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PRELIMINARY DESIGN CONCEPT

FOR

MARKET MONITORING PILOT PLAN FOR SOUTH EAST EUROPE WHOLESALE ELECTRICITY MARKET

Sponsored by
United States Agency for International Development (USAID)
And the
National Association of Regulatory Utility Commissioners (NARC)

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Introduction

The Energy Community of South East Europe was established to promote modern and efficient energy infrastructure and institutions in the region. As part of this process the Treaty establishing the Energy Community (the "Treaty") entered into force in July 2006. Among the key elements of this Treaty was a commitment to advance the competitive structure of the electricity markets. It is widely recognized that a critical aspect of developing competition is a market monitoring function to create market transparency, facilitate open-access, and detect market power and other market abuses.[1]

A key element of market monitoring is the process of making market data transparent to market participants. In March 2006, the European Regulators' Group for Electricity and Gas (ERGEG) produced an extensive study discussing the importance of market transparency. ERGEG is an advisory group to the European Commission on market restructuring. ERGEG produced an extensive study discussing the importance of data transparency.[2] As explained below in the Data Requirements section, much of the data required for effective market monitoring is the same data ERGEG recommends be made more transparent. ERGEG data transparency propositions were generally endorsed by the European Federation of Energy Traders (EFET). Moreover, EFET suggested an even stronger move toward transparency.[3] EURELECTRIC, a group which represents the interests of the European electricity industry, also offered a qualified endorsement of the

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1 See, *e.g.*, Newbery, D., and R. Green, "Review of the Monitoring of Market Power – The Possible Roles of TSOs in Monitoring for Market Power in Congested Transmission Systems", Report to the European Electricity Transmission System Operators, 2004.

2 "ERGEG Guidelines on Good Practice on Information Management and Transparency in Electricity Markets," E05-EMK-06-10, March 2006. While the ERGEG does not address the role of market monitoring in depth in the report, there is mention that one way to coordinate international data transparency is through monitoring activities, p. 6.

3 See "Transparency of Information about the Availability and use of Infrastructure and the Promotion of Competition in European Wholesale Power Markets", EFET updated position, May 2006.

ERGEG propositions on data transparency.[4] The importance of data transparency has also been taken up by European Electricity Transmission System Operators (ETSO).[5]

Another compelling development in favor of market monitoring has been the Commission's Regulation 1228, which requires certain data promulgation that is a critical aspect of market monitoring.[6] In particular, Regulation 1228 emphasized the need to develop efficient cross border trading, a part of which required TSOs to publish key interface data. As explained below in the Data Requirements section, these data are an important part of the market monitoring function.

In light of these developments and public statements of support for market integration, liberalization, and data transparency, now is a compelling time to advance these objectives. The USAID proposed a market monitoring project in June, 2006 at the 8th Athens Forum.[7] The Forum invited USAID to move forward on a "pilot case" noting in its conclusions that an interim report is expected at the next Forum (scheduled for October 24-25) and that the design work will consider both cross border and national design models. The USAID asked Potomac Economics to develop this Market Monitoring Design Concept as a first step in implementing the Pilot Plan.

Organization of Design Concept Document

This Design Concept Document is in three Sections. In the remainder of this Section we provide an overview of the structure of the electric power industry and wholesale power trading in the

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4 See "Survey on the Implementation of Market Transparency Requirements in Countries Involved in the Athens Process" Eurelectric Ad-Hoc Group on South East Europe, Preliminary Results, June 2006. See also, "Eurolectric Comments on ERGEG Best Practices Propositions", April 2006.

5 See "List of data European TSOs need to pursue optimal use of the existing transmission infrastructure", European Transmission System Operators, December 2005.

