

**Terminal ANS Charging zone: Poland  
Reference Period 2 (2015-2019)**

**ADDITIONAL INFORMATION – 1 – Total costs and unit costs**

**a) Description of the methodology used for allocating costs of facilities or services between different air navigation services based on the list of facilities and services listed in ICAO Regional Air Navigation Plan, European Region (Doc. 7754), and a description of the methodology used for allocating those costs between different Charging Zones;**

For the RP2 the cost base for terminal charges in Poland consists of costs incurred by three organizations:

- **Polish Air Navigation Services Agency (PANSa)** – certified and designated provider of air traffic services and certified provider of CNS services and AIS,
- **Mazowiecki Port Lotniczy Warszawa-Modlin sp. z o.o. (MPL WM)** - certified and designated AFIS provider at Warsaw/Modlin airport,
- **Civil Aviation Authority of the Republic of Poland (CAA)** – national supervisory authority.

In the RP1 the cost base for terminal charges in Poland consisted of costs incurred also by three organizations but instead of MPL WM it included costs incurred by Institute of Meteorology and Water Management National Research Institute (IMWM) – certified and designated MET services provider. During the preparation of PP for the RP2, the assumption that MET services will be purchased by PANSa following public tender and will be reported in PANSa's costs (see further explanation below) was adopted. Designation of IMWM for terminal services was to expire at 31.12.2014 and as a consequence starting from 01.01.2015 IMWM would not be covered by the scope of EC charging regulation with regard to terminal charges and as a result no separate reporting table for IMWM for RP2 has been developed. However, the PANSa's public tender for purchasing terminal MET services failed and as a consequence in order to ensure availability of MET information to airspace users after 31.12.2014 the Minister responsible for transport has designated IMWM as MET SP for provision of terminal MET services in Poland, excluding terminal MET services at Radom airport, from January 1, 2015 till December 31, 2015. This situation has no impact on the level of determined MET costs. PANSa is currently preparing tender to purchase MET services for years 2016-2019. Determined costs of terminal MET services for RP2, including 2015, are included in PANSa costs as other operating costs.

The table below presents list of accountable entities in terminal cost-efficiency area for RP1 and RP2.

	<b>RP1</b>	<b>RP2</b>
<b>TNC</b>	PANSa (ATS, CNS, AIS, SAR coordination)  IMWM (MET)  CAA (NSA+MS)	PANSa (ATS, CNS, AIS, SAR coordination + <b>MET costs</b> )  <b>MPL WM (AFIS)</b> CAA (NSA+MS)

**In accordance with approved performance plan for RP2, for the year 2016 the single terminal charging zone in Poland is to be maintained** comprising all controlled airports in Poland (14), where PANSa has been designated for ATS (namely: Warsaw/Chopin, Kraków, Katowice, Wrocław, Gdańsk, Poznań, Szczecin, Łódź, Zielona Góra, Rzeszów, Bydgoszcz, Warsaw/Modlin, Lublin and Radom). It is also proposed to include additional airport in the above mentioned charging zone – namely Olsztyn-Mazury airport (EPSY, formerly known also as Szymany airport – the airport has been operating until 2004) that is planned to be opened in 2016 – detailed information about the proposal has been presented during consultation meeting on 12<sup>th</sup> May 2015.

**From 2017 it is proposed to establish two terminal charging zones in Poland**, the first one comprising Warsaw/Chopin airport, the second comprising all other airports (13+possibly EPSY). For further information see Additional Information 2 letter a) below.

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### **Methodology used for allocating costs between en route and terminal ANS**

For criteria for allocation of PANSA's and CAA's costs between ER and TNC see Additional Information – 1 for en-route charges.

With regard to EPSY airport (expected inclusion in the charging zone from 2016), further to article 8.2 of the Charging Regulation, taking into account provisions of article 5.5 of the Charging Regulation, for the period 2016-2019 full cost (100%) of TWR service provided at EPSY (full cost of TWR unit) and related MET service is allocated to PANSA's terminal charges' cost base. This allocation is different from criteria applied at other airports where there is no separate APP unit (in case of other such airports covered by RP2 PP TWR costs are allocated between ER and TNC – see Annex C to RP2 PP). Notwithstanding the above, the full cost of TWR service provided at EPSY by PANSA may contain a selected part of cost elements stemming from the ANS infrastructure investments covered by RP2 PP with intention to serve both - en route and terminal services.

With regard to MPL WM it provides only terminal services therefore all its ANS costs are allocated to terminal charges. Services provided by MPL WM are limited to 3 types:

1. Air Traffic Management (ATM) including area control service, flight information service and alerting service,
2. Communication – aeronautical telecommunications service,
3. Meteorological services providing aircraft meteorological information and data.

The first two kinds of services are provided by the same AFIS team and the same facilities (aeronautical control tower). The costs are split between them based on the estimation of working time dedicated to each service. Based on historical data it was assumed that 90% of time is allocated to ATM and the rest to Communication.

For MET services MPL WM is able to exclude separate facilities. Also meteorological information is delivered by external company. It allows to calculate costs of this service independently.

### **b) Description of the methodology and assumptions used to establish the costs of air navigation services provided to VFR flights, when exemptions are granted for VFR flights;**

#### **I. PANSA**

From 2014 PANSA calculates costs of air navigation services provided to VFR flights through marginal cost methodology. As the result, the whole cost is allocated to En-Route.

#### **II. MPL WM**

Warsaw/Modlin air navigation services provided by AFIS mainly relate to VFR flights. In year 2015 MPL WM expects to have 5000 operations (landing) and 95% of them will be exempted flights. It means that approximately 263 operations will be scheduled. In the following years MPL WM assumes increase by 10% each year in number of operations using its AFIS and MET services.

To calculate VFR cost MPL WM uses marginal cost methodology assuming that unit cost of one operation is the same, whether it is a VFR or IFR flight.

### **c) Description and justification of any adjustment beyond the provisions of the International Accounting Standards;**

#### **I. PANSA**

N/a. PANSA is fully in line with the International Accounting Standards.

#### **II. MPL WM**

MPL WM follows the rules of Local Accountancy Act, but there are not material or relevant differences between adopted standards and IAS. IAS according to Polish law is not obligatory for entities like MPL WM and therefore the MPL WM used the legal possibility that states: "where, owing to the legal status of the service provider, full compliance with the International Financial Reporting Standards is not possible, the provider shall endeavor to achieve such compliance to the maximum possible extent".

