

Greg Gibson
Vice President, Regulatory Affairs

750 East Pratt Street, Suite 1600
Baltimore, Maryland 21202



10 CFR 50.4
10 CFR 52.79

May 20, 2009

UN#09-243

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Response to Request for Additional Information for the
Calvert Cliffs Nuclear Power Plant, Unit 3,
RAI No. 101, Groundwater

Reference: John Rycyna (NRC) to Robert Poche (UniStar Nuclear Energy), "RAI No 101
RHEB 2092.doc (PUBLIC)," email dated April 20, 2009

The purpose of this letter is to respond to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear Energy, dated April 20, 2009 (Reference). This RAI addresses Groundwater, as discussed in Section 2.4.12 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA), Revision 4.

Enclosure 1 provides our responses to RAI No. 101, Questions 02.04.12-4 and 02.04.12-8, and includes revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA.

Enclosure 2 provides the electronic copies of input data files for the Visual MODFLOW program requested in Question 02.04.12-8.

Our responses to RAI No. 101, Questions 02.04.12-4 and 02.04.12-8 do not include any new regulatory commitments.

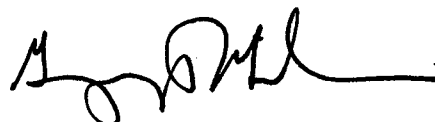
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A schedule of response dates for the remaining RAI No. 101 questions will be provided by June 2, 2009.

If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Michael J. Yox at (410) 495-2436.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 20, 2009



Greg Gibson

- Enclosures:
- 1) Response to NRC Request for Additional Information, RAI No. 101, Questions 02.04.12-4 and 02.04.12-8, Groundwater, Calvert Cliffs Nuclear Power Plant, Unit 3
 - 2) Response to NRC Request for Additional Information, RAI No. 101, Groundwater, Question 02.04.12-8, Electronic Copy (CD) of Visual MODFLOW Input Files, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: John Rycyna, NRC Project Manager, U.S. EPR COL Application
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosures)
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosures)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
U.S. NRC Region I Office

UN#09-243

Enclosure 1

**Response to NRC Request for Additional Information
RAI No. 101, Questions 02.04.12-4 and 02.04.12-8, Groundwater
Calvert Cliffs Nuclear Power Plant, Unit 3**

RAI No 101

Question 02.04.12-4

The FSAR refers to groundwater head observations made between July 2006 and July 2007, although observations presented in FSAR Tables 2.4-35 and 2.4-26 only extend through March 2007. Provide the additional data referred to in the FSAR.

Response

FSAR Tables 2.4-35 and 2.4-36 will be updated to include the water level elevation in observation wells for the months of April, May, and June 2007. Additionally, Table 2.3-16 and Table 2.3-17 in Part 3 (Environmental Report) have been updated accordingly.

COLA Impact

FSAR Tables 2.4-35 and 2.4-36 will be supplemented with the following data sets as follows in a future revision of the CCNPP Unit 3 COLA.

Table 2.4-35 – {CCNPP Unit 3 Observation Wells Water Level Elevations}

Well ID	<u>April 2007</u>	<u>May 2007</u>	<u>June 2007</u>
	(ft)	(ft)	(ft)
OW-301	39.81	38.95	37.60
OW-313A	36.43	34.97	33.64
OW-313B	32.57	32.07	30.94
OW-319A	78.73	78.65	78.34
OW-319B	40.51	39.63	38.13
OW-323	83.81	83.69	82.92
OW-328	39.13	38.52	37.33
OW-336	40.31	39.79	38.50
OW-401	42.11	40.83	39.35
OW-413A	79.29	79.36	79.32
OW-413B	41.60	40.01	38.43
OW-418A	40.26	38.51	37.18
OW-418B	35.35	34.44	33.22
OW-423	85.54	85.74	85.29
OW-428	79.45	79.72	79.29
OW-436	80.20	79.67	79.17
OW-703A	23.70	19.97	21.57
OW-703B	23.06	19.85	21.06
OW-705	33.87	31.50	30.00
OW-708A	32.84	27.91	25.11

