

5.0 Precedent Facts

5.1 The proposition of law is that the court is required in certain instances to examine the existence of certain facts in order to determine the views of public authorities' actions "*The proposition that the judicial review court is not generally concerned with a decision's factual merits is underlined when one recognizes the existence of a class of case in which the Court's readiness to intervene does depend upon a pure question of fact: namely, where the question is whether or not a condition which statute imposes as precedent to the relevant public body's 'vires' to exercise power in a given area has, a matter of fact, been met.*"

See: Supperstone & Goudie Judicial Review paragraph 4.35

5.2 Paragraph 4.36: "*Where such a "precedent fact" has to be established, the Court's task is necessarily different from that which it usually undertakes. Generally, of course, the Court is concerned only to see that the Minister or other public authority has not transgressed against any part of Lord Diplock's trilogy of public criteria – illegality, irrationality, and procedural impropriety. In a precedent fact case, however, the Minister's power only arises where the fact in question is present; and thus the Court must determine whether it is present or not.*"

107 of 1995 made thereunder, with respect to an EIA is as follows:

5.3.1 Overall the DOE is responsible for monitoring and enforcing the provisions of the Act and the Regulations (Section 3(3)).

5.3.2 An EIA is to be submitted to DOE for evaluation and recommendation (Section 20 (1)).

5.3.3 DOE has a duty to evaluate the EIA, or cause to be evaluated, by comparing it to the previously agreed Terms of Reference to ensure compliance; and to see if further environmental assessment is needed, or if significant harmful impact is indicated (Regulation 21).

5.3.4 No project or activity can proceed until the EIA has been evaluated and, in effect, approved by the DOE (Regulation 22 (2)).

5.3.5 Where further information is required from the developer in respect of the EIA, then the EIA is not deemed complete until information is supplied (Regulation 22(3)).

5.3.6 The DOE exercises its duty to evaluate an EIA through NEAC (Regulation 25 (1)).

5.3.7 Different sections of the Act and the Regulations prescribed the contents of an Environmental Impact Assessment (EIA). The prescribing sections and regulations are:

- Section 20 (2) of the Act (effects of development on specific elements of the environment)
- Section 20 (3) of the Act (mitigation measures)
- Regulation 19 (a) to (o) (a series of requirements, including mitigation measures and monitoring plan)
- Regulation 20 (2) (copy of newspaper notice)

5.3.8 If the EIA is deficient in any respect, then it may be sent back to the developer, for amendment and re-submission (Regulation 23).

5.3.9 But, it is submitted, the EIA must be complete before NEAC evaluates the impact of the project on the environment.

5.3.10 It is submitted that a precedent fact to the DOE's powers of evaluation and approval under Section 20 (1) of the Act and Regulations 21 and 25 of the Act was that NEAC should have before it an EIA which complies with the requirements of the Act and the Regulations.

5.3.11 In paragraph 32 of Candy Gonzalez's affidavit of 9 February 2001 she makes the point:

“It was my understanding that the EIA had not been accepted for review at this meeting and would not be accepted until at least we received the additional information requested and had an opportunity to review it properly.”

5.4 **The Evidence** is that the EIA fails to comply with the Act and Regulations in several respects.

5.5 Contrary to the requirement of Regulation 20 (2), the EIA submitted in August 2001 was not accompanied by a copy of a newspaper in which had been published the requirements of Regulation 20 (1).

5.6 With respect to the requirements of Section 20 (3) of the Act, and Regulations 5 (e) and 19 (j) of the Regulations as to mitigation measures the developer intended to employ to mitigate the adverse effects of the project, it is submitted that:

5.6.1 for the majority of the serious environmental issues of the Dam, no mitigation measures are provided in the EIA;

5.6.2 in many cases where mitigation measures are provided they are not technically feasible.

5.7 Some examples of these deficiencies are:

5.7.1 The area to be affected by the Dam includes the Chiquibul National Park and the riparian (riverine) flood plain habitat. The latter is the area bordering the river and is the most productive part of the terrestrial environment.

