

Task XV

Second Experts Meeting

David Crossley
Operating Agent Task XV

12 and 13 April 2005

ADEME offices

Sophia Antipolis/Valbonne, France



Agenda First Session

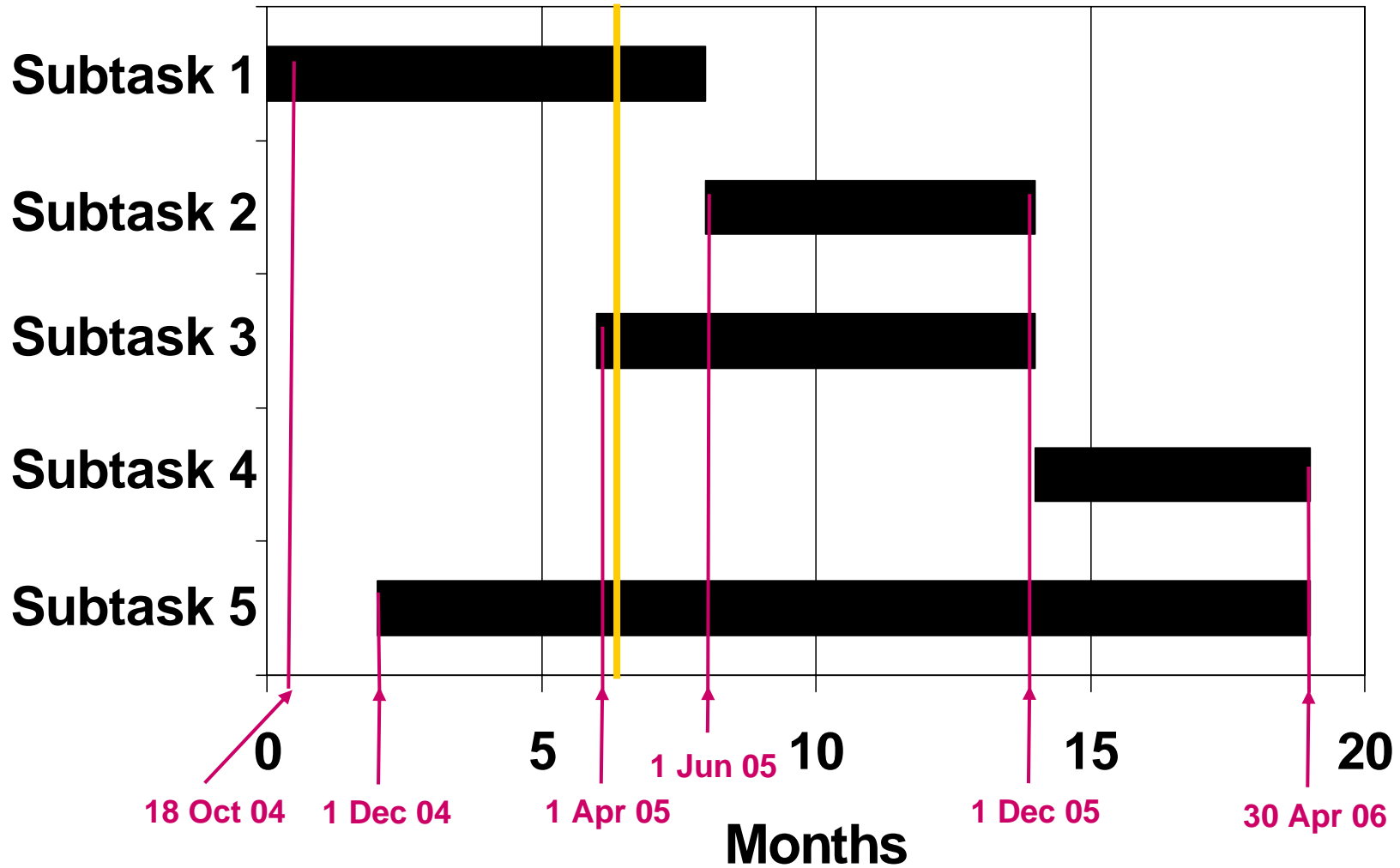
TUESDAY 12 APRIL

| | | |
|----------|---|---------------------------|
| 9.30 am | Welcome and local arrangements | Frédéric Rosenstein |
| 9.45 am | Progress with the Task XV Work Plan as outlined in the Prospectus and the Legal Annexe | David Crossley |
| 10.15 am | Comments on progress with the Work Plan | Task Experts |
| 10.30 am | Preliminary review of the case studies of network DSM projects in the on-line database and discussion on how we can obtain high quality information about more projects | Task Experts |
| 11.00 am | Refreshment break | |
| 11.30 am | Discussion on the case studies of Australian network DSM projects in the database | Australian Task Expert |
| 12.30 pm | Lunch | |

