FAROUK D. BAXTER 23 Pilgrims Path Sudbury, MA 01776 978 443-2914 faroukbax@gmail.com

August 15, 2010

2 \sim

Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration. Mailstop TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001

8/13/2010 75 FR 49539

Subject: Comments Related to Environmental Impact Statement for Two AP1000 Units at the Levy County Site

Dear Sir:

The NRC is urged not to issue a COL for the Two Unit AP1000 proposed for the Levy County Site because of flawed electrical systems inherent to the AP1000 that fail to meet AP1000 compliance documents as well as NRC safety requirements and regulations.

The AP1000 design is flawed because it has failed to comply with the requirements of IEEE Standard 603 requiring the electrical portion of the safety systems that perform safety functions be classified as Class 1E.

IEEE Standard 603 is listed by AP1000 as a compliance document with no exceptions; however, AP1000 does not comply with its requirements. IEEE Standard 603 is also endorsed by NRC Regulatory Guide 1.153, and defines the functional requirements of the Safety System, and directs that electrical portions of the Safety System be classified as Class 1E; AP1000 also indicates complete conformance with Regulatory Guide 1.153, but the design fails to comply.

The details of flawed electrical of electrical design are found identified in the six attachments of detailed correspondence between Mr. Michael Johnson, NRC Director, New Reactors, and his staff. I had initially written to Mr. Johnson identifying safety flaws in the electrical design of the AP1000, and though a response was received from Mr. Johnson, as well as from Mr. Bergman, Mr. Chopra, and Mr. Jaffe; the final disposition from the Mr. Jaffe was that NRC did not have the time to review every concern that was brought to their attention; and therefore, no further action was planned to be undertaken by the NRC.

SONSI Review Complete Templife = AJM-013

E-RIDS=AD01-03 Odd= 9. Mruner (dub1)

The safety flaw I have identified in the electrical system of the AP1000 remain <u>open</u> and <u>unresolved</u>, and is the basis for requesting that the COL not be issued until the NRC addresses and dispositions this safety concern.

Sincerely,

baroch

Farouk D. Baxter, PE Consultant – Specialist Nuclear Power Plant Electrical Systems

Attachments:

- 1. Letter, Farouk Baxter to Michael Johnson, dated March 5, 2009.
- 2. Letter, Michael Johnson to Farouk Baxter, dated May 15, 2009.
- 3. Letter, Farouk Baxter to Michael Johnson, dated June 8, 2009.
- 4. Letter, Thomas Bergman to Farouk Baxter, dated July 28, 2009.
- 5. E-mail, Farouk Baxter to Om Chopra, dated October 22, 2009
- 6. E-mail from Farouk Baxter to David Jaffe, dated January 27, 2010.

Cc: Mr. Michael Johnson

FAROUK D. BAXTER 23 Pilgrims Path Sudbury, MA 01776

(978) 443-2914 faroukbax@verizon.com

March 5, 2009

Mr. Michael R. Johnson Director, Office of New Reactors U.S. Nuclear Regulatory Commission Washington, DC 20555-0001

Subject: Safety Concern - Flawed Electrical Design, AP1000 and ESBWR Plants

Dear Mr. Johnson:

While perusing the Westinghouse AP1000 and GE-Hitachi ESBWR Design Control Documents (DCDs), I have noted that both designs rely on Ancillary Diesel Generators for post-accident power. Both DCDs state that power from these Ancillary Diesel Generators is required to support safety related loads after 72 hours following an abnormal event and loss of all other ac power sources; however, both AP1000 and ESBWR have classified these ac power sources as commercial grade, non-safety related, and non-Class 1E as noted below:

Section 8.3.1.1.3 of the AP1000 DCD states (see ML083230349): "Power for Class 1E post-accident monitoring, MCR lighting, MCR and divisions B and C I&C room ventilation and for refilling the PCS water storage tank and the spent fuel pool when no other sources of power are available is provided by two ancillary ac diesel generators located in the annex building. The ancillary generators are not needed for refilling the PCS water storage tank, spent fuel pool makeup, post-accident monitoring or lighting for the first 72 hours following a loss of all other ac sources. The generators are classified as AP1000 Class D. The generators are commercial, skid-mounted, packaged units and can be easily replaced in the diesel skid package. These generators are located in the portion of the Annex Building that is a Seismic Category II structure. Features of this structure which protect the function of the ancillary generators are analyzed and designed for Category 5 hurricanes, including the effects of sustained winds, maximum gusts, and associated wind-borne missiles."

