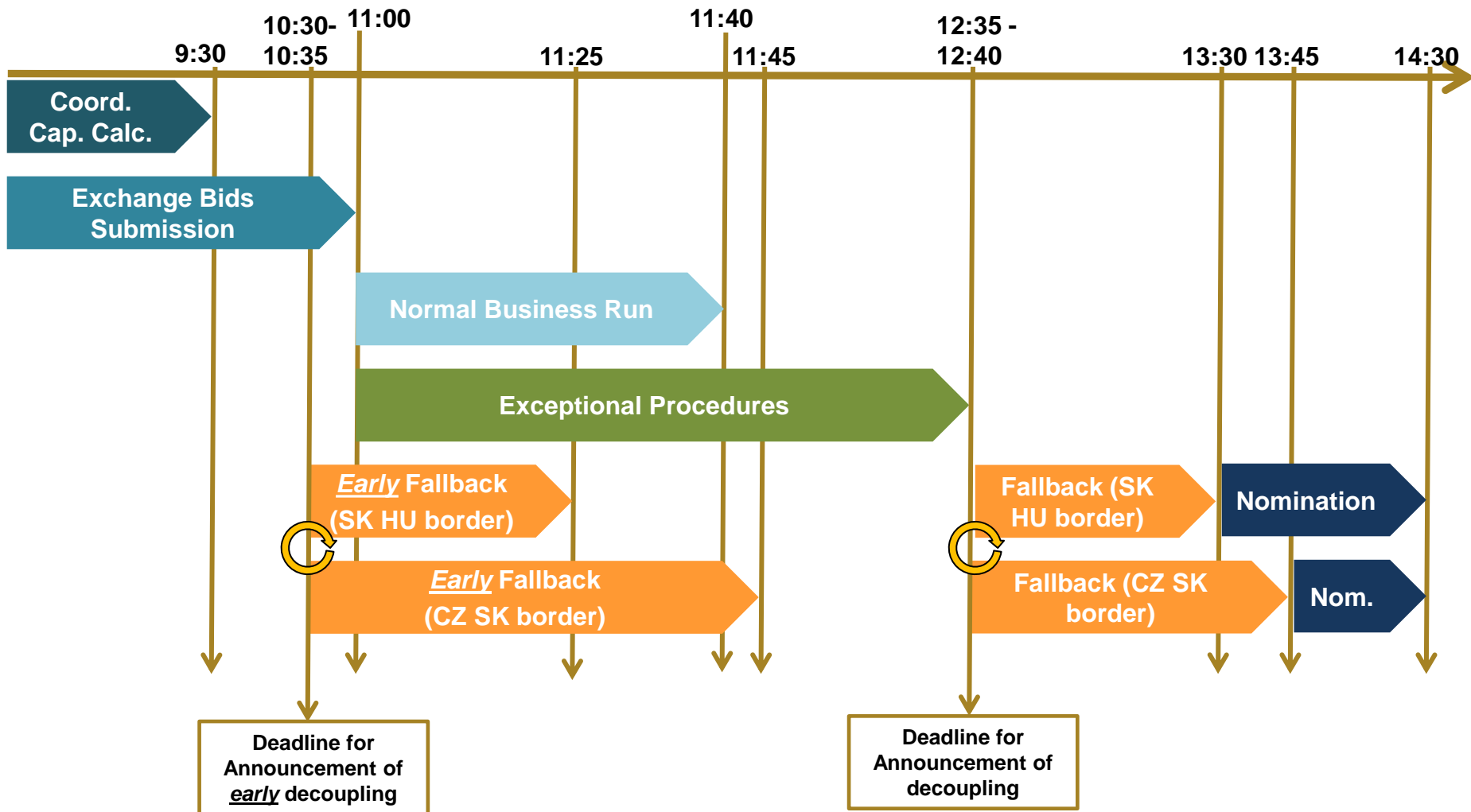Importing Shipper receives the Capacity Right, collects the Congestion Revenue and distributes it to the relevant TSOs. (Other example: energy flows from CZ and HU to SK)
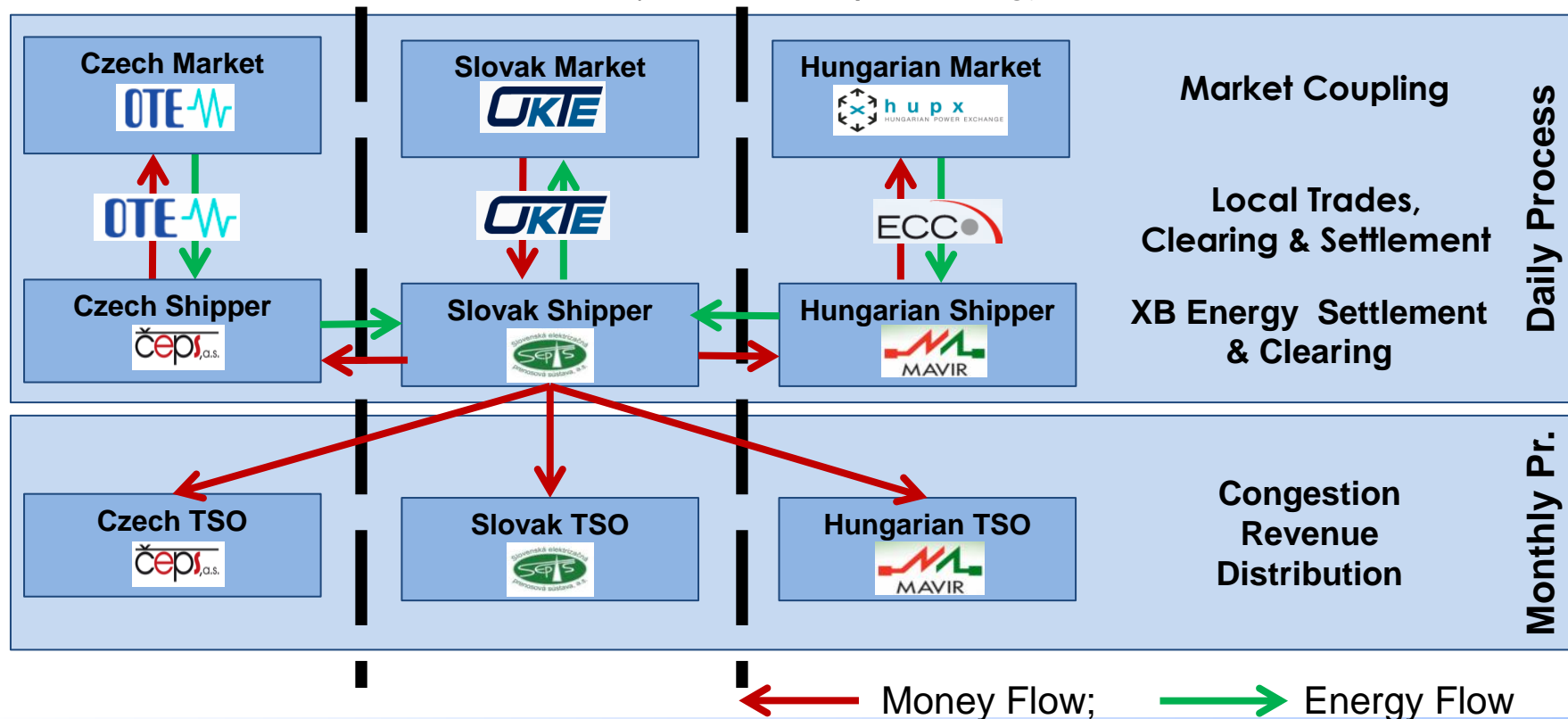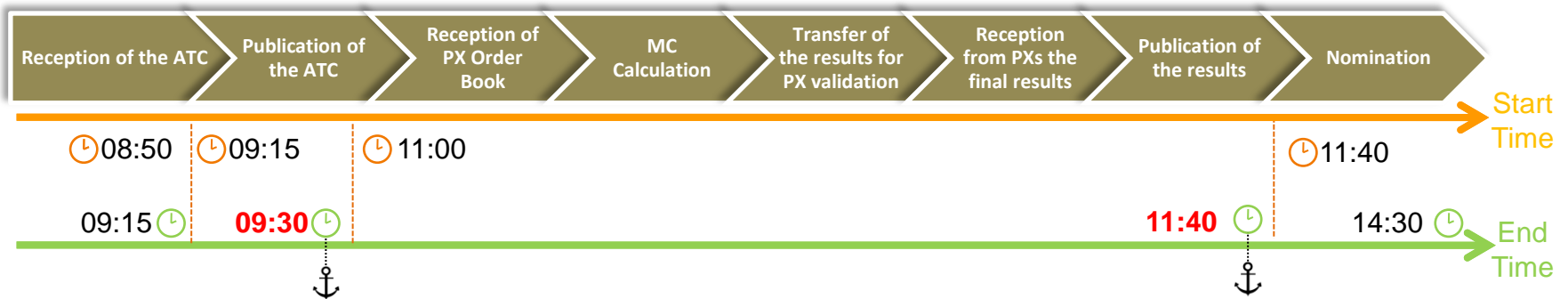
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Operational Processes and Timing - Overview

Coord. Cap. Calc.

