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CONSULTATION MODELS FOR OVERHEAD LINES PROJECTS

Working Group
B2.15

June 2005

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Consultation Models for Overhead Lines Projects

CIGRE

Working Group

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Life Cycle Assessment and Environmental Concerns

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1. Introduction

In drawing up proposals for new overhead transmission lines, undertaking environmental impact assessment (EIA) and seeking rights, permits and consents to construct, transmission companies are increasingly, whether legally required to do so, or on a voluntary basis, undertaking a greater level of consultation with a broader range of stakeholders. Over the years community involvement has become a given and can be key to the success of often controversial new transmission infrastructure proposals. This reality requires the use of innovative and 'best practice' strategies if projects are to gain the greatest degree of social acceptance.

To seek to identify 'best practice' consultation models that work well in different parts of the world, WG B2.15 initiated a sample international survey in 2001. Members were asked a series of questions relating to the type and nature of consultations undertaken, the extent of legislative requirements, timescales, key ingredients for success and whether consultation techniques are applied in the ongoing management of transmission line assets.

Following review of Questionnaire responses, it was suggested that the subject should be dealt with in more depth and a technical brochure produced. Additional questions relating to the impact of market restructuring, society expectations and the use of new and emerging technologies were drafted and responses obtained. In addition it was decided that the brochure should include 'best practice' case study examples of consultation approaches from around the world. These were supplied by Verbund APG (Austria), Hydro- Québec (Canada), Tohuku Electric Power Co., Inc (Japan), National Grid Transco plc (UK) and Eskom (South Africa). In addition, information on consultation requirements for projects receiving international funding assistance was received from a number of sources, including Working Group members in Romania and the UK.

This report seeks to draw out the key ingredients for success identified from the various case studies and questionnaire responses.

2. Case Study 1: 95km 380kV Line in Austria - Verbund Austrian Power Grid

2.1 *The Project*

Consultation with stakeholders in connection with a proposal for a new 95 kilometre 380kV double circuit, lattice-steel, overhead line commenced in the late 1980's. The new route needed to cross predominantly rural terrain, roughly 50% of which was hilly, and 50% of which was relatively flat. Public reaction was strongly against the new line, with opposition from politicians, community groups and local government.

2.2 *Legislative Requirements for Consultation*

In Austria there is no legislative requirement on the Company to undertake consultation. The permitting authority decides whether consultation needs to be carried out when considering an application for authorisation for a new line under 'Starkstromwegegesetz' law. Public bodies and authorities are invited to a hearing, which is held at the preliminary stage, but the public or landowners do not attend. At the authorisation stage, after EIA studies are completed, a further hearing may be held, to which stakeholders are invited, along with representative public bodies and authorities, but these are still not open to the general public.

2.3 *Consultation Approach Adopted*

Seeking to provide as much information as possible, Verbund opened three 'project offices' in the affected region and circulated leaflets. Three internal steering groups dealing with the overhead line proposal, underground cable alternatives and the 'do nothing' scenario were involved in co-ordinating the provision of information and an external agency appointed to organise and manage public consultation, working with internal communications experts.

External specialists, including a research institute and a technical university from within the region together with experts in social concerns, were engaged to assist with overhead line routeing, the consideration of underground cable alternatives, the identification of likely environmental concerns and the impact of a 'do nothing' scenario.

Generally the strategy was to engage independent external experts as much as possible, to increase the credibility of the consultation process. A key objective was to provide sufficient information to those requiring it. Target groups included landowners, national and regional authorities, mayors, protest groups and the media and the level of consultations was tailored to suit the needs of the respective groups. More detailed consultations were undertaken with authorities compared to information of more simple content that was presented to landowners. High level consultations were also undertaken as necessary.

A workshop with international cable experts from utility companies, relevant authorities and research institutes was convened to identify the present situation in the field of 380kV-cable technology. Whilst this was not open to the public to attend, a publication was prepared for distribution among concerned communities to explain its main conclusions.

A periodic information letter was distributed in the concerned regions to provide an update on current developments and clearly marked advertising features placed in local newspapers to explain the Company's position on the question of alternatives.

A booklet 'Overhead Line and Underground Cable' was issued presenting the advantages and disadvantages of both transmission alternatives and co-operation established with local and regional utilities in the presentation of arguments and the wording to be used. A testimonial helped to get the message across, involving a well-known bicycle rider from the region and a dedicated project team established with a strong representation of persons originating from the project region.

A range of alternatives were offered through the consultation process, including low height towers, flexibility in the sitting of towers to meet landowner wishes, a multiple circuit option to reduce the total number of overhead lines and dismantling of several existing lines that could be replaced by the new line.

Whilst the process is currently ongoing (the project was at the time of the compilation of this technical brochure at the authorisation stage), the measures outlined have assisted in moving the debate away from the 'need for the line', to consideration of alternatives.

The EIA procedure has been accepted as being adequate to address the relative advantages and disadvantages of alternatives in a serious way and the Company now has the best chance to reach a successful conclusion since the project began many years ago.

2.4 Key Ingredients for Success

- Engage independent external experts as much as possible in the consideration of options and the preparation of consultation information, to increase the credibility of the information presented through the consultation process.
- Provide as much information as possible to present to best case, carefully targeted and tailored to suit those who may have a need to receive it and delivered via the best communication methods available (e.g. detailed publications where necessary, periodic newsletters, advertorials in local newspapers, etc).
- Provide information about alternatives (e.g. tower designs, rationalisation of lower voltage lines etc), to allow some choices to be considered through the consultation process.

3. Case Study 2: 140km 735kV Line in Canada - Hydro Québec

3.1 The Project

In 1998, following a major ice storm, which left a large number of Québec households without power, Hydro- Québec announced the construction of a new 140 kilometre 735kV overhead line, urgently needed to secure supplies to areas affected by the ice storm. Special decrees were adopted by the Government to amend certain laws and exempt the Company from others, including bypassing the normal public inquiry process for the initial 100-kilometre section of the route. These decrees had replaced the usual information and consultation process established by the Government.

Intense opposition, lobbying and legal challenge from well organised residents closest to the first section of line route ultimately resulted in a successful legal challenge to the Government decrees. The normal regulations were subsequently reinstated for the remaining 40 kilometre section of overhead line. Hydro-Québec therefore had to repeat the entire consultation process in 1999. Although only 40 kilometres in length, the line route crossed through eleven municipalities, four Regional County Municipalities (RCMs) and close to 130 landowners (95% agricultural), represented by three base unions of the "Union des Producteurs Agricoles" (UPA).

Figure 1: Route Options Along Highway and River Crossing

3.2 Legislative Requirements for Consultation

In Québec, the Ministère de l'Environnement (MENV) directive on EIA for overhead lines recommends early public consultation to ensure better planning, but this is voluntary rather than mandatory.

3.3 Consultation Approach Adopted

From the start Hydro-Québec wanted the community to have a greater say in the choice of line route and the Company's communications specialists recommended that two sector-based consultation committees be established. One involved the Company and UPA specialists working directly with landowners and the other involved the Company, municipalities and RCMs representatives. The latter was concerned more with inter-regional development and involving other organisations or interest groups. For the first time, it was agreed that the MENV would, as an observer, attend the sector-based and public consultation meetings.

During the consultation sessions, the project team noted a clear social trend demanding that citizens be given a greater say. Whilst Hydro-Québec paid special attention to landowners, it was criticized for not adequately consulting and informing less directly affected riverside residents about the project.

The outset meetings were held with all of the project opponents and studies presented considering the advantages and disadvantages of the various alternative solutions. Once the members of both consultation committees were convinced of the need for the transmission line, route selection could begin. Committee members were asked to define and rank, in order of importance, their key routeing criteria, which were used in comparative inventory analysis to identify the best overall line route. Whilst it is not easy to obtain a consensus, committee members accepted that everyone had to compromise.

Once a preferred route (see Figure 1) had been identified, public consultation sessions were widely advertised in local newspapers and through mailings to individual property owners within one kilometre. Company specialists along with MENV observers attended public meetings held close to the route where the project rationale, route variants studied, selection criteria, compensation provisions for landowners, work schedule, maintenance constraints, electromagnetic fields and noise issues were explained. Suggestions for mitigation and other comments were recorded. Where considered to be of interest, these were referred to the consultation committees who decided whether or not to accept them.

The Richelieu river crossing representing a very sensitive zone with it's bike cycling paths on both side of the river and it's water plan used for boating and sailing, has required special towers to mitigate the visual impact (see Figures 2 and 3) of the river crossing.

Recommendations from the consultation committees and public comments then fed into the impact assessment report for the preferred route prior to its approval by Hydro-Québec management and submission to MENV. The ultimate preferred route was inevitably a compromise between what was financially, environmentally and socially acceptable.

Despite efforts to engage in extensive and effective communication and to secure real backing from the local community for the proposed solution, public hearings still proved necessary. To everyone's surprise and despite participation in one of the consultation committees, one of the affected municipalities had a late change of mind and sought modifications to a 4-kilometre section of route, threatening the fragile consensus. After a heated debate and numerous meetings, a new consensus was reached and the project was approved.

Figure 2: 735 kV Steel lattice H frame line parallel to highway

Figure 3: 735 kV Steel Pole H frame required over Richelieu River section after consultation process

Throughout the construction stage Hydro-Québec kept consultation committee members and the public informed through newsletters, information bulletins and web-site updates. Measures designed to mitigate soil compaction, damage to field drainage systems, loss of arable soils and damage to agricultural roads, were developed in conjunction with the local UPA. These included appointing property owner representatives during construction, establishing a 40-metre right of way where no crops would be planted during the construction period (2003) and which would serve as an access for construction equipment and by scheduling foundation construction during the least disruptive period (winter 2002-3).

3.4 Key Ingredients for Success

- Open and engaging consultation with a broad range of representatives and interested groups.
- Involvement of community and landowner representative groups in the consideration of the need for the line, transmission alternatives, the identification of route corridor options and ranking of route selection criteria.
- Involvement of representatives of the Government permitting body (MENV) as observers in consultation meetings delivered two main benefits in:
  - reducing the time required by the Government to review the report after its submission; and
  - allowing MENV to propose adjustments to Hydro-Québec's communication strategy.
- Whilst the cost of measures designed to minimise and mitigate disturbance to agriculture might be regarded as high, it was considered to be a price worth paying to secure community support and the social acceptance of a proposed overhead line through one of the province's most heavily agricultural and cultivated regions.

4. Case Study 3: 84km 275kV Overhead Line in Japan -Tohuku Electric Power Co., Inc.

4.1 The Project

A recently completed 84 kilometre 275kV double-circuit overhead line (2x 1060MVA) with 233 lattice steel towers, required to transmit electricity from a nuclear power plant on the Pacific coast to an inland switching station. Consultations started in the early 1990's and construction, which took two and a half years, commenced in 1998.

The new line passes quite close to urban areas and scenic spots such as a quasi-national park and a prefectural natural park. Nesting places of endangered bird species, Golden Eagles and Hodgson's Hawk Eagles, were discovered following an ecological survey along the planned route corridor.

The Company was seriously concerned that it might face difficulty in selecting line routes or incur delays in starting construction as a consequence of opposition to the project on EMF, visual impact or nature conservation grounds.

Figure 4: Basic Route Selection Work

4.2 Legislative Requirements for Consultation

There is no mandatory legislative requirement for the Company to undertake consultation in Japan, although there are local EIA requirements in some municipalities that involve consultation.

4.3 Consultation Approach Adopted

To lead the process of route selection, a full-time project team comprising 3 transmission engineers and 13 land affairs persons was established. This team was charged with organising investigations along the planned route corridor into the natural environment (e.g. natural parks, environmental conservation areas, etc.), social environment (e.g. land use regulations, community development plans, etc.) and technical environment (e.g. geographical features, weather conditions such as wind and snow coverage, etc.).

Consultations were held with relevant administrative organisations and local communities such as municipalities, to explain the operation program for the project, after which the necessary approvals regarding passage of the transmission line in their respective areas was obtained.

