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Privy Council Appeal No. 47 of 2003

Belize Alliance of Conservation Non-Governmental Organizations *Appellant*

v.

(1) The Department of the Environment and
(2) Belize Electric Company Limited *Respondents*

FROM

THE COURT OF APPEAL OF BELIZE

JUDGMENT OF THE LORDS OF THE JUDICIAL COMMITTEE OF THE PRIVY COUNCIL,

Delivered the 29th January 2004

Present at the hearing:-

Lord Steyn
Lord Hoffmann
Lord Rodger of Earlsferry
Lord Walker of Gestingthorpe
Sir Andrew Leggatt

*[Majority judgment delivered by **Lord Hoffmann**]*

Belize

1. Belize lies on the Caribbean coast of Central America, bounded by Mexico in the north and Guatemala in the south and west. It is slightly larger than Wales but much less densely populated. Twelve hundred years ago Belize and its neighbouring areas supported a flourishing Mayan civilisation. But during the ninth century war and famine depopulated the country. Forests grew up over towns, pyramids and temples. Today the coastal plain is mainly mangrove swamp and the steep valleys which form the slopes of the Maya Mountains to the south west are covered with forest. For hundreds of years only the occasional logger, the forest birds and the howling monkeys disturbed the ruins.

2. Modern Belize has a population of some 260,000. It exports timber, and grows sugar and other tropical products on the small areas of land suitable for cultivation. The British Army has for many years used the Maya mountains for training soldiers. There is a growing tourism industry which attracts cruise ships to the coastal cayes and visitors to the ruins and wild life in the forests. But the country is still relatively poor. It has no oil or other such natural resources and it has difficulty in meeting the increasing demand for electricity.

Electricity

3. The sole supplier of electricity in Belize is Belize Electricity Limited ("BEL"), a subsidiary of Fortis Inc of Newfoundland. Until about ten years ago, it generated about half the electricity used in Belize in diesel-driven power stations, using imported oil. The rest was supplied by the Mexican state-owned Comisión Federal de Electricidad ("CFE") under a long-term agreement. But the capacity upon which Belize can call is limited to 25MW, the price is linked to world oil prices and during peak periods is five times higher than the ordinary rate. The result is that Belizean residents pay about twice as much for their home electricity as their neighbours in Guatemala and Mexico. In any case, the CFE agreement expires in 2008 and Mexico's own increasing requirements make it uncertain whether it will be renewed.

4. In 1992 BEL decided to construct a hydro-electric power station to supplement the diesel generators. It built a plant on the Macal River at Mollejón. The Macal is a river which rises in the Maya Mountains to the south and flows north through narrow valleys to join the Belize River some 25 kilometres north of Mollejón near the town of San Ignacio. The generator has an installed capacity of 25.2 KW but it is a "run of the river" plant, that is to say, no water is impounded and generation is dependent upon the seasonal flows of the river. In the dry season there is little water in the Macal and therefore little generation of electricity, exposing consumers to high Mexican rates or power cuts or both.

The Chalillo Dam

5. Fortis Inc has now embarked on a more ambitious hydro-electric scheme. It proposes (through another subsidiary called Belize Electrical Company Limited ("BECOL")) to construct a 49.5 metre high dam further up the Macal River at Chalillo. This will hold back the waters of the Macal and its tributary the Raspaculo to create a lake which will extend about 20 kilometres up the Macal

and some 10 up the Raspaculo. The object is to provide a permanent source of water which can enable both the Mollejón plant and a new 7.3 MW plant at Chalillo to generate electricity throughout the year.

6. The Chalillo dam proposal has aroused strong opposition from environmentalists, not only in Belize but in Fortis Inc's home country of Canada, in the United States and indeed throughout the world. The dam will flood nearly 10 square kilometres of land on the border between the Mountain Pine Ridge Forest Reserve and the Chiquibul National Park. These are areas which Belize has designated for preservation as national environmental resources on account of the importance of the plants and animals which are found there. During the last century Central America has lost 70% of its forests to human exploitation but the Belize National Parks now provide a safe habitat for many indigenous species which are threatened with extinction elsewhere. The area has the highest density of the surviving big cats (jaguar, puma and ocelot) in Central America. Morelet's crocodile (a rare species) lives in the rivers. Shy and secretive tapirs lumber through the woods. Gorgeous Scarlet Macaws, of which only about 1000 still exist anywhere in the world, nest in the trees by the river banks.

7. It might be thought that 10 square kilometres more or less is not a great deal in comparison with the 1073 square kilometres of the Chiquibul National Park alone. But the narrow floodplain along the banks of the Macal and the Raspaculo has been described as having a unique vegetation which makes it "one of the most biologically rich and diverse regions remaining in Central America". This riverine habitat will of course be drowned when the dam is full.

8. The area has also been only lightly explored for archaeological sites. Traces of Mayan settlement have been found in the valleys. There is nothing to suggest the presence of an important site like the nearby Mayan city of Caracol, discovered by loggers some kilometres to the north in 1938, which is thought once to have held more people than Belize City does today. But no one can be absolutely certain of what may be there.

9. Despite these potential environmental losses, the government of Belize has decided to give its approval to the construction of the dam. It considers that the losses are outweighed by the advantages to the community in being able to generate more of its own electricity. That is a decision which the government is entitled to make. Belize is a sovereign state, having gained its independence from the United Kingdom in 1981. It has a constitution which

safeguards democracy and human rights. But the question of whether or not the dam should be built raises no issue of human rights. It is a matter of national policy which a democratically elected government can decide.

The judicial review proceedings

10. In the litigation which has given rise to this appeal, a group of environmental organisations in Belize claim that the decision to build the dam was unlawful. As the proceedings have attracted a good deal of publicity, it is perhaps well to make it absolutely clear what that means. No one suggests that the government of Belize did not have power to authorise the building of the dam. Still less is the court being asked to decide whether it made the right decision. The dispute is entirely over the procedure by which the decision was made. The allegation is that the department of the Belize government which approved the construction of the dam did not comply with the procedures required by law to be observed before such approval could be given.

11. These procedures are contained in the Environmental Protection Act (Laws of Belize, 2000 Rev, Chapter 328) ("the Act") and the Environmental Impact Assessment Regulations 1995 (SI 107 of 1995) ("the Regulations"), made under powers contained in the Act. In summary, the Act and regulations provide that anyone undertaking a project which may "significantly affect the environment" must cause an environmental impact assessment ("EIA") to be carried out and submit it to the Department of the Environment ("DOE"). The Act and Regulations prescribe the form and content of the EIA and establish an expert advisory body, the National Environmental Appraisal Committee ("the NEAC"), to advise the DOE on the adequacy (or otherwise) of an EIA. Work on the project may not proceed until the DOE, after considering the advice of the NEAC, has approved the EIA.

12. The Belize legislation has much in common with legislation in a number of other countries which require some sort of environmental study before significant projects may proceed. It resembles, for example, the regimes established for Member States of the European Union by Council Directive 85/337/EEC (as amended), for Canada by the Canadian Environmental Assessment Act S.C. 1992 and by similar legislation in the States of Australia. But, as their Lordships will have occasion to notice when they come to examine the Belize statute in more detail, there are also significant differences. What each system attempts in its own way to secure is

that a decision to authorise a project likely to have significant environmental effects is preceded by public disclosure of as much relevant information about such effects as can reasonably be obtained and the opportunity for public discussion of the issues which are raised.

13. What these systems also have in common is that they distinguish between the procedure to be followed in arriving at the decision and the merits of the decision itself. The former is laid down by statute and is binding upon the decision-making authority. The latter is entirely within the competence of that authority. As Linden JA said with reference to the Canadian legislation in *Bow Valley Naturalists Society v Minister of Canadian Heritage* [2001] 2 FC 461, 494 (in a passage quoted by the Chief Justice in this case):

> "The Court must ensure that the steps in the Act are followed, but it must defer to the responsible authorities in their substantive determinations as to the scope of the project, the extent of the screening and the assessment of the cumulative effects in the light of the mitigating factors proposed. It is not for the judges to decide what projects are to be authorised but, as long as they follow the statutory process, it is for the responsible authorities."

14. The possibilities of misunderstanding on this question are highlighted by the fact that the appellants' counsel introduced his submissions to the Board with the observation that the project would generate a relatively small amount of extra electricity: "enough to supply two or three hotels". The additional capacity to be created by the project was clearly stated in the material before the DOE. The question of whether it was sufficient to justify proceeding with the scheme was a political decision, not reviewable in a court of law.

