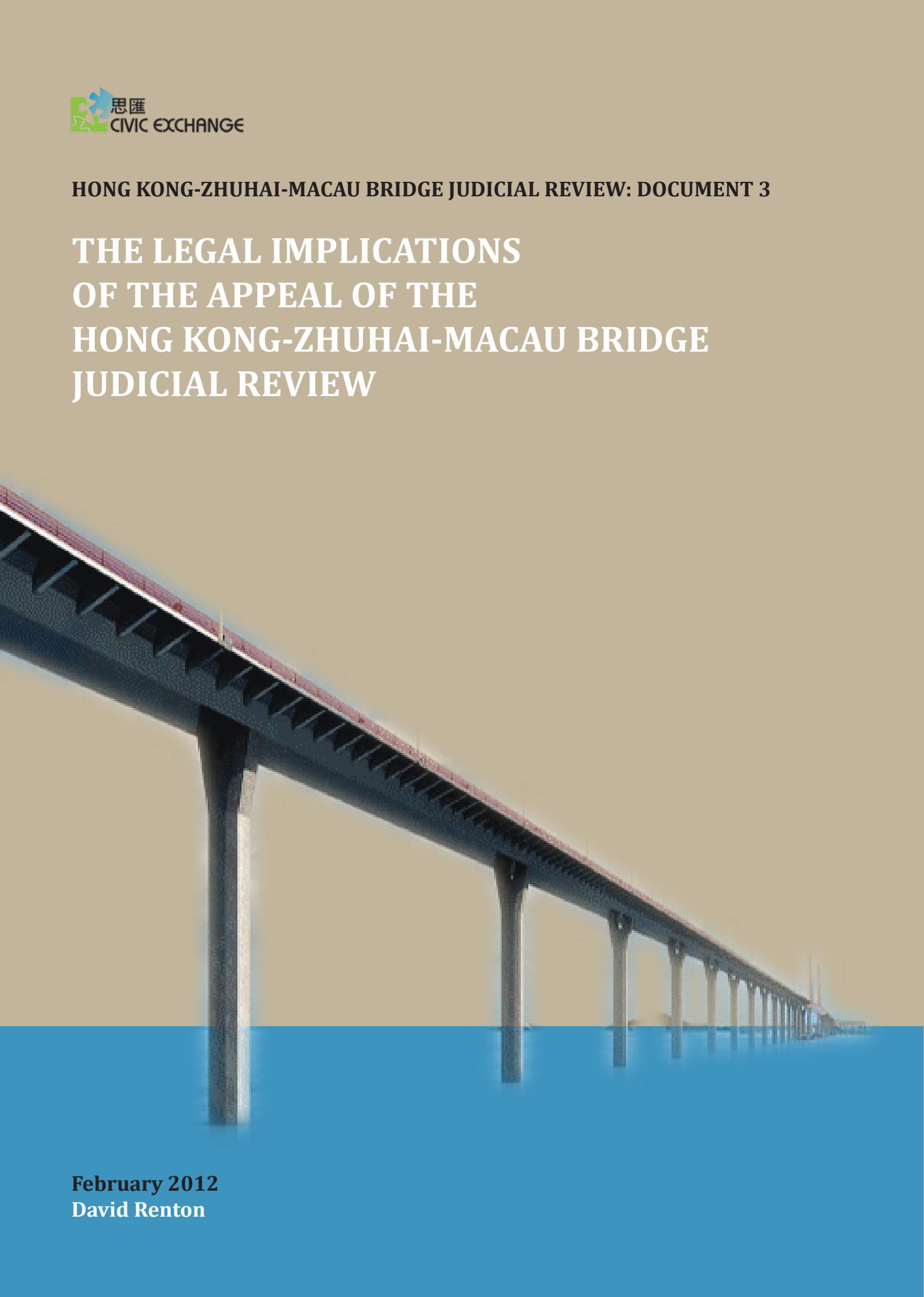


HONG KONG-ZHUHAI-MACAU BRIDGE JUDICIAL REVIEW: DOCUMENT 3

**THE LEGAL IMPLICATIONS
OF THE APPEAL OF THE
HONG KONG-ZHUHAI-MACAU BRIDGE
JUDICIAL REVIEW**



**February 2012
David Renton**

PREFACE

This is the third in a series of papers on the Hong Kong-Zhuhai-Macau Bridge Judicial Review. It has already been noted by legal scholars that this is one of Hong Kong's most important legal cases relating to the environment. Environmental groups have tried to make sense of what the case means and what they must know about it and how to learn from it. Our intention with these publications is to explain complex issues of law and process.

This paper explains the judgment handed down by the Court of Appeal, and summarises what the judgment relates to and highlights questions that remain open in the environmental impact assessment process. We are grateful to David Renton, Attorney at Law, for providing a comprehensive review of the judgment, as he did with the previous judgment from the High Court.

This project would not have been possible without the assistance of several key people – the author and his firm of course, and also Peter J Thompson for providing funding for a Chinese translation to be produced and for the paper to be published. We are also grateful to our colleagues Mike Kilburn for working closely with the author to bring this report to publication, Michelle Wong for design and layout, and Vera Poon for always providing excellent translation service to us.

Christine Loh
Chief Executive Officer

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The opinions expressed in this report represent those of the author and do not necessarily represent those of Civic Exchange.

BACKGROUND

A retiree living close to the site of the boundary control facilities and the proposed link roads for the Hong Kong-Zhuhai-Macau Bridge (HZMB) in Hong Kong applied successfully for legal aid¹ to challenge the environmental impact assessment (EIA)'s finding that the projects would have no adverse residual impact on air quality after they go into operation. The litigant was concerned about the possible adverse effects of traffic pollution from the bridge on public health. Although the definition of "environmental impact" in Schedule 1 of the Environmental Impact Assessment Ordinance (EIAO) refers specifically to a project's effects on the well being of people, the relevant EIA reports was silent on public health. The applicant also claimed that the air quality impact assessment consisted mainly of unsubstantiated predictions about overall air quality in North Lantau in 20 years' time² without explaining what difference the bridge would make to air quality. She argued that this kind of assessment does not satisfy the requirements of the EIAO.