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### III. CAA

The CAA, as a national budgetary unit financed from state budget, is obliged to follow accounting regulations applicable to national administration bodies. As a consequence, the CAA does not apply IAS but follows national regulations regarding budgetary units which are based on cash accounting rules.

**d) Description and explanation of the method adopted for the calculation of depreciation costs: historic costs or current costs. When current cost accounting is adopted, provision of comparable historic cost data;**

#### I. PANSA

PANSA uses the historic cost method for the calculation of depreciation costs. No asset revaluation has been included in the asset base for air navigation charges.

#### II. MPL WM

As for depreciation, MPL WM uses historic cost principles. MPL WM's facilities are depreciated using the straight-line depreciation method.

#### III. CAA

As a budgetary unit, following the national regulations on all public administration bodies, CAA does not calculate depreciation on its assets.

**e) Justification for the cost of capital, including the components of the asset base, the possible adjustments to total assets and the return on equity;**

#### I. PANSA

##### **Assumptions for determining the cost of capital and the return on equity**

PANSA determines the cost of capital based on the methodology of The Weighted Average Cost of Capital. It comprises the cost of equity and the cost of debt, weighted by their relative share in a company's capital structure.

PANSA estimates benefit from equity finance using the Capital Asset Pricing Model (CAPM). According to CAPM, Agency's cost of equity is equal to a market risk-free rate of return, plus a premium above the risk free rate to reflect the relative riskiness of the company and its investments. When calculating cost of equity for the RP2 the following assumptions have been taken initially into consideration by PANSA:

- risk free rate of return (4,42%) equal to long term government bond yields reported by Eurostat for month of January 2014 for Poland<sup>1</sup>,
- the equity risk premium (4,80%) representing the excess return over the risk free rate assumed on the Damodoran approach basis,
- equity beta (0,515) measuring the correlation between the riskiness of an asset and that of the overall market. Estimated value is in line with equity beta's assumed by other providers for the RP1 and equity beta's assumed by regulated entities in a number of industries.

As far as PANSA does not plan to use debt financing in the whole RP2, the cost of debt has been assumed at 0,0% level.

It has to be noted that the WACC used for calculation of the cost of capital in the reporting tables was equal not to 8,43% (pre-tax rate) but 6,63% (post-tax rate). Additionally, for 2017-2019 the WACC has been further reduced by the CAA in order to ensure consistency with en-route costs assumptions and alignment of PANSA's determined costs with local cost-efficiency target. As a consequence, PANSA's cost of capital for the RP2 is lower than allowed under the charging scheme provisions and reflects Polish commitment to improve performance in cost-efficiency area. ROE for terminal services for 2017-2019 is slightly lower than for ER what is justified by exclusion of terminal services from traffic risk sharing provisions as allowed under article 13.6 of the Charging Regulation

<sup>1</sup><http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=teimf050&plugin=1>

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After the consultation process preceding the RP2 PANSAs took a good note of airspace users' and CAA's expectations and has decreased the cost of capital also for years 2015-2016. For the final cost base the following assumptions were used:

- the RoE for 2015-2016 was reduced – lower risk-free rate was assumed (instead of 4,42% used before currently 4,03% is applied which reflects average interest on bonds in 2013),
- modified asset beta (0,4 instead of previously used 0,5015).

As a consequence, the cost of capital was lowered, in accordance with users' expectations.

ANSP/Entity: <b>PANSA</b>	RP2 PP					
Assumptions for the Cost of Capital (WACC) in nominal terms	Underlying assumptions for an "efficient" WACC	For the determined cost of capital				
		2015 D	2016 D	2017 D	2018 D	2019 D
Capital structure (% debt)	60%	0,0%	0,0%	0,0%	0,0%	0,0%
Corporate tax rate %	19,0%	19,0%	19,0%	19,0%	19,0%	19,0%
Risk free rate % (nominal)	4,03%	4,03%	4,03%	4,03%	4,03%	4,03%
Market (equity) risk premium % (after tax)	4,80%	4,80%	4,80%	4,80%	4,80%	4,80%
Asset beta	0,40	0,40	0,40	0,40	0,40	0,40
Debt beta	0,00	0,00	0,00	0,00	0,00	0,00
Equity beta	0,89	0,40	0,40	0,40	0,40	0,40
Return on Equity % (after tax)	8,29%	5,95%	5,95%	5,95%	5,95%	5,95%
<b>Return on Equity % (pre tax) - T1 3.6</b>	<b>10,23%</b>	<b>7,35%</b>	<b>7,35%</b>	<b>7,35%</b>	<b>7,35%</b>	<b>7,35%</b>
Debt risk premium %	1,52%	1,92%	1,92%	1,92%	1,92%	1,92%
<b>Interest on debt % (pre tax) - T1 3.7</b>	<b>5,55%</b>	<b>5,95%</b>	<b>5,95%</b>	<b>5,95%</b>	<b>5,95%</b>	<b>5,95%</b>
<b>WACC % (pre tax) - T1 3.5</b>	<b>7,42%</b>	<b>7,35%</b>	<b>7,35%</b>	<b>7,35%</b>	<b>7,35%</b>	<b>7,35%</b>

ANSP/Entity: <b>PANSA</b>	Notional "efficient" WACC in RP2	Determined cost of capital in RP2
Capital structure (% debt)	60%	0,00%
Corporate tax rate %	19%	
Risk free rate % (nominal)	4,03% - explanation for the assumptions above	
Market / risk premium % (after tax)		4,8%
Asset beta	0,4	0,4
Debt beta	0	0
Debt risk premium %	Difference between interest on debt (%pre tax) and risk free rate (% nominal)	

The level of the cost of capital of PANSAs for years 2017-2019 has been reduced by the CAA as compared to the assumptions presented in the above table to 5,43% in 2017, 3,47% in 2018, 3,52% in 2019. This reflects Poland's commitment to ensure consistency with en-route costs assumptions and alignment of PANSAs's determined costs with local cost-efficiency target.