Exchange Bids Submission

Normal Business Run

Exceptional Procedures

Early Fallback (SK HU border)

Early Fallback (CZ SK border)

Fallback (SK HU border)

Fallback (CZ SK border)

Nomination

Nom.

Timeline: 9:30 | 10:30-10:35 | 11:00 | 11:25 | 11:40 | 11:45 | 12:35-12:40 | 13:30 | 13:45 | 14:30

Deadline for Announcement of _early_ decoupling

Deadline for Announcement of decoupling

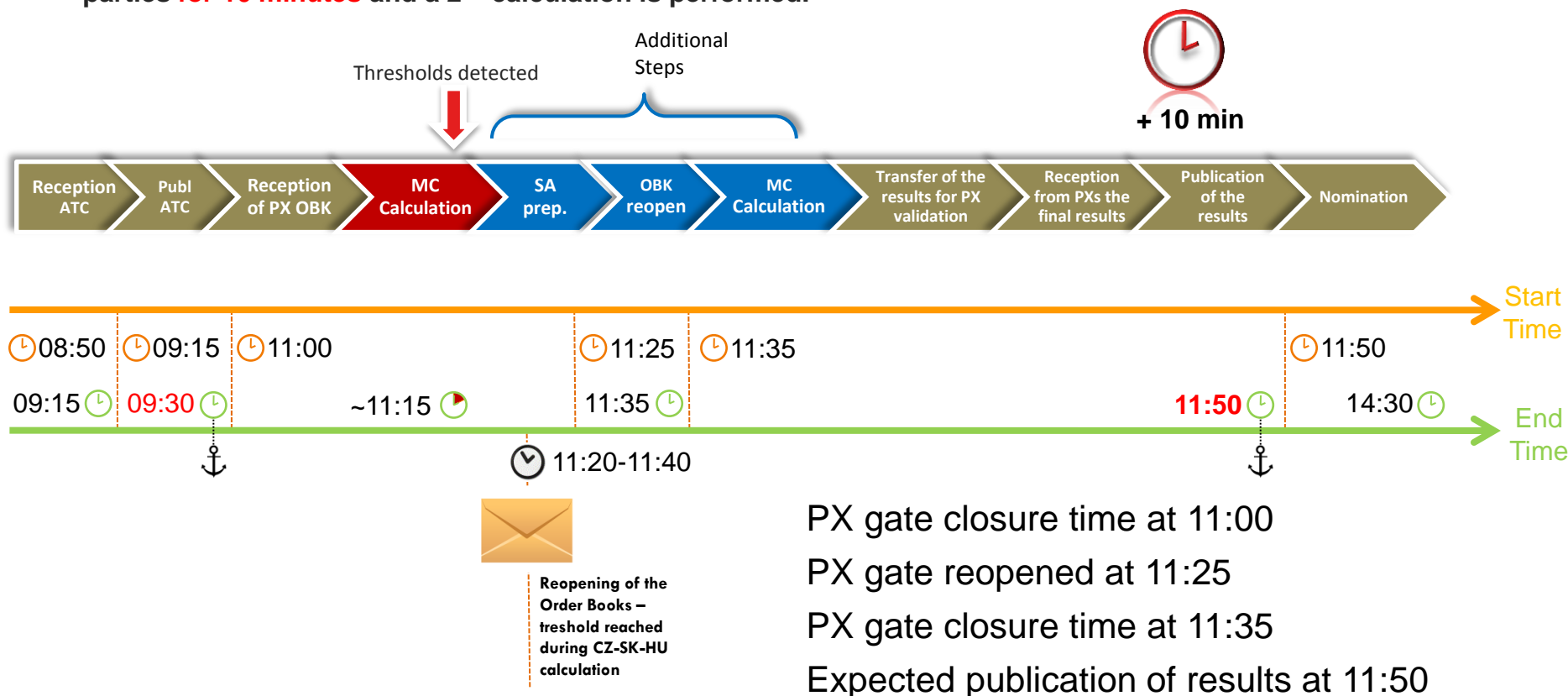12/06/2012

Normal Process
Timing of normal mode

- ATC will be published at **9:15** on TMF homepage (www.sepsas.sk) and on each website of PXs at **9:30**

- ATC could be modified till **10:30** by TMF and updated on each website of TMF and PXs

- PX gate closure time at **11:00**

- Publication of market results at **11:20-11:40**

- Nomination deadline at **14:30**

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Second Auction
Procedure and Timings publications

Due to thresholds detected in CZ, SK, HU prices after MC calculation, all order books are reopened to market parties for 10 minutes and a 2nd calculation is performed.

Thresholds detected

Additional Steps

+ 10 min

| Reception ATC | Publ ATC | Reception of PX OBK | MC Calculation | SA prep. | OBK reopen | MC Calculation | Transfer of the results for PX validation | Reception from PXs the final results | Publication of the results | Nomination |

Start Time

08:50 09:15 11:00 11:25 11:35 11:50

End Time

09:15 09:30 ~11:15 11:35 11:50 14:30

11:20-11:40

Reopening of the Order Books – treshold reached during CZ-SK-HU calculation

PX gate closure time at 11:00

PX gate reopened at 11:25

PX gate closure time at 11:35

Expected publication of results at 11:50

Note: This timing could be changed in specific case

Second Auction
Procedure and Timings publications

Timing	Message	Additional Actions for MPs	Market Results Publication	Nomination Deadline
11:20-11:40	Reopening of the Order Books	OBKs reopen for 10 minutes	11:50	14:30

Example Message for „Reopening of the Order Books":

„Reopening of the order books – threshold reached during CZ-SK-HU calculation

2nd auction for delivery day **05.12.2012** has been called:

Opening of 2nd auction session: **11:25**

Closing of 2nd auction session: **11:35**

The results are expected around: **11:50**

Note that you can also bid on market areas that are not concerned and that the order book will reopened for buy and sell bids.

