CACV350/2003

IN THE HIGH COURT OF THE

HONG KONG SPECIAL ADMINISTRATIVE REGION

COURT OF APPEAL

CIVIL APPEAL NO. 350 OF 2003

(ON APPEAL FROM HCAL NO.184 OF 2002)

BETWEEN

SHIU WING STEEL LIMITED	Applicant
and	
DIRECTOR OF ENVIRONMENTAL PROTECTION	Respondent
AIRPORT AUTHORITY OF HONG KONG	Interested Party

Before : Hon Ma CJHC, Stock JA and Stone J in Court

Dates of Hearing : 22-24, 27-28 September 2004

Date of Written Submissions : 12, 26 October 2004 and 9 November 2004

Date of Handing Down Judgment : 18 March 2005

J U D G M E N T

Hon Ma CJHC :

1. I will ask Stock JA and Stone J to give their judgments before setting out my own.

Hon Stock JA:

Introduction

2. This is an appeal from the judgment of Burrell J whereby he dismissed an application for judicial review of two decisions of the Director of Environmental Protection ("the Director"):

(1) a decision on 2 August 2002 to approve an Environmental Impact Assessment Report ("the EIA Report") submitted to the Director by the Hong Kong Airport Authority ("the HKAA") pursuant to the provisions of the Environmental Impact Assessment Ordinance, Cap. 499 ("the Ordinance") in relation to a proposed permanent aviation fuel facility ("PAFF") for the Hong Kong International Airport; and

(2) a decision on 28 August 2002 to grant the HKAA an environmental permit to construct and operate the designated project, namely, the PAFF.

3. The appellant, Shiu Wing Steel Ltd ("SWS"), carries on business in Hong Kong as the operator of a steel mill, the only such mill in the territory, and supplies reinforcing steel bars to the local construction industry. The steel mill, which it owns and which was constructed in 1994, is located at Lung Yiu Street, in Tuen Mun.

4. The proposed site for the PAFF is adjacent to the mill. The HKAA proposes to construct the fuel farm as a permanent facility for the supply of aviation fuel for the airport at Chek Lap Kok, thereby to replace the temporary facility presently adjacent to Sha Chau, which temporary facility would then be used for emergency back up only. The proposed facility is intended to comprise a jetty with two berths, a tank farm, and sub-sea pipelines for the transfer of fuel to the airport.

5. SWS is concerned about the danger which it says is posed by the presence of aviation fuel in massive quantities in such proximity to its mill, given the fact that the furnaces and other processes at the mill operate at high temperatures. These operations are accommodated in a semi-enclosed structure with an open side and a ventilator designed to draw heat away from the structure. The mill is expanding and there are plans to install an electric arc furnace which itself will generate very high temperatures. The mill operates for twenty-four hours a day and currently employs about 300 workers.

6. The construction and operation of fuel storage for an airport is a project designated by the Ordinance as one that requires an environmental permit. As we shall presently see, the Ordinance prescribes a series of steps or requirements the fulfillment of which are conditions precedent to the lawful issue by the Director of a permit. The essence of the case for the appellant is that the Director has failed to follow those procedures, procedures that are designed for the protection of the environment and the safety of Hong Kong residents.

The Ordinance

7. The Ordinance came into effect on 1 April 1998. It is described as "an Ordinance to provide for assessing the impact on the

environment of certain projects and proposals, for protecting the environment and for incidental matters." Categories of project that require environmental permits are designated as such in a schedule; and the project with which we are concerned is a designated one.

8. The steps envisaged by the Ordinance for those seeking an environmental project are primarily these:

(1) A person who is planning a designated project must make an application to the Director for a study brief and in doing so must 'submit a project profile that complies with the technical memorandum' (section 5(2)); and must also advertise in daily newspapers the availability of the project profile for inspection. The Director is also required to forward a copy of the profile to the Advisory Council on the Environment ("the Advisory Council"), a watchdog body. As the title suggests, the project profile is a description of the project. Typically, it will describe the purpose and nature of the project, its location, scale, its planning and implementation, the major elements of the surrounding environment, possible impacts upon the environment, and suggested environmental protection measures to be incorporated into the design.

(2) The Advisory Council, and indeed anyone else, may within 14 days of the advertisement comment to the Director on the profile; and the Director is enjoined to consider the comments: section 5(6).

(3) Within 45 days of the date of the application, the Director must submit to the applicant an environmental impact assessment study brief and notify the Advisory Council of the issue of that brief: section 5(7). There are provisions by which the Director may instead notify the applicant that the applicant may apply without more for an environmental permit, but we are not in this case concerned with that alternative. The study brief requires the applicant to carry out an environmental impact assessment ("EIA") study, and it identifies what are to be the key issues of that study.

(4) Section 6(1) of the Ordinance provides that:

> "The applicant shall deliver an environmental impact assessment report in accordance with –
>
> (a) the requirements of the environmental impact assessment brief; and
>
> (b) the technical memorandum applicable to the assessment."

(5) What the Director has then to do, within 60 days of receipt of the report, is to decide:

> "If the assessment ... meets the requirements of the environmental impact assessment study brief and technical memorandum"

or does not meet those requirements: section 6 (3).

(6) If he decides that those requirements are met, he is then to advise the applicant when the report must be exhibited for public inspection, and whether the report must be copied to the Advisory Council: section 6(4).

(7) The next stage is the public inspection stage during which the report is made available at locations prescribed by the Director and its availability for inspection advertised in newspapers: section 7.

(8) There follows a phase during which the Director may seek further information from the applicant in the light of comments received, if any, from the Advisory Council and the public; and then within 30 days of the expiry of the inspection period, receipt of comments or further information from the applicant, the Director is required either to approve the report, approve it with conditions, or reject it: section 8.

(9) Section 10 provides that a person who wishes to construct or operate a designated project must apply to the Director for an environmental permit and in granting or refusing such a

permit, the Director:

"… shall have regard to –

(a) the approved environmental impact assessment report on the register;

(b) the attainment and maintenance of an acceptable environmental quality;

(c) whether the environmental impact caused or experienced by the designated project is or is likely to be prejudicial to the health or well being of people, flora, fauna or ecosystems;

(d) any relevant technical memorandum;

(e) any environmental impact assessment report approved under this Ordinance or any conditions in an approval; and

(f) the comments if any submitted to him under section 7 on the report."

Section 10(5) empowers the Director to issue a permit subject to conditions.

The Technical Memorandum

9. We have seen that the project profile must comply with the technical memorandum; and that the Director, by virtue of

section 6(3), is required to decide whether the assessment report has met the requirements of the study brief and the technical memorandum.

10. A technical memorandum is defined by section 2 and Schedule 1 of the Ordinance as 'a technical memorandum issued under section 16'. Section 16 provides, in so far as is relevant to this case, as follows:

" (1) The Secretary [for the Environment] may issue technical memorandums setting out principles, procedures, guidelines, requirements and criteria for –

(a) the technical content of a project profile;

(b) the technical content of an environmental impact assessment study brief or environmental impact assessment report;

(c) deciding whether a designated project is environmentally acceptable;

(d) deciding whether an environmental impact assessment report meets the requirements of the environmental impact assessment study brief;

(e) deciding whether the Director will permit an applicant to apply directly for an environmental permit under section 5(9), (10) or (11);

(f) resolving conflicts on the content of the environmental impact assessment study brief and the environmental impact assessment report;

(g) taking advice from other authorities;

(h) deciding what is a material change, addition or alteration to an

environmental impact or to a designated project;

(i) the issue of an environmental permits;

(j) the imposition of environmental monitoring and audit requirements for designated projects as conditions in environmental permits.

….

(4) The Director shall be guided by all applicable technical memorandums when deciding on matters under sections 5, 6, 8, 10, 12, 13 and 14.

(5) A technical memorandum is to be published in the Gazette and laid on the table of the Legislative Council at the next sitting after its publication.

(6) The Legislative Council may, by resolution … repeal the technical memorandum.

….

(12) A technical memorandum is not subsidiary legislation."

Key events

11. (1) On 17 April 2001 the HKAA submitted a project profile and applied for a study brief.

(2) The study brief was issued on 31 May 2001.

(3) The HKAA engaged the firm of Mouchel to prepare the EIA report.

(4) On 25 April 2002, a meeting took place between representatives of the Director and the HKAA at which a decision was made that in respect of one hazard to life that had been identified, namely, a 100% instantaneous loss of the contents of one fuel tank, a quantitative assessment of risk was not required but that a qualitative assessment would do. That decision lies at the heart of this case.

(5) On 6 May 2002 the EIA Report, dated 26 April 2002, was submitted to the Director.

(6) On 11 June 2002, the Director informed the HKAA that the report was suitable for public inspection. That advice was expressed to be 'under section 6(3)(a) of the Ordinance', so that the Director thereby indicated his satisfaction that the Report met the requirements of the study brief and of the technical memorandum.

(7) The report was exhibited for public inspection between 14 June and 14 July 2002.

(8) By letter dated 13 July 2002 to the Environmental Protection Department, SWS expressed its concern about the potential hazards posed by the proposed construction of the fuel farm. They believed that the Report did not address adequately 'the impact of the PAFF on the Mill as an existing user of a high temperature operation.' They identified a number of their concerns, including the effect of spillage and the risk of fire. In its conclusion, the letter suggested that there had been non-compliance with the technical memorandum in that 'major elements of the surrounding environment and existing and/or relevant past land use(s) on site which might affect the area' had not sufficiently been addressed.

(9) By letter dated 2 August 2002 the Director informed the HKAA that after public inspection and consultation with the Advisory Council: ' I now advise you that under section 8(3) of the ordinance the captioned EIA Report as exhibited under section 7(1) is approved with attached conditions'. The conditions are of no relevance to this appeal.

(10) By letter dated 28 August 2002, the Director forwarded to the HKAA the permit for the project. In so doing, he was purporting to act pursuant to his powers under section 10(5) of the Ordinance.

Expert Reports

12. In October 2002, SWS commissioned a report by McInnes Engineering Associates Limited ("the McInnes Report") which was sent to the Director in support of SWS's complaints that its concerns had not received proper consideration. This report formed the basis of the grounds of complaint in the original notice of application. One of those complaints was the suggested failure of the HKAA to execute a Quantitative Risk Assessment (QRA) 'expressing population risks in both individual and societal terms'. There was a further complaint that the EIA report had failed to include 'all reasonable and foreseeable failure modes resulting in … large spills from individual tanks'. All that the EIA report had addressed quantitatively in terms of tank failure was a limited release of 10% of the largest tank capacity.

13. Leave to apply for judicial review was granted on 13 November 2002, whereafter the Director commissioned a report from Shell Global Solutions ("the Shell report" or "Shell I") and the HKAA commissioned a report from AEA Technology plc ("the AEAT report" or "AEAT I"').

14. SWS commissioned a further report in rebuttal of Shell I and AEAT I and in substitution for McInnes. This report is dated 12 June 2003 and was compiled by Health and Safety Laboratory, an agency of the Health and Safety Executive a statutory body within the UK ("the HSL report"). As a result of this report, SWS sought leave to re-amend its Notice of Application and leave was granted by Burrell J on 23 July 2003. There was before Burrell J an argument run by the Director that the HSL report should not be admitted into evidence. That argument succeeded, a matter to which I shall return because it is one of the decisions against which this appeal lies. The inadmissibility contention is pursued by the Director notwithstanding the fact that the re-amendment, for which leave was given, expressly relies on the HSL report. One of the conclusions of that report was that the hazard to life assessment in the EIA report was fundamentally flawed because it failed to identify and assess the risk associated with a catastrophic tank failure, by which was meant, as

the judge acknowledged (para 17(1)), instantaneous loss of 100% of the contents of a tank. The failure so to quantify this and other risks is what was said in the Notice to constitute the public law error by the Director. It is further said in the re-amended Notice that the Directors' suggested failure to have adequate regard to the proximity of the Mill to the PAFF and to the relevant provisions of the TM was such as to render the challenged decisions unreasonable in the *Wednesbury* sense.

