

**CHEM-NUCLEAR SYSTEMS, LLC**

140 Stoneridge Drive • Columbia, South Carolina 29210 • (803) 256-0450

16 March, 2000
579-028-00

Mr. Timothy J. Kobetz, Project Manager
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards, NMSS
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Kobetz:

Subject: Response to Request for Additional Information for Model No. IF-300, CofC No. 9001
Reference: 14 Jan 2000 RAI Response from Chem-Nuclear

As we discussed, four pages in Attachment 5 (Appendix D, Non-Proprietary) and in Attachment 7 (Appendix D, Proprietary pages) of the 14 Jan RAI response inappropriately identified certain data as proprietary. Those pages are: D-6-103, -112, -121, and -130. Please make the following changes to correct these errors:

Replace pages D-6-103, -112, -121, and -130 from the previous Attachment 5 (Non-Proprietary CSAR) with the pages in Attachment 1 of this letter.
Likewise, please replace pages D-6-103, -112, -121, and -130 from the previous Attachment 7 (Proprietary CSAR) with the pages in Attachment 2 of this letter.

Should you or members of your staff have questions about these corrections, please contact Mark Whittaker at (803)758-1898.

Sincerely,

Patrick L. Paquin
General Manager – Engineering and HLW

Attachments:

Attachment 1 – Replacement pages for the Non-Proprietary CSAR
Attachment 2 – Replacement pages for the Proprietary CSAR

Attachment 1
Replacement pages for the Non-Proprietary CSAR

January 2000

```

6   py -0.71501 $ fuel rod cell boundary
7   py  0.71501 $ fuel rod cell boundary
c
c   Instrument Tube/Control Rod Guide Tube
c
10  cz  0.64897 $ ID
11  cz  0.69088 $ OD
c
c   Fuel Assembly
c
12  px -10.7137 $ 1/2 FA pitch
13  px  10.7137 $ 1/2 FA pitch
14  py -10.7137 $ 1/2 FA pitch
15  py  10.7137 $ 1/2 FA pitch
c
c   Zr grid inner pitch
c
16  px -0.712475 $ Zr grid cell boundary
17  px  0.712475 $ Zr grid cell boundary
18  py -0.712475 $ Zr grid cell boundary
19  py  0.712475 $ Zr grid cell boundary
c
c   Overall Fuel Height including blanket - 144 inches
c
20  pz -182.88
21  pz  182.88
c
c   Axial Blanket/enriched fuel zone - 6 inches below top & bottom
c
22  pz -167.64
23  pz  167.64
c
c   Top and bottom plenum regions
c
24  pz ████████
25  pz ████████
c
c   Channel bottom plate
c
26  pz -192.151
27  pz -194.691
c
c   Lower Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c   Smear mass over rectangle for now
c   Bottom of LTP
30  pz -186.953 $ Water to bottom of lowest poison pin B4C
c   Surfaces for poison pin/steel segments
301  pz -178.65725 $ Poison in lowest poison pin to steel
302  pz -138.85545 $ Steel to bottom of next poison pin B4C
303  pz -125.8062 $ Poison in next poison pin to steel
304  pz -91.8718 $ Steel to bottom of next poison pin B4C
305  pz -78.82255 $ Poison in next poison pin to steel
306  pz -44.88815 $ Steel to bottom of next poison pin B4C
307  pz -31.8389 $ Poison in next poison pin to steel
308  pz  2.0955 $ Steel to bottom of next poison pin B4C
309  pz  15.14475 $ Poison in next poison pin to steel
310  pz  49.07915 $ Steel to bottom of next poison pin B4C
311  pz  62.1284 $ Poison in next poison pin to steel
312  pz  96.0628 $ Steel to bottom of next poison pin B4C
313  pz 109.11205 $ Poison in next poison pin to steel
314  pz 143.04645 $ Steel to bottom of next poison pin B4C
315  pz 156.0957 $ Poison in next poison pin to steel
316  pz 190.0301 $ Steel to bottom of top poison pin B4C
317  pz 203.07935 $ Poison in top poison pin to steel - through UTP
c
c   Upper Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c   Smear mass over rectangle for now

