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The risk/no-risk rhetoric of environmental  
impact assessments (EIA):  
The case of off-shore wind farms in Sweden

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## Abstract

Risk is a key topic in the communication between developers of infrastructure projects, permit-granting authorities, and civil society. The nature of risk communication is contested among academics, however. Whereas some scholars conceive of risk communication as a matter of effectively communicating expert knowledge on factual matters to the public, others emphasize the role of symbolic construction and rhetoric. This article analyses how wind farm developers rhetorically construct risks in relation to the environmental impact assessment (EIA) for a proposed project. In Sweden, an EIA is a legally mandatory step in the application for an environmental permit. Our analysis is inspired by the New Rhetoric, the theory of argumentation developed by Perelman and Olbrechts-Tyteca (1958). It deals with the EIA for the Kriegers Flak project, the largest wind farm project granted an environmental permit in Scandinavia to date. We suggest that the authors of the EIA adopt a dual risk communication strategy; in the EIA they associate numerous risks to the project by identifying and cataloguing them; however, these risks are immediately disconnected from the project by being described as acceptable, manageable, negligible, or nonexistent. Although we draw from a single case study, we suggest that this paradoxical risk/no-risk dualism is characteristic of risk communication in EIAs, and we discuss some implications of such rhetoric of communication.

## Keywords:

Risk communication, Environmental Impact Assessment (EIA), New Rhetoric, Environmental Planning, Wind power



## Introduction

Infrastructure projects such as a power plant, a high voltage power line, a railroad, or a refuse incinerator, are large not only in size or cost; they also have decisive and lasting consequences for communities and extensive impact on the environment. They belong to that which shapes the future of societies. Logically then, the uncertainty that surrounds any future risk issues and risk communication related to major infrastructure projects should be concerns at the core of the planning and development of such projects.

Such is the case with the Swedish legislation on planning and development. The Swedish Environmental Code (SFS 1998:808, Ch. 2, Sect. 3) states, for example, that “persons who pursue an activity or take a measure, or intend to do so, shall implement protective measures, comply with restrictions and take any other precautions that are necessary in order to prevent, hinder, or combat damage or detriment to human health or the environment as a result of the activity or measure”. Accordingly, developers who wish to obtain the mandatory building and environmental permits for their projects need to produce an environmental impact assessment (EIA) for the planned activity.<sup>1</sup> The EIA should identify and describe the direct and indirect impacts of the project on population, fauna, flora, soil, water, air, climate, landscape, buildings, ancient monuments and other parts of the cultural heritage. It should also permit a thorough assessment of these impacts on human health and on the diverse dimensions of the environment (SFS 1998:808, Ch.6, Sect. 3). If the planned activity is deemed to have a significant environmental effect, as most infrastructure projects do, the EIA shall also describe measures taken to avoid, reduce, or remedy negative environmental impacts. In such a case, the EIA should assess alternative locations and account for measures planned for follow-up and monitoring of the significant environmental effects of the planned activity (SFS 1998:808, Ch.6, Sect.7).

By means of these legal provisions, the EIA is a key document in the project-related risk communication that takes place among developers, the Swedish permit granting authorities, and the public or civil society. To increase our understanding of risk communication in infrastructure planning and development, we therefore focus on how developers communicate in it about risk. Our analysis is inspired by the New Rhetoric of Chaïm Perelman and Lucie Olbrechts-Tyteca (1958) and we choose the EIA of the largest wind farm project in Sweden as our single case study. This EIA document contains a detailed discussion of the risks attached to the project: for bird life, human health, or commercial fishing, for example. A

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<sup>1</sup> A note on terminology: The official English translation of the Swedish environmental code (*Miljöbalken*, SFS 1998:808) mentions environmental impact report (EIR) as a translation for the Swedish term, *Miljökonsekvensbeskrivning (MKB)* – literally, Environmental-consequence-description. The document upon which this study focuses (Sweden Offshore Wind AB 2004) is presented as an environmental impact assessment (EIA), however. In order to avoid terminological confusion, we choose to refer to EIA even when we write about the generic document.

new-rhetorical analysis of the document shows that it functions as a rhetorical locus for *both* risk production and risk neutralization; whereas the document attaches a long series of potential risks to their project, it also systematically describes these same risks as being acceptable, manageable, negligible, or nonexistent. Our purpose is to emphasize the paradoxical nature of this dual risk communication in EIAs and to discuss some of the consequences.