Market HU:

Upper threshold exceeded for hours **19, 20, 21** - Seller required

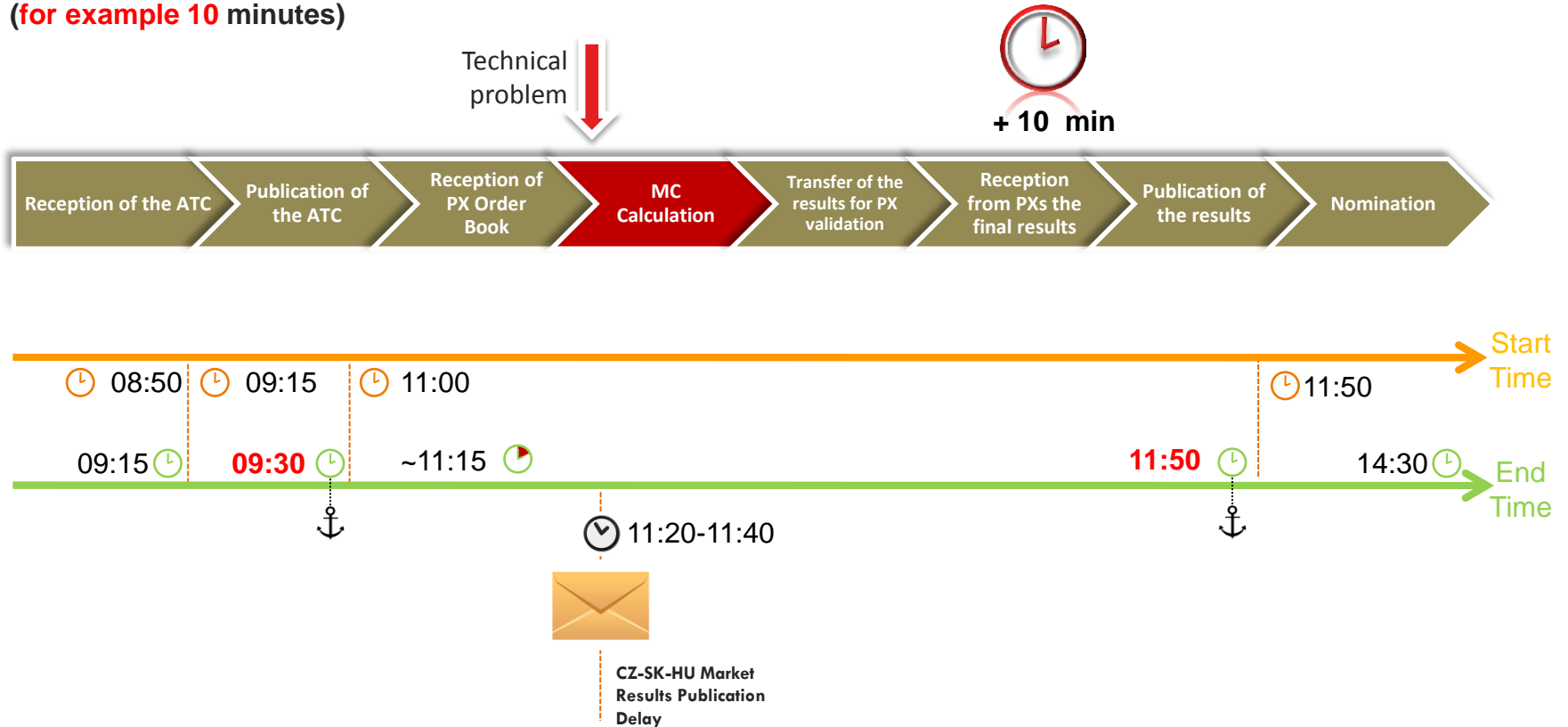Lower threshold exceeded for hours **22, 23, 24** - Buyer required

Please note that all bids already received before will also be included the Second Auction calculation provided that they will not be changed/deleted during the reopening of the order books now.

*Please be aware that the second auction procedure follows the local market rules.***"**

Coupling Process delayed
Slight delay

Due to technical problems in the coupling process, the process remains the same but actions are delayed in time (for example 10 minutes)

Technical problem

+ 10 min

| Reception of the ATC | Publication of the ATC | Reception of PX Order Book | MC Calculation | Transfer of the results for PX validation | Reception from PXs the final results | Publication of the results | Nomination |

Start Time

08:50 09:15 11:00 11:50

End Time

09:15 **09:30** ~11:15 **11:50** 14:30

11:20-11:40

CZ-SK-HU Market Results Publication Delay

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Coupling Process delayed
Slight delay

Timing	Message	Additional Actions for MPs	Market Results Publication	Nomination Deadline
11:20-11:40	CZ-SK-HU Market results publication delay		11:50	14:30

Example Message for „CZ-SK-HU Market results publication delay":

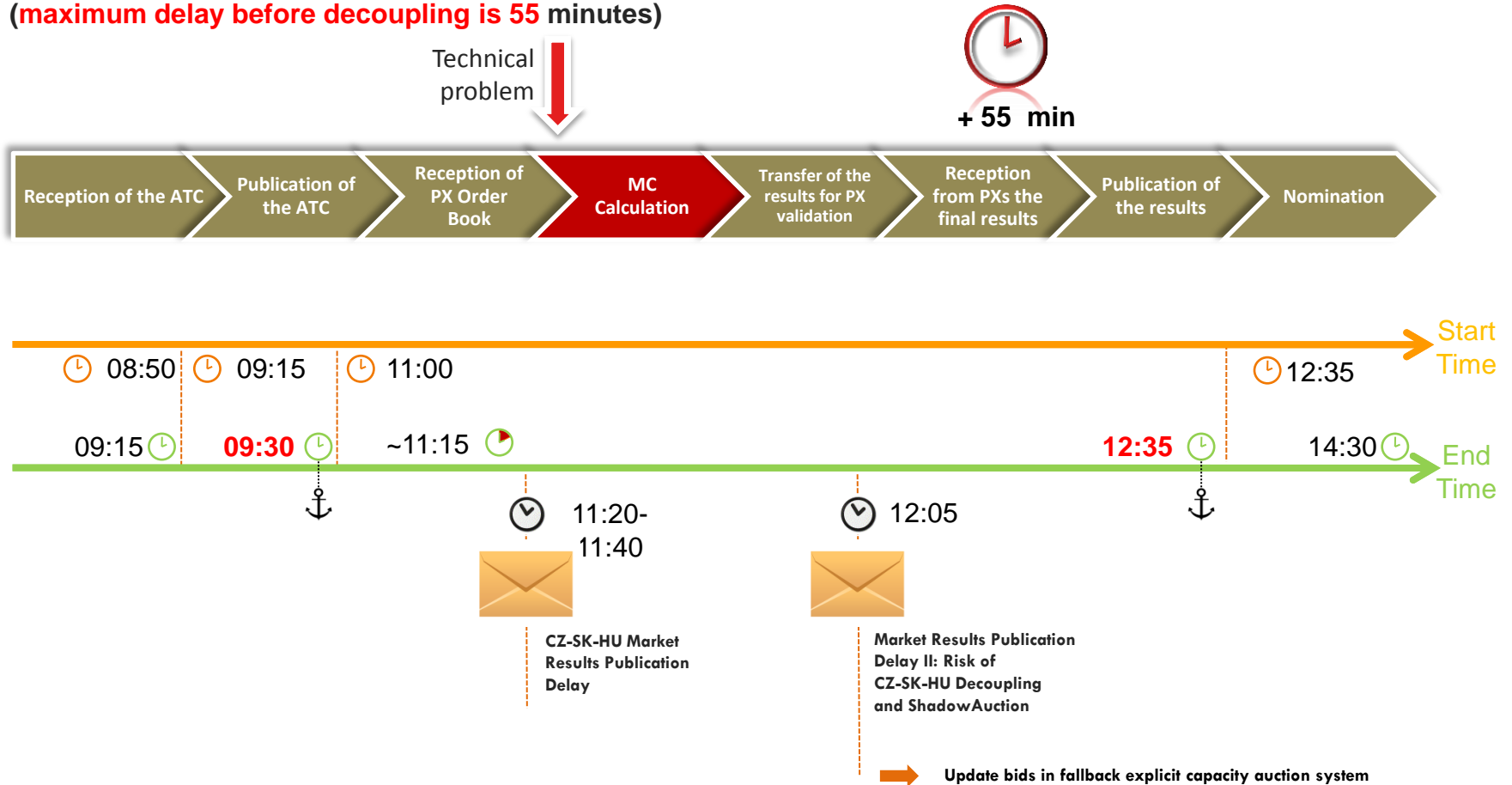**CZ-SK-HU Market results publication delay**

The CZ-SK-HU Market Coupling process is delayed due to technical reasons or market issues. Therefore the publication of CZ-SK-HU market results is delayed.