Section 8.3.1.1.9 of the ESBWR DCD states (see ML081820555): "Two nonsafety-related ancillary diesel generators provide post accident power to the loads designated on Figure 8.3-3 when no other sources of power are available. Refer to Appendix 19A for further discussion of the ancillary diesel generator augmented design requirements. The ancillary diesel generators are Seismic Category II, as are their associated auxiliaries, controls, electrical buses, and fuel oil tanks. (See Subsection 9.5.4 for discussion of fuel oil tanks.) The diesels and associated equipment are housed in a Seismic Category II structure. The ancillary power is not required to support safety-related loads for the first 72 hours following the loss of all other AC power sources. See Figure 8.1-4 for the isolated ancillary power connection to safety-related loads."

These designs are flawed because they have failed to comply with the requirements of IEEE Standard 603 requiring the electrical portion of the safety systems that perform safety functions to be classified as Class 1E. The requirements of IEEE 603 are applicable regardless of whether the safety function is to be performed after 72 hours and beyond.

IEEE Standard 603 is endorsed by NRC Regulatory Guide 1.153, and defines the functional requirements of the Safety System, and directs that electrical portions of the Safety System be classified as Class 1E. The definition of the term "Safety System" in IEEE 603 references 10CFR Part 100 and is in agreement with the definition used by the American Nuclear Society (ANS) and IEC 60231A. The term Class 1E is defined as: "The safety classification of the electric equipment and systems that are essential to emergency reactor shutdown, containment isolation, reactor core cooling, and containment and reactor heat removal, or are otherwise essential in preventing significant release of radioactive material to the environment".

Though both the AP1000 and ESBWR DCDs indicate compliance, without exceptions, to IEEE 603 and Regulatory Guide 1.153; the designs of the Ancillary Diesel Generators are in fact not compliant with these documents, and are therefore technically flawed.

Please consider the above Safety Concern in your ongoing evaluation in determining the acceptability of the AP1000 and ESBWR designs to operate safely and in full compliance with committed industry standards and NRC regulations. I would appreciate knowing your final disposition.

Sincerely,

Farouk D. Baxter, PE Consultant – Specialist Nuclear Power Plant Electrical Systems



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 15, 2009

Farouk D. Baxter, PE Consultant – Specialist Nuclear Power Plant Electrical Systems 23 Pilgrims Path Sudbury, MA 01776

Dear Mr. Baxter:

I am responding to your March 5, 2009, letter regarding the ancillary diesel generator designs contained in Westinghouse's AP1000 design and the General Electric – Hitachi (GEH) Nuclear Energy's Economic Simplified Boiling Water Reactor (ESBWR) Design Control Documents (DCDs). In your letter you said that each of these designs indicate compliance with the Institute of Electrical and Electronic Engineers standard, IEEE 603, and the U.S. Nuclear Regulatory Commission's (NRC's) Regulatory Guide 1.153. For both DCDs, you concluded that "... the designs of the Ancillary Diesel Generators are in fact not compliant with these documents, and are therefore technically flawed." You then requested that the staff consider your concern in its ongoing evaluation in determining the acceptability of the AP1000 and ESBWR designs in accordance with applicable NRC regulations and guidance.

Design certification is achieved through the NRC's rulemaking process, and is founded on the staff's review of the application, which addresses the various safety issues associated with the proposed nuclear power plant design. In 2004, the NRC certified the AP1000 design. Although the staff is currently reviewing the AP1000 design certification (DC) amendment application, the proposed changes in the application do not include your specific electrical design concern. Since the essence of your concern is whether or not the ancillary diesel generators satisfy IEEE 603, the staff considered whether your concern might meet the criterion set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, Section 52.63(a)(1)(ii) for amending an existing DC.

The staff documented its safety evaluation of the AP1000 design in NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," which is available on the NRC Agencywide Document Access and Management System (ADAMS) at accession number ML043450274. The AP1000 design features relevant to your concern, and which the staff evaluated in NUREG-1793, are described below. While some of these design features are safety-related, some are not.