In the first section of our paper we present a discussion of the concept of risk, contrasting an objective view of risk and risk communication with a relational one, and arguing that rhetoric can provide a richer understanding of the latter. Section 2 provides an account of the case at hand and a description of the EIA for the Kriegers Flak wind-farm project. In Section 3, we introduce the New Rhetoric and feature the dichotomy it creates between argumentation by association and argumentation by dissociation. Section 4 provides a description of how the EIA associates a broad catalogue of risks to the project. Correspondingly, Section 5 provides a description of how these same risks are systematically dissociated from the project by being declared acceptable, manageable, negligible, or nonexistent. Our concluding remarks draw some implications that arise from this dual risk/no-risk rhetoric of communication, in which many risks are associated with a project to be immediately neutralized. Referring to *The risk management of everything* by Michael Power (2004), we specifically question the reasonableness of featuring an infrastructure project or any venture as actually risk free.

### *1. Risk, risk communication, and rhetoric*

From the perspective of natural science and technology, risk is defined as an objective and thus quantifiable function of frequency and consequences. Rosa (2003, p. 56) defines risk as “a situation or an event where something of human value (including humans themselves) is at stake and where the outcome is uncertain”. Such a view considers risk as a natural fact that exists independently of perceptions and knowledge claims. Because it is considered to be an objective characteristic of the physical world, risk is to be studied in terms of probabilities (e.g., how often accidents occur); the correlation between exposure and effect, and causal relationships (e.g., whether or not exposure to toxic chemicals causes cancer); or interactions within complex systems (e.g., climate change).

This objective (or objectivizing) view of risk is challenged on several accounts, however. A risk is not a thing or an object as such; rather it is a relationship between things or objects posed within a certain knowledge mode (Boholm, 2003). A risk object X has the potential to harm an object at risk Y via some assumed causal mechanism. In order for Y to be understood to have a potential to be harmed by X, a positive value must be attributed to Y (Rosa, 1998). Risk is also a temporal construct in the sense that the potential for X to harm Y is a state in the future. It is even contingent, in the sense that it is not a deterministic law of nature (Reith, 2004). Moreover, as Luhmann (1993, p. 6) puts it: “If

only for epistemological reasons we may not assume that such a thing as risk exists, and that it is only a matter of discovering and investigating it. The outside world itself knows no risks, for it knows neither distinctions, nor expectations, nor evaluations, nor probabilities – *unless self-produced by observer systems in the environment of other systems*” (emphasis in original). There can therefore be no risk outside a certain mode of knowledge of objects and relationships and without a conscious evaluation within a context of decision making.

Risk can thus be defined as an epistemological category comprising what we know and do not know regarding potentially harmful influences among entities: it exists as a feature of *knowing*; not as an aspect of *being* (Reith 2004). In order for risks to come into existence, causal contingent relationships among distinct objects must be identified and evaluated for prospective harm. Risk can be said to proceed from juxtapositions of objects according to a principle of harm under a condition of uncertainty. The nature of risk then depends upon which perception models a society favors – risk as fate or risk as a test of strength, for example (Renn 2004). Any phenomenon – a railway tunnel, for example – can simultaneously be regarded by different observers under different assumptions to be a risk object, an object at risk, or as having nothing at all to do with risk (Boholm 2003, 2005). Some even regard risk as a concept invented by humans as a means of coping with the dangers and uncertainties of life (Slovic 1992).