From a legal perspective, the applicant was following a well-trodden path. In 2006, Hong Kong's Court of Final Appeal (CFA) quashed the environmental approvals for an aviation fuel storage facility because its hazard to life assessment had not been conducted in accordance with the Technical Memorandum on the Environmental Impact Assessment Process (the TM) and the study brief (SB) issued by the Director under s. 5 of the EIAO.³ The Airport Authority claimed that this new facility was needed to meet the expected demand for fuel at Hong Kong's international airport.⁴ Six years earlier, the Environment Impact Assessment Appeal Board upheld the decision of the Director of Environmental Protection (the Director) refusing to grant an environmental permit for a government-endorsed plan to run a railway line through the ecologically-sensitive Long Valley because the project's EIA report did not assess the feasibility of new impact mitigation proposals that surfaced only after the time for public comment on the report had passed.⁵

The HZMB case came before Fok JA in February 2011. He decided that the EIA reports for the bridge projects should have quantified how much air pollution the projects will produce, as well as their overall impact on air quality in the designated study area. Without a stand alone assessment addressing both aspects of the projects' air quality impacts,⁶ the judge said, readers of the report (including the Director) would have no way of knowing the magnitude of the project's environmental impacts⁷ and the Director could not fulfill her duty under the EIAO to keep environmental impacts to a minimum.⁸ The Judge agreed that the EIA reports were non-compliant with the TM and SBs because they did not include a stand alone assessment but rejected the applicant's argument that the EIAO reports failed to address the bridge's impact on public health. He said the reports' finding that the bridge's cumulative impacts would meet Hong Kong's air quality objectives (AQOs) was sufficient to discharge the Director's statutory duty to have regard to whether bridge's impact on air quality may be prejudicial to public health.⁹

The government view of Fok JA's ruling

The Government did not accept Fok JA's decision quashing the environmental approvals for the bridge projects.¹⁰ On 16 May 2011, the Government's counsel wrote to the Court of Appeal (CA) asking for an expedited appeal on the grounds that the judgment was holding up a large number of projects whose EIAs had not yet been completed.¹¹ An affidavit accompanying this letter described the dire consequences of Fok JA's ruling:

*[It] will lead to an inevitable set-back of the entire EIA process for all pending projects, which is the necessary step before works on any major project (public and private) in Hong Kong can commence.*¹²

The Government sought to signal to the CA that the case was without merit because the bridge projects had been assessed no differently from previous projects whose EIA reports had been approved without objection.¹³ The government's case focused on Fok JA's ruling on the stand alone assessment issue: that it had brought the construction industry in Hong Kong to a standstill because no one was sure what a stand alone assessment entails.

*[T]he terminology used by A's [the applicant] and adopted by the learned Judge was both confusing and inapt, and the Judge's adoption of such terminology evinces a lack of clarity in A's case and in the Court's mind as to exactly what sort of matters were to be assessed and predicted.*¹⁴

This paper discusses the Government's view of this case, and particularly its claim that stand alone assessments are a new and ill-defined requirement. The EIA reports for the bridge projects differed markedly from almost all previous EIAs in that they did not quantify how much air pollution the projects were expected to produce.¹⁵

The public health issue

Although most of the legal argument in the HZMB case has been taken up with the procedural question of whether the TM and SBs require a stand alone assessment, it is instructive to start an analysis of the HZMB decisions by looking at what they said about the role of public health in EIAs.

The EIAO and the TM are centrally concerned with protecting public health. The Ordinance defines environmental impacts as including the effect of changes a project may cause in the environment on the well-being of people, flora, fauna and ecosystems.¹⁶ The Director must have regard to whether a project's environmental impact is or is likely to be prejudicial to the health or well being of people, flora, fauna or ecosystems before she may grant a project an environmental permit.¹⁷ Section 4.4.3(a) of the TM describes impacts that may cause adverse public health effects as "key concerns" of an EIA. If a project's environmental impacts will be prejudicial to public health, they must be minimised, whether or not the effect of those impacts would be a deterioration that would violate the AQOs or other standards adopted in the Annexes 4-10 of the TM.¹⁸ The Director must give consideration to monitoring and auditing mitigation measures required to prevent a project's environmental impacts from causing adverse effects on public health to ensure their effectiveness.¹⁹ If a project's environmental impacts turn out to be more prejudicial to public health than was

expected when its environmental permit was issued, the Chief Executive may suspend, vary or cancel its environmental permit.²⁰

The EIA reports for the bridge projects did not address the question of how far their impact on air quality might harm public health.²¹ They claimed the bridge would have no residual air quality impacts because air quality would comply with the AQOs. The Director said that was good enough to allow her to determine that the bridge's air quality impacts would not be prejudicial to health. The applicant, on the other hand, pointed out that traffic using the bridge would emit toxic air pollutants (TAPs) and fine particulate (PM_{2.5}) which are acknowledged to be harmful to public health.²² Without an assessment of their impact, she argued, it was impossible for the Director to know whether or not the bridge's impact on air quality will be prejudicial to public health.

One of the applicant's public health experts sought to demonstrate how a project's health impacts might be quantitatively assessed. He developed an assessment showing the increased hazard to life posed by the predicted levels of nitrogen dioxide (NO₂) and respirable suspended particulate (PM₁₀) which he compared with the table in Annex 4 of the TM which allows the acceptability of different risk scenarios to be determined. The results of the assessment were that the hazard to life associated with the predicted levels of the two pollutants was such that the Director was obliged to reduce them as far as reasonably practicable.²³ The EPD itself commissioned a quantitative assessment (in monetary terms) of the direct health care benefits of various proposals for reducing air pollution in Hong Kong as part of its consultation on the review of the AQOs in 2009. Fok JA ruled, however, that there was nothing in the SBs for the bridge projects that required a risk assessment of the impact of air pollution on public health.²⁴ While the judge acknowledged that the Director has a statutory duty to have regard to whether the environmental impact caused by a project is or is likely to be prejudicial to public health, it is not the job of the court to tell the Director how to discharge that duty.²⁵

Fok JA seems to have regarded the applicant's public health challenge as an impermissible attack on government policy, an attempt to question the use of the AQOs as the standard for measuring what is an acceptable air quality.²⁶ It was understandable that he should have thought so because much of the applicant's expert evidence was directed at criticising the AQOs for being insufficiently protective of public health.²⁷ The applicant's focus on non-AQO pollutants such as PM_{2.5} and TAPs seems to have been viewed as an attempt to argue that the Director should have looked to the World Health Organisation (WHO) Air Quality Guidelines or other international standards, which are much stricter than Hong Kong's AQOs, for judging the acceptability of the impact of those pollutants.²⁸ In the absence of any concerns being raised about TAPs and PM_{2.5} during the public consultation phase of the EIA and in light of the evidence of the Director's experts that overseas jurisdictions do not uniformly require these pollutants to be assessed in road projects, he concluded that the Director had not abused her discretion in deciding not to require them to be assessed in this case.²⁹ The judge concluded:

There is clearly considerable room for reasonable disagreement as to the standards to be adopted for air quality and, in the circumstances, I am not persuaded that the Director's application of the current AQOs in considering her decision under s.10(2) of the EIAO was irrational or Wednesbury unreasonable.³⁰

Public health and the selection of key/representative pollutants

In the CA, the applicant reformulated her challenge to make it clear she was not attacking the AQOs but raising a legal issue. She argued that the Director had been wrong to look to the AQOs to decide whether the projects' air quality impacts will be prejudicial to public health. The question she should have asked was whether all of the impacts of the projects that are or are likely to be prejudicial to public health had been identified and included in the assessment so that the Director could satisfy herself that those harmful impacts will be reduced to a minimum.

Section 10(2) of the EIAO imposes two distinct duties on the Director before she may grant a project an environmental permit. She must have regard to whether approving the project is consistent with the attainment and maintenance of an acceptable air quality under section 10(2)(b) and she must also have regard to whether the project is or is likely to be prejudicial to public health under section 10(2)(c). Whether a project will be prejudicial to health is a question of fact; a project will be prejudicial to public health if its impacts will cause air quality to become unhealthier than it would be if the project did not go ahead. Whether a deterioration in air quality should be regarded as acceptable is a different matter. That is a question of policy, which the Director must decide by comparing the impacts against benchmarks such as the AQOs. In this case, the applicant contended, the Director confused the two issues and unlawfully looked to a policy standard (the AQOs) to answer the factual question of which impacts are likely to be prejudicial to public health.

The *Shiu Wing Steel* case established that once an environmental impact that may pose a hazard to human life is identified as being of concern, it must be assessed in accordance with the TM and SB even if the Director is sure that she will ultimately find the impact to be acceptable.

Thus, it would be illogical for the Director to allow an EIA report to disregard impacts that are characterised as key concerns by section 4.4.3(a) of the TM should be assessed. Assessment is required to allow the Director to satisfy herself that the impacts have been kept to a minimum and the residual impacts (after practicable mitigation) are acceptable.³¹ No legitimate policy interest is served by allowing the project proponent to ignore impacts that potentially pose a risk to public health. The *Shiu Wing Steel* judgment in the CFA stated:

*The practice of not identifying extremely unlikely scenarios even though they might cause many fatalities is not consistent with the requirements of a methodology that can be accepted in relation to hazards to human life. The practice of omitting scenarios as described by [the Director's experts] appears to deny the public, the ACE and ultimately the Director any quantitative assessment of the risks of the omitted scenarios. And Mr Hui's opinion of the requirements of Annex 4 is clearly mistaken as one cannot determine that a risk is in the "acceptable" range of Figure 1 until a [quantitative risk assessment] is made.*³²

The court was talking specifically about a hazard to life assessment but there is no obvious reason why the same principle should not apply to environmental impacts that are or may be prejudicial to public health

Nonetheless, all of the CA justices in the HMZB appeal agreed that the choice of pollutants to be included in the assessment is ultimately a matter of discretion for the Director. Fok JA had pointed out that the selection of air pollutants in the bridge EIA had been carried out strictly in accordance with the SBs.

The language of clause 3.4.1.4(v)(b) is very clear: the choice of key pollutants is left to the project proponent, although he must justify his choice. Thus, if he omits to identify a key pollutant or fails to justify the omission, a decision to approve a report in the absence of an assessment of that particular pollutant may be susceptible to judicial review on the grounds of irrationality or Wednesbury unreasonableness.

However, the fact that the correct procedures were followed in selecting key/representative pollutants does not guarantee that the correct pollutants were chosen. Section 4.4.2(d) of the TM still requires the Director to check that all of the relevant environmental impacts have been included in the assessment and shown to be acceptable. To do that, the Director has to use the correct criteria for selecting key/representative pollutants. The applicant argued that the correct criterion was not the AQOs but whether the pollutants produced by the projects might be injurious to the health or well being of people.

The CA was particularly critical of the applicant's argument.

*I have to say the argument strikes me as artificial. What may be "injurious to the health and well being of people" has to be measured against some reasonable standard, and it is difficult to see why the standard of an acceptable environmental quality, represented by the AQOs, cannot be regarded as a reasonable one.*³³

The Director, however, was not so dismissive of this argument. She agreed that sections 10(2)(b) and 10(2)(c) EIAO impose different obligations on her but, since no one had raised any particular public health concerns about air pollutants during the EIA process, she was only required to consider whether the project's impact on air quality will be acceptable, which she could do by comparing the projects' predicted cumulative impacts against the AQOs.³⁴

There are three flaws in this line of reasoning. The CA agreed that the Director has a duty under the EIAO to keep a project's environmental impacts to a minimum, whether or not those impacts are within the AQOs.³⁵ If the Director only has regard to air quality impacts that are in danger of exceeding the AQOs, she has no way of knowing whether impacts that were not included in the assessment but which are liable to harm public health could be avoided or reduced.

Furthermore, the Director's practice of limiting air quality assessments to air pollutants for which there is an established AQO means that no consideration will be given to the acceptability of the public health impacts of non-AQO pollutants such as TAPs and PM_{2.5}. Contrary to the Director's submission that it is reasonable for her to have regard to the AQOs in deciding whether the air quality impacts of a project are acceptable, section 10(2)(b) of the TM requires the Director to have regard to the acceptability of the totality of the environmental impacts of a project, including those impacts for which Hong Kong has not yet decided to set a policy standard for determining what is acceptable. If there is no policy standard, the Director must decide for herself whether an impact is acceptable, drawing such guidance as she thinks appropriate from the standards adopted by international organisations, such as the WHO and the (United States Environmental Protection Agency) USEPA.³⁶

Thirdly, the choice of pollutants to be included in an assessment cannot depend on what issues are raised by the general public during the public consultation. As the CFA pointed out in *Shiu Wing Steel*, the general public is only able to comment of the information provided in an EIA report. If an environmental issue is not addressed in an EIA report, the general public is denied a fair opportunity to comment on that issue.³⁷ Members of the public cannot be expected to carry out their own EIA to identify missing issues. If an EIA report omits an assessment of material environmental impacts that

might affect the results of the assessment, the proper course is for the Director to reject the report as being non-compliant.³⁸

The Director's counsel argued that the Director must have some discretion to decide what pollutants should be included in an assessment since EIA reports cannot address every pollutant that may be in general be harmful to health.