For the first 72 hours of an accident, including a station blackout (SBO), the station direct current (dc) batteries and associated dc distribution system provide power to the safety systems. These batteries and the distribution system are safety-related (Class 1E) systems and satisfy the requirements of IEEE 603, as incorporated by reference in 10 CFR 50.55a(h). Because of the passive nature of the AP1000 plant safety systems; these are the only safety-related electric power systems incorporated into the design.

When the plant is generating power, alternating current (ac) power to the safety-related battery chargers would normally be supplied by the main generator via two unit auxiliary transformers

F. Baxter

(UATs). If the generator is not operating, as would be the case in the event of an accident, the preferred source of power to the safety-related battery chargers is from offsite sources supplied through the main step-up transformers and the UATs. In addition, two standby diesel generators are available to provide power to the safety-related battery chargers in the event of a loss of offsite power. Neither the main step-up transformers, nor the UATs, nor the standby diesel generators are safety-related.

In the event of the loss of all ac power, i.e., a loss of offsite power and turbine trip concurrent with unavailability of the standby diesel generators (station blackout), power would not be available through the main step-up transformers, the UATs, or the standby diesel generators. The staff notes that the safety-related batteries described above would supply power for the first 72 hours of an SBO, which is far longer than the longest period (16 hours) justified in coping analyses for any currently operating reactor. Nonetheless, the AP1000 design provides for skid-mounted ancillary diesel generators, which are capable of supplying power through regulating transformers to the safety-related buses that supply power to the safety equipment. The SBO rule in 10 CFR 50.63 does not require the use of safety-related alternate ac power sources to cope with an SBO. Accordingly, 10 CFR 50.63 does not require that these ancillary diesel generators be safety-related.

The purpose of the ancillary diesel generators is to provide an added measure of: defense-in-depth, as they are redundant to the other equipment described above. Since the ancillary diesel generators need not be safety-related to serve this defense-in-depth function, they also need not meet IEEE 603, and an amendment to the AP1000 design certification rule under 10 CFR 52.63(a)(ii) to require them to be safety-related does not appear warranted.

In addition, for post-72 hour actions, in the staff requirements memorandum (SRM) dated January 15, 1997, concerning SECY-96-128, "Policy and Key Technical Issues Pertaining to the Westinghouse AP600 Standardized Passive Reactor Design," dated June 12, 1996, the Commission approved Item IV – Post-72 Hour Actions. The approval specified that the post-72 hour systems, structures, and components (SSCs) are not required to be safety-related. However, additional regulatory oversight consistent with the SSCs captured under the regulatory treatment of non-safety-related systems (RTNSS) process will be applied to the post-72 hour SSCs. Since the AP1000 DCD is incorporated by reference into the rule certifying that design (10 CFR Part 52, Appendix D), an applicant for a combined license (COL) referencing the AP1000 certified design will need to assure appropriate control of the ancillary diesel generators in accordance with the AP1000 DCD. This includes periodic testing of the ancillary diesels to demonstrate their availability. If the staff's preliminary assessment of your concern does not address it to your satisfaction, you are welcome to submit a formal petition for rulemaking pursuant to 10 CFR 2.802. Section 2.802 describes the requirements for filing a petition for rulemaking.

Regarding the ESBWR, GEH Nuclear Energy submitted an application for the final design approval and standard design certification for the ESBWR in August 2005 and the NRC accepted the application for docketing in December 2005. The staff expects the certification process to continue through 2010. Because the staff has not made a determination as to the adequacy of the ESBWR design, I will forward your concern regarding the ESBWR's Ancillary Diesel Generator design to the staff responsible for the review of Chapter 8 of the DC for its consideration. The staff plans to complete its safety evaluation by August 2010.

F. Baxter

After the staff completes its safety evaluation for the ESBWR design, it will be made available to the public and the rulemaking process for the ESBWR will follow. At that point, your concerns regarding the ESBWR may have already been addressed by the staff in its safety evaluation. If you believe your concern regarding the ESBWR was not adequately addressed by the staff in its safety evaluation, then you will have an opportunity to raise your concern through the rulemaking process. The NRC notifies all stakeholders (including the public) as to how and when they may participate in the regulatory process, which may include participating in public meetings.