Corresponding to these varied definitions of risk, risk communication has both a conventional definition and a symbolic definition, as Plough and Alonzo (1987) established programmatically some twenty years ago. A conventional definition follows a technical rationality and focuses on the way experts try to inform members of the public about probabilities and consequences of decision alternatives. Behind many risk communication efforts is often the goal of a policy maker or regulator to educate people, in order to influence them to change their attitudes toward a particular subject and, as a consequence of that change, to make better decisions (e.g., Arvai 2003). True to what natural scientists like to call “the phenomenon of the event”, cultural themes, motivations, and symbolic meanings are neglected because such matters do not belong to a technical understanding of how and why risk messages are produced and understood. Risk communication messages designed by experts and policy makers do not always have the intended consequences, because an audience understands messages according to knowledge at hand and the social practices and power relationships that condition the life of the concerned people (Chess et al. 2005).

Symbolic definitions of risk communication, on the other hand, follow a cultural rationality and situate risk in its social context. They include cultural and experiential inputs, drawing on anthropology and phenomenology (e.g., Ferreira 2007; Ferreira, Boholm and Löfstedt, 2001). Inversely, rhetorical studies in risk and studies in risk rhetoric are illustrative of the socially situated character of risk communication. Rhetorical studies in risk provide insights into risk attitudes among sex workers (Plumridge 2001) or the way consumers handle food safety



(Green et al. 2003). They bring evidence that every word counts, such as when “*a precautionary approach*” becomes “*the precautionary principle*” in environmental policy (Adams 2002). They also provide evidence that controversies –whether or not Yucca Mountain should become a repository for spent nuclear fuel, for example – may be less a matter of what information one refers to than of how the audience is addressed (Hassenzahl et al. 2005). Studies in risk rhetoric show that rhetorical interventions affect the frames of acceptance upon which individuals base their assessments of risk (Hamilton 2003), or assessments of a medical treatment (Hoffmann et al. 2003). They also show that the rhetoric of risks such as breast cancer (Yadlon 1997) or infant feeding (Murphy 2000) intersects with the networks of power relationships that condition the production of knowledge about a risk object or an object at risk.

A rhetorical analysis of risk communication in the mining industry shows that the quality of rhetoric in technical documentation is not only profoundly affected by the institutional forces; but, practically, it something upon which lives can depend (Sauer 2003). The claim that risk communication stands for a political matter where “competing parties employ rhetoric and political pressure to impose operating standards on one another” (Heath and Nathan, 1990-1, p. 17) can therefore be echoed by the proposal to develop rhetoric into a critical tool with which one examines the social conditions of risk construction and risk communication (Grabill and Simmons 1998). Before we bring these insights into use in our analysis of the rhetoric of risk in EIA, we first introduce the case and our methodology.

## 2. *The “Wind farm Kriegers Flak EIA” case*

This study is based on a single case of the EIA produced by Sweden Offshore Wind AB (2004) for the Kriegers Flak wind farm project. Kriegers Flak is a sea bank located in the southern Baltic Sea outside Swedish territorial waters and situated about 30 km south of Sweden’s southern coast. Wind conditions at the site have been measured to average between 8,7 and 9,6 m/s with a maximum wind speed measured at 23,9 m/s, deemed ideal for the production of electricity from wind power. The Kriegers Flak wind farm project consists of maximum 128 wind turbines with a total installed capacity of maximum 640 MW and a production objective of approximately 2 terawatt hours (Twh) per year (Sweden Offshore Wind AB 2004). In comparison, Sweden’s largest nuclear plant at Ringhals produced 26 TWh 2005 (Ringhals 2006). The Kriegers Flak wind farm is the largest wind farm project ever granted mandatory permits in Sweden and the largest planned wind farm project in Northern Europe.

The *Wind Farm Kriegers Flak- Environmental impact assessment* (Sweden Offshore Wind AB 2004) is a 186-page document. After providing a background referring to Sweden’s national energy policy (pp. 16-19), it summarizes the consultations that were held with the authorities and the public (pp. 20-23), and

describes the wind farm (pp. 24-39), the project economics (pp. 40-41), alternative locations (pp. 44-59), zero alternative (pp. 60-63), the area (pp. 64-115), and the impact of the wind farm (pp. 115-149). It ends with a description of the wind farm's cumulative effects (pp. 150-159), a global assessment of the project (pp. 160-163) and some information about cabling (pp. 164-169), references, and various attachments among which is a photo montage representing the project's visual impact (pp. 170-186).