We will keep you informed as soon as new information is available.**"**

Coupling Process delayed
Critical delay (scenario with an avoided decoupling just in time)

Due to technical problems in the coupling process, the process remains the same but actions are delayed in time (maximum delay before decoupling is 55 minutes)

Technical problem

+ 55 min

| Reception of the ATC | Publication of the ATC | Reception of PX Order Book | MC Calculation | Transfer of the results for PX validation | Reception from PXs the final results | Publication of the results | Nomination |

Start Time

08:50 | 09:15 | 11:00 | 12:35

End Time

09:15 | **09:30** | ~11:15 | **12:35** | 14:30

11:20-11:40

12:05

CZ-SK-HU Market Results Publication Delay

Market Results Publication Delay II: Risk of CZ-SK-HU Decoupling and ShadowAuction

➡ **Update bids in fallback explicit capacity auction system**

Coupling Process delayed
Critical delay (scenario with an avoided decoupling just in time)

Timing	Message	Additional Actions for MPs	Market Results Publication	Nomination Deadline
11:20-11:40	CZ-SK-HU Market results publication delay			14:30
12:05	Risk of CZ-SK-HU Decoupling and Shadow Auction	Bids update in Shadow Auction system	12:35	14:30

Coupling Process delayed
Critical delay (scenario with an avoided decoupling just in time)

__Example Message for „Risk of CZ-SK-HU Decoupling and Shadow Auction":__

„Market Results Publication Delay II: Risk of CZ-SK-HU Decoupling and Shadow Auction

Please be aware that the calculation of the CZ-SK-HU market results is severely further delayed due to ongoing technical reasons or market issues.
In case of decoupling another message will be sent shortly after **12:35** to announce the decoupling.

Please be aware that in case of decoupling becomes necessary, order books will be reopened at short notice for **20 minutes** after the announcement of decoupling. Please be prepared in case you intend to modify your bids in case decoupling occurs.

In case of CZ-SK-HU decoupling ATCs will be used as following:

CZ-SK border: Bilateral Day Ahead Coupling by OTE and OKTE.
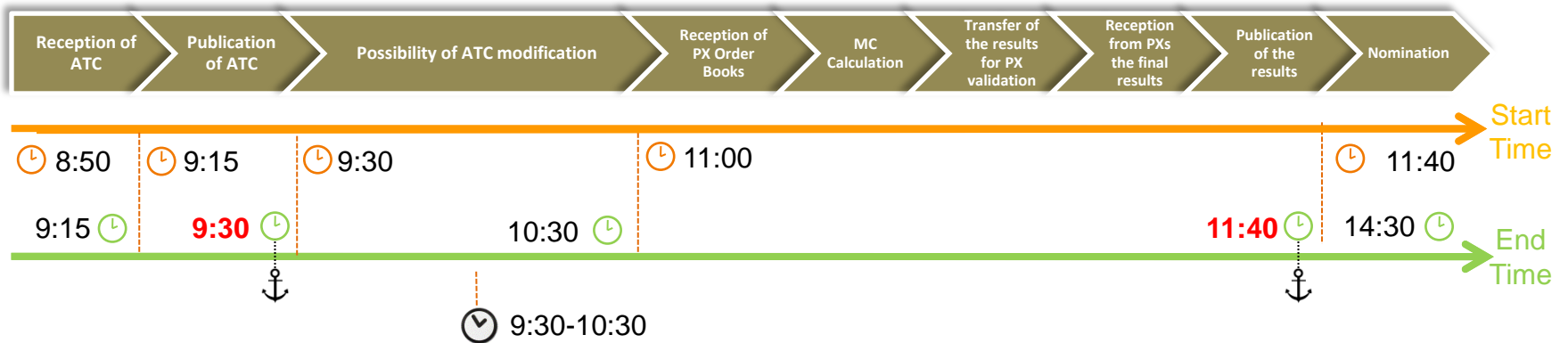
SK-HU border: ATCs will be allocated explicitly via Shadow Auction. Please be aware that the Shadow Auction gate will close at **12:35** to run in parallel.

If CZ SK HU is decoupled Shadow Auction results will be published at as soon as possible but at the latest at **12:45**.

Therefore, we strongly advise you to update your shadow bids at MAVIR KAPAR platform before the Gate Closure of the Explicit auction at 12:35.**"**

ATC Modification
PX gate closure time unimpacted

+ 0 min

| Reception of ATC | Publication of ATC | Possibility of ATC modification | Reception of PX Order Books | MC Calculation | Transfer of the results for PX validation | Reception from PXs the final results | Publication of the results | Nomination |

Start Time
- 8:50
- 9:15
- 9:30
- 11:00
- 11:40

End Time
- 9:15
- **9:30**
- 10:30
- **11:40**
- 14:30

9:30-10:30

Update of ATC values

ATC CYCLE

Reception of ATC: 8:50 – 9:15

Publication of ATC on PXs: 9:30

Possibility of ATC modification: 9:30 – 10:30

PX gate closure time at 11:00

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ATC Modification
PX gate closure time unimpacted

Timing	Message	Additional Actions for MPs	ATC Publication	PX Gate Closure
9:30 - 10:30	Update of ATC values	Exchange bids update (based on the updated ATC values)	As soon as ATC are published, but at the latest at 10:30	11:00

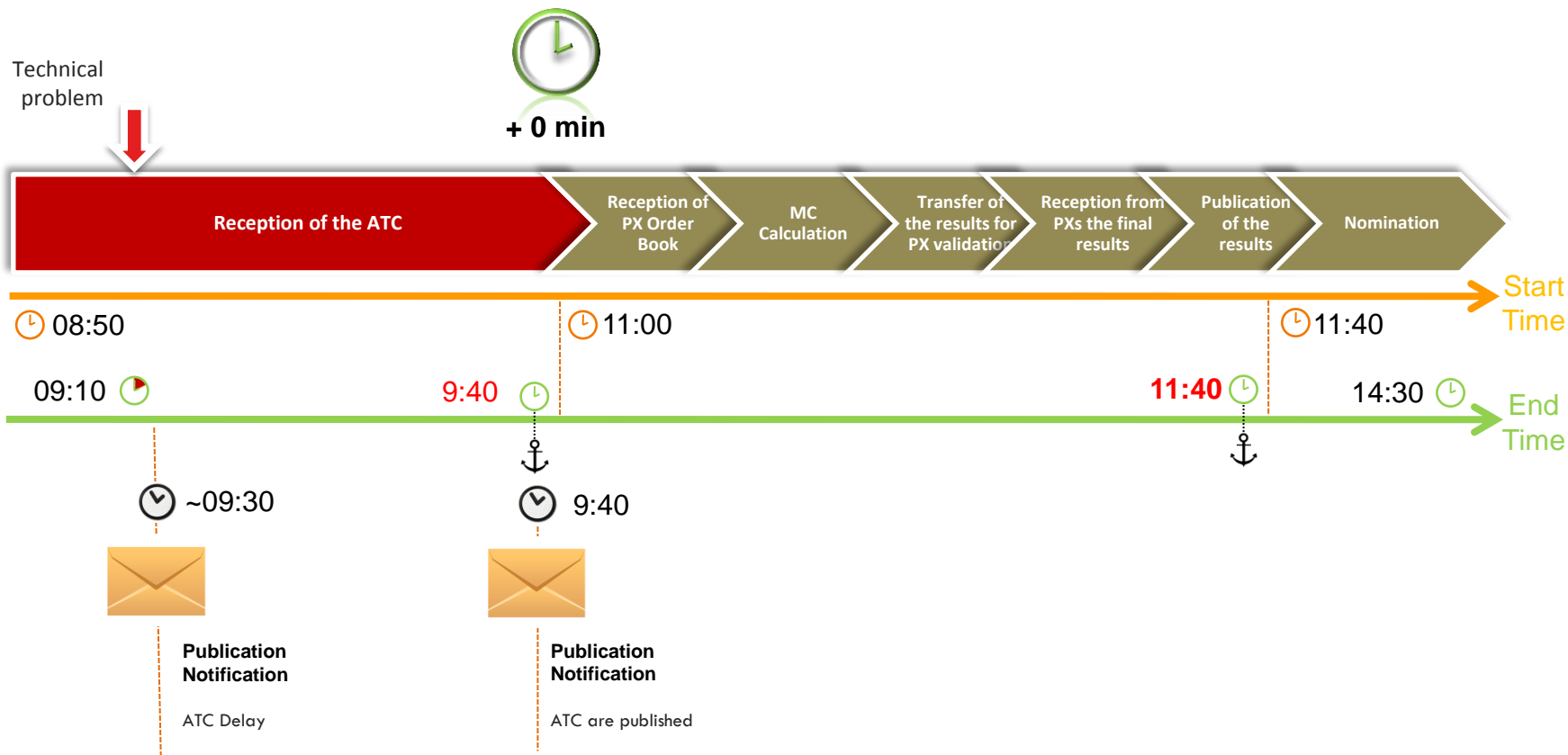**_Example Message for „Update of ATC values":_**

CZ-SK-HU ATC Publication Notification: Update of ATC values

Due to technical reasons ATC values are updated."

