

The Ilisu Dam: Downstream Water Impacts and Iraq  
Report of Fact Finding Mission to Iraq, 29 March 2007



THE  
CORNER  
HOUSE

**ILISU DAM**  
**Downstream Water Impacts and Iraq**

**Report of Fact Finding Mission to Iraq, 29 March 2007**

**The Corner House**  
**Kurdish Human Rights Project**

The Ilisu Dam: Downstream Water Impacts and Iraq  
Report of Fact Finding Mission to Iraq, 29 March 2007

CONTENTS

1.	Main Findings	3
2.	Summary and Findings	4
3.	Concerns over Downstream Impacts	6
4.	Inadequate Assessment of Downstream Impacts	7
5.	Turkey's International Law Obligations	8
6.	Iraq-Turkey Agreements	9
7.	The Export Credit Agencies' Conditions for Funding	10
8.	Concerns over the Conditions	11
9.	The Export Credit Agencies' Decision	13
10.	Iraq's Position	14
11.	Conclusion	16

Annex 1:

Note on Ilisu Dam by international law specialists Professors Laurence Boisson de Chazournes, James Crawford, Kate Cook and Philippe Sands	18
--	----

Annex 2

Review of ECA Final Terms of Reference for the Ilisu Dam Project by Philip Williams and Associates	21
---	----

## MAIN FINDINGS

1. Turkey did not provide Iraq with the information it requested on the proposed Ilisu Dam *prior* to approval of financing by the Export Credit Agencies (ECAs), despite this being a pre-condition of ECA funding.
2. The ECAs mischaracterized the meeting between Iraq, Syria and Turkey on 22nd March 2006. Contrary to ECA statements, Iraq did not agree to the Ilisu Dam. Although the discussions were “positive”, all that was agreed was a framework for future talks.
3. Key conditions on guaranteeing downstream flows to the **lower reaches** of the Tigris were dropped by the ECAs of Germany, Austria and Switzerland prior to their approving funding of the Ilisu Dam and were replaced by weaker conditions that do not protect Iraq and Syria’s rights.
4. The new conditions set by the ECAs failed to reflect the requirements of international law, which obliges Turkey not merely to provide information on the proposed Ilisu Dam to Iraq and Syria but also to consult and negotiate.
5. The minimum flow rate of 60 m<sup>3</sup>/sec required by the ECAs is insufficient to prevent adverse downstream impacts on Iraq and Syria.
6. By stipulating a downstream flow rate that has already been **unilaterally** decided by Turkey, the ECAs have effectively undermined the rights of Iraq and Syria to negotiate a higher – but more “equitable and reasonable” – flow rate.
7. Turkey’s obligations under international customary law and its bilateral agreements with Iraq have not been met.
8. By agreeing to fund the Ilisu Dam without awaiting the outcome of negotiations between the three riparian states, the ECAs of Germany, Austria and Switzerland have not only set a dangerous precedent which undermines international law, the environment and human rights, but may themselves be held to have facilitated the violation of international law.

## 1. Summary and Findings

Few infrastructure development projects have caused as much international controversy in recent years as the proposed [Ilisu Dam](#) in the Kurdish region of Southeast Turkey. If it were built, the dam would displace between 50-78,000 people, mainly Kurds; flood the ancient town of Hasankeyf and hundreds of other unexplored archaeological sites; severely impact the environment upstream and downstream of the dam; and severely reduce the flow of water to the downstream states of Iraq and Syria, with the potential for exacerbating conflict in the region.<sup>1</sup>

In 1999, a European-US consortium – headed by UK construction company Balfour Beatty – sought finance for the dam from European and US Export Credit Agencies (ECAs). However, in 2002, the lead companies in the consortium withdrew from the project after widespread public outcry. Two years later, a new consortium was formed to build the project, led by Austria's [VA Tech Hydro](#) (since taken over by Andritz AG) together with [Alstom Switzerland](#) and the German construction company [Züblin](#).<sup>2</sup>

In order to reduce the high financial and political risks of the project, the new consortium sought government-backed export credit guarantees from Austria's ECA [Oesterreichische Kontrollbank - OeKB](#) (200 million Euro), Germany's [EulerHermes](#) (93,5 million Euros in addition to some 100 million Euro in re-insurance for OeKB) and Switzerland's [SERV](#) (formerly ERG<sup>3</sup>) (225 million CHF = 140 million Euros<sup>4</sup>). The three ECAs acknowledge that the project still lacks both an environmental impact assessment and a resettlement plan that meet international standards.<sup>5</sup> Nonetheless, between 24<sup>th</sup> and 28<sup>th</sup> March 2007, they approved finance for the project, subject to Turkey meeting 150<sup>6</sup> [obligations and conditions](#) within the repayment period of 15-plus years. The conditions – which cover environmental impacts, resettlement, cultural heritage and downstream impacts – are intended to “guarantee that the planned project . . . will conform to international standards.”<sup>7</sup>

- 
1. For further information, see: FERN, *The Ilisu Dam Project, Europe's money would move Turkey away from the acquis communautaire*, September 2006 [http://www.fern.org/media/documents/document\\_3773\\_3776.pdf](http://www.fern.org/media/documents/document_3773_3776.pdf).
  2. VA Tech Hydro and Alstom would supply the electromechanical equipment. Construction would be undertaken by Zueblin with the Turkish construction companies Nuro, Cengiz and Celiker. Engineering works would be the responsibility of two other companies, Stucky (Switzerland) and Temelsu (Turkey). Swiss consultants Colenco and Maggia are also involved.
  3. In January 2007 the Swiss Export Risk Insurance (SERV) replaced the Swiss Export Guarantee Agency (ERG) – see: <http://www.serv-ch.com/en/index.html>.
  4. NZZ Online, 5. December 2006, “Bundesrat hat noch Vorbehalte beim Ilisu-Kraftwerk” – <http://www.nzz.ch/2006/12/15/il/newzzEVQDZ7Q8-12.html>
  5. The ECAs have acknowledged the lack of both key documents. Commenting on the Environmental Impact Assessment, for example, the ECAs stated in March 2007: “. . . In the field of biodiversity the [EIA] is often too superficial in the sense that it uses existing information, and that no actual field data from the project area are available. For this reason, the identified impacts, and especially their importance, are often questionable.” See: ECA Final Terms of Reference – Environmental Issues, E-13, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69>.
  6. Number given by the German government. The conditions are grouped differently in Switzerland, resulting in a total of 100. The content of the conditions is identical, however, as they were negotiated jointly by all three ECAs with the Turkish government.
  7. Hermes, “Additional information on an export credit guarantee for the hydroelectric power plant Ilisu”, [http://www.agaportal.de/en/portal/presse\\_ilisu.html](http://www.agaportal.de/en/portal/presse_ilisu.html), 5 December 2006.