On [applicant's] argument, any pollutant generated from traffic on the bridge which may in general cause harm to human health is caught by s.10(2)(c). If so, there is no logical reason why e.g. lead or [carbon monoxide] (both covered by the AQOs) should not also be assessed.³⁹

Section 10(2)(c) of the EIAO provides the answer to this point. Pollutants whose environmental impact in a particular project is or is likely to be prejudicial to public health (in the sense that they will make public health worse if the project is approved than it would be if the project did not go ahead) have to be included in the assessment so that the Director can satisfy herself that their impact has been minimised. Neither lead nor carbon monoxide meets that test. Motor vehicle fuel no longer contains lead and carbon monoxide levels in Hong Kong are well within the WHO Air Quality Guidelines. PM_{2.5} on the other hand poses a very serious threat to public health. According to a recent paper published by *The Lancet*, PM_{2.5} is the single most serious preventable cause of heart attacks in the general population.⁴⁰ The Director's argument that the EIA reports' conclusion that the AQO for PM₁₀ (which includes PM_{2.5}) will not be exceeded establishes that the PM_{2.5} produced by the projects will be acceptable is wrong. Few people were aware in 1987, when Hong Kong's AQOs were established, that there might be a link between very fine particulate and heart disease. The AQO for PM₁₀ does not address the acceptability of that impact, nor does it address the issue of how the health impacts of PM_{2.5} might be minimised.

Fok JA compared the Director's and the applicant's approach to EIAs in the following graphic terms:

Put crudely ... is the environment to be treated like a bucket into which pollutants may be introduced as long as there is still space within the bucket to accommodate them? Or is it the case that any pollutant introduced into the bucket must be identified and measured and then, if possible, mitigated?

The HZMB case affirms that the Director has a duty to minimise the amount of pollution going into the bucket⁴¹ but the practical effect of the justices' rulings on the public health issue is that the Director has discretion to do nothing until the bucket is in danger of overflowing. This approach to EIA means that the bucket is always likely to remain full, making it impossible for the Government to make its outdated AQOs more stringent, in spite of the strong community pressure to do so.⁴² It also poses the risk that the Government may find that there is no longer enough room in the bucket to allow it to implement an important new project without doing serious damage to the environment. This is the situation the Government found itself in with the HZMB. How it attempted to overcome that problem is explained in the sections of this paper dealing with the stand alone assessment issue.

The stand alone assessment issue

The nub of the applicant's case on the stand alone issue was that EIA reports cannot assess the environmental impacts of a project by looking only at the level of pollution in the bucket. They must also measure how much pollution is going into the bucket from the project that is being assessed. Fok JA agreed, pointing out that the EIAO's definition of "environmental impact" requires an assessment of the magnitude of the environmental changes a project will cause and the effect of those changes on environmental conditions in the designated study area.

*Plainly, therefore, one of the means by which the EIAO seeks to achieve its purpose of protecting the environment is by assessing the extent to which a project will have an environmental impact. That adverse impact is the change in the environment from the position that would prevail if the project were not implemented.*⁴³

The judge also agreed that the Director would be unable to tell whether a project's environmental impacts are being kept to a minimum unless the report assessed the project's impacts in a way that allowed those impacts to be compared with the impacts of other similar projects.

Thus, for example, if for a particular road project the predicted levels of NO₂ without the project (i.e. the starting point) would be at 30% of the current maximum under the applicable AQO, a project that would result in those levels reaching 90% of the maximum would, in my opinion, fall to be considered differently to another project in which the starting point is 80% of the maximum. In other words, the footprint of the former (90%-30%) is much greater than that of the latter (90%-80%) and it is only by knowing the starting point (or baseline or stand alone position, to use other terms to describe the same thing) that one is able to measure that footprint."⁴⁴

In *R (on the application of Rockware Glass Ltd) v Chester CC*⁴⁵ the English Court of Appeal ruled that a planning authority conducting an EIA had acted lawfully in requiring a glassworks to bring its environmental footprint into line with other glassworks in the same area by using a less polluting technology, even though the technology that the glass company proposed to use would have met all applicable air quality standards. This principle was endorsed by the House of Lords.⁴⁶ Although the CA agreed with Fok JA that the *Rockware Glass* principle is incorporated in the EIAO, the CA ruled that a stand alone assessment is not necessary to allow the Director to decide what mitigating measures should be adopted.⁴⁷

It is difficult to see how an environmental regulator can possibly decide whether a project will cause too much pollution to flow into the environmental bucket without knowing how much pollution the project will actually produce. Recognising this difficulty, the Director was constrained to deny that she has any duty to minimise pollution from a project. She accepted she may have a duty to require a project to use the "best available technique" for minimising pollution (though she said this duty only arises under specific environmental legislation such as the Air Pollution Control Ordinance, not under the EIAO) and to prevent the environmental conditions from exceeding the applicable cumulative standards and criteria set out in the Annexes to the TM. She claimed that it was unnecessary to know how much pollution a project will produce on a stand alone basis to discharge these duties.⁴⁸

The Director argued that the EIAO and the TM reflect a deliberate policy of limiting the Director's discretion to block infrastructure projects on environmental grounds. Such drastic action should only

be warranted if a project's cumulative effects are predicted to violate the environmental standards contained in Annexes 4-10 of the TM.⁴⁹ There is force in this argument but it does not explain how the Director's discretion is affected by the methodology that is used to assess environmental impacts. The methodology determines what information is required to be presented to the Director in an EIA report. Discretion only arises in relation to the use that the Director puts the information to.