15. HSL was not the end of the battle of the experts, for both Shell and AEAT produced reports in rebuttal of the HSL report. ["Shell II" and "AEAT II" respectively].

The factual context

16. What now follows is a summary of the essential facts as they were on the dates of the Director's decisions under review. An application was made by the Director during the course of the appeal to adduce evidence of changes to the plans, but that application was rejected. In any event, the precise sizes and distances make no difference to the issue of construction of the statute, the TM and the study brief, with which issue this judgment must primarily be concerned.

17. Under the scheme put to the Director, the proposed tank farm will contain a number of storage tanks each 40 metres in diameter and 29 metres high, and each with a storage capacity of 35000 cubic metres. There will be constructed a bund wall ten metres or so from the tank nearest SWS's property boundary fence at a height of 4.6 metres to the bund floor. Beyond the bund wall are site roads raised to about 2.6 meters with respect to the bund floor so that the bund wall will act as a retaining wall. According to the EIA report, from which this description is broadly drawn, 'potential for failure of the bund wall due to momentum surge will be limited.' Beyond the site road was proposed a security wall to 'act as a secondary containment in the event of overtopping of the bund. The roads around the tank bund will be provided with storm water drains, which will collect any liquid overtopping the bund.' Then there is to be a further area beyond the fence which will include a drainage ditch and

it is intended to plant trees within this area.

18. It is momentum surge resulting in overtopping of the bund that so worries SWS, for any flow of fuel onto the mill's site carries with it the obvious danger of a conflagration at the mill with resulting risk to the lives of those working there. A scenario which would cause such a surge and overtopping would be what has been referred to in this appeal, as well as in the court below, as a catastrophic tank failure, meaning an instantaneous, or almost instantaneous, loss of the entire contents of a tank such as to result in significant overtopping of the bund. That is the meaning attributed to the phrase by the appellants and accepted, in essence, by Mr Hui Yat Ming the Principal Environmental Officer who appears to have been the person who was in effective charge of the process in this case on behalf of the Director.

The issue

19. The appellant's argument is that both the TM and the study brief required by their express terms the execution of a quantitative (rather than a qualitative) risk assessment of the 100% content loss scenario; and that the failure by the HKAA to execute such an assessment and include it in the EIA report meant that the Director could not lawfully be satisfied under section 6(3) that that report met the requirements of either the TM or the study brief, so that all approvals that then followed were necessarily tainted and unlawful. The issue is put thus in the appellants skeleton argument:

> "The central issue in this appeal is whether the Director could lawfully make any of the decisions he made, culminating in the operative section 10(2) decision to grant the an environmental permit, based on the information before him at the relevant time. In particular, could the Director make those decisions where the EIA report identified the 100% loss scenario is a hazardous scenario associated with tank farm storage which may cause fatalities but where there was no QRA executed in respect of such scenario, and therefore, no QRA upon which [the Advisory Council] could comment, or upon which the public could be consulted."

20. As I understand it, and putting the matter broadly, a QRA involves, after the identification of the hazard, an analysis reduced to mathematical terms, of frequency of an occurrence and a modeling of the consequences of that occurrence. A qualitative analysis does not differ in its objective but its analysis and expression is more judgmental though it is not purely a judgmental matter. Whilst the acronyms for both types of assessment are the same, "QRA" has been used in this appeal to represent a quantitative risk assessment and no acronym has been used for qualitative risk assessment.

21. The basis of the appellant's contention is that once a catastrophic tank failure, in the sense accepted by both sides, has been identified as a risk, as it had to be and indeed, it is said, was identified in this case, then a reading of the relevant provisions of the TM and the study brief rendered it imperative that a QRA be conducted of that risk, failing which it could not be said that the EIA report was prepared "in accordance with the requirements of the … study brief and the technical memorandum" (section 6(1)), wherefore the Director could not properly decide that the Report had met those requirements (sections 6(3) and 6(4)). Since it is common ground that no QRA was conducted in respect of such a scenario, it must follow, according to this argument, that subsequent decisions of the Director were unlawful and should therefore, subject to submissions as to the exercise of the Court's discretion to grant relief, be set aside. To those parts of the TM and the study brief upon which the appellant's case depends, I shall shortly turn.

22. The essence of the respondent's case is that a QRA was not required for a 100% instantaneous loss scenario, for that was in the instant case not a credible scenario. The fact that it was not a credible scenario was a fact determined by reference to the particular structure of the tank as well as by reference to conditions applicable to this project. That structure and those conditions were known and were ascertained by the application of expert examination and experience and did not need a QRA to determine. It was only once a credible danger or effect was identified that a QRA was required to assess the extent of that danger and its likely impact. The TM and the study brief did not contemplate, it was argued, the execution of a QRA on all environmental impacts that may or may not be caused by

fuel tank farms in different places and in different conditions, and regardless of structure; and indeed if we see what happened in this case, there were certain causes of tank failure that were excluded and in respect of which there is no complaint. There is nothing in logic, it is said, to distinguish those instances of exclusion of a QRA from the instance in respect of which complaint is made in this case.

The provisions relied upon

23. The TM provides at para 4.1.1 that:

> "An EIA report shall comprise a document or series of documents providing a detailed assessment *in quantitative terms, wherever possible*, and in qualitative terms of the likely environmental impacts and environmental benefits of the project. The requirements for the EIA report shall be set out in accordance with this technical memorandum. The EIA report shall be produced in accordance with the EIA study brief issued by the Director to the applicant." (Emphasis added).

24. The study brief provides at 3.3.10.1 as follows, under the heading "Hazard to Life":

"The risk to the life, including the workers of nearby plants, due to marine transport, jetty transfer, tank farm storage and pipeline transfer of aviation fuel shall be assessed. The applicant shall follow the criteria for evaluating hazard to life as stated in annexes 4 and 22 of the TM in combating hazard assessment and include the following in the assessment:

(i) identification of *all* hazardous scenarios associated with the marine transport, jetty transfer, tank farm storage and pipeline transfer of aviation fuel, which may cause fatalities;

(ii) *execution of a quantitative risk assessment* expressing population risks in both individual and societal term;

(iii) comparison of individual and societal risks with the criteria for evaluating hazard to life stipulated in Annex 4 of the TM; and

(iv) identification and assessment of practicable and cost-effective risk mitigation measures as appropriate." (Emphasis added).

25. Annex 4 of the TM, to which the study brief there refers provides under the heading "Hazard to Life" that:

> "The criterion for hazardous to human life is to meet the risk guidelines, as shown in figure 1".

Figure 1 refers to two guidelines: an individual risk guideline for acceptable risk levels; and societal risk guidelines for acceptable risk levels. The individual risk guideline is that the maximum level of off site individual risk should not exceed one in 100,000 per year. The societal risk guidelines seek categorisation of societal risk as either "acceptable": "as low as reasonably practicable" which is abbreviated to "ALARP"; or "unacceptable"; but each category is by that Annex determined on the basis of a mathematical formula. Thus societal risk of loss of life that is demonstrated to be less than one in 1,000,000 per annum is classified as acceptable; less than one in 1,000 per year as ALARP; and more than one in 1,000 as unacceptable.

26. Section 6(3) of the Ordinance provides:

" The Director shall, within 60 days of receiving the environmental assessment report, decide if the assessment –

(a) meets the requirements of the environmental impact assessment study brief and technical memorandum; or

(b) does not meet the requirements of the environmental impact assessment study brief and technical memorandum."

27. It is said that a 100% failure was identified in the EIA Report, at section 10.4.2.20 - 22 thereof, as a hazardous scenario associated with tank farm storage. Since such a scenario was identified it must therefore follow, given the provisions of the study brief and the TM, that a QRA should have been carried out, the more so since it is not

suggested by the respondent that such a QRA was not possible in respect of that scenario. It is common ground that for that scenario a QRA was not executed. That being so, the requirements of the study brief and the TM were not met, so that the Director's decision under section 6(3) of the Ordinance that they were met was palpably incorrect, affecting thereby the legality of all subsequent decisions. Though unnecessary to the illegality limb of their case, the appellant says that the point is not academic in that the HSL report shows that had a QRA been conducted it would have shown a risk level materially different from that produced by the HKAA on their qualitative approach.

The Report's Approach

28. The identification in the Report of 100% instantaneous release upon which the appellant relies is constituted by the following:

> "10.4.2.20 Several incidents have occurred in the past where there has been a catastrophic failure of an atmosphere storage tank containing petroleum products. Following such a failure the tank contents have been released and in some instances the material has been lost outside the secondary containment due to the momentum from the initial surge.
>
> 10.4.2.21 Table 10.6 below gives details of the catastrophic tank failure incidents found on the MHDIS database. These related to incidents, since 1970, involving tanks containing petroleum products. Since the tank design for all petroleum products are similar, references to these incidents are also included. Where there was a spill outside the secondary containment, this is noted.
>
> [Table 10.6 is then inserted with reference to date of incident, its location, the type of fuel, the failure cause and whether the spill was contained by the bund.]
>
> 10.4.2.22 It can be seen that, in addition to the incident at Kai Tak, there have been other incidents where it is known that material overtopped a bund wall. There have also been a number of incidents involving crude oil storage tanks where material has been lost over the bund walls."

29. The evidence submitted on the Director's behalf was that PAFF tank failures were discussed with HKAA (this is the meeting of 25 May) and that it was agreed that the only QRA for tank failure that would be carried out and presented in the EIA report was one that considered a loss of 10% of tank contents (see Dr Wrigley page 37, appeal bundle B). The reason for concentrating on 10% and no more is explained in the EIA report itself at paragraphs 10.5.2.5 to 10.5.2.8:

"Atmospheric Storage Tank Failures

10.5.2.5 Davies et al. cite the following reasons for catastrophic releases from the storage of vessels after inspection of incidents recorded on the MHIDAS database:

- brittle failure of primary containment, sometimes caused by rapid changes in ambient temperature;
- failure of tank seams due to fire impingement and;
- failure of the tank during the initial filling process;
- boil over of tank contents …; and
- acts of vandalism or sabotage.

10.5.2.6 Of the above, brittle failure due rapid changes in ambient temperature *is not expected* in Hong Kong. Rapid changes in temperature of contents are also *not expected*, as aviation fuel received will be at ambient temperature. Failure of the tank due to overfilling could occur but an independent high level shut down system is provided to prevent overfilling. Boilover of tank contents *is not relevant* in the case of aviation fuel.

10.5.2.7 Other causes of tank failure are weld or material defect, corrosion, settlement, and fire due to ignition of tank content, by lightning. Stringent

quality control measures will be adopted during procurement of plate material and during construction and therefore failure due to weld or material defect *is not expected* at the PAFF facility. Corrosion will be monitored during the operational phase, and therefore failure due to corrosion *is not expected* at the PAFF facility. Settlement of tank foundation will be monitored during construction as well as during initial operations. Although the site is located on reclaimed land, the reclamation was carried out some years ago, and therefore general settlement of the site *is not expected*.

10.5.2.8. The tank vapour space could be in the flammable range due to vent opening to atmosphere, and therefore ignition of tank vent due to lightning could result in a tank fire and subsequent failure at the roof two shell connection (API 650 tanks are provided with a weak roof to shell connection, which will fail preferentially to any other joint). Such failures could also occur in the event of fire impingement to relieve excessive vapours. It may be assumed that in the event of roof failure, the top most plate of the shell connecting to the roof may also fail, resulting in spill onto bund. *Each plate is about 3m high, which is about 10% of the tank height. The catastrophic failure of the tank is therefore assumed to result in a release of 10% of tank contents* (i.e. about 3900m^3) on to the bund. Aircraft crash is the only conceivable incident that can result in more than 10% of tank contents but this can be discounted, as the proposed site does not lie near to the flight path." (Emphasis added).