Of the 150 conditions, the ECAs required 30 to be met prior to approval of funding. Two of these required Turkey to supply information on the Ilisu Dam to Iraq and Syria; others relate to Turkey agreeing to maintain a minimum flow immediately downstream from Ilisu (but with no requirement to ensure such a flow beyond the Turkish border). The ECAs argue that these conditions have been fulfilled and point to reports in the Turkish press that Iraq agreed to the construction of Ilisu at a tripartite meeting between Turkey, Iraq and Syria on 22<sup>nd</sup> March 2007.

That claim has since been rigorously denied by Iraq. In order to clarify whether or not the ECAs pre-conditions had been fulfilled by Turkey prior to approval of financing, The Corner House undertook a Fact Finding Mission to Iraq immediately following the ECAs decision, meeting with Iraq's Minister of Water on 29<sup>th</sup> March 2007.

From the information and documentation it obtained, The Corner House confirms:

1. Turkey did *not* provide Iraq with the information it requested on Ilisu *prior* to approval of financing by the ECAs, despite this being a pre-condition of ECA funding.
2. The ECAs mischaracterized the meeting between Iraq, Syria and Turkey on 22<sup>nd</sup> March 2006. Contrary to ECA statements, Iraq did not agree to Ilisu. Although the discussions were “positive”, all that was agreed was a framework for future talks.
3. Key conditions on guaranteeing downstream flows to the **lower reaches** of the Tigris were dropped by the ECAs of Germany, Austria and Switzerland prior to their approving funding of the Ilisu Dam and were replaced by weaker conditions that do not protect Iraq's and Syria's rights.
4. The conditions set by the ECAs failed to reflect the requirements of international law, which obliges Turkey not merely to provide information on Ilisu to Iraq and Syria but also to consult and negotiate with them.
5. The minimum flow rate of 60 m<sup>3</sup>/sec required by the ECAs is insufficient to prevent adverse downstream impacts on Iraq and Syria.
6. By stipulating a downstream flow rate that has already been **unilaterally** decided by Turkey, the ECAs have effectively undermined the rights of Iraq and Syria to negotiate a higher – but more “equitable and reasonable” – flow rate.
7. Turkey's obligations under international customary law and its bilateral agreements with Iraq have not been met.
8. By agreeing to fund the Ilisu Dam without awaiting the outcome of negotiations between the three riparian states, the ECAs of Germany, Austria and Switzerland have not only set a dangerous precedent which undermines international law, the environment and human rights, but may themselves be held to have facilitated the violation of international law.

## 2. Concerns over Downstream Impacts

Scheduled for construction on the River Tigris, some 65 kilometres from the Syrian border, the 1200 Megawatt (MW) Ilisu Dam is Turkey's largest planned hydroelectric project. It will cost an estimated 2 billion Euros.<sup>8</sup> A second associated dam downstream at [Cizre](#), on the Turkey-Syria border, is intended to provide power and irrigation; it is dependent on the construction of Ilisu<sup>9</sup> and would be implemented once construction of Ilisu is started.<sup>10</sup> Because Cizre would be an irrigation dam, water fed to it by Ilisu would be largely lost to downstream flow. The two dams form part of the giant Southeastern Anatolia Project (known as GAP after its Turkish name, [Guneydogu Anadolu Projesi](#)), a network of 22 dams and 19 power plants.

Fears have been expressed that Ilisu – in conjunction with other GAP dams – could severely disrupt the downstream flow of the Tigris to Syria and Iraq, affecting communities reliant on seasonal agriculture; undermining Iraq's efforts to restore its southern marshes (which were drained by Saddam Hussein in order to punish the Marsh Arabs who live there); and heightening political tensions between Turkey and its neighbours in what is already a volatile region.

Noting the strategic importance of Turkey's abundant water resources, a 1998 report by the UK Defence Forum warned that the GAP project as a whole is:

“one of the region's most dangerous water time bombs. The dispute has not erupted yet because the project has not yet reached its full potential. By the time of its planned completion in 2010, the vital interests involved give it the potential to become one of the region's most dangerous flashpoints.”<sup>11</sup>

These fears have been heightened by Turkey's aggressive use of water as a political weapon. Turkey has repeatedly threatened to block water flows to its downstream neighbours: indeed, in the late 1980s, Turkey blocked the flow of the Euphrates for 9 days.<sup>12</sup> In 2001, Turkey announced unilaterally that it was going to reduce the flow of the Euphrates to Syria to one third of the previously agreed amount because of severe drought in the region. Whereas the hydropower and irrigation potential of the Euphrates has to a large extent been fully exploited, the Tigris river and its tributaries are largely undeveloped, and the dams that have been built are smaller and fewer than those on the Euphrates.

---

8. The construction costs are estimated at 1.2 billion Euros, with an additional 800 million Euros for resettlement and “cultural heritage protection”. See, Hermes, [http://www.agaportal.de/en/portal/presse\\_ilisu.html](http://www.agaportal.de/en/portal/presse_ilisu.html), 5 December 2006.

9. The Environmental Impact Assessment for Ilisu (p.4-29) states, “Cizre could not be implemented without Ilisu”. See: [http://www.designconsult.com/ilisu/themes/blue\\_style/images/force-download.php?file=/umwelt/pdf/07\\_section\\_04\\_impacts.pdf](http://www.designconsult.com/ilisu/themes/blue_style/images/force-download.php?file=/umwelt/pdf/07_section_04_impacts.pdf).

