



## MEMORANDUM

To: IEA DSM Task XIII Participants  
From: Ross Malme, Task XIII Operating Agent  
Date: July 5, 2005  
RE: June 13-14, 2005 Stockholm Experts Workshop Meeting Minutes

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The fourth Experts Meeting was held in Stockholm, Sweden on June 13-14, 2005. Elforsk, a Swedish Electrical Utility R&D Company, and the Swedish Energy Agency hosted the meeting. We are extremely grateful for their contributions. We would not be able to have quality meetings like the one in Stockholm without support like theirs. We would also like to send special thanks to Margareta Bergstrom, of Energimyndigheten, and Peter Fritz, of EME Analys, for their help with all meeting logistics as well as for organizing the joint Market Design Seminarium with Elforsk on June 14.

All meeting materials can be located on the project portal ([www.demandresponseresources.com](http://www.demandresponseresources.com)).

### **Sunday Evening**

On the evening before the meeting, attendees that were not too jet lagged from their long journey met for a pre-meeting dinner at the "Restaurant Drottninggatan", a Swedish restaurant near the hotel.

### **Day 1**

Ross Malme called the meeting to order at 9:00 AM Monday, June 13, 2005. The following people were present:

	<b>Name</b>	<b>Country</b>
1	Terry Jones	Australia
2	Magnus Hindsberger	Denmark
3	Casper Kofod	Denmark
4	Mikael Togeby	Denmark
5	Rasmus Bog	Denmark
6	Seppo Kärkkäinen	Finland
7	Risto Lindroos	Finland
8	Walter Grattieri	Italy
9	Insoo Kim	Korea

10	Eunhee Jeong	Korea
11	Jan Griffioen	Netherlands
12	Dr. René (I.G) Kamphuis	Netherlands
13	Ove S. Grande	Norway
14	Carmen Rodriguez Villagarcia	Spain
15	Carlos Alverez	Spain
16	Nuria Encinas	Spain
17	Margareta Bergstrom	Sweden
18	Peter Fritz	Sweden
19	Magnus Karlsson	Sweden
20	Mats Soderstrom	Sweden
21	Hans Nilsson	Sweden & IEA DSM Chairman
22	Ross Malme	USA Operating Agent
23	Pete Scarpelli	USA OA Team
24	Dr. Dan Violette	USA OA Team
	<b>SPECIAL GUESTS</b>	
25	Peter Fraser	Canada
26	Alex Baitch	CIGRE / Australia

\* Representatives from Japan and USA were unable to join us.

Ross Malme opened the meeting by thanking everyone for traveling from his or her respective homes to participate in the Experts Meeting. Malme then thanked our meeting sponsors supporting the meeting. He also thanked Margareta Bergstrom and Peter Fritz for their logistic assistance.

Ms. Bergstrom and Mr. Fritz then welcomed everyone to Stockholm. They explained that Sweden is currently debating the structure of its market design and there is a strong interest in identifying ways for including demand response participation. In fact, some feel that this is a critical element of market structure given that they are focused on developing energy only market structures. DR would be beneficial to this market model because it can provide the super peak capacity resources that others may not be willing build on speculation.

Our first order of business focused on a project deliverable review from Pete Scarpelli (see Task XIII Deliverable Review Scarpelli EW June 2005).

A few key highlights from the presentation are as follows:

- **Approach:** Develop a set of toolkits that users can implement to assist in evaluation DR opportunities. The toolkits will ultimately be organized into a guidebook that could serve as the foundation for the development of professional certification programs in the participating countries.