The applicant was skeptical that the bridge's cumulative impacts on air quality had been properly assessed. She wanted to know the size of the projects' environmental footprint on a stand alone basis and what assumptions were being made about background air quality in the absence of the projects so that she could form a view as to the reasonableness of the prediction of the projects' cumulative effects on air quality in operation. She also questioned the EIA reports' finding that there is no necessity or scope for mitigating the projects' air quality impacts. Without knowing the size of the projects' predicted environmental footprint and being able to compare it with the footprint of other similar projects, the Director has no basis on which to decide what scope there might be for reducing the bridge projects' air quality impacts. EIA reports are required to address these issues and argued the reports for the bridge projects should have been rejected as non-compliant under subsections (d), (f), (g), (h), (i) and (j) of section 4.4.2 of the TM.⁵⁰

Stand alone assessments have always been required

Although the Director claims that Hong Kong's EIA system has never before required a stand alone assessment of a project's operational air quality impacts, they have in fact been a part of EIA reports since the EIAO was enacted. What a stand alone assessment entails is explained in some detail in section 4.3.1(c) of the TM and in Appendix B-2 of the SBs, which deals specifically with air quality impact assessments. The requirements of a stand alone assessment track the definition of "environmental impact" in the EIAO in that EIAs are required to address both the environmental changes that a project will cause as well as the effect of those changes on the pre-existing environmental conditions.

The Environmental Protection Department's *Guidelines on Assessing the 'TOTAL' Air Quality Impacts* (the Guidelines)⁵¹ recommend that a project's cumulative air quality impacts should be assessed by adding together the air pollution impacts induced by the project itself (which are referred to in the Guidelines as the primary contributions), the impacts of other projects in the immediate vicinity of the project site (secondary contributions) and the impacts of all other sources of air pollution affecting air quality in the study area (background contributions).⁵² This methodology is a stand alone assessment as defined in section 4.3.1(c) of the TM because it requires the air quality impact caused by the project to be differentiated from the air quality impacts of other concurrent sources of pollution (i.e. secondary and background contributions) and allows readers of the report to determine the extent to which the project will aggravate or improve air quality.

Although project proponents are cautioned to use professional judgment in applying the Guidelines, a consistent methodology had developed before the HZMB case whereby the background contributions were represented by the 5-year average of the most recent monitored air quality data obtained from the EPD and the primary and secondary contributions were assessed using computer models.⁵³ This methodology was used to assess the bridge's air quality impacts during construction⁵⁴ but a different methodology was used to calculate the bridge's cumulative impacts on air quality after the bridge is in operation. For that assessment, the project proponent used computer models to predict all three components of the cumulative assessment. The output of the models was bundled together in a single set of results which did not differentiate between the primary, secondary and background contributions.⁵⁵ The Director claimed that this new methodology was capable of producing a stand alone assessment as described in section 4.3.1(c) of the TM but admitted that what was presented in the EIA reports was not a stand alone assessment.⁵⁶

The SBs for the bridge projects specifically allowed the background contributions in the assessment of the projects' cumulative impacts to be predicted using a specific regional air pollution simulation model called PATH but they did not change the established assessment methodology in other respects.⁵⁷ Section 3.4.1.4(v)(a) of the SBs specifically required the project proponent to:

"... apply the general principles enunciated in the modelling guidelines in Appendices B-1 to B-3 while making allowance for the specific characteristic of the Project. This specific methodology must be documented in such level of details, preferably assisted with tables and diagrams, to allow readers of the EIA report to grasp how the model has been set up to simulate the situation under study without referring to the model input files."

The project proponent still had to identify the primary, secondary and background contributions that were used in the calculation of the projects' cumulative impacts.

The TM requires the background contributions to be addressed in a baseline study consisting of “a discussion of background air quality value due to uninventoried sources and contributions from outside the study area and description of the method used for determining this value.”⁵⁸ When background contributions were represented by the 5-year averages of the relevant monitored air quality data, readers of the EIA reports had little difficulty in grasping how those values had been arrived at. The same could not be said for the new methodology based on the PATH computer model. The values for background contributions predicted by the model were not disclosed in the reports, making it impossible for readers of the reports (including the Director) to form an opinion as to their reasonableness.

The CA seems to have been under the misapprehension that the requirement for a baseline study was met by the table in the EIA reports describing the existing air quality in the study area.⁵⁹ Under the old methodology, this would have been the case since the values derived from the monitored data in the table would have been used to represent the background contributions in the assessment of the projects’ cumulative impacts. Under the new methodology, however, the data in the table was irrelevant to the assessment since the background contributions used in the assessment were derived from PATH. The baseline study should have included a discussion of the results of the computer modelling and an explanation of how the results were derived. The EIA reports did not provide this information and, therefore, did not include the baseline study required by Annex 12.

The Director herself used a stand alone assessment to justify the exclusion of ozone from the EIA. Ozone (O₃) is a secondary pollutant formed in a chain of photochemical reactions involving pollutants such as nitrogen dioxide and volatile organic compounds that are associated with road projects. Ozone is both damaging to public health and at an unacceptably high levels in Hong Kong, being around 40% over the AQO. During the public consultation, the Director received many comments to the effect that ozone should have been included in the assessment. The Director’s answer was that, although ozone is a regional problem, the projects themselves will not produce ozone so there was no point in including them in the assessment.⁶⁰

The Director’s analysis was logically flawed. The Director was persuaded to look at only at one part of the process by which road traffic emissions react with other pollutants in sunlight to form ozone, the part before ozone is formed. She disregarded the stage of the transaction in which nitrogen dioxide and VOCs generated by road traffic react to form ozone because, she said, this occurs after several hours and at some distance from the roads. The Director’s expert witness on the ozone issue did concede that “[f]urther downwind of the roads, the O₃ level could be perturbed by the project’s contribution but should be minimal ...”, venturing the opinion that the amount of nitrogen dioxide and VOCs caused by traffic using the projects would be only 0.09% and 0.01% respectively of the total production of those pollutants across the region. Whether or not this assessment is right⁶¹, it purports to define the projects’ ozone footprint and is therefore a stand alone assessment. If the Director saw the need for a stand alone assessment of ozone, why was it not relevant for other pollutants?

The Director's approach to interpreting the Technical Memorandum and Study Brief

Both the Director and the applicant agreed that ultimately the issue of whether EIAs in Hong Kong must include a stand alone assessment turns on the legal interpretation of the SBs. The Director's approach to interpreting these documents was described in the *Skeleton Submissions* of her legal counsel:

16.5 ... when one ascertains what is required to be included in the EIA specifically for air quality, one should look at the SB to see if there are any specific provisions governing it, and it is only where the SB is silent that one turns to the more general instrument namely the TM. Even when one looks at the TM (in the context of air quality), one should first look at Annexes 4 and 12, and it is only where these specific provisions are silent that one falls back onto the general provisions in the TM. But where the SB (or the Annexes to the TM) had already dealt in detail with a particular subject matter but was silent on a particular point in that subject matter (the prediction of cumulative impact), generally worded provisions in the TM cannot operate to introduce a specific requirement in an area where the draftsman had already elaborately dealt with by specific language - generalibus specialia derogant (Bennion on Statutory Interpretation, 5th ed. , p. 1164).