### Asset base

ANSP/Entity: <b>PANSA</b>	RP2 PP
Components of the asset base	

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3.1 Net book val. fixed assets	The average net book value of fixed assets for terminal services provision has been taken into account with the assumption of execution of the investment plan of PANSAs at the level of 85% in the whole RP2. As a consequence, the asset base is lower than presented earlier for the purpose of consultation with stakeholders, which takes into account users' comments and expectations
3.2 Adjustments total assets	n/a
3.3 Net current assets	The calculation of the level of net current assets follows methodology recommended by the CRCO when auditing PANSAs's cost base in 2010 and takes into account only the assets that are necessary to perform ANS, and as a consequence excludes interest bearing items.
3.4 Total asset base	The increase in the total asset base is a result of planned investments (information on the investment plan is provided in subsequent part of this Plan). This is mainly due to the increase of the technological level, functionality of the ATM system and the development of CNS / ATM infrastructure.

Average asset base (kPLN) Before inclusion of EPSY airport	2015	2016	2017	2018	2019
Net book val. fixed assets	116 528	125 761	132 107	147 432	161 391
Adjustments total assets	0	0	0	0	0
Net current assets	-3 801	7 664	12 709	14 298	14 850
Total asset base	112 728	133 424	144 817	161 730	176 240

Average asset base (kPLN) After inclusion of EPSY airport	2015	2016	2017	2018	2019
Net book val. fixed assets	116 528	125 780	135 590	150 681	164 406
Adjustments total assets	0	0	0	0	0
Net current assets	-3 801	7 664	12 709	14 298	14 850
Total asset base	112 728	133 444	148 299	164 979	179 256

With reference to EPSY airport asset base assumptions were different than applied to other airports, due to the circumstances mentioned in Additional Information – 1 – letter a) above (different methodology for cost allocation between en-route and terminal services due to article 5.5 of the Charging Regulation).

### II. MPL WM

#### **Assumptions for determining the cost of capital and the return on equity**

MPL WM as a very small entity has decided not to use the CAPM model to compute WACC and Return on Equity.

Due to fact that MPL WM is the company financed with only equity and debt, the average cost of capital was computed as follows:

$$WACC = \frac{D}{D + E}K_d + \frac{E}{D + E}K_e$$

Where:

- D is the total debt,
- E is the total shareholders' equity,
- Ke is the cost of equity,
- Kd is the cost of debt.

All the figures used in MPL WM cost of capital calculation are presented in the table below:

	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
Net Book Value of Assets	5 597,3	5 300,5	5 003,7	4 706,9	4 410,0
Net Book Value of Assets *excluding EU funds	1 141,9	1 081,3	1 020,8	960,2	899,6
3.6 Return on equity	3,50%	3,50%	3,50%	3,50%	3,50%

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3.7 Avr interest on debts	3,63%	3,63%	3,63%	3,63%	3,63%
Shareholders' equity - E	210 134,1	217 846,4	230 488,0	252 296,8	273 904,8
Debts - D	246 060,6	229 706,3	232 357,0	210 521,9	188 913,9
WACC	3,57%	3,57%	3,57%	3,56%	3,55%
Cost of capital	40,8	28,6	36,4	34,2	32,0
AFIS	28,5	27,0	25,5	23,9	22,4
METEO	12,2	11,6	10,9	10,3	9,6

ROE is based on the annual level of Polish four-year treasury bond interest rate.

**Asset base**

Components of the asset base	2015	2016	2017	2018	2019
<b>Net book val. fixed assets</b>	1 141,9	1 081,3	1 020,8	960,2	899,6
<b>Adjustments total assets</b>	0,0	0,0	0,0	0,0	0,0
<b>Net current assets</b>	0,0	0,0	0,0	0,0	0,0
<b>Total asset base</b>	1 141,9	1 081,3	1 020,8	960,2	899,6
<b>AFIS asset base</b>	799,3	756,9	714,6	672,1	629,8
<b>MET asset base</b>	342,6	324,4	306,2	288,1	269,8

Net book value of asset was calculated based on depreciation rules described above (see point d for MLP WM). The assets are valued based on historical costs without any adjustments of their book value.

**III. CAA**

CAA does not calculate the cost of capital and does not include it in its cost base.

**(f) total costs per airport for each airports with fewer than 70 000 IFR air transport movements per year, when these are provided in a consolidated way in the reporting table;**

See reporting table "Table 1 List others".

**g) Definition of the criteria used to allocate costs between terminal and *en route* services for each airport within the scope of this Regulation;**

See point a above. Criteria are the same for all airports.

**h) Breakdown of the meteorological costs between direct costs and 'MET core costs' defined as the costs of supporting meteorological facilities and services that also serve meteorological requirements in general. These include general analysis and forecasting, surface and upper-air observation networks, meteorological communication systems, data processing centres and supporting core research, training and administration;**

For MET services at all 14 airports for the RP2 they will be purchased following a public tender to be announced by PANSA later this year. As a consequence, at this stage it is not possible to indicate breakdown of these costs.

**MPL WM**

MET services do not serve any meteorological requirements in general. As a consequence, no core costs are identified.

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**i) Description of the methodology used for allocating total MET costs and MET core costs to civil aviation and between Charging Zones;**

N/a – see point h) above. See ER Additional Information – 1 point i) that describes how MET costs presented in PANSA's reporting table are calculated and allocated between ER and TNC.

**j) Nineteen months before the start of a reference period, description of the reported forecast costs and traffic;**

Not applicable for this submission

**k) Description of the reported actual costs and the difference from the determined costs, for each year of the reference period;**

As regards information on actual costs - not applicable for this submission.

As concerns inclusion of EPSY airport into terminal charging zone the table below presents comparison of determined costs for RP2 for Poland before and after inclusion of EPSY airport.

Comparison of determined costs for RP2 (nominal)

Total determined costs in '000 PLN	2015	2016	2017	2018	2019
14 airports (before inclusion of EPSY)	130 300	136 041	141 051	144 523	148 261
15 airports (after inclusion of EPSY)	130 300	138 095	144 016	147 247	151 273
Difference	0	2 054	2 965	2 723	3 012

The inclusion of EPSY airport does not impact the level of RP2 determined costs for CAA and MPL WM. It results only in increase of PANSA's costs base.

**l) Description of the reported actual service units and the differences both against the forecast and compared with the figures provided by EUROCONTROL, as appropriate, for each year of the reference period;**

As regards information on actual traffic - not applicable for this submission.