- **Subtask 2:** Thus far, we have produced a DR Market Characterization Toolkit (project guidebook and Marketplace Overviews), a DR Communication Toolkit, created the online DR Research Library, and issued the Country Comparison Report.
- **Subtask 3:** This subtask is focused on creating tools that help assess DR Market Potential. The three specific tools are DR Market Benchmarks, Market Potential Consumer Surveys and analysis techniques, and a review of available market potential modeling techniques. All three of these tools were included in the draft Market Potential Summary Report (and appendices) that was released in January 2005. We have been waiting to receive completed International DR Market Potential Surveys from the Country Experts to finalize the report.
- **Subtask 4:** This subtask is focused on developing methods for estimating DR Valuation. We have circulated several memos describing the proposed process and received some comments. Just prior to the Stockholm meeting, Dr. Dan Violette issued a draft report describing the sample implementation of the modeling process (see Value DRR as a Resource Draft Report).
- **Subtask 5:** This subtask is focused on developing a database (or library) of DR technology case studies as well as DR technology and product marketing materials. We have received a few technology case studies so far and are waiting to receive additional input from all Country Experts. We have also started to collect and post DR marketing materials on the project portal.
- **Subtask 6:** This subtask is focused on collecting practical information on DR such as product structures and market barriers. We have collected about 100 unique DR products and entered them into the database. We are still hoping to receive additional input from other Country Experts. This summer, we will ask the Operations Workgroup to review the database and highlight strong products for others to consider. We will also begin developing the market barrier database this summer.
- **Subtask 8:** This subtask is focused on developing ways to communicate the project tools and findings to the appropriate market participants. The OA continues to encourage the Country Expert and their ExCo Member to identify and schedule appropriate meetings in the first two quarters of 2006

After the presentation, there was discussion about improving the method for circulating project documents. Some people indicated that they are having difficulty mapping project documents and emails to specific project tasks and deliverables. For example, the original project plan did not include anything called a Country Comparison Report. While the project plan called for the creation of such summary report, it did not use that specific label. As a result of this discussion, the OA Team agreed to provide a revised project plan, indicate where the project plan has been adjusted over time, and map project deliverables to specific project subtasks. (Corollary: The OA complied with this request on Tuesday June 28, 2005). In addition to this, the OA indicated that we would follow a more formalized process for approving project deliverables. As a result, several things will be polished and offered for final review in the near future.

The next section of the agenda was focused on reviewing some of the specific project tools in greater detail (see Project Tools Scarpelli EW June 2005). Scarpelli led a discussion on Market Potential Benchmarks, DR Potential Calculator, DR Product Database, DR Technology Database and DR Market Barriers.

Highlights from the presentation are as follows:

- **DR Market Potential:** The OA Team completed a survey of 40 large US and Canada utilities to gauge the “state of the practice” of DR. The top performing products would be used to establish a benchmark for others to estimate the amount of potential DR for their market. In order to build the database and identify if a better benchmark should be used, we issued the International DR Market Potential Survey in February. Thus far, we have not received any responses to this request. We will issue a final version of the report in July for review and approval.
- **DR Market Potential Calculator:** At the San Francisco Experts Meeting, a few people requested that we develop a way to translate the market potential benchmark to other markets. Based on this request, we created the DR Market Potential Calculator. We worked with Walter Grattieri of Italy to test the methodology. After multiple discussions and iterations, we believe we created something that people can use to get a quick estimate of their local market potential based on the DR benchmarks. We are grateful for Grattieri’s assistance. An online version of the calculator can be located on the project portal.
- **DR Product Database:** The DR Product Database currently has information on 89 products from six participating countries (66 of the products come from the USA). We are still hoping to receive additional information from other Country Experts. In the near future, we will ask the Operations Workgroup to develop a set of criteria for selecting a few specific products to highlight. Scarpelli offered a few ideas as a starting point in the presentation.
- **DR Technology Database:** Thus far we have received about 15 technology case studies from four countries. The vast majority came from Australia. We are just getting started with this data request, but we will need input from all Country Experts to have a good database. In addition to this, Casper Kofod suggested a new way for cataloging the case studies. His suggestion is organized by technology type as opposed to technology user. This way we will avoid duplication in the database (e.g. some technologies could be used by multiple market actors). There was no disagreement.
- **DR Market Barriers:** We were running a little behind at this point in the meeting so we postponed this part of the discussion until Tuesday afternoon when we are scheduled to discuss market barriers.

After a short break, Terry Jones gave a brief overview of the project management tools he is using in Australia (see AU Project Work Plan v2). Mr. Jones indicated that these tools help him monitor their internal progress relative to the Task XIII project plan. It also helps him communicate the project status with his stakeholder group. Jones also indicated that much of his project plan is predicated on the completion of various Task XIII Subtasks. As a result, it is important to be on schedule and to provide proper

labeling on project documents so that they can map them to specific project elements. Jones offered to provide his project plan to anyone that wants it.

We then had a presentation on SMART metering from Jan Griffioen (see Presentation NEN SMART Meters IEA2). Mr. Griffioen shared insights into the evolution of metering products. He also shared the decision-making criteria and process people follow when evaluating new metering systems. This information will be useful for our DR Technology Database.