We have extracted a comprehensive corpus of statements on risk from the text, through close readings and a focused word search. An elementary word count will provide an idea of the nature of this corpus: risk (123 occurrences), hazard (25 occurrences, primarily as "hazard lights"), security (20 occurrences, e.g. "security zone"), safety (20 occurrences, e.g. "safety measures"), danger (13 occurrences, often as "endangered species"), uncertain\* (3 occurrences) or chance (1 occurrence). We analyzed these statements with the help of the analytical framework of the New Rhetoric that we describe in the next section.

### 3. *The New Rhetoric*

The New Rhetoric is the name given to the theory of argumentation developed by Chaïm Perelman and presented in collaboration with Lucie Olbrecht-Tyteca (1958; English translation 1969). It is an ambitious project that breaks with two major traditions – one in the humanities and one in philosophy. Regarding the break with the humanities tradition, since the late Middle Ages rhetoric has been perceived to be an ornamental art (Perelman 1991), limited to a study of techniques of persuasion or, even more restrictively, to an intricate classification of figures. As for philosophy, it breaks with the concept of reason and reasoning, stemming primarily from Descartes; according to him, whenever two persons arrive at opposite decisions about the same matter, at least one of them must certainly be in the wrong. The New Rhetoric intends instead to reconnect rhetoric to Ancient Greece and Aristotle. Advocating the idea of a specific rhetorical rationality, it intends to show that rhetoric can be a means to reason not only on that which is true or false, but even on that which is reasonable or only plausible, such as values. The New Rhetoric can also be viewed as a political project, in that it opens up the possibility of finding an alternative, in cases of disagreements, to the use of lies and manipulation, and to the use of brute force and violence.

The realm of rhetoric is argumentation, an activity that the New Rhetoric sets in contrast to demonstration. Demonstration, the authors indicate, is limited to artificial languages such as mathematics or formal logic. Reasoning, which occurs in natural language, is argumentation. Numerous argumentative techniques exist in natural languages, aimed at gaining the adherence (in the sense of considered approval and support – as in the French term *adhésion*) of an audience. To name but a few: one can refer to logic or to pride; one can draw on single cases or on statistics; or one can invoke an ideal as well as the real.

The specific contribution of the New Rhetoric to the study of argumentation is thus to show that argumentative techniques can be classified into two main categories: schemes of associations and schemes of dissociations. No author has emphasized the latter before with such clarity. Put briefly, schemes of association are argumentative techniques that combine elements that are usually kept apart; whereas schemes of dissociation are argumentative techniques that separate elements that the current opinion (or *doxa*) considers to be naturally connected. We now use this framework to analyze the way developers communicate about risk in the EIA for their projects.

#### 4. *Cataloging risks*

Swedish legislation requires that an EIA mention all possible risks that the project can entail. For the report on the Kriegers Flak project (Sweden Offshore Wind Ab 2004), this involves cataloguing risks for human health, water currents, flora, fauna, cultural environment, landscape and seascape, natural resources, shipping, commercial fishing, recreation and outdoor life, and air traffic or the defense forces. Moreover some of these risks are sub-categorized. Risk for fauna, for example, is separated into risk for seabed living invertebrates, fish, birds, bats, and sea living mammals, and each subcategory is in turn identified specie by specie. All in all, the EIA describes tens of risk.

Adopting an objective view on risk, one could claim that the EIA simply catalogues, in a systematic way, the risks that the project *actually* involves. Alternatively, however, one could see in the EIA a context bound rhetorical attachment of some and not other risk objects and objects at risk to the project. Yet the list of risk objects and objects at risk that can be attached to the project is not totally left to the discretionary creativity of developers, but neither is it given beforehand. There are, as mentioned in the introduction, a series of legal demands put on any EIA by the Environmental Code. Developers should also respond to project-specific questions, criticisms, misgivings, and fears that have been raised during the mandatory consultation process by authorities, stakeholders, or members of civil society. Therefore, in practice, one could say that risks pertaining to birds, fish, fishing, boats, and emissions are obligatory passage points (Callon 1985) for any wind farm EIA. It is up to developers themselves, however, to decide *how* to address these risks and, even more arbitrarily, to decide to address some risks but not others; certainly, the choice of how various risks objects or objects at risk are associated to the project is theirs.