Having determined the preferred route as the most reasonable and appropriate from the alternative options, consents for land entry for field measurement works were sought. The project outline was explained to the relevant landowners at local residents explanation meetings in each community area. At this point, the project team comprised 10 transmission engineers and 24 land affairs persons.

Valuable instruction and advice on predatory bird protection was obtained from external experts and private conservation organisations through a special Advisory Meeting. Habitat surveys and monitoring investigations were undertaken near to the planned route and following the advice of the external experts, construction was planned outside the nesting season and low noise machinery used around predatory birds' habitat areas.

A number of external expert companies were engaged to investigate different aspects of the project's potential impacts. These included the potential impact on forestry in a national forest, the likely occurrence of TV and radio interference (with studies before and after completion), predicted aeolian noise levels around residential areas, measures required to conserve ecological systems in and around natural parks and opportunities to minimise visual impacts.

Assistance with regard to EMF in the form of advice and training material was obtained from experts at the 'Central Research Institute of Electric Power Industry', a domestic central research organisation concerned with the electric power industry at large.

Internally, supporting the full-time project team, a specialist environmental group was responsible for activities concerning environmental issues, including predatory birds, TV radio wave disturbances, EMF issues, visual impacts, etc.

The company undertook the investigations into the natural and social environment voluntarily in advance of consultation and the assessment results were communicated effectively along with proposals for mitigation measures to minimize potential effects. The engagement of outside experts to obtain valuable instruction and advice at the Advisory Meeting proved very effective in securing the understanding or co-operation of relevant consultees.

Throughout the consultation process it was very important to offer adequate and full information that the relevant consultee would require. The main areas of concern were as follows:

- Municipality and administrative organizations:
  - the operation program for the project;
  - co-ordination with other public enterprises;
  - relationships with various kinds of laws/ordinances; and
  - visual impacts in tourist resorts or scenic spots
- Landowners:
  - land areas for the project and compensation expenses;
  - compensation for land acquisition (single payment by 100% price based on the reasonable open market value of the land);
  - compensation for right-of-way acquisition (single payment by 15-80% price based on the reasonable open market value of the land. The compensation rate is reasonably determined by taking into account disturbance of land use caused by the overhead line);
  - compensation for deforestation (single payment according to the in-house standard "Timber Felling Compensation Unit Price Table");
  - compensation for temporary work space (reasonably compensated for excavating / trampling the ground, crop losses); and
  - compensation for inspection patrol route.
- Local residents (including some landowners):
  - EMF issues;
  - possibility of occurrence and corrective measures for TV and radio disturbance; and
  - potential for traffic jams or accidents with construction vehicles mixing with normal daily milieu.
- Conservation organisations:
  - environmental impacts on ecological systems (flora and fauna, birds, wild herds, etc.);
  - mitigation measures of negative effects on rare predatory birds

Photomontages were produced to evaluate the potential visual impacts from the new overhead line. Project pamphlets were also circulated to give an outline of the project and construction methods and to assist in obtaining understanding and co-operation from affected persons when starting the field measurement works and construction works of this new transmission line. Pamphlets and information on corporate websites relating to EMF were used to attempt to remove unease about possible adverse health effects.

Figure 5: Actual photo of the scene and Composite photo with the proposed transmission line (towers, conductors, etc.)

Whilst in other overhead line projects the Company has sometimes been required to alter line routes to preserve cultural heritage features or precious flora/fauna, in this project, the Company succeeded in securing the approval of agencies and relevant parties for the proposed line route.

Variants offered through the consultation process to reduce visual impact included alternative tower designs with fewer structural members (tubular members replacing angle members); adopting low gloss processing to steel tower members (Lynn acid processing); adopting low reflective processing to conductors and earth wires (sandblasting); and changing white to brown insulators. To prevent injury or damage to anything beneath the line due to falling lumps of ice or snow, snow-melting spiral rods were attached to conductors and to reduce aeolian noise problems, prevention caps were attached to ball-and-socket sections of insulator strings and new low wind noise conductor developed. To reduce the total number of overhead line routes in the area, a 4-circuit tower design was adopted, integrating this new line with an existing 66kV line allowing the dismantling of several existing overhead lines which could be replaced by this new one.

Figure 6: 4-circuit towers (275kV_66kV)

Anti-climbing devices and protective fences were attached to prevent the public from climbing towers. Community and individual reception equipment was installed to counter TV and radio interference.

4.4 Key Ingredients for Success

- Starting the in-house examination of the project early.
- After voluntarily undertaking advance investigations into the natural and social environment of areas of the planned transmission line route, openly offering the assessment results and proposed mitigation measures for scrutiny by interested persons.
- The engagement of outside experts to obtain valuable instruction and advice at the Advisory Meeting proved very effective in securing the understanding or co-operation of relevant consultees.

5. Case Study 4: 2km Overhead Line and Sealing End Compound in the UK - National Grid Transco plc

5.1 The Project

In March 1998, Government approval was finally given for about 95% of a 75-kilometre 400kV double circuit overhead line between Middlesbrough and York in England. This very controversial line was required to connect a gas-fired power station and to take increased electricity exports from Scotland. Consultations and environmental impact assessment / line routeing studies had commenced in 1990 and consent applications were submitted in late 1991. Two major public inquiries took place in 1992 and 1995 to consider some 8,500 objections, including objections from the relevant local planning authorities. Government Inspectors also presided over numerous wayleave hearings with affected landowners before consent was finally granted.

In one section, between Middlesbrough, a large conurbation of 150,000 people, and the North York Moors National Park, consent was denied for part of the route to be erected overhead. In that location it was necessary to place a section of the line underground. Options for the siting of a new sealing end compound at the transition point between overhead line and underground cable needed to be explored and 6 route kilometres of direct buried underground cables routed across predominantly agricultural land.

In setting about this task and engaging the local planning authority and the local community in discussions about available options before applying for planning permission, the Company made very effective use of interactive 3-D computer modelling, or 'virtual reality' modelling.

5.2 Legislative Requirements for Consultation

The Electricity Act 1989 ('the 1989 Act') and associated directions from the Secretary of State for Trade and Industry, require electricity transmission and distribution companies in England and Wales to consult with a number of statutory and governmental bodies when applying for consent for new or modified overhead electricity lines. The relevant bodies are the Countryside Agency, English Nature (or the Countryside Council for Wales), English Heritage (or CADW), local planning authorities, the Civil Aviation Authority, the Ministry of Defence and the County Archaeologist. There is no mandatory legislative requirement to consult more widely, for instance, with members of the public, although there are mandatory publicity requirements when an application for consent for a new overhead line is submitted, whether or not accompanied by a formal environmental statement.

Under Schedule 9 of the 1989 Act, transmission and distribution companies are also required to do what they reasonably can to preserve amenity when formulating development proposals. In setting out how it will discharge its Schedule 9 responsibilities, National Grid has given a voluntary commitment to undertake consultation at a stage when it may influence the shape of our new transmission infrastructure proposals. How that consultation takes place and with which groups of consultees is not prescribed for each and every instance. Rather an internal communications adviser, along with a dedicated project team, decides the wider stakeholder and media consultation strategy with reference to a communications checklist.

When a local planning authority receives an application for planning permission or is formally notified about an application for consent for a new overhead line, they automatically carry out consultation with nearby residents. This is a legislative requirement and the local authority must allow a minimum of 21 days following notification of a planning application for consultees to respond before making a decision.

In the interests of improving local democracy and public involvement in the planning process, it is increasingly the case, although not yet a legislative requirement, that local authorities are allowing residents and other interested parties to address planning committee meetings when planning applications are being considered.

5.3 Consultation Approach Adopted

Recognising that the project as a whole was extremely controversial and that resistance might be anticipated from the local community and the local planning authority, the Company decided to make use of a relatively new approach to the visual assessment and presentation of our proposals. A virtual reality model of the surrounding landscape and three alternative sites for the sealing end compound was prepared to show the range of options and their corresponding overhead line routes from an infinite number of viewpoints.

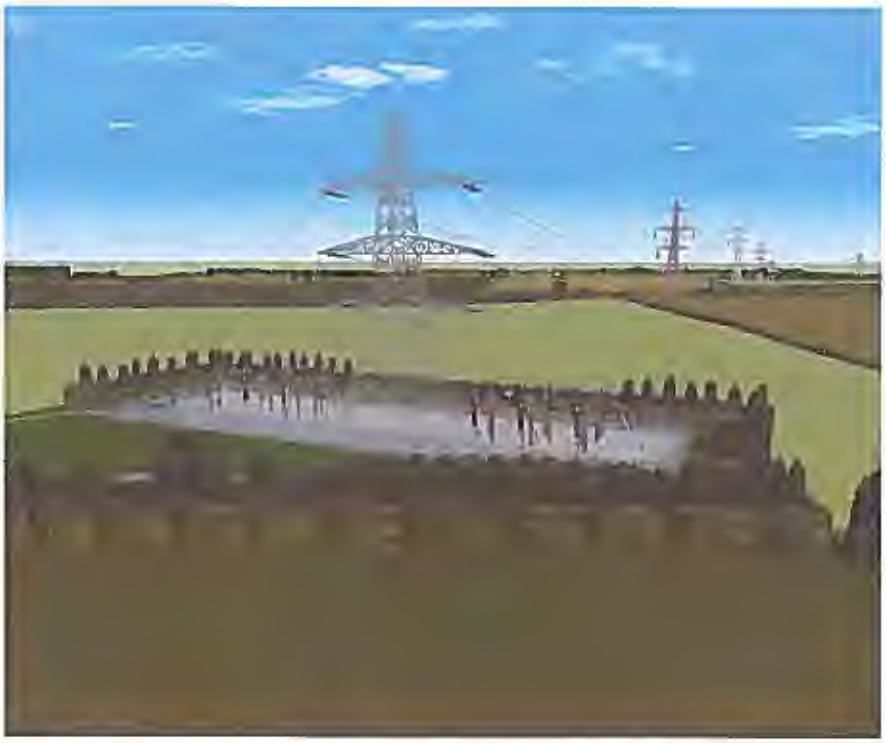

Figure 7: Virtual Reality Model – Sealing End Compound Option

The use of this approach had proved to be very successful in helping to secure planning permission for a new 400kV substation in Kent a year or so earlier. So much so, that the Company was presented with an award for excellence in 'Communication' from the Landscape Institute, the UK professional body for landscape architects.

Specialist modelling and landscape consultants were engaged to produce the model using commercially available 3-D computer modelling software that can run on a standard laptop or desktop computer. Construction of the model, covering 36 square kilometres of the surrounding landscape and a nearby village took 2 months to complete, during which time the local planning officers were consulted to ensure that it would fulfil their requirements.

Once complete, the model was used in working meetings with planning officers and presented to elected members of the Council's planning committee, whereupon the Company was asked to model two additional options. The revised model showing five alternative sites and overhead line routes was then taken to the local community to present the various options using a large cinema sized screen and digital projector at an open public meeting in the local village hall. Following the feedback from that meeting, two planning applications were submitted, one for National Grid's preferred option and one for the local community's preferred alternative. Ultimately it was the latter, the local community's preferred choice, which was approved when the proposal came before the planning committee for determination.

Against the background of a general public reaction that was still extremely hostile toward the Company and the project, members of the public and planning committee accepted that the model offered enormous benefits in demonstrating the likely visual impact of alternative options. Comments were received to the effect that had this technology been available in the early 1990's it would have saved a lot of public inquiry time debating the likely visual impact of the overhead line. This particular grant of planning permission represented the first aspect of the project that had not met with 'in principle' opposition from the local authority and the need to go through a lengthy and costly public inquiry in the entire 9-year project history.

Thereafter the improving relationship with the local community was built upon with regular liaison meetings with community representatives held monthly through the construction period. These allowed any pressing issues, such as traffic management, to be considered jointly and acceptable solutions devised or particular site problems to be addressed quickly. Residents were kept fully informed through the circulation of project information leaflets, providing a freephone enquiry number connecting directly to the Company's Community Relations team. A dedicated freephone number is adopted consistently now on all of the Company's major construction projects, enabling concerns and queries to be addressed immediately throughout the construction stage.