30. The reason put forward by the Director for concentration upon a release of 10% of tank contents and the decision to dispense with a QRA in respect of a 100% release scenario, is that:

> "… at a time when the EIA report was prepared, the assessment was that this scenario was not credible and that a quantitative assessment was unnecessary." (See the affirmation of Mr Hui dated 15 August 2003, appeal bundle page B 122).

His suggestion is that there is no requirement for "quantification of risks that have already been eliminated or reduced to insignificant levels ... by good engineering design." (page B 120). The first Shell Report asserts (section 7 page 13), as an echo of the Director's case, that:

> "*The worst case scenario addressed in the EIA (tank overfill) was the worst foreseeable,* and was modeled conservatively in that the assumed damage was significantly worse that was observed in practice."

Dr Wrigley, a Senior Environmental Protection Officer of the Environmental Protection Department who specializes in hazard assessment stated in his affirmation that:

> "PAFF tank failure cases were discussed in detail with AA. It was agreed to consider a tank failure case with a loss of 10 percent of contents based on tank design features (10.5.2.8)."

31. The thread of the justification advanced is clear enough. It is that the TM and the study brief, when properly read, do not require a QRA in relation to every conceivable risk which, generally speaking, might attend the storage of aviation fuel. What, rather, is required is the identification of risks identified *relevant* to, *applicable* to, this project, that is to say risks predicted by experts as foreseeable on the basis of the facts presented, not by fuel farms wherever in the world they may be and regardless of their individual characteristics, but by the particular project planned and under study and review. It is only then that a QRA is required to determine the likely impact upon an occurrence of the predicted event. That QRA will then show whether that predicted possible risk is or is not an acceptable one, according to the criteria prescribed by Annex 4. That is what happened in this case. The 10% risk was an applicable or a predicted relevant risk, and a QRA was conducted to assess the impact of such an event, and the risk was determined to be one that fell within the acceptable range. To conduct a QRA in respect of a 100% scenario would, it is said, have been an exercise in artificiality, directed at scenarios in general and not at the scenario which the EIA report was required to address.

Analysis

32. I favour the approach suggested by the respondent. The documents upon which the appellants' case rests and with which this Court wrestled for some days are practical touchstones and as such

must be read in a practical way by practical people. By this, I am not to be taken to mean that the safety imperatives laid down by the TM and study brief are open to dilution by some broad brush approach by those who prepare an EIA report, still less by the Director; and in the present context it is to the emphasised, as my lord Stone J. has emphasised that one is engaged upon the issue of hazard to life – therefore ambiguity, where it exists, should be resolved on the side of safety. And in this respect, the comment of the judge in the court below that "It is sufficient to execute a QRA for all those scenarios which in the Director's judgment needed to be addressed and assessed"(paragraph 56) is not a comment that I endorse, for the question whether a scenario needs to be addressed is a question of construction of the statute, the TM and the study brief. My remark as to the practical nature of these documents is intended merely to highlight the fact that the study brief in particular is not an instrument drawn by a legislative draftsman and that phrases within these documents must be read contextually and against the background of the technical and practical subject matter with which they deal. I think however that we have instead been treated to a rather legalistic and non-contextual analysis of individual phrases that have led us away from what was intended by the scheme represented by these documents. It seems to me that the approach of the appellant is one that perceives the need for a QRA in respect of all hazard scenarios that might arise with tank fuel storage, regardless of the distinction between one storage facility and another whether as to geographical location or as to mode of construction. That approach is betrayed by the formulation of the issue to which formulation I have referred, namely, whether the Director could properly make the statutory decisions he made 'where the EIA report identified the 100% loss scenario as a hazardous scenario associated with tank farm storage.'; and not, be it noted, 'with *this* tank farm storage.'

33. One notes at once a problem with that suggestion in the context of that part of the approach adopted in this case but in respect of which there has never been a quarrel. The EIA report catalogues a list of reasons for, or causes of, catastrophic releases to which past incidents attest. They include:

(1) brittle failure;

(2) boilover of tank contents;

(3) corrosion; and

(4) aircraft crash.

34. We see from paragraph 10.5.2.6 to 10.5.2.8 inclusive of the Report that "... brittle failure due to rapid changes in air temperature is *not expected* in Hong Kong. Rapid changes in temperature of contents are also *not expected* as aviation fuel received will be at ambient temperature. Failure of the tank due to overfilling could occur but an independent high-level shutdown system is provided to prevent overfilling. Boilover of tank contents is *not relevant* in the case of aviation fuel. … Aircraft crash is the only conceivable incident that can result in more than 10% of tank contents but this can be discounted, as the proposed site does not lie near to the flight path." In this regard, the judge commented [paragraph 57] that in its report : 'HSL accepts that certain hazards can be eliminated qualitatively, such as those described as "boil over" and "brittle failure" because they have no possible relevance to this project in this location.' Whatever HSL's position, no suggestion is made by the appellant that each of these non-applicable causes of failure required a QRA in this case.

35. Let us then pause to note the rationale provided for limiting the boundary of such failure as could in this case be expected with this project to one of 10% (and I use the word "expected" deliberately because not only is it the word repeatedly used in the paragraphs of the EIA report to which I have just referred as being the test for triggering a QRA, but, as we shall soon see, is a phrase used also in the TM together with analogous phrases such as "predicted"). The rationale is explained at paragraph 10.5.2.8 of the Report and in the

affirmations, that given the design of the tank ('... the plates are staggered so that a continuous line of welding from top to bottom does not occur.': affirmation of Brain Gillon, appeal bundle B page 143) it was safe to assume that in the event of roof failure, it was the topmost plate of the shell that might fail causing spill onto the bund; and since that topmost plate was only 10% of the tank height, failure would at most result in a release of 10% of the tank contents. The point is made in Shell's second report (appeal bundle C, page 298)that:

> "… it is not credible for Jet A-1 storage tanks to split wide open from top to bottom, when they have been designed and constructed to modern standards and have been hydraulically tested before being put into service."

In short, say the authors of the Shell report, the scenario proposed by the HSL report, and therefore by the appellant, is not a credible scenario for the type of tank designed for this project.

36. The question then becomes this: if it be accepted that a QRA was not required for brittle failure, for aircraft crash, for boilover, by what token is that accepted? If (as would be the sensible answer and one that I shall seek to demonstrate accords with the scheme of the TM and the study brief) because it could be predicted that in relation to *this* project those scenarios could be excluded as not applicable to this project, then it seems to me that the exclusion of a QRA for a total rupture caused by tank failure is equally acceptable if it can properly be predicted that such an occurrence can be excluded in relation to this project. If that is correct, then the only remaining question is whether that prediction would be challengeable.

37. It has been argued that the answer to this line of thinking is that a 100% failure *was* identified in the EIA report as a hazardous scenario and, having been identified, there is by reason of section 3.3.10.1 and 3.3.10.2 of the study brief a requirement for a QRA. Apart from the fact that I think this is to misread that part of the study brief, one has to be realistic about the nature of the identification of the hazard in the EIA report. In my judgment, it was identified not as a predicted or applicable scenario, or as one to be expected or to be anticipated in this particular case, but merely as a scenario that, generally speaking,

might occur with fuel tanks. Since it was not identified as a scenario applicable to this project, or put conversely, since it was assessed to be a scenario not applicable to this project, step 2 of the steps which it is said the study brief required did not apply for such a scenario. Whether the assessment was correct and should have been accepted by the Director was a quite different question, and is not a matter of construction. This is important, for one sees from the HSL report itself that what is truly attacked there is the failure *to identify* (step 1) a 100% failure as a hazard scenario relevant to this project, rather than the failure, having made such an identification, to carry out a QRA. The criticism is that the hazard assessment is ' …fundamentally flawed because it fails *to identify* and assess the risk associated with a catastrophic failure of one of the aviation fuel storage tanks…; 'and that' The hazard assessment fails to comply with the requirements of the EIA study brief because it does not *identify* all hazardous scenarios, in particular the catastrophic tank failure scenario." (see the Executive Summary of that Report). Yet the issue formulated by the appellant (see para [19] above) is the failure to carry out a QRA on identified scenarios; a failure to follow step 2 (see para [78 below]) of the steps that are said to be prescribed by the study brief.

38. I respectfully agree with Stone J (paragraphs [77] and [79] below) that the issue is one of construction and I fully accept that the scheme is not one to be applied loosely in such manner as the Director sees fit on some need determined at large by him, and that it is not for him to vary the process in a manner not provided for or permitted by the Ordinance, the TM or the study brief. Yet, however the judge below couched his reasoning, I do not read the Director as propounding such an approach, nor do I think that that approach is evidenced in this case. The Director's case is that a proper construction of the obligations constituted by these various instruments does not require a QRA for every conceivable scenario for tank farms generally but rather of applicable and credible scenarios to which the instant project lends itself. It is *that* question of construction, so it seems to me, that lies at the core of this case; and it is to that question that I now turn.

The TM

39. In relation to the TM, the appellant's case concentrates upon paragraph 4.1.1. I prefer to start elsewhere and to examine the document as a whole.

40. The TM does not, in my judgment, contain the imperatives for which the appellant contends. It deserves to be emphasized that the TM is a general document, by which I mean a document that is not project-specific. The project-specific document is the study brief. It is the study brief that "shall define the purposes, objectives and detailed requirements of the study and indicate the scope of issues...." (TM section 3.3); and it is to the study brief that one looks for prescription of the assessment methodologies required for the specific project (TM section 3.6). The TM specifies that what it is that the EIA report has to meet are 'the purposes and objectives set out in the study brief issued by the Director' (TM section 4.2.2). The TM is a guide. Para 1.2.2 expressly says so:

> "The technical memorandum … is a *guide* for the Director in deciding on matters under sections 5, 6, 8, 10, 12, 13 and 14 of the Ordinance. [The Director] will follow this technical memorandum as appropriate according to the circumstances of a case."

This is but a reflection of the terms of section 16(4) of the Ordinance:

> "The director shall be guided by all applicable technical memorandums when deciding on matters under sections 5, 6, 8, 10, 12, 13 and 14."

It may be that this, the fact that it is but a guide, is why section 6(1) of the Ordinance is phrased as it is, with its reference in subsection (1)(a) to "*the requirements of* the environmental impact assessment study brief", but no reference in subsection (1)(b) to *requirements* of the technical memorandum; though this passing thought may well be said to carry less weight than the section on its face suggests given the rather different wording of section 6(3). Be that as it may, it is evident from the document itself that a failure to observe what may appear to be a requirement of the TM is not necessarily fatal to the adequacy of the EIA Report. That is the effect of para 4.4.2 of the TM:

> "The quality of the EIA report shall be reviewed having regard to the guidelines in Annex 20 and 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."

41. The suggestion that para 4.1.1 of the TM in itself contains an invariable demand for a QRA 'wherever possible' and that the failure to follow that demand in itself rendered the approval of the EIA report unlawful is further undermined by the terms of section 12.1 of the TM under the heading 'Hazard Assessment':

> "… The need for a [hazard assessment] and its technical requirements and procedures shall be considered by the Director subject to the advice of the authorities stated in Annex 22. The risk guidelines are set out in Annex 4 and figure 1."

42. Section 4.1.1 of the TM is but an introductory paragraph to a lengthy document, a document which is peppered with the references to *predicted* impacts; to *expected* impacts; to *anticipated* impacts and it is to *expected* impacts that the EIA report in this case was directed : thus, brittle failure was 'not *expected* in Hong Kong'(see para 10.5.2.6 of the Report); rapid changes in temperature were not expected (para 10.5.2.6); failures due to weld were 'not expected', and failure due to corrosion was also 'not expected' (para 10.5.2.7). So too 100% tank failure, whilst identified as a hazardous scenario associated with tank storage was, similarly, not expected with *these* tanks. So, for example:

(1) Section 4.3.1(b)(vi) – assessment methodologies shall be capable of 'predicting the likely nature, extent and magnitude of the *anticipated* changes and effects such that an evaluation, in quantitative terms as far as possible, can be made with respect to the criteria described in Annexes 4 to 10 inclusive'.