<u>The statutory scheme</u>

15. Their Lordships must now set out in more detail the terms of the Belize legislation. Section 3 of the Act establishes the DOE and invests it with wide environmental powers and responsibilities. Section 20(1) requires any person who intends to undertake a project "which may significantly affect the environment" to cause an EIA to be carried out by a suitably qualified person and to submit it to the DOE. Section 20(2) specifies, in general terms, the content of an EIA. It must "identify and evaluate" the effects of the proposed development on a list of interests, including human beings, flora and fauna and the cultural heritage. Section 21 gives the Minister

charged with responsibility for the environment power to fill out these broad brush requirements by making detailed regulations.

16. The Regulations contain screening provisions to enable the DOE to decide whether a proposed development requires an EIA or not. In the present case, there is no question but that it did. Regulation 5 sets out the minimum requirements for an EIA. It must contain:

(a) a description of the proposed activities;

(b) a description of the potentially affected environment, including specific information necessary to identify and assess the environmental effect of the proposed activities;

(c) a description of the practical alternatives, as appropriate;

(d) an assessment of the likely or potential environmental impacts of the proposed activities and the alternatives, including the direct and indirect, cumulative, short-term and long-term effects;

(e) an identification and description of measures available to mitigate the adverse environmental impacts of proposed activity or activities and assessment of those mitigative measures;

(f) an indication of gaps in knowledge and uncertainty which may be encountered in computing the required information.

17. If an EIA is required, the developer is required to submit draft terms of reference to the DOE, which decides whether they are adequate and may require them to be modified: regulation 15. During the course of the assessment, the developer must provide the opportunity for meetings with interested members of the public in accordance with a procedure determined by the DOE: regulation 18. Regulation 19 sets out in detail the format of an EIA, starting with the cover page and ending with a summary in non-technical terms.

18. The EIA is then submitted to the DOE, which examines it to determine whether it complies with the terms of reference and whether a further EIA is required or "any significant harmful impact is indicated". By regulation 22(1), the DOE must advise the developer of "its decision" within 60 days after the completed EIA

has been received. If the developer is required to supply more information, the EIA is not "deemed to be completed", i.e. the 60 day period does not start to run, until the information has been supplied: regulation 22(3). The power to require the developer to supply additional information or conduct further work or studies and to amend and resubmit the EIA is contained in regulation 23.

19. Regulation 25 provides for the appointment of the NEAC to review all EIAs and to advise the Department as to whether they provide sufficient information and whether a public hearing is desirable or necessary. The NEAC is made up of nine civil servants from various departments: the head of the DOE, styled the Chief Environmental Officer (who is ex officio chairman), the Director of Geology and Petroleum, the Archaeological Commissioner and so on, together with two non-governmental representatives appointed by the Minister on the recommendation of the DOE. Regulation 26 sets out in detail the matters which the NEAC must consider in its assessment of an EIA, such as the environmental effects of the project, the significance or seriousness of those effects, comments from the public and mitigation measures that are technically and economically feasible.

20. It is a curious feature of the Act and Regulations, remarked upon by the Chief Justice, that it nowhere expressly says that approval by the DOE after assessment of an EIA is necessary to enable a project to proceed. There are however oblique references which make it clear that such approval is necessary: section 20(7) of the Act says that "a decision by the [DOE] to approve an [EIA] may be subject to conditions which are reasonably required for environmental purposes", regulation 22(2) says that until the developer is "advised under sub-regulation (1)" he may not proceed with the undertaking; sub-regulation (1) speaks of the developer being advised of the DOE's "decision" and regulation 27(1) provides that if the DOE has decided that a project "shall not proceed", the developer may appeal to the Minister. It has therefore been accepted by all parties that the power to decide whether a project should proceed is vested in the DOE.

The EIA

21. That is the statutory framework. Their Lordships now turn to what happened. BECOL commissioned the preparation of an EIA by Amec E & C Services Ltd ("Amec"), a member of the well known Amec international engineering and consulting group. The substantial cost of the report was met by the Canadian International

Development Agency as part of that country's foreign aid budget. Canadian law requires environmental assessment of projects undertaken outside Canada under the Projects Outside Canada Environmental Assessment Regulations, made under the Canadian Environmental Assessment Act. The EIA was therefore written with a view to compliance with both the Canadian and the Belize regimes.

22. Under cover of a letter dated 24 August 2001 Mr Lynn Young, a director of BECOL, delivered the EIA to Mr Ismael Fabro, the Chief Environmental Officer and ex officio chairman of the NEAC. With appendices, it ran to some 1500 pages and was plainly not a superficial study. For example, Amec had commissioned a wild life impact assessment from the Natural History Museum in London. They monitored the tapirs, Morelet's crocodiles, Scarlet Macaws and other species for three months in early 2001.

23. On 24 October 2001 the NEAC met to consider the EIA. One of the non-governmental representatives was Ms Candy Gonzalez, representing the Belize Alliance of Conservation Non-Governmental Organisations ("BACONGO"), which in turn represented a number of environmentally-concerned organisations. Another was Mr Valdemar Andrade of the Association of National Development Agencies ("ANDA"), another group of non-governmental organisations.

24. The NEAC spent most of the day discussing the EIA, with members drawing attention to matters within their interest or expertise on which they felt that more information was necessary. The DOE wrote to Mr Young saying that although the NEAC accepted the EIA as such, it wanted more information "to assist with the revision process". Mr Young replied providing some of the information and saying that other matters would be developed in the course of agreement on an Environmental Compliance Plan ("ECP") which, it was understood, would lay down the environmental conditions for consent in accordance with section 20(7) of the Act.

25. On 31 October 2001 members of the NEAC visited the Chalillo and Mollejón sites and on 8 November they met again. After an adjournment until next morning to allow for the inspection of rock samples (a matter to which their Lordships will in due course return) they voted on 9 November 2001 to give the project clearance conditional upon compliance with an ECP, and to set up a working group to develop the ECP in consultation with BECOL. The voting in favour of clearance was 11 to 1 (Ms Gonzalez of BACONGO dissentiente).

Approval of the project

26. Everyone seems to have assumed that the NEAC's decision to recommend approval counted as statutory approval of the project. On 21 November 2001 BECOL, BEL and the government of Belize signed a "Third Master Agreement" to regulate their relationships in a way which took into account that the dam was going to be built. At the beginning of the new year the government of Belize began to build the access road to enable works vehicles to get to the site. On 27 February 2002 BACONGO made an amended application for judicial review of the NEAC's "decision". The Chief Justice granted leave on the following day.

27. Meanwhile negotiation of the terms of the ECP proceeded to a successful conclusion. It was signed on behalf of BECOL and the DOE on 5 April 2002. On the same date, Mr Fabro handed Mr Lynn a formal letter saying that, subject to compliance with the ECP, the DOE granted "environmental clearance" for the project.

28. The assumption that the NEAC's November decision was a conditional approval of the project was technically wrong. The statute makes it clear that the NEAC's role is advisory and that the DOE is the decision maker. But when one considers that Mr Fabro as Chief Environmental Officer was in practice the DOE (Belize is a small country) and was hardly likely to reject the recommendation of the body which he had chaired and which had acted in accordance with his advice, the confusion is understandable.

29. Matters were clarified when the judicial review proceedings came before Chief Justice Conteh in July 2002. The application was amended to include a challenge to the DOE's decision letter of 5 April 2002. On 19 December 2002 the Chief Justice dismissed the application. An appeal to the Court of Appeal was dismissed on 31 March 2003. BACONGO now appeals to Her Majesty in Council.

The grounds of appeal

30. As often happens, the grounds of challenge to the decision have been developed and both enlarged and restricted as the case has progressed through three courts. Before the Chief Justice at first instance a number of points were taken which have now been dropped. The chief ground which has been maintained in all courts is that either the EIA did not comply with the provisions of the Act and Regulations and there had consequently been no EIA within the meaning of the Act or alternatively that, given the deficiencies of the

EIA, it was unreasonable or irrational for the DOE to treat it as an adequate basis for approving the project. Secondly, it was said that the DOE acted unlawfully in not holding a public hearing before making its decision. Thirdly, it was alleged before the Chief Justice that members of the NEAC were biased in favour of the project. This point was abandoned in the Court of Appeal but the appellants have sought to revive it before their Lordships in a different form, namely as an allegation of corporate bias on the part of the DOE.

31. The Chief Justice and the Court of Appeal rejected the claims that the EIA was inadequate or that the DOE acted unreasonably or irrationally in giving approval. Before their Lordships, this argument has been presented in a slightly different form. It is said that there were certain matters which were omitted from the EIA but which ought, as a matter of law, to have been included. Instead, the investigation of these questions was deferred; left to be dealt with to the mutual satisfaction of the developer and the DOE under the conditions imposed by the ECP. The result is that information which ought to have been part of the published material for public debate is now a matter between the developer and the government.