Perelman and Olbrechts-Tyteca (1958, p. 190) understand processes of *association* as “schemes which bring separate elements together and allow us to establish a unity among them, which aims either at organizing them or at evaluating them, positively or negatively, by means of one another.” More specifically, the first category of association that they identify is that of quasi-logical arguments, so named because they gain their power of conviction from

a resemblance to logic or mathematics. It can be a matter of showing a logical contradiction in the critical claim that the project may be a risk – for example, for bats:

(N)o bats reside in the area of the planned wind farm. It is also not conceivable that any significant flights will pass the area. The risk of negative impact on the relevant species [is] therefore regarded as negligible (Sweden Offshore Wind Ab 2004, p. 135).

It can also be a matter of reasoning in a transitive manner, for example:

The artificial reefs that are created due to the foundations may also have positive effects on fish, for example through an increase [in] the availability of food and through an increase in the number of species (Sweden Offshore Wind Ab 2004, p. 128).

The rationale is that because the wind farm entails artificial reefs, and artificial reefs entail an increase of food availability, then the wind farm entails an increase in food availability that will benefit and not threaten fish.

Or it can be a matter of producing probability assessments, probably the most frequent example of quasi-logical argumentation in risk communication:

The risk of ships colliding with wind turbines is also regarded as very small: 0,0006/year or about 1 700 years between two collisions without increased safety measures and 0,00015/year or about 6 700 years between two collisions with increased safety measures being adopted (Sweden Offshore Wind Ab 2004, p. 12).

Like any probability claim, however, the statement says nothing about any specific single boat passage. More generally, as Perelman and Olbrechts-Tyteca (1958, p. 193) observed, submitting quasi-logical arguments to analysis immediately reveals “the difference between them and formal demonstration, for only an effort of reduction or specification of a non-formal character makes it possible for their argument to appear demonstrative.” These arguments are logical in the sense of the rhetorical rationality mentioned above, but not in the sense of formal logic.

The second category of associations identified by Perelman and Olbrechts-Tyteca (1958) comprises arguments based on the structure of reality. Numerous arguments of this kind can be found in the EIA report for the Kriegers Flak project. The document frequently invokes risk relationships of causality between something that is accepted as valid and the project; for example:

Aeroplanes normally do not fly at this low altitude and the wind farm will therefore not cause any negative impact for air traffic (Sweden Offshore Wind Ab 2004, p. 146).

The report also pragmatically values risks in terms of their favorable or unfavorable consequences:

If the wind farm is not built and the electricity instead is produced from fossil fuels, the following burden will be put on the environment:

- The mining of approximately 840 000 tons of coal/year
  - Carbon dioxide emission of approximately 2 100 000 tons/year
  - Sulphur dioxide emission of approximately 2 520 tons/year
  - Nitrogen dioxide emission of approximately 2 100 tons/year
- (Source: SOU 1999:75) (Sweden Offshore Wind Ab 2004, pp. 60-61).

In this case, it is worth noting that the risks mentioned refer not to the project but to its not coming into being.

Similarly, to justify the size of the project, the EIA makes use of the argument that not fulfilling a task that has been begun entails the risk of creating a waste:

The advantages of building a larger wind farm are primarily financial. A lot of costs are fixed and the project will therefore be more profitable if more turbines are built. There are, however, many practical factors that make it hard to build more turbines at Kriegers Flak. (...) A risk study shows that further development to the north would make the risk of collision significantly higher (Sweden Offshore Wind Ab 2004, p. 56).

Observe how the claim that the wind farm should be large to avoid waste is mitigated by another reference to the necessity of avoiding waste that runs in a contrary direction – this time of ship accidents.

The EIA finally invokes the structure of reality every time it derives the value of a claim from essential traits associated with sources that have previously proffered the claim. In the example describing the emissions that the project would reduce, the EIA refers to one of the main official reports on wind energy in Sweden (SOU 1999:75). Similarly the EIA could have rejected a claim hostile to the project on the basis that the person or organization behind the claim would not be trustworthy, but we could find no occurrence of such an argumentative scheme, otherwise frequently encountered in wind power debates.