5.7.2 As to this area the EIA states at Page 183 to 184 (page 15) of volume 6 of the Main Report: *“The riparian (riverine) flood plain habitat in the Project Area appears to be a unique vegetation type, extremely rare within the Belizean context.”*

“This area is subjected to seasonal flooding and varying water levels in the river. The result of these fluctuations has given rise to a lush area along the riparian zone. The vegetation along the river is usually early successional species. However, there are some large trees that emerge over the canopy. These emergent trees are used as nest trees by the Scarlet Macaw. The riparian zone also provides high abundance of fruit for forage for the Scarlet Macaw in the dry season as evidenced by the numerous bird sightings in this area.

“Impact to the Chiquibul National Park and the riparian floodplain habitat is likely to be significant and will require mitigation.”

5.7.3 Chapter 7 of the Main Report at paragraph 7.2.3.4, the EIA describes the riparian habitat thus: *“The importance and sensitive nature of the riparian ecosystems warrant special care during construction of the transmission line.”*

“The approach to the river at Chalillo site is characterized by steep slopes and dense/pine/oak forests. In addition the riparian forests are major

migratory routes for fauna and are the preferred habitat for various wildlife species in the dry season. The scenic attractions along this waterway have long been recognized and are now becoming important to the local ecotourism industry.”

5.7.4 Mitigation:

“Consult with and/obtain a Permit from the Minister of Natural Resources for areas of the Chiquibul National Park within the project footprint.”

Provided permits are obtained from the Ministry of Natural Resources, significant residual adverse effects are unlikely for Forest Reserves or Natural Park.

“However, significant residual adverse effects to the riparian (riverine) flood plain habitat are likely.”

5.7.5 This proposal does not lessen the impact on the National Park, but simply provides for a Permit to do this damage. This is not mitigation. It amounts to a cover-up.

5.7.6 On the damage to plant species, the EIA states at Page 186 of Vol. 6 of the Main Report:

“Nonetheless, construction activities will result in a loss of vegetation in the Project Development areas. The effects are expected to be relatively minor for common species of plants. Of importance are the potential effects on plant species at risk.”

“Plant species at risk known to exist in the Project Area are listed in Table 6.8. Several individuals of

these species would be lost during construction activities.”

“Due to the rarity of these plant species, significant impacts are likely to occur from habitat alteration (e.g., clearing, grubbing) related to construction activities.”

5.7.7 Mitigation:

“Transplantation of plant species has been shown to have some success. However, the results of transplantation of species identified in Table 6.8 have not been proven. Prior to construction, additional survey work will be undertaken to further identify the location and extent of plant species at risk in the reservoir area.”

Significant residual adverse effects to plant species at risk are likely unless the success of a transplantation program can be verified and implemented, prior to construction.”

5.7.8 These proposals do not even consider the larger impact from flooding. Furthermore, the proposed mitigation has never been tried with these species. There is no scientific basis for this proposal and it is acknowledged that additional survey work would be needed to know if this works.

5.7.9 On the damage to wildlife, the EIA states at Page 187 to 188 of Volume 6 of the Main Report:

“Measures are required to mitigate potentially significant adverse impact to the Tapir.”

“.....Therefore, measures are required to mitigate potentially significant adverse effects to the Scarlet Macaw.”

“Morelet’s Crocodiles: Due to hunting pressures it has become rare over most of its range.”

5.7.10 Mitigation: the measures which the developer says intends to employ with respect to these three species include:

*“Minimizing the Project footprint within all designated areas, maximizing the retention of existing vegetation on the perimeter of the Project site and including an anti-poaching patrol to minimize the hunting pressure on species at risk. Specifically for the Scarlet Macaw, utilize nesting boxes (**very limited success**) and/or captive breeding initiatives. Also for the Morelet’s Crocodile, consider relocation upriver (**unproven**), and develop alternative travel corridors.”*

5.7.10.1 It should be noted that the EIA states:

“Mitigation is considered to be possible when such mitigation has been demonstrated to be successful.”

5.7.11 The failure of the EIA to include sound and workable mitigation measures is acknowledged in the Main Report, Page 189:

“Due to unproven or limited effectiveness of the identified mitigative measures, and due to information deficiencies, it is likely that significant adverse effects will result from the Proposed Project.”