5.4 Key Ingredients for Success

- The principle benefit of the use of interactive computer models to show and discuss new overhead line or related development proposals is the ability to very effectively demonstrate the likely visual impact of the proposed works and mitigation proposals. The local community, planning officers and consultees at all levels, can much more easily understand and thereby come to accept new development proposals. By comparison, not all audiences can always understand or are inclined to trust or accept more conventional presentational approaches using plans and elevation drawings or photomontages from fixed viewpoints.
- The technology provides the ability to quickly consider and compare views of the development from any angle, different siting options or levels, comparison with existing views and the screening effects of tree planting.
- It provides for a completely open and participatory consultation process, with real engagement with the audience in discussion about the proposed development and the options under consideration. In potentially very difficult circumstances, where public opposition may otherwise be expected to be considerable, this flexibility and openness in approach has led to a broad consensus about, acceptance of and approval for proposed transmission line and related works.

6. Case Study 5: EIA and Public Participation Practice in South Africa - Eskom

6.1 Introduction

In considering consultation models to be applied during the environmental impact assessment of new overhead line proposals, the legal system and culture of the groups that are consulted often prescribes the public participation process that has to be followed.

Eskom has moved from a situation of no legal requirement on public participation to one where the EIA process and public participation is largely prescribed by law.

Through the process, a variety of consultees will have to be identified and each one dealt with on their own terms. Experience during the process of acquiring the rights, has shown that landowners in particular, are often more interested in their own self-interest, than concerns about real environmental impact. Negotiations with the landowner will ultimately revolve around his or her requirements and the compensation policy of the utility will play a major role. At the same time, utilities have an obligation to supply power and as a consequence, also possess some form of legal right to finally expropriate the rights where reasonable negotiations failed.

A sound public participation process, fair compensation and the final recourse to rights of expropriation should all therefore be considered in the development of a comprehensive public participation model.

6.2 Legislative Requirements for Consultation

Regulations 21, 22 and 26 of the Environmental Conservation Act 1989 [1] ('the ECA') prescribe the current EIA process, including requirements for pre-application consultation with relevant authorities and scoping review involving relevant authorities, specialists and interested/affected parties. The construction of overhead power lines is clearly included in the 'listed activities' to which the provisions of the ECA apply.

The EIA process is described comprehensively in a guideline document [2] (Swart & Agenbach, 1998). Both provincial and national departments consider the application and execution of the EIA in the case of transmission lines and the authorities issue a final record of decision at the conclusion of the EIA process. The process also includes an appeal mechanism. See Figure 8 below.

Whilst the public participation process is clear, the implementation is not always straightforward due to the linear nature of power line projects. The authorities would like to see at least 85% of landowners contacted during the EIA process. In South Africa between 30 to 40% of rural properties are owned by trusts. Access to contact details prove to be extremely difficult in these cases. In many cases land is leased to third parties for farming purposes, so the occupier is often not the legal owner. As a consequence the public is approached through the media, local authorities and organised agriculture. Properties of particular significance, such as large game farms, are approached and included early in the process. These normally prove to be problem areas. As the process evolves, the interaction becomes more intense and in the final phase, each landowner has to be found for the negotiation process.

The National Environmental Management Act (act 107 of 1998) [3] was promulgated during 1998. Only regulations prohibiting the driving of vehicles on beaches have been published to date but it is expected that this act will supersede the ECA shortly. A series of 20 documents have been produced by the Department of Environmental affairs and Tourism, explaining the principles of Integrated Environmental Management (IEM) as it pertains to NEMA. These documents may be viewed at http://www.environment.gov.za.

Of particular interest is the document on stakeholder engagement (DEAT, 2002) [4]. This document proposes the term "stakeholder engagement" as opposed to "public participation" due to the latter terms many and confusing definitions. "Stakeholder Engagement" refers to the "spectrum of increasing levels of engagement between stakeholders and ranges from protest, to informing, consulting involving, collaborating with and empowering stakeholders in the decision making process". The document discusses the setting of objectives for the different levels of stakeholder engagement and clarifies the responsibilities of various participants including consultants and practitioners.

6.3 Consultation Approach Adopted

Experience has shown that a good public participation process is essential for the successful and timely completion of a power line project. In a recent court case between a mining company and objectors, the lack of sufficient consultation resulted in the court finding in favour of the objectors and the mine had to find an alternative mining site.

At Eskom the current practice includes meetings with local, regional and national authorities, non-governmental organisations, organised agriculture and potentially affected landowners. Advertisements in both local and national newspapers, radio as well as the Internet is used. People with similar concerns are organised into focus groups, ensuring that their particular concern is dealt with during the EIA and in this way ensuring public acceptance.

The cost of the above activities amounts to approximately 33% of the cost of the EIA, which in turn constitutes about 1% of the total project cost, depending on the complexity of the study area.

The stakeholder engagement document further discusses approaches and techniques for facilitating the engagement process. Interestingly, it states that the appropriate level of stakeholder engagement should consider factors such as the objectives that were set, the social profile of the stakeholder, context related issues such as levels of literacy and the spatial scale of the project. The number of people involved in the proposed activity, available resources for conducting the process, legislative requirements and the norms and societal values are also discussed in the document. Approaches and techniques for facilitating engagement are discussed in the document within the context of a developing country.

An overview of stakeholder engagement in environmental decision-making is also provided and it identifies current challenges, shortcomings and lessons learnt, based on the experience in South Africa. These aspects may of course also be generally relevant and applicable.

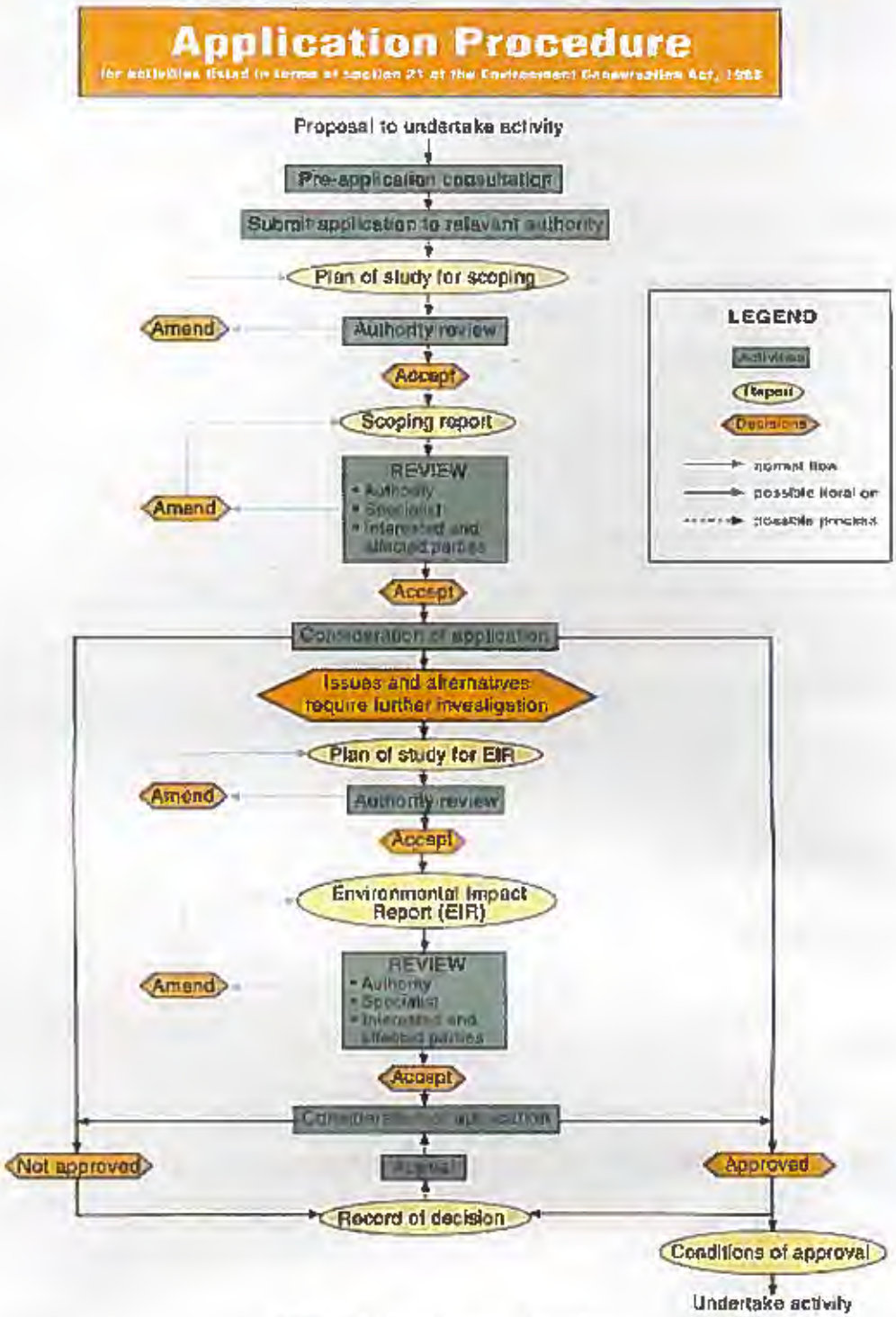

Figure 1: Application Procedure

Figure 8: A flow diagram of the EIA process as prescribed by sections 21, 22 and 26 of the Environmental Conservation Act and the process that is currently in use in South Africa (Swart & Agenbach, 1998)

6.3.1 Compensation or Consideration for the Granting of Power Line Servitudes

Prior to 1994, consideration for transmission servitudes was based on 1/3 of the free market value of land. Although minor adjustments were possible, negotiators and landowners considered this to be insufficient. This value was reviewed and increased to 100% of the market value following the construction of the Ariadni-Venus 400kV overhead line in KwaZulu-Natal and alternative ways of compensating were investigated. A study undertaken in 1994 showed that compensation normally did not exceed 3% of the total project values and delays in the acquisition of servitudes could be more costly.

Compensation based on free market values alone may not be considered by all to be fair in all cases. Depending on the type of activity found on the land in question, impacts on landowners may be greater, for example comparing a maize farm to a game farm with eco-tourism. 'Before' and 'after' evaluations are therefore undertaken in some cases. Although the results vary, this may increase the value payable to the landowner.

Whilst some landowners are therefore happy with cash compensation determined as described above, others are not and in the latter half of the 1990's, following the construction of the Ariadni-Venus 400kV line, Eskom explored opportunities to compensate landowners in different ways. Referred to as 'the new deal', this provided compensation at a value similar to the value of the land, but in an alternative form. The keys to successful negotiations in this approach were flexibility, transparency and trust (Pienaar & Spoelstra 1991) [5].

Examples of 'the new deal' approach include Kommadagga, where Eskom helped landowners (farmers) build their own 22kV reticulation scheme, supplying the equipment at cost and training the farmer to erect the line. In another case, the Hydra-Droërivier No.3 400kV line, landowners complained that they had already granted Eskom two servitudes and in spite of this, they still did not have electricity on their farms. They made it abundantly clear that they wanted electricity before granting the next servitude. Consequently, a 22kV "piggyback" line was fitted to the transmission line to supply those landowners that would grant a servitude to Eskom. Servitudes were granted in record time. Although the idea of the piggyback line was accepted by most at the time, maintenance personnel were uncomfortable with the idea of a 22kV line on a transmission structure. As a result of poor design, the piggyback conductor broke a number of times, causing interruptions to the transmission line. The piggyback was finally removed in 2002 and replaced with a conventional reticulation line.

Other alternatives were also used but they all required extra effort by Eskom personnel to implement. Currently cash compensation based on land value is the only way landowners are compensated. It is however possible that with the privatisation of Eskom that landowners will insist on "sharing in the profits" by granting servitudes. It then may once again be necessary to consider alternatives in compensation.

6.3.2 Expropriation Legislation, Land Tenure and Culture

In cases where negotiations fail to secure rights for proposed transmission lines, Eskom can follow an expropriation procedure. The Electricity Act (anon, 1987) [6] places the obligation on Eskom to generate and supply electricity in South Africa. It also makes provision for South Africa's National Electricity Regulator (NER).