10. The Environmental Impact Assessment for Ilisu states that the feasibility study for Ilisu concluded that Cizre should be built downstream “to better regulate the discharges from Ilisu” (p.2-10); that Cizre is planned “for both power production and irrigation” (p.2-27); and that “its implementation should start after the green light to build Ilisu is given” (p.2-27). The EIA denies, however, that Ilisu is dependent on Cizre being built (p.2-28). Section 4 of the EIA deals in details with the Cizre project: [http://www.designconsult.com/ilisu/themes/blue\\_style/images/force-download.php?file=/umwelt/pdf/07\\_section\\_04\\_impacts.pdf](http://www.designconsult.com/ilisu/themes/blue_style/images/force-download.php?file=/umwelt/pdf/07_section_04_impacts.pdf).

11. Marsh, N., “Water Wars”, UK Defence Forum, 1998, p.6. Online version (“Wars Downstream – Potential for conflict arising from Hydrological Time bombs”) requires subscription but is available at [http://www.ukdf.org.uk/online\\_library\\_themed.htm#](http://www.ukdf.org.uk/online_library_themed.htm#)

12. Turkey had originally announced that the flow would be blocked for 16 days but relented after protests from Syria and Iraq. See: Turkish Embassy, *Water and Development in Southeastern Anatolia: Essays on the Ilisu Dam and GAP*, London 2000, pp. 68-69.

### 3. Inadequate Assessment of Downstream Impacts

The project developers argue that fears over Ilisu's downstream impacts have been overplayed. They contend that:

- Ilisu is designed for power, not irrigation, and that hydro-electric uses do not impair downstream flows;
- Unlike the Euphrates, significant tributaries join the Tigris downstream of the Ilisu site; and
- The proposed operational regime will ensure a satisfactory level of discharge in all seasons.

However, the [Environmental Impact Assessment](#) for the project did not examine downstream impacts beyond the Turkish border. Moreover, no comprehensive analysis has been undertaken by the project developers of the cumulative impacts of both Ilisu and its companion downstream dam at Cizre. The two projects are independent but have been wrongly represented as separate and unconnected. Because Cizre is an irrigation dam, water fed to it by Ilisu will be largely lost to downstream flow. Although representatives of the German Government have stated that "there will be no Cizre dam" – despite statements to the contrary in the EIA for Ilisu – the Turkish Government has made no such announcement and the Cizre project continues to be listed on [GAP's website](#).<sup>13</sup> Indeed, it is unlikely that Turkey has given a binding commitment not to build the Cizre dam in the future. Nor is there any indication that Ilisu's EIA has been updated in order to assess downstream impacts at the border to Syria and Iraq without the Cizre dam regulating daily and seasonal outflows from Ilisu.

An independent assessment of the combined downstream impacts of Ilisu and Cizre, commissioned by the German non-governmental organisation WEED in 2006 and undertaken by the US hydrologists Philip Williams and Associates, concludes:

"The operation of the Ilisu Dam in combination with diversions from the future downstream Cizre project would probably significantly reduce summer flows in Syria and Iraq below historic levels. It is likely that a significant portion of the recommended minimum flow release from Ilisu of 60 m<sup>3</sup>/s during dry years would be diverted. It is even possible that with full implementation of the Ilisu/Cizre projects, during drought periods, all the summer flows could be diverted before it crossed the border."<sup>14</sup>

There is thus the very real possibility that Ilisu, in conjunction with the planned Cizre irrigation projects, could have severe detrimental impacts on Iraq. Moreover, such impacts may go beyond the effects identified by Philip Williams and Associates: the Ilisu Dam would reduce the Spring flood, for example, would could have severe

---

13. <http://www.dsi.gov.tr/skatablo/Tablo1.htm>

14. Philip Williams and Associates, "A Review of the Hydrological and Geomorphic Impacts of the Proposed Ilisu Dam", February 2006, available from WEED, [http://www2.weed-online.org/uploads/PWA\\_Ilisu\\_Report.pdf](http://www2.weed-online.org/uploads/PWA_Ilisu_Report.pdf).

impacts on those practising floodplain agriculture downstream and on the restoration of Iraq's southern marshes.

#### 4. Turkey's International Law Obligations

Turkey has not signed the 1997 [UN Convention on the Law of the Non-Navigational Uses of International Watercourses](#) (it was one of three states to vote against the Convention).

This does not mean, however, that Turkey is not bound by the principles set out in the Convention, which reflect a general obligation on all states under customary international law, regardless of whether or not they are signatories or parties to the Convention, even if the particular details and timetables set out in the Convention may not apply.

This is confirmed in a legal opinion prepared for WEED, which has been monitoring Germany's involvement in the project, by international law specialists Professors Laurence Boisson de Chazournes, James Crawford, Kate Cook and Philippe Sands:

“[The Convention's] principles reflect general obligations on all states under customary international law. Of particular importance are: **Article 5(1)**, which provides that ‘watercourse states shall in their respective territories utilise an international watercourse in an equitable and reasonable manner’ (emphasis added); **Article 7(1)**, which provides ‘watercourse states shall, in utilising an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse states’; **Article 11**, which provides ‘watercourse states shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse’; and **Article 12**, which provides that ‘before a watercourse state implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse states, it shall provide those states with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable to notified states to evaluate the possible effects of the planned measures’.”<sup>15</sup>

The Opinion stressed the need for any financial institution that was considering support for the Ilisu Dam (including in the form of financial guarantees to those investing in the project) to satisfy itself that:

“ . . . Turkey has provided full information to Syria and Iraq in advance of a decision to proceed, and that Syria and Iraq have been provided with an opportunity to set forth their views and, as necessary, to participate in meaningful and good faith consultations. Such consultations should allow for

---

15. Boisson de Chazournes, L., Crawford, J. and Sands, P., “Note on Ilisu Dam project/South-eastern Anatolia Project (“GAP”)”, 2 March 2007 at Annexe 1.



an exchange of views in which no party has closed its mind as to the concerns of the other.”

The Opinion also drew attention to the implications for the ECAs were they to fund a project that violated international law. Such funding, it stated, could be held to:

“constitute aid or assistance in the commission of an internationally wrongful act, namely the violation of rights of notification, consultation and negotiation of a downstream riparian State.”<sup>16</sup>

The legal opinion is attached at **Annex 1**.

## **5. Iraq-Turkey Agreements**

In addition to the obligations on Turkey under international customary law, the Government of Iraq cites specific agreements that have been reached between Turkey and Iraq (or that pertain to both countries) that mandate information sharing and agreement on the shared use of the Tigris.