6 Regulation (EC) No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity.

7 The South East Europe Energy Regulation Forum, also known as the "Athens Forum" and referred to in the Treaty establishing the Energy Community as the "Electricity Forum," is comprised of representatives of the European Commission; governments, regulators and transmission system operators of the countries of Southeast Europe; the Council of European Energy Regulators (CEER); the European Transmission System Operators (ETSO); the Union for the Co-ordination of Transmission for Electricity (UCTE); and representatives of donors, electricity producing companies, and consumers. The Forum is co-chaired by the European Commission and a representative of the president in office. Meetings occur at the least biannually. The South East Europe Energy Regulatory Process was launched by the signature of the Memorandum of Understanding on the Regional Electricity Market in South East Europe and its Integration into the European Union Internal Electricity Market (the Athens Memorandum of 15 November 2002).

region as it relates to market monitoring requirements. This overview includes a discussion of objectives and a discussion of the consultancy relationships. We will also review the market structure of South East Europe electricity markets and explain the market monitoring requirements most appropriate to this market structure. In general, electricity markets in South East Europe are not organized as centralized pool-based markets. Instead, most market activity is through bilateral contacts executed at prices negotiated between individual sellers and buyers. Vertical integration is also common in the region. This structure limits most market trading to transactions between countries. But this market activity is limited by lack of market transparency and coordination. Given this structure, we explain that the focus of market monitoring is to facilitate the development of non-discriminatory open-access transmission and market transparency needed for the establishment of a competitive regional electricity market.

In Section 0 of this Design Concept Document, we describe the market monitoring plan. The monitoring plan describes the data analysis, market power and market rules assessment, and transparency objective. This section provides the list of data proposed to be collected as part of the Pilot Plan. These data underlie the market analysis strategy and helps to satisfy the market integration goals of the Treaty, the EC Regulation 1228 on cross border trading, as well seeking to achieve the policy recommendations of other key regulatory organizations and industry groups.

In Section III we present the schedule. The Pilot Plan will extend through 2007. By early 2007, initial data collection should be underway. An initial draft report on early experiences will be published on or about April 1 with a final draft subsequently presented at the Athens Forum. The report will include sample monitoring analyses using data collected up to that point. A second draft report will be published during with the final draft ready for the fall meeting of the Athens Forum. Monthly status reports will be issued to track progress.

Overview of Market Monitoring Pilot Plan

Elements

The market monitoring Pilot Plan will undertake data collection and analysis to increase market transparency and to identify anticompetitive market conduct, market flaws, and market power. This pilot approach will be a virtual monitoring of the electricity market activity and not be directly linked to any existing institutions. The countries that are included in the Pilot Plan are

Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Serbia, Romania, and United Nations Mission in Kosovo (UNMIK).

There are three main elements of the Pilot Plan. First, a design concept will be developed with the input of stakeholders. Second, data collection will be undertaken and analysis performed to execute the plan. Third, reports will be drafted and published to keep participants, regulators, and other interested parties apprised of progress.

With respect to the first element, the design concept, the Pilot will establish appropriate data analyses and identify the electricity market competition issues in South East Europe. This process requires identifying the important market structure characteristics and patterns of market development in South East Europe in order to link the program to relevant market issues. This design concept document and the Brussels workshop are important first steps in satisfying this element of the Pilot Plan. Furthermore, the Pilot Plan will be an open and continuous process of seeking feedback from stakeholders through the Athens Forum. We expect constructive feedback from a variety of organizations including, but not necessarily limited to, Southeast Europe Transmission System Operators (SETSO), the SEE Regulatory Working Group (or its successor), EFET, EURELECTRIC ERGEG, and the European Union. The Athens Forum process will be used to do that]

The second main element of the Pilot Plan is collection and analysis of market data to execute the monitoring function. Initial data collection will focus on selected key data and not be comprehensive. Data collection will be consistent, where possible, with existing standards or practices. The TSO data will be an important part of the activity and the market monitoring effort will be carried out collaboratively within existing organizations. This Design Concept Document is the first step toward identifying and establishing data analyses and collection. The Market Monitoring Design Workshop scheduled for November 16, 2006 will further these objectives by facilitating participant input to delineate the data needs and collection processes.