(2) Section 4.3.1(c): "<u>Impact Evaluation</u>: evaluation of the

anticipated changes and effects shall be made with respect to the criteria described in annex 4 to 10 inclusive, and in quantitative terms as far as possible. The methodologies for evaluating the environmental impact shall be capable of addressing the following issues….". What is here addressed is the method by which an anticipated, a predicted, impact is evaluated in terms of its effect, rather than a method by which one identifies likely impacts.

(3) Annex 11 of the TM refers to the content of the EIA report, in other words, what one should generally expect such a report to contain. In this context it requires a 'prediction' of impacts and an 'evaluation of *predicted* environmental impacts against applicable ... criteria'.

(4) Annex 20 of the TM is headed "Guidelines for the review of an EIA Report". Para 5.1 of that Annex reads as follows:

> "Have the direct and indirect/secondary effects of constructing, operating and, where relevant, after use or decommissioning of *the project* been considered?"

Para 5.3 refers to the various types of impacts and para 5.4 asks the question:

> "If any of the above are not of

concern in relation *to the specific project* and its location is this clearly stated in the information?"

"5.5 Is the investigation of each type of impact appropriate to its importance decision, avoiding unnecessary information and concentrating on the key issues?

…

5.7 Has the information include a description of the methods/approaches used to identify impacts and the rationale for using them?

5.8 If the nature of *the project* is such that accidents are possible which might cause severe damage within the surrounding environment, has an assessment of the probability and likely consequences of such events being carried out in the main findings reported?

…

5.11 Where possible, have *predictions* of impacts been expressed in quantitative terms?

5.13 Have the methods used *to predict* the nature, size and scale of impacts been described and are you they appropriate to the importance of *each projected impact*?

…

7.2 Have the *predicted* impacts been compared to the available standards and criteria?

…

8.2 Does the scale of any proposed monitoring arrangements correspond to the potential scale as significance of deviations from *expected impacts*?" (Emphasis added).

43. I do not read the these various references to projected impact, to expected impact, as requiring first a series of QRAs addressed, each in turn, to every hazard scenario to which the construction of fuel tank storage has been known to give rise, and thereafter the execution of a QRA on each scenario not thereby categorized as one to be excluded. It is the particular project to which the study brief is always directed, to illustrate which point I have emphasized references to '*the* project' and 'the specific project', and both the TM and the study brief are riddled with references to '*the* project', rather than to projects in general. I read the requirements as demanding an identification of foreseeable impacts, or even possible impacts, if you will, with the requirement of a QRA in relation to those thus identified as *applicable* scenarios. Section 4.1 of the TM is not to be read in isolation; and I rather think that it has so been read. It is but an introductory paragraph in a non-statutory document and it refers to the conduct of QRAs for '*likely* … impacts' where impacts are described elsewhere in the document as 'anticipated changes'; and the terms of which section makes quite clear, as one would expect, that the impact to be assessed is that to 'the project'. It was suggested in argument that section 4.1 was the guiding section. I think not. Clause (c) of section 4.4.2 states that one of the factors to be considered in determining whether the report is or is not adequate is:

> "(c) whether the assessment methodologies adopted in the EIA report are consistent with the methodologies set out in annexes 12 to 19 inclusive and with the *general principles laid down in Section 4.3*, and whether the evaluation of the *predicted* impacts

> are consistent with the criteria listed in Annexes 4 to 10 inclusive." (Emphasis added).

There is no reference there to any methodology prescribed by section 4.1.1. The general principles are those in section 4.3; and under section 4.3 we see express reference to evaluation of *anticipated* changes caused by the specific project.

The study brief

44. The appellant's case depends heavily upon its analysis of section 3.3.10.1 of the study brief. The terms of section 3.3.10.1 are set out at para [39] above. That it is not drafted with close attention to language is evident from the fact that it refers to 'the risk to *the* life, including the workers of nearby plants' and to 'scenarios associated with *the* marine transport'. This comment is not made pejoratively of the draftsman of the paragraph but merely to illustrate by way of small example why it is that this document is not to be read as if drafted with the care of a parliamentary draftsman. The key contention that clauses (i) and (ii) of 3.3.10.1 specify that the EIA report must identify all hazardous scenarios which may arise with tank farm storage and that there must be conducted a QRA for each such scenario (see the issue at [18] above, as formulated by the appellant) is not in my opinion a tenable suggestion. The express purpose of the study brief is to study *this* project and to reveal the impacts of '*the* project' (section 3.1); to 'describe elements … likely to be affected by *the Project'* (section 2.1(ii)). Clause (ii) of section 3.3.10.1 speaks of the execution of '*a*' QRA. It does not say in terms, as does the following section (3.3.11.1(ii)), of what scenarios such 'a' QRA is to be conducted, and sits ill, as drafted, with the appellant's contention, which must flow from its construction of the section, that a QRA was required for each scenario associated with tank farm storage.

45. In relation to each aspect of potential environmental impact (e.g. air quality; noise; water quality; waste; visual; ecological), what was sought by the study brief was, first, identification of anticipated impact, and then an analysis of the likely effect of that anticipated impact. Thus, for example, we see under "Constructional air quality

impact":

> "If the applicant anticipates a significant construction dust impact that will likely cause exceedance of the recommended limits in the TM… a quantitative assessment should be carried out to evaluate the construction dust impact …." (section 3.3.3.4(vii)).

There, the prediction of an impact is a question of expertise having regard to the location and method of construction. Once a significant dust impact is identified, *then* the *extent and effect* of that impact is a matter for quantitative assessment. So too in the case of ecological impact, we see at section 3.3.7.3 a requirement to 'identify and quantify as far as possible the potential ecological impacts during the construction and operation of the project and should evaluate the environmental acceptability of the proposed project.' The requirement, again, is first to identify a potential impact and, having done so, to quantify the identified impact, so that by use of the quantification exercise, the acceptability of the impact identified as potential can be read according to criteria such as "acceptable", "ALARP", or "unacceptable".

46. So it is, in my judgment, in the case of hazard assessment. A proper, contextual and sensible reading of the study brief in conjunction with the TM is that the experts were required to identify hazards that may be associated with tank storage of fuel and then based upon their experience identify which were realistically possible in relation to this project. Those that were, for one sound reason or another, not credible or applicable scenarios were then to be excluded. Those that were credible and applicable a were to be the subject of a quantitative assessment so that the result which would thereby be revealed would say whether that predicted impact was or was not acceptable and, if not, whether they might be rendered acceptable by the use of mitigating measures the execution of which the Director could then require as a condition precedent to the acceptance of the report and the grant of a permit. If it was reasonably concluded that an event could not happen with this project because of its location or type of construction, then that event would not be an 'anticipated effect' of the project; the impact that would be expected in another location or with another construction would not

in the case of this project be 'an expected impact'; nor a potential hazard in the case of this project. If on the other hand an impact might be expected, if a hazard was potential, because of its location (in a flight path for example); or because by reason of its construction a 100% failure might be expected, then the scientific quantification of that hazard in terms of the societal and individual effects is a. That in my judgment is what this scheme required. That is the construction which the Director has placed upon the scheme and if that is a reasonable construction, then the decisions based upon it cannot be said to have been unlawful, even if another construction might be possible.

47. It is evident that this scheme was followed by the EIA report. Under the heading "Hazard to Life Assessment", the authors of the report said that:

"10.2.1 The main objective of the hazard assessment is to identify the risk to life due to the storage and transport of the aviation fuel at the PAFF and proposed measures to mitigate its impact. The study assessed the risk to life, due to marine transport in the vicinity of the jetty, jetty operations, tank farm storage and pipeline transfer of aviation fuel ….

10.2.2 The detailed objectives and scope of work were:

- identify all hazardous scenarios associated with the marine transport in the vicinity of the jetty ... jetty operations, tank farm storage and pipeline transfer of aviation fuels, which may cause fatalities;
- ….
- evaluate the consequences of such a release;
- quantify the risk to life in both individual and societal terms;
- evaluate the calculated risks against the hazard to live criteria established in Annex;

- identify practicable cost effective risk mitigation measures should they be required."

That seems to me a perfectly reasonable interpretation of the requirements of the study brief.

48. The issue of admissibility of the HSL report does not, in my opinion, affect the construction of these documents, unless it were said that the HSL report so improves the court's understanding of the issues and the technicalities that it could have led to a different conclusion as to the correct construction. I myself tend to the view that the judge erred in ruling that the report was inadmissible, in that he had permitted quite an extensive amendment to the Notice of Application specifically to enable the appellants to pray in aid the HSL report. That being so, it seems odd then to have excluded it. The effect of the HSL report as pleaded was to assert that the study brief required a QRA of the 100% catastrophic tank failure scenario; and that the assessment of the EIA report in fact grossly underestimated the risks associated with the PAFF. The purpose of the report, so we were informed in the course of this appeal, was to enable the appellant better to explain its case to the court and to assist the appellant on the issue of discretionary relief, should they succeed on the construction issue. The report, which I have read, does not dissuade me from my construction of the TM and study brief and from my conclusion that the study and the report do not fall foul of the requirements of the TM or of the study brief.

49. I have had the advantage of reading in draft the judgment of Stone J. There are particular passages in respect of which I would venture some comments, merely because I believe that those passages and my response may assist in highlighting at this, the end of my analysis, what are the key contending issues in the case, as well as my approach to them:

(1) I accept that it is not a matter for the Director to determine as a matter of general judgment which scenarios need to be addressed by a QRA, and that it is a matter of the correct

construction of the statute and of the two documents upon which we have concentrated.

(2) It is said (para [78] below) that a natural reading of section 3.3.10 of the study brief is that "a QRA of all scenarios identified in step 1 is required". That of course, as I am sure is accepted, is to beg the question what it is the step 1 requires; and it is *that* in my opinion that is the core question in the case. The answer which I suggest is that what has first to be identified are the hazards applicable to the instant project and, once that has been done, a QRA is required for those impacts thus identified. There is, so it seems to me, some support for this approach from paragraph [78] below itself, in its reference to the "… requirement ... that the EIA report must assess the *likely/anticipated* impact in quantitative terms wherever possible" (my emphasis). That, I would have thought, requires first an identification of "likely/anticipated" impacts and then a quantitative assessment of the impact or impacts thus identified.

(3) It may be that the liberal use of the word "credible" in the various papers and in argument in this case has caused more difficulty than had we concentrated on the word "applicable". Thus it is that when we see, in isolation, the judge below stating (paragraph 57 of his judgment) that "HSL

does not explain why 100% instantaneous loss scenario could be a credible event", Stone J. correctly questions that proposition. Yet it is noteworthy that the judge does go on to explain why, given the design features in this case, that scenario for *this* project is not credible. I accept that 100% loss scenarios have happened elsewhere and that given certain circumstances, or a combination of such circumstances, such a scenario is not incredible. But the point that I have been seeking to make is that the Directors case and the case presented by the EIA report was that in the instance of *this* project, such a scenario was indeed not credible; and if a proper construction of the Ordinance, the TM and the study brief requires first the identification only of credible scenario – or as I would prefer to call them "applicable" scenarios, that is to say applicable to the project in question – then it is not to the point that 100% losses have occurred in other situations.

(4) In so far as it is said that the HSL or other reports postulate a 100% failure for this project as a real possibility so that the circumstances giving rise to such a failure ought to have been classified as applicable to the project, but were not, the argument has then crossed the border from an issue of construction to a different issue. Since the *Wednesbury* unreasonableness argument is no longer pursued, that different

issue does not arise for determination. The case stands or falls on the question of construction.