- a) The Lausanne Agreement concluded after the First World War between the Allied powers and Turkey in July 1923, article 109 of which addresses the issue of water resources shared by Turkey, Iraq and Syria:

“Where no contrary provisions exist, an agreement shall be concluded between the states concerned with a view to safeguarding the acquired rights of each of them when the existing water system – opening of canals, floods, irrigation, drainage and similar facilities – depends on the works carried out on the territory of another state or when the water use is effected in the territory of a state and the sources of these water are situated in another state by reason of determining new borders. When such an agreement can not be reached, the problem shall be settled through arbitration.”<sup>17</sup>

- b) The 1946 Treaty of Friendship and Neighbourly Relations, Article 5 of the Protocol to which states:

“The Government of Turkey agrees to inform Iraq of any projects relating to protection works it may decide to construct on either river or on its tributaries in

---

16. The opinion states: “This principle is now set forth in Article 16 of the ILC Articles (Aid or assistance in the commission of an internationally wrongful act), which provides: “A State which aids or assists another State in the commission of an internationally wrongful act by the latter is internationally responsible for doing so if: (a) That State does so with knowledge of the circumstances of the internationally wrongful act; and (b) The act would be internationally wrongful if committed by that State.” See also the Commentary to the ILC Article 16 on State Responsibility, available at: [http://untreaty.un.org/ilc/texts/instruments/english/commentaries/9\\_6\\_2001.pdf](http://untreaty.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf). In its Judgment of 26th February 2007 in the Case Concerning the Application of the Convention on the Prevention and Punishment (Bosnia and Herzegovina v. Serbia and Montenegro), the International Court of Justice stated that Article 16 reflected customary international law: Judgment, para. 420.

17. Lausanne Agreement, quoted in Ministry of Water, “Republic of Iraq, The Ilisu Dam on the Tigris River in Turkey: Negative Impacts on Man and Environment in Iraq and the Legal Rules related to the Tigris and Euphrates waters utilisation.”, Baghdad, 2006.

order to render such works, as far as possible, serve the interest of Iraq as well as serve the interest of Turkey.”<sup>18</sup>

The Corner House notes that such bilateral agreements form part of Turkish law, to which the ECAs are bound to adhere under the OECD’s “Recommendation on Common Approaches on Environment and Officially-Supported Export Credits”, which lays down agreed common standards on evaluating the environmental impacts of projects. The Agreement states at Article 12.2:

“Projects should, in all cases, comply with the standards of the host country”<sup>19</sup>

## **6. The Export Credit Agencies’ Conditions for Funding**

The ECAs were first approached for funding for Ilisu in 2004. A preliminary decision in favour of funding was announced in November 2006, subject to Turkey meeting approximately 150 [conditions](#).

The full conditions were not made public at the time but were published only *after* the ECAs’ final decision at the end of March 2007 to fund Ilisu. Five conditions – three of which had to be fulfilled by Turkey prior to the ECAs approving finance – relate to downstream water flows and riparian states:

### a) Conditions to be met by Turkey prior to repayment of loans to ECAs

1. “The PIU [Project Implementation Unit] will ensure that minimal water flow (measured at a suitable point at close distance to the power plant) of 60 m<sup>3</sup>/s [cubic metres per second] during impoundment and operation phase is maintained at all times (not only during operation of the turbines). When the responsibility of operating the plant is transferred to EUAS [Elektrik Üretim Anonim Şirketi, a Turkish electricity utility] (or any other entity designated to operate the plant) PIU will ensure by suitable contracts, treaties or similar that this obligation is passed on to this entity.”<sup>20</sup>
2. “The PIU will ensure that the time of zero flow during impoundment is kept to a minimum and not more than 3 days. Start of impoundment will not be done in dry season. If start of impoundment is planned during dry season, PIU will install diversion pipe (or other appropriate measures) necessary to keep zero flow to not more than 3 days.”<sup>21</sup>

### b) Conditions to be met by Turkey prior to approval of finance by ECAs

---

18. Treaty of Friendship and Neighbourly Relations, quoted in Ministry of Water, “Republic of Iraq, The Ilisu Dam on the Tigris River in Turkey: Negative Impacts on Man and Environment in Iraq and the Legal Rules related to the Tigris and Euphrates waters utilisation.”, Baghdad, 2006.

19. OECD Working Party on Export Credits and Credit Guarantees, Updated Recommendation on Common Approaches on Environment and Officially Supported Export Credits, TD/ECG (2005) 3, 25 February 2005, <http://www.oecd.org/dataoecd/26/33/21684464.pdf>.

20. ECA Final Terms of Reference – Environmental Issues, E-10, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69>.

21. ECA Final Terms of Reference – Environmental Issues, E-11, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69>.

3. “PIU will provide a comprehensible explanation or an expert’s opinion that (a) the minimal flow of 60 m<sup>3</sup>/s over a longer period and (b) the phase of zero discharge during impoundment do not have severe downstream impacts on ecosystems and riparians.”<sup>22</sup>
4. “A high level official of the Turkish Government (such as DSI General Director) will hand over information and printouts for the Ilisu project to the Iraqi and Syrian embassies in Turkey to be forwarded to counterparts in order for the states to improve their understanding of the project.”<sup>23</sup>
5. “A high level official of the Turkish Government (such as DSI General Director) shall invite immediately the Iraqi and Syrian counterparts to Turkey (DSI) to give further information on the project if they request”.<sup>24</sup>

## 7. Concerns over the Export Credit Agencies’ Conditions

Although the ECAs’ conditions require Turkey to *notify* its downstream neighbours about Ilisu and to supply them with the information they request on the project *prior* to approval of ECA funding, no obligation was placed on Turkey either to *consult* with Iraq and Syria or to *negotiate* with them. **Two of the key duties incumbent on states under international customary law have thus been omitted from the ECA conditions.** In addition, the obligations on Turkey under the Lausanne Treaty do not form part of the conditions, placing the ECAs in breach of their own commitments under the OECD’s Recommendation on Common Approaches, which, as noted (*see* above, p.10), require projects to comply with host country law.