A third main element of the Pilot Plan will be to provide reports on analytical results and experiences, and to provide recommendations regarding the market monitoring function and design. The reporting also will be critical in providing a baseline of experience to allow sound decisions to be made for full monitoring at a later juncture. We expect to issue a series of reports focusing on initial experiences and preliminary analyses.

Consultancy Relationships

The program will be conducted by a group of three consultants. Potomac Economics, a leader in market monitoring services in the United States will lead the project and concentrate on the planning, data processing, and analysis. Dr. David Newbery, Professor of Economics at Cambridge University in England and Dr. Peter Kaderjak, of the Regional Energy Policy Center, Corvinus University in Budapest, both well-recognized experts in electricity market competition and restructuring in Europe, will assist in market power and market design analysis. Dr. Kaderjak and his associates will also assist Potomac Economics in interacting with the TSOs and other market participants to acquire the necessary data. In executing the Pilot Plan, these three groups will work in a close collaborative arrangement. In addition to these principal organizations, the U.S. National Association of Regulatory Utility Commissioners (NARUC) will provide some limited support and expertise.

The Focus of Market Monitoring

In this subsection, we describe the overall market structure in the region in order to highlight areas where market monitoring would have its most important impact in terms of promoting competitive markets.

South East Europe Electricity Market Structure. The electricity market in South East Europe has been undergoing structural changes in recent years starting from government-owned, vertically-integrated market structure with generation, transmission, and distribution within a single state-owned enterprise. Power sector reforms have resulted in gradual unbundling and privatization that has moved the region toward an environment more receptive to regional electricity market competition.

While these moves toward restructuring have increased the promise of competitive markets, most of the market activity is the result of trade between countries, as opposed to intra-country markets. This is because, in general (but with important exceptions in the cases of Bulgaria and Romania), vertical integration between generators and supply[8] companies hinders any

[8] The term "supply" in this context refers to the local retail provider that meters and bills individual end users and operates some low-voltage equipment in the local area. In the U.S., this is usually referred to as the local distribution company.

meaningful wholesale trade within individual countries.[9] Instead, wholesale trade is conducted primarily across borders.[10, 11]

The cross-border trade in South East Europe allows countries with generation deficits to draw upon excess resources in neighboring countries Trading typically involves the vertically-integrated national utility and is conducted through the national Transmission System Operators (TSOs). These entities were established in each country in accordance with Commission Directive 2003/54, requiring that each country in the region establish an independent Transmission System Operator (TSO) to ensure fair and transparent network access. The TSO accepts import and export schedules (typically from traders acting as intermediaries) between the individual national utilities. While there has been good progress in establishing TSOs in each country, the degree to which they have become effective varies and, in general, the TSOs are still in the process of developing their main functions, including ensuring information transparency.[12]

Market Monitoring Focus. An appreciation for the market structure in which the monitored entities operate is critical for designing an effective market monitoring plan. Therefore, our monitoring focus is linked to the two defining features of the SEE market structure, namely, that (1) limited unbundling constrains the degree to which competitive trading occurs within borders; and (2) underdeveloped TSO functions limit the degree to which efficient cross-border trading occurs.

The prevalence of within-country vertical integration indicates that further restructuring is needed to unbundle the relationship among TSOs, generators and suppliers (local distribution entities). If local suppliers had direct access to other regional generation companies, facilitated by TSO policies, then a more vibrant wholesale market would develop with the attendant economic benefits. This effort, however, requires additional political decisions at the national

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9 For a detailed discussion of intra-country relationships see, "Study of the Obstacles to Trade and Compatibility of Market Rules", Southeast Europe Electrical Technical System Support Project (SEETEC), Canadian International Development Agency, June 2006, pp. 2-4 -- 2-5.

10 One estimate is that this cross-border trade accounts for 17% of electricity supply in the region. The estimate is for the year 2004. See, *Id.*, p. 2-14.

11 Potomac Economics performs the market monitoring function for several utilities in parts of the U.S. where this type of market structure prevails, *viz.*, for the Arizona Public Service Company, the MidAmerican Energy Company, the Oklahoma Gas and Electric Company, PacifiCorp, and the Public Service Company of New Mexico.