Well ID	<u>April 2007</u>	<u>May 2007</u>	<u>June 2007</u>
	(ft)	(ft)	(ft)
OW-711	40.95	37.13	35.46
OW-714	73.20	73.05	74.73
OW-718	81.13	81.69	81.48
OW-725	30.99	29.47	25.80
OW-729	79.18	79.11	79.11
OW-735	42.04	41.07	39.70
OW-743	71.11	71.32	71.75
OW-744	68.48	68.08	67.34
OW-752A	75.43	74.76	73.09
OW-752B	39.40	38.91	38.09
OW-754	39.53	38.52	37.52
OW-756	81.15	81.72	81.00
OW-759A	76.04	75.96	78.61
OW-759B	38.29	37.97	38.57
OW-765A	81.73	81.32	79.48
OW-765B	39.51	39.23	38.55
OW-766	83.95	83.87	83.20
OW-768A	27.22	26.29	25.69
OW-769	35.76	31.75	30.03
OW-770	80.98	80.98	80.98

Table 2.4-36—{CCNPP Unit 3 Observation Wells Used in Hydrogeologic Evaluation}

Well ID	Aquifer Unit	Water Level Elevation		
		<u>April 2007</u>	<u>May 2007</u>	<u>June 2007</u>
OW-319A	SA	<u>78.73</u>	<u>78.65</u>	<u>78.34</u>
OW-323	SA	<u>83.81</u>	<u>83.69</u>	<u>82.92</u>
OW-423	SA	<u>85.54</u>	<u>85.74</u>	<u>85.29</u>
OW-428	SA	<u>79.45</u>	<u>79.72</u>	<u>79.29</u>
OW-436	SA	<u>80.20</u>	<u>79.67</u>	<u>79.17</u>
OW-714	SA	<u>73.20</u>	<u>73.05</u>	<u>74.73</u>
OW-718	SA	<u>81.13</u>	<u>81.69</u>	<u>81.48</u>
OW-743	SA	<u>71.11</u>	<u>71.32</u>	<u>71.75</u>
OW-752A	SA	<u>75.43</u>	<u>74.76</u>	<u>73.09</u>
OW-756	SA	<u>81.15</u>	<u>81.72</u>	<u>81.00</u>
OW-759A	SA	<u>76.04</u>	<u>75.96</u>	<u>78.61</u>
OW-765A	SA	<u>81.73</u>	<u>81.32</u>	<u>79.48</u>
OW-766	SA	<u>83.95</u>	<u>83.87</u>	<u>83.20</u>
OW-301	CU	<u>39.81</u>	<u>38.95</u>	<u>37.60</u>
OW-313A	CU	<u>36.43</u>	<u>34.97</u>	<u>33.64</u>
OW-319B	CU	<u>40.51</u>	<u>39.63</u>	<u>38.13</u>
OW-328	CU	<u>39.13</u>	<u>38.52</u>	<u>37.33</u>
OW-336	CU	<u>40.31</u>	<u>39.79</u>	<u>38.50</u>