Moreover, by stipulating a downstream flow rate that has already been **unilaterally** decided by Turkey, the ECAs have effectively undermined the rights of Iraq and Syria to negotiate a higher – but more “equitable and reasonable” – flow rate. From now until the end of the Ilisu project, the downstream flow of the Tigris will be “frozen” in favour of Turkey. Indeed, by binding Turkey *contractually* to the stipulated minimum of 60 m<sup>3</sup>/sec, the ECAs may be said to have prejudiced future talks between the riparian states in Turkey’s favour. A future private sector operator of Ilisu may also use the contract to prevent future negotiations on downstream flow.

The downstream flow conditions are also of concern since they do not require Turkey to ensure a 60 m<sup>3</sup>/sec flow at the border with Syria, some 65 kilometres downstream of Ilisu, but rather at a “close distance to the power plant”. As such, they represent a weakening of previous commitments by the ECAs to require a “guarantee that, at any time, a minimum amount of water will be discharged **into the lower course of the river Tigris**”,<sup>25</sup> a phrase that encompasses the Tigris as a whole. Given that the concern over Ilisu’s downstream impacts centres on the role that Ilisu will play in

---

22. ECA Final Terms of Reference – Environmental Issues, E-12, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69>.

23. ECA Final Terms of Reference – Riparian States, RS-1, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69RS-1>

24. ECA Final Terms of Reference – Riparian States, RS-2, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69RS-1>

25. “Additional information on an export credit guarantee for the hydroelectric power plant Ilisu”, [http://www.agaportal.de/en/portal/presse\\_ilisu.html](http://www.agaportal.de/en/portal/presse_ilisu.html), 5 December 2006.

providing water for a second dam at Cizre, the current (reworded) condition is far from reassuring. Even if the condition is rigorously observed, water flows at the border could be reduced significantly once Cizre is operational. According to a review of the ECA conditions by independent hydrologists Philip Williams and Associates (PWA):

“Because of the planned construction of the Cizre Dam, which will act as a regulating afterbay reservoir to Ilisu and as an irrigation diversion structure, there is no guarantee that any minimum flow will be maintained at the border below the Cizre diversion.”<sup>26</sup>

The PWA report, which is attached at **Annex 2**, also warns:

“The [condition] does not preclude the complete diversion of all summer flows during drought period before they cross the border. Even if a minimum flow of 60 m<sup>3</sup>/sec was maintained at the border it would result in a significant reduction in summer trans-boundary flows that average approximately 240 m<sup>3</sup>/sec in [the] July to September period.”<sup>27</sup>

Although the ECAs have stipulated that Turkey provide evidence that the proposed minimum flow will not impact downstream, the condition is of little comfort. On the ECAs’ own admission, the key baseline data necessary to make such an assessment is lacking.<sup>28</sup> Studies on existing fish species in the Tigris, for example, have yet to be undertaken. Moreover such studies would not be completed until *after* the ECAs made their final commitment – whilst the opinion required on downstream impacts must be furnished before the ECAs’ decision.

Philip Williams and Associates also point out:

“It is likely that the reduction and alteration in flows caused by implementation of the Ilisu/Cizre project will have substantial adverse water supply, flood hazard, water quality, erosion and ecologic impacts in Syria and Iraq . . . These impacts have not been considered in formulating the project, designing the reservoir operation or in establishing downstream flows. No mitigation actions are required in the [Final Terms of Reference] in the event that the ‘opinion’ requested . . . confirms these predictions of adverse impacts. Nor is there a commitment to alter the reservoir operation plan developed in the 1980s to reflect new information that establishes downstream water needs.”<sup>29</sup>

---

26. Philip Williams and Associates (PWA), Review of the ECA Final Terms of Reference for the Ilisu Dam Project”, 17 April 2007.

27. Philip Williams and Associates (PWA), Review of the ECA Final Terms of Reference for the Ilisu Dam Project”, 17 April 2007.

28. See for example, ECA Final Terms of Reference for environmental conditions, Nos E-13, E-15 and E-16, available from <http://www.ilisu-wasserkraftwerk.com/page.php?modul=HTMLPages&pid=69RS-1>.

29. Philip Williams and Associates (PWA), Review of the ECA Final Terms of Reference for the Ilisu Dam Project”, 17 April 2007.

## **8. The Export Credit Agencies' Decision**

The ECAs were expected to announce their decision on funding Ilisu on 8<sup>th</sup> March 2007. However, Germany delayed its decision on financing the dam and announced that it would continue to assess the project.

It is understood that a prime reason for Germany's decision to delay was because of concerns within the Development Ministry over the legality of the project, given the doubts over the extent to which Turkey had informed, consulted and negotiated with Iraq and Syria as to Ilisu's downstream impacts. Shortly beforehand, WEED had informed the governments of Germany, Austria and Switzerland of the legal opinion it had commissioned (*see* above, p.8). Switzerland also delayed final approval, whilst Austria's advisory committee announced that it had made a non-binding recommendation in favour of funding to the finance minister, who stated that final approval would depend on Germany's decision.

On 22<sup>nd</sup> March 2007, a meeting took place in Turkey between ministers from Turkey, Iraq and Syria. According to articles in the Kurdish and Turkish media, Iraq agreed at the meeting to Ilisu going ahead.<sup>30</sup> Four days later, the Swiss, German and Austrian governments announced that its 30 pre-financing conditions had been met and that they would fund Ilisu. On downstream flows, the German ECA announced: "Iraq and Syria have been comprehensively informed and consulted by Turkey about the dam project."<sup>31</sup>

Questioned by WEED as to the grounds for this assurance, an official from Germany's Economics Ministry specifically referenced the meeting in Turkey: "Consultations between Turkey, Syria and Iraq have taken place on March 22<sup>nd</sup> 2007 to the declared satisfaction of Iraq and Syria."<sup>32</sup>

Iraq, however, has denied that any agreement had been reached with Turkey. In an email sent the day after the ECAs' decision to Kurdish Human Rights Project, the Iraq Minister of Water, HE Dr. Latif Rashid, stated: "We would like to notify you that those reports are completely incorrect. We have not made any interministerial talks with the Turkish and Syrian governments."<sup>33</sup>

---

30. The Kurdish news agency ANF (Firat News Agency) wrote: "At the International Basin Conference in Antalya Turkey has discussed with Iraq and Syria on the Ilisu dam and Iraq and Syria are agreed that the Ilisu dam can be built. Turkish Energy minister Hilmi Güler talked secretly to Iraqi water minister Abdullatif Rashid and Syrian water minister Nader Al Buddini. The consortium will make a statement next week how the dam will be financed. It is expected that the construction of the dam will start in 3 weeks. Hilmi Güler said to the two other ministers that Turkey's water policy on international rivers will not be changed. He doesn't believe to ideas on water wars. DSI chief Veysel Eroglu said that they have convinced Iraq and Syria in 2 days on Ilisu project which is discussed for 2 years. On the conference (800 participants from 65 countries) it is agreed to form a 'water commission' to solve problems on water." The Turkish Sunday paper Zaman also carried a photograph of Iraq's Minister of Water with a quote saying that Iraq did not have any problem with Ilisu (<http://www.zaman.com.tr/webapp-tr/haber.do?haberno=518658>).