Generalibus specialia derogant [general provisions must yield to more specific provisions] is a rule of statutory construction which is intended to help lawyers decide which of two conflicting laws should be applied in a given situation. The rule tells us a lawmaker is presumed to have intended that whichever law deals most specifically with the situation should be applied in preference to the more general law. Although the CA agreed that there was force in the Director's submissions on how to interpret the TM and SB, it is not obvious that this rule of construction has any relevance to the proper interpretation of the TM and SB.

The rule applies only when conflicting laws have been issued by the same lawmaker. It does not apply, for example, when a conflict arises between a provision in an Ordinance and a regulation made by a government official under the Ordinance. Even though the regulation may deal more specifically with a given situation, the regulation will be invalid if it contradicts what is contained in the Ordinance because the government official's legal power to adopt the regulation is constrained by the higher authority of the Ordinance. The TM was adopted by the Secretary for the Environment under section 16 of the EIAO and was subject to negative vetting by the Legislative Council.⁶² The SB is issued by the Director, under the guidance of the TM.⁶³ The TM is the higher authority and the SB, therefore, should be interpreted consistently with the TM.⁶⁴ Both documents, being issued under the EIAO, should be interpreted consistently with the EIAO.

The rule does not apply unless there is a conflict between statutory rules. The Director argued that there is a conflict between provisions in the TM calling for an assessment of a project's cumulative impacts (i.e. how much pollution there will be in the bucket after the project is implemented) and provisions calling for an assessment of a project's stand alone impact (i.e. how much pollution the project will cause to flow into the bucket) but it is not obvious where the perceived conflict lies. In order to know how much pollution there will be in the bucket after a project is implemented, one needs to know (among other things) how much pollution the project will produce.

In an effort to sustain her position that there is a conflict between requiring a stand alone assessment and requiring an assessment of a project's cumulative impacts, the Director misrepresents Annex 12, para 3.6 of the TM. According to the Director, this provision "specifically requires the project proponent to do an assessment of the cumulative impacts *only*."⁶⁵ Paragraph 3.6 reads as follow:

- a. Assessment results shall provide information on the worst case meteorology; areas of maximum impacts in the study area and cumulative impacts due to background and identified sources.*
- b. Presentation of assessment results shall be assisted by summary tables and contour map of pollutant concentration.*
- c. Assessment results shall be compared with acceptable air quality standards as defined according to Annex 4.*

The word "only" appears nowhere in this provision. On the contrary, paragraph 3.6(a) speaks of areas of maximum impacts in the study area *and* cumulative impacts, suggesting that an air quality impact assessment must cover both.

The Court of Appeal disagrees with the Court of Final Appeal's *Shiu Wing Steel* decision.

In *Shiu Wing Steel*, the CFA drew a distinction between the true meaning of the legal provisions defining the procedures to be followed in EIAs and the merits of how those procedures are applied. The former is a question of law for the courts, the latter within the competence of the environmental authority.⁶⁶

The lawyer who appeared for the Director in both *Shiu Wing Steel* and the HZMB case, argued in *Shiu Wing Steel* that the TM and the relevant SB are merely guides as to how EIAs should be conducted that the Director can depart from, or at least exercise a degree of latitude in interpreting, provided she acts reasonably.⁶⁷ The CFA firmly rejected that view,

*It is not a question whether the Director acted reasonably in attributing a given meaning to the TM and SB. The question the Director had to answer under s.6(3) [of the EIAO] had to be answered objectively. Equally, the condition on which the EIA report could have been lawfully approved had to be objectively determined. The lawfulness of the approval was not dependent on the Director's opinion if that opinion was objectively in error. If the EIA report in fact met the requirements of the SB and TM, the Director's decision to approve the report is valid; if the EIA report did not in fact meet those requirements, the Director had no power to approve the report. It is immaterial whether the Director thought that the requirements were met. And, as the limits of the Director's powers are a matter of law, it is for the Court to determine the meaning and scope of those requirements.*⁶⁸

In the HZMB case he made effectively the same argument, claiming that what the EIA process requires should be determined primarily by reference to what is contained in the SB, a document which the Director and her staff issues on a project by project basis guided by the TM.⁶⁹ It is implicit in this version of the argument that the Director has discretion to supersede general provisions of the TM with more specific provisions in the SB. Fok JA rejected the argument that the Director can use the SB to override the TM's requirements.

*[I]t is clear from EIAO s.6(1)(b) and s. 10(2)(d) that an environmental impact assessment report must be compliant with the TM as well as the relevant study brief and so the provisions of the TM remain relevant and are not displaced by the project-specific study brief.*⁷⁰

The CA, however, accepted Mr Yu's argument.

*[A]lthough it is a matter of construction for the court to decide what is required by the TM or SB, it is often a question of professional judgment what information is required to be contained in an EIA report to enable the Director to perform her duties. In that case unless the judgment is *Wednesbury* unreasonable, the court is not entitled to interfere.*⁷¹

It is difficult to imagine that the CA were unaware that their ruling in the HZMB case was in conflict with the unanimous decision of the CFA in *Shiu Wing Steel*. The CA seems to have thought the CFA drew the line between law and policy in the wrong place when it decided that the courts should have the final say as to the true meaning of the TM and SBs. For the CA, what information may be required to allow the Director to make informed judgments about a project's environmental impacts should be left to the Director's professional judgment.⁷²

The CA may have expected this difference of opinion to be resolved by an early appeal to the CFA in this case but this will not happen. The applicant has decided not to appeal the CA's decision because of pressure from her family and others to drop the case. Hong Kong will have to wait for another case to know whether the courts or the Director will be the judge of whether an EIA has been conducted properly. If the decision is to be left to the Director, subject only to judicial review under the *Wednesbury* standard, which allows a court to intervene when a decision maker is unable to come up with any rational justification for a decision, one may question how rigorously the EIAs for government projects will be conducted in future. If the decision is to be left to the courts, what is to prevent EIA from becoming bogged down in endless legal disputes over the proper interpretation of technical documents like the TM and SBs. This fundamental issue has been left hanging.