With regard to inclusion of EPSY airport into terminal charging zone the table below presents comparison of forecasted traffic – total terminal service units – for RP2 for Poland before and after inclusion of EPSY airport.

Comparison of forecasted traffic for RP2

Total terminal service units	2015	2016	2017	2018	2019
14 airports (before inclusion of EPSY)	159,800	169,700	181,300	192,700	204,100
15 airports (after inclusion of EPSY)	159,800	170,574	182,449	194,101	205,744
Difference	0,000	0,874	1,149	1,401	1,644

The traffic forecast presented in the current terminal charges' reporting tables is based on the traffic forecast presented in the RP2 PP (based on STATFOR forecast dated February 2014) with addition of traffic forecasted for EPSY.

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m) Every year of the reference period, the difference between the investments of the air navigation service providers recorded in the Performance Plans and the actual spending, as well as the difference between the planned date of entry into operation of these investments and the actual situation.

Not applicable for this submission.



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**ADDITIONAL INFORMATION – 2 – Unit rate calculation**

**a) Description and rationale for establishment of the different Charging Zones, in particular with regard to terminal Charging Zones and potential cross-subsidies between airports;**

Since 2010 in Poland there has been a single terminal charging zone covering all airports, where PANSA provides air traffic services under its designation.

**For 2015 and 2016 the single terminal charging zone in Polish airspace will be maintained. It will cover the following airports in Poland:**

- EPWA Warsaw Airport,
- EPKK Kraków Airport,
- EPGD Gdańsk Airport,
- EPPO Poznań Airport,
- EPWR Wrocław Airport,
- EPSC Szczecin Airport,
- EPKT Katowice Airport,
- EPLL Łódź Airport,
- EPRZ Rzeszów Airport,
- EPZG Zielona Góra Airport,
- EPBY Bydgoszcz Airport,
- EPMO Modlin Airport,
- EPLB Lublin Airport,
- EPRA Radom Airport.

Additionally, as was already mentioned above in Additional Information – 1 letter a) above, it is proposed to include EPSY airport in the charging zone from 2016.

Following users' remarks expressed during consultation process in 2014 and after analysis of various scenarios of terminal charging zones for RP2, it was decided to **modify the configuration of the charging zones starting from 2017**, in line with the date at which EU-wide target for terminal cost-efficiency will be adopted. **From 01.01.2017 until the end of RP2 two terminal charging zones in Polish airspace will be established** as following:

- The first terminal charging zone:
  - EPWA Warsaw Airport,
- The second terminal charging zone:
  - EPKK Kraków Airport,
  - EPGD Gdańsk Airport,
  - EPPO Poznań Airport,
  - EPWR Wrocław Airport,
  - EPSC Szczecin Airport,
  - EPKT Katowice Airport,
  - EPLL Łódź Airport,
  - EPRZ Rzeszów Airport,
  - EPZG Zielona Góra Airport,
  - EPBY Bydgoszcz Airport,
  - EPMO Modlin Airport,
  - EPLB Lublin Airport,
  - EPRA Radom Airport,
  - EPSY Olsztyn-Mazury airport (subject to inclusion in the charging zone from 2016).

The additional period of two years (2015-2016) before the charging zones are changed should allow all stakeholders to prepare for the change and address possible consequence of the change in their plans.

**b) Description of the policy on exemptions and description of the financing means to cover the related costs;**

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According to national law (Article 130 (6) of Aviation Act of 3 July 2002) the following flights are exempted from air navigation charges (both en-route and terminal) in Poland:

- performed under Visual Flight Rules (VFR);
- mixed – where a part of the flight is performed under Visual Flight Rules (VFR) and the remaining part is performed under Instrument Flight Rules (IFR) – for the part of the flight performed in the Polish airspace exclusively under VFR rules;
- performed by aircraft of which the maximum take-off weight is less than 2 tons;
- performed exclusively for the transport, on an official mission, of the reigning monarch and his/her immediate family, head of state, head of government and government ministers; in all cases the flight purpose must be confirmed by the appropriate flight status indicator or remark on the flight plan;
- search and rescue, authorized by a competent SAR coordination body;
- military performed by Polish military aircraft or military aircraft of a country where flights performed by Polish military aircraft are exempted from the air navigation charges;
- performed for military purposes and exempted from charges, under international agreements ratified by Poland in statutory way;
- flights performed by ANSP for the purpose of checking or testing equipment.

Costs of providing air navigation services to exempted flights are covered by the State budget – they are financed by the means of budgetary subsidy granted by the minister responsible for transport on the application of designated service provider.

### c) Description of the other revenues, if any, broken down between the different categories;

#### I. PANSA

The income from other sources planned for the years 2015-2019 is due to the expected possible payment from the European Union. PANSA applied for the refinancing of the several investments from the Infrastructure and Environment Operational Program.

For the RP2 it was assumed that respective depreciation corrections as well as cost corrections related to promotion, training (deductions, presented as income from other sources) will contribute to TNC cost base in the following years, with the following amounts:

Year	Amount (PLN)
2015	2 354 391
2016	2 519 346
2017	2 438 785
2018	2 397 257
2019	1 804 133

#### II. MPL WM

There are no revenues from other sources planned for the RP2.

#### III. CAA

There are no revenues from other sources planned for the RP2.

### d) Description and explanation of incentives applied to users of air navigation services;

No incentives are applied on airspace users in Poland.

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**e) Description and explanation of the modulation of air navigation charges applied.**

N/a

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**ADDITIONAL INFORMATION – 3 – Complementary Information**

**a) Breakdown of the costs of common projects per individual project;**

N/a

**b) Description of the amounts resulting from uncontrollable costs factors by nature and by factor, including the rationale and the changes in underlying assumptions;**

Not applicable for this submission.

**c) Description of the carry-overs of over- or under-recoveries incurred by Member States up to the year 2011 for en route charges and up to the year 2014 for terminal charges;**

The adjustment mechanism resulting from the differences recorded up to 2014 continues to be applied in line with the Charging Regulation. That is why under or over-recoveries incurred prior to the start of 2015 should be taken into account during establishing unit rates for the RP2. Under/over-recoveries incurred before the application of the determined cost method (before RP2) were adjusted according to the total service units instead of the chargeable service units. The following formula was used: **adjusted amount carried over = amount carried over x total service units / chargeable service units**. Tables below present balances of terminal under/over recoveries of 2009-2014 before adjustment for TSU/CSU (table 1) and after adjustment (table 2). Under/over recoveries presented in the table 2 will be added to or deducted from chargeable cost base in the RP2. Adjustment for years 2009–2013 was calculated using 2013 actual terminal SU (total and chargeable), while 2014 adjustment was calculated using 2014 actual terminal SU (total and chargeable).