ATC Process delayed
Slight delay

Due to technical problems in the ATC cycle, the process remains the same but actions are delayed in time (for example 10 minutes)

+ 0 min

Technical problem

| Reception of the ATC | Reception of PX Order Book | MC Calculation | Transfer of the results for PX validation | Reception from PXs the final results | Publication of the results | Nomination |

Start Time

08:50   11:00   11:40

09:10   9:40   **11:40**   14:30   **End Time**

~09:30   9:40

Publication Notification

ATC Delay

Publication Notification

ATC are published

ATC Process delayed
Slight delay

Timing	Message	Additional actions for MPs	ATC Publication	PX gate closure
~ 9:30	**Publication Notification:** ATC Delay		As soon as ATC are published, but at the latest at 10:30	11:00
9:40	**Publication Notification:** ATC are published	Exchange bids update (based on the updated ATC values)	As soon as ATC are published, but at the latest at 10:30	11:00

Example Message for „Publication Notification":

„CZ-SK-HU ATC Publication Notification: Publication Delay

The publication of the ATC values of the CZ-SK-HU region is delayed due to technical reasons. We will inform you as soon as the ATC values are published.
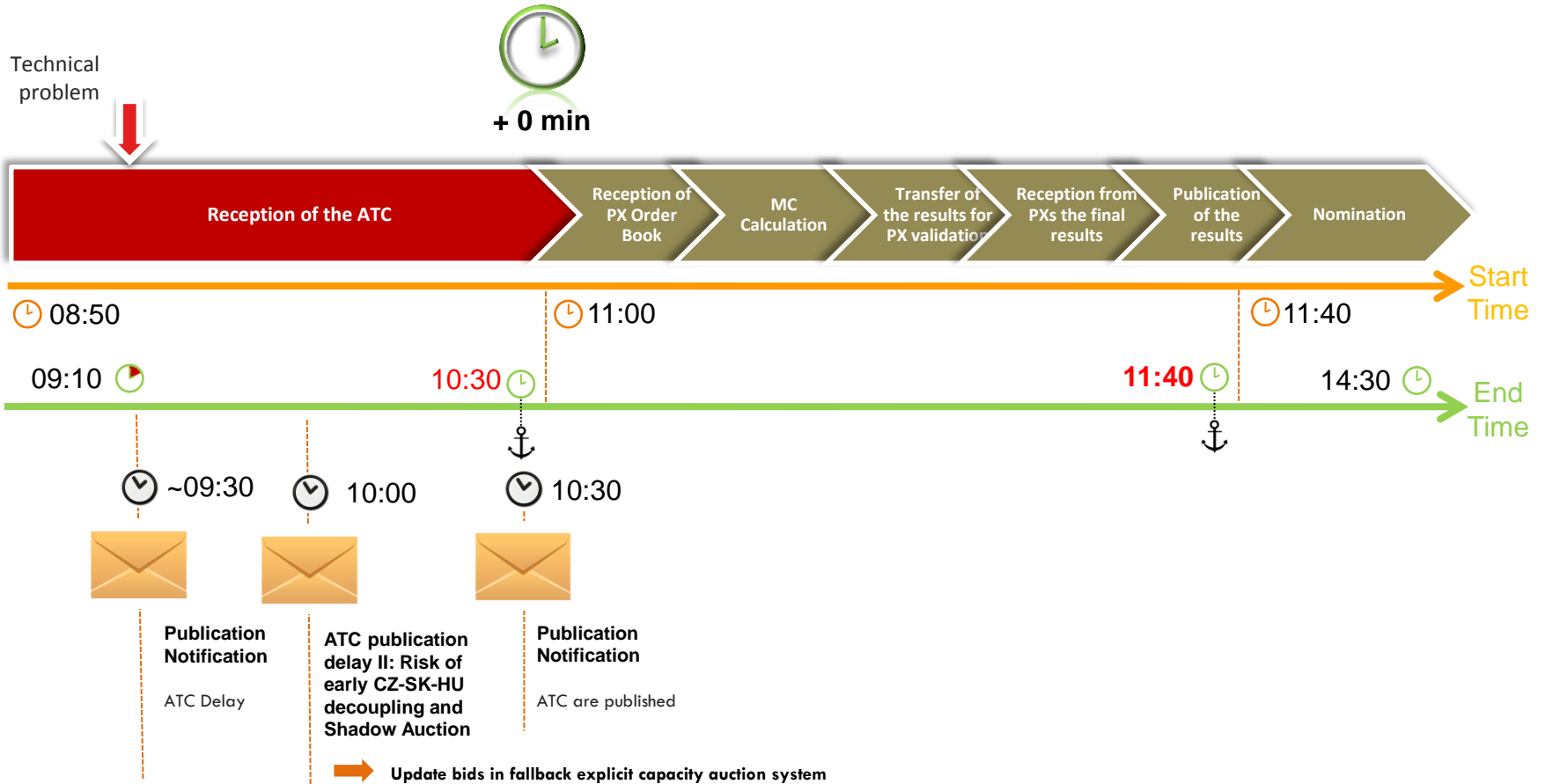
or (depending on the step)

Please note that ATC values are published now."

ATC Process delayed
Critical delay - PX gate closure time unimpacted

Due to technical problems in the ATC cycle, the process remains the same but actions are delayed in time (maximum delay before early decoupling is 60 min)

Technical problem

+ 0 min

| Reception of the ATC | Reception of PX Order Book | MC Calculation | Transfer of the results for PX validation | Reception from PXs the final results | Publication of the results | Nomination |

Start Time
08:50   11:00   11:40

End Time
09:10   **10:30**   **11:40**   14:30

~09:30   10:00   10:30

Publication Notification

ATC Delay

ATC publication delay II: Risk of early CZ-SK-HU decoupling and Shadow Auction

Publication Notification

ATC are published

➜ Update bids in fallback explicit capacity auction system

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ATC Process delayed
Critical delay - PX gate closure time unimpacted

Timing	Message	Additional actions for MPs	ATC Publication	PX gate closure
~ 9:30	**Publication Notification:** ATC Delay		As soon as ATC are published, but at the latest at 10:30	11:00
10:00	**ATC publication delay II:** Risk of early CZ-SK-HU decoupling and Shadow Auction	Shadow Auction bids update	As soon as ATC are published, but at the latest at 10:30	11:00
10:30	**Publication Notification:** ATC are published	Exchange bids update (based on the updated ATC values)	At the latest at10:30	11:00

ATC Process delayed
Critical delay - PX gate closure time unimpacted

Example Message „ATC publication delay II: Risk of early CZ-SK-HU decoupling and Shadow Auction":

„ATC Publication Delay II: Risk of early CZ-SK-HU Decoupling and Shadow Auction

Please be aware that due to some technical reasons the ATC is not yet available.

In case problems cannot be solved and decoupling becomes necessary another message will be sent shortly after 10:30 to announce the decoupling.

Please be aware that in case of decoupling becomes necessary, order books will close as usual at 11:00. Please be prepared in case you intend to modify your bids in case decoupling occurs.

In case of CZ-SK-HU decoupling ATCs will be used as following:

CZ-SK border: Bilateral Day Ahead Coupling by OTE and OKTE.

SK-HU border: ATCs will be allocated explicitly via Shadow Auction. Please be aware that the Shadow Auction gate will close at 10:30 to run in parallel. Shadow Auction results will be published at 10:40 but only if CZ-SK-HU is decoupled.