32. It seems to their Lordships that, however the argument is put, it is still a challenge to the adequacy of the EIA as a basis for decision-making. If the law required the matters in question to be cleared up as part of the EIA, then the EIA was inadequate, whether these matters featured in the ECP or not. If they did not have to be included in the EIA, it does not become retrospectively inadequate because they were included in the ECP.

33. The appellants contend that because, after its first meeting, the NEAC asked for more information, it follows that the EIA did not contain enough. It therefore did not fulfil the requirements of the statute. Their Lordships think that this is a fallacy. The fact that the NEAC asked for information does not imply any judgment on whether the EIA would otherwise have been inadequate. On the contrary, the terms in which the information was sought make it clear that the EIA was accepted as complete for the purposes of the Act and Regulations. After the first meeting, the DOE wrote to BECOL, pointing out certain omissions in the EIA, but adding:

> "Despite these shortcomings, the EIA was accepted for review by the NEAC but it was felt that the following information is being requested to assist with the revision process."

34. The reference to the EIA being "accepted for review" was made with an eye to regulation 22(1), which requires the DOE to advise

the developer of its decision within 60 days after the "completed [EIA] has been received by the Department". The letter was thus an acknowledgement that the EIA would be accepted as having been received by the DOE. By regulation 23, if the EIA is "deficient in any respect", the DOE may require the developer, among other things, to supply further information. If such a request is made on grounds of the deficiency of the EIA, regulation 22(3) provides that it "shall not be deemed to have been completed" until the further information is supplied to the satisfaction of the Department". So the letter from the DOE was making it clear that the request for information was not an official request from the Department on grounds of deficiency. It was an informal request from the NEAC, which had accepted the EIA but wanted additional information "to assist in the revision process".

35. The precise effect of the request for information was raised by a member of the NEAC (presumably the BACONGO representative) at its meeting on 8 November 2001. She said that in her opinion the EIA "had not been accepted for review and that it was only conditionally approved upon the receipt of other information". The Chairman said that this was not the case:

> "The Chairman informed the member that at the last meeting, the NEAC had agreed to review the EIA with additional information."

36. This view appears to have been shared by the other members of the NEAC who then approved the EIA on the following day. So the appellants' submission that the EIA left "key issues" for later investigation gains no support from the way in which the NEAC dealt with the matter.

37. Their Lordships therefore proceed to consider the grounds on which the EIA was alleged to be deficient.

Geology

38. The alleged deficiency given the greatest prominence by the appellants in argument before the Board was concerned with the information about the geology of the bed of the Macal at the site of the dam. This criticism is in a class of its own because it involves not an omission but a mistake. The EIA contained a geological error.

39. The site consists of a valley floor about 100 metres broad at about 365 metres above sea level, with steeply sloping sides. The

slopes which are to form the abutments of the dam rise some 50 metres to the spillway. A geological survey had been made by Agra CI Power (a Canadian company which has since become part of the Amec group) for BEL in 1999 and this was appended to the 2001 EIA. Swissboring, a core drilling company, had drilled boreholes at various points and sent samples of rock for laboratory analysis in Costa Rica. The geologists concluded that although the sides of the valley consisted of the Santa Rosa sandstone characteristic of the whole area, the valley floor was granite. This came as a surprise to local geologists: numerous earlier geological surveys had detected no granite in the area and geological maps showed it as sandstone.

40. At the first meeting of the NEAC on 24 October Mr Andre Cho of the Geology and Petroleum Department expressed doubts about the presence of granite at Chalillo ("the rock types identified were not likely to exist in that area"). On the inspection on 31 October he took his pick and hammer and satisfied himself that the valley floor was the same sandstone as the rest of the surrounding area. At the meeting on 8 November there was a full scale debate on the question. Mr Cho is reported as saying:

> "The member questioned the accuracy of the geological information. Sandstone is adequate for dam construction but dam design must consider this type of rock. In order to ensure that the dam does not crack, the foundation and sides would need to be anchored. [Mr Cho] felt that the NEAC should not accept the geology information as it is inaccurate. It was suggested that if clearance is granted, some areas of the dam will have to be grouted as a mitigation measure for sloping."

41. Representatives of BECOL were then admitted to the meeting and Mr Cho's concerns put to them. They said that highly qualified people had done the drilling and coring and that the samples could be inspected on the following day and Mr Cho could have a teleconference meeting with the geologists responsible for the EIA. On 9 November Mr Cho (accompanied by Mr Fabro and Ms Gonzalez) saw the samples. He was more convinced than ever that they were sandstone. The teleconference was inconclusive: the Canadian geologist insisted that they were granite. It was agreed that a fresh independent opinion would be sought.

42. The same afternoon the NEAC convened again. Mr Cho emphasised that he was "not questioning the competency of [the] rocks for the construction of a dam but rather the accuracy of the description of the rocks". Mr Fabro, as chairman, proposed a way

forward. He said that the difference of opinion between geologists did not appear to affect the fact that the dam could be constructed. The NEAC should therefore make a decision in principle as to whether a dam should be built. Other geologists would be asked to do another assessment and if Mr Cho was proved right, "the issues with respect to adjustments of the engineering design will be addressed in the ECP".

43. The NEAC accepted this advice and approved the project subject to further investigations on two matters. First, questions had been raised as to whether the sides of the lake to be formed by the dam would be water tight or whether it would leak. The surface limestone in the area tends to be karsitic, that is to say, containing caverns and channels through which water may escape. Mr Zulfiquar Aziz of Amec surveyed the area for nine days and concluded that there was no limestone below the reservoir rim. The reservoir would consist entirely of Santa Rosa sandstone which did not leak. Secondly, there was to be an independent geological survey to decide the vexed question of whether the valley floor was sandstone or granite. This was commissioned by the Inspector of Mines, the head of Mr Cho's Geology and Petroleum Department. It was prepared by Jean Cornec and Craig Moore and signed by them on 3 May 2002. It concluded that Mr Cho was right and that the valley floor was sandstone like the rest of the site. It drew attention to "weak graphitic shales" on the right abutment of the dam which it said should be taken into account in the engineering design and construction of the dam. But this was consistent with the EIA, which had said that the valley sides consisted of sandstone including shales. The Cornec report said that the design should also take into account the close proximity of a major fault. This observation rather irritated BECOL, which commented that the fault in question had shown no movement for 65 million years. Nevertheless, the dam was intended to be built to Californian specifications. The Cornec report concluded that if these matters were taken into account, the site was geologically suitable for dam construction.

44. For some reason this report was not disclosed to the appellants until very shortly before the hearing of the appeal by the Board. Disclosure resulted in a heated exchange of affidavits and submissions. But the question is whether the DOE acted lawfully in approving the project when the EIA had said that the valley floor was granite and there was substantial doubt over whether this was true.

45. Their Lordships think that the question depends upon whether it made any significant environmental difference that the valley floor

was sandstone rather than granite. If this would affect the safety of the dam, then it plainly would. Environmental effects include effects on humans and some inhabitants of villages and towns downstream of the dam were expressing concern about the possibility of a mass of water descending upon them. Intuitively, if one has in mind the proverbial qualities as foundations of granite and sand respectively, it might seem that the difference was substantial. But the Permian or Triassic Santa Rosa sandstone is very old (some 250 million years), very hard and, as Mr Aziz reported, impermeable. None of the geologists cast any doubt upon the suitability of the site as a site for a dam.

46. The NEAC appears to have accepted this view. Although Mr Cho was firmly of the view that the rock was sandstone, he voted in favour of approval. Mr Fabro, as chairman of the NEAC and head of the DOE, says that when he voted and subsequently gave approval on behalf of the DOE, he also thought that it was sandstone.

47. Perhaps more to the point, no engineer with experience of building dams has said that the classification of the rock is significant as such. Jeremy Gilbert Green, a civil engineer who attended the final NEAC meeting on behalf of Amec, said that the physical character of the rock had been thoroughly tested and it did not really matter to him whether it was granite or sandstone. The dam design was not based upon the classification of the rock but upon "laboratory analysis of its load bearing characteristics and water permeability". The appellants say that they do not dispute that some kind of dam could be built upon sandstone. But such a dam would be something different from that envisaged by the EIA as built upon granite. There is however is no evidence as to how it would be different and nothing to contradict Mr Gilbert Green's that what matters is the physical properties of the rock and not whether it has igneous or sedimentary origins.

48. Their Lordships therefore do not consider that the geological error in the EIA was of such significance as to prevent it from satisfying the requirements of the Act or forming a proper basis for approval by the DOE.