Where does the HZMB case leave EIA in Hong Kong?

The EIA process in Hong Kong has been left disoriented by the HZMB case. The way in which the assessments of the Hong Kong elements of the HZMB were conducted raised fundamental questions about the EIA process but the courts have not provided coherent answers. The CA affirmed the lower court ruling that the Director has a duty to make sure that the environmental impacts of all projects are minimised so far as possible but then affirmed an assessment that failed utterly to propose measures for mitigating the projects' air quality impacts after the bridge is in operation because the Director wrongly thought she had no such duty. On the question of whether it should be the courts or the Director who decides how EIAs are conducted, the CFA and the CA seem to have gone in opposite directions.

The issues left unresolved by this case will end up troubling future projects. In the absence of a stand alone assessment defining the bridge's environmental footprint, how will the proponents of future projects affecting air quality in North Lantau take account of pollution attributable to the bridge in their own assessment? Will they have to do their own assessment of the bridge's impact? Will they rely on the CA ruling that stand alone assessments are not required or will they choose to do a stand alone assessment to avoid the risk of a prolonged legal challenge that, given the different opinions expressed by the CFA and the CA, will only be finally settled in the CFA? What position will the Director take in future SBs now that her immediate problem with the bridge has been overcome?

Media reports of the case shows Hong Kong community is divided over the relative weight that should be given to the environment and the economy in the formulation of government policy. If the Government's policy of promoting sustainable development means anything, it should mean that the community would not have to choose between them. It is the EPD's job to ensure there is always enough room left in the environmental bucket to accommodate worthwhile projects that will benefit Hong Kong economically. Choosing between the environment is only necessary when the bucket is already so full that any project, regardless of its economic merits, can only be undertaken at the cost of doing serious and possibly irretrievable damage to the environment.

The real lesson of this case is that the Government needs to bring its environmental policy into line with what the law requires. It was disappointing to hear Hong Kong's environmental regulator deny in open court that she has any legal duty under the EIAO to minimise pollution from projects except where environmental conditions would be unacceptable without mitigation. That policy keeps the bucket brimming with pollution and denies the community any prospect of seeing long term improvement in air quality. As long as the concentration of NO₂, particulate (including PM_{2.5}) and ozone exceed or even remain close to the AQO, legal challenges to large infrastructure projects are inevitable.

The bridge case was an opportunity for the government to demonstrate how it intends to meet its legal obligation under the EIAO to minimise air pollution from large scale infrastructure projects like the bridge. Instead, by denying that it has any such legal duty and defending an EIA report that absurdly claimed that the bridge will have no adverse air quality impacts, it ended up demonstrating that it has not yet developed a viable policy for addressing these issues.

How the Government will react to future applications for judicial review to clear up the legal issues left unresolved by the HZMB case remains to be seen. The Government's legal costs of defending the judicial review was around HK\$7.5 million (the applicant's costs were paid for by the Legal Aid Department). Ordinary citizens face the risk of financial ruin if they try to take on the Government and lose, no matter how important the issues they raise.

How can Hong Kong's economic development move forward in an environmentally sustainable manner? The answer lies in striking the right balance between law and policy. This paper shows Hong Kong has not yet found a balance that has the support of the community as a whole. Even the judges are divided on the issue. The courts are not the place to try to develop a consensus within the community. The issues need to be debated within the community. If the HZMB case stimulates such a debate, then that would not be a bad outcome for what is otherwise an unsatisfactory dispute.

ENDNOTES

- ¹ To obtain legal aid, an applicant's case has to be vetted by a senior counsel on behalf of the Director of Legal Aid and by a High Court judge before it could proceed, which was done in this case. Hartmann J (as he then was) noted that judicial review cases can only be brought with the permission of a High Court judge, who has discretion to refuse permission if, having regard to the effects of the challenge, it would not be just and convenient for the case to proceed.
- ² The 'year of assessment' for the air quality impact study was 2031.
- ³ *Shiu Wing Steel Ltd v. Director of Environmental Protection & Airport Authority* (No. 2) (2006) 9 HKCFAR 478.
- ⁴ *Shiu Wing Steel* at para 95
- ⁵ *Kowloon - Canton Railway Corporation v Director of Environmental Protection*, Environmental Impact Assessment Appeal Board No. 2 of 2000.
- ⁶ The methodology that Fok JA called "*a stand alone assessment*" is described in section 4.3.1(c) of the TM. This methodology should be "capable of addressing the following issues:
- (i) the existing of projected environmental conditions without the project in place;
 - (ii) the projected environmental conditions with the project in place and the sum total of the environmental impacts taking into account all relevant existing, committed and planned projects;
 - (iii) a differentiation between the environmental impact caused by the project and that caused by other projects, and to what extent the project aggravates or improves the existing or projected environmental conditions;
 - (iv) the environmental impact during different phases of construction and development of the project; and
 - (v) the evaluation of the seriousness of the residual environmental impacts."
- ⁷ *Chu Yee Wah v Director of Environmental Protection* HCAL 9/2010 dated 18 April 2011 (*Chu 1*) at para 80.
- ⁸ *Chu 1* at para 75.
- ⁹ EIAO s. 10(2)(c); *Chu 1* at paras 162 - 174.
- ¹⁰ After the Chief Executive announced that upwards of 70 construction projects could be held up by the decision in the bridge case, around 30 members of a Hong Kong construction trade union marched to the SAR government's headquarters, angrily claiming that judicial reviews were putting more than 140,000 construction jobs at risk, *Builders fear project politics hold* The Standard 23 May 2011.
- ¹¹ Most of the projects on the list have yet to submit an EIA report. Many of these date back many years and are evidently no longer active. Seventeen of the projects have had their EIA approved. How these projects were affected by the decision in the bridge case was not explained.
- ¹² Affidavit of Tse Chin Wan dated 16 May 2011 at para 17.
- ¹³ Affidavit of Tse Chin Wan dated 16 May 2011 at paras 8-11.
- ¹⁴ *Skeleton Submissions of Counsel for the Director* dated 5 August 2011 at para 4.
- ¹⁵ This author believes the government (proponent of the projects) "*has misconceived the purpose of the EIA, which is to make a quantitative assessment of the environmental impact of the HKZMB project and not to forecast what air quality on Lantau will be like in 2031*", see Comment dated 9 September 2009 (Comment K1 in the EPD compilation of public comments on the Hong Kong Boundary Control Facilities Project).
- ¹⁶ "*environmental impact*" for a designated project, means---
- (a) an on-site or off-site change that the project may cause in the environment;
 - (b) an effect of the change on---
 - (i) the well being of people, flora, fauna and ecosystems;
 - (ii) physical and cultural heritage;
 - (iii) a structure, site or other thing that is of historical or archaeological significance;
 - (c) an on-site or off-site effect on any of the things referred to in paragraph (b) from activities carried on for the project;
 - (d) a change to the project that the environment may cause, whether the change or effect occurs within or outside the site of the project;
- ¹⁷ EIAO s.10(2)(c).
- ¹⁸ *Chu Yee Wah v Director of Environmental Protection* CACV 84/2011 dated 27 September 2011 (*Chu 2*) at para 52.
- ¹⁹ EIAO s.10(6); TM s.7.2 and s.8.3. Section 8.3 of the TM provides that a full environmental monitoring and auditing programme will generally be required if "*(a) the project has the potential of causing environmental*