Therefore, we strongly advise you to update your shadow bids at MAVIR KAPAR platform before 10:30."
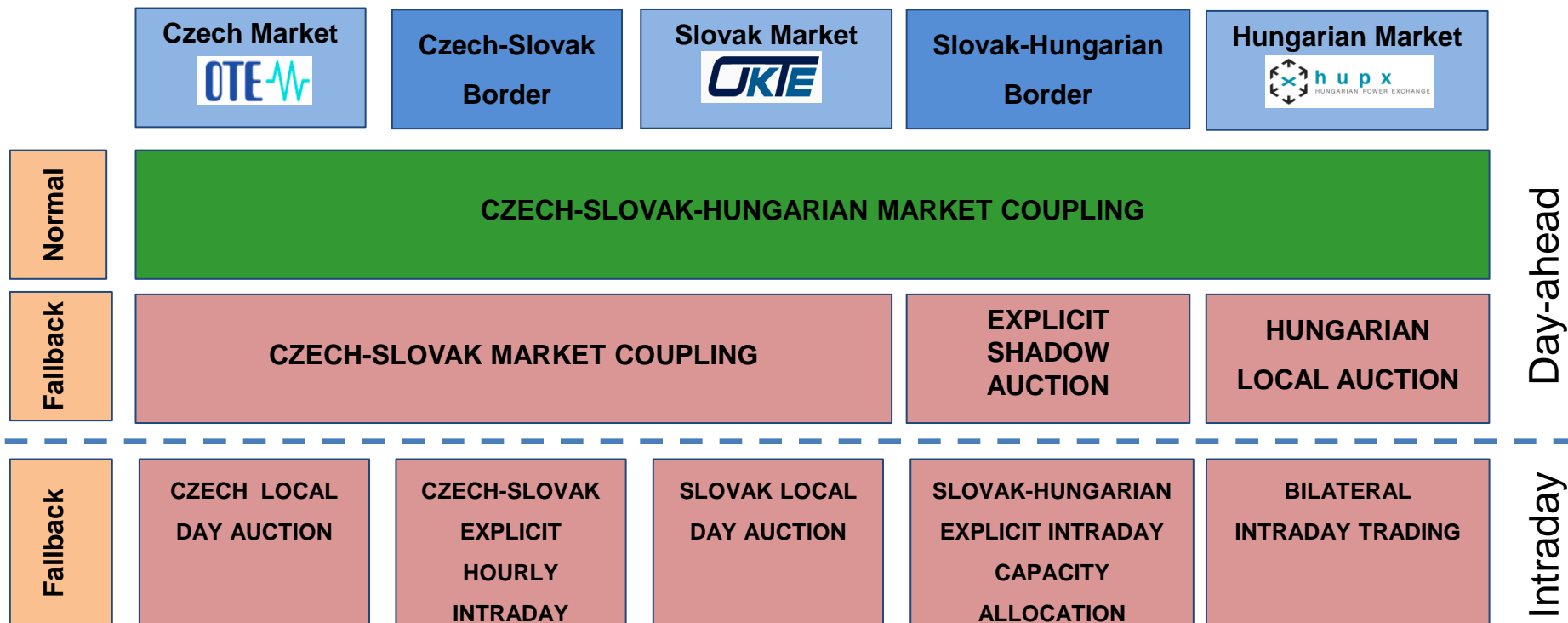
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Decoupling and Fallback Solutions

Decoupling

Due to a technical problem in market coupling process, no market results can be provided till the critical deadline and Fallback solutions shall be applied.

	Czech Market OTE	Czech-Slovak Border	Slovak Market OKTE	Slovak-Hungarian Border	Hungarian Market hupx
Normal	CZECH-SLOVAK-HUNGARIAN MARKET COUPLING				
Fallback	CZECH-SLOVAK MARKET COUPLING			EXPLICIT SHADOW AUCTION	HUNGARIAN LOCAL AUCTION
Fallback	CZECH LOCAL DAY AUCTION	CZECH-SLOVAK EXPLICIT HOURLY INTRADAY	SLOVAK LOCAL DAY AUCTION	SLOVAK-HUNGARIAN EXPLICIT INTRADAY CAPACITY ALLOCATION	BILATERAL INTRADAY TRADING

Day-ahead (Normal and first Fallback rows)

Intraday (last Fallback row)

Decoupling and Fallback Solutions

Decoupling in CZ-SK-HU MC could be announced in two cases:

1) is not possible, for a specific day, to allocate the available transmission capacity via the normal daily implicit allocation, i.e.: a critical deadline in the time schedule is reached and no solution is found before the critical deadline to publish the market results. This type of decoupling is called "Decoupling known during daily session".

Critical deadline for announced decoupling is 12:35.

2) is not possible, for a specific day, to fix severe problems in TSO Management Function system and/or ATC calculation/provision process. In this case decoupling is announced early, i.e. far before PXs order book gate closure. This special type of decoupling is called "Early Decoupling". The default timing of "Early Decoupling" aims at keeping the normal PXs order book gate closure time unchanged (11h00).

Critical deadline for announced early decoupling is 10:30.

Fallback on CZ-SK Border & Market Areas: CZ-SK MC

CZ-SK coupling through recently operated implicit allocation.

CZ-SK coupling will use the same market rules as currently applied.

Timing of fallback solution on CZ-SK border:

	Decoupling	Early decoupling
PX gate (re)open (after decoupling is announced)	12:35 – 12:45	10:30 – 10:40
PX gate closure	13:05	11:00
Publication of results	13:45	11:40
Nomination deadline	14:30	14:30

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Fallback on SK-HU Border: Explicit Shadow Auction

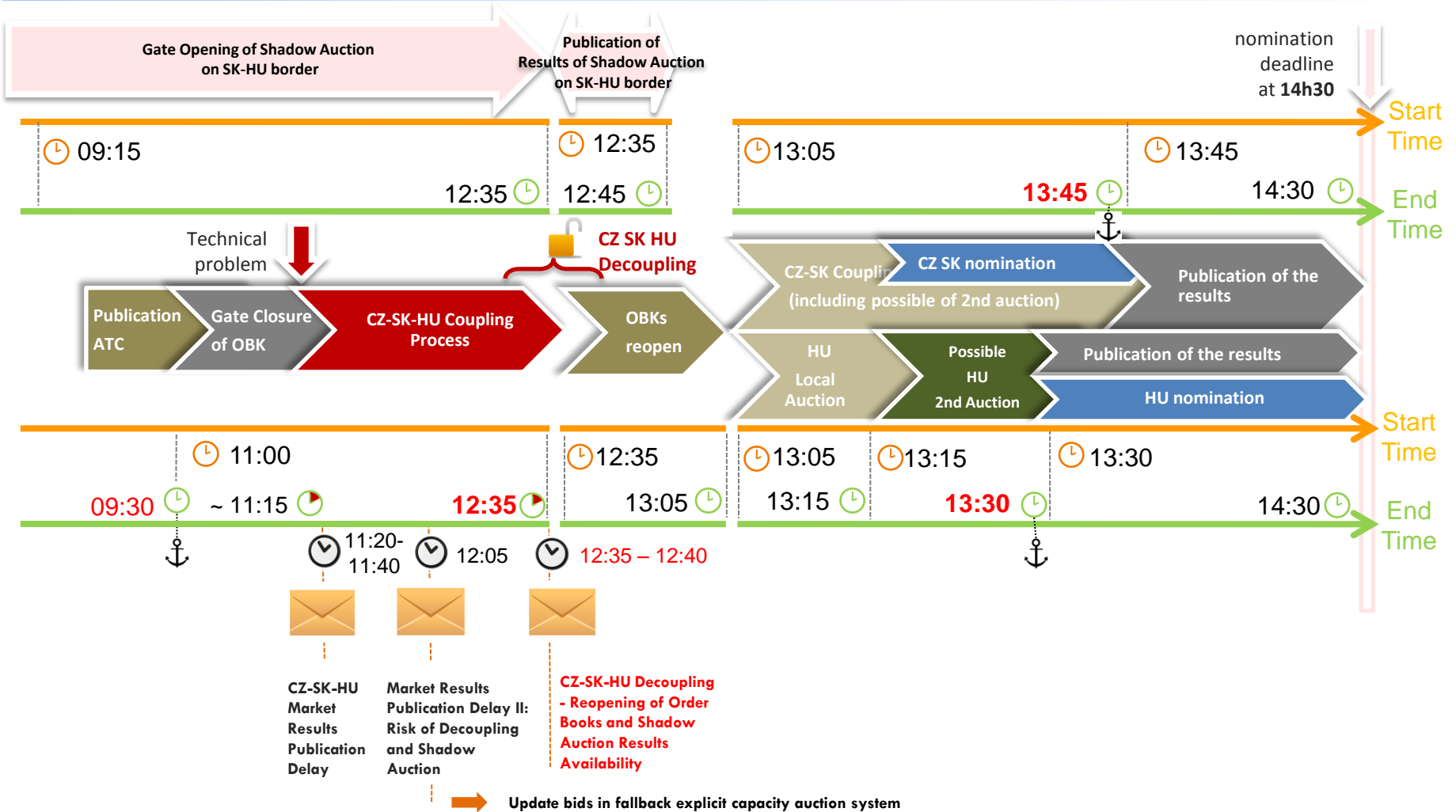Explicit Shadow Auction will be organized by MAVIR in its Capacity Auction System called KAPAR.

