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# ICPC Recommendation

## Recommendation No. 3

### Criteria to be Applied to Proposed Crossings Between Submarine Telecommunications Cables and Pipelines/Power Cables

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**Note:** Issue status suffix 'A' relates to minor format changes, not content.

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## 1. INTRODUCTION

The continued increase in both the numbers of submarine cables and the exploitation of oil and gas from the seabed inevitably means that there will more cases of crossings between telecommunications cables, power cables and pipelines. The purpose of this document is to give guidance to members who are faced with this situation for the first time. It is also a matter for consideration that the pipeline or power cable owner involved in a crossing may well have other pipeline/cable crossings in other parts of the world and, if one telecommunications cable owner were to allow a crossing to take place without certain minimum standards, this could adversely effect the negotiations of other telecommunications cable owners.

It must first be stated that every pipeline/cable crossing will have characteristics unique to that crossing, and therefore each crossing has to be considered separately. However there are still certain basic questions to be asked as the first step in considering that crossing, and to establishing the areas of concern and their solutions.

## 2. BASIC CONSIDERATIONS

### 2.1 All Crossings

- 2.1.1 Nature of seabed.
- 2.1.2 Type of cable.
- 2.1.3 Size of pipeline.
- 2.1.4 Notification of crossing proposal to other seabed users

### 2.2 Existing Telecommunications Cable Crossed By New Pipeline/Power Cable.

- 2.2.1 Is cable buried? Deliberate or self-burial? If so, to what depth?
- 2.2.2 Will pipeline/power cable be trenched? If so, then to what depth? What trenching equipment will be used?
- 2.2.3 Will the pipeline have cathodic protection? If so, what is the planned distance between anodes? If possible, can this distance be increased at the crossing point? Can the anodes be arranged so that the cable is in the mid-50% distance between anodes?
- 2.2.4 If power cable, what are its feed voltages. Is it adequately screened? What impact would any residual electro-magnetic field strength have upon adjacent telecommunications cable and/or repeaters?
- 2.2.5 Is the proposed crossing in the vicinity of a repeater or equaliser? If so, will the presence of the pipeline prevent the recovery of that repeater/equaliser in the prevailing water depth by normal cable repair methods? Can the pipeline/power cable be altered in the planning stage to increase the distance from the repeater/equaliser?
- 2.2.6 Is there any local legislation requirement protecting submarine cables with which the pipeline/power cable owner must comply?

- 2.2.7 If it becomes necessary to cut and peel back the cable, are there adequate alternative routes to which traffic may be transferred?
- 2.2.8 Does the proposed pipeline/power cable route cross the cable at approximately right angles? If not, then serious maintenance problems could arise to both systems and, therefore, can the pipeline/power cable route be altered in the planning stage?
- 2.2.9 Has a minimum of two weeks notification been given to all involved parties prior to any operational activity that could affect the performance of working international telecommunications services?

### **2.3 Existing Pipeline/Power Cable Crossed By Telecommunications Cable**

- 2.3.1 Is pipeline/power cable trenched? If so, to what depth? Has there been natural or artificial backfill? If so, what depth of cover exists now over the pipeline/power cable? Is this cover adequate for the concerns of the pipeline/power cable owner and, if not, what additional depth and type of separation will he require?
- 2.3.2 Does the pipeline have cathodic protection? If so, what is the distance between anodes? Are the anode positions accurately known? Can the cable lay be arranged so that the cable is in the mid-50% distance between anodes?
- 2.3.3 Does the pipeline/power cable owner have any specific concerns for the safety of the pipeline/power cable, which will have to be considered? Will he require any artificial separation to be installed between pipeline/power cable and telecommunications cable? Will the telecommunications cable owner consider artificial separation to be necessary to avoid chafing damage to the telecommunications cable?
- 2.3.4 Is there any local legislation requirement regarding operating in the vicinity of pipelines/power cables to be complied with?
- 2.3.5 Does the proposed cable route cross the pipeline/power cable at approximately right angles? If not, then serious maintenance problems could arise to both systems and, therefore, the telecommunications cable route shall be altered in the planning stage.
- 2.3.6 Does the proposed telecommunications cable system section sheet place a repeater in close proximity to the pipeline/power cable crossing? This could cause later maintenance problems in the event of repeater replacement becoming necessary, therefore, can the section sheet be altered in the planning stage?
- 2.3.7 If the telecommunications cable is to be buried, either during or after the lay, how close to the pipeline/power cable will the operator allow the burial equipment to approach?