5.7.12 It should be noted that these measures are proposed in relation to construction activities.

No attempt is made to provide mitigation measures for the largest impact: **flooding**.

5.7.13 The EIA at Page 227 of Volume 6 Main Report, acknowledges that the major impact on flora and fauna will be from **flooding**:

“The major effect to the terrestrial flora and fauna during operations is due to the flooding of habitat that is used by various species. Impounding water in the reservoir results in similar effects, but a larger geographic area (i.e. the reservoir).”

5.7.14 Mitigation:

“Standard construction practices will be implemented as described in Chapter 7.”

“Significant residual adverse impacts are likely to species at risk.”

5.7.15 Even so, “standard construction practices” is hardly a defensible standard and logically cannot mitigate the effects of flooding.

5. 7.16 As regard the archaeological sites, the EIA at pages 201 and 232 of Volume 6 of Main Report acknowledges that drilling, blasting, clearing, grubbing, and flooding will affect the integrity of these sites. This portion of the EIA euphemistically describes it as “loss of site integrity.” However, in the earlier Volume IV of the Appendices, the Report on archaeology spoke about destroying a cultural resource that could not regenerate itself. (See paragraph 4.5.4 hereof).

5.7.17 Mitigation:

“The Commissioner (of Archaeology) has not yet determined what mitigative measures are necessary. The Proponent will continue its consultation to develop an appropriate mitigation plan.”

5.7.18 Mitigation measures are required in the EIA itself and not as an afterthought. For NEAC to realistically consider the impacts on archaeological resources, it would need to know what those impacts would be after proposed mitigation.

5.7.19 With regard to damage to the quality of water in the Macal River, the EIA at Pages 229 of Volume VI, Main Report, acknowledges that ammonia accumulates in reservoirs where there are appreciable amounts of organic matter.

The EIA also acknowledges at Page 233 that *“Increased mercury levels in fish are predicted to*

occur for several years after impoundment of the water.”

5.7.20 For mitigation of ammonia the EIA states that *“Typical mitigation to decrease ammonia concentrations, for decreasing the duration of the effect involved harvesting and removing standing vegetation, and even grubbing the stumps and root systems of plants that cover proposed reservoir footprints.”*

“Because of the ineffectiveness of the standard mitigation in a tropical environment, and the temporary nature of the effect, it is concluded that clearing the vegetation from the reservoir will not significantly benefit or protect water quality.”

5.7.21 Mitigation for mercury/levels in fish is by public advisories, information campaigns explaining health risks, fish consumption advisories explaining safe mercury exposure, monitor mercury levels in fish for five years.

5.7.22 It is well to note here that the developer has not proposed in the EIA to clear the vegetation from the reservoir. This point will be addressed further on.

5.7.23 The EIA acknowledges the fact that the dam will cause loss of habitat and therefore wildlife, and this will have a negative impact on tourism. (Also see Chapter 7 of Main Report previously referred to at

paragraph 5.7.3 hereof which describes the importance of the region to ecotourism.)

5.7.24 At Page 231 the importance of tourism to the Cayo District is stated:

“Tourism is recognized as one of the two main economic sectors in the Cayo District.”

“The Project has generated substantial controversy and international attention through publications and exposure in media and World Wide Web. It is conceivable that this negative attention surrounding the Project and the potential loss of habitat and resulting wildlife impact could adversely affect the tourism industry in the Cayo District.”

5.7.25 Mitigation is by promotional campaign to advertise initiatives in place by GOB to protect wildlife habitats and heritage resources. The EIA preparers are confident that if these mitigation measures are done, *“There should be no significant adverse impacts.”* This, it is submitted, is not mitigation.

5.7.26 The adverse effects of the Project combined with the infestation of the adjoining Mountain Pine Ridge by the bark beetle, is recognized at Page 242:

“These effects are predicted to act cumulatively with those of the MRUSF Project because of the proximity of the two areas. Significant adverse effects are likely.”

5.7.26 The adverse effects of the Project combined with the infestation of the adjoining Mountain Pine Ridge by the bark beetle, is recognized at Page 242:

“These effects are predicted to act cumulatively with those of the MRUSF Project because of the proximity of the two areas. Significant adverse effects are likely.”