Information on the NRC's rulemaking process may be found at <u>http://www.nrc.gov/about-nrc/regulatory/rulemaking.html</u>. The public may find the applicable reference documents, the applicant's (non-proprietary) documents, and other information on the ESBWR DC at http://www.nrc.gov/about-nrc/regulatory/rulemaking.html. The public may find the applicable reference documents, the applicant's (non-proprietary) documents, and other information on the ESBWR DC at http://www.nrc.gov/reactors/new-reactors/design-cert/esbwr.html.

Thank you for your interest in the AP1000 and ESBWR DC reviews. I trust that the above information will be beneficial to you. If you have any questions regarding this response, please contact Amy Snyder of my staff. She can be reached at (301) 415-6822 or at <u>amy.snyder@nrc.gov</u>.

Sincerely,

Mary M

Michael R. Jóhnson, Director Office of New Reactors

FAROUK D. BAXTER 23 Pilgrims Path Sudbury, MA 01776

978 443-2914 faroukbax@gmail.com

June 8, 2009

Mr. Michael R. Johnson Director, Office of New Reactors **U.S. Nuclear Regulatory Commission** Washington, DC 20555-0001

Subject: Safety Concern - Flawed Electrical Design, **AP1000 and ESBWR Plants**

On March 5, 2009 I wrote to you outlining certain safety concerns with the design of the AP1000 and ESBWR plants. Both these plants have ancillary diesel generators required to mitigate an accident, yet the diesel generators are not Class 1E as required by IEEE Standard 603. I received your response dated May 15, 2009 requesting me to contact Amy Snyder in the event I had any questions.

I have reviewed your response and believe my letter of March 5, 2009 may have failed to succinctly document my concerns as your response seems to focus on how the AP1000 meets NRC's SBO and other requirements for the first 72 hours, but does not discuss the situation after 72 hours. My concerns however related to the situation 72 hours after an accident by which time all dc sources have been depleted, and when no available qualified safety related (Class 1E) ac power source is available for accident mitigation.

Both the AP1000 and ESBWR DCDs indicate that the Ancillary Diesel Generators are required to perform safety functions after 72 hours; therefore, this fact should not be subject to speculation or interpretation. Having clearly established that safety functions are required after 72 hours, it is also becomes clear that the requirements of IEEE 603 are applicable. IEEE 603 states that if a safety function has to be performed (as defined by the term Class 1E), the equipment in question must be classified as Class 1E.

IEEE 603 does not make any distinction between safety functions required to be performed before or after 72 hours, or for that matter whether the reactor is of conventional or passive design; therefore, in accordance with IEEE 603 the Ancillary Diesel Generators must be Class 1E.

3

Please advise me of NRC's basis for concluding that:

- 1. qualified ac power for accident mitigating functions **after** 72 hours is not required, and,
- 2. the basis why the requirements of IEEE 603 are not being enforced in the performance of critical safety functions **after** 72 hours.

Sincerely,

Farouk D. Baxter, PE Consultant – Specialist Nuclear Power Plant Electrical Systems



UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

July 28, 2009

Mr. Farouk D. Baxter, PE, Consultant—Specialist Nuclear Power Plant Electrical Systems 23 Pilgrims Path Sudbury, MA 01776

Dear Mr. Baxter:

I am responding to your letter to the U.S. Nuclear Regulatory Commission (NRC) dated June 8, 2009, regarding the design for the ancillary diesel generators contained in Westinghouse's AP1000 design and the General Electric Hitachi (GEH) Nuclear Energy Economic Simplified Boiling-Water Reactor (ESBWR) Design Control Documents. In that letter, you asked for (1) the NRC's basis for concluding that qualified alternating current (ac) power for accident mitigating functions after 72 hours is not required, and (2) the basis for not enforcing the requirements of Institute of Electrical and Electronic Engineers (IEEE) Standard 603, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations," in the performance of critical safety functions after 72 hours. You initially raised your concerns in your letter dated March 5, 2009, to Michael R. Johnson, Director, Office of New Reactors, NRC. Mr. Johnson responded to your initial letter on May 15, 2009.