Market Participants can submit bids only after registration according to Shadow Auction Rules (Registration Form is its annex). Final version of Shadow Auction Rules is under negotiation between SEPS and MAVIR. Version approved by NRAs will be published at least 30 days before launch of Market Coupling.

Main characteristics:
- Shadow bids can be submitted for 30 consecutive days in advance;
- Delay and error messages concerning the market coupling matching will be provided via KAPAR system as well in order to be able to update shadow bids;
- If decoupling is not announced, bids are not evaluated, no explicit allocation of capacity;
- By the time of announcing decoupling and switch to fallback, the bids are evaluated;
- After the publication of cross-border explicit auction results PX Order Books are still open for 20 min to update PX bids.
- There will not be change in nomination process.

Decoupling
Fall-back mode

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Decoupling
Fall-back mode

Timing	Message	Additional actions for MPs	Market results Publication	Nomination deadline
11:20-11:40	CZ-SK-HU Market Results Publication Delay			14:30
12:05	Risk of CZ-SK-HU Decoupling and Shadow Auction	Bids update in Shadow Auction system		14:30
12:35-12:40	Decoupling – Reopening Order Books and Shadow Auction Results Availability	Bids update in trading system of PXs	HU→13:30 (at the latest) CZ-SK→13:50 (at the latest)	14:30

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Decoupling
Fall-back mode

Example Message „Decoupling – Reopening Order Books and Shadow Auction Results Availability":

CZ-SK-HU Decoupling – Reopening of the Order Books and Shadow Auction Results Availability

Due to technical problems, the CZ-SK-HU Market Coupling cannot be run for delivery date: **05.12.2012**

CZ, SK and HU are decoupled.
As a consequence of the CZ-SK-HU decoupling, the CZ-SK-HU order books will reopen as soon as technically possible (latest 12:45) and finally close at 13:05.
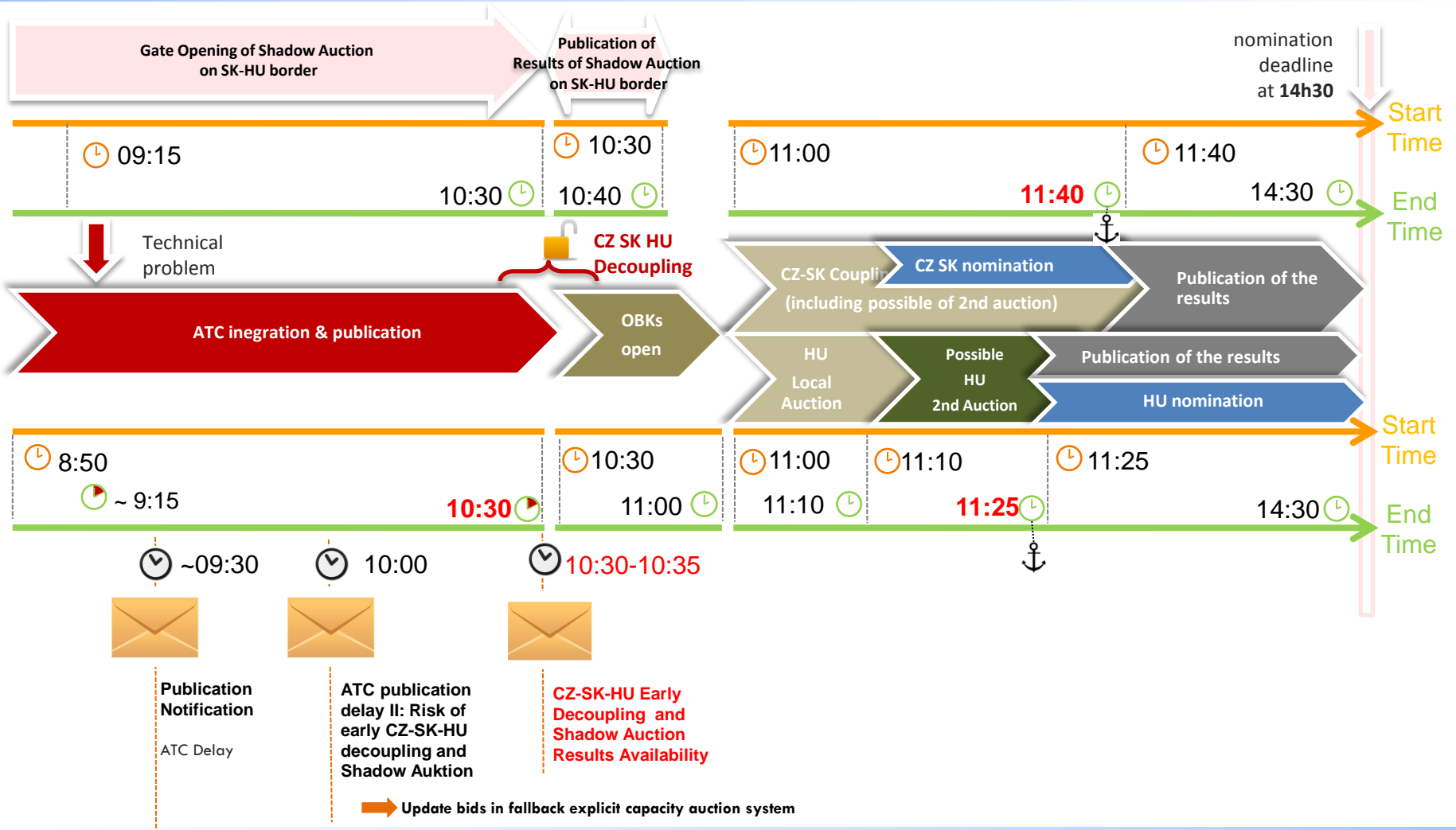
ATCs will be used as following:
CZ-SK border: Bilateral Day Ahead Coupling by OTE and OKTE.
SK-HU border: ATCs were allocated explicitly via Shadow Auction. Please refer to the website of MAVIR to get the results of the SK-HU Shadow Auction, which are available as soon as possible (latest 12:45)."