50. There was a further line of argument which assailed as improper the meeting between the Director and the HKAA in late May 2002. I fail to see anything other than as sensible the idea of a meeting between representatives of the Director and the HKAA to discuss assessments such as these to satisfy themselves that the proposed analyses were to be put forward upon a practical yet prudent footing.

51. For these reasons, I would dismiss the appeal. I agree with the orders for costs, both here and below, which are proposed by my lord, the Chief Judge.

Hon Stone J:

52. I have had the advantage of reading in draft the judgments of Ma CJHC and Stock JA.

53. I gratefully adopt the meticulous rehearsal by Stock JA of the factual and statutory background and, where necessary, I adopt abbreviations which have been used.

54. Regrettably, however, I have the misfortune of being unable to agree with the conclusion reached by the majority in this case.

55. Notwithstanding the plethora of detail (and paper) involved in this case, it strikes me that, at bottom, this appeal stands or falls upon the success or otherwise of the primary contention of Mr Pleming QC, namely that this case is about construction, both of the Ordinance and of the other essential documents, that is, the technical memorandum and the study brief.

56. In my view, if Mr Pleming does not get home on this line of argument, he does not get home at all, whether it be in terms of his second main ground of appeal — that the agreement at the 25 April 2002 meeting permitting the HKAA not to carry out and present a QRA of the 100% loss scenario usurped the tripartite process underlying the Ordinance — or in terms of that which he

characterized as the 'admissibility issue', which constituted his third main ground.

The 'construction issue'

57. In this judgment I thus focus upon that to which both sides have referred, with admirable economy of reference, as 'the construction issue'.

58. In essence, the appellant maintains that the Director simply has not followed the relevant requirements and criteria of what is a developed and sophisticated Hong Kong regime for the assessment of potential environmental impact, in this instance the assessment of the environmental and risk implications of siting a number of large storage tanks containing aviation fuel immediately contiguous to the appellant's steel mill, which, we are told, is the only such mill in the territory. It is said, it may be thought with good reason in the particular circumstances, that there is no justification for relieving the Director of the clear and unambiguous requirements of the EIA regime.

59. The Director does *not* accept that he has thus departed from the requirements of such regime, or that there has been deviation from the terms of the technical memorandum or the study brief in this case. To the contrary. He says that at all times he has acted lawfully within the guidelines, statutory or otherwise, which are imposed upon him. His unequivocal case is that he was, and is, in compliance.

60. The learned judge below, in a lengthy and carefully considered judgment, favoured the Director's view.

61. The judge dismissed the application for judicial review and held that the Director had acted lawfully in allowing the EIA Report to be exhibited without requiring the QRA in the Report to include an assessment as to instantaneous loss of 100% of tank content.

62. With this conclusion the appellant begs to differ, and urges this court to take a different view.

63. For my part I have been driven to the conclusion that in acting as he did that the Director did *not* act within his powers in making the two decisions which specifically are impugned in this case, and for which an order of *certiorari* is sought, namely those of 2 August 2002 to approve the EIA Report in respect of the PAFF project submitted by the HKAA under section 8(3) of the Ordinance, and the decision of 28 August 2002 to grant an Environmental Permit to the HKAA under section 10(2) of the Ordinance. For shorthand purposes these decisions can be referred to as the 'Approval Decision' and the 'Permit Decision'.

64. Section 6(3) of the Ordinance imposes the primary statutory obligation on the Director to decide if the submitted EIA Report "meets the requirements of the environmental impact assessment study brief and technical memorandum." It seems clear that section 6(3) does not allow the Director to decide that the requirements are met by waiving any one or more of those requirements.

65. The technical memorandum is issued to the Director by the Secretary for the Environment, Transport and Works for guidance in making statutory decisions. It is also published, so that persons interested in or likely to be affected by the EIA process can be made aware of, and have a reasonable expectation as to, the manner in which the Director should and will conduct the statutory decision-making process.

66. The study brief in any particular case is issued to the project applicant, in this instance the HKAA. This also is a public document, and pursuant to section 15 of the Ordinance, must be made available for public inspection.

67. In this regard, I consider that Mr Pleming is correct when he submits that the study brief forms an integral part of the business of public involvement, and for any designated project, is the document that sets the agenda for the rest of the EIA process in respect of that project.

68. Both the technical memorandum and the study brief have legal effect in light of the mandatory requirements of sections 16(4), 6(1) and 6(3) of the Ordinance, and whilst not subject to legislative

control, are at least analogous to delegated legislation. They provide a detailed assessment regime, as provided under the Ordinance.

69. The technical memorandum contains mandatory requirements, *viz*, it requires the content of the EIA report to fully meet the purposes and objectives set out in the study brief (4.4.2 of the technical memorandum).

70. In terms of hazard to life, Annex 4 of the technical memorandum is of considerable significance, and provides that the criterion for evaluating hazard to human life is to meet the individual and societal risk guidelines for acceptable risk levels as shown in Figure 1, which sets out the parameters in quantitative terms for individual and societal risk.

71. As Mr Pleming pointed out, the technical memorandum requires the Director, in reviewing the EIA report for the purpose of section 6(3) of the Ordinance, to check for compliance with the study brief and the technical memorandum, and in particular to have regard to whether predicted impacts have been expressed in quantitative terms wherever possible, and whether the evaluation of the predicted impacts is consistent with the Annex 4 criterion.

72. Further, in making the section 8(3) decision — namely, that within a designated time-frame the Director shall approve, approve with conditions, or reject an EIA report for the designated project — the Director is required by section 4.5 of the technical memorandum to determine whether the requirements in the study brief have been met, and whether the criteria laid down in the technical memorandum (including the Annex 4 criterion) can be met; whilst in making the section 10(2) decision — that is, in granting or refusing an environmental permit the Director shall have regard*, inter alia*, to the approved EIA report and the technical memorandum — the Director is required by the Ordinance to have regard to the technical memorandum, which includes the Annex 4 criterion.

73. In addition, the study brief contains mandatory requirements, in particular requiring the applicant to demonstrate in the EIA Report that the criteria in the relevant sections of the technical memorandum, which includes Annex 4, have been fully complied

with (paragraph 3.1), that the EIA study shall include certain technical requirements with regard to specific environmental impacts (paragraph 3.3), and the requirement that "the Applicant shall follow the criteria for evaluating hazard to life as stated in Annexes 4 and 22 of the Technical Memorandum in conducting hazard assessment …"(paragraph 3.3.10.1).

74. Paragraph 3.3.10, entitled 'Hazard to Life', is of central importance upon this appeal.

75. Paragraph 3.3.10.1 sets out the assessment methodology prescribed by the study brief in this case, and represents a 4-step process : *step 1* requires the identification of all hazardous scenarios associated with specific activities which may cause fatalities, *step 2* requires the execution of a quantitative risk assessment expressing population risks in individual and societal terms, that is, quantification of risk to life, *step 3* requires a comparison of individual and societal risks, as identified in step 2, with the Annex 4 criteria/guidelines for acceptable risk, whilst *step 4* requires, "as appropriate", the identification and assessment of risk mitigation measures in respect of the risks covered in the previous three steps. Dependent upon the outcome of step 3, the phrase "as appropriate" means whether the risk falls into the bands of 'acceptable', 'as low as reasonably practical' ('ALARP'), or 'unacceptable'.

76. I do not consider that there can be any doubt about this prescribed assessment methodology. If I may say so, I fail to see how the required steps delineating the risk assessment process can properly be considered other than in a sequential manner; in particular, it seems to me that the quantitative assessment at step 2 is the necessary precursor to enable steps 3 and 4 to take place.

77. Accordingly, I find it difficult to accept, and respectfully differ from, the conclusion of the learned judge below (at paragraph 56 of his judgment) to the effect that step 2 was not linked to step 1, and that it merely required a QRA "for all those scenarios which in the Director's judgment need to be addressed and assessed."

78. A decision on this point, in my view, lies at the core of this

case. It is as simple, or as complex, as that. The natural reading of step 2 is that a QRA of all the scenarios identified in step 1 is required. As Mr Pleming submitted, it is implicit, when addressing the question of what should be evaluated, that it should be in terms of the hazardous scenarios just identified, that is, in step 1, and that this construction is consistent with the requirement, by which the Director is to be guided, that the EIA report must assess the likely/anticipated environmental impacts in quantitative terms wherever possible (paragraphs 4.1.1 and 4.3.1 of the technical memorandum).

79. In this regard I accept the appellant's contention that the construction contended for by the Director — namely that step 2 requires a QRA *only* of those scenarios identified in step 1 which, in the opinion of the Director's officials, merited assessment in quantative terms — would be inconsistent with the mandatory guidance of paragraphs 4.1.1 and 4.3.1 of the technical memorandum, and would fly in the face of the requirement to evaluate the risks by comparison with the Annex 4 criterion. Furthermore, it seems to me that it would frustrate the purpose of the Ordinance and the entire EIA regime in Hong Kong if the Director could decide to vary the process of assessment in a manner not provided for in the Ordinance, the technical memorandum or the study brief, and in a manner which would not involve public consultation or public accountability.

80. In deciding (at paragraphs 62 and 76 of his judgment) that the technical memorandum is "not a straitjacket to be slavishly and mechanically followed" and that the Director in his discretion may depart from the requirements and criterion of the technical memorandum and the study brief, provided that this is not done in a "cavalier way", the learned judge below appears to have accepted the beguiling premise that, in effect, it is appropriate to insert a mental process between step 1 and step 2 so that, after identification of all hazardous scenarios which may endanger life, there is then to be discussion between the Director's officials as to which of these scenarios should be considered in the QRA.

81. This is not to suggest, of course, that the risk assessment which requires to be undertaken pursuant to steps 1 and 2 should embrace

hazardous scenarios which can have no basis in reality. It cannot reasonably be thought, for example, to borrow an illustration advanced by Ma CJHC during the hearing of this appeal, that a scenario to be evaluated in terms of risk assessment would be that of a Martian spaceship landing on a fuel tank and causing its disintegration. Such patently would be absurd.

82. However, that which is unclear is the basis upon which the learned judge below suggested (at paragraph 57 of his judgment) that the 100% loss scenario was an "incredible" scenario and one "which it is known will not occur".

83. To the contrary. This is a far cry from the 'Martian' example. The 100% loss scenario could occur, and in fact the EIA report itself refers to previous incidents where it has occurred. Admittedly, as Mr Pleming accepted, the 100% loss scenario may be low frequency, but it cannot sensibly be characterized as "incredible" where possible causes include terrorism, sabotage, air crash, lightning, subsidence (given that the PAFF will be constructed on reclaimed land) or, for that matter, accident during the construction of the second phase of tanks.

84. The HSL report — which in the circumstances and development of this case in my view the learned judge was in error in ruling inadmissible — itself assesses the 100% loss scenario as credible, and in fact it is HSL's view that it is "axiomatic" that such scenario is considered for this sort of analysis. Moreover the HKAA's expert, AEA, recognized that the possibility of bund overtopping in instances of catastrophic failure could not completely be eliminated, and that incidents other than aircraft crash resulting in 100% loss of tank contents were conceivable.

85. So that there is, with great respect to the learned judge, cogent evidence that should not simply have been dismissed. Nor in my view is there much forensic mileage to be gained — as Mr Yu SC sought to achieve — in his emphasis in this context upon the word 'instantaneous', and thus that such eventuality rightly was considered by the Director to be 'incredible' and immaterial to the assessment whether a QRA on that scenario was performed. I appreciate, of course, that the bund design capacity is 110% of tank content and on

its face would be sufficient to hold within the bund spillage over a period of time. However, in the circumstances I do not consider that the appellant can be criticized for introducing the 'instantaneous' concept into the equation'; when consideration is given to the issue of 100% loss by its very nature such an event is likely to take the form of a cataclysmic as opposed to a form of orderly or relatively gradual dissipation.