The expropriation of rights for overhead lines is governed by this Act. In the case of an expropriation Eskom has to demonstrate to the NER the need for the proposed project and that negotiations have failed to secure rights. If the NER agrees, he would then recommend the expropriation to the relevant minister. The amount of compensation payable for the rights is not dealt with by this act but rather by the Expropriation Act (anon, 1975) [7].

Property is held in various ways in South Africa. Most of the land is held in freehold title and in these cases overhead lines are protected by way of a personal servitude in perpetuity. (Simpson & Sweeny, 1973) [8]. The term "easement" is also used in other countries.

Numerous areas in the former homelands of South Africa have a different type of traditional land tenure. In this case the Tribal Authority grants a "Right to Occupy" (RTO). The ownership of this land vests in the State. These RTO's are currently being converted to servitudes

South Africa has 11 official languages and a diverse population, ranging from affluent to poor, from Western type cultures to traditional African culture and from highly trained to illiterate individuals. Under these conditions, the needs and wants of I&AP's vary greatly and stakeholder involvement needs to be highly flexible and applied as circumstances dictate.

6.3.3 Problems Encountered with the Current Process

Although the EIA process in South Africa is well-documented (Swart & Agenbach, 1998) (DEAT, 2002) [2],[4], the application of the process to linear projects (as opposed to site specific projects) with its own requirements, is not understood and agreed to by all parties. Power line projects can sometimes span hundreds of kilometres and ensuring the full participation of all parties early on in the project can prove problematic. Negotiations only start after the record of decision (ROD) has been issued and it is only at this stage that all landowners must be contacted, as referred to earlier. Eskom's staff takes special care to identify appropriate consultees early in the process, especially those that could later prove to be the problematic ones. Any public participation model should consider this aspect carefully.

The need and justification for transmission line projects is an extremely important aspect during the stakeholder involvement. An inadequately justified line project is certain to elicit higher levels of objection.

In many cases large new customers, such as smelters, motivate power line projects rather than load growth and reliability issues alone,. Under these circumstances the utility has to respond rapidly to a customer's demand. The expedient nature of these projects on the one hand and the restriction on disclosure for commercial reasons on the other, makes transparent, long term planning very difficult.

The planning of development in South Africa follows a bottom-up approach with the first tier of development planning done by local authorities, where after it is consolidated at provincial and national levels. Although the legal framework for this process exists, the system is still under development and a forum where the planning for diverse and conflicting developments such as industrial and eco-tourism can be dealt with, does not exist. (a personal comment from C.F. Ehlers, Director, Development Management, City of Johannesburg). At the time of writing, this problem is very relevant to Eskom. New legislation protecting nature areas is being developed, which will further complicate matters during the acquisition of servitudes.

Some form of long term strategic planning will also address the problem of staff promising no further lines during one project, only to find out later that new lines will have to be built.

The aspect of self-interest is well understood in any negotiation process and is also present in the EIA process. Eskom is currently experiencing strong objection from the eco-tourism game farms, which are owned by affluent people with strong international connections and influence. At the same time the privatisation of Eskom is prompting certain landowners to demand share in the profits of the company, should they grant a servitude.

6.4 *Key Ingredients for Success*

- The issues that will have to be considered in a successful public participation model are many and diverse. The objective of the model must be to ease the process of obtaining servitudes for transmission line projects. Clear legislative requirements for EIA and public participation do improve the process because all parties understand the rules. Flexibility should also be an integral part of the plan.
- Early and wide consultation with sufficient information and able personnel is key to a successful process. Clear and regular communication is an essential component here.
- Adequate time should always be allowed for in a successful participation plan.
- The public participation process can never be divorced from the ultimate negotiations, compensation and right to expropriation. As a result the authors are of the opinion that all the above aspects need to be included in a comprehensive consultation model.

7. Consultation Requirements for Funded Projects

7.1 Introduction

Funding organisations such as The International Finance Corporation (IFC - World Bank) [9], [10,] [11], [12], The Asian Development Bank (the ADB), The Japanese Bank for International Co-operation (the JBIC) [13], [14] and the European Bank for Reconstruction and Development (the EBRD) [15], often have consultation requirements built into their due processes for award of project financing. Where new overhead line projects are potentially recipients of international funding contributions, it is therefore essential to observe and comply with the particular consultation requirements that might be an important pre-requisite to securing funding assistance.

For major projects that are likely to have a significant adverse environmental impact across boundaries, THE UN Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) will also need to be adhered to. This involves notifying and consulting neighboring countries of the proposed development.

In a current example of a project still in the permitting stage, a proposal for a 133 kilometre 400kV largely single circuit interconnector between Romania and Hungary, Transelectrica is seeking assistance with project financing from the EBRD for the 97kilometres section within Romania. The EBRD's Environment Department has classified the project as A/0, requiring an Environmental Impact Assessment (EIA) of the proposed development inclusive of public consultation. Individual EIAs will also be undertaken in Hungary and Romania.

Figure 9: Oradea – Békéscsaba 400kV Overhead Transmission Line Route

7.2 Legislative Requirements for Consultation

Whilst there is no mandatory legislative requirement in Romania requiring the Company to undertake public consultation, the EBRD attaches particular importance to public consultation in its pre-investment activities. Sponsors are required to identify all key environmental, health and safety issues associated with the project, in particular by consulting with the public, including interested groups. The Bank's Environmental Policy and Procedures require relevant projects receiving funding to include a minimum 120 day consultation period between publication of the EIA and consideration of project financing support by the EBRD Board, as outlined in Figure 9. The project Sponsors are required to make the EIA publicly available for comment near to the project site and are expected to keep EIA related documentation in the public domain at least until project completion.

7.3 Consultation Approach Adopted

Transelectrica and MVM are engaging consultants to review existing EIA studies, to compare their scope, content and process against EBRD EIA requirements and determine any needs for additional investigations and extension of the scope. The EIA and the consultant's activities will need to comply with the requirements of national law (Romanian and Hungarian), as well as with EBRD's Environmental Policy and Procedures and Public Information Policy, including the need for public consultation.

An initial scoping meeting and a final public consultation meeting is to be organised for presentation and discussion of the draft EIA document. The final public consultation meeting (during the 120-day EBRD consultation period following public release of the EIA document) will probably include an exhibition of relevant information material prior to a public meeting. The consultant and the sponsor will be available at the exhibition to answer to the questions raised and an enquiry form issued to encourage the public to present their point of view.

A public consultation and disclosure plan will be developed identifying stakeholders who have an interest in or who might be affected by the project. Because large meetings risk being unproductive, a number of more effective, smaller and more focused meetings are envisaged. Representatives of the following groups are to be involved in scoping meetings:

- local governmental authorities;
- national governmental ministries with authority over the project's area of operations;
- relevant environmental regulatory authorities;
- specific commercial entities that would be involved in the operation;
- representatives of academic or scientific bodies with particular interest;
- representatives of the potentially affected local population, including employees, local community organizations and groups who may be affected by the project (e.g., residents, local enterprises, social organizations) and
- representatives of non-governmental organizations (NGOs).

Meetings with technical experts (e.g., members of Academy of Science) may be held separately from those with the general public, which may be less technical in nature and the timing and location of meetings will be arranged to suit local convenience close to the route of the project.

A project information package (e.g. 5-10 page document with a cover letter and accompanying drawings, maps, etc.) is being prepared in the local language, for distribution to consultees prior to scoping meetings, to explain:

- the proposed project and why it is being undertaken, and who the sponsor is;
- alternatives to the proposed project (together with information on how they were generated);
- the existing environment (based on environmental investigations carried out to date and including the relevant physical and socio-economic conditions), identifying where there are gaps in information and where further studies are needed;
- potential environmental and social impacts of construction activities and temporary infrastructure and measures which might be taken to mitigate them, if relevant;
- predicted or potential impacts of operations phase and measures which might be taken to mitigate them;
- information on how proposed monitoring of impacts might take place;
- Table of Contents of proposed environmental/social impact assessment, outlining which issues will be covered, studies done, schedule; and
- proposed public consultation and disclosure plan (PCDP).

The covering letter will explain to the invited participants the purpose of the scoping meeting - to gain input to and agreement upon the type and amount of information to be included in the EIA, rather than to argue the merits of the project itself. The Coordinator or Chairman of the meeting will need to be adept at keeping the discussion "on track" and the use of a tape recording of the meeting to ensure that no comment is forgotten is being considered.

As the scoping process will involve contributions from different disciplines and interests, the meeting will need to give everyone the opportunity to provide information concerning what they think would be the major environmental impacts associated with the project. To best facilitate this (and to help with recording the discussion) the proposal is to use "flip charts", or large pieces of paper hung around the walls of the meeting room, corresponding to the various "chapters" of the future EIA's Table of Contents. Suggested topics, issues, etc. can then be recorded and/or deleted.

An agreed summary record of the scoping meeting will be drawn up, recording the final Terms of Reference for the EIA and changes to be made to the Public Consultation and Disclosure plan. Details of participants and the organisations they represent will be included along with their views about how consultation should be undertaken through the environmental appraisal.

7.4 Key Ingredients for Success

- To engage independent external experts in the preparation of consultation information to increase the credibility of the information presented through the consultation process.
- To consider a number of smaller, more focused meetings as more productive when governmental authorities, relevant environmental regulatory authorities are involved.
- To involve a large range of representative, as observers, and interested groups in consultation meetings.
- To allow stakeholders the opportunity to involve themselves and to make suggestions regarding the alternatives and mitigation measures proposed.

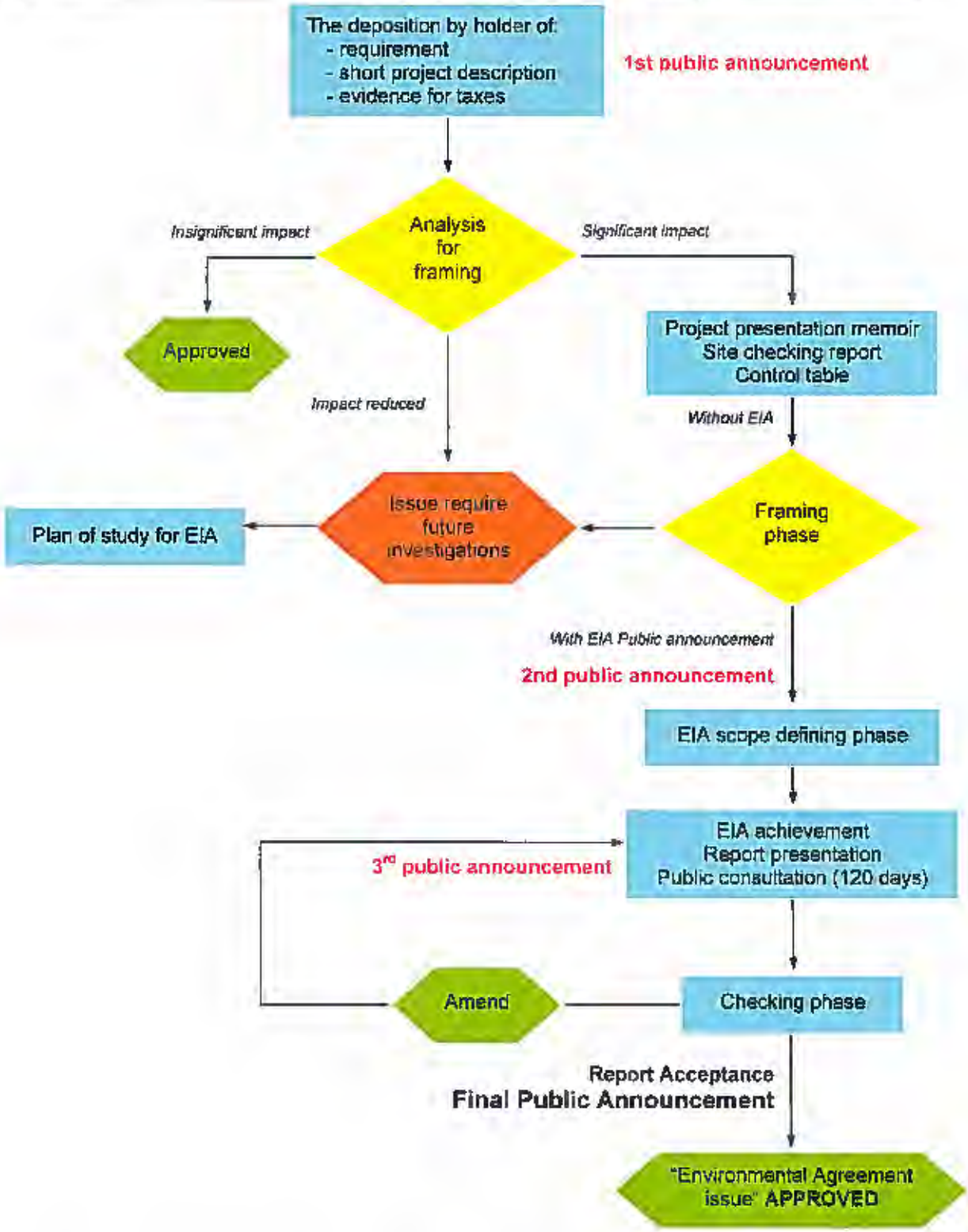

Figure 10: Environmental Impact Assessment (EIA) Procedure & Environmental Agreement Issue

8. Summary of Questionnaire Responses

Question 1 – Legislative requirements on consultation – not with statutory or permit granting bodies, but others – public, local communities and/or non-governmental organisations, etc?