Other alleged deficiencies

49. Their Lordships turn next to the alleged deficiencies in the information concerning archaeological sites, wild life and rare plants. Since the appellants' case raises under each of these heads the same point of principle, namely, that the DOE unlawfully

deferred the investigation of important questions which should have been covered by the EIA, their Lordships will set out the facts in each case and then try to draw the threads together.

Archaeology

50. Section 20(2) of the Act prescribes that an EIA must identify and evaluate the effect of the development on "the cultural heritage", which certainly includes the Mayan sites dotted about Belize.

51. The archaeological section of the EIA describes the project area as "one of the least understood regions within the known Maya area of Belize". An archaeological team started with "standard procedures based on topography, vegetation, soil and water distribution" as shown on available maps which –

> "indicated that archaeological sites were limited to the following categories: minor Maya centres, quarry and lithic sites, sparse settlement areas and possible cave formations."

52. The search for these needles in the Macal/Raspaculo haystack was limited to "transect survey", that is to say, sampling the area in a way which would "maximise the chances that the number and location of the sites in the survey area were representative of the overall project area". This method allowed the team to "develop comprehensive data set in order to postulate the probability of sites in other locations within the project area".

53. The survey found some remains of small Mayan settlements, including "ten structures oriented to form a private plaza" and "five structures that are elevated on a platform" (EIA report, Part 2, Vol 4, para. 4.6.7). The survey report concluded that –

> "these sites are undocumented and no archaeological information is known about the settlement and historical data of this region. It can only be postulated that the Mayas were intensively using the resources of the area as is suggested by the numerous ancient settlements along the riverine flood plain."

54. A separate survey was made along the line of the proposed power cable to take electricity from Chalillo to Mollejón by Dr Jaime Awe, Director of Archaeology to the Government of Belize, and Mr David Lee. It also employed a transect method and found two ancient platform structures within the proposed power line corridor, one twelve metres away and five others at a greater

distance. The report suggested various forms of avoiding damage, some more expensive the others. One was to dig them out and move them elsewhere (very expensive) and another was to avoid putting the pylons on top of them (least expensive if technically feasible).

55. The EIA presented this information with the comment (at paragraph 6.2.3.6) that it proposed to consult with the Belize Commissioner of Archaeology on the "mitigative measures" which were needed, concluding that if these were implemented, "residual significant adverse effects are unlikely".

56. Mr George Thompson, acting Commissioner of Archaeology, was a member of the NEAC. He said that the sites discovered by the surveys were "mostly small mounds consistent with ancient Maya settlement patterns" which "can be found all over Belize". The interest of the Archaeology Department was in trying to determine what the ancient population in the area had been; this could be done by sampling the mounds to determine "levels of activity and period of occupation". But he felt that this information could be compiled by a survey funded by BECOL and stipulated in the ECP. The EIA was in his opinion "complete and satisfactory".

57. The ECP accordingly provided for archaeological surveys during construction and even, at the higher elevations, during dry seasons after the dam had been filled.

58. The appellants say that it was unlawful to leave the population survey until afterwards. It ought to have been done as part of the EIA.

Wild life

59. The report commissioned by Amec from the London Natural History Museum pulls no punches in its description of the potential damage to the wild life which is said to depend upon the riverine habitat for sustenance and shelter. If further emphasis were needed, it was followed up by a personal letter dated 17 September 2001 to all members of the NEAC from Lieutenant Colonel Alastair Rogers, a British soldier who had been a consulting editor in the production of the report and had himself led five Joint Service Scientific Expeditions to the Upper Raspaculo. He wrote:

> "It is absolutely clear that constructing a dam at Chalillo would cause major, irreversible, negative environmental impacts of national and international significance – and that no effective mitigation measures would be possible. The project

> would destroy the vast majority of a critical and unique habitat, threatening the last viable population of many vulnerable and endangered wildlife species in Belize and removing vital feeding grounds for migrating birds."

60. The EIA did not offer much comfort in the way of proposed measures to mitigate the impact of the dam. Tapirs would be at risk from poachers if shortage of food drove them into more populated areas; stronger measures to enforce the prohibition on hunting them were suggested. Providing nesting boxes for Scarlet Macaws had been tried with very limited success but might be tried again. The Morelet's crocodiles could be caught and relocated upstream, but no one knew whether they would thrive there.

61. In addition, the Natural History Museum suggested that more research was needed to "detail more closely the magnitude of the identified impacts and to assess other effects on wild life". These included looking at other species and "further multi-year studies", including the seasonal movements of the Scarlet Macaw.

62. The ECP required BECOL to sponsor a pilot nesting box project, to provide nests outside the impoundment area for "displaced nesting couples". Hunting by people working on the dam was to be strictly prohibited and measures taken to lessen disturbance of the fish. BECOL was also to pay for wild life surveys, at first biennially and then every five years.

63. The appellants submit that the EIA was inadequate because it failed to identify any effective mitigatory measures or to include the further research suggested by the Natural History Museum.

Rare plants

64. The EIA identified two plant species in the dam area internationally classified as being at risk: the silver pimento palm *(schippia concolor)* and a bamboo cycad (*ceratozomia robusta*). It proposed that those which could be found should be dug up and planted elsewhere: such transplantation programmes had been successful with other plant species at risk, although unproven in relation to the two in question. It proposed a further survey to locate the plants before construction began and the development of a transplantation programme.

65. The ECP did not specifically require attention to the palms and cycads but required clearing of vegetation to be done for the most part manually.

66. The appellants submit that the mitigatory measures for rare plants should have been developed in greater detail in the EIA. It was not lawful to leave these matters until later.

Conclusions on archaeology, wild life and rare plants.

67. The Chief Justice and the Court of Appeal were impressed with the thoroughness of the EIA in its survey of archaeological remains, wild life and plants. The possibility of unknown ruins, the birds, animals and plants at risk, were clearly identified. The proposals for mitigation show a studied avoidance of any attempt to gloss over the potential environmental damage.

68. Regulation 7 provides that "the scope and extent of the [EIA] shall be determined by the DOE". It is for the DOE to approve the terms of reference (regulation 16) and decide whether the EIA complies with those terms. It is for the DOE to decide whether it is necessary to require further work or studies or supply further information. It appears to their Lordships to follow that the question of whether the EIA complies with Act and regulations, both in respect of providing the material for public discussion and of providing a proper basis for decision-making, is primarily entrusted to the DOE. The decision to accept the EIA should therefore not be set aside except on established principles of administrative law: compare Sullivan J in *R v Rochdale Metropolitan Borough Council, ex p Milne* [2001] Env LR 406, 433. For that purpose it is necessary for the appellants to show that the DOE acted irrationally or in such a way as to frustrate the purpose which an EIA is intended to serve.

69. The ground upon which the appellants submit that they can satisfy this demanding requirement is that the DOE postponed consideration of matters which should have been contained in the EIA. But, as their Lordships have observed, that only raises the question of what should have been in the EIA. Both the Chief Justice and the Court of Appeal cited with approval the remarks of Cripps J in the Land and Environment Court of New South Wales in *Prineas v Forestry Commission of New South Wales* (1983) 49 LGRA 402, 417:

> "I do not think the [statute] … imposes on a determining authority when preparing an environmental impact statement a standard of absolute perfection or a standard of compliance measured by no consideration other than whether it is possible in fact to carry out the investigation. I do not think the legislature directed determining authorities to ignore such

> matters as money, time, manpower etc. In my opinion, there must be imported into the statutory obligation a concept of reasonableness … [P]rovided an environmental impact statement is comprehensive in its treatment of the subject matter, objective in its approach and meets the requirement that it alerts the decision maker and members of the public … to the effect of the activity on the environment and the consequences to the community inherent in the carrying out or not carrying out of the activity, it meets the standards imposed by the regulations. The fact that the environmental impact statement does not cover every topic and explore every avenue advocated by experts does not necessarily invalidate it or require a finding that it does not substantially comply with the statute and the regulations."

70. Their Lordships also respectfully adopt these observations. It is not necessary that an EIA should pursue investigations to resolve every issue. This is not only common sense but contemplated by the terms of the Belize legislation itself. Thus regulation 5(f) says that an EIA should include an indication of "gaps in knowledge and uncertainty which may be encountered in computing the required information" and regulation 19(b), prescribing the form of an EIA, says it should contain a summary which highlights the "conclusions, areas of controversy and issues remaining to be resolved".

71. Environmental control in Belize is an iterative process which does not stop with the approval of the EIA. The Act expressly provides for an approval subject to conditions (section 20(7)), as was granted in this case. An EIA is required to include a monitoring plan and the NEAC is required to consider the need for a "follow up programme". It is therefore in their Lordships' opinion wrong to approach an EIA as if it represented the last opportunity to exercise any control over a project which might damage the environment.