The last associative schemes that Perelman and Olbrechts-Tyteca (1958) describe are arguments establishing the structure of reality. These are examples and models. We have already mentioned several instances of the use of examples. By models, the authors refer both to exemplary ways of arguing and phrasing things that can be imitated, and to abstract representations of reality. Concerning exemplary ways of arguing, the EIA for the Kriegers Flak wind farm follows the general line of argumentation of the wind sector (Corvellec 2007): the project is necessary, is possible, and complies with all legal requirements. Concerning abstract representations of reality, the document refers on several occasions to theoretical representations of some specific aspect of the project, for example, in reference to the risk of noise nuisances:

According to the model devised by Mr. Sten Ljunggren (...), noise from the wind farm will reach a maximum value of 29,4 dB(A) at the nearest point onshore (Sweden Offshore Wind Ab 2004, p. 116).

As repeatedly emphasized by Perelman and Olbrecht-Tyteca (1958), rhetorical figures are not only ornamental aspects of a discourse; they are also effective ways of creating associations (or, as we show in the next section, dissociations) between items. In the case of the Kriegers Flak project, developers appear to combine logos of (scientific) objectivity with an ethos of responsibility and a pathos of honesty to attach risk objects and objects at risk to the project in a seemingly clear, systematic, and opposable way. Next we show that the EIA is not only merely informative and easily understandable, however; but is carefully designed to support the claim that the project is devoid of any risk that could motivate its being stopped.

### 5. *Nonexistent, negligible or manageable risks*

Bringing separate elements together and establishing a unity among them is not the only way to argue. An opposite way is to dissociate elements. Perelman and Olbrechts-Tyteca (1958, p. 190) define processes of dissociation as “techniques of separation which have the purpose of dissociating, separating, and disuniting elements which are regarded as forming a whole or at least a unified group within some system of thought”.

Broadly speaking, one could say that the main objective of the EIA is to dissociate the project from risk objects or objects at risk. A key trait of the document is in this regard that risks that are identified according to the associative schemes described above are *also* shown to be nonexistent, negligible, or manageable. Following are a few examples.

If there is no object at risk, a risk is non-existent:

During the operational phase, the wind turbines will emit noise but it is not expected to cause any negative impact as the distance to the nearest houses is big (Sweden Offshore Wind Ab 2004, p. 116).

Likewise, if a risk is very small, a so called *de minimis* risk (e.g., Parfit 1984), it is rational and morally justifiable to ignore it. Birds are such objects at risk:

The risk of birds colliding with the turbines is regarded as small since studies have shown that birds make way for offshore-based wind turbines (Sweden Offshore Wind Ab 2004, p. 12).

Oil spills caused by accidents are such risk objects:

The risk of accidents that cause oil spills has been calculated by SSPA [An expert company owned by Chalmers University of Technology, our note] to 0,0006 per year, or about 1 700 years between collisions (...) (Sweden Offshore Wind Ab 2004, p. 118).

Or, if one has difficulties in asserting with exactitude whether or not an object is actually at risk, one can assume that such is not the case. Porpoises are, for example, assumed not to swim around the Kriegers Flak:

The area at Kriegers Flak is probably not utilized by porpoises (Sweden Offshore Wind Ab 2004, p. 105).

Thanks to this reversed version of the precautionary principle, porpoises can therefore be removed from the list of potential risk objects.

Risks can also be shown to be manageable in the sense that objects at risk as well as risk objects can be monitored. Objects at risk like turbines can be protected against corrosion:

All exterior surfaces will, in accordance with ISO 12944-2 (1998), be treated with class C5-M anti corrosion protection. Exterior surfaces that may come in direct contact with water will be treated with class 1m 2/high. Interior surfaces that are subjected to outdoor air will be protected with class C4 and surfaces that don't [sic] with class C3 corrosion protection (Sweden Offshore Wind Ab 2004, p. 27).