- There is no legal obligation, but the permitting authority decides whether consultation needs to be carried out when considering an application for authorisation for a new line under "Starkstromwegegesetz" law. A hearing may be held at the preliminary stage with public bodies and authorities invited but no public or landowners. After EIA studies at authorisation stage a further hearing is to be held to which stakeholders are invited along with public bodies and authorities but still not open to the general public (**Austria**).
- A mandatory EIA requirement exists for power companies throughout Australian States and Territories (**Australia**).
- Before starting the project contact is taken with the permit granting bodies and sometimes the local communities. If necessary an EIA report is made (**Belgium**).
- EIA/Environmental Impact Report (RIMA) is mandatory for transmission lines greater than 230 kV. The Government asks that reports are published in the Official Gazette of the State and the results made available for the public. CONAMA (National Environmental Council) has to be consulted when the line affects more than one state and CONAMA is responsible for the management of the various state organs that are involved. A license is required at various stages for a new transmission line project (preliminary, pre-construction and pre-energisation). As a condition of licensing for larger scale projects that impact on forest areas, CONAMA usually requires the Company to put in place Public Domain and Indirect Use Conservation Units, not less than 0.5% of the total cost of the project (**Brazil**).
- The Ministry of Environment (Province of Quebec) directive on EIA for overhead lines recommends early public consultation to ensure better planning, but this is voluntary (**Canada**).
- The Danish Planning Act requires an EIA for overhead lines (including substations) exceeding 100 kV and 2 km. There are certain requirements for the contents of an EIA report and the Planning Act lays down rules for the public hearing. The local council is responsible for regional planning proposals (including EIA report) and the related public hearing phase. The council is responsible for the final decisions of a 200 metre broad right-of-way (**Denmark**).
- The Electricity Act and directions from the Secretary of State require the Company to consult with the Countryside Agency, English Nature (or Countryside Council for Wales), English Heritage (or CADW, the relevant local planning authorities, CAA, MoD and County Archaeologist when applying for consent for a new line (**England and Wales**).

- Legislation that has some influence on consultation includes the Nature Conservation Act, Environmental Protection Act, Act on Environmental Impact Assessment Procedure and Land Use and Building Act. According to the law we have to announce the EIA program and settlement. After that documents are displayed for public inspection for about two months. The law does not require special meetings with public (**Finland**).
- There is no EIA legislative requirement to consult, although the planning authority may ask that it happens and they have a duty to circulate an EIS when submitted to accompany an application for planning permission. The planning process is a consultative one. In appeal scenarios the An Bord Pleanela (Planning Appeals Board) may hold an Oral Enquiry (**Ireland**).
- No legislative requirements regulating relationships with the public, local communities and/or non-governmental organisations are in place (**Italy**).
- EIA law does not regulate transmission lines, but there are local EIA requirements in some municipalities (**Japan**).
- There is no legal obligation on the Company, but the permitting bodies must consult (**Netherlands**).
- EIA is required under the Environmental Act for lines over 110kV (**Slovenia**).
- Consultation is required with the National and Provincial Departments of Environmental Affairs. In terms of the Environmental Act all high voltage transmission lines require a full EIA with extensive public participation. An independent consultant must conduct the EIA within an agreed study area and consultation requirements are that the project is advertised in the local news media and depending on the significance of the project national news media coverage is also required. Reasonable consultation with all I&AP's is required (**South Africa**).
- There is a requirement to keep the Ministry of Industry informed, which carries out consultation once the proposal has been submitted – otherwise there is no specific requirement (**Spain**).
- Public and landowner consultation forms an early part of the EIA process, which is a mandatory part of the permitting process under the Electricity Act (**Sweden**).

Question 2 – Do you carry out consultation beyond the minimum required by legislation?

- Consultation beyond minimum is generally undertaken. Preliminary EIA undertaken for broad route corridors & results presented to authorities and at public exhibitions. Public meetings and direct approaches to landowners in the corridor follow this. After extensive consultation a more comprehensive EIA is prepared, based on community and landowner input on route options within corridors (**Australia**).
- No (**Belgium**).
- Besides publication of reports at the Official Gazette of the State, Public Hearings are held to consider the proposal (**Brazil**).

- Company policy & directives describe the approach to be taken – canvass views of & involve potentially affected communities, groups & individuals, start early **(Canada)**.
- Ambitious visualisations have been requested, although not a requirement and public meetings have been initiated. Councils often wish to consult the public although again this is not a requirement. Landowners along the 200m right of way corridor are consulted and the location of towers may be discussed to an extent, in mutual understanding with neighbouring landowners **(Denmark)**.
- Early consultation undertaken as part of EIA scoping and line routeing process with wider groups than just the statutory consultees. Public consultation usually starts once preliminary line route options, preliminary EIA and a preferred route option has been identified and involves public exhibitions in advance of any application for consent. Landowner discussions start on an individual and personal basis just in advance of wider public consultation. National Grid has recently given a new commitment to public consultation for works (new assets and refurbishment of existing assets) in its Schedule 9 Statement on preservation of amenity **(England and Wales)**.
- Normally organise around 2 to 10 public meetings with land owners / grantors. We meet all local community authorities in private and also at bigger meetings. In addition Fingrid meet a case-specific Regional Environment Centers, Ministry of the Environments, Finnish Environment Institutes and Provincial Federations authorities. Some times different associations, e.g. Regional Nature Conversation Association or Village Committee. Fingrid takes consultation very seriously and that is the reason for many meetings **(Finland)**.
- Yes, consultation beyond the minimum requirement is undertaken. This has to be managed to allow for involvement whilst minimising time involved **(Ireland)**.
- The National Transmission Grid Operator (GRTN) has been launching and testing an innovative procedure involving pre-emptive consultation of Local Governments (Regions, Provinces and Municipalities) but not involving NGOs or Associations, for assets directly managed by GRTN (e.g. interconnectors). For other transmission and distribution lines, managed by Terna (an ENEL-controlled company possessing 87% of the national grid) or by other private contractors (in the case of public-bid-assigned construction projects), no procedure appears to be in place. Ultimately this consultation model, if it proves to be viable, might apply to all construction projects. **(Italy)**
- Several opportunities for public participation through community meetings and individual meetings with local people and landowners **(Japan)**.
- Early consultation is undertaken in preparing for projects to understand concerns and reduce risks **(Netherlands)**.
- Yes, but it is not prescribed. In some cases before elaborating the EIA an opinion poll is undertaken during the examination of the line route **(Slovenia)**.
- Legislation requires "reasonable" public participation. We do try to contact all interested and affected parties (I&AP's) **(South Africa)**.

- Early consultation with ecological organisations, the Department of the Environment and potentially affected town councils. Grantors informed through private consultation (**Spain**).
- Yes, consultation is normally held with a broader variety of stakeholders than required by law. The "contact list" can vary from project to project, from region to region and among the different net-owners. To ensure conformity, an industry and government working group has drawn up a manual for transmission line EIA (**Sweden**).

Question 3 – Nature of consultation – e.g. what stage(s) is it undertaken, how is it undertaken and how consultative is it? Can those consulted influence the decision or options?

- If authority decides consultation is necessary then can influence line routeing (**Austria**).
- The EIA preparation normally will involve consultation with the relevant authorities and interest groups to ensure that sensitive cultural and heritage and wider community developments and interests are not compromised. Direct personal contact is made with property owners and general community groups. Newsletters are distributed to all property owners and residents in the general region at regular intervals (**Australia**).
- Discussions with permit granting bodies are organised. Sometimes there are hearings with the local residents. Sometimes the project is adapted according the remarks of the consulted people (**Belgium**).
- As main guidelines, the consultation of Non Governmental Organizations, residents' associations, FUNAI, etc., is not mandatory even though it can be of influence in the process. Generally, the consultation is performed during the study process, once social characteristics of the affected area shall be obtained (ex.: population, economical aspects, infrastructure and services, education, health, roads and transport system, historical and archeological heritage, Indian communities), to provide aid in mitigation of the environmental impacts (**Brazil**).
- Stage 1: General information, scope of studies, methods to be used, delineating study area (gov't agency & local permitting bodies); Stage 2: Presentations (gov't agency, local communities, non-governmental organisations); Stage 3: Inform general public about selected project, explain reasons for choices, meet affected communities & landowners to discuss impacts and mitigation. Use project brochures, media, meetings, mail-shots, freephone information numbers, open forums (**Canada**).
- Public hearing lasts for at least eight weeks. The public can reflect upon proposals for regional planning supplements and the related EIA report. Additionally, the council and contractor may hold public meetings. We have experienced that those consulted have influenced the final decision to a high degree. In this connection, protest groups with spokesmen have turned out to be very effective. The problem is sometimes that spokesmen on a weak background claim to represent the "public" opinion (**Denmark**).

- Office based consultation at EIA scoping stages with key statutory bodies and presentation of preliminary routeing study / EIA reports to key bodies for scrutiny and verification before completion and application for consent. Public meetings and exhibitions, project information leaflets, freephone contact phone lines, and individual face-to-face landowner meetings. Recent use of virtual reality computer modeling techniques to assess visual impact and compare siting options (**England and Wales**).
- Public meetings, private meetings with grantors and authorities. Stage 1. Meeting with environmental authorities and local communities 2. Preparation of EIA programme 3. Public meeting of printed documents and public inspection two months 4. Authorities and grantors statements – same pattern as EIA report (**Finland**).
- Varies according to region where the proposed line will be and business unit involved. For 220kV and maybe some 110kV lines, consultation is undertaken pre-application. Key stakeholders are met (including local authorities), briefing document prepared, landowners approached, a summary of the briefing document and indicative proposed route is advertised in regional newspapers and comments invited, and meetings are then arranged to follow up consultation responses and demonstrate responsiveness / influence on decisions (**Ireland**).
- In the innovative procedure currently being applied by GRTN, the consultation process is undertaken at a preliminary stage, usually based on a hypothesis of a network route or corridor (**Italy**).
- After determining basic route explain operation programme to municipalities and directors general of wards, then community meetings and individual meetings with local people and landowners. The meetings often include EMF concerns, photomontages showing landscape impacts, consultation in wind noise reduction and radio wave interference areas. Consult conservation organisations (for endangered species etc.) where appropriate and administrative organisations (**Japan**).
- Consult early using all practical forms/approaches tailored to the situation (**Netherlands**).
- Local community representatives are consulted during line route selection studies, when they can influence choice of route and optimization. At the same time, a draft EIA is elaborated and made available for public comment prior to its presentation and a public hearing. This also happens under the procedure for acquiring the permit and landowner agreements. Landowners are visited personally (**Slovenia**).