12 See, SEETEC, *Op cit.*, at 3-12

level.[13] The role of the market monitoring program in this instance is to aid in transparency of national market data to support analyses that can inform national policies on structural changes.

Market monitoring can have its most significant impact with respect to the second defining feature of the South East Europe markets, namely, improving TSO mechanisms to improve cross-border trading. This impact can be significant in part because it promotes the type of trading that dominates market activity. But monitoring can have a significant impact also because monitoring TSO functions is one of the most developed and proven aspects of market monitoring. Moreover, monitoring cross-border trade is something that has been explicitly endorsed by EC Regulation 1228.[14] Accordingly, a key component of the market monitoring data requirements include requests for data and processes for calculating and allocating interface capability between countries and allocation within countries experiencing internal congestion which impedes cross-border trade. For our data requirements in this regard, we have adopted the data transparency regulations of Regulation 1228, with specific descriptions of data where needed. We note that cross-border trading includes cross-system transactions that do not terminate or originate within a given country but that must schedule over the transmission facilities.

Finally, individual market participant behavior can affect the competitive outcomes both in cross-border trading and within countries. Therefore, market monitoring data will also be focused on individual participant behavior, including generator capacity, generator output, and sales and purchases by individual traders and the national utility.

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13 We note that market monitoring is not restricted to periodic monitoring of specific behavior of participants. A critical element of market monitoring is to identify structural issues that impede the development of competitive markets.

14 Regulation (EC) No 1228/2003, *op cit.*

Market Monitoring Plan

In this section, we explain the market monitoring plan. A market monitoring plan establishes the key monitoring objectives and the framework within which analysis is used to meet these objectives. The monitoring objectives consist of (1) detecting anticompetitive conduct and flaws in market rules through data analyses, (2) analyzing individual participant behavior to detect market power, and (3) improving market transparency. The individual monitoring strategies determine the underlying data requirements and, accordingly, the critical element of a monitoring plan is the data requirements.

As discussed above, and as is true for any market monitoring plan, the market structure of the market to be monitored determines the monitoring focus. Because of the critical aspect of interface access in South East Europe, the data analyses are focused on interface availability and manipulation, including manipulation of transmission capacity within countries that inhibit competition. These are primarily analyses centered on two aspects of the problem: (1) interface congestion events and the activity surrounding these events; and (2) processes for calculating transfer capability over the interface. If a centralized market is ultimately implemented in the region, the monitoring function can easily be expanded to monitor the competitiveness and efficiency of the market.

The Monitoring of individual market participant conduct and analysis of market rules will be pursued in conjunction with our consultant partners in this project, Dr. David Newbery and Dr. Peter Kaderjak.

Finally, the objective of improving market transparency will be addressed through processes that make certain data available to market participants and others.

This remainder of the section is divided into two parts. In the first part, we discuss the key analyses that will be part of an effective monitoring plan. This includes a discussion of specific data analyses; market transparency; and monitoring of individual behavior. The second part contains the data requirement to support the plan. We believe the requirements set forth herein will establish an effective monitoring program. We invite participants to review these requirements and be prepared to discuss issues regarding the feasibility and desirability of proving it during the Market Monitoring Design Workshop on November 16, 2006.

Monitoring Analyses

Specific Data Analyses

This subsection provides a description of the initial market monitoring and other market analyses to be performed under the Pilot Plan. It begins with a description of the potential analyses to be used. The usefulness of each analysis is dependent upon the availability of meaningful data. To the extent possible in light of data availability, Potomac Economics will use the following description as a guide in establishing initial analyses.

Data analyses are focused on detecting anticompetitive behavior with regard to interface availability, including the conduct of generators and traders. As described above, South East Europe is not integrated into a centralized market but instead trading is conducted primarily through cross-border transactions. The key to monitoring decentralized (bilateral trading) markets is to identify periods of congestion and transmission access issues. The latter of these issues is treated in the market transparency subsection below. The market activity during periods of transmission congestion is evaluated through specific analyses.