- impacts which are or are likely to be prejudicial to the health or well-being of people, flora, fauna or ecosystem [sic] if recommended mitigation measures are not properly implemented."*
- 20 EIAO s.14(3).
- 21 *Chu 1* at para 162.
- 22 *Chu 1* at para 175
- 23 *Chu 1* at paras 152-154
- 24 *Chu 1* at para 155
- 25 *Chu 1* at para 162.
- 26 *Chu 1* at paras 168-174.
- 27 *Chu 1* at para 75; *Chu 2* at para 52.
- 28 Under TM Annex 4, s. 1.1(d), the Director may have regard to international standards in determining the acceptability of the impacts of non-AQO air pollutants..
- 29 *Chu 1* at paras 183-186
- 30 *Chu 1* at para 173.
- 31 *Chu 1* at para 77.
- 32 *Shiu Wing Steel* at para 62.
- 33 *Chu v Director of Environmental Protection*, CACV 84/2011 dated 27 September (*Chu 2*) at para 111.
- 34 Skeleton Submissions of Counsel for the Director dated 5 August 2011 at para 37.
- 35 *Chu 1* at para 75; *Chu 2* at para 55.
- 36 TM Annex 4, s. 1.1(d).
- 37 *Shiu Wing Steel* at para 62
- 38 TM s. 4.4.2
- 39 *Skeleton Submissions* at para 40.
- 40 *Public health importance of triggers of myocardial infarction: comparative risk assessment*, The Lancet dated 25 February 2011.
- 41 *Chu 1* at para 75; *Chu 2* at para 52.
- 42 The progressive realisation of the highest attainable standard of physical and mental health is a right protected under Article 12 of the UN Covenant on Economic Social and Cultural Rights, to which Hong Kong is a party. This right is also entrenched in Hong Kong law by virtue of Article 39 of the Basic Law.
- 43 *Chu 1* at para 70.
- 44 *Chu 1* at para 80.
- 45 [2007] Env.L.R. 32.
- 46 *R (on the application of Edwards) v Environment Agency (Cemex UK Cement Ltd intervening)* [2009] 1 All ER 57.
- 47 *Chu 2* at para 55.
- 48 *Skeleton Submissions* para 21-23
- 49 *Id* at paras 24.2-24.4.
- 50 Section 4.4.2 reads in relevant part:
The quality of the EIA report shall be reviewed having regard to the guidelines in Annex 20 and in Section 4.3. The report shall be considered as adequate if there are no omissions or deficiencies identified which may affect the results and conclusions of the assessment. In particular, the following factors shall be considered:
- ***
- (d) *whether the identification and descriptions of the potential environmental impacts in the EIA report are complete and whether all applicable criteria in Annexes 4 to 10 inclusive have been considered;*
- (f) *whether adverse environmental effects are avoided to the maximum practicable extent;*
- (g) *whether the assessment has considered and compared the environmental benefits and disbenefits of various scenarios with or without the project;*
- (h) *whether lessons learned from other similar projects are incorporated into the project;*
- (i) *whether the report has sufficiently defined all environmental protection requirements and measures necessary to avoid or reduce the adverse environmental impacts to within the applicable standards or criteria;*
- (j) *for impacts where there are no applicable quantitative standards or criteria, whether the report has defined the best practicable mitigation measures that shall be adopted for the project;*
- 51 The Guidelines are now usually incorporated in SBs as Appendix B-2.

- 52 Guidelines, sections 1 and 2.
- 53 The Guidelines recommended the use of measured data averaged over a 5-year period to represent background contributions because of the difficulty of forecasting background air quality for the future. Guidelines, s. 3.1
- 54 EIA reports para 5.5.3.
- 55 EIA reports at paras 5.6.1 and 5.6.17.
- 56 *Chu 1* at para 49.
- 57 Section 3.4.1.2 of the SBs reads: “The Applicant [i.e. the Highways Department] shall assess the air pollutant concentrations with reference to the relevant sections of the guidelines in Appendices B-1 to B-3 attached to this study brief, or other methodologies as agreed by the Director. The Applicant shall also note that that the PATH model may be used for estimating the cumulative background concentrations by taking into account all the major air pollutant emission sources in Hong Kong and nearby regions.”
- 58 TM Annex 12, s.3.4.
- 59 *Chu 2* at para 75.
- 60 *Chu 1* at para 133.
- 61 The applicant criticised it for not taking account of emissions from road traffic using the bridge beyond the site of the projects in Hong Kong. The definition of “environmental impact in the EIAO requires impacts that are caused by a project to be included in the assessment regardless of where they arise or where their effects are felt..
- 62 EIAO s.16(6).
- 63 EIAO s.16(4).
- 64 If a SB for a project contains provisions that are inconsistent with the requirements of the TM, the Director will be unable to approve the EIA report, which must comply with the requirements of both documents. EIAO s.6(3), the project proponent’s remedy is to appeal against the contents of the SB under EIAO s.17(1).
- 65 *Skeleton Submissions of Counsel for the Director* dated 5 August 2011 at para 17.1 [emphasis supplied]. This submission was adopted word for word by the CA at *Chu 2*. para 87.
- 66 *Shiu Wing Steel* at para 24.
- 67 *Shiu Wing Steel* at paras 26-27
- 68 *Id* at para 29.
- 69 *Skeleton Submissions* at para 16.5
- 70 *Chu 1* at para 78.
- 71 *Id* at para 84.
- 72 *Chu 2* at para 96.



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