5.7.27 No mitigation proposed.

5.7.28 The EIA refers to an Environmental Management Plan on Page 245. There is no discussion on management for the largest adverse impacts, namely, deterioration of water quality, loss of habitat and wildlife due to flooding, loss of cultural resources.

5.7.29 The EIA does not contain a plan of action in the event of dam failure.

5.7.30 That the EIA is deficient is supported in the minutes of NEAC’s meetings at which the EIA was considered, held on the 24th of October, the 8th of November and the 9th of November 2001. **See Minutes exhibited to affidavit of Icilda Humes dated the 12th of April 2002 at page 171 - 188 hereof.**

5.7.31 In the minutes of the **24th of October 2001**, there are nine references to lack of mitigation measures and several to the deficiency of information in the EIA.

5.7.32 For example:

“3.05: A member reported that there was insufficient information on bio-

accumulation of mercury in fishes and its effect on human consumption. Some Members felt that more detailed information on land management should be presented to include threats to the buffer zone.”

“3.06: “A member was concerned with the authorization of a development project within the boundary of a national park.”

“3.07: “One member stated that there was a lack of clear mitigation measures for negative impact that could arise from construction of transmission lines. The member also expressed concern that in several areas of the EIA there was a reference to “standard mitigation procedure” and that such procedures were not clarified in the EIA.”

“3.10: “The member from the Hydrology Department reported that the information gathered on the hydrology was inadequate.....he went on to mention that more hydrological studies should have been conducted by BECOL years before the actual preparation of the EIA.”

“3.11: “A member reported that the information on geology and geotechnic was not sufficient.... Some members expressed

concern that there was no mention of an Emergency Response Disaster Management Plan within the EIA to address potential failure of the dam and ensuing floods.”

“3.13: *“There appear to be inconsistencies in the data presented with respect to the geology of the Project site. For instance, there was no justification for slope, and from the information on the geology of Belize the rock types identified were not likely to exist in that area. It was also noted that the EIA did not consider the effects of slope failure. More detailed information on topography needs to be mentioned.”*

15.7.33 In the minutes of the **8th November 2001** there were 21 references to inadequate mitigation and several to the deficiency of information. Some of these were member’s promises to provide the missing mitigation measures.

15.7.34 For example:

“2.04 *One member expressed his concern that the additional information submitted with respect to mercury levels, vector control and mitigation measures were still not clearly spelled out.”*

“2.05 *It was decided that NEAC would rely on the expertise of the Fisheries Department to*

discuss the measures that can be taken to address impact on fish.”

“2.09 Mitigation measures need to be put in place for the potential problems associated with mercury and ammonia.

“2.11 The member from ANDA reported that he would be submitting suggested mitigation measures to the NEAC.”

“2.14 One member felt that the additional information submitted with respect to blasting did not adequately address the effect on aquatic life. Such mitigation measures need to be addressed.”

“2.16 One member stated that the report presented by several geologists labeled the rock type for the dam site as granite. This member felt that this information is inaccurate. The rock type is believed to be sedimentary rock not granite.....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.”

“2.21 *The Chairman commented that there was little mitigation measures recommended in the EIA with respect to Wildlife Ecology. However, he felt that there was sufficient information in the annexes that needed to be considered. The mitigation plan in the main document was deficient with respect to potential impacts on some wildlife species and no monitoring plans for wildlife was contained in the main report.*”

“2.23 *It was suggested that studies be conducted to investigate how parrots would adapt to artificial nests as well as studies to investigate the impact on wildlife populations.*”

5.7.35 It is then apparent from the minutes that because the EIA was so deficient with respect to mitigation measures, the Chairman sought to rescue the EIA by telling the meeting that mitigation measures could be included by way of an environmental compliance plan. Into this plan NEAC would draft the mitigation measures. The suggestion of an environmental compliance plan is made at the second meeting on the 8th of November.

5.7.36 Thus Mr. Fabro, the Chairman, states at the meeting of the 8th November 2001:

“1.05 - The Chairman stated that if the Project is approved, the Environmental Compliance Plan would have to specify all mitigation measures accompanied by a budget to give the NEAC the assurance that mitigation measures are budgeted for and would be implemented.”