31. Pressemeldung des BMWi, 26 March 2007, [http://www.agaportal.de/pages/portal/presse/pms/2007-03-23\\_ilisu.htm](http://www.agaportal.de/pages/portal/presse/pms/2007-03-23_ilisu.htm)

32. Email from Hans-Joachim Henckel, 2 April 2007: "Konsultationen zwischen Türkei, Syrien und Irak haben am 22. März 2007 zur erklärten Zufriedenheit von Irak und Syrien stattgefunden."

33. Email from HE Minister of Water, Iraq to Rachel Bernu, Kurdish Human Rights Project, 27 March 2007.

## **9. Iraq's Position**

On 29<sup>th</sup> March 2007, Nicholas Hildyard of The Corner House travelled to Baghdad to meet with HE The Minister of Water in order to clarify the extent to which Iraq had been informed and consulted about the Ilisu Dam prior to the ECAs' decision to fund the project and the substance of any negotiations between the three riparian countries.

HE The Minister, a water engineer by profession, stressed that he was not against dams, which he viewed as powerful instruments for development. He recognised, however, that large-scale water projects, whilst offering potential benefits, had environmental and social impacts that must be addressed in the planning stage if the projects were to benefit those affected.

With regard to Ilisu, he stated: "Any structures on upstream rivers will affect us. And it is not just a question of the quantity of water flowing downstream but also of the water's quality. As Ilisu will affect Iraq, we would like to be fully informed and engaged and have a clear idea of how the project will proceed."

During the meeting, which lasted three hours, the Minister confirmed that:

### **1. Iraq has still not been informed fully on Ilisu.**

HE The Minister restated Iraq's view that international customary law and undertakings already made by Turkey with Iraq (for example, the 1948 Treaty of Friendship and Neighbourly Relations) commit Turkey to providing Iraq with information on proposed water projects affecting the Tigris and Euphrates.

The Minister detailed a number of areas where Turkey had still to provide key information relating to Ilisu. In particular, Iraq wanted information – which it had not received at the time that the ECAs made their decision – on the operational procedures for Ilisu and on Turkey's future plans for the development of its rivers. Without such information, an informed assessment of the project's downstream impacts was not possible.

The issue was raised at the 22<sup>nd</sup> March meeting with Turkey and it was agreed that "a technical committee would start the work of assessing the project straight away. It should be given access to the full data on the operational management plan for the dam. And it should report in 2-3 months." However, the information had still to be received.

### **2. Iraq has not been consulted fully on Ilisu**

Turkey's obligations to consult were reiterated by HE The Minister. However, no full consultation has yet occurred.

"Iraq has sent written reports and informed the Turkish government and the concerned states officially through their ambassadors that we have not been consulted fully on Ilisu and that we have not agreed on the operational procedures for the dam."

Although Turkey agreed at the 22<sup>nd</sup> March meeting that it would in future consult and negotiate with Iraq, no consultations or negotiations had taken place prior to the ECAs' decision. A Tripartite committee has now been set up to discuss "water affairs as a whole" but has not yet met.

**3. No agreement on Ilisu was reached at the 22<sup>nd</sup> March meeting in Turkey.**

HE The Minister stated that the meeting in Turkey had been positive. Although the Ilisu Dam was discussed and information shared, no agreement was reached on the project. All that was agreed was a framework for future talks:

"These were talks about talks. A framework is now in place whereby the necessary information can be exchanged and consultations and negotiations can take place. However, at the time of the ECA decision, no actual consultation had occurred. Iraq still did not have the information on operational management procedures for Ilisu or Turkey's full plans for the Tigris."

**4. In Iraq's view, the ECAs should not have agreed to funding without a written agreement from Turkey that Iraq and Syria's interests would not be adversely affected.**

"Iraq wants a written agreement that Turkey's dams will not reduce downstream flow, that they will not adversely affect Iraq. But we are not greedy. We recognise that the agreement must be fair. There should be a continuous flow of information between the three countries. Our technical people need to be satisfied that enough water will be released downstream not only for our current but also our future needs. The ECAs should have got a signed agreement from Turkey before approving any credits that building Ilisu would not reduce the flow in the Tigris."

Since the meeting with HE The Minister, Iraq's Ministry of Water has further set out its position in a letter to the German TV journalist Michael Enger who worked on a documentary about the Ilisu Dam for "ARTE Reportage" by the German-French TV channel ARTE. The letter, dated 17 April 2007, states:

"Iraq has not received any information from Turkey that it wants to build Ilisu dam, nor its technical specification or studies about it. Iraq learnt from different mass media sources. This violates the agreements signed between the two sides, and the principles and clauses of the international law which stipulate that upstream countries should inform downstream countries of any activities they want to undertake which will have negative effect on downstream countries.

"In December 2006 Iraq received a copy of the detailed technical study of Ilisu dam from the Turkish side in a joint meeting in Ankara, whereas the Turkish side has already laid the foundation stone . . . Also, the report which was prepared in 2001 and revised in 2005 was not given to us due to the cessation of the bilateral or tripartite negotiations since 1992. We only received it at the end

of 2006 after the work in the dam was started and Iraq didn't have the chance to state its point of view. There has been no negotiations with the Turkish side.

“ . . . We want to state that Iraq states its opposition to Turkey's unilateral decision making on dam construction and its expansion in irrigation projects in the upper river. It is necessary that Tigris and Euphrates riparian countries negotiate to reach equitable water division that will achieve development of these neighbouring countries, while taking into account international laws, local laws and the acquired Iraqi rights in the waters of the two rivers, and the better use of water resources, and when this is achieved, there will be no objection to the development projects undertaken by Turkey in south east Anatolia.”