After a well earned lunch break, Dr. Dan Violette gave a very detailed presentation on our DR Valuation methodology (see Stockholm DRR Value Pres –v3 –dv).

Some key items of the presentation were:

- **Work area review:** Violette restated the work area goals and objectives:
  1. **Work Area 1: Benefit/Cost Framework** -- Develop the Benefit-Cost Framework that appropriately supports the economic case for DRR.
  2. **Work Area 2: Valuation and Planning** -- Develop "approaches" (not specific models) to incorporate DRR in resource portfolio
  3. **Work Area 3: Ex-Post Evaluation of DRR** – Discuss approaches for evaluating and verifying the benefits and costs of specific DRR put in the field.
- **Description of the model:** Violette reviewed the types of models currently used in the market, the model that he used, and market base case used in the analysis.
- **Inputs to the model:** Violette then reviewed the inputs they put in the model. This included things such as projected peak demand and fuel costs, generation plant outages, and various DR products.
- **Results Financial:** The sample market model runs provided insights into a number of things. As one would expect, the model showed that DR had significant benefits during capacity shortages and lower benefit when excess capacity existed. An interesting finding is that 66% of the scenarios show a savings in total system NPV and 34% of the scenarios show an increased NPV compared to the base case.
- **Results – Reliability:** The model showed that DR was used in most years it was available, but in 70% of the years it used less than 5% of its capacity. On the other hand, loss of load hours was reduced between 51-99%.
- **Lessons Learned:** It is important to consider uncertainty when estimating future values and using probability distributions seemed to work better than averages. We learned a great deal about how DR impacts market operations from this process. However, we also identified things that we could have done differently to improve the analysis.

At the conclusion of the presentation, we went around the room and asked each person to tell us what they heard. By doing this, we were able to learn if we were able to communicate how the process worked and what we learned from it. We were excited to hear all the positive feedback. Based on the discussion, it appears that people understood what was done and how it could be used in their markets. There were some concerns that the process is very complex and may not be easy to duplicate without

assistance. We also heard some additional suggestions on how to improve various aspects of the process. Nonetheless, there were several people in the room that were familiar with similar processes and they thought this would be a very helpful and reasonable way to value DR.

After about 45 minutes of discussion on Dr. Violette's presentation, Magnus Hindsberger (see DR Valuation Light) and Rasmus Bog (see Stockholm IEA value of Flex Demand) provided their insights on the DR valuation method. Denmark worked with Violette to implement the proposed valuation methods for their market. We are very appreciative of their work because their efforts will give us a second model to incorporate in our guidebooks. They are still working on several issues, but they generally believe that the process is good and that it will provide a reasonable estimate of DR value.

We called the first day to a close at 5:00 PM. Fritz, Bergstrom, and Hans Nilsson led a guided walking tour through Gamla Stan (Old Town). Then we hopped a ferry to an island inhabited only by restaurants (and some birds). We dined like Swedish Kings with a lovely view of the sea.

## **Day 2**

The morning of the second day started with a joint session with Sweden's Market Design group, led by Elforsk, and Task XIII. There were many eye opening presentations and discussions. We learned a great deal about the capacity situation in Sweden as well as their hopes and desires for DR to be included in the new markets. The presentations from this session can be found on the project portal.

After lunch, Malme called our Experts Meeting to order at 2:00 PM.

Our first discussion for the afternoon focused on Subtask 8: Project Delivery. This project element consists of two components: (1) The OA Team will "package" all project tools and insights so that they can be delivered to the participating countries; and, (2) the Country Experts determine and coordinate the best way to the people that can best use it in their markets. Malme led an introductory discussion on these points (see Task XIII Market Implementation Strategy Malme EW June 2005). After which, a few people provided insights into their current strategies:

**Terry Jones – Australia:** Australia's project plan currently anticipates the implementation of the various project tools to help develop insights into what DR would mean to their market. They intend to stop short of developing DR projects, but they do intend on sharing their knowledge and insights with all market actors via a couple industry seminars. (see AU ST8 v3).

**Peter Fritz – Sweden:** Sweden would like to share some of the business cases and DR strategies that we develop and/or learn from Task XIII with their Market Design group. This group hopes to develop a new market strategy by the end of 2005, so anything we can provide them in the near future would be helpful. It is also likely that there will be a Nordic Conference on DR early next year.