“2.12 - The Chairman suggested that a Performance Bond to cover the possibility of any emergencies occurring or infringements of the provisions of the compliance plan be set at 2 or 3 percent of the Project cost, although EIA Regulations have not been amended to include this.”

5.7.36.1 This is an acknowledgement, it is submitted, of the incompleteness of the EIA. But further than that, the Chairman’s comments indicate his awareness that mitigation measures come with a cost: If the developer did not propose mitigation measures and thereby assume their cost, then the developer would have to be forced to pay for the measures.

5.7.37 The practical importance of having mitigation come from the developer as required in Sections 20 (2) and (3) of the Act, and

regulation (j) and (k) of the Regulations is recognized in Mr. Fabro's comments. However, if an EIA is approved without these measures in place, then the DOE will have to negotiate with the developer to get it to spend unbudgeted money. Hence, the reference by Mr. Fabro to a bond to ensure performance, notwithstanding that the environmental laws do not contemplate such a thing. It should also be noted that the legislation does not provide for an "Environmental Compliance Plan."

5.7.38 The difficulty of asking the developer to spend more on mitigation than budgeted is illustrated by the discussion in the Minutes of the 8th of November 2001 between NEAC, BECOL and the EIA preparer (AMEC).

5.7.39 At paragraph 3.09, the Minutes state that there is "*the need for clearance to mitigate mercury levels*". BECOL responded that it was "*considering partial clearing or selective clearing.*" (BECOL's response is made notwithstanding the EIA's conclusion that clearance of vegetation would not mitigate ammonia levels, and the EIA's complete silence on this measure as mitigation for mercury levels in fish). (Previously referred to herein at 5.7.20).

5.7.40 BECOL is informed that *“this decision would be at the discretion of the NEAC.”*

5.7.41 Then at paragraph 3.10: *“a discussion on the potential impacts of mercury and potential mitigation measures ensued between BECOL and NEAC members.”*

5.7.42 It is clear from the minutes that NEAC members did not know what to do about mitigating mercury levels. **Thus paragraph 3.11:**

“It was stated that although clearing of the vegetation may reduce mercury levels, it would still be an issue. Rapid secondary growth could also contribute to water quality problems. There was not sufficient scientific evidence on the benefits of vegetation clearance with respect to water quality within reservoirs in tropical areas.”

5.7.43 The following day at the meeting of the 9th of November 2001, the issue of the cost of this partial or full clearing came up again. This is the meeting at which the decision to grant conditional approval to the EIA was made. Present at this meeting were *“John Evans, an Engineer from Fortis and Jeremy Gilbert from AMEC, the Company that prepared the EIA.”*

(See Candy Gonzales paragraph 136). At this meeting there were 5 references to mitigation deficiencies.

5.7.44 The matter of BECOL's budget for clearing vegetation from the reservoir area was introduced. It is apparent from **paragraph 1.03 of the Minutes of the 9th of November 2001** that BECOL gave NEAC its budget for clearing. Whereupon NEAC members embarked upon what can only be described as a juggling exercise to see how best to spread the budgeted amount of money. If partial was ordered, then the difference in money between partial and total clearance could be spent on mitigation measures for mercury and ammonia.

5.7.45 Thus, paragraph 1.03:

“The Chairman recommended to members that NEAC consider granting clearance on the basis that a draft ECP be devised with the Agreement that mitigation measures for major issues be detailed. He stated that it appeared at the meeting on the previous day that most members thought it was best to clear the reservoir. If partial clearing occurs, the issue of increased mercury and ammonia will still have to be resolved. The Chairman pointed out that it would take some time to completely clear the

area before re-growth occurs. BECOL's Budget with respect to clearing was submitted to the NEAC. The difference between the overall cost of partial versus total clearing is \$1.3 million. In consideration of this, the Chairman suggested that the NEAC may want to consider partial clearing and analyze the differential between total and partial clearing to look at mitigation measures for mercury and ammonia. BECOL had previously agreed to do either partial or total clearing, depending on the decision of the NEAC. The Chairman suggested that partial clearing be done in order to move some of the vegetation that could contribute to mercury content of the water."