As stated in the May 15, 2009, response from Mr. Johnson to your March 5, 2009 letter, the AP1000 design does not rely on qualified or Class 1E <u>ac</u> power to maintain plant parameters within acceptable limits established for each <u>design-basis event</u>. That response explained that the station direct current (dc) batteries and associated dc distribution provide power to the safety systems, and that this emergency power system meets the requirement of IEEE Standard 603, to have that electrical portion of the safety systems be classified as Class 1E. The NRC staff has yet to make a determination in this regard with respect to the ESBWR design, which is still under staff review. Nonetheless, the staff notes that proposed ESBWR design is similar to the certified AP1000 design in this regard.

The requirements of IEEE Standard 603 apply to electric power systems that are relied upon in the event of "postulated design-basis events." Chapter 15, "Accident Analysis," of the AP1000 Design Control Document (DCD) evaluates these design-basis accidents. However, IEEE Standard 603 does not address requirements for an event that does not fall within the category of "postulated design-basis events." The events you describe in your letter (no ac power available to the plant for 72 hours after an accident and all dc power sources have been depleted) are not design basis events, but are beyond the design basis. Therefore, the requirements of IEEE Standard 603 do not apply in the scenarios you postulate. The AP1000 DCD presumes that at lease one ac power source from among the two station diesel generations and the offsite power circuit will be available to recharge the safety-related, Class 1E batteries within 72 hours after an accident. After 72 hours from the onset of an accident, the station batteries should then be capable of providing power to the post accident monitoring instrumentation.

Further, neither the offsite power circuit nor the station diesels are relied upon for the first 72 hours of accident. Therefore, neither of these power sources are relied upon to assure (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shut down the reactor

and maintain it in a safe shut down condition, or (3) the capability to mitigate the consequences of an accident that could result in potential offsite exposures comparable to the guideline exposure set forth in § 50.34(a)(1). Accordingly, none of these power sources need be safetyrelated.

Consistent with the view explained above, 72 hours after the accident, the ancillary diesel generators provide power as an added measure of defense-in-depth to support post-accident monitoring instrumentation. As detailed in the May 15, 2009, response, as post-72-hour systems, structures, and components, the ancillary diesel generators are not required to be classified as safety-related. As also stated in the May 15, 2009, response, both the AP1000 and ESBWR designs must meet the requirements of Title 10 of the Code of Federal Regulations (10 CRF) 50.63, "Loss of all alternating current power," which addresses coping and recovery from an event involving the loss of all ac power to the plant.

I trust that this explanation answers both of your questions. If the staff's assessment of your concern does not address it to your satisfaction, you are welcome to submit a formal petition for rulemaking pursuant to Title 10 of the 10 CFR 2.802, "Petition for Rulemaking."

Thank you for your interest in the AP1000 and ESBWR design certification reviews. If you have any questions regarding this response, please contact Mr. Om Chopra of my staff. He can be reached at (301) 415-3265 or at om.chopra@nrc.gov.

Sincerely,

CREW TAB

Thomas A. Bergman, Director **Division of Engineering**

Office of New Reactors

From: Farouk Baxter <faroukbax@gmail.com> Subject: AP1000 and ESBWR Designs Date: October 22, 2009 5:20:52 PM EDT

To: om.chopra@nrc.gov

Hello Om,

Thomas Bergman asked that I contact you in the event I had questions on his letter to me dated July 28, 2009 related to my concern with the AP1000 and ESBWR designs.

I do appreciate the explanation you have provided and your indication that the events I described are not design basis events, but beyond design basis. However, I have been both perplexed and puzzled up to now until I finally realized that we were talking about different issues, and it appears you in fact have misunderstood my concern.

Let me quote the paragraph that had me puzzled. In the third paragraph you state: "The events you describe in your letter (no ac power available to the plant for 72 hours after an accident and all dc power sources have been depleted) are not design basis events but beyond design basis; Therefore the requirements of IEEE Standard 603 do not apply to the scenario you postulate."