**Table 1.** Under/Over-recoveries before adjustment for TSU/CSU

Carry over from	Balance of the Year	Before RP2 for years 2009-2012	After RP1	2015	2016	2017	2018	2019
2009	-28 083	-22 466	-5 617	-5 617				
2010	992	992	0					
2011	15 692	9 415	6 277	6 277				
2012	6 817	3 408	3 408	3 408				
2013	16 237		16 237	5 412	5 412	5 412		
2014	-5 960		-5 960		-1 987	-1 987	-1 987	
<b>Total</b>	<b>5 695</b>	<b>-8 651</b>	<b>14 345</b>	<b>9 481</b>	<b>3 426</b>	<b>3 426</b>	<b>-1 987</b>	<b>0</b>

**Table 2.** Under/Over-recoveries after adjustment for TSU/CSU

Carry over from	After RP1	2015	2016	2017	2018	2019
2009	-5 716	-5 716				
2010						
2011	6 388	6 388				
2012	3 469	3 469				
2013	16 525	5 508	5 508	5 508		
2014	-6 092		-2 031	-2 031	-2 031	
<b>Total</b>	<b>14 574</b>	<b>9 649</b>	<b>3 478</b>	<b>3 478</b>	<b>-2 031</b>	<b>0</b>

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**d) Description of carry-overs resulting from the traffic risk-sharing mechanism;**

Not applicable for this submission.

**e) Description of carry-overs resulting from the cost sharing mechanism.**

Not applicable for this submission.

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**ADDITIONAL INFORMATION – 4 – Additional justifications for the RP2 Performance Plan**

**a) Contribution of the air navigation service providers to the achievement of the performance target**

**I. PANSA**

ANSP:	PANSA	Designated for:	<ATS / MET>
<b>Determined costs for RP2 (by nature)</b>			
<b>1.1 Staff costs</b>			
Composition of the cost item:	Salaries, Contributions to pension and accident insurance and contributions to the Social Fund includes obligatory contributions to pension and accident insurance		
Explanations of the planning assumptions and annual variations in the cost item over RP2:	<p>PANSA is realising "Poland's Regional Planning Concept 2030" published on 27 April 2012 as appendix to the Resolution No 239 of the Council of Ministers dated 13 December 2011.</p> <p>The following have a significant influence on Staff cost:</p> <ul style="list-style-type: none"> <li>- the increase in a planned number of ATCOs in accordance with the document 'Air traffic controllers in PANSA in years 2014-2019', prepared by Personnel Training and Development Office,</li> <li>- increase of licensed ATCOs.</li> </ul> <p>Bonus fund was planned on the basis of Remuneration Regulations, which includes incentive bonus system for employees, and is leading to:</p> <ul style="list-style-type: none"> <li>- ensure the smooth functioning of PANSA and air traffic safety,</li> <li>- ensure implementation of planned tasks,</li> <li>- improvement of PANSA's economic performance,</li> <li>- improved productivity and quality of work.</li> </ul> <p>The bonus fund can be allocated to employees under the conditions such as: the scheduled tasks are realized and the planned PANSA's revenues are achieved.</p>		
Description of cost-efficiency improvements planned in RP2:	To make the work of PANSA's employees more efficient and to increase the benefits resulting from increased efficiency, it is necessary to motivate employees for further development. The increased level of staff competence, improvement of their knowledge base and skills, will result in increased productivity and efficient use of resources.		
Main changes compared to RP1 (determined and actual costs):	Staff costs in 2014 were generated as a result of providing terminal service to newly opened in 2012 airports: Modlin, Lublin.		
<b>1.2 Other operating costs</b>			
Content of the cost item:	Materials, Energy, Taxes and charges, Services (including MET), Other Costs This cost item includes also MET costs to be purchased by PANSA following public tender (based on the assumption that any MET provider for terminal services will not be designated after 31.12.2014).		
Explanations of the planning assumptions and annual variations in the cost item over RP2:	<p>The variations in the level of other operating costs during the RP2 are caused by the necessity of the modernization of CNS/ATM infrastructure and other PANSA's technical infrastructure, as well as increased demand for spare parts and parts repair services due to aging of the technical infrastructure, as well as due to the expected increase in prices of materials and repair services (inflationary increase). Another component of operating costs are costs of technical inspections and maintenance of facilities and equipment used by PANSA, telecommunications charges, consultancy services, rents and lease payments for rented office space. The infrastructure modernization performed by PANSA should lead to decrease of the technical maintenance costs of individual systems in the following years. The significant position in the other operating costs constitute the mandatory insurance costs for annually renewed insurance policies, which cover liability and property. Costs of impairment charges belongs also to this group of costs.</p> <p>Trips are the next position of the operating costs. This item consists of business and training trips.</p> <p>The item of other operating costs includes also MET costs as described in letter a in Additional information – 1. These costs correspond to costs presented under Table 1 for PANSA in line 2.7 (Meteorological services). Presentation of these costs is in line with article 7.2 of the EC Charging Regulation No 391/2013.</p>		
Description of cost-efficiency improvements planned in RP2:	Undertaken and planned investment and development activities are aiming for state of the art alternative but proven technical solutions, ensuring the stable functioning of the Agency in the domains of communication, navigation and surveillance. The planned activity is essential to maintain the quality and safety of the services and enable air traffic growth.		
Main changes compared to RP1 (determined and actual costs):	<p>It is assumed that after the implementation of new technical solutions such as: VCS, multilateration, GNSS, relative infrastructure maintenance costs should fall by several percent. However, implementation processes can temporarily increase operating costs. Similar effect should have parallel process of CNS/ATM infrastructure rationalization supported by extended cooperation with neighbouring ANSPs.</p> <p>Up to 2014 MET costs were presented in a separate table for IMWM. For the RP2 they are presented within PANSA's other operating costs. As a consequence increase of other operating costs as compared to the RP1 results partly from inclusion of some MET costs. For any comparison between the RP2 and the RP1 MET costs should be deducted (in value presented in line 2.7 (Meteorological services) of PANSA Table 1.</p>		
<b>1.3 Depreciation</b>			