72. The appellants placed reliance upon the decision of Harrison J in *R v Cornwall County Council, ex parte Hardy* [2001] Env LR 25. Their Lordships express no views upon the correctness of this decision as a matter of English (or perhaps European) law; it turned upon the interaction between the two European directives: the Directive on environmental assessments (85/337/EEC) and the Habitats Directive (92/43 EEC). The latter Directive provides for the strict protection of a certain species of bat. The developer wanted to fill in some mineshafts in which there was reason to believe that the bats might be living. The planning authority gave permission on condition that, before the shafts were filled, a survey

should be undertaken to find out whether any bats were there. The judge decided that this was unreasonable. The terms of the Habitats Directive made it imperative that before planning permission was granted, an environmental assessment should have been undertaken, including a bat survey. A condition that such a survey be undertaken later ("when the same requirements for publicity and consultation do not apply") was not enough: para 62.

73. Their Lordships would only observe that the statutory background to this decision was altogether different from that which exists in Belize. In the present case, they consider it to be impossible to say that the EIA was inadequate to meet the requirements of the relevant legislation.

Public hearing.

74. The question of whether a public hearing should have been held is an altogether discrete ground of appeal. Regulation 24(1) provides that the DOE, "on the recommendation of the [NEAC], may require a public hearing …". Regulation 24(2) specifies certain matters which the DOE must take into account in deciding whether a project requires a public hearing. They include the magnitude of the environmental impact, the degree of public interest in the scheme and the complexity of the problem.

75. The first question is whether the NEAC recommended a public hearing, since the power of the DOE to order a public hearing depends on the recommendation of the NEAC. It debated this question on 9 November 2001. The chairman was against having a hearing before the decision was made. The scheme had had enormous publicity and there had been widespread consultation in the course of preparing the EIA. Nothing new was likely to emerge. He suggested that public consultations might be held after the decision had been taken to obtain suggestions for additional mitigation measures which might be included in the ECP.

76. A vote was taken: all ten official members voted for public consultations after the decision and the two NGO members voted for a public hearing before the decision.

77. On 14 January 2000 the DOE organised a National Symposium on the State of the Environment in Belize City. More than 300 people attended and one of the sessions was devoted to the Chalillo Dam. The DOE regarded this as sufficient to satisfy the

recommendation of public consultation which had been made by the NEAC.

78. Did the NEAC recommend a public hearing? The appellants say that the hearing contemplated by regulation 24 is one which is held before the decision is made. Its purpose is to enable the public to contribute to the decision-making process. Regulation 24(2)(a) and (b) speak of the "proposed project", not one which is already under way. If that is what regulation 24 means by a public hearing, then the NEAC plainly did not recommend one. The vote was to determine that very issue. The public consultation which it did recommend must be regarded as extra-statutory.

79. On the other hand, one of the purposes of a public hearing mentioned in regulation 24(2)(c) is that it may "assist the developer to comply with its responsibilities". There is no reason why a hearing after the decision should not serve such a purpose. The Chief Justice, who took the NEAC to have recommended a public hearing, thought that it could still serve a purpose after a decision and ordered one to be held. Pursuant to his order, it took place on 16 January 2003.

80. It follows that if a statutory public hearing is something which has to be held before the decision, the NEAC did not recommend one and the DOE therefore had no power to require it. On the other hand, if it can take place after approval has been given, one has been held. Although it is unnecessary to decide the question, their Lordships think that the majority of the Court of Appeal was right to say that even if the NEAC must be taken to have recommended a statutory public hearing, the DOE was not obliged to hold one. Regulation 24 confers a discretion and the decision not to hold one, in the circumstances outlined in the NEAC minutes, cannot be regarded as irrational.

Bias

81. The allegation of bias against the members of the NEAC was abandoned in the Court of Appeal and the appellants sought to revive it before their Lordships in the form of an allegation of bias against the DOE. The difference is important: the allegation against the NEAC is that it was biased at the time it made its decision on 9 November 2001; the allegation against the DOE is that it was biased when it wrote the decision letter on 5 April 2002. The first allegation was explored before the Chief Justice and rejected. The second, which is based entirely upon what happened after the NEAC

made its recommendation, has not been explored at all. It is said that once the NEAC had recommended approval, the government (including the DOE) acted as if the decision to approve the dam had already been made. It entered into the Third Master Agreement with BECOL, undertook to carry forward its side of the project and commenced work on the access road. But the question of whether these acts showed bias on the part of the DOE has never been in issue and their Lordships think that it is not open to the appellants to raise it now.

82. In any case, their Lordships think that the allegation is unsustainable. They have already referred to what appears to have been the assumption in governmental circles that the NEAC's recommendation constituted approval of the project. Although this may have been technically incorrect, it does not show that the DOE, in the person of Mr Fabro, had closed his mind to any further evidence or representations which might be made before the DOE gave its consent. The appellants rely upon statements about what amounts to bias in judicial proceedings. But the DOE, in granting approval, was not exercising a judicial function. It was making a political decision about the public interest. In arriving at that decision, it had fairly to apply the procedures prescribed by the Act and Regulations. But there is nothing to show that the DOE did not do so.

Conclusion

83. Their Lordships will humbly advise Her Majesty that the appeal should be dismissed. Their Lordships will consider written submissions from the parties on the question of costs to be delivered in accordance with directions to be given by the Registrar.

Dissenting judgment delivered by
Lord Walker of Gestingthorpe

84. I have the misfortune to differ from the majority of the Board as to the disposal of this appeal. It would not be appropriate to set out my reasons at great length and it is difficult to set them out briefly. However, I feel constrained to try to explain why I differ, respectfully but profoundly, from the view of the majority.

85. In *R v Lancashire County Council ex parte Huddleston* [1986] 2 All ER 941, Sir John Donaldson MR (with whom the other members

of the Court of Appeal agreed), having referred to the preliminary stage of obtaining leave to seek judicial review, said (at page 945),

> "But in my judgment the position is quite different if and when the applicant can satisfy a judge of the public law court that the facts disclosed by her are sufficient to entitle her to apply for judicial review of the decision. Then it becomes the duty of the respondent to make full and fair disclosure.
>
> Notwithstanding that the courts have for centuries exercised a limited supervisory jurisdiction by means of the prerogative writs, the wider remedy of judicial review and the evolution of what is, in effect, a specialist administrative or public law court is a post-war development. This development has created a new relationship between the courts and those who derive their authority from the public law, one of partnership based on a common aim, namely the maintenance of the highest standards of public administration."

The Master of the Rolls then referred to the submission that it was not for the public authority to make out the applicant's case for him, and said,

> "This, in my judgment, is only partially correct. Certainly it is for the applicant to satisfy the court of his entitlement to judicial review and it is for the respondent to resist his application, if it considers it to be unjustified. But it is a process which falls to be conducted with all the cards face upwards on the table and the vast majority of the cards will start in the authority's hands."

86. Similar observations have been made in many later cases, including several decisions of the House of Lords. It is now clear that proceedings for judicial review should not be conducted in the same manner as hard-fought commercial litigation. A respondent authority owes a duty to the court to cooperate and to make candid disclosure, by way of affidavit, of the relevant facts and (so far as they are not apparent from contemporaneous documents which have been disclosed) the reasoning behind the decision challenged in the judicial review proceedings.

87. In this case that duty certainly rested on the first respondent, the Department of the Environment of Belize ("the DoE"). In my opinion it also rested on the second respondent, Belize Electricity Company Ltd ("BECOL"). Although BECOL has been put forward as an independent commercial concern, it is clear from the evidence

(including the franchise agreement forming part of the so-called Third Master Agreement dated 21 November 2001, which contains unusually wide waivers and indemnities entered into by the Government in favour of BECOL) that there is a very close identity of interest between these parties. They are in effect partners in an important public works project. This has been relied on by the appellant, the Belize Alliance of Conservation Non-Governmental Organisations ("BACONGO") as a ground establishing perceived bias in the decision-making progress. But for present purposes its most important consequence is that BECOL was also, in my opinion, under a duty to make candid disclosure to the court.