**Dan Delurey (presented by Scarpelli) – USA:** The USA consists of multiple independent, yet interdependent electric markets. Therefore, it is difficult to develop a single strategy. Delurey anticipates holding regional DR conferences to share what we've learned as well as continue the idea exchange and discussion with all market actors.

To close this section, Malme reiterated the importance of determining the strategy now so that we have time to coordinate the logistics as well as allow people to put dates on their calendars. He also reminded everyone that the OA Team stands ready to help any way the Country Expert desires.

After a short break, we then began discussion about Subtask 6: DR Regulatory Issues. This was started with a presentation from **Margareta Bergstrom (Sweden)** (see Is DR a Regulatory Issue). In her talk, Bergstrom indicated that from the Swedish regulatory agency's perspective, DR is an important element of a properly functioning market. However, they also believe that it should be market driven, not regulatory driven.

Then, **Ove Grande (Norway)** shared some insights into the regulatory environment in Norway that impacts DR development (see Regulatory Aspects Norway). He indicated that there are some challenges related to the rules around energy metering and the need to re-evaluate the current tariff structures.

**Terry Jones (Australia)** then shared some insights into the market barriers that currently stand in front of DR in Australia (see AU ST6 v2). Jones provided a detailed view into several key issues related to political drivers, disconnections between federal and state goals, and available price transparency. He also shared insight into what is being done to address a few of the current challenges.

At the conclusion of a brief discussion and Q\*A session, Scarpelli indicated that we have gathered some market barrier information from all CE's over the last few months. We will compile this information and share it with the Operational Issues Workgroup in the near future to help put it into a useful format.

With the scheduled business completed, Scarpelli opened a discussion about potential project extensions. Hans Nilsson explained that the ExCo welcomes ideas from existing project tasks related to the expansion and/or further detailed review of the current scope. The ExCo sees benefit in using an existing group of experts because it leverages infrastructure and relationships that are in place and minimizes the complexity inherent in establishing a new DSM Programme Task. During the subsequent discussion, someone asked why we should begin discussion extensions now versus doing so at the end of the project. Nilsson commented that even though the process is easier than establishing a Programme Task, it still takes some time. One of the main challenges is that the ExCo only meets twice a year (next time is Madrid, November 2005). It was suggested that it would be good to have ideas in front of the ExCo at the next meeting so that they can be considered.

We had a brief discussion about various extension ideas. A few people commented that the ideas presented in the pre-meeting memo required greater clarity and a few others offered additional ideas. In the end, we agreed to have an email exchange of ideas over the coming months. The OA will circulate a few ideas for advice and comment. A few

ideas will then be selected and an initial project plan will be developed for them. The Country Experts will then provide advice and comment on the project plans with the intent to have something ready to give to the ExCo member by mid-September.

The last order of business was to re-confirm that the next Experts Meeting would be held in Melbourne Australia on November 9-11, 2005. It was also noted that there would be an energy efficiency seminar in Melbourne on November 7-8, for those that may wish to attend.

Malme called the meeting to a close at 5:30 PM.

Action Items:

	Responsible Party	Issue	Due Date
1	OA Team	Reissue revised project plans with a mapping to subtask deliverables.	June 30, 2005 (Completed)
2	OA Team & Australian Team	Coordinate the next Experts Meeting with the Australian team.	August 31, 2005
3	OA Team & Each Individual Country Expert	Schedule monthly status teleconferences with each country beginning in July.	July 15, 2005
4	OA Team	Update Valuation methodology report based on Stockholm feedback and release for approval	July 31, 2005
5	OA Team	Issue completed project deliverables for final review by Country Experts	July 31, 2005
6	Country Experts	Review and approve completed deliverables	August 31, 2005
7	OA Team	Submit approved deliverables to ExCo for approvals	September 15, 2005
8	Country Experts	Provide additional input on International Market Potential Survey.	July 31, 2005
9	Country Experts	Provide additional input on DR Product Database and DR Technology Case Studies.	August 15, 2005
10	OA Team	Compile DR market barriers and circulate draft report to Operational Issues Workgroup.	July 31, 2005
11	OA Team	Compile DR Technology Case studies and circulate to State of Practice Workgroup	August 31, 2005

12	Country Experts	Confirm meeting location, date, and list of invitees for DR Implementation Strategy presentation in early 2006	August 31, 2005
13	Country Experts	Create draft outline of DR Implementation Strategy presentation and review with OA (to be discussed at October ExCo meeting)	October 1, 2005