- National environmental authorities must approve plan of study for scoping (including public participation program). We consult at all levels approximately six to nine months (depending on the length of the line and the sensitivity of the area) before we need to start negotiations with individual landowners. We normally start with local government organizations, NGO's and Tribal authorities. We then advertise our intentions in the national and local news media. We hold public open days. Workshops are set up with stakeholders. Individual landowners are visited. We also set up focus groups e.g. game farmers, dairy farmers or conservancies. They would give their combined inputs and could guide and influence towards the least impacting route. We propose our preferred route option with viable alternatives. The public are free to suggest further alternative routes which will be investigated in the EIA. They are only able to influence the siting of the power line and not the energy source (**South Africa**).
- Careful to adopt a very personal / human approach and to take account of relevant opinions (**Spain**).
- Public meetings held & landowners approached after basic EIA inventory and line route investigations been undertaken. Preliminary copy of EIA sent to county administrative board for decision on whether likely to have a "considerable environmental impact". If decision is "no", EIA is completed, meetings held, negotiations undertaken with landowner and application for consent submitted. If decision is "yes", extended consultation and a more comprehensive EIA is required – EIA undertaken for broad route corridors & results presented to authorities and public exhibition. Detailed consultation with landowners on route options within corridors. The stakeholders can influence the project in every stage of the process (**Sweden**).

Question 4 – Are the results of consultation made public and if so how – inclusion in EIA reports?

- Only if part of public inquiry (**Austria**).
- Included in final EIA report (**Australia**).
- No (**Belgium**).
- Generally, results are not published, but they influence the final decision (**Brazil**).
- Include in EIA reports – minutes of meetings & copies of all letters (**Canada**).
- The county authorities publish opinions and the result as a "supplement" to the published material, including the EIB report (**Denmark**).
- Included in EIA report (**England and Wales**).
- Conclusions of consultation are printed to the EIA report. After that people can comment about it (e.g. headers of EIA report: Parts of EIA procedure, Information of EIA, Grantors feedback, Effects to living comfort) (**Finland**).
- Yes, in EIA report and if route alterations arise as a consequence, these are explained (**Ireland**).
- The results of consultations are included into EIA reports (**Italy**).

- Make results of EIA investigations public on case by case basis (**Japan**).
- When useful / necessary. Possible inclusion in EIA report or in the licence application. May sometimes prefer not to (**Netherlands**).
- The views of local municipality council representatives are included in the final variant comparative study and the demands of local communities, individuals and others are taken into account when lines are permitted, but the results of consultation do not form part of the EIA (**Slovenia**).
- The public consultation results are published within the Social Impact study, which is always one of the specialist studies commissioned at the start of a project. We also produce and publish an "Issues report", which guides the rest of the EIA (**South Africa**).
- Results not published, but could well be used to modify proposals in the interests of public acceptance (**Spain**).
- Yes, all the results from consultation are analysed in detail in the final EIA report (**Sweden**).

Question 5 – Key ingredients for success – including lessons learnt and areas for further improvement?

- Early consultation with authorities and landowners and keep them informed (**Austria**).
- Early, open, personal and detailed consultation with all parties is critical to the process. Responsiveness to identified concerns in relation to conservation, cultural and heritage and archaeological sites, electrical and visual effects, is essential. Wider community compensation offset programs have also been found to greatly assist community acceptance, eg provision of playgrounds, community fire fighting facilities, community swimming pools, general community facilities upgrade, lighting of rural airstrips etc. (**Australia**).
- Good communication, good relations with local communities and permit granting bodies. Open book approach (**Belgium**).
- Broad previous discussion with the involved parties and purposes integrity (**Brazil**).
- Start early, good need case, keep Ministry of Environment informed & invite to meetings as observer, meet often, thematic meetings on different aspects (**Canada**).
- Be open and honest about the project and alternatives from day 1. Otherwise you will lose influence and credibility and authorities/politicians will interfere instead (**Denmark**).
- Start early, be well prepared, be able to demonstrate thoroughness and rationality in EIA approach and choice of preferred option, listen to concerns and seek to address concerns by modifying the design or preparing appropriate mitigation and compensation (off-setting) measures where possible and practicable (**England and Wales**).

- Firstly, future power lines corridors early enough to regional land use plan. That makes EIA project much easier because public have seen the lines route already once. Secondly, good co-operative work with authorities, giving them information that they need. Improvement can be achieved through more and frequent information to the grantors. Authorities get the information they need but grantors are interested in project all the time. Information flow until the building project is finished **(Finland)**.
- Address all 'key stakeholders' (including senior managers of permitting authorities and elected representatives). Pay particular attention to directly affected landowners and their organisations. Undertake public consultation before lodging applications for permission. Must have clear need and cultivate trust **(Ireland)**.
- Early involvement. Clarity, transparency, reliability. If early on Local Governments are convinced of the necessity and goodness of a project, the likelihood of conflicts diminishes **(Italy)**.
- Early consultation and sincere attitude **(Japan)**.
- Start early, be honest, identify concerns and address as far as possible / reasonable / realistic, be clear, negotiate, seek to gain support and present "good" image **(Netherlands)**.
- Early engagement of local communities with clear, understandable, fair and frank information, appropriate technical expertise, active listening and understanding of the affected **(Slovenia)**.
- The planning report, which serves to justify the need for the project, must be available at outset. Be honest about the level of influence that is possible by participants. Be careful not to create false expectations. It is essential to make affected parties aware of the construction and maintenance aspects before they can comment on the possible impacts of the project. This is done by means of a visual presentation highlighting the positive and negative aspects of project. Making contact with landowners in the study area is difficult and time consuming. This needs to be done long before the project gets underway. Public need encouragement to participate as they do not always believe that they can influence the project **(South Africa)**.
- Personal and straightforward adapted to suit the person being consulted, global communication of need case **(Spain)**.
- Early and detailed consultation through EIA process takes time but benefits in terms of fewer surprises at later stages, good presentation, specialist technical input, including EMF advice required to answer questions, allow time for questions and private discussion, record questions, minutes of meetings and provide responses where appropriate **(Sweden)**.

Question 6 – Time scales – fixed or flexible, implications for project programmes?

- Flexible (**Austria**).
- Complete flexibility is now required due to commercial market pressures and shorter lead times. Some additional costs for compensation and community assistance may be required, if short lead times (typically less than 12 months) are required (**Australia**).
- A project takes 3 to 5 years (**Belgium**).
- Referring to deadlines there is a certain rigor, which is determined by the size of the project. Nowadays, the Environment Ministry (to which CONAMA is related) is performing a revision of the minimum deadlines for providing project licenses referring to Electric Energy due to the Electric Energy Crisis. The Management Council of the Electric Energy Crisis shall perform studies (**Brazil**).
- Try to fix, but often not achieved (**Canada**).
- It has often not possible to fix the time scale for public consultation. However, when the regional plan has been adopted, a fixed schedule is made for the project, which we make a great effort to keep (**Denmark**).
- Frequently under pressure with new generator connections to complete EIA studies and carry out consultation relatively quickly (typically six months) in advance of applications for consent (**England and Wales**).
- Normally flexible because EIA is made two to four years before building project. Implication for timescales is normally caused by special conditions in granting permit (**Finland**).
- Need to be flexible and appropriate to the case, although 2-3 months is allowed for general public or group consultation. Stakeholder and landowner consultations run in parallel (**Ireland**).
- 3-5 years (**Italy**).
- Begin preparations for new trunk line (275kV or above) 10 years before construction – actual consultation with landowners starts 5 years before the construction (**Japan**).
- In line with the legal licensing process (**Netherlands**).
- The most demanding phase is the elaboration and approval of variant comparative study. Whilst the duration cannot be forecast, the whole procedure from initiation to acquiring the permit takes at least five years if the project is already included in the space use plan of Republic of Slovenia, otherwise at least three years more than that (**Slovenia**).

- Some projects have very tight deadlines, as Eskom requires guarantees from its customer before embarking on a capital-intensive project to supply the required energy. Authority approval is often not timely and delays are experienced. Recently we conducted an EIA running the Scoping and EIA specialist studies concurrently, as the Record of Decision was required within four months. This was made possible, as we were able to predict the impact in the particular area. Only in extreme cases are we able to get permission for this shortened process from the authorities. Normally all phases of the legislated process must be completed in sequence and the relevant reports approved before the following phase may be embarked upon (**South Africa**).
- Needs to be totally flexible (**Spain**).
- Needs to be flexible and work with accuracy from start (**Sweden**).

Question 7 – Who gets consulted? Does this depend on the project?

- Depends whether the permitting authority requires consultation to be carried out (**Austria**).
- Landowners, general public in affected region, elected representatives, all interest groups, all State and Local Authorities and business representative bodies, media (**Australia**).
- Always the permit granting bodies. Depending on the project: local residents (**Belgium**).
- Authorities, landowners, communities (**Canada**)
- In case of an interstate project, environmental state organs shall be consulted and shall be responsible for providing environmental licenses and authorizations, once the involved parties are heard. This can include FUNAI – National Indian Foundation, IPHAN – National institute of Historic and Artistic Heritage, residents' associations of the affected area, Non Governmental Organisations that are related to the project, municipality prefectures and other interested entities (**Brazil**).
- In principle, the county authority consults all citizens. However, depending on the size and nature of the project, the county authority tries to come in contact with the target group by means of public meetings. The contractor contacts all landowners after determination of the 200 metre right-of-way (**Denmark**).
- Always wider than the statutory minimum referred to under question 1 – depends on the project and area affected by the development (**England and Wales**).
- According to the law all who are "interested parties". That means in practice everybody. (**Finland**).
- Landowners/occupiers, national elected representatives, MEPs, Senators, Irish Farmers Assoc., Industrial Development Authority, Business & Employers Organisation, Chambers of Commerce, regional, county and local organisations, media (**Ireland**).
- Preferably Regions, Provinces, Mountain Communities - usually comprising various Municipalities (**Italy**).
- Main targets are local communities, landowners, governmental organisations (**Japan**).

- Decide on project basis – anyone that can cause serious problems in the licensing or rights of way process (**Netherlands**).
- All interested and affected parties who can be identified are kept informed throughout all projects. This includes authorities, interest groups and landowners (**South Africa**).
- Governmental ministries, public non-governmental organisations, affected people – anyone with relevant input or likely to be affected (**Spain**).
- Fixed list of bodies but can be expanded or shortened to suit particular project (**Sweden**).

Question 8 – Do companies consult with "stakeholders" on existing assets (not just new works) – i.e. to build long-term relationship?

- Contact is generally made with property owners and tenants where work is required to maintain the right of way or the transmission facility, and for patrols (**Australia**).
- No (**Belgium**).
- Yes if modifications are proposed (**Canada**).
- No (**Denmark**).
- Yes – Where refurbishment works are proposed. Also for existing assets generally – recent grantor opinions survey undertaken and programme of initiatives with local authorities and local communities (**England and Wales**).
- "Community responsibility" is growing and via that Fingrid communicates with "stakeholders" (**Finland**).
- Not as an ongoing process to build relationships – only if alteration is needed (**Ireland**).
- Yes. Consultation takes place both in the case of construction projects as well as territory planning (Strategic Environmental Assessment or VAS) (**Italy**).
- Seldom, except for EMF queries and answering specific questions (**Japan**).
- No policy (**Netherlands**).
- The procedures are the same in the case of reconstruction of existing transmission facilities (**Slovenia**).
- This aspect is receiving more attention of late as more and more landowners are demanding that they be consulted and informed if our sub-contractor or we need access to their property. Refurbishment and upgrading of existing assets requires EIA approval or exemption which includes consultation with affected parties. A lot of work needs to be done in terms of improving the attitude of landowners by the maintenance staff (**South Africa**).
- No (**Spain**).
- Useful to regularly consult stakeholders about possible future developments and need to renew line concessions after 40 years – with new EIA and consultation process (**Sweden**).

Question 9 – Has the opening up of markets effected your approach to public consultation e.g. intensified it or led to pressure to have less given the time constraints?