Congestion can be observed through a variety of indicators, depending on the specific rules and protocol on the TSO. One way congestion may be indicated is through reliability standards and practices that may require transactions to be curtailed. We will seek data that records when such action is taken. Denial of transmission service may also be indicative of congestion. Accordingly, data on interface availability is critical in carrying out this analysis.

Analysis of Congested Periods

During periods of congestion, market monitoring should focus on evidence that could reveal whether the congestion is being created artificially in order to exercise market power or otherwise restrict competition. Standard analyses designed to reveal evidence of anticompetitive conduct related to congested periods focus on transmission outages, generation dispatch, power flows on congested facilities, and prices charged for wholesale power.

Transmission Outages. Transmission outages are evaluated in order to determine whether unjustified outages could have contributed to congestion events. In this analysis, the market monitor identifies all outages on the system that coincided with dates when congestion occurred. Each outage is then examined in more detail to determine its effects on congested facilities. This

effect is sometimes obvious from the nature of the outage, but sometimes an outage may require a study of load-flow impacts to determine whether the outage may have diverted flow over congested facilities. Typically, discussion with operations personnel at the TSO can provide sufficient insight to determine the impacts of an outage. If the monitor determines the outage has had an impact on congestion, then further investigation into the nature of the outage should be conducted to determine whether the outage was justifiable.

Sales Prices. We examine the sales by the vertically-integrated entity in short-term bilateral transactions. The focus is on short-term bilateral sales contracts because they best represent the spot price of electricity and will most closely reflect market power if it were to arise on the monitored system. Under a hypothesis of market power, high sales prices would be expected during times when transmission congestion occurs.

For this analysis, the balance between sales and purchases can be informative. Typically, anticompetitive conduct is profitable for a supplier when it is making substantial short-term sales of wholesale power (and can therefore profit from higher prices). This does not eliminate the possibility that a short-term net buyer could still have the incentive at specific times to engage in anticompetitive conduct. We will gather data on sales and purchases to assess net positions.

Dispatch. Generation dispatch is evaluated to determine the extent to which congestion may be exacerbated by uneconomic dispatch patterns. Congestion can result naturally when a utility dispatches its units in a least-cost manner and this does not raise competitive concerns. If a departure from least-cost dispatch ("out-of-merit" dispatch) occurs when congestion is present and the out-of-merit dispatch is not justified, this raises potential competitive concerns.

An estimated supply curve is used to compare actual dispatch with an estimated optimal dispatch to determine whether the actual dispatch departed significantly from the estimated economic dispatch. In instances when dispatch departed substantially from the estimated optimal dispatch and was concurrent with a congestion event, the circumstances should be investigated more carefully to determine if the out-of-merit dispatch was justified. The supply curve will be estimated based on generator-specific information (mainly the heart-rate curve), and generator fuel costs.

Congestion Relief Procedures. Market power can arise through the TSO's management of congestion events if the events are initiated prematurely, late, or without justification. By initiating congestion procedures strategically, the monitored entity can potentially benefit its own generation by raising short-term prices in the region. Hourly data on power flows over key facilities should be analyzed to determine whether the times when flows are close to the operating limit coincide with congestion events. If flows are significantly below the limit and congestion measures are taken, this suggests measures being taken prematurely or without justification. Alternatively, if flows significantly exceed the limit leading up to congestion events, then it may be that the procedures are being delayed. TSO will have different ways to invoke congestion relief and some may be more far-reaching than others. Accordingly, it may be necessary to analyze the appropriateness of certain actions more closely than others.

Consistency of Short-Term ATC and Physical Flows. The objective of the transmission reservation and scheduling provisions is to facilitate full utilization of the network. TSOs should make transmission capability available on a short-term basis (e.g., hourly) when those holding long-term reservations do not schedule to use their transmission or there is physical capability available in the short-term for other reasons. In these cases, the TSO should make this capability available to market participants. To evaluate whether transmission capability is being withheld, the analyses in this area generally compare the physically available capability (transmission limit minus the hourly flow) to the TSO's daily ATC (or hourly ATC, if appropriate).