5.7.46 There remained confusion among NEAC members as to what exactly was this "partial clearing."

See Paragraph 4.01: *"One member suggested that "partial" clearing be defined. The Chairman informed the NEAC that if there is partial clearance of the reservoir area, there will still be the issue of mercury."*

See paragraph 4.05: *"It was suggested that BECOL submit the research data on the pros and cons of clearing the reservoir area."*

5.7.47 Notwithstanding the lack of information, the decision at the meeting was to require “partial clearing” of the reservoir area.

5.7.48 Another combined effect results from the proximity of the dam site to the Caracol Archaeological site. This archaeological site is described **in the EIA at page 242 of Volume 6 of the Main Report to have had 4,800 people visiting in 1999.** Caracol will have year round activity because of the availability of access in the dry season. Traffic will increase because the site is being marketed as a tourist attraction. *“These effects are predicted to act cummulatively with those of the MRUSF Project, because of the proximity of the two areas. Significant adverse effects are likely.”*

5.7.49 No mitigation proposed.

5.8. The EIA does not have a monitoring plan for dam impacts on wildlife, flora and fauna, as required by Regulation 29 (e) of the Regulations.

5.9 The EIA failed to genuinely consult and failed to consult with interested bodies, (as for example, BACONGO.)

5.9.1 Section 20 (5) of the Act requires that: *“When making an EIA, a proposed developer shall consult with public and other interested bodies.”*

5.9.2 The EIA was funded from 1st of June 2000. Yet the public consultations required by Section 20 (5) of the Act were carried out in the space of 53 days, and completed just two months before the EIA was submitted to the DOE on the 24th of August 2001.

See: Affidavit of Grainne Ryder dated 21st of May 2002 exhibiting CIDA contribution agreement with Agra Inc. See pages 210 – 239 hereof.

5.9.3 No consultation was held with BACONGO representatives despite the fact that BACONGO is the Alliance of Conservation NGO’s with an express mandate *“To support the efforts of our members and to advocate for natural resource conservation and sustainable development for the benefit of the people of Belize”*. **See paragraph 5 of the affidavit of Jamillah Vasquez dated the 8th of February 2002.**

5.10 The EIA contained faulty and misleading geology reports.

The Court has been presented with several affidavits concerning the geology reports of the EIA, viz:

- (i) the first affidavit of Brian Holland dated the 11th of April 2002
- (ii) the affidavit of James Code dated the 30th of April 2002 filed on behalf of the respondents, in response to Brian Holland

- (iii) the affidavit of Jeremy Gilbert-Green dated the 18th of April 2002 filed on behalf of the respondents, in response to Brian Holland
- (iv) the second affidavit of Brian Holland dated the 14th of May 2002 filed on behalf of the applicant in response to James Code and Jeremy Gilbert-Green.

5.10.1. On page 13 in Volume 4 of the Main Report, the bedrock geology at dam site is described as:

“At the proposed dam site area, the outcrops forming the floor of the river valley consist almost entirely of granite intrusions. Below the valley floor, some Santa Rosa sedimentary rock layers or inclusions were found in the granite, but in relatively minor amounts. Above the valley floor however, Santa Rosa sedimentary rock constitutes a large proportion of bedrock forming both rock abutments.”

5.10.2 When on the 25th of October 2001 NEAC asked BECOL to provide detailed information of rock type(s) in location where dam and other structures will be constructed because, said NEAC, the EIA states that granite and sedimentary rock are present in the area, **BECOL replied by letter dated the 7th of November 2001 (Exhibit “CG12 to affidavit of Cady Gonzalez dated the 9th of February 2002) See pages 198 – 209 hereof.**

“At the dam site, the outcrops forming the floor of the river valley consist almost entirely of granite intrusions. Below the valley floor, some Santa Rosa sedimentary rock layers or inclusions were found in the granite, but in relatively minor amounts.”

5.10.3 Brian Holland says that the geological analysis of the Macal riverbed in the EIA, is wrong.

5.10.4 Brian Holland says that he provided a report to the applicant (BACONGO) showing that the geology sections of the EIA reached conclusions premised on statements which were factually incorrect. He exhibits this report to paragraph 8 of his affidavit of 11th April 2002.