86. Looking at the case in the round, it strikes me as odd that in the particular circumstances, encompassing fuel tanks to be constructed adjacent to an operating steel mill, wherein no doubt enormously high temperatures are the norm, that the Director should have taken the doctrinal stance that has been adopted, and that he should have maintained this position in face of informed and cogent argument as to the requirement to execute a QRA in terms of the 100% loss scenario. In the circumstances of this project, I do not accept Mr Yu's argument that it would be "unduly restrictive and inefficient" to have expected a QRA to be done with regard to the 100% instantaneous loss scenario.

87. There can be little doubt but that the societal risk criteria within Annex 4 of the technical memorandum were set after taking into account the high density population of Hong Kong, and it seems tolerably clear that if and in so far as the Director's current view were permitted to hold sway — in this of all cases — that this approach, wherein is introduced the intervening and subjective judgment of his officials as to that which should be included within the requirements of the technical memorandum or of the study brief, would severely weaken the strict criteria for hazard assessment, and the execution of a QRA, which presently are built into the system.

88. In my judgment it is particularly inappropriate for a QRA relating to an identified hazard to life to be avoided on the basis of "design features and standards of construction and testing". In this connection I agree with the appellant's submission that such a deterministic approach fails to recognize that the tank design limits could be exceeded, and that, furthermore, human error in its various manifestations, whether in terms of construction and maintenance, could render tank design features ineffective.

89. It seems to me that the EIA report should have estimated the frequency of occurrence of the scenarios and evaluated the consequence of occurrence, these results then being compared with the results of the Annex 4 criteria.

90. All that has happened in this case is that there has been a general qualitative assertion as to the extreme unlikelihood of an occurrence, which is not the requisite estimate of frequency in any event, it being common ground that there was no evaluation of the consequences of the occurrence of the 100% loss scenario. Mr Pleming submits that Annex 4 requires an estimation of the frequency of the event, and if it is 1 x 10(-9) or above, then the consequences must be evaluated. In the circumstances the appellant's complaint that, in terms of what has been done, there could not possibly be any comparison with the Annex 4 criteria, which provides a quantitative basis for rejection, or acceptance, of an identified hazard scenario, is well-founded.

91. I further accept the contention that no-one reading the published documents, namely the technical memorandum or the study brief, could have appreciated from their content that the Director would adopt the approach toward environmental risk assessment that he did; in other words that once a risk to life had been identified that there would be no QRA undertaken in relation to that hazard or risk, or that the Director would be minded to dispense with the necessity of a QRA on the basis of HKAA submissions absent consideration of the individual and societal risks anticipated by Annex 4.

92. In my judgment the EIA process in this case veered off course when, contrary to the requirements of the technical memorandum and the study brief, the HKAA was permitted to submit an EIA report which did not contain a QRA of the 100% instantaneous loss scenario, and that the two decisions of the Director which are the subject of these judicial review proceedings, the 'Approval Decision' of 2 August 2002, and the 'Permit Decision' of 28 August 2002, were unlawful.

93. It necessarily follows that I further have concluded that the Director's section 6(3) decision also was unlawful and that, in light of his view that the 100% instantaneous loss scenario should have been qualitatively and not quantitatively assessed, he did not act

within his powers in deciding that the EIA report met with the requirements of the study brief and the technical memorandum.

Discretion

94. Having reached this primary conclusion, I now turn to the issue of discretion.

95. As the judgment below neatly illustrates, a finding as to unlawfulness may not, in the exercise of judicial discretion, necessarily lead to the grant of the relief sought by the applicant. The exercise of such discretion is very much a live issue in this case, and in light of time constraints in the hearing of this appeal Ma CJHC ordered that written representations on the point be delivered subsequent to the hearing. Such representations were received from all parties during October 2004.

96. Although he found against the appellant upon the unlawfulness issue, the learned judge below nevertheless went on to consider (at paragraphs 106 *et seq* of his judgment) the manner in which he would have exercised his discretion had he found in favour of the appellant.

97. His conclusion was that it would have been "a difficult decision", but that at the end of the day on this issue he would have found in favour of the Director. The basis for this conclusion was fourfold: that there was delay in commencing the proceedings, that the crux of the applicant steel mill's case was "largely technical in nature", that in any event the case should have been made at the time of the public consultation, but was not, and lastly that the sum of the evidence before him supported the view that notwithstanding the additional material submitted "the same decision would be made now as was made in August 2002."

98. Unsurprisingly these conclusions form the broad subject matter of the arguments now raised by the parties to this appeal with regard to the exercise of discretion.

99. A basic submission made by Mr Yu on behalf of the Director, and a point that should in this context be canvassed at the outset, is that in judicial review, as in other areas of law, an appellate court

should interfere with the exercise of discretion by a first instance judge only if it takes the view that the judge below erred in principle or that in the exercise of his discretion that he was plainly wrong — and that in this instance neither could be said to be the case.

100. Whilst it appears that the courts have, as a matter of practice, often treated the issue of whether to refuse relief as one of discretion *per se*, for my part I am far from convinced that this is the true or appropriate position. In this context Mr Pleming has drawn our attention to a judgment of the English Court of Appeal in *R v. Restormel BC, ex p Corbett* [2001] 1 PLR 108 wherein Schiemann LJ noted that there was "room for argument" to the effect that a decision not to quash the result of an admittedly unlawful administrative act was a decision which the appellate court would set aside in the exercise of its own judgment although the decision of the first instance judge could not be described as manifestly wrong, whilst in the same case Sedley LJ agreed, observing that he was "hesitant to treat a decision so fraught with basic principles as simply one of discretion. It seems to me … to be better described and regarded as a matter of judgment. If so, it is open to a closer re-examination on appeal than a pure exercise of discretion."

101. For my own part I am strongly inclined to agree with this approach. It seems clear that the 'exercise of discretion' whether to grant a remedy in public law cases involves both questions of law and judgment, and not a mere balancing exercise in terms of advantages or disadvantages. In this regard I am minded to accept Mr Pleming's contention that the court's approach in a judicial review should in principle be limited to that which is necessary to ensure that the designated decision maker remains the decision maker, albeit by way of proper process; this approach militates in favour of the quashing of an unlawful decision so that the decision maker can make the decision again, properly, rather than to preserve an unlawful decision by reason of the court's assessment of various factors including a prediction of what the new decision will be. It must follow, therefore, that an appellate court should be prepared to intervene more readily in the exercise of a judge's discretion as to remedy where the function of the decision maker has been usurped without good reason.

102. It is for this reason that I am unsympathetic to the view taken in the court below in terms of the Director's contention that the same decision would be made now as was made in August 2002 notwithstanding the additional material which had been submitted, and I am further unimpressed by, and reject, the argument that since it may not be shown that the judge was plainly wrong in his view on the exercise of the discretion, that his substantive view as to the lawfulness of the decisions under scrutiny must *ex necessitatis* remain unimpeached.

103. However, in so far as it may be necessary to regard the judge's expression of view as an exercise of "pure" discretion, in the circumstances of this case I should be prepared to hold that this court is nevertheless entitled to exercise its discretion afresh on the material before it because the learned judge erred in law in terms of the reasons advanced for declining so to exercise his discretion, and further in failing to appreciate or to accord any weight to the pre-eminent principle, espoused by Lord Hoffmann in *Berkeley v. Secretary of State for the Environment* [2001] 2 AC 603, at 616, that "it would be exceptional even in domestic law for a court to exercise its discretion not to quash a decision which has been found to be *ultra vires*".

104. I turn now to consider the individual elements underpinning that which would have represented the exercise of the judge's discretion.

(i) Delay

105. As to the primary aspect of delay, on behalf of the Director Mr Yu relies upon a number of points. He says that the question of delay must be considered in connection with the needs of good administration, and in reviewing the chronology of events complains about a "fundamental shift" in the appellant's case between the original Notice of Application, upon which basis leave had been obtained from Hartmann J, and the re-amendment of the Notice of Application and consequent reliance upon the HSL report to attack the technical adequacy of the EIA report. In this context, Mr Yu maintains, it is clear that the real challenge should have been against the section 6(3) decision that the EIA report met the requirements of

the study brief and the technical memorandum, whereas in fact the challenge in the present proceedings is only against the two decisions made in August 2002.

106. Mr Yu reviewed the statutory regime, including the relevant time limits, as laid down in the Ordinance, and suggested that the appellant's letter of 13 July 2002 did not demonstrate that there was then any difficulty in understanding the Ordinance, and that the appellant had not been prevented from obtaining expert assistance during the statutory consultation period, wherein the point that the appellant now is seeking to make through the HSL report could have been made — had this been done, the Director could have requested more information from the HKAA under section 8(1) of the Ordinance. Under Order 53, rule 4(1) any challenge to a decision of a public body must be made 'promptly', and where a statute imposes time limits for actions to be taken, the requirement of promptness under Order 53, rule 1 must be interpreted with those time limits in mind. Moreover, submitted Mr Yu, section 21K(6) of the High Court Ordinance provides that where the court considers that there has been undue delay in making an application for judicial review, the court may refuse to grant any relief on the application if it considers that such grant would substantially prejudice the rights of any person or be detrimental to good administration. Accordingly, so his argument went, the grant of *certiorari* in the circumstances of the present case would be prejudicial to the public interest and detrimental to good administration.

107. These arguments are ably supported by Mr Lee for the interested party, the HKAA, who further submits that the establishment of deadlines and defined periods for public consultation are the safeguard supplied under the legislation for the efficient and timely completion of major designated projects, and that there is no other means under the established regime to keep the assessment process "on the rails". He also argued that the decision of the Director that the 100% instantaneous loss scenario could be qualitatively assessed was a *bona fide* determination, and could not be asserted (as in fact it was not) to be *Wednesbury* unreasonable.

108. It is clear that these diverse contentions represent the principal

battleground should the Director fail in his substantive argument that throughout he has been in compliance with the statutory scheme; equally clearly they merit reflection. At the end of the day, however, I am unpersuaded that the issue of delay should be permitted to preclude the grant of relief sought by the applicant if, as in my judgment is the case, the unlawfulness of the administrative decisions under attack otherwise has been made out.

109. As a matter of chronology, the application for judicial review in this case was made on 1 November 2002 within approximately two months of the section 10 decision of 28 August 2002, the 'Permit Decision', and within the three month period to challenge the section 8 decision, the 'Approval Decision', of 2 August 2002.

110. The learned judge below appeared to have been influenced by the contention that the real decision under challenge (or that which should have been the subject of challenge) was the Director's section 6(3) decision of June 2002 — that is, whether the submitted EIA report met the requirements of the study brief and memorandum — and thus that the proceedings were late.

111. In my view this is incorrect. Mr Pleming must be right in his submission that the section 6(3) decision merely has the effect of permitting the project proponent to publicise the EIA report, and does not entitle that proponent to proceed to construct the project. Thus any challenge to the section 6(3) decision would have been premature, and the applicant steel mill was entitled to proceed on the basis that its representations would persuade the Director to reconsider his decision, and not move on to the grant of an environmental permit. Should the position be otherwise, it would lead to the absurdity that, if the concerned citizen were not to be out of time, he would have to apply for leave to apply for judicial review before the time when the Director is obliged by the Ordinance to decide whether to approve the EIA report under section 8.

112. Nor does the learned judge appear to have had in mind in deciding the issue of delay the leading case of *R(Burkett) v. Hammersmith LBC* [2002] 1 WLR 1593 wherein the House of Lords considered first, the resolution of a planning authority to grant permission subject to certain conditions and second, a subsequent

grant of permission following satisfaction of such conditions. In this case it was held that the applicant was not required to move for judicial review until the actual grant of permission which affected the applicant's rights, and that although the earlier resolution might be the real basis of complaint, it was not inevitable that it would ripen into an actual grant of permission.

113. Thus, maintains Mr Pleming, in light of *Burkett, op cit,* the appellant steel mill was entitled to wait to issue judicial review proceedings until after the section 10 decision, in reality the effective decision, was made on 28 August 2002, which was the date when the environmental permit was actually issued and when, subject to other permissions, the HKAA could proceed to construct the PAFF next to the steel mill.