- Yes, it has affected our approach. The pressure to speed up authorisation procedures has increased. In particular industry urges utilities to ensure strong and reliable grids with high reliability. Claims have occurred in cases of interruptions of energy supply and related loss of production. The new situation allows private investors to build their lines as e.g. Merchant Lines or Direct Lines. (The relevant regulation of the EC was put into force in summer 2004) (**Austria**).
- Introduction of the National Electricity Market (NEM) in Australia has shortened lead-times for transmission projects and complicated the consultation process by requiring a separate "approval process" under the NEM Code for regulated transmission projects. This process is in parallel to the "needs" aspect of the project environmental approval and community consultation. The NEM Code "approval process" also requires that a lead-time for equivalent projects be used for the timing of the evaluation/consultation process. Alternative projects to a transmission augmentation such as a gas turbine generator generally will have a shorter lead-time than a transmission line project. Even when such a project is deemed less economic than the transmission option, the Code requirement will have an impact by reducing the lead-time available to complete the "approved" transmission line. Initiatives to undertake increased pre-planning of projects to overcome the lead-time and Code problems are currently under investigation (**Australia**).
- No (**Belgium**).
- The opening up of markets has the effect of compressing the time schedule of the project. Public consultation is compressed and that reduces delays in canvassing public opinion (**Canada**).
- No, the market has not exerted any influence. However, an indirect pressure is often put on the contractor so that he is ready to increase costs in order to maintain the time schedule (**Denmark**).
- Yes it has. The electricity market in the UK has been open for many years now and there is a requirement to provide connection offers within 3 months of receipt of connection applications. Thereafter once new connections are signed, the Company must use 'best endeavours' to secure consents. Pressure from generators seeking earliest possible connection, whilst ensuring best practice EIA approaches, has been manifest throughout the 1990's and continues today (**England and Wales**).
- The main effect of opening markets is the urgency in completing connections to IPPs and urgent reinforcements, some of which relate to removing system constraints in off loading IPPs. There has been an intensification of public consultation (**Ireland**).
- Despite recent laws or decrees promoting streamlined authorisation procedures (such as the "Legge Obiettivo", "Decreto Sblocca-Centrali", the soon-to-be-issed "Decreto Sblocca-Linee"), GRTN has stepped up consultation processes as a result of the liberalised market (**Italy**).

- As of now the opening up of the markets in Japan is so limited, that we cannot see any significant change in our consultation practices. It is expected that power transmission lines will remain a kind of regulated area, so we will not have many competitors or a big impact on the consultation policy in the near future (**Japan**)
- The opening of electrical power market did not directly affect the procedures of introducing of power facilities (PF) in public. At the connection of new transmission facilities, the public is involved in the procedure of issuing of the environmental protection consent. Due to the change of the political system in Republic of Slovenia, and to the privatization act, the significance of private property has considerably increased within the last decade. Due to that, to "NIMBY" (Not In My Back Yard) phenomenon and to popularity of the environmental protection the opposition to the construction of transmission facilities has intensified very much. The procedures for acquisition of permit are getting prolonged, and their duration can not be forecast. At public consultations an increasing interest in the organisation of electric power (EP) system is noticed. A frequent question is, whether the transmission EP grid is private or common property (**Slovenia**).
- The opening of the markets has not yet affected Eskom or the public consultation process. The economic growth that South Africa currently experiences dictate shorter lead times for the delivery of power to new industries and this puts pressure on the consultation process. Some landowners are also indicating that they would like to share in Eskom's profits in exchange for the granting of servitudes. This has however only remained as verbal threats (**South Africa**).
- Not really. Obviously critical projects undergo a more intense consultation process from the very beginning in order to avoid potential permit granting problems (**Spain**).
- No, there is no such effect since the transmission and distribution grids are not an open market (**Sweden**).

Question 10 – Is there an increasing expectation within society for more consultation to be carried out? Also does this include works on existing infrastructure?

- Yes, previously we did not have EIA for OHLs, now we do have it, if the line route is exceeding 15km and is 220kV or above. The demand for consultation has increased in parallel, but I cannot estimate if it is due to the opening up of the market or due to the EIA process. As far as work on existing infrastructure is concerned we do not have experience with uprating or upgrading. Regarding "normal" maintenance work the demand with regard to consultation is unchanged (**Austria**)
- Always, especially by those finally affected by the new project. The trend seen over the past ten years of increasing consultation in terms of time and complexity has continued and has been more enshrined in legislation. The pre-EIS phase of route development and the associated community input to this process is seen as critical to the minimising of community and political opposition to a final preferred route. The most often heard criticism of infrastructure authorities with difficult projects in Australia at this time is associated with lack of early consultation with the community before decisions were made (**Australia**).

- Yes (**Belgium**).
- No (**Canada**).
- Expectations for more information among the landowners. Also as far as existing lines are concerned (**Denmark**).
- Yes certainly, particularly in the presentation and consideration of alternatives prior to submission of consent applications. On the management of the existing transmission network we are consulting wider on major overhead line refurbishment and cable replacement projects (**England and Wales**).
- There is any an increasing expectation for more public consultation. This would not apply so much to works on existing infrastructure unless line diversions are involved (**Ireland**).
- Yes (**Italy**).
- Because of the growing awareness of environmental protection and an increase in community power, more consultation than ever is required. We also see the same tendency for the works on existing lines (**Japan**)
- There is public increasing interest in the impact of large schemes on the environment. Also the expectation for extended and greater treatment of the impact of such schemes on the environment is increasing. Under Slovenian legislation investor consultation is obligatory for reconstruction of existing transmission PF, and for new constructions, and this is being addressed. There is a great public interest in reconstruction and new constructions. For reconstruction of existing transmission facilities there is also frequent and strong opposition of local communities (**Slovenia**).
- The political change introduced in 1994 and the new South African Constitution has had a major influence on our approach to public participation. There is an increasing expectation and general practice of wide public participation in most matters post 1994. During refurbishing projects for instance, it is extremely important to notify landowners when contractors will be entering their land, especially in rural areas where security is of concern or in game areas containing both expensive or dangerous animals (**South Africa**).
- Not an increasing expectation. Whenever new infrastructure or a modified one could interfere with a town, city or region's urban and/or environmental plan, they are fully consulted to reach an agreement (**Spain**).
- Yes, much depending on local media attention and opposition groups, more and more also on existing lines (**Sweden**).

Question 11 – Is your company and your construction projects still recognised as being of national interest by opinion leaders and the public? Have you noticed an evolution in this respect?

- Current projects are considered to be both of major national interest and influenced by national and international demand and trade. Aspects of safety in the case of large system disturbances are important. National interest concerns the very fast development of renewable resources (especially wind farms) and the need to transmit the energy produced. Opinion leaders understand this well and also the general public. Apart from this a number of protest groups exists (**Austria**).
- While there is a group in Australia strongly opposing the expansion of the electricity network and coal burning power stations, a significant proportion of the population still see our projects being in the National interest. Regional interest is even more strongly recognised. Unfortunately this does not necessarily help with consultation with impacted communities (**Australia**).
- There is more and more opposition from the residents. The national and regional authorities are also more demanding (**Belgium**).
- Mostly, the need for projects (new or modification of existing line) is recognised as national interest by government and national/regional authorities. But for opponents and the public, it is more difficult especially for interconnectors, where the justification is part of national policy. The local communities do not directly benefit from the project (**Canada**).
- We have noted a decrease in the interest to cede territory for plans of national interest. People want compensation (**Denmark**).
- Often the need case underpinning new works is scrutinised particularly strongly and a strong local reluctance to accept national need arguments can arise where overhead lines or other transmission works are required in one region for national benefits. This trend has probably increased in the years since privatisation in 1990 (**England and Wales**).
- The need for new projects and reinforcement of the Grid is recognised as being of national interest by those involved in National and Regional Development Plans and in promoting economic development. It would be fair to say that some evolution has occurred in this respect. However with regard to the public the position would be different as many groups claim they welcome an injection of power into their area but call for it to be done by underground cable (**Ireland**).
- Yes as far as GRTN (interconnection lines) is concerned. Yes also with regard to Terna (87% of transmission and distribution lines) (**Italy**).
- It depends on how much knowledge people have about the electric power industry. Some people put more emphasis on energy security and others on environmental protection. It is expected that more people will consider them as not of national interest with the development of the opening up of the market (**Japan**)

- Mostly, the transmission facilities and our company are still considered as activities of national interest. From time to time there emerge doubts in public, whether or not the planned transmission facilities are of national interest, which depends on the individual transmission facility. Greater doubts are present at interconnection transmission facilities, because there is a suspicion in public, that those connections are only designed for transit, and so Slovenia will have no profit from them. Individual local communities do not recognize their profit from transmission facilities. The doubts intensify with the time, energy supply is often not recognized as a vital activity for normal functioning of the society (**Slovenia**).
- In some cases Eskom is still recognized of being of national interest, although self-interest dominates, especially with transmission projects, where the benefit of the project is seldom experienced locally but somewhere else (**South Africa**).
- The transmission/distribution grid only seems to acquire importance whenever a major blackout occurs, and only then the question of power supply and the need to speed up the permit granting process is raised. Unfortunately, the rest of the time, society still believes that no new electrical infrastructure is necessary (**Spain**).
- Not so much any longer because there have not been any new projects of national interest going on for a long time in Sweden. The evolution that is very noticeable is that the interest now is concentrated locally to existing lines under re-concession. Houses can after 40 years surround those lines, which originally were built on virgin land (**Sweden**).

Question 12 – Do you use new technologies for providing information and seeking dialogue with the public and other groups on projects and if so what are the results? Examples of this are the use of the web-site, of virtual reality technology, and laser scanning technology.

- www is used from utilities and authorities to present the newest situation on procedures, technical matters, laws. Laser scanning technology is used for the line routing and the establishing of plans; no more. Information is mostly given in a traditional way by meetings and hearings. A good approach in my opinion is to have the appropriate information ready in advance (**Austria**).
- We use project specific web-sites extensively. It is considered that the use of virtual reality technology still has drawbacks with respect to providing a realistic image of the visual impact of the new infrastructure. (**Australia**).
- We have a web-site (**Belgium**).
- Yes, in term of "technologies", we use web site and improved photomontages, which, in my opinion, remain the best tool to use with the general public. Landowners and the general public are less familiar with engineering drawings (**Canada**).
- Web-site, visualisation reports (**Denmark**).
- Yes definitely. We use dedicated project web-sites, interactive virtual reality computer modeling, photomontage and laser mapping. (**England and Wales**).

- Yes, generally, i.e. web site but sophisticated techniques may not be suitable for use with the general public but for expert assessment. Photomontages are judged to give the best realistic impression of an overhead line in the landscape (**Ireland**).
- The 3-year Development Plan of the National Grid is available on the GRTN web-site. General brochures are also used to inform on the role and functions of GRTN (**Italy**).
- We sometimes use photomontage technology for scenery assessment and also use a web site for general information on the EMF issue. Photomontage seems to work well; the effect of the web site is unknown. (**Japan**)
- From year to year greater efforts and means are invested into informing the public about the planned transmission facilities. We issue the information periodically to the press, we prepare leaflets containing the promotion of the planned facilities. The leaflets are distributed at consultations, and there we also supply phone numbers and addresses, where additional information can be obtained. Information is also provided on our web site www.eles.si. The cooperation with non-governmental environmental organizations is in the starting phase. We think complete, clear and honest informing of the public useful and necessary. That way we achieve greater public confidence, we explain the information that is sometimes published by the press, we decrease doubts of the honesty of intentions, improve ideas on the transmission facility activities and get the public to know the role of electric power in the society. We are planning the use of laser scanning for existing facilities (**Slovenia**).
- Eskom uses its web-site for publication of application, Record of Decision and EIA's. We have used virtual reality technology only in a few exceptional cases. All survey work for new power lines is done with airborne laser technology coupled with computer design software (**South Africa**).
- Definitely, although not for all projects, only for those which because of their importance (or level of impact on a certain group) require it. Infographies are the most frequently used and with good results (**Spain**).
- Yes, for the larger projects general information and the full EIA report is put on the web-site (**Sweden**).

Question 13 – Does consultation really involve wider audiences in decision making or is it a process more of informing?