Early Decoupling
Fall-back mode

Gate Opening of Shadow Auction on SK-HU border

Publication of Results of Shadow Auction on SK-HU border

nomination deadline at **14h30**

Start Time

09:15
10:30
10:40
10:30
11:00
11:40
11:40
14:30

End Time

Technical problem

CZ SK HU Decoupling

ATC inegration & publication

OBKs open

CZ-SK Coupling (including possible of 2nd auction)

CZ SK nomination

Publication of the results

HU Local Auction

Possible HU 2nd Auction

Publication of the results

HU nomination

Start Time

8:50
~ 9:15
10:30
10:30
11:00
11:00
11:10
11:10
11:25
11:25
14:30

End Time

~09:30
10:00
10:30-10:35

Publication Notification

ATC Delay

ATC publication delay II: Risk of early CZ-SK-HU decoupling and Shadow Auktion

CZ-SK-HU Early Decoupling and Shadow Auction Results Availability

Update bids in fallback explicit capacity auction system

Early Decoupling
Fall-back mode

Timing	Message	Additional actions for MPs	Market results Publication	Nomination Deadline
~ 9:30	**Publication Notification:** ATC Delay			14:30
10:00	**ATC publication delay II:** Risk of early CZ-SK-HU decoupling and Shadow Auction	Bids update in Shadow Auction system		14:30
10:35	**CZ-SK-HU Early Decoupling and Shadow Auction Results Availability**	Bids update in trading system of PXs	HU→11:25 (at the latest) CZ-SK→11:40 (at the latest)	14:30

12/06/2012

Early Decoupling
Fall-back mode

Example Message „Early decoupling – Reopening Order Books and Shadow Auction Results Availability":

CZ-SK-HU Early Decoupling and Shadow Auction Results Availability

Due to technical problems in pre-coupling/ATC cycle process, the CZ-SK-HU Market Coupling cannot be run for delivery date: **05.12.2012**

CZ, SK and HU are decoupled.

Please be aware that order books of OTE, OKTE and HUPX will close as usual at 11:00.
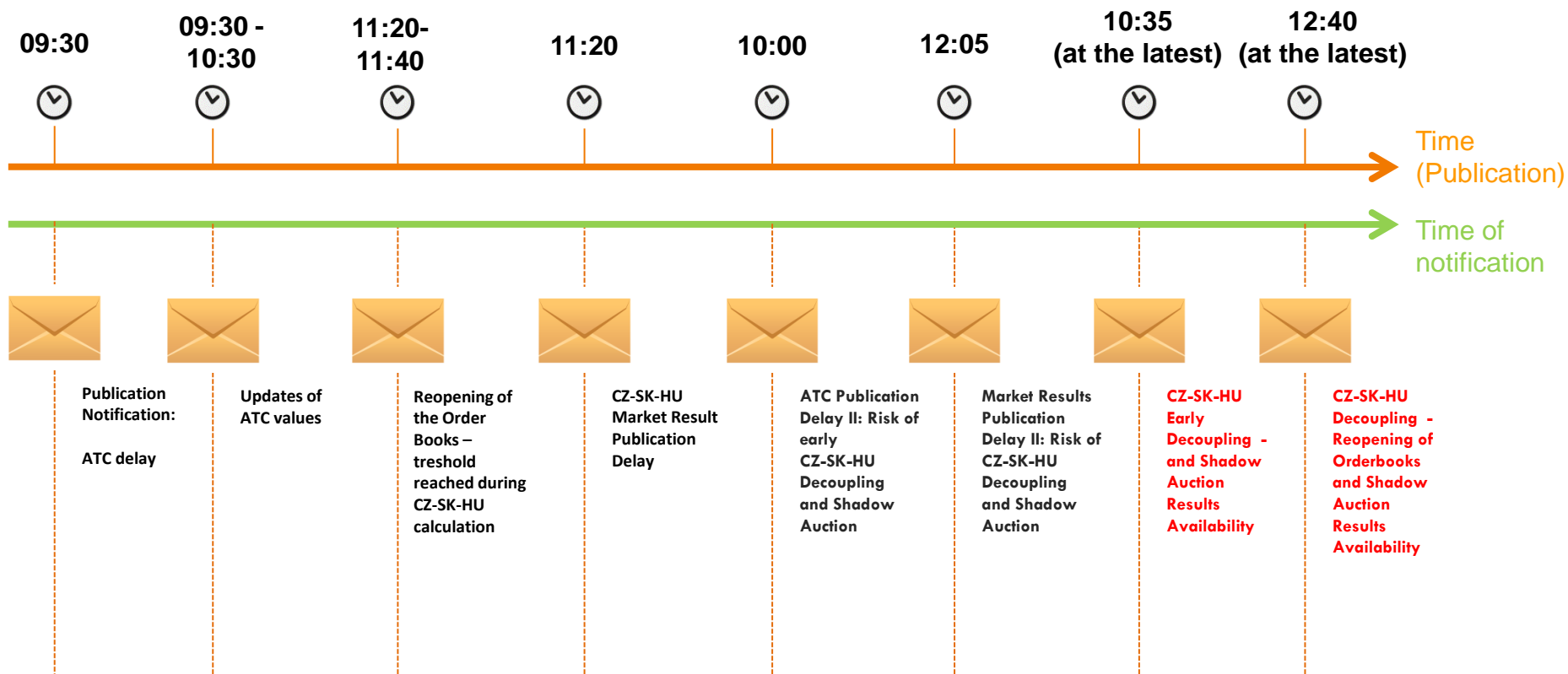
ATCs will be used as following:

CZ-SK border: Bilateral Day Ahead Coupling by OTE and OKTE.

SK-HU border: ATCs were allocated explicitly via Shadow Auction. Please refer to the website of MAVIR to get the results of the SK-HU Shadow Auction, which are available latest 10:40."

Communication
before Fall-back

09:30	09:30 - 10:30	11:20- 11:40	11:20	10:00	12:05	10:35 (at the latest)	12:40 (at the latest)

Time (Publication)

Time of notification

Publication Notification:

ATC delay

Updates of ATC values

Reopening of the Order Books – treshold reached during CZ-SK-HU calculation

CZ-SK-HU Market Result Publication Delay

ATC Publication Delay II: Risk of early CZ-SK-HU Decoupling and Shadow Auction

Market Results Publication Delay II: Risk of CZ-SK-HU Decoupling and Shadow Auction

CZ-SK-HU Early Decoupling - and Shadow Auction Results Availability

CZ-SK-HU Decoupling - Reopening of Orderbooks and Shadow Auction Results Availability

12/06/2012

Legend

 Start time of one step

 End time of one step
End time of one publishing step (ATC or final results)
End time of the delayed step

 Counting of the delay for a publishing step
(red = delayed, green = undelayed)

 Time of the communication
Object of the communication

 Full CZ-SK-HU decoupling

 Defective step

Agenda

I. Market Coupling Theory and Practice
II. Where do we come from
III. Operational overview
IV. Detailed Procedures and Timings with MPs Communication
V. Decoupling and Fallback Solutions
VI. Member test phase and launch dates

08/06/2012

Member test phase and launch date

- The internal integration test is ongoing currently.

- After the internal integration test shall be successfully finished the full integration test together the PXs' Members will be conducted.

- The test period planned to be between **06/08/2012-17/08/2012**

- Acceptance Tests shortly before go live

- The exact timing of the Member test will be distributed shortly before the start of the member test phase.

- Members could participate through only those PXs where they are registered members.

- Based on the requirements of Market Participants the project parties want to ensure enough time for all Market Participants to get ready for the new business situation therefore Go-live is planned to be at the beginning of September and confirmed after performance of successful tests with members

Abbreviations and definitions

Abbreviation	Term	Definition
ATC	Available Transfer Capacity	
BRP	Balance Responsible Parties	
	Critical Deadline	Latest moment in time to complete some procedure in normal or back-up mode. If an incident that allows applying neither normal nor back-up procedure (if any) occurs before this time, fall-back is triggered.
	Cross border shipper	
FSO	Functional System Operator	Operator responsible of the operations of the PCS (Price Coupling System). This role will be performed by EPEX SPOT.
GCT	Gate Closure Time	Time identified for the closure of the order book. This is the last moment for a participant to enter a bid in the PX trading platforms.
MCP	Market clearing participant	
MP	Market participant	
NRA	National Regulatory Authority	
OBK	Order Book	A record of the outstanding orders that an organization has received.
PCS	Price Coupling System	
PX	Power Exchange	
	PX Trading Systems	Systems hosted and operated by HUPX, OKTE and OTE for the hubs involved in the Market Coupling.
	Shadow auction	
TMF	TSO Management Function	This entity will act as a single point to implement and operate services related to the auctioning of power transmission capacity on the common borders.
TSO	Transmission System Opearator	

Thank you for your attention ...