Risks objects such as oil leakage during the dismantling phase can be prevented:

To avoid uncontrollable leakage, any environmentally hazardous fluids (such as oils) will be removed before the turbines are dismantled (Sweden Offshore Wind Ab 2004, p. 33).

The argument is that appropriate managerial anticipation reduces hazards.

The argumentative rationale of dissociation, Perelman and Olbrechts-Tyteca (1958) explain, is that as soon a distinction between two terms is introduced, a hierarchy between these terms will be introduced that will value the one and depreciate the other, using the valued terms to "explain" the devaluated one.<sup>2</sup> In the case at hand, the EIA creates a polarized inequality in which reality is put to the fore to neutralize appearances. Whereas appearances could suggest that the wind farm could be noisy, threaten birds and porpoises, or lead to navigation accidents and oil spills, the EIA shows that this is *in reality* not the case. This is a realist mode of argumentation that echoes both an objective view of risk (irrespective of the fact that the EIA actually practices a relational approach to risk) and the rationality professed in bureaucracies and the legal system. Statistical uncertainty is not taken into account; nor is the impact of an – always possible – major ship collision thoroughly discussed; and no reflection is made that some of the no-risk statements are based on reasoning founded on lack of counter proofs, on unclear moral thresholds of acceptance of low frequencies, or simply on technical assumptions. These concessions are simply concealed in an argumentative rhetoric of realism.

Risks are neutralized one by one by qualifiers such as "small", "little", or "limited" and there is no aggregated assessment of the overall risk for the project

<sup>2</sup> Value hierarchies are not given once and for all. Opposing value hierarchies can be adopted for different groups or at different periods: Whereas classicism valued quantity, reason, and universality, romanticism emphasized quality, emotion, or uniqueness. Perelman and Olbrechts-Tyteca (1958) claim that it is possible to characterize societies not only by the particular values that they prize most, but by the intensity with which they adhere to one or the other of a pair of antithetical values.

or of the project itself. It is concluded that the project is safe on a risk-by-risk basis, as illustrated by the summary of its impact on humans:

The wind farm is situated far from shore resulting in no shadows reaching the shore. Also, no noise from the turbines will be hearable onshore. The risks of humans being injured due to falling ice or from parts of a turbine are minimal. If an accident occurs, for example a ship colliding with a turbine, oil from the turbine and the ship could leak out and cause large negative effects. The risk thereof is, however, very small. The risk of personal injury at such an accident is also considered as minimal (Sweden Offshore Wind Ab 2004, p. 118).

Although the EIA discusses at length all types of risks that the project may involve, the wind farm ends up being featured in splendid isolation from any risk objects or object at risk.

## Concluding remarks: Paradoxes of a no-risk rhetoric

In his pamphlet, *The risk management of everything* (2004), Michael Power uses a blend of irony and genuine concern to examine the increasing pressures for companies and governments to provide accounts of how they identify and mitigate risks within their respective domains, whether public or business affairs. He shows how an increasing interest in risk management, both from society at large and from within organizations themselves, has emerged from a nearly pathologic need to build and maintain trust in the reputations of organizations, as well as from a cultural aversion for uncertainty.

Acceptance is another term for trust in the context of infrastructure planning and development. The job of infrastructure developers is to gain acceptance for their projects (Boholm and Löfstedt 2004; Corvellec and Risberg 2007), and in this study we show how they work for this purpose in regard to risk in the EIA. Our finding is that developers try to show that their project is risk free by *simultaneously* identifying and neutralizing any conceivable risk that can be attached to the project. The EIA functions as the rhetorical locus of *both* risk production and risk neutralization. On the one hand, in an argumentative move of rhetorical associations, the EIA features a detailed catalogue of all possible risk objects and objects at risk that can be attached to the project. On the other hand, through a counter move of argumentative rhetorical dissociations, these same risks are immediately shown to be nonexistent, negligible, or manageable, and thereby neutralized. As a mode of communication, this double argumentative movement of association and dissociation calls for comments.