- In fact it is a mixture of both. In the field of OHL the knowledge of the general public is poor, especially on the technical aspects and on the background (e.g. the purpose and function of the EHV grid). Therefore the first step is always provision of background information. We found it a good practice to involve people from the social sciences to explain their basics to the technical staff in order that they appreciate the background to situations. This was especially the case with regard to discussion on "OHL or Underground Cable" - it is important to see the social facts behind the discussion. This is not easy for the technical staff or for the protest groups or for the management, but it can be very satisfying for all concerned parties (**Austria**).

- Depends on the project and the options involved. A preference is to provide an opportunity for genuine community input into the decision making and it is recognised if community ownership of a decision can be achieved then it is more likely to "stick". In all cases it is emphasised from the beginning that the utility will make and be responsible for the final decision. In some projects or segments of projects an opportunity for community input is limited and could be counter-productive (for instance, where there is a strong possibility of setting one part of the community against another). In these cases early information on a decision or option and why is the next best alternative (**Australia**).
- It does make decision-making more informed (**Belgium**).
- Generally, the main issues (e.g. alternative routeing, mitigation) are discussed with local authority and landowners. Since consultation has been extended to include a wider audience, the new public engaged in the process is generally not directly involved in the project - often organised opposition groups are who attack the justification for the project, network alternatives and at the end ask for undergrounding (**Canada**).
- Yes it involves a wider audience, but "spokesmen" for groups are most effective (**Denmark**).
- Undertaken correctly and at a sufficiently early stage in the life cycle of a new transmission project, yes, consultation can and does involve wider audiences in decision making. We have had a number of projects where the results of consultation have significantly influenced siting / routeing considerations. On the choice of technical solutions / alternatives consultation can be used in decision making, but tends more helpful in explaining and informing on technical choices (**England and Wales**).
- Consultation certainly gives a wider audience the opportunity for an input but whether this could be said to involve them in decision making depends on the issue. For example in the case of a local alternative routing with broad support this would be the case but it would not be so on other issues i.e undergrounding (**Ireland**).
- Yes, line routes are presented and discussed at public debates and feed-back is taken into account (**Italy**).
- It is regarded as a process to build a consensus for the project with a limited number of stakeholders. We do not unnecessarily increase the numbers beyond those who are directly influenced by the project (**Japan**)
- Public consultations with the hearing of the investor are attended mostly by the landowners in the corridors of planned or reconstructed over-head lines , by the representatives of local communities and media. Those consultations are above all meant to inform the public, and in some cases the consultations achieve additional changes on planned facilities or cause the determination of additional measures to be carried out by the local communities. Usually they don't take advantage of that possibility, because they don't take part in them (**Slovenia**).

- As far as the wider audience is concerned, the consultation serves to inform about a new project. The participants are urged to supply issues, which need to be considered during the EIA. Finally a decision is taken by a group of independent specialists, based on the information obtained during the consultation process. The particular authority then brings out a record of decision (ROD), which is subject to an appeal process. As far as local variations on the line route are concerned, this is negotiated with the landowner in question (**South Africa**).
- In most cases it is all about informing the public in advance (which they really appreciate) and letting them decide among certain alternatives chosen by the company. When a critical project is rejected vigorously and no progress is attained we let them propose alternatives although in most of the cases these are not feasible from an economic or technical point of view (**Spain**).
- Yes, a much wider audience than before has now a chance to be informed and to engage themselves in the decision-making process (**Sweden**).

Question 14 – How important is consultation (either for new projects, or generally) and why?

- The importance is increasing due to the changing environment (old lines need substitution, open market, stronger environmental protection laws, open access and more trade, etc.) (**Austria**)
- It is important that those affected by a project have had as genuine an opportunity as possible to affect the outcome of the project development to limit the impact on them as much as practicable. Early and genuine community consultation is now seen as an important "political hurdle" in the approval of a project. While early consultation will not necessarily guarantee the success of a project, it will allow the decision-makers to overcome this hurdle (**Australia**).
- It is important because it is necessary to convince residents and Government that the project is necessary and that everything possible is done to reduce the environmental impact (**Belgium**).
- In the last three or four years, one of the main goal for the Ministry of Environment has been to have a "socially acceptable" project. That means, if you have a "technically" less impact route, it can be second relative to a route with more acceptance from the public. In that point of view, the consultation is important to know exactly which route is least opposed by the local community (**Canada**).
- It depends on the project. But it is fair that people have a possibility to influence the project. It is up to the politicians to prioritise. And it is the task of the contractor to present alternatives locally (**Denmark**).
- Consultation is very important. Undertaken at a the right stage of project development, prior to submission of consent applications, it can assist greatly in consideration of alternatives, presentation of the justification for the works being considered and the formulation of appropriate mitigation approaches (**England and Wales**).

- Consultation is important to ensure that the need for the project is understood and accepted. It is also important to ensure that all local concerns are taken into account in decision making and where feasible acted on or mitigation or compensation measures implemented (**Ireland**).
- It is important – see answer 8 (**Italy**).
- Consultation in the early stages is necessary to avoid unnecessary conflict with stakeholders. Consultation should be carried out carefully and sincerely or in the worst case, the construction project itself may have to be cancelled (**Japan**).
- The public informing and taking part on consultations and investor hearing is absolutely necessary for local communities to adopt and allow the construction or reconstruction of transmission facilities. In the case of opposition of local communities the construction of planned facilities is practically not feasible. In the case of opposition of local communities or individuals, they can use legal instruments. Sometimes they use illegal ones (**Slovenia**).
- Consultation is extremely important in all parts of the life cycle of the power line. Good consultation early in the project not only leads to influence on the siting of the line as well as acceptance of the power lines, but also improves relationships that eases the way during the maintenance phase of the line. Conversely, poor relationships will increase the difficulty of obtaining rights of way (**South Africa**).
- It is important in the way that the affected bodies demand explanations concerning the necessity of the project, and the fact of informing them in advance and sometimes letting them choose between alternatives is very positive in order to obtain the necessary permits (**Spain**).
- It is not only important; it is a necessary requirement to get approval from all parties in order to streamline the formal permit process (**Sweden**).

9. Conclusions

In many cases the questionnaire responses returned within WG B2.15 indicated that the only mandatory requirement for Companies to undertake consultation when formulating proposals for new overhead lines, if any exist at all, comes through environmental assessment legislation.

Where a Company is seeking project financing assistance from the EDRB, the International Finance Corporation (IFC - World Bank), The Asian Development Bank, The Japanese Bank for International Co-operation, or another funding institution, there usually are, however, very specific requirements for consultation to be undertaken. These requirements are prescribed in the policies and procedures of the relevant funding bodies and must be followed before financial assistance can be secured. References to examples of the relevant policy and procedure documents are included at the end of the brochure.

Whether seeking financial support for a particular transmission project or simply wishing to adopt 'best practice' approaches to carrying out public consultation, an extremely useful reference to be commended is the IFC document, entitled 'Doing Better Business Through Effective Public Consultation and Disclosure' – A Good Practice Manual', [11] published in 1998.

Finally, to reiterate some of the key points described in the various WG case studies, 'best practice' approaches that have been found amongst contributors to work well, can be summarised as follows:

- Engage independent external experts in the consideration of options, the preparation of consultation information and to give instruction and advice at advisory meetings, to increase the credibility of the information presented through the consultation process and to help secure understanding and hopefully co-operation of stakeholders following consultation.
- Provide as much information as possible to present the best case, carefully targeted and tailored to suit those who may have a need to receive it and delivered via the best communication methods available (e.g. Company web-site, detailed publications or brochures, periodic newsletters, advertorials in local newspapers, etc).
- Provide as much information and explanation as possible about alternatives (e.g. routeing, tower designs, rationalisation/removal of lower voltage lines etc) and allow some choices, where appropriate, to be considered by stakeholders through the consultation process.
- Start the in-house examination of the project and consultations as early as possible and consider engaging the public and other stakeholders in the scoping of the project EIA, consideration of the need for the line, transmission alternatives, the identification of route corridor options and ranking of route selection criteria. Thereafter, maintain engagement and feedback with stakeholders by openly offering the findings on options, environmental and social impact assessment studies.
- Conduct open and engaging consultation with a broad range of representative and interested groups.

- Allow stakeholders the opportunity to comment on and make suggestions or choices with regard to alternatives that the Company might be prepared to offer (e.g. tower designs, rationalisation/replacement of existing lower voltage or other overhead lines and equipment, etc) and proposed mitigation measures.
- Consider opportunities to involve representatives of the permitting bodies as observers through the consultation meetings so as to reduce the time required for project consideration/approvals after submission and to allow the permitting body to suggest adjustments to the communication strategy.
- Embrace and suggest the use of 'best practice' mitigation measures to minimize the overall temporary construction and permanent environmental impacts of the proposed line works. Whilst the cost of such measures might be regarded as comparatively high when viewed against past experience, they often represent a very small percentage of overall project cost and assist enormously in securing community support. Specify environmental requirements in construction contracts, including penalties for non-compliance.
- Keep abreast of and consider the use of, new and emerging computer based technologies that may assist in the environmental impact assessment process and in the communication of those EIA findings and suggested mitigation measures to stakeholders and interested groups (e.g. virtual reality modelling).
- Try to get the balance right in undertaking consultation and providing sufficiently relevant information, tailored to the needs of the intended consultees, whilst recognising the need to secure landowner agreements and the Companies ultimate recourse to expropriation.
- It is also important to remember to plan for communication requirements during the construction phase of a project. Keeping the affected community and wider interests informed of the planned works and developing mechanisms for doing so throughout the construction phase can contribute enormously to the successful delivery of a new overhead line build project. For example, the Environmental Management Plan for a new 214kilometre 500kV overhead line in Brazil included a Program of Social Communication [16].

From the questionnaire responses, additional points to include:

- Most companies consult much earlier and more widely than they are legally obliged to. There are often clear benefits in doing so, to identify likely concerns and possible points of objections and assist in refining proposals, addressing concerns and to seek to smooth the eventual permitting process for new development proposals. Time considerations associated with consultation processes are acknowledged.
- Different forms of consultation with different bodies seem to be undertaken at different stages in the process of preparing for a new overhead line. Initial consultations typically involve the permitting authorities. Public consultation usually follows at least some initial EIA work to identify route options.
- Approaches to publishing the results of consultation were found to vary, although in most cases, it is recognised that consultation can influence routeing decisions and may be taken into account in modifying proposals. Some countries include the details of consultations, in different forms, in the EIA report.

- Most companies recognise the benefits of adopting a flexible approach, taking sufficient time to consult widely and take account of comments received, although this can be influenced by commercial pressures in open market situations.
- Stakeholders consulted with are frequently wide ranging, but relevant in terms of permitting interests, environmental interests, geographical / local community interests – can include governmental, non-governmental, permitting authorities, special interest environmental organisations, community, landowners, public.
- A number of companies that have experienced the opening up of electricity markets have found that lead times for projects are shorter, requiring approaches that allow for more intense, albeit greater, public consultations. One noted that decreasing willingness to accept transmission proposals as being 'in the public interest' might be due to greater private involvement in the market.
- Most companies reported that there is an increased expectation within society for greater and earlier consultations to be undertaken, particularly with regard to new construction and replacement or diversions of existing overhead lines.
- In a number of countries the need for transmission lines is recognised as being in the national or regional interest at governmental level and within some sections of the wider community, more notably following major loss of supply incidents. However, opposition is increasing from opposition groups and directly affected communities who do not stand to gain from proposals.
- Most companies make use of improved photomontage techniques to provide clearly understandable visualisations, together with web-sites to provide information about projects.
- In terms of involvement in decision-making, most companies acknowledged that consultation provides some opportunities to allow consultees to influence decision-making, for example in route selection, but not in all aspects of a project, such as undergrounding. In some senses, therefore, it is more about informing. The consultation process allows decision-makers to be more informed.
- Consultation is recognised as being important in helping to secure the necessary permits for new transmission line proposals. It allows consultees some engagement in the selection of route and can lead to greater public acceptance of proposals. It helps to shape mitigation proposals and demonstrate to Government that proposals are as socially acceptable as they can be in the circumstances.

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