114. I agree with, and accept, this analysis.

115. Nor does it seem to me that in the intervening two month period between the section 10 decision to grant the Environmental Permit and in issuing its application for judicial review, that the appellant acted other than reasonably in taking the opportunity to meet with the HKAA in early September and in commissioning an expert report from MacInnis in order to obtain expert support for its concerns, which originally had been expressed in its letter dated 13 July 2002. The MacInnis report was apparently received on 16 October 2002, and was sent to the Director five days later. There was no response from the Director, albeit the HKAA responded on 1 November 2002 seeking to persuade the appellant that all of its concerns had been fully addressed. The proceedings herein were commenced on 1 November 2002.

116. As the time taken by the HKAA and the Director to file their own expert reports tends to demonstrate, this is a complex subject, and it seems not unfair to assume that, even if the appellant had applied for leave to apply for judicial review shortly after its meeting with the HKAA on 9 September 2002, it is unlikely that there would have been a substantive hearing for many months: in this case, the actual date of the hearing below of 5 September 2003 was fixed by the court on 13 January 2003.

117. In his judgment the learned judge below did not conclude that the grant of the relief sought would be likely to cause substantial hardship to or substantially prejudice the rights of the HKAA, the Hong Kong International Airport, or that such grant would be detrimental to good administration. There is no Respondent's Notice to this effect.

118. In any event, whilst it is clear that these judicial review proceedings will delay the achievement of an operational PAFF, particularly if the grant of the environmental permit is quashed and the EIA process renewed, in whole or in part, such delay, if indeed properly to be characterised as 'prejudice', must in the circumstances be outweighed by the necessity for the proper conduct of the EIA process; in passing I note that there is no evidence as to the time frame for the completion of the project if relief is granted, and that on the available evidence the original timetable proposed — prior to the institution of these proceedings — would in itself not have met the alleged need for the PAFF by late 2005 or early 2006.

119. Nor, with respect, is there evidence of detriment to good administration which would be caused by the grant of relief in this case. Whilst the PAFF is a project of public importance, in the present circumstances it is difficult to see why this argument should be such as to dissuade the court from compelling the Director to act according to law, if such be the conclusion reached by this court. As the English Court of Appeal observed in *Burkett, op cit*, [2001] Env LR 684, "administration beyond law is bad administration". The expenditure of time and resources, on all parts, strikes me as nothing to the point when compared to the potential consequences if HSL is correct in its contentions.

120. Moreover, in terms of the HSL view, which provoked amendment to the judicial review application, it has not been suggested either by the Director or by the HKAA that any prejudice or unfairness has been caused by having to deal with the amended Notice of Application, as opposed to the original application, nor is it suggested that any different approach would have been taken if the matters contained in the amended Notice of Application had been contained in the original. In the circumstances, I further accept the

submission that the fact of amendment should not weigh heavily upon the issue of whether to grant relief.

121. Lastly, in so far as the learned judge concluded (at paragraph 108(c) of his judgment) that the case of the appellant as put at the hearing could have been put at that time of the public consultation, it seems evident that the absence of QRA was not known to the appellant mill at the time of the public consultation, a fact which is said to be attributable to the allegedly "misleading nature" of the relevant section of the EIA report; additionally, of course, it is common ground that the private agreement between the Director and the HKAA on 25 April 2002 to dispense with the QRA of the 100% loss scenario was not itself disclosed until 15 August 2003.

122. At the end of the day, therefore, in terms of delay, which, as I have observed, constitutes the principal fall-back position of the Director and the HKAA in this case, I reject the contentions thus advanced by the Respondent and the Interested Party.

123. In my view this is a paradigm case for ensuring the proper conduct of the EIA process in order to meet Hong Kong's requirements for the protection of the environment, including the paramount consideration of risk of harm to life. Given the history of this case, and in light of what seem to me to be the entirely legitimate concerns raised by the appellant, both here and below, I confess that I have been unable to grasp why the Director has chosen to lock horns in this litigation rather than to comply with that which, in my judgment, is the requirement to conduct a QRA in the terms sought by the appellant.

124. I turn, briefly, to the other considerations which the learned judge below considered should influence the exercise of his putative 'discretion' to have refused relief in any event.

(ii) 'Technical' only?

125. I take first the observation (at paragraph 108(b) of the judgment below) that the crux of the appellant's case was "largely technical in nature", a criticism which is taken up by the respondents to this

appeal, who suggest that the unlawfulness is "technical" rather than "serious".

126. The man on the Shaukeiwan tram might think that in the circumstances of this case there is much to be 'technical' about. Presumably this line of argument is further manifestation of the Director's view as to the merits of this judicial review, although this is nothing to the point in light of the conclusion I have reached as to unlawfulness; moreover, this is advanced in the context of an improper EIA assessment of a risk which at least one expert, HSL, regards as 'serious' in terms of public safety. The fact that there is disagreement as to the merits of a QRA of the 100% instantaneous loss scenario, or that 'technical' argument is to the fore within the parameters of this argument, does not seem to me to constitute a good reason why relief should be denied to the otherwise successful applicant.

127. The experts evidently are *not* agreed that the design of the PAFF meets all international safety standards, and the fundamental issue is the proper conduct of the Hong Kong EIA regulatory process, the aim of which is the protection of the environment and human life. If and in so far as the regulatory process has not been properly conducted, then it is open to the appellant to frame its arguments — which from the outset appear to have focused on the risk of bund overtopping, thereafter leading to the argument as to the lack of a QRA for the 100% instantaneous loss scenario — in the manner that it has.

128. Accordingly, I reject this argument also, and consider that the learned judge below was in error in thus characterizing this aspect of the case. Indeed, in asserting that the appellant's case was founded upon a "largely technical" breach, in my view the learned judge has misstated the true 'crux' of the appellant's case, which was one founded squarely upon the premise that, as a matter of construction, a QRA was required in the circumstances of this case, and thus the Director was duty bound to carry it out. For this reason alone, in my judgment this court would be entitled to substitute its own discretion for that of the trial judge.

(iii) Inevitability of outcome?

129. I turn finally to the learned judge's acceptance of the submission (at paragraph 108(d) of his judgment) that notwithstanding the additional material which had been submitted — which, I remind myself, was excluded at the hearing below — that "the same decision would be made now as was made in August 2002".

130. I am instinctively unsympathetic to this submission. As a matter of law the Director is unable retrospectively to dispense with the requirement of a QRA on the ground that the outcome would have been the same, as is evident from the decision of *Berkeley v. Secretary of State for the Environment* [2001] 2 AC 603, wherein the House of Lords reversed the Court of Appeal and quashed the planning permission made following the failure of the Secretary of State to consider whether there should have been an EIA, a failure which had led to the time and expense of a public inquiry prior to the eventual grant of permission, which then was challenged.

131. In *Berkeley, op cit*, Lord Hoffmann, in considering the contention whether in that case it mattered that an EIA would not have affected the decision, and after detailing the relevant procedures necessary in environmental assessment, in particular in terms of the interest of the general public in a major project, and the necessity for a clear environmental statement to enable readers to understand for themselves, went on to observe (*at 616D*) :

> "A court is therefore not entitled retrospectively to dispense with the requirement of an EIA on the ground that the outcome would have been the same or that the local planning authority or Secretary of State had all the information necessary to enable them to reach a proper decision on the environmental issues."

132. It is evident that the key purpose of the Ordinance is that there should be public consultation as to the content of the EIA report, and in my view it is manifestly undesirable that the Director should be excused from compliance with the legally correct process, notwithstanding the contention that ultimately there would be no difference to the result. In any event, as Mr Pleming notes, the

evidence which currently is available indicates a clear conflict of expert view as to the outcome of a QRA of the 100% loss scenario, which should be resolved in terms of the proper consultation process and not by the court, although, in deciding whether to exercise its discretion to grant relief, the court can and does have regard to post-decision material.

133. I accept the appellant's submission that, in the present circumstances, there should be a resubmission of the application for approval and the grant of a permit, and that the public should be permitted to comment thereon; moreover if, as HSL concluded, the "true risk for the PAFF lies in the upper ALARP region of the Risk Guidelines", the Director will have to be satisfied, in light of all the comments received, that mitigation measures have been taken to reduce the risk accordingly.

134. Perhaps it is not unfair to conclude, as indeed the appellant has submitted, that if, in the circumstances of this case, judicial discretion were to be exercised in favour of the Respondent notwithstanding a conclusion reached as to unlawfulness, it would be difficult to envisage any case wherein judicial review could be used to challenge a publicly important, but allegedly environmentally suspect, project.

Conclusion

135. For the foregoing reasons I would have allowed this appeal and set aside the judgment of the learned judge below.

136. I would have ordered that *certiorari* do issue and that the decision of the Director dated 2 August 2002 made pursuant to section 8(3) of the Ordinance, and the decision of the Director dated 28 August 2002 made pursuant to section 10(2) of the Ordinance, be brought up and quashed.

137. Concern has been expressed to the effect that, as the proceedings are presently constituted, wherein the appellant sought the quashing only of the section 8(3) and the section 10(2) decisions, that there would be no legal basis for the Director to revisit his section 6(3) decision even were it to be found (as in my view is the case) that this decision also was unlawful. I do not consider that this

would have posed a real difficulty. Although the section 6(3) decision is a decision discrete from the section 8(3) and the section 10(2) decisions, it is merely part of the statutory process which may result in the grant of an environmental permit. If the application for such permit were to have been pursued, the process would have to have been repeated from the stage when it went awry, and I fail to see that the omission formally to challenge the section 6(3) decision in these proceedings would have constituted a supervening procedural obstacle; save that it allows the permit applicant to proceed, this decision has no legal effect upon the rights and interests of any party, and there appears to be no legal provision within the Ordinance preventing the Director from revisiting his section 6(3) decision.

138. In the circumstances I decline to speculate upon the course that should have been adopted by the Director if the views expressed in this dissenting judgment had formed part of the majority decision of this court. Nevertheless, *ex abundante cautela*, I should have been inclined also to have granted liberty to the Director to apply for consequential orders if and in so far as such would have assisted his internal administration.

139. As to costs, I would have made an order *nisi* that the costs here and below be to the appellant, such costs to be paid by the respondent, to be taxed if not agreed.

Hon Ma CJHC:

140. I have read in draft the judgments of Stock JA and Stone J. For the reasons contained in the judgment of Stock JA, I too would dismiss the appeal. I wish, however, just to summarize the more important reasons in arriving at my decision. The facts have already been exhaustively covered in Stock JA's judgment.

141. One of the main issues, as my Lords have identified, is the construction of a number of documents. Principal among these is the document known as the Environmental Impact Assessment Study Brief No.ESB-072/200 ("the SB"). A study brief is one of the documents specifically referred to in the Environment Impact Assessment Ordinance, Cap.499 ("the Ordinance") : see

section 6. The focus of the parties' submissions has been on those provisions in this document governing hazard to life and the consideration of risks to the lives of workers of plants near to the designated project (the subject matter of the environmental assessment that has to be made). Clause 3.3.10 of the SB is headed "Hazard To Life". Clause 3.3.10.1 states : -

" 3.3.10.1 The risk to the life, including the workers of nearby plants, due to marine transport, jetty transfer, tank farm storage and pipeline transfer of aviation fuel shall be assessed. The Applicant shall follow the criteria for evaluating hazard to life as stated in Annexes 4 and 22 of the TM in conducting hazard assessment and include the following in the assessment:

(i) identification of all hazardous scenarios associated with the marine transport, jetty transfer, tank farm storage and pipeline transfer of aviation fuel, which may cause fatalities;

(ii) execution of a Quantitative Risk Assessment expressing population risks in both individual and societal term;

(iii) comparison of individual and societal risks with the Criteria for Evaluating Hazard to Life stipulated in Annex 4 of the TM; and

(iv) identification and assessment of practicable and cost effective risk mitigation measures as appropriate."