## **10. Conclusion**

The Corner House and Kurdish Human Rights Project welcome the positive mood that Iraq says characterised the meeting between officials from Iraq, Syria and Turkey in March 2007. They note, however, that previous undertakings by Turkey to supply information and to consult and negotiate have not come to fruition. For this reason, **they endorse the view that the ECAs should not have made a decision prior to the three riparian states agreeing on downstream flows.**

From the information and documentation it has obtained on the state of play of discussion to date between Iraq and Turkey over Ilisu, The Corner House concludes:

1. Turkey did not provide Iraq with the information it requested on Ilisu *prior* to approval of financing by the ECAs, despite this being a pre-condition of ECA funding.
2. The ECAs mischaracterized the meeting between Iraq, Syria and Turkey on 22<sup>nd</sup> March 2007. Contrary to ECA statements, Iraq did not agree to Ilisu. Although the discussions were “positive”, all that was agreed was a framework for future talks.
3. Key conditions on guaranteeing downstream flows to the **lower reaches** of the Tigris were dropped by the ECAs prior to approving funding of the Ilisu Dam and replaced by weaker conditions that do not protect Iraq and Syria's rights.
4. The conditions set by the ECAs failed to reflect the requirements of international law, which obliges Turkey not merely to provide information on Ilisu to Iraq and Syria but also to consult and negotiate.
5. The minimum flow rate of 60 m<sup>3</sup>/sec required by the ECAs is insufficient to prevent adverse downstream impacts on Iraq and Syria.
6. By stipulating a downstream flow rate that has already been **unilaterally** decided by Turkey, the ECAs have effectively undermined the rights of Iraq and Syria to negotiate a higher – but more “equitable and reasonable” – flow rate.



7. Turkey's obligations under international customary law and its bilateral agreements with Iraq have not been met.
8. By agreeing to fund the Ilisu Dam without awaiting the outcome of negotiations between the three riparian states, the ECAs of Germany, Austria and Switzerland have not only set a dangerous precedent which undermines international law, the environment and human rights, but may themselves be held to have facilitated the violation of international law.

The Corner House and Kurdish Human Rights Project  
25<sup>th</sup> April 2007

**Annex 1:**

**Note on Ilisu Dam by international law specialists Professors Laurence Boisson de Chazournes, James Crawford, Kate Cook and Philippe Sands**

**Note on Ilisu Dam project/South-eastern Anatolia Project (“GAP”)**

1. In April 2000 we provided a legal opinion to Friends of the Earth, a copy of which is attached. In that opinion we examined the scope of Turkey’s international legal obligations to notify, consult and negotiate with its downstream neighbours about the project for the proposed Ilisu barrage. These obligations arise under the international law on watercourses and under international environmental law and reflect the principle of “good neighbourliness”, as set out in Article 74 of the United Nations (UN) Charter and in the dictum of the ICJ that the principle of sovereignty embodies “the obligation of every state not to allow its territory to be used for acts contrary to the rights of other states”.<sup>34</sup>
2. We understand that there is renewed effort to seek international financial support for the Ilisu barrage, and have been asked by the World Economy, Ecology and Development group (WEED) whether our opinion has materially changed since 2000. It has not. Over the past seven years the rules of international law governing the non-navigational uses of international watercourses have, if anything, been confirmed and strengthened. The draft Articles on State Responsibility have been completed and adopted by the International Law Commission (in 2001), and many of its provisions have since been referred to in case-law as reflecting general international law: see e.g. the recent decision of the International Court in the *Bosnian Genocide* case (26 February 2007) with regard to Article 16 on complicity.

---

<sup>34</sup> *Corfu Channel Case* (UK v Albania), 1949 ICJ Repts 4, 22.

3. We note that Turkey has not signed the 1997 [UN Convention on the Law of the Non-Navigational Uses of International Watercourses](#). This does not mean that Turkey is not bound by those principles set out in the Convention which reflect general obligations on all states under customary international law. Of particular importance are: Article 5(1), which provides that “watercourse states shall in their respective territories utilise an international watercourse in an equitable and reasonable manner” (emphasis added); Article 7(1), which provides “watercourse states shall, in utilising an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse states”; Article 11, which provides “watercourse states shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse”; and Article 12, which provides that “before a watercourse state implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse states, it shall provide those states with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable to notified states to evaluate the possible effects of the planned measures”.
  
4. These provisions are underpinned by what the ICJ has referred to as the principle of the “perfect equality of all riparian states”, which extends to “the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian state in relation to the others”<sup>35</sup>. All States, including Turkey, are under a clear legal obligation to *notify*, *consult* and *negotiate* with other riparian neighbours, whether downstream or upstream States.

---

<sup>35</sup> The principle was invoked by the Permanent Court of International Justice in the *Case concerning the Territorial Jurisdiction of the International Commission of the River Oder* See Territorial Jurisdiction of the International Commission of the River Oder, Judgment no. 16, 1929, PCIJ, series A, no.23, page 27.

5. We have been provided with only limited information, and are therefore not able to express a view on the extent to which Turkey has complied with these obligations. Nevertheless, to avoid difficulties it will be prudent for any financial institution that is considering whether to provide support for the project (including in the form of financial guarantees to those investing in the project) to satisfy itself that Turkey has complied with its obligations under the law governing non-navigational uses of international watercourses. In particular, appropriate efforts should be taken to be satisfied that Turkey has provided full information to Syria and Iraq in advance of a decision to proceed, and that Syria and Iraq have been provided with an opportunity to set forth their views and, as necessary, to participate in meaningful and good faith consultations. Such consultations should allow for an exchange of views in which no party has closed its mind as to the concerns of the other.
  