5.10.5 At paragraphs 6 & 7 he repeats the main finding of his report: *“6... First, that the Macal riverbed is predominantly made up of Permian shales and sandstones. Second, that it is likely there are caves in limestone formations located in close proximity to the riverbank. Both can cause significant problems for the Chalillo Dam.”*

“7 ...Unless further study is done, it is unclear whether this foundation will support the Dam without a significant failure.”

5.10.6 Jamillah Vasquez says that *“BACONGO submitted this report to NEAC for consideration.”*

5.10.7 Paragraphs 9 to 15 of Brian Holland's affidavit maintain the same position as in his report to BACONGO. He says that the geology section of the EIA is factually incorrect, after examining the bedrock at the dam site. After producing his report for BACONGO, his findings confirmed previous documented geology of the area and his own previous 1993 study. Namely, the bedrock of the dam site was sandstone with varying physical characteristics over short distances, both vertically and laterally.

5.10.8 It is submitted that NEAC members acted ultra vires the law in approving an EIA with an important section such as the geology of the Dam site, under challenge.

5.10.9 The challenge was on the table at NEAC deliberations from the very start:

- (1) NEAC meeting of the 24th of October, paragraphs 3.11, 3.12, 3.13.
- (2) NEAC meeting of the 8th of November 2001, paragraphs 2.16, 2.17, 3.06
- (3) Report of Brian Holland in October of 2001 sent to NEAC by the applicant. Page 9 of Exhibit BH1 to affidavit dated the 11th of April, 2002. See pages 240 - 247 hereof.

5.10.10 To cap it all, Lynn Young agrees in his respondent affidavit of **the 30th of April 2002, at paragraph 13,** (after the conditional approval of NEAC) that:

“Rock samples were sent for testing to Core Laboratories in Houston, Texas and to the Geology Department of the University of the West Indies. The tests indicated that the rocks, while sedimentary, were derived from granite and their composition and properties are very similar to that of granite.”

- 5.10.11** No evidence of this test result has been produced and therefore it is not known whether the subjective evaluation of the properties of the rocks made at the end of the statement, is that of the laboratory, or that of Mr. Lynn Young.
- 5.10.12** Notwithstanding independent confirmation that AMEC’s geology is wrong, the Vice-President of AMEC, Jeremy Gilbert-Green, at paragraph 8 of his affidavit states: *“The laboratory analysis of the rock at the Dam site indicates it to be suitable for the construction of the Dam as proposed. The design will not change based on the final classification of the rock.”*
- 5.10.13** These are, it is submitted, two contradictory statements: if the classification upon which the opinion of suitability is premised is wrong, how then can it be certain that the dam design will not be altered.
- 5.10.14** Jeremy Gilbert-Green also skirts the issue of the misidentified bedrock of the Dam site by trying to equate granite with sandstone. He says *“The chemical composition of granite and sandstone are very similar.”*

5.10.15 But as Brian Holland responds, in his second affidavit dated the 14th of May 2002, the “*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.*”

5.10.16 James Code, Consultant to the Energy Division of AMEC says: in an affidavit dated 30 April 2002: “*27.....Internationally recognized standards such as those of the U.S. Army Corps of Engineers have been employed in the design of the dam.*”

5.10.17 It is submitted that both James Code and Jeremy Gilbert-Green could only depose with this degree of certainty about the design of the dam because AMEC has in fact, in addition to doing the EIA, designed the Chalillo Dam.

5.10.18 AMEC’s support for its incorrect geology and its stance that a change in the classification of the bedrock will not alter dam design, was an injustice inflicted on NEAC members. AMEC engineers and BECOL representatives attended the last two meetings of NEAC resulting in the decision, to answer questions from NEAC members.

5.10.19 If AMEC did not know, then it ought to have known, that “*foundation problems are the most common cause of failure in concrete dams, with internal erosion and insufficient clear strength of the foundation each accounting for 21% of failures.*”

See: “The Report of the World Commission on Dams” exhibit J.V.5 of Jamillah Vasquez dated the 8th of February 2002. See pages 331 - 333 hereof.