Modeling of ATC. Interface capacity will depend on reserved uses of the system for the purpose of servicing the load of the vertically integrated national utilities. Monitoring should ensure that access to transmission for this "native" load does not receive unreasonable preference or that in modeling the reservations, the estimates of available capacity are not biased.

Transparency of Interface Allocation

In addition to the analyses of congestion events just described, monitoring of interface capacity also requires transparency of the methods used to estimate and allocate available interface capacity. This is one of the main elements of the market monitoring plan. The data requirements subsection below indicates the data that should be made available in order to monitor the processes and make transparent the results. In addition to making this data available to the market monitor, the data should also be posted publicly.

Transparency of Other Market Data

Market transparency is achieved by providing wide access to market data. This includes data on calculation and usage of interface capacity, as well as data on supply and demand. In order to provide transparency, the market monitoring plan will post information to a website in as timely a manner as practicable and at regular intervals. Confidentiality of some data may be reasonable and the procedures for keeping data confidential will be discussed at the Market Monitoring Design Workshop.

Data Confidentiality

Market monitoring is most effective when all market data is available to the monitoring entity. Furthermore, market transparency goals are advanced when key portions of this data are made available to market participants. We seek broad participation by entities (most likely TSOs) that possess the necessary data. Data withheld for whatever reason, will be indicated in our reporting.

Monitoring Market Behavior and Market Rules

Potomac Economics will work with Dr. Newbery and Dr. Kaderjak in an analysis of the potential market power and market design issues in the region. This analysis will draw upon, as necessary, analyses produced in the Pilot Plan process as well as data in other existing available analyses. We expect market power studies to be conducted that focus on the withholding of generating capacity as a way to exercise unilateral and conspiratorial market power in bilateral markets. These analyses evaluate actual market conduct to determine whether participants that likely have market power are raising prices when market conditions allow it. Analysis of market rules is important for two reasons. First, market rules can have consequences that reach beyond the particular purpose of the rule. For example, reliability rules can often have market distorting effects when transmission or generation capacity is reserved for such purposes. Second, region-wide market development can be advanced if rules across jurisdictions are are harmonized to the degree possible.

Data Requirements

Based on the foregoing discussion of market analysis and transparency, this subsection identifies the data requirements to accomplish the monitoring objectives. The first data requirement relates

to cross-border trading and focuses on data and process to provide open-access to transmission interconnections between national utilities. The second data requirement relates to general market data to advance transparency and to allow monitoring of individual conduct.

Data on Interface Allocations

In designing the data requirements for monitoring interface allocations, we have relied on the data transparency requirements in Regulation 1228. Because TSOs will have to begin making this data available under the Regulation, identifying the same requirements does not increase the burden on the TSOs.

The following table shows the link between the data we are requesting and the requirements under the Draft Congestion Management Guidelines, which are anticipated to amend Regulation 1228.[15] In the first column there is a description of the data we are seeking. The second column is related data item in the Regulation.

Pilot Plan Data Requested for the Twelve-Month Period beginning December 2006	**Draft Congestion Management Guidelines**
For each external "cross-border" interface for which the TSO allocates and manages access to transmission capacity, on a monthly basis Provide: • Forecasts of total interface capacity for monthly service for twelve months beginning December 2006. • Monthly reservations (other than committed use) for twelve months beginning December 2006. • Forecasts of available interface capacity for monthly service for twelve months beginning December 2006.	5.1 TSOs shall publish all relevant data related to network availability, network access and network use, including a report on where and why congestion exists, the methods applied for managing the congestion and the plans for its future management.

[15] The Draft Congestion Management Guidelines have been under consideration for a couple of years and are in the final stages of adoption. They are expected to be adopted in October or November 2006, in the current draft form (sections of which are presented here), without further change. Once adopted, they will amend Regulation 1228/2003, strengthening, *inter alia*, the data disclosure requirements placed on TSOs.