6. Finally, as expressed in our previous Opinion, the possibility cannot be excluded that a State agency or instrumentality which provides financial support to a project that violates a rule of international law can itself give rise to the international responsibility of the State of which the public body forms a part. This principle is now set forth in Article 16 of the ILC Articles (Aid or assistance in the commission of an internationally wrongful act), which provides:

“A State which aids or assists another State in the commission of an internationally wrongful act by the latter is internationally responsible for doing so if:

  - (a) That State does so with knowledge of the circumstances of the internationally wrongful act; and
  - (b) The act would be internationally wrongful if committed by that State.”<sup>36</sup>

---

<sup>36</sup> See also the Commentary to the ILC Article 16 on State Responsibility, available at: [http://untreaty.un.org/ilc/texts/instruments/english/commentaries/9\\_6\\_2001.pdf](http://untreaty.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf). In its Judgment of 26 February 2007 in the Case Concerning the Application of the Convention on the Prevention and Punishment (Bosnia and Herzegovina v. Serbia and Montenegro), the International Court of Justice stated that Article 16 reflected customary international law: Judgment, para. 420.

7. As we indicated previously, the provision of financial support by an agency of a State could constitute aid or assistance in the commission of an internationally wrongful act, namely the violation of rights of notification, consultation and negotiation of a downstream riparian State.

2 March 2007

Professor Laurence Boisson de Chazournes  
(University of Geneva)

Professor James Crawford SC  
(University of Cambridge and Matrix Chambers)

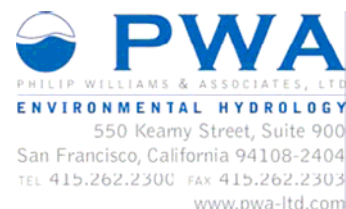
Kate Cook, London  
(Matrix Chambers)

Professor Philippe Sands QC, London  
(University College London and Matrix Chambers)

The Ilisu Dam: Downstream Water Impacts and Iraq  
Report of Fact Finding Mission to Iraq, 29 March 2007

Annex 2

Review of ECA Final Terms of Reference for the Ilisu Dam Project by Philip Williams and Associates



4/17/07

Mr. Nicholas Hildyard  
The Corner House  
Station Road  
Sturminster Newton  
Dorset DT10 1 YJ  
United Kingdom

Subject: Review of ECA Final Terms of Reference for the Ilisu Dam Project  
PWA Reference #: 06-006

Dear Mr. Hildyard:

As you requested, we have examined the Final Terms of Reference [FTR] for the Ilisu Dam Project, as posted on the project's website as of today (<http://www.ilisu-wasserkraftwerk.com>). You requested our opinion regarding the adequacy of these terms, if enforced, to prevent or mitigate the adverse hydrologic, geomorphic, and water quality impacts we had previously described in our report of February 20<sup>th</sup> 2006 entitled; "A Review of the Hydrologic and Geomorphic Impacts of the Proposed Ilisu Dam". The subject of our 2006 review was of the design and operation of the Dam and Reservoir as described in the Updated Environmental Impact Assessment Report [UEIAR] of 2005 prepared by IEG. The following summarizes our review of FTR within the context of our previous conclusions. In our report we had concluded:

3. The UEAIR does not include any specific commitment to maintain a minimum flow level downstream. However, it does recommend an operational policy be adopted to release a minimum monthly average flow of 60 m<sup>3</sup>/s at the downstream border during operation of the dam [p4-18].

The FTR [E-10] now provides for minimum flow releases from the dam of 60 m<sup>3</sup>/ sec at all times. However, this flow would be measured at a 'close distance to the power plant' not downstream at the Syrian border 65 km away. Because of the planned construction of the Cizre Dam, which will act as a regulating afterbay reservoir to Ilisu and as an irrigation diversion structure, there is no guarantee that any minimum flow will be maintained at the border below the Cizre diversion.

The Ilisu Dam: Downstream Water Impacts and Iraq  
Report of Fact Finding Mission to Iraq, 29 March 2007

6. The operation of the Ilisu Dam in combination with diversions from the future downstream Cizre project would probably significantly reduce summer flows in Syria and Iraq below historic levels. It is likely that a significant portion of the recommended minimum flow release from Ilisu of 60 m<sup>3</sup>/s during dry years would be diverted. It is even possible that with full implementation of the Ilisu/Cizre projects, during drought periods, all the summer flows could be diverted before it crossed the border.

The FTR [E-10] does not preclude the complete diversion of all summer flows during drought period before they cross the border. Even if a minimum flow of 60 m<sup>3</sup>/sec was maintained at the border it would result in a significant reduction in summer trans-boundary flows that average approximately 240 m<sup>3</sup>/sec in the July to September period.

9. The UEIAR acknowledges that the peaking power reservoir releases will cause river level fluctuations of up to 7 meters in a few hours destabilizing river banks up to 50 kilometers [Encl.1, p38 and p60].

Until the Cizre regulating reservoir is constructed downstream the peaking power operation will result in flow fluctuations between 60 and 1,400 m<sup>3</sup>/sec. This would cause stage fluctuations of approximately 7 meters over a few hours.

15. High levels of nutrients from sewage and agricultural runoff will cause eutrophication and anoxic conditions in the reservoir [pEXE-10]. The constructed and planned sewage treatment plants will not significantly reduce these levels [p4-39, p4-42].

Although sewage treatment plants are now required prior to dam operation [E-2] all other measures to address nutrient and pollutant inputs to the reservoir are deferred to later implementation [such as E-7], to further study [such as E-3b], or undefined future mitigation measures [such as E-4b]. Even if present nutrient inflow levels were maintained the reservoir would likely create anoxic and eutrophication conditions adversely affecting downstream water quality.

18. Downstream water supply in Syria and Iraq could be significantly affected by both reduction in summer flows and deterioration in water quality.

The FTR [E-12] makes no provision for any systematic analysis of actual downstream flow needs, instead requires an opinion that flows of 60 m<sup>3</sup>/sec “do not have severe downstream impacts”. It is likely that the reduction and alteration in flows caused by implementation of the Ilisu/Cizre project will have substantial adverse water supply, flood hazard, water quality, erosion and ecologic impacts in Syria and Iraq, as documented in the UEIAR and our 2006 report. These impacts have not been considered in formulating the project, designing the reservoir operation or in establishing downstream flows. No mitigation actions are required in the FTR in the event that the “opinion” requested in E-12 confirms these predictions of adverse impacts. Nor is there a commitment to alter the reservoir operation plan developed in the 1980’s to reflect new information that establishes downstream water needs [RS-2].

Sincerely,  
PHILIP WILLIAMS & ASSOCIATES, LTD.  
Philip B. Williams, Ph.D., P.E., Eur. Ing., Senior Principal  
Setenay Bozkurt, M.S., Associate