Well ID	Aquifer Unit	Water Level Elevation		
		<u>April 2007</u>	<u>May 2007</u>	<u>June 2007</u>
OW-401	CU	<u>42.11</u>	<u>40.83</u>	<u>39.35</u>
OW-413B	CU	<u>41.60</u>	<u>40.01</u>	<u>38.43</u>
OW-418A	CU	<u>40.26</u>	<u>38.51</u>	<u>37.18</u>
OW-703A	CU	<u>23.70</u>	<u>19.97</u>	<u>21.57</u>
OW-705	CU	<u>33.87</u>	<u>31.50</u>	<u>30.00</u>
OW-708A	CU	<u>32.84</u>	<u>27.91</u>	<u>25.11</u>
OW-711	CU	<u>40.95</u>	<u>37.13</u>	<u>35.46</u>
OW-725	CU	<u>30.99</u>	<u>29.47</u>	<u>25.80</u>
OW-735	CU	<u>42.04</u>	<u>41.07</u>	<u>39.70</u>
OW-752B	CU	<u>39.40</u>	<u>38.91</u>	<u>38.09</u>
OW-754	CU	<u>39.53</u>	<u>38.52</u>	<u>37.52</u>
OW-759B	CU	<u>38.29</u>	<u>37.97</u>	<u>38.57</u>
OW-765B	CU	<u>39.51</u>	<u>39.23</u>	<u>38.55</u>
OW-768A	CU	<u>27.22</u>	<u>26.29</u>	<u>25.69</u>
OW-769	CU	<u>35.76</u>	<u>31.75</u>	<u>30.03</u>
OW-313B	CL	<u>32.57</u>	<u>32.07</u>	<u>30.94</u>
OW-418B	CL	<u>35.35</u>	<u>34.44</u>	<u>33.22</u>
OW-703B	CL	<u>23.06</u>	<u>19.85</u>	<u>21.06</u>

ER Tables 2.3-16 and 2.3-17 will be supplemented with the following data sets as follows in a future revision of the CCNPP Unit 3 COLA.

Table 2.3-16 – {CCNPP Unit 3 Observation Wells Water Level Elevations}

Well ID	April 2007	May 2007	June 2007
	(ft)	(ft)	(ft)
OW-301	39.81	38.95	37.60
OW-313A	36.43	34.97	33.64
OW-313B	32.57	32.07	30.94
OW-319A	78.73	78.65	78.34
OW-319B	40.51	39.63	38.13
OW-323	83.81	83.69	82.92
OW-328	39.13	38.52	37.33
OW-336	40.31	39.79	38.50
OW-401	42.11	40.83	39.35
OW-413A	79.29	79.36	79.32
OW-413B	41.60	40.01	38.43
OW-418A	40.26	38.51	37.18
OW-418B	35.35	34.44	33.22
OW-423	85.54	85.74	85.29
OW-428	79.45	79.72	79.29
OW-436	80.20	79.67	79.17
OW-703A	23.70	19.97	21.57
OW-703B	23.06	19.85	21.06
OW-705	33.87	31.50	30.00
OW-708A	32.84	27.91	25.11

Well ID	April 2007	May 2007	June 2007
	(ft)	(ft)	(ft)
OW-711	40.95	37.13	35.46
OW-714	73.20	73.05	74.73
OW-718	81.13	81.69	81.48
OW-725	30.99	29.47	25.80
OW-729	79.18	79.11	79.11
OW-735	42.04	41.07	39.70
OW-743	71.11	71.32	71.75
OW-744	68.48	68.08	67.34
OW-752A	75.43	74.76	73.09
OW-752B	39.40	38.91	38.09
OW-754	39.53	38.52	37.52
OW-756	81.15	81.72	81.00
OW-759A	76.04	75.96	78.61
OW-759B	38.29	37.97	38.57
OW-765A	81.73	81.32	79.48
OW-765B	39.51	39.23	38.55
OW-766	83.95	83.87	83.20
OW-768A	27.22	26.29	25.69
OW-769	35.76	31.75	30.03
OW-770	80.98	80.98	80.98