88. The background facts of this matter are set out in outline in the judgment of the Board on BACONGO's application for a conservatory injunction which was refused on 13 August 2003 (now reported as a practice note at [2003] 1 WLR 2839). It is however necessary and possible (although only as a result of very late disclosure of documents by the respondents) to fill in some important gaps in the sequence of events outlined in the earlier judgment. It is now apparent that the respondents failed in their duty of disclosure to the Chief Justice of Belize at a prolonged hearing which began in April 2002 (with a preliminary ruling on 22 April) and continued during the last fortnight of July 2002 (with judgment given on 19 December 2002); to the Court of Appeal of Belize at a hearing which took place during the last week of March 2003 (with judgment given on 24 April 2003); and to the Board at the hearing which took place on 30 July 2003 (with judgment given on 13 August 2003). I must at once add, and emphasise, that I apportion no blame whatsoever to the English counsel and solicitors who appeared for the respondents before the Board. On the contrary, it is clear that it was their decision (possibly unwelcome to their lay clients) to disclose documents (in particular, the Cornec Report and the Core Labs Report) which had previously been withheld.

89. The very late disclosure of these documents was followed by some even later affidavit evidence from Mr Ismael Fabro, whose part in this matter is of central importance. Mr Richard Clayton QC, appearing for BACONGO, submitted that parts of Mr Fabro's late evidence were incredible and should not be accepted. In order to assess this submission it is necessary to recount how this matter has developed, especially as regards the geology of the dam site, during the period from August 2001 down to and including the most recent hearing before the Board. The relevant Belize environmental legislation consists of the Environmental Protection Act passed in 1992 ("the EPA") and the Environmental Impact Assessment

Regulations made under the EPA in 1995 ("the Regulations"). These are summarised in the interlocutory judgment and in the judgment of the majority, and it is not necessary to repeat them.

90. Plans for the Chalillo dam project go back a long way. The original franchise agreement (with different parties who later assigned their interests) was made in 1991. After many vicissitudes and intervening events (including the passage of the environmental legislation) a geological survey was carried out during 1999 by a Canadian company called Agra CI ("Agra"). Agra has since merged with AMEC, another Canadian company which produced the environmental impact assessment ("EIA") for the dam project. The Agra survey (which included sinking seven deep boreholes at the dam site) was the basis for the geological material included in the EIA (see part 2, volume 1, section 2, para 2.1). The Agra survey included in the EIA, unequivocally stated that the bedrock of the dam site was granite, and made clear that this was significant. Thus para. 2.5.2.2 stated,

> "Bedrock at and below the valley floor is primarily granite ... the powerhouse should be founded on granite."

Para 2.7.3 stated,

> "The powerhouse will be situated at elevation 356m (lowest point) and as such will be founded on granite. The granite will satisfy all foundation strength requirements ... granite bedrock is expected to predominate in the tail- race channel."

The EIA also included (after para 2.8) two maps taken from the Agra survey, numbered 2-1 and 2-2.

91. It is now accepted that the Agra survey was incorrect (for reasons which are still unexplained) and that the EIA was in error in relying on the Agra survey for its geological data. Moreover, map 2-1 omitted an apparent geological fault depicted on the standard geological map (Bateson and Hall, 1973) on which it was based. Map 2-2 showed in the vicinity of the dam site extensive "granitic intrusions" which are now accepted not to exist. The bedrock at the site is largely sandstone.

92. The suggestion that AMEC had made a serious error in the geological section of the EIA was at first fiercely resisted by BECOL. In the course of the litigation its attitude has by degrees changed, without any frank admission of error. The position to which it has moved is that the difference between granite and

sandstone is an issue of "nomenclature" which geologists may debate but that either would provide a satisfactory foundation for building a dam.

93. Before embarking on the history of this remarkable shift of position I should note that it was suggested in argument for the respondents that the precise positioning and design of the proposed dam are still matters for discussion, and were not required to be included in the EIA (which, it was said, was concerned with the impact of the project on the environment, and not with engineering matters). But Regulation 19(e) of the Regulations requires an EIA to include:

> "A description of the development proposed, comprising information about the site, the design and size and scale of the development, and its immediate surroundings."

A dam which is liable to leak, and still more a dam which is liable to prove unstable, may have a more serious environmental impact (and fewer if any countervailing advantages) than a secure dam. The EIA (Part 1, para 2.4) identified dam safety as a key factor.

94. The EIA did in fact contain a detailed description, with plans and sections, of the proposed dam (Part 1, section 3: project description: see especially figures 3-2 to 3-7). The method of construction by roller compacted concrete ("RCC") was described (para 3.3.3.4) as having a mix,

> "which is characterised by a low cement content (100Kg/m3) and aggregate in which up to 5% fines would be permitted."

What the EIA describes as "conventional concrete" would be used only for the upstream face, the diversion, spillway, intake and powerhouse structures. The Board was not shown any evidence as to whether RCC construction would be appropriate for a dam built on sandstone. It is not a matter for the Board. But it is a matter highly relevant to the competence and adequacy of the EIA.

95. The EIA runs to about 1,500 pages in all. It was presented to the DoE on 24 August 2001. There were complaints about the short time allowed for public consultation (and about missing pages from copies of the EIA which were circulated) but they are not of central importance to the geology issue. BACONGO asked Mr Brian Holland FGS, an American geologist resident in Belize, to review the geological data in the EIA. He had made a study of the geology of the Raspaculo river basin (the Raspaculo is a tributary of the

Macal) which was published as part of the report of the Joint Services Scientific Expedition in April-June 1993. On 30 January 2002, Mr Holland made a report which concluded,

> "The AMEC geology report and feasibility report are so filled with fundamental errors and flaws so as to render them useless as a basis for engineers to use in the design and the construction of the proposed dam. The mistakes made in the mapping of the Chalillo site and in the geological report would get a failing mark in an introductory geology class."

96. BACONGO submitted a copy of this report to the National Environmental Appraisal Committee ("NEAC"), which (under Regulation 25 of the Regulations) had the function of reviewing all EIAs and advising the DoE. Mr Fabro is, and has been at all material times, the Chief Environmental Officer at the DoE and also the Chairman of NEAC. He has therefore had a crucial function in the decision-making processes impugned in these proceedings.

97. At the time NEAC consisted of 12 members (including Mr Fabro). Only two of them were not members of the government service (one of the outsiders being Ms Candy Gonzalez of BACONGO). The representative of the Geology and Petroleum Department ("GPD") was Mr Andre Cho. The GPD, like the DoE, is a department of the Ministry of Natural Resources, Environment, Commerce and Industry ("the Ministry of Natural Resources").

98. At a meeting of NEAC on 24 October 2001, Mr Cho raised the question of the identification of the bedrock. He questioned whether the proposed design of the dam was appropriate. NEAC agreed to seek further information from BECOL; to attend a site meeting on 31 October 2001; and to reconvene on 8 November 2001 with representatives of BECOL in attendance. The site meeting took place. Ms Gonzalez has deposed that Mr Cho went to the meeting with a pick- axe and after his inspection said that he did not believe that the area was made of granite. But Mr Joseph Sukhnandan, the Chief Engineer of Belize Electricity Ltd ("BEL"), insisted that the geology studies were accurate and that the site was made of granite.

99. In reply to NEAC's written request for information BECOL on 7 November 2001 informed Mr Fabro that the valley floor consisted "almost entirely of granitic intrusives" and enclosed a cross-section drawing to that effect. At the meeting on 8 November 2001 Mr Cho returned to the issue. The minutes record his observations as follows,

> "The member questioned the accuracy of the geological information. Sandstone is adequate for dam construction, but dam design must consider this type of rock. In order to ensure that the dam does not crack, the foundation and sides would need to be anchored. The member felt that the NEAC should not accept the geology information as it is inaccurate. It was suggested that if clearance is granted, some areas of the dam will have to be grouted as a mitigation measure for sloping."

The minutes also record discussion with the BECOL representatives:

> "A lengthy discussion on the geology of the site ensued. The member from GPD [Mr Cho] stated that although he disagrees with the naming and description of the rock type of the project area, he felt that the competency of the rock type that does exist there could withstand a dam. However, there would have to be changes to the engineering design to include proper grouting as well as other structural modifications to secure the dam.
>
> One member stated that if the information on the geology is not accurate then this could raise concerns as to the credibility of the EIA preparers and the accuracy of other information contained in the document.
>
> It was decided that the Chairman and the member from GPD would view the boring samples tomorrow and hold a teleconference with the geologists who conducted the EIA."

100. On 9 November 2001 Mr Cho (accompanied by Ms Gonzalez and Mr Fabro) inspected drilled core samples at BECOL's premises. Mr Cho said that he was more convinced than ever that the EIA was wrong. In a conference call a Canadian geologist or geotechnical engineer (unidentified, but probably either Mr James Code or Mr Jeremy Gilbert-Green of AMEC) disagreed. The adjourned NEAC meeting followed. Mr Fabro gave an assurance that if Mr Cho proved to be correct,

> "the issues with respect to adjustments of the engineering design will be addressed in the ECP [Environmental Compliance Plan] ... The Chairman recommended that since the question on the geology did not really affect the fact that the dam could be constructed, that the NEAC should go ahead and make a decision."