Work Plan

- **Subtask 1:** Worldwide Survey of Network-Driven DSM Activities
- **Subtask 2:** Assessment and Development of Network-Driven DSM Measures
- **Subtask 3:** Incorporation of DSM Measures into Network Planning
- **Subtask 4:** Evaluation and Acquisition of Network-Driven DSM Resources
- **Subtask 5:** Communication of Information About Network-Driven DSM

Task XV Timetable



Subtask 1 Survey of DSM Projects

Objective

- To identify a wide range of DSM measures which can be used to relieve electricity network constraints and/or provide network operational services

Deliverable

- A report listing and summarising network-driven DSM projects implemented around the world

Subtask 1 Survey of DSM Projects

- **Activity 1-1:** Network-Driven DSM Projects in Participating Countries
- **Activity 1-2:** Network-Driven DSM Projects in Other Countries
- **Activity 1-3:** Identification of Network-Driven DSM Measures

Subtask 2 Network-Driven DSM Measures

Objective

- To further develop the identified network-driven DSM measures so that they will be successful in cost effectively achieving network-related objectives

Deliverable

- A report listing and summarising successful network-driven DSM measures and the specific network problems they address

Subtask 2 Network-Driven DSM Measures

- **Activity 2-1:** Value Proposition for Network-Driven DSM
- **Activity 2-2:** Effectiveness of Network-Driven DSM Measures
- **Activity 2-3:** Further Development of Network-Driven DSM Measures

Subtask 3 DSM and Network Planning

Objective

- To investigate how existing network planning processes can be modified to incorporate the development and operation of DSM measures over the medium and long term

Deliverable

- A report on ways in which network planning processes can be modified to incorporate DSM measures as alternatives to network augmentation

Subtask 3 DSM and Network Planning

- **Activity 3-1:** Interaction between Network-Driven DSM, Electricity Markets and Regulatory Regimes
- **Activity 3-2:** Identification of Network Planning Processes
- **Activity 3-3:** Options for Modifying Network Planning Processes

DSM Projects in the Database

| | DG | EE | FS | LM | PC | PI | Total |
|-----------------------------|----|----|----|----|----|----|-------|
| Australia | 2 | 1 | | 1 | 1 | | 5 |
| France | | | | | | 1 | 1 |
| Spain | | | | | | | 0 |
| United States | | | | 4 | | 2 | 6 |
| Non-participating Countries | | 1 | | 2 | | | 3 |
| Total | 2 | 2 | 0 | 7 | 1 | 3 | 15 |

Agenda Second Session

TUESDAY 12 APRIL (continued)

- | | | |
|---------|--|---------------------|
| 1.30 pm | Discussion on the case studies of French network DSM projects in the database | French Task Expert |
| 2.30 pm | Discussion on the case studies of Spanish network DSM projects in the database | Spanish Task Expert |
| 3.30 pm | Refreshment break | |
| 4.00 pm | Discussion on the case studies of United States network DSM projects in the database | US Task Experts |
| 5.00 pm | Finish for the day | |

Agenda Third Session

WEDNESDAY 13 APRIL

- | | | |
|----------|---|----------------|
| 9.00 am | Discussion on the case studies of network DSM projects from non-participating countries in the database | David Crossley |
| 10.00 am | Discussion on identifying the DSM measures used in the case studies (Activity 1.3) | Task Experts |
| 11.00 am | Refreshment break | |
| 11.30 am | Preliminary discussion on methods for assessing and developing network-driven DSM measures (Subtask 2) | Task Experts |
| 12.30 pm | Lunch | |

Subtask 1 Survey of DSM Projects

- **Activity 1-1:** Network-Driven DSM Projects in Participating Countries
- **Activity 1-2:** Network-Driven DSM Projects in Other Countries
- **Activity 1-3:** Identification of Network-Driven DSM Measures

Projects from Non-participating Countries

- Polish Efficient Lighting Project DSM Pilot
- Ethos Project Trial of Multimedia Management System, Wales
- Winter Peak Demand Reduction Scheme, Ireland

- Project purpose: Deferral of network augmentation
- Project focus: Network capacity limitation
- Project objective: Peak load reduction

Efficient Lighting Project DSM Pilot

- Project type: Energy efficiency
- Location: Three regional cities in Poland
- Project target: Network region
- Market segment: 8500 residential customers
- Project description: Large scale promotion of CFLs through a subsidy/coupon system
- Results: Approx 15% reduction in peak load

Trial of Multimedia Management System

- Project type: Load management
- Location: Rural area of South Wales
- Project target: Network element
- Market segment: 100 residential customers
- Project description: Direct load control of storage space heaters using radio and PSTN; charging period of storage appliances was optimised in response to broadcast cost information
- Results: 25% reduction in peak load

Winter Peak Demand Reduction Scheme (1)

- Project type: Load management
- Location: Whole network, Republic of Ireland
- Additional project focus: Generation capacity limitations
- Additional project objective: Increasing operating reserve
- Project target: Whole network
- Market segment: 186 large industrial/commercial customers