Table 2.3-17 - {CCNPP Unit 3 Observation Wells Used in Hydrogeologic Evaluation}

Well ID	Aquifer Unit	Water Level Elevation		
		<u>April 2007</u>	<u>May 2007</u>	<u>June 2007</u>
OW-319A	SA	<u>78.73</u>	<u>78.65</u>	<u>78.34</u>
OW-323	SA	<u>83.81</u>	<u>83.69</u>	<u>82.92</u>
OW-423	SA	<u>85.54</u>	<u>85.74</u>	<u>85.29</u>
OW-428	SA	<u>79.45</u>	<u>79.72</u>	<u>79.29</u>
OW-436	SA	<u>80.20</u>	<u>79.67</u>	<u>79.17</u>
OW-714	SA	<u>73.20</u>	<u>73.05</u>	<u>74.73</u>
OW-718	SA	<u>81.13</u>	<u>81.69</u>	<u>81.48</u>
OW-743	SA	<u>71.11</u>	<u>71.32</u>	<u>71.75</u>
OW-752A	SA	<u>75.43</u>	<u>74.76</u>	<u>73.09</u>
OW-756	SA	<u>81.15</u>	<u>81.72</u>	<u>81.00</u>
OW-759A	SA	<u>76.04</u>	<u>75.96</u>	<u>78.61</u>
OW-765A	SA	<u>81.73</u>	<u>81.32</u>	<u>79.48</u>
OW-766	SA	<u>83.95</u>	<u>83.87</u>	<u>83.20</u>
OW-301	CU	<u>39.81</u>	<u>38.95</u>	<u>37.60</u>
OW-313A	CU	<u>36.43</u>	<u>34.97</u>	<u>33.64</u>
OW-319B	CU	<u>40.51</u>	<u>39.63</u>	<u>38.13</u>
OW-328	CU	<u>39.13</u>	<u>38.52</u>	<u>37.33</u>
OW-336	CU	<u>40.31</u>	<u>39.79</u>	<u>38.50</u>

Well ID	Aquifer Unit	Water Level Elevation		
		<u>April 2007</u>	<u>May 2007</u>	<u>June 2007</u>
OW-401	CU	<u>42.11</u>	<u>40.83</u>	<u>39.35</u>
OW-413B	CU	<u>41.60</u>	<u>40.01</u>	<u>38.43</u>
OW-418A	CU	<u>40.26</u>	<u>38.51</u>	<u>37.18</u>
OW-703A	CU	<u>23.70</u>	<u>19.97</u>	<u>21.57</u>
OW-705	CU	<u>33.87</u>	<u>31.50</u>	<u>30.00</u>
OW-708A	CU	<u>32.84</u>	<u>27.91</u>	<u>25.11</u>
OW-711	CU	<u>40.95</u>	<u>37.13</u>	<u>35.46</u>
OW-725	CU	<u>30.99</u>	<u>29.47</u>	<u>25.80</u>
OW-735	CU	<u>42.04</u>	<u>41.07</u>	<u>39.70</u>
OW-752B	CU	<u>39.40</u>	<u>38.91</u>	<u>38.09</u>
OW-754	CU	<u>39.53</u>	<u>38.52</u>	<u>37.52</u>
OW-759B	CU	<u>38.29</u>	<u>37.97</u>	<u>38.57</u>
OW-765B	CU	<u>39.51</u>	<u>39.23</u>	<u>38.55</u>
OW-768A	CU	<u>27.22</u>	<u>26.29</u>	<u>25.69</u>
OW-769	CU	<u>35.76</u>	<u>31.75</u>	<u>30.03</u>
OW-313B	CL	<u>32.57</u>	<u>32.07</u>	<u>30.94</u>
OW-418B	CL	<u>35.35</u>	<u>34.44</u>	<u>33.22</u>
OW-703B	CL	<u>23.06</u>	<u>19.85</u>	<u>21.06</u>

RAI No 101

Question 02.04.12-8

Provide an electronic copy of the Visual MODFLOW input files used in the groundwater modeling discussed in FSAR Section 2.4.12.5.

Response

An electronic copy of the Visual MODFLOW input files used in the groundwater modeling discussed in FSAR Section 2.4.12.5 is provided in Enclosure 2.

COLA Impact

The COLA FSAR will not be revised as a result of this response.

Enclosure 2

**Response to NRC Request for Additional Information
RAI No. 101, Groundwater, Question 02.04.12-8
Electronic Copy (CD) of Visual MODFLOW Input Files
Calvert Cliffs Nuclear Power Plant, Unit 3**