Mr Cho was recorded as having

> "... informed the NEAC that he had received the Swissboring data on the previous day and maintained the position that the identification of the rock formation in the EIA is inaccurate. He added that at the teleconference held earlier that day, it had been decided by the Chairman of NEAC, BECOL representatives and himself that an independent geologist would be hired to assess the rock formation."

This was the origin of what was to become the Cornec Report.

101. The minutes of the meeting of 9 November 2001, (especially paras 1.01, 1.03, 1.05, 1.07 and 1.12) show that Mr Fabro as Chairman urged NEAC to recommend the project and to defer further public consultation until after the decision. NEAC then voted 10-2 in favour of deferring public consultation until after the decision and 11-1 (under the heading in the minutes "Decision on Conditional Approval for the Project") in favour of "the project being given clearance and that a working group develop the ECP".

102. In January 2002, Mr Zulfiquar Aziz, an experienced Pakistani geological engineer resident in Canada, made a survey to test the water- tightness of the dam area (this is also referred to in the papers as the question of karsticity, that is the tendency of limestone to form cavities and fissures). Mr Aziz seems to have carried out a thorough survey, taking nine days. For present purposes it is interesting to note that an appendix to his report (dated 31 January 2002) shows that (although not instructed on this issue) he was asked for his view about what he referred to as the issue of "granite-sandstone nomenclature". His cautious opinion was,

> "These dams perform well if properly designed for the conditions and carefully built."

103. Also in January 2002 BECOL sent core samples for re-inspection at the University of West Indies ("UWI") and Core Labs at Houston. Core Labs' report dated 28 January 2002 (belatedly disclosed shortly before the main appeal hearing before the Board) was that all the samples were sandstone or sandy conglomerate. There were fragments and pebbles of granite and the provenance of the clastic material (that is, material derived from broken pieces of older rocks) was granitic. The report from UWI seems to have been disclosed to the Cornec team but has not been put in evidence.

104. A NEAC working party drafted the ECP. It took the form of an agreement between BECOL and the DoE and it was signed on 5

April 2002 simultaneously with DoE approval of the project. The most relevant provisions of the ECP are paras 6.50, 6.51 and 6.52. Before construction started, detailed engineering designs for the dam were to be submitted to the Ministry of Works. Also prior to commencement of construction, all additional geotechnical assessments were to be submitted to the Ministry of Works and to the Inspector of Mines (who is also Director of the GPD). There was to be additional geological assessment, including mapping, by a team sanctioned by the Inspector of Mines and agreed to by BECOL. The Inspector was to produce a report within 14 days of receipt of findings from the survey team. Those findings were to be incorporated into the design and construction of the dam.

105. A team was appointed, led by Mr Jean Cornec, a consulting geologist from Denver. It included Mr Moore and Mr Cho. It carried out its field work between 24 and 29 April 2002. Its report (dated 3 May 2002 and addressed to the Inspector of Mines) is exhibited to an affidavit made as recently as 1 December 2003 by the Inspector, Evadne Wade. Its executive summary is as follows:

> "There is no granite intrusive at the proposed Chalillo dam site.
>
> The rocks are generally hard, silicified sandstones, siltstones and conglomerates with minor amounts of shales (average: 6.3%). Some of those shales are graphitic and could cause structural weakness in the right abutment of the dam.
>
> There is no fault at the proposed Chalillo dam site.
>
> There is a major fault located 550m north-west of the proposed Chalillo dam site (observed in the Macal riverbed at around 284585E/1864993N and 284697E/1865135N)."

The report raised concerns about karsticity, pointing to inconsistencies in the Agra/AMEC reports and referring to the "disastrous history of dam building within the same karstified cretaceous limestones of neighbouring Guatemala".

106. The conclusions were that the proposed dam site is geologically suitable for dam construction assuming that the presence of the graphitic shales and the close proximity to a major fault are taken into account in the engineering design and construction of the dam.

107. The Inspector added her own findings, conclusion and postscript. The last two items were as follows:

> "The rocks at the proposed Chalillo Dam site are predominantly very hard, silica-cemented sandstones. There are no faults at the site of the dam axis, only minor fractures. However the history of movement along a major fault zone 550m away; the extent of karstification; the 6.3% of weak, graphitic shales (observed in the cores) should be factored into any final plans for the construction of the proposed Chalillo Dam.
>
> Having obtained the report of the Inspector's team, the Inspector further recommends that: with the correct identification of rock type(s) in the area and detailed geology, BECOL shares this information with its Engineering (Contractors?) team. In the interest of the transfer of technology (TOT) and transparency this team should consist of national and international engineers. The national component should be public and private."

108. Evadne Wade's affidavit indicates that despite the tight timetable provided for by the ECP, she did not finally endorse and sign off the Cornec Report until 20 February 2003. What she refers to as "the Final Cornec Report" was delivered to the Minister on 21 February 2003. Her affidavit and its second exhibit indicate that on 20 and 27 August 2002 Mr Moore and Mr Cho had discussed the Cornec Report with senior BECOL representatives (including Dr Andrew Merritt, their consultant geologist, who was present only on 27 August). It is also clear from the first exhibit that (either at these meetings or on some other occasion) BECOL proposed changes to the text of the Cornec report. Two are particularly noteworthy:

> "<u>Summary, page 2</u>
>
> The statement 'Some of those shales are graphitic and could cause structural weakness in the right abutment'. As pointed out to Mr Moore, the dam under consideration is a gravity type dam and hence the resultant load from the structure will be primarily vertical. On the right abutment there will be very little concrete mass hence very little vertical force as shown on the dam designs submitted to you. Moreover, the presence of graphitic shales was already factored into the design. Therefore, we recommend that the statement be removed. Inclusion of this statement would indicate that the dam design needs to be modified but, as we have explained before, we

have fully factored the characteristics of all rock types in the design.

The statement 'there is a major fault' should be modified. In the detailed report, Page 9, it is explained that the fault has not shown any movement for some 65 million years. Can the statement be modified to say major inactive fault or include a qualifier on movement?

Major Fault, page 2 and page 8

Pages 2 and 8 of the report mention a major fault 500m North-West of the Chalillo Dam Site. It must be noted that mapping was not done that far downstream because geologic features that far downstream would not affect the dam foundation. It is obvious from the reports submitted that we did not map that far. AMEC did not show the fault in question on Figure 2-1 of 1999 Report because it did not seem to warrant the same prominence as other major faults such as Northern and Southern Boundary Faults and Cooma Cairn Fault. Major faults such as those just mentioned, affect the geology and/or topography of the areas they traverse. The fault in question being shorter and subparallel to the Cooma Cairn Fault fits the description of a 'splay fault', which are divergent smaller faults at the extremities of major faults. Our recommendation is that the word 'major fault' be removed or that the qualifiers above be included in the report."

109. In the final paragraph of her affidavit dated 1 December 2003 Evadne Wade stated that BECOL "is taking into account alterations in the dam design which will need to be made". A letter dated 3 November 2003 written to Mr John Evans of BECOL by Dr Merritt is to the same effect. By contrast Mr Lynn Young, the Chief Executive Officer of BECOL, who made affidavits on 14 November and 3 December 2003, made no reference to alterations in the dam design and stated (in the later affidavit) that in BECOL's view the Cornec report did not raise any new issues.

110. It is now necessary to go back in time and trace the course of the judicial review proceedings. BACONGO applied for leave to apply for judicial review on 8 February 2002. Its application was then directed towards NEAC's decision on 9 November 2001. Conteh CJ granted leave on 28 February 2002. The application was amended more than once as BACONGO (not without difficulty) discovered more about the decision-making processes. In particular,

as the Chief Justice recorded in his main judgment, Senior Counsel for the DoE denied in the course of a hearing (after 5 April 2002) that the DoE had ever made a decision in respect of the EIA. The Chief Justice was prepared to accept that Senior Counsel was not aware of the DoE's decision letter of 5 April 2002, signed by Mr Fabro, until it was exhibited to an affidavit of Mr Young. Mr Fabro swore a fairly lengthy affidavit (extending to 44 paragraphs) on 30 April 2002 but he did not make any mention of the ECP, the DoE's decision on 5 April 2002, or the impending Cornec Report. Nor did he mention any of these matters, or other relevant developments, in any other affidavit until very shortly before the recent hearing before the Board.

111. Affidavits were also made on 30 April 2002 by Mr Code, Mr Sukhnandan and Mr Young. All must have known about the Core Labs report. All must have known that the Cornec team's fieldwork had been taking place and that its report would be made very soon. Mr Code strongly attacked Mr Holland while equivocating on geology. For instance he stated,

> "Some differences of opinion have arisen as to the classification of the rock in the area on which the dam is intended to be built. While the report refers to the rock as granite, some believe the rock to be sandstone. The mineralogical composition of much of the rock around Chalillo is similar to granite."