Contrary to the above, my concern does not relate to ac or dc power availability for the first 72 hours after an accident; I fully comprehend the total reliance of the dc batteries and dc distribution system to perform the required safety functions for the first 72 hours. It is the post-72 hours and beyond that has me concerned. If you look at DCD Section 8.3.1.1.3, you will see that this section acknowledges that power from the Ancillary Diesel Generators is not needed for the first 72 hours of an accident, but, that they are needed to perform Class 1E functions when no other sources of power are available, this clearly indicates the post-72 hour period and beyond when the batteries are assumed to be depleted and are in need of recharging by the Ancillary Diesel Generators.

Since you have been involved with IEEE standards for many years, you know that if Class 1E functions are required to be performed in the post-72 hour period (as indicated in Section 8.3.1.1.3), then in accordance with IEEE 603, they must be powered by Class 1E power supplies. This is the basis for my argument that the AP1000 and ESBWR designs are flawed because in these plants the Ancillary Diesel Generators are non-Class 1E commercial grade, whereas they should be Class 1E.

I will not elaborate further, but please re-read my letters of March 5, 2009 and June 8, 2009 and let me know your thoughts on my concern, and whether you now appreciate the distinction between the first 72 hours after an accident and the post-72 hours and beyond after an accident.

Thanks for your time and attention,

١

Farouk 978 443-2914

'A CH MENN

From: Farouk Baxter <faroukbax@gmail.com> abject: Fwd: AP1000 and ESBWR Designs Date: January 27, 2010 12:34:59 PM EST To: dhj@nrc.gov Cc: Om.chopra@nrc.gov

1 Attachment, 5.7 MB

Jave,

You will find my last correspondence with Om Chopra below. It is unfortunate that your office is unabiator respond to the safety concerns I have identified with the AP1000 and ESBWR designs.

Nonetheless, as discussed, I am also attaching prior correspondence between Michael Johnson, Thomas Bergman, and myself for your information. You indicated that all this correspondence relating to my identified safety concerns would be placed on the NRC docket for future reference in lieu of immediate NRC action.

Farouk Baxter



Begin forwarded message:

From: Farouk Baxter <<u>faroukbax@gmail.com</u>> Date: October 22, 2009 5:20:52 PM EDT To: <u>om.chopra@nrc.gov</u> Subject: AP1000 and ESBWR Designs

Hello Om,

Thomas Bergman asked that I contact you in the event I had questions on his letter to me dated July 28, 2009 related to my concern with the AP1000 and ESBWR designs.

I do appreciate the explanation you have provided and your indication that the events I described are not design basis events, but beyond design basis. However, I have been both perplexed and puzzled up to now until I finally realized that we were talking about different issues, and it appears you in fact have misunderstood my concern.

Let me quote the paragraph that had me puzzled. In the third paragraph you state: "The events you describe in your letter (no ac power available to the plant for 72 hours after an accident and all dc power sources have been depleted) are not design basis events but beyond design basis; Therefore the requirements of IEEE Standard 603 do not apply to the scenario you postulate."

Contrary to the above, my concern does not relate to ac or dc power availability for the first 72 hours after an accident; I fully comprehend the total reliance of the dc batteries and dc distribution system to perform the required safety functions for the first 72 hours. It is the post-72 hours and beyond that has me concerned. If you look at DCD Section 8.3.1.1.3, you will see that this section acknowledges that power from the Ancinary Diesel Generators is not needed for the first 72 hours of an accident, but, that they are needed to perform Class 1E functions when no other sources of power are available, this clearly indicates the post-72 hour period and beyond when the batteries are assumed to be depleted and are in need of recharging by the Ancillary Diesel Generators.

Since you have been involved with IEEE standards for many years, you know that if Class 1E functions are required to be performed in the post-72 hour period (as indicated in Section 8.3.1.1.3), then in accordance with IEEE 603, they must be powered by Class 1E power supplies. This is the basis for my argument that the AP1000 and ESBWR designs are flawed because in these plants the Ancillary Diesel Generators are non-Class 1E commercial grade, whereas they should be Class 1E.

I will not elaborate further, but please re-read my letters of March 5, 2009 and June 8, 2009 and let me know your thoughts on my concern, and whether you now appreciate the distinction between the first 72 hours after an accident and the post-72 hours and beyond after an accident.

)

Thanks for your time and attention,

Farouk 978 443-2914