Pilot Plan Data Requested for the Twelve-Month Period beginning December 2006	Draft Congestion Management Guidelines
• Forecasts of total interface capacity for daily service beginning December 2006. • Daily schedules or reservations beginning December 2006. • List of refused transmission requests for the month including amount of requested capacity, requested start time and requested end time; • List of approved transmission requests for the month including amount of requested capacity, requested start time and requested end time;	
Provide: • A general description of congestion management procedures. • A detailed description of the calculation of interface capacity based on the electrical properties of the system. • For the past 60 days, instances of when congestion management procedures were implemented on any interface administered by the TSO; • Indicate the conditions under which a congestion event is implemented. • Indicate measure taken when the congestion event is initiated.	5.2 TSOs shall publish a general description of the congestion management method applied under different circumstances for maximising the capacity available to the market, and a general scheme for the calculation of the interconnection capacity for the different timeframes, based upon the electrical and physical realities of the network. Such a scheme shall be subject to review by the Regulatory Authorities of the Member States concerned.
Provide: A description of the interface capacity	5.3 The congestion management and capacity allocation procedures in use,

Pilot Plan Data Requested for the Twelve-Month Period beginning December 2006	Draft Congestion Management Guidelines
products that are available to third party users of the TSO system. A description of the procedures to purchase and reserve interface capacity.	together with the times and procedures for applying for capacity, a description of the products offered and the obligations and rights of both the TSOs and the party obtaining the capacity, including the liabilities that accrue upon failure to honour obligations, shall be described in detail and made transparently available to all potential network users by TSOs.
The market monitoring plan does not seek information related to Section 5.4 of the Directive.	5.4 The operational and planning security standards shall form an integral part of the information that TSOs publish in an open and public document. This document shall also be subject to review of national Regulatory Authorities.
On a monthly basis provide: A list of planned system expansion projects. The underlying analysis supporting projects. Hourly physical power flows on external interfaces. Actual scheduled power hourly flows on external interfaces. All generation outages planned at least 7 days in advance, indicate outage date and duration; All generation outages planned less than 7 days in advance, indicate outage date and duration; All transmission outages planned at least 7 days in advance, indicate outage date and duration; All transmission outages planned less than 7 days in advance, indicate outage date and	5.5 TSOs shall publish all relevant data concerning cross-border trade on the basis of the best possible forecast. In order to fulfil this obligation the market participants concerned shall provide the TSOs with the relevant data. The way in which such information is published shall be subject to review by Regulatory Authorities.

Pilot Plan Data Requested for the Twelve-Month Period beginning December 2006	**Draft Congestion Management Guidelines**
duration;	
Data shall be provided as indicated in each item herein	5.6 All relevant information shall be available for the market in due time for the negotiation of all transactions (such as the time of negotiation of annual supply contracts for industrial customers or the time when bids have to be sent into organised markets).
Provide on a monthly basis by control area: Day before demand and generation forecast for each hour of the next day. Actual hourly demand and generation.	5.7 The TSO shall publish the relevant information on forecast demand and on generation according to the timeframes referred to in 5.5. And 5.6. The TSO shall also publish the relevant information necessary for the cross-border balancing market.
The Pilot Plan does not seek information related to Section 5.8 at this time.	5.8 When forecasts are published, the ex post realised values for the forecast information shall also be published in the time period following that to which the forecast applies or at the latest on the following day (D+1).
Data provided to the Market Monitor shall be voluntary. The level of voluntary compliance for each entity will be conveyed in regular monitoring reports.	5.9 All information published by the TSOs shall be made freely available in an easily accessible form. All data shall also be accessible through adequate and standardized means of information exchange, to be defined in close cooperation with market parties. The data shall include information on past time periods with a minimum of two years, so that new market entrants may also have access to such data.