This was answered by Mr Holland on 14 May 2002:

> "The sandstones at Chalillo are indeed derived from the erosion of the older granite of the Mountain Pine Ridge and are consequently made up of transported and sedimented mineral particles that previously comprised the granite. However, this similarity does not make the sandstone equivalent to granite. This mineralogical similarity is only as to composition and has nothing to do with the physical strength of the rock. It is like coal and diamonds: both are composed of the element carbon, the physical properties, however, being very different."

Similarly Mr Young (who is not a geologist) sought to equate sandstone and granite. Mr Sukhnandan continued what has become a recurrent theme, that it is all a matter of nomenclature.

112. None of these affidavits referred to the Cornec team's field studies or to the imminence of its report. On 3 June 2003, Mr Young swore a further affidavit (resisting injunctive relief) which stated,

> "A further review of the rock at the dam site was undertaken by a team of geologists at the request of the Inspector of Mines of the [GPD]. A report of the review was submitted to the said Inspector of Mines."

The affidavit did not identify this as the Cornec Report or give any further indication of its contents. This was a matter of weeks before the resumed hearing by the Chief Justice of the judicial review application. Neither Mr Fabro nor anyone else at NEAC or the DoE saw fit to inform the Court about the detailed provisions of the ECP (which was only exhibited to an affidavit of Mr Young early in 2003), as to the outcome of the Cornec team's work, or as to the failure of the Inspector of Mines to produce a report within the time limit prescribed by the ECP. The Chief Justice seems to have been told nothing of these matters, and consequently his reserved judgment (given just before Christmas 2002) made no reference to them.

113. Similarly the Court of Appeal was deprived of this highly relevant information. Had it been told the whole truth about these matters Rowe P could not possibly have said (as he did in para 37 of his judgment, confusing hydrology with geology),

> "In my view the NEAC approached their task in respect of the hydrology of the project with utmost care. The EIA provided sufficient and accurate information on which the NEAC could make their determination and on which they acted. There is no indication in the minutes of the meetings of the NEAC that the developers had to make any corrections to the information provided in the EIA. True they also provided additional information and scientific data but it is nowhere contended by the appellant that anything asserted in the EIA as to the geology of the dam area was changed due to the concerns of the NEAC expert. I therefore do not accept the submission that there was an absence of complete and accurate geological data when the NEAC met and voted for environmental clearance."

Nor could the Board, in its interlocutory judgment delivered on 30 July 2003, have given the inadequate and in some respects incorrect summary of the geological investigations which is contained in para 42 of the judgment.

114. The Board's hearing of the full appeal was fixed for 3 December 2003. A very few days before the hearing the respondents, on the advice of their English counsel, disclosed the Cornec Report

(at first in an incomplete form) and the Core Labs report. At the hearing Mr Clayton was critical of the very late disclosure of these documents. His criticisms elicited a flurry of last-minute evidence, the general effect of which was to raise more questions than it answered. I have already referred to the affidavits of Evadne Wade, the Inspector of Mines (stating that alterations of an unspecified nature were being made in the dam design) and Mr Young of BECOL (stating that the Cornec Report did not raise any new issues). But the most remarkable affidavits were those of Mr Fabro (who seems to regard himself as personally embodying the DoE, at least for the purposes of these proceedings).

114. In an affidavit made on 1 December 2003 Mr Fabro stated,

> "The DoE never received a Report by Jean Cornec, in 2002 but has now received the said Report ... [Mr Fabro then referred to reports from Dr Merritt and Mr Aziz]. After considering the Reports, the DoE *was and is* of the considered view that the geology of the MRUSF Project can support the dam." (Emphasis added)

This affidavit (which made no reference to consideration of alterations of the dam design) might be understood as implying that Mr Fabro had seen the Cornec Report early in 2003 (perhaps after it was finally signed off by the Inspector of Mines) and that it had received careful study.

115. It is therefore surprising, to say the least, that on 3 December 2003 (that is, the first day of the appeal hearing before the Board) Mr Fabro made a further affidavit. It was in the following terms:-

> "1. I make this affidavit further to my affidavit of 1 December 2003.
>
> 2. I first obtained a copy of the Cornec Report on 1 December 2003. I had not seen it before and I was not aware of it before I was informed about it by counsel for the First Respondent on 1 December 2003. I considered it, together with the comments of the Inspector of Mines and of BECOL and I was still of the view that the geology of the MRUSF area could support a dam and the associated structures.
>
> 3. The Cornec Report describes the rock type at the dam as sedimentary rock and not granite. When I granted approval on 5 April 2002 I was already convinced that

> the rock type was not granite. I believed it to be sandstone. I formed this view because of the firm opinion given by Mr Cho of the [GPD] (a member of NEAC) and because I knew the results of core sample tests that had been conducted by then."

116. Mr Clayton submitted that this evidence should not be believed. I would accept that submission. To my mind the evidence is simply incredible. It implies that Mr Fabro's evidence in his affidavit of 1 December 2003 (that the DoE "was and is of the considered view that the geology ... can support the dam") was based, as to an important part, on a report of which Mr Fabro had first become aware on the very same day as the affidavit was sworn. Moreover in his affidavit of 3 December 2003 Mr Fabro has deposed that by 5 April 2002 he was already firmly committed to the view that the EIA was wrong about the geology, despite the fact that BECOL had never publicly conceded any error, and despite the fact that the Cornec fieldwork and report (provided for by the ECP as the mechanism for finally resolving the issue) still lay in the future.

117. In this most unsatisfactory state of affairs a few essential points are clear. The geology in the EIA was seriously wrong, as both Mr Fabro and Dr Merritt now accept. The predominantly sandstone bedrock is probably capable of providing a satisfactory foundation for a dam but only if the new geological information is taken into account in the design. Under the EPA and the Regulations the design of such an important public works project was required to be included in the EIA, and should have been the subject of public consultation and public debate before approval, and before work started on the project. Instead there are to be changes in the design (a fact recently acknowledged by Dr Merritt and deposed to by the Inspector of Mines) but the nature of the changes has been withheld from the public. The appellant's case is, as Mr Clayton submitted and as I would accept, stronger than that of the successful appellant in *Berkeley v Secretary of State for the Environment* [2001] 2 AC 603. In that case all the relevant information was (one way or another) in the public domain, but only if the public embarked on a "paper chase" (see at page 617). Here not even the most protracted and determined paper chase could have got at the true facts.

118. I would therefore have allowed the appeal and quashed the DoE's decision (embodied in the decision letter of 5 April 2002) to grant environmental clearance for the project. I would have done so on the ground that the EIA was so flawed by important errors about the geology of the site as to be incapable of satisfying the

requirements of the EPA and the Regulations. These flaws were, on Mr Fabro's own evidence, known to him at the time of the decision. I would in the absence of a satisfactory undertaking grant an injunction restraining BECOL from continuing work on the project unless and until a corrected EIA is prepared for public consultation, and secures recommendation by NEAC and approval by the DoE.

119. In eloquent supplementary submissions made to the Board on behalf of the DoE the Attorney-General drew attention to what he called the economic and demographic realities of the case. Belize is a small country (its total population is about 250,000) and it has very limited economic resources. It needs foreign direct investment, and delay in the Chalillo dam project might, the Attorney-General said, mean that the project never went ahead. Its loss would be a grave blow to the country. He submitted that even if the EIA had identified the bedrock as sandstone, the design of the dam would not necessarily have been different. The Attorney-General also mentioned Mr Fabro's affidavit of 3 December 2003 and conceded that it might be inconsistent with the terms of his exchange of correspondence (letters of 30 May and 10 June 2003) with Mr Garel of BACONGO.

120. The Attorney-General's submissions call for respectful attention but they do not alter my view of what should be the outcome of the appeal. Belize has enacted comprehensive legislation for environmental protection and direct foreign investment, if it has serious environmental implications, must comply with that legislation. The rule of law must not be sacrificed to foreign investment, however desirable (indeed, recent history shows that in many parts of the world respect for the rule of law is an incentive, and disrespect for the rule of law can be a severe deterrent, to foreign investment). It is no answer to the erroneous geology in the EIA to say that the dam design would not necessarily have been different. The people of Belize are entitled to be properly informed about any proposals for alterations in the dam design before the project is approved and before work continues with its construction.

Dissenting judgment by ***Lord Steyn***

121. I am in complete agreement with the judgment of Lord Walker of Gestingthorpe.