Winter Peak Demand Reduction Scheme (2)

- Project description: Voluntary commitment by customers to reduce load during peak periods in return for a reliability payment plus a payment for the quantity of load reduction
- Results: 1.85% reduction in peak load (80MW)

Subtask 2 Network-Driven DSM Measures

Objective

- To further develop the identified network-driven DSM measures so that they will be successful in cost effectively achieving network-related objectives

Deliverable

- A report listing and summarising successful network-driven DSM measures and the specific network problems they address

Subtask 2 Network-Driven DSM Measures

- **Activity 2-1:** Value Proposition for Network-Driven DSM
- **Activity 2-2:** Effectiveness of Network-Driven DSM Measures
- **Activity 2-3:** Further Development of Network-Driven DSM Measures

Agenda Fourth Session

WEDNESDAY 13 APRIL (continued)

| | | |
|---------|--|----------------|
| 1.30 pm | Preliminary discussion on factors contributing to the effectiveness of network DSM measures (Activity 2.2) | Task Experts |
| 2.15 pm | Preliminary discussion on methods for incorporating DSM measures into network planning (Subtask 3) | Task Experts |
| 3.00 pm | Future work plan and Experts meetings | David Crossley |
| 3.30 pm | Finish of the Experts meeting | |

Effectiveness of DSM Measures in Relieving Network Constraints

Network Constraints (1)

- Network constraints have a **time-related dimension** because they may be:
 - ▶ **peak related** – occurring strongly at the system peak and lasting seconds, minutes or a couple of hours; or
 - ▶ **non-peak related** – less strongly related to the system peak, occurring generally across the electrical load curve and lasting several hours, days, months, years or indefinitely

Network Constraints (2)

- Network constraints also have a **geographically-related dimension** because they can occur:
 - ▶ generally across the network in a particular geographical area; or
 - ▶ specifically associated with particular network elements such as certain lines or substations

Network Constraints (3)

- To be effective in relieving network constraints, DSM activities must address both:
 - ▶ time-related and
 - ▶ geographically-relateddimensions of network constraints

Subtask 3 DSM and Network Planning

Objective

- To investigate how existing network planning processes can be modified to incorporate the development and operation of DSM measures over the medium and long term

Deliverable

- A report on ways in which network planning processes can be modified to incorporate DSM measures as alternatives to network augmentation

Subtask 3 DSM and Network Planning

- **Activity 3-1:** Interaction between Network-Driven DSM, Electricity Markets and Regulatory Regimes
- **Activity 3-2:** Identification of Network Planning Processes
- **Activity 3-3:** Options for Modifying Network Planning Processes

Incorporating DSM Measures into Network Planning

NSW Code of Practice for Distributors (1)

- In the State of New South Wales, Australia, the Code of Practice *Demand Management for Electricity Distributors* was developed by an industry working group managed by the State Government's Department of Energy
- The purpose of this *Code* is to prescribe a methodology for the market-based development of options for supporting the electricity network (including DSM, embedded generation and storage options) and their evaluation at the same time and in the same manner as investments in network augmentation (ie building “poles and wires”)
- Options may be identified by electricity customers or third parties, or by the electricity distributor itself
- Option evaluation is carried out by means of a competitive process

NSW Code of Practice for Distributors (2)

- The planning process specified in the *Code* comprises the following elements:
 - ▶ a process for informing the market by disclosing appropriate information about the current and future state of the electricity network
 - ▶ a process for fully and consistently specifying any constraints in the network
 - ▶ a process for fairly and consistently evaluating proposals to overcome these constraints
- The *Code* contains detailed protocols specifying how each of these processes should be carried out

NSW Code of Practice for Distributors (3)

- Each electricity distributor is required publish an annual *Electricity System Development Review* and to develop generic support options for the electricity network
- The distributor is then required to disclose information relating to specific forecast network constraints; and to consult with customers and other interested parties in relation to these constraints
- If appropriate (as defined by a “Reasonableness Test”) the distributor is required to issue a Request for Proposals (RFP) for network support, including detailed information on the support required
- Organisations which could provide network support then make proposals in response to the RFP

NSW Code of Practice for Distributors (4)

- Typical proposals may include:
 - ▶ the owner of a generator in an office building or factory offering to run the generator during times of system peak on the electricity network
 - ▶ an energy service company offering to implement energy efficiency measures at customers' premises in the location where network support is required
 - ▶ an owner of a large manufacturing facility offering to reschedule their production process so as to be able to turn off their equipment during peak times
 - ▶ a proponent offering a distributed generation solution

NSW Code of Practice for Distributors (5)

- Each of the proposals includes a price which the proponent requires to be able to provide the offered network support
- The distributor evaluates the proposals and then determines a preferred option
- The distributor and the proponent then negotiate about implementing the proponent's proposal

Task XV Timetable