5.10.20 Rather than being candid, about the concerns as to geology AMEC and BECOL representatives chose to emphasise the qualifications of the geologists who had done the testing.

See: Paragraph 3.12 of the NEAC meeting of the 8th of November 2001:

“BECOL personnel were informed that the Geology & Petroleum Dept. (GPD) was not satisfied that the geological information is accurate. BECOL informed the committee that highly qualified geo-technical personnel had carried out geo-technical drilling and coring. The NEAC was informed that rock cores from the project site could be reviewed tomorrow.”

5.10.21 The one consequence of BECOL’s stance on incorrect information was put at the NEAC meeting of the 8th November 2001 thus:

“3.06 One member stated that if the information on geology is not accurate then this could raise concerns as to the credibility of the EIA preparers and the accuracy of their information contained in the document.”

5.10.22 The EIA contains no mitigation measures in the event of dam malfunction or dam failure.

See: Paragraph 3.12 of NEAC meeting of the 8th November 2001:

“One member suggested that a disaster management plan be devised for areas downstream from Chalillo with a time frame in which to implement the plan. This plan could be developed in collaboration with the communities downstream.”

5.11. The EIA failed to indicate the involvement of the inter-agency and public/non governmental organizations as required by Regulation 19 (m) of the Regulations.

5.11.1. The involvement of the Canadian International Development Agency (CIDA) in the EIA was revealed in the affidavit of Joseph Sukhnandan (paragraphs 15, 16 & 17)

5.11.2. The Sukhnandan affidavit revealed that AMEC applied to CIDA for CIDA to fund AMEC to do the EIA for the Chalillo project. CIDA required some TORs for inclusion at that time. Apparently, AMEC was at that time, (and may still be) the Consultant to BECOL.

5.11.3. However, from the affidavit of Grainne Ryder and the exhibits thereto, it is clear that CIDA’s involvement in the EIA was more than just funding. Exhibited to Grainne Ryder’s affidavit is the Contribution Agreement between CIDA and AMEC (formerly Agra Inc.)

5.11.4. Particular reference is made to Annex B on Page 8 and Annex “D” on page 21 of Exhibit GR3:

Page 8: “2.0 the Firm shall seek to achieve the following objectives in carrying out the activity: (a) The Firm shall seek to interest the client in assigning implementation of the Project to the Firm, or to interest the partner in continuing its co-operation in implementing the Project.”

Page 21: “2.0 Revenue Sharing

“2.1 The Firm shall share the project revenues with CIDA in accordance with the terms and conditions set forth in subsection 2.3 when the following circumstances are both present during the effective period:

(a) CIDA has paid a minimum of Cdn. \$100,000 pursuant to one or more contribution agreements;

(b) The Firm, the affiliates, or the Firm and the affiliates, have realized project revenues totaling a minimum of Cdn. \$5,000,000.”

5.11.5. What this means is that CIDA paid AMEC to do an EIA for BECOL, and in exchange for that AMEC agreed that in carrying out the EIA one of its objectives must be to interest BEL in giving AMEC the contract to implement the Chalillo Dam project, or to interest BEL to continue working with AMEC in implementing the project. If successful, AMEC agreed to share project revenues with CIDA.

5.11.6. But none of this information was included in the EIA, notwithstanding regulation 19 (m).

5. 12 To Summarize:

- (1) The EIA did not fulfill the requirements of the Act or the Regulations. It was therefore not a complete EIA and not properly before NEAC for consideration.
- (2) In considering this EIA, NEAC was acting ultra vires its powers under the Regulations.
- (3) NEAC has no power to complete a deficient EIA by way of an environmental compliance plan or otherwise.
- (4) The DOE/NEAC's powers are either to approve an EIA, as envisaged by Section 20 of the Act, and regulation 27 (1) of the Regulations; or, pursuant to regulation 23 of the Regulations, to require the developer:
 - (a) to conduct further work or studies;
 - (b) to supply further information;
 - (c) to amend the EIA accordingly; and
 - (d) to re-submit the EIA by a later mutually agreeable date.

The DOE/NEAC have no power to grant conditional approval of an EIA, save and except for a condition(s) in the context of Section 13 of the Disaster Preparedness Relief Act .