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Composition of the cost item:	Fixed Assets Investments, Intangible assets, Investment plan
Explanations of the planning assumptions and annual variations in the cost item over RP2:	The rationale for the variations in depreciation is an increase in fixed assets, which value increases as a result of planned investments. This is mainly due to the priority project which is CNS infrastructure project. PANSAs adopted the assumption that 85% of planned capex will be realized in the whole RP2 taking into account i.a. historic data. It has to be underlined that PANSAs aims to increase the capability of planned and executed investments and to this end introduced internal changes (including personal, organizational and procedural) that should allow to increase the % of investment realization in the RP2 as compared to the RP1 and before.
Description of cost-efficiency improvements planned in RP2:	PANSAs planned tasks have been harmonized with the company's strategy which was aligned with external strategic plans for the whole European ANS system (e.g. ATM Master Plan). Investments are spread over five-year periods in order to reach the strategic milestones including assumed performance measures and to maintain the unchanged high level of safety. Having taken traffic forecasts (en-route and terminal) into consideration, PANSAs had to take a number of actions with the aim to maintain safety, improve capacity and cost-effectiveness parameters as well as to reach environmental goals.
Main changes compared to RP1 (determined and actual costs):	The new investment cycle cumulating with the commissioning of a new ATM system will lead to higher depreciation costs, with the annual depreciation costs systematically higher than in the preceding years. Moreover, rebuilding of the ATM system will require the purchasing, upgrading or replacing of many devices. The assumption adopted to calculate depreciation that 85% of planned capex will be realized was not adopted in the RP1 and applies only to determined costs for the RP2.
<b>1.4 Cost of capital</b>	
Composition of the cost item:	See Additional Information 1 point e
Explanations of the planning assumptions and annual variations in the cost item over RP2:	See Additional Information 1 point e
Description of cost-efficiency improvements planned in RP2:	See Additional Information 1 point e
Main changes compared to RP1 (determined and actual costs):	See Additional Information 1 point e
<b>1.5 Exceptional items</b>	
Composition of the cost item:	N/a
Explanations of the planning assumptions and annual variations in the cost item over RP2:	N/a
<b>Determined costs for RP2 (by service)</b>	
Explanations of the annual variations in the cost items over RP2:	The cost of services evolve in the same manner as cost by nature. For detail information please see items 1.1 – 1.4 Assumptions adopted to calculate the MET costs presented in PANSAs cost base were included in ER Additional Information – 1 point i).
Main changes compared to RP1 (determined and actual costs):	
<b>Additional comments</b>	

**II. MPL WM**

<b>ANSP:</b>	<Warsaw-Modlin>	<b>Designated for:</b>	ATS
<b>Determined costs for RP2 (by nature)</b>			
<b>1.1 Staff costs</b>			
Composition of the cost item:	For AFIS: wages and salaries, employers contributions to social security. No costs related to MET services.		
Explanations of the planning assumptions and annual variations in the cost item over RP2:	During the RP2 5 FTE.		
Description of cost-efficiency improvements planned in RP2:	Keeping cost at the same nominal level during all planning period. Serve increasing number of operations.		
Main changes compared to RP1 (determined and actual costs):	n/a		

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<b>1.2 Other operating costs</b>				
Content of the cost item:	Repairs & maintenance costs, utilities (electricity, heating, water), Training and education, materials & equipment, cleaning, IT & Communication, Cars & Travel, Certification, Insurance. MET Services.			
Explanations of the planning assumptions and annual variations in the cost item over RP2:	Type of cost                      AFIS                      MET                      Explanations			
	Repairs & maintenance costs	114,2	48,5	1/3 of cost of repairs and maintenance of aeronautical control tower ACT (excluding meteo facilities) for AFIS and meteo facilities for MET.
	External services		175,2	External meteorological information services provider.
	Utilities (electricity, heating, water)	3,4		Based on historical data.
	Training & education	50,0		10k PLN for FTE per year.
	Materials & equipment	25,0		5k PLN for FTE per year including personal computers which will not be treated as investments.
	Cleaning	7,6		Based on current agreement with external service provider.
	IT & Communication	63,7		Radiotelephony ground-base and air-ground facilities and broadcast including recording system and AFTN
	Cars & Travel	12,0		2,4k PLN for FTE per year including service and petrol for 1 car used by AFIS.
	Certification	20,0		
	Insurance	12,9	1,7	0,28% from GBV of assets according to current agreement.
<b>Total</b>	<b>308,9</b>	<b>225,3</b>		
Description of cost-efficiency improvements planned in RP2:	Keeping cost at the same nominal level during all planning period. Serve increasing number of operations			
Main changes compared to RP1 (determined and actual costs):	n/a			
<b>1.3 Depreciation</b>				
Composition of the cost item:	Depreciation of asset used to serve ANS services.			
Explanations of the planning assumptions and annual variations in the cost item over RP2:	Depreciation includes 2 facilities which in books are treated jointly as aeronautical control tower with all necessary equipment included and have the same expected operating life of 22,2 years (4,5% depreciation rate per annum). Both are depreciated using the straight-line depreciation method. Due to the fact that AFIS department uses facilities for 8 hours from 24, in calculation 1/3 of the cost was taken. The value of assets was also adjusted due to the co-financing of EU projects. The calculated depreciation was divided between AFIS and MET based on the share of assets allocated to these services in the initial value of the object as a whole: accordingly 70% and 30%.			
Description of cost-efficiency improvements planned in RP2:	Keeping cost at the same nominal level during all planning period. Serve increasing number of operations.			
Main changes compared to RP1 (determined and actual costs):	n/a			
<b>1.4 Cost of capital</b>				
Composition of the cost item:	Costs of capital for ANS facilities			
Explanations of the planning assumptions and annual variations in the cost item over RP2:	As described in Additional Information 1. e) for MPL WM			
Description of cost-efficiency improvements planned in RP2:	Increasing number of operations without any additional capex.			
Main changes compared to RP1 (determined and actual costs):	n/a			
<b>1.5 Exceptional items</b>				
Composition of the cost item:	n/a			
Explanations of the planning assumptions and annual variations in the cost item over RP2:	n/a			