Pilot Plan Data Requested for the Twelve-Month Period beginning December 2006	Draft Congestion Management Guidelines
On a monthly basis provide: The seasonal base case load flow models used to calculate interface capacity (if load flow model is not used, please indicate method used and provide model).	5.10 TSOs shall exchange regularly a set of sufficiently accurate network and load flow data in order to enable load flow calculations for each TSO in their relevant area. The same set of data shall be made available to the Regulatory Authorities and to the European Commission upon request. The Regulatory Authorities and the European Commission shall ensure the confidential treatment of this set of data, by themselves and by any consultant carrying out analytical work for them on the basis of these data.

Other Data for Market Monitoring

In this section, we request additional data to support market monitoring and increased market transparency beyond that data associated with Regulation 1228. In its study on market transparency, ERGEG emphasized generator data transparency.[16]

On a monthly basis, the Pilot Plan requests:

- For each generating unit in the TSOs control area,
  - fuel used in plant during the month
  - unit maximum capacity,
  - unit average heat rate,
  - variable operations costs;
  - average fuel cost (over the month)
- Weekly or daily forecast of hourly generator output for each generator in TSO control area.
- Records of complaints by customers or competitors regarding transmission access into the TSO control area;

[16] ERGEG, *Op cit*., Table 3.

- Hourly megawatt-hour wholesale sales and purchases by the TSO or load-serving entities in the TSO control area, including the identity of the counterparty, price, firmness, and duration of the sale or purchase;

- Hourly megawatt-hour wholesale sales and purchases wholesale market participants (including the TSO) that sale within the TSO control area;

    - include the identity of the seller, the counterparty, price, firmness, and duration of the sale or purchase;

Balancing markets

For TSOs that operate or facilitate balancing or spot markets, provide, on a monthly basis,

- Hourly MWh volumes cleared in the spot market;

- Average hourly price of cleared volumes;

Data Procurement Process

Potomac Economics will develop strategies for collecting this data from market participants. As indicated above, it is expected that main source of the key market and operating data will be from the TSOs. To start, then, each TSO shall designate individuals in the generation, transmission, and marketing units of the company that will serve as points of contact for receiving requests for information from the Market Monitor. The TSOs require constant access to operating data in order to manage security and reliability on the grid. They also manage access to the grid by the generators and, accordingly, have access to generator schedules and loadings. However in some instances, the generator companies will have the technical data associated with individual plants. The electricity market structure in South East Europe varies among individual countries. In some instances the TSO may have all necessary data while in other the data may be in the possession of two or more entities.

Potomac Economics expects to identify the appropriate contact information during the Market Design Workshop. We will also work closely with Dr. Kaderjak and his team at Corvinus to establish ties with entities in each country will have possession of the necessary data. In conjunction with Dr. Kaderjak, we will collaborate with contact entities to explain and collect the necessary monitoring data.

Pilot Plan Schedule

The following is an estimate of milestones.

2006

October 6:

Delivery of Design Concept delivered to Stakeholders

November 16:

Market Monitoring Design Workshop Budapest Hungary

November 30:

Revised Design Concept Document and Schedule Delivered to Stakeholders for Final Comment

December 1, 2006 – January 31, 2007:

Collect publicly available data;

Begin Receiving Participant Data

2007

February 9:

Report on initial data collection experience.

February 1 – March 30:

Begin analysis of data;

Continue contacting participants for data clarification and continued efforts to procure missing data;

April 1:

Provide initial data to be made public;

Continue contacting participants for data clarification and continued efforts to procure missing data;

May 1:

Publish initial draft First Report on Monitoring Experiences, to include sample of market monitoring analytical results;

Publish initial public data;

Begin contacting participants for data clarification and continued efforts to procure missing data for second periodic report;

June 1:

Update public data

Final draft of First Report on Monitoring Experiences

First Draft of Market Power analysis by Drs. Newbery and Kaderjak

June 15:

Report to Athens Forum on monitoring experiences

July 1:

Update Public Data

Receive comments on Periodic Report and revise;

August 1:

Update Public Data

Publish initial draft of Second Report on Monitoring Experiences

September 1:

Update Public Data

Final draft of Market Power analysis by Drs. Newbery and Kaderjak

October 1:

Publish Final draft of Second Report on Monitoring Experiences.

October 15:

Report to Athens Forum