- 2.3.8 If burial equipment is not allowed within a given distance from the pipeline/power cable, what protection will be required for the telecommunications cable? Double armouring? Rock dumping? Are there any local legislation or local authority rules to be considered in this context? Fishing authorities may require coverage of the crossing to remove obstacles to fishing gear.

If Section 2.3 applies, then the telecommunications cable will be laid over the pipeline/power cable. If Section 2.2 applies, the telecommunications cable owner must decide on his policy as to whether to allow the pipeline/power cable on top of the telecommunications cable or to require a cut and peel back solution and, if the latter, as the pipeline/power cable owner will be required to pay for the costs, this must be justifiable. In all cases consideration must be given to protection for the telecommunications cable for its lifetime, with regard to both physical damage and cathodic corrosion. Therefore, if Section 2.2 applies to an old telecommunications cable, the protection requirements may be less onerous than for a new one.

### **3. CROSSING AGREEMENT**

International Law is inadequate to protect the interests of the parties involved in a pipeline/power and telecommunications cable crossing and, where a crossing occurs within the legal jurisdiction of a State, the relevant legislation is also rarely sufficient. In addition, the recourse to any court following a conflict of interest is a lengthy and expensive matter. It is therefore recommended, in the interests of both parties, to negotiate an Agreement to cover any pipeline/cable crossing. A sample crossing agreement is available on request to the ICPC Secretary, or members can obtain directly from the ICPC handbook (Section 28).

The contents of an Agreement are a matter for the individual parties, but it is recommended that the following points shall be covered:

- 3.1 Clauses to define the liabilities and rights of both parties.
- 3.2 The exclusion/inclusion of consequential losses. It is recommended that consequential losses shall be excluded.
- 3.3 Definition of a specific area in the vicinity of the crossing within which the Agreement will operate.
- 3.4 A general statement of the method of installation of the pipeline or cable as appropriate. It is not recommended that installation procedures be included in the body of the Agreement as they may require alteration prior to or during the operation. They may of course be included in the document as an appendix.
- 3.5 Future maintenance of the pipeline and cable(s). This may include the method by which notification of operations by each party is given to the other.
- 3.6 Definition of the expiry of the Agreement. If section 3.5 is covered then the normal time is at the removal from service of either the pipeline or cable(s), whichever comes first.
- 3.7 Provision of representatives from one party to the other party's operations and their rights and limitation of their authority.

## 4. CONCLUSION

Sections 2 and 3 are not intended to be a complete or definitive list of issues that shall be addressed when pipeline/power cables cross telecommunications. There will be items listed which may not be applicable to some areas of the world, and equally other areas of the world may produce problems not listed above.

The most important consideration is that as soon as it becomes apparent that a pipeline/cable crossing will occur an exchange of information must be initiated at the earliest possible moment. In addition, a minimum of two weeks notification shall be given to all involved parties prior to any operational activity that could affect the performance of working international telecommunications services.

Pipeline/power cable owners who have not crossed a telecommunications cable before often do not appreciate the problems involved and, therefore, if a telecommunications cable owner learns of a pipeline/power cable project that may affect the integrity of his cable he would be wise to make the first approach. Equally, a telecommunications cable owner who has not crossed a pipeline/power cable before shall not assume that that it is a simple or inexpensive operation.

All discussions and negotiations shall be conducted with the understanding that both parties have legitimate concerns. The vast majority of problems can be avoided if they are discussed before budgets are set and the contracts for submerged plant are granted, whether that plant be for pipeline/power or telecommunications cable.

## 5. REFERENCES

<b>Document Number</b>	<b>Title</b>
ICPC Handbook Sec.28	Draft Pipeline Crossing Agreement

## 6. DEFINITIONS

The following words, acronyms and abbreviations are referred to in this document.

<b>Term</b>	<b>Definition</b>
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## 7. ATTACHMENTS

<b>Document Number</b>	<b>Title</b>
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