142. References have also been made to the Technical Memorandum on Environmental Impact Assessment Process first published on 16 May 1997 ("the TM"). The relevant provisions of this document (another of the documents specifically referred to in the Ordinance) have already been identified. Annex 4 of the TM, referred to in clause 3.3.10.1 of the SB, refers to hazard to life and the relevant contents are set out in paragraph 25 above.

143. The key issue in the present appeal is whether by the terms of the relevant documents, in particular clause 3.3.10.1 of the SB, the Director of Environmental Protection (the Respondent) was under a

duty to have ensured or insisted that a Quantitative Risk Assessment ("QRA") be carried out in relation to what has been called the 100% instantaneous loss scenario of the contents of the fuel tanks to be used in the proposed PAFF at Tuen Mun. This scenario has also been described in SWS's (the Applicant's) Re-amended Form 86A Notice as "the catastrophic tank failure scenario". I shall simply describe it as "the 100% Scenario".

144. There are two critical matters to be determined in the present appeal : - the extent of the duty on the Director regarding whether a QRA should have been carried out in relation to the 100% Scenario and, once this duty is identified, whether it has been breached.

145. First, the duty. The initial point of reference is of course the Ordinance. In relation to environmental impact assessment reports ("EIAR's"), the Director's duties are set out in section 6. There, as Stock JA has analyzed, the Director is under a duty to decide whether the assessment contained in an EIAR meets the requirements of the applicable study brief and the technical memorandum. It is SWS's case that the Director has failed in his duty here in the two impugned decisions he has made by effectively deciding that the EIAR in the present case (the EIAR dated April 2002 prepared by Mouchel) met the requirements of the SB and the TM.

146. The principles governing the construction of the relevant provisions in this case are of course no different than those in any other case where the construction of documents is involved, particularly when seen against the backdrop of relevant legislation. Regard, therefore, has to be made to the following factors : -

(1) The Ordinance itself. Here, two aspects of the Director's duty were highlighted by Burrell J in the Court below : - first, the protection of the environment which in my view includes as perhaps its most important facet, safety to life; secondly, that important projects should be completed in, using the

Judge's words, a timely and efficient way (note here the time frame within which the Director is obliged to act under section 6 of the Ordinance). I respectfully agree with the Judge.

(2) The relevant factual context. Here, it is important to bear in mind that the Director's duty relates to the assessment of risk. The assessment of risk is not and is not capable of exactness. Often, exercises in judgment will be called for.

(3) The precise wording of the relevant documents.

147. In my view, neither the SB nor the TM, as a matter of construction, demands that a QRA must be carried out in relation to every hazardous scenario that may cause fatalities. Clause 3.3.10.1(i) of the SB (set out in paragraph 141 above) refers to the "identification of all hazardous scenarios…. which may cause fatalities". However, this cannot impose an absolute obligation to identify all hazardous causes, however fanciful, credible or inapplicable. In the course of argument, I asked counsel to consider whether the clause would impose a duty in relation to a situation where fatalities were caused by a Martian attack. Here, it could be argued that this was a scenario that might occur and which may cause fatalities. Both Mr Pleming QC and Mr Yu SC accepted that such a situation would clearly not be covered. Nor, less fancifully, in the context of the designated project with which we are concerned, would the rupture of the fuel tanks by low temperature embrittlement or boilover be covered either. In the former situation, the scenario is an incredible one. In the latter, they are inapplicable. Thus, it becomes clear that the exercise in clause 3.3.10.1(i) (viz the identification exercise) must be qualified. Whether one chooses words such as "conceivable",

"realistic" or "credible" or "applicable" to qualify any hazardous scenario is perhaps immaterial. I would myself prefer the terms "credible" and "applicable". The duty in this sub-clause can then be stated in the following way : - the identification of all credible or applicable hazardous scenarios that may cause fatalities. I do not regard these qualifying words as distorting or extending the meaning of clause 3.3.10.1(i). On the contrary, it is consistent with commonsense and indeed, consistent with both counsel's submissions ultimately analyzed. The word "may" would also support such a construction.

148. This conclusion can also be supported by looking at the context of the Director's duty here. The obligation is to assess risk and in doing so, exercises of judgment are required to be made. And, specifically in the exercise of judgments assessing risk, some degree of proportionality ought to be borne in mind. Here, I have found useful the references at paragraphs 1.3 and 1.4 of the Safety Report Assessment Guide from the United Kingdom. The exercise of carrying out a QRA is obviously important but only when one is required. It seems to be singularly pointless to do so in relation to scenarios which are incredible or inapplicable. If QRAs were to be required to be carried out for such scenarios, the time frame stipulated under the Ordinance would, I daresay in many cases, be difficult to fulfill.

149. I should add that nothing in the TM leads to a different conclusion from the above.

150. Where, however, a hazardous scenario is credible or applicable, despite Mr Yu's submissions to the contrary, I am of the view that a QRA must then be carried out as required by clause 3.3.10.1(ii), unless this is impossible. Where a scenario is not credible (i.e. incredible), sub-clause (ii) is not engaged.

151. I now move on to the question whether on the facts, the Director has breached his duty. In the present case, the Director took the view that the 100% Scenario was not a credible or applicable hazardous scenario. Stock JA has already identified those parts of the Mouchel EIAR and the affidavit evidence that demonstrate this. It seems to me clear from these extracts that the 100% Scenario

was considered in the Mouchel EIAR and by the Director at the time he made the relevant decisions. I would also make the following further references in the affidavit evidence : -

(1) The affirmation of Venkatesh Sourirajan (a safety and risk consultant who was present at the 25 April 2002 meeting : - see paragraph 11(4) above) dated 3 August 2003 at paragraphs 21, 27, 32-37.

(2) The second affirmation of Dr Wrigley (a senior environmental protection officer at the EPD) dated 11 September 2003 when he says at paragraph 4 that the 100% Scenario was "incredible".

(3) The third affirmation of Hui Yat Ming (the principal environment protection officer in charge of processing applications under the Ordinance) dated 15 September 2003 where he states that the EPD did not believe the 100% Scenario to be "credible".

152. As I understood his submissions, Mr Pleming QC acknowledged that if the Director applied the correct legal interpretation of his duties, it could not be suggested that he had somehow acted unreasonably or, more precisely, unreasonably in the *Wednesbury* sense. The evidence does not show that the Director has acted unreasonably or irrationally in arriving at his conclusion that the 100% Scenario was not a credible scenario that had to be made the subject matter of a QRA. As I see it, that is the end of the matter. The fact that at a later stage, other experts come to the view that the 100% Scenario was credible or applicable is neither here nor there unless it be suggested (which is not SWS's case) that the

Director had originally acted irrationally or unreasonably in the *Wednesbury* sense. It would be a startling result if a decision, accepted to be a reasonable one, could later be impugned on the basis of some contrary expert evidence suggesting the opposite (but equally reasonable) view. Where new facts emerge that may compel a reconsideration by the decision maker of an earlier decision, different considerations may apply, but that is not SWS's position in the present judicial review proceedings.

153. For the above reasons, I would dismiss the appeal.

154. At the conclusion of the hearing on 28 September 2004 when the Court indicated that it would reserve judgment, the parties were invited to provide written submissions on the issue of the exercise of discretion on the granting of relief if the Court should be of the view that the Director had acted unlawfully. Despite having dismissed SWS's application for judicial review, the Judge below dealt with the issue of discretion. Stone J has addressed this issue following his conclusion to allow the appeal. For my part, interesting and important though the question of discretion whether or not to grant relief in judicial review applications undoubtedly is, I decline to do so. Not only is the issue unnecessary to be resolved (given the majority decision of this Court), the relevant facts upon which any discretion should be based would be speculative. The majority's decision is based on the Director having been reasonable in regarding the 100% Scenario as incredible or inapplicable. If we were wrong on this, then the exercise of discretion would depend on the combination of a number of facts including perhaps even the degree to which the 100% Scenario was a credible or applicable one. These are speculative.

155. In view of the majority decision of this Court on the main issue, the appeal upon that issue is dismissed.

156. As to costs, it was a ground of appeal of the Applicant that the Judge, in dismissing the application for judicial review, erred in ordering that the Applicant should pay the costs of both the Respondent and the Interested Party (the Airport Authority of Hong Kong). This order was made without the benefit of submissions. The question before us is therefore this : what is the

right order to make as to costs in judicial review proceedings where there are a number of different interests who are represented before the Court?

157. In Hong Kong Civil Procedure 2004 Vol 1 at paragraph 53/14/59, there is contained the following passage : -

> "Where an application for judicial review is dismissed the general rule is that the successful applicant will not be required to pay more than one set of costs if there were two or more respondents appearing: *R. v. Industrial Disputes Tribunal, ex p. American Express Co. Inc* [1954] 1 W.L.R. 118 [this should be 1118]. Special circumstances may sometimes warrant the court ordering the unsuccessful applicant to pay two sets of costs: *R. v. Registrar of Companies, ex p. Central Bank of India* [1986] Q.B. 1114."

We have also been referred to the decision of the House of Lords in *Bolton Metropolitan District Council and Others v Secretary of State for the Environment* [1995] 1 WLR 1176.

158. From these authorities, it is clear that while costs are of course in the discretion of the Court, the following factors offer some guidance (they are not exhaustive) : -

(1) The mere fact that a person has the necessary locus standi to appear does not by itself entitle that person to an order for costs should the outcome be successful : - see *R v Registrar of Companies, Ex parte Central Bank of India* [1986] QB 1114, at 1162F.

(2) Where several parties appear having the same interest in proceedings, the starting point is that the unsuccessful party should not have to pay more than one set of costs : - *R v*

Industrial Disputes Tribunal, Ex parte American Express Co Inc [1954] 1 WLR 1118; *Ex parte Central Bank of India* at 1162F-G. The rationale here is simply that an unsuccessful party should not have to pay for costs which are unnecessarily incurred. Either the different parties with the same interest engage the same solicitors and counsel or they adopt the position of one of the other parties.

(3) Where, however, the party can show that there is a separate issue on which he was entitled to be heard, being an issue not covered by the other party or parties in the proceedings, he would be entitled to his costs : - see *Bolton Metropolitan District Council* at 1178H.

159. In the present case, I am of the view that no separate interest was served by having the Interested Party separately represented either before us or in the Court below. Its interests coincided those of the Respondent. This is not to say that we have found Mr Thomas Lee's submissions to have been anything but helpful. Quite the contrary. However, there was substantial overlap with Mr Yu's submissions.

160. Accordingly, on costs, I would allow the appeal and order that the Applicant do pay only the Respondent's costs in the Court below, such costs to be taxed if not agreed. There will be no order in relation to the Interested Party's costs.

161. As to the costs of this appeal, I would make an order *nisi* that the Applicant do pay the Respondent's costs, such costs to be taxed if not agreed. Again, there will be no order as to the costs of the Interested Party.

162. In view of the decision of this Court (by a majority on the main

issue), the following orders are made : -

(1) This appeal be dismissed save in relation to the question of costs in the Court below where it is ordered that the Applicant do pay only the Respondent's costs, such costs to be taxed if not agreed and that there be no order in relation to the Interested Party's costs.

(2) As for the costs of this appeal, there will be an order *nisi* that the Applicant do pay the Respondent's costs, such costs to be taxed if not agreed. There will be no order as to costs in relation to the Interested Party.

(Geoffrey Ma)	(Frank Stock)	(William Stone)
Chief Judge, High Court	Justice of Appeal	Judge of the Court of First Instance

Mr Nigel Pleming QC and Ms Roxanne Ismail, instructed by Messrs Simmons & Simmons, for the Applicant (Appellant)

Mr Benjamin Yu SC and Mr Anthony Ismail, instructed by the Department of Justice, for the Respondent

Mr Thomas Lee, instructed by Messrs Lovells, for the Interested Party