As Luhmann (1994, p. 25) notes: “A communication does not communicate [*mitteilen*] the world, it divides [*einteilen*] it”. In a move of communication and non-communication, the EIA introduces a demarcation between the risks that are actually mentioned (and neutralized) and all other possible risks that are left unstated. This demarcation is, of course, questionable; but one can wonder



about the possibilities for civil society or public authorities to question it. In terms of responsibility and justice, however, it is as important to discuss the risks that are not attached to the project as to discuss the reliability of the terms used to evaluate the risks that are attached to the project. For example, the EIA for the Kriegers Flak project barely mentions the uncertain impact of such a large wind farm on the electrical grid. Why? Is it because this issue is deemed to fall outside the realm of the EIA? Has it been deemed not to be a risk? Has it been forgotten? Or – being aware that we border on an accusation – is it because it is *not* a manageable risk? The perimeters of EIAs are variable over time and space, and the demarcation that EIAs make between risk and non-risk is critical, but difficult to assess. It is not actually possible to make a definitive list of risks, because it will always be possible to attach new risk objects or objects at risk to a project. At the same time, one of the main questions that a reader of the EIA should ask is: What about the risks that are not mentioned? The suspicion and distance that postmodern criticism invites us to embrace when confronting texts, looking for our and their blind spots, is indeed, in the case of EIA, a moral imperative.

More conspicuously, the EIA rests on a paradoxical mode of communication – not because it tells about risk (that which might conditionally happen, the unknown future) but because it proceeds by establishing a presence to be in a position to assert an absence. The EIA is paradoxical in a rhetorical rather than a logical sense, being a “matter of communication that wants to use simultaneously what is incompatible” as Luhmann (1994, p. 26) suggests. But this is a problematic mode of communication because, as Luhmann observes, the text thereby “deprives itself of the ability to connect [*Anschlußfähigkeit*]” (1994, p. 26): in the case at hand, the project with risks. The EIA strives to combine two opposite positions: one that a wind farm project involves risk and the other that this particular project does not. By so doing, the text undermines the trustworthiness of the objective view of risk and the realist tone that it adopts. The character of its risk rhetoric offsets its no-risk message.

This rhetoric is all the more remarkable because wind power is, according to public understanding, considered as having a low-risk profile. Even if strong voices against wind power exist (e.g., Föreningen Svenskt Landskapskydd, 2005), the Swedish public is largely favorable to wind power and to an expansion of energy production using wind (Hedberg, 2001). More specifically, the population in Sweden rates wind power highest in benefit and lowest in risk among a number of different sources of energy (Sjöberg 1999). At the industry level, the Swedish wind power industry hardly mentions risks in its argumentation (Corvellec 2007). Studies from Holland point in the same direction (Wolsink 2000). Wind power makes use of old and well known technology; it is not associated with the dread potential that is characteristic of nuclear power or genetic engineering. It is not envisaged to be able to give rise to any massive catastrophe and rates low

on almost all criteria for systematic risk evaluation (Klinke and Renn, 2006), including dimensions such as damage potential, uncertainty, reversibility, and violation of equity. To speak simply, wind power is not generally considered as a risky technology.

One can therefore speculate on the reasons that developers entertain such a paradoxical communication. If we follow Michael Power's (2004) reasoning, being responsible in the 21st century involves answering the demands of the Environmental Code by *showing* that wind power is *safe* – for fear of seeing the project being turned down. The EIA seems to rest on an assumption that wind farms, like other infrastructures, will be developed only if they can be featured as objects without risk (Latour 2005). In a literal sense, this is, of course, impossible to do, because no venture can ever be *completely* risk-free – hardly free of risk if one adopts an objective view of risk, and impossibly free of risk if one adopts a relational view to risk. There is no doubt that numerous and important changes in external and internal circumstances will occur during the extensive period between the planning phase and the decommissioning phase and through the construction and operation phases of development projects. These changes will in turn provide plenty of occasions to challenge developers' initial risk dissociations and to invent new risk associations (Boholm 2005; Corvellec 2001). Advocating a no-risk rhetoric appears to be nonsensical under such circumstances. One can therefore wonder why it seems to be a condition for developer's successful communication with the permit granting authorities and civil society in the planning phase of development projects.

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