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<b>Determined costs for RP2 (by service)</b>	
Explanations of the annual variations in the cost items over RP2:	Except cost of capital all other costs are fixed during planning period. The cost of capital decreases in line with decrease in the asset base.
Main changes compared to RP1 (determined and actual costs):	n/a
<b>Additional comments</b>	

**b) Assumptions underlying the calculation of pension costs comprised in the determined costs, including a description on the relevant national pension regulations and pension accounting regulations in place and on which the assumptions are based, as well as information whether changes of these regulations are anticipated.**

Assumption used for the purpose of establishing determined cost values in the PP with regard to the pension contribution level is the contribution rate on the level of 9,76% (in accordance with the Act on Social Security System (OJ 2009 No 205, item 1585, as amended). This applies to all entities covered by the PP as all of them are subject to mandatory national pension scheme. Apart from this national obligatory system, PANSAs has introduced additional pension scheme which is described in ER Additional Information (for more information see ER Additional Information – 4 point b)). All information for CAA are also described in ER Additional Information – 4 point b). Below for PANSAs only information with regard to TNC is provided, but it includes only part of information required in this point due to PANSAs's accounting record which does not allow for division between ER and TNC required information.

**Entity PANSAs**

Information for TNC are presented in table below, but they include only part of information required above.

<b>Pension assumptions for the "Pay-as-you-go" pension scheme</b>					
<b>ANSP/Entity: PANSAs</b>	<b>2015 D</b>	<b>2016 D</b>	<b>2017 D</b>	<b>2018 D</b>	<b>2019 D</b>
Total pension costs in respect of "Pay as you go" scheme (in nominal terms in national currency) TNC	3 131 739	3 195 046	3 222 932	3 344 978	3 388 843
Total pension costs in respect of "Defined contribution" scheme (in national currency) TNC	3 625 937	3 647 148	3 754 685	3 858 714	3 905 210

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**c) Interest rate assumptions for loans financing the provision of air navigation services, including relevant information on loans (amounts, duration, etc.) and explanation for the (weighted) average interest on debt used to calculate the cost of capital pre tax rate and the cost of capital comprised in the determined costs,**

PANSA and CAA do not plan any loans in the RP2. For MPL WM information on interest on debt is presented in Reporting table 1 and share of debt financing reflects (structure of debt vs. equity) reflects structure of financing of the whole company. Due to marginal value of MPL WM's cost in the total cost base it seems not necessary to provide detailed comments in this regard.

**d) If applicable, a description of any significant restructuring planned during the reference period including the level of restructuring costs and a justification for these costs in relation to the net benefits to the airspace users over time;**

Not applicable.

**e) if applicable, restructuring costs approved from previous reference periods to be recovered**

Not applicable.

**f) The level/composition of costs incurred following Article 6(2)(a) and (b) of Implementing Regulation (EU) No 391/2013 and included in the determined costs;**

STATE/NSA	CAA of the Republic of Poland
<b>Determined costs for RP2 (by nature)</b>	
<b>1.1 Staff costs</b>	
Content of the cost item:	Staff remuneration (including salaries), social security contributions, Labour Fund contributions, Employee Benefit Fund contributions, medical staff assistance
Explanations of the planning assumptions and annual variations in the cost item over RP2:	For the purpose of staff costs forecasting the following elements were taken into account: <ul style="list-style-type: none"> <li>• most recent CAA TNC costs forecast for 2014 (based on the current total CAA budget and staff allocated to TNC activities) – used as baseline for the RP2 ANS cost planning,</li> <li>• expected evolution of CAA NSA tasks over each year of the RP2,</li> <li>• assumed changes in the total CAA budget resulting from inflationary increase; it was assumed that total CAA budget after 2015 will increase at lower rate than forecasted inflation (2% p.a.),</li> <li>• assumed work efficiency improvements (see next line of the table).</li> </ul>
Description of cost-efficiency improvements planned in RP2:	Cost forecast assumes annual efficiency improvement of 2% as regards ANS staff work efficiency. As a consequence, work efficiency shall be improved by 10% over the whole RP2.
Main changes compared to RP1 (determined and actual costs):	n/a
<b>1.2 Other operating costs</b>	
Content of the cost item:	For other operating costs: purchase of materials, equipment, external services, energy, utilities, rental costs, travel expenses, training costs, international organizations contributions, investment expenditures.
Explanations of the planning assumptions and annual variations in the cost item over RP2:	For CAA: see item 1.1. above – the same assumptions were applied to other operating costs. Additionally for changes in the total CAA budget the planning takes into account necessity to perform investments in order to maintain technical and organizational capacity of the CAA tasks execution.
Description of cost-efficiency improvements planned in RP2:	Cost forecast assumes annual efficiency improvement of 2% as regards ANS staff work efficiency. As a consequence, work efficiency shall be improved by 10% over the whole RP2.
Main changes compared to RP1 (determined and actual costs):	Cost forecasting methodology remains as used for the RP1.
<b>1.3 Depreciation</b>	
Content of the cost item:	n/a
Explanations of the planning assumptions and annual variations in the cost item over	n/a

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RP2:	
Description of cost-efficiency improvements planned in RP2:	n/a
Main changes compared to RP1 (determined and actual costs):	n/a
<b>1.4 Cost of capital</b>	
Content of the cost item:	n/a
Explanations of the planning assumptions and annual variations in the cost item over RP2:	n/a
Description of cost-efficiency improvements planned in RP2:	n/a
Main changes compared to RP1 (determined and actual costs):	n/a
<b>1.5 Exceptional items</b>	
Content of the cost item:	n/a
Explanations of the planning assumptions and annual variations in the cost item over RP2:	n/a
<b>Determined costs for RP2 (by service)</b>	
Explanations of the annual variations in the cost items over RP2:	See points 1.1 and 1.2 above. All Supervision costs cover costs of the CAA.
Main changes compared to RP1 (determined and actual costs):	n/a

**Additional comments**

Share of CAA ANS costs, and among them ER and TNC share, remains at a similar level over the whole RP2 – see table below:

	2014*	2015	2016	2017	2018	2019
Total CAA ANS costs (ER+TNC)	10 074 635	10 638 303	10 814 305	10 819 786	10 943 264	11 170 883
<i>% change (n/(n-1))</i>		5,59%	1,65%	0,05%	1,14%	2,08%
<i>% share in total CAA budget</i>	18,54%	18,54%	18,53%	18,13%	18,02%	18,11%
CAA TNC costs	3 882 264	4 172 414	4 232 316	4 234 461	4 282 786	4 347 205
<i>% change (n/(n-1))</i>		7,47%	1,44%	0,05%	1,14%	1,50%
<i>% share in total CAA ANS costs</i>	38,54%	39,22%	39,14%	39,14%	39,14%	38,92%

\*current forecast 04.2014

Increase in CAA budget is necessary to enable the CAA perform its functions, including those related to ANS. It has to be underlined that salaries at the CAA has been frozen (in nominal terms) since 2008. Despite significant increase in ANS related tasks (including performance scheme introduction) the CAA has not been supported by additional FTEs, including such that could allow increase in the level of ANS-related employment. In 2013 the CAA budget has been further reduced by 7% (in nominal terms). Due to budgetary restrictions over the last 2 years (2013-2014) the CAA was not able to include investment expenditures in its budget forecasts, what resulted in lack of new investments, including replacement investments. As a consequence, significant part of currently used equipment, including computer hardware and software, requires modernization and replacement. Therefore it was necessary to plan additional investment expenditure, part of which should be allocated also to ANS, including TNC.

**g) Description of how the amounts resulting from uncontrollable costs factors in RP1 have been taken into account in the planned determined costs for RP2.**

Not applicable for this submission.

**h) Assumptions for costs exempt from cost-sharing (deemed outside the control of the ANSP, Member State or qualified entities concerned) relating to RP2 costs.**

Entity/ies concerned:	PANSA, MPL WM, CAA
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<b>Costs exempt from cost-sharing in RP2 - Costs attributed to each in the Performance Plan, description and assumptions on which these costs are based.</b>	
(i) unforeseen changes in national pensions law, pension accounting law or pension costs resulting from unforeseen financial market conditions	<p>See AI-4 b) for the assumptions</p> <p>As there is not DBO pension scheme in place, only possible changes resulting from national legislation on pensions will be taken into account, that is possible increase or decrease in the percentage contribution (currently 9,76%). The assessment assumes increase of 1 percentage point in the level of pension contribution rate: from 9,76% to 10,76%.</p> <p style="text-align: center;"><b>I. PANSA</b></p> <p>The share of the costs of the pension contributions in the total staff costs (gross remunerations with all applicable social contributions, Labour Fund and bridge pension scheme) used for the calculation of the determined costs (total ER+TNC) is equal to 4,11% in 2015, 4,09% in 2016. 3,98% in 2017, 3,95% in 2018. 3,90% in 2019.</p> <p>The impact of the change in the pension contribution level would cause changes in the total determined costs of PANSA (ER and TNC) of:</p> <ul style="list-style-type: none"> <li>• PLN 2 002 845 in 2015,</li> <li>• PLN 2 095 260 in 2016,</li> <li>• PLN 2 100 815 in 2017,</li> <li>• PLN 2 147 504 in 2018,</li> <li>• PLN 2 186 799 in 2019.</li> </ul> <p>Consequently, the share in the total staff costs would increase up to 4,51 % in 2015, 4,49 % in 2016. 4,37% in 2017, 4,34 % in 2018. 4,28% in 2019.</p> <p>The impact of the possible change in this PANSA's unforeseeable cost on the TNC determined costs is presented jointly with the impact of the possible change in the PANSA's costs connected with national taxation law in the AI 4 letter h) point (iv).</p> <p style="text-align: center;"><b>II. CAA</b></p> <p>There will be no impact of changes in the uncontrollable costs on the CAA determined costs for TNC costs. This is due to the fact that in accordance with rules and practice applicable to budgetary units, such as the CAA, the total budget is a constant maximum that once established cannot change. In case when due to changes in applicable social security regulations these expenditures form the CAA budget would increase, the CAA would be required to limit other expenditures to as not to increase the level of the total budget.</p> <p style="text-align: center;"><b>III. MPL WM</b></p> <p>Increase of 1 percentage point in the level of pension contribution rate: from 9,76% to 10,76% would result in additional cost of ca. 3 kPLN p.a. annually over the RP2 to the total cost base of MPL WM. As determined costs are calculated excluding VFR, which account for 95% of MPL WM's costs., impact on determined costs would be immaterial.</p>
(ii) significant changes in interest rates on loans, which finance costs arising from the provision of air navigation services	Not applicable. See AI-4 c)
(iii) unforeseen new cost items not covered in the Performance Plan, but required by law	
(iv) unforeseen changes in national taxation law	<p style="text-align: center;"><b>I. PANSA</b></p> <p>For the purpose of establishing determined cost values in the PP with regard to the property tax the tax at the level of 2% was used (local regulations). For the purpose of the assessment of unforeseen changes in national taxation law the increase of 1 percentage point of the level of property tax rate was assumed</p>

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	<p>(from 2% to 3%).</p> <p>The possible impact of the 1 percentage point change in the property tax rate would cause the increase in the determined costs (ER and TNC) by:</p> <ul style="list-style-type: none"> <li>• PLN 665 699 in 2015,</li> <li>• PLN 682 002 in 2016,</li> <li>• PLN 699 423 in 2017,</li> <li>• PLN 717 044 in 2018,</li> <li>• PLN 734 992 in 2019.</li> </ul> <p>The table below presents the impact of the possible changes of property tax and pension regulations on PANSAs TNC determined costs (000 PLN).</p> <table border="1" data-bbox="614 519 1404 616"> <thead> <tr> <th>000 PLN</th> <th>2015</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>TNC</td> <td>441</td> <td>451</td> <td>451</td> <td>470</td> <td>477</td> </tr> </tbody> </table> <p><b>II. MPL WM</b></p> <p>Not applicable</p> <p><b>III. CAA</b></p> <p>Not applicable (see i) above).</p>	000 PLN	2015	2016	2017	2018	2019	TNC	441	451	451	470	477
000 PLN	2015	2016	2017	2018	2019								
TNC	441	451	451	470	477								
(v) unforeseen changes in costs or revenues stemming from international agreements													