```

January 2000

```

4   px -0.71501 $ fuel rod cell boundary
5   px  0.71501 $ fuel rod cell boundary
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15  py  10.7137 $ 1/2 FA pitch
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19  py  0.712475 $ Zr grid cell boundary
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c
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c   Top and bottom plenum regions
c
24  pz ██████████
25  pz ██████████
c
c   Channel bottom plate
c
26  pz -192.151
27  pz -194.691
c
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c
c   Smear mass over rectangle for now
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301 pz -178.65725 $ Poison in lowest poison pin to steel
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305 pz -78.82255 $ Poison in next poison pin to steel
306 pz -44.88815 $ Steel to bottom of next poison pin B4C
307 pz -31.8389 $ Poison in next poison pin to steel
308 pz  2.0955 $ Steel to bottom of next poison pin B4C
309 pz  15.14475 $ Poison in next poison pin to steel
310 pz  49.07915 $ Steel to bottom of next poison pin B4C
311 pz  62.1284 $ Poison in next poison pin to steel
312 pz  96.0628 $ Steel to bottom of next poison pin B4C
313 pz  109.11205 $ Poison in next poison pin to steel
314 pz  143.04645 $ Steel to bottom of next poison pin B4C
315 pz  156.0957 $ Poison in next poison pin to steel
316 pz  190.0301 $ Steel to bottom of top poison pin B4C
317 pz  203.07935 $ Poison in top poison pin to steel - through UTP
c
c   Upper Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)

```

January 2000

```

14  py -10.7137 $ 1/2 FA pitch
15  py  10.7137 $ 1/2 FA pitch
c
c    Zr grid inner pitch
c
16  px -0.712475 $ Zr grid cell boundary
17  px  0.712475 $ Zr grid cell boundary
18  py -0.712475 $ Zr grid cell boundary
19  py  0.712475 $ Zr grid cell boundary
c
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c
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c    Axial Blanket/enriched fuel zone - 6 inches below top & bottom
c
22  pz -167.64
23  pz  167.64
c
c    Top and bottom plenum regions
c
24  pz ████████
25  pz ████████
c
c    Channel bottom plate
c
26  pz -192.151
27  pz -194.691
c
c    Lower Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c    Smear mass over rectangle for now
c    Bottom of LTP
30  pz -186.953    $ Water to bottom of lowest poison pin B4C
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303  pz -125.8062  $ Poison in next poison pin to steel
304  pz -91.8718   $ Steel to bottom of next poison pin B4C
305  pz -78.82255  $ Poison in next poison pin to steel
306  pz -44.88815  $ Steel to bottom of next poison pin B4C
307  pz -31.8389   $ Poison in next poison pin to steel
308  pz  2.0955    $ Steel to bottom of next poison pin B4C
309  pz 15.14475   $ Poison in next poison pin to steel
310  pz 49.07915   $ Steel to bottom of next poison pin B4C
311  pz 62.1284    $ Poison in next poison pin to steel
312  pz 96.0628    $ Steel to bottom of next poison pin B4C
313  pz 109.11205  $ Poison in next poison pin to steel
314  pz 143.04645  $ Steel to bottom of next poison pin B4C
315  pz 156.0957   $ Poison in next poison pin to steel
316  pz 190.0301   $ Steel to bottom of top poison pin B4C
317  pz 203.07935  $ Poison in top poison pin to steel - through UTP
c
c    Upper Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c    Smear mass over rectangle for now
c    Top of UTP
31  pz 206.538
c
33  pz 213.512    $ Top of FA
c
c    Square Cell for Channel
c
40  px -11.3022
41  px -11.1125
42  px  11.1125
43  px  11.3022
44  py -11.3022

```

NEDO-10084-5
January 2000

c Instrument Tube/Control Rod Guide Tube
c
10 cz 0.64897 \$ ID
11 cz 0.69088 \$ OD
c
c Fuel Assembly
c
12 px -10.7137 \$ 1/2 FA pitch
13 px 10.7137 \$ 1/2 FA pitch
14 py -10.7137 \$ 1/2 FA pitch
15 py 10.7137 \$ 1/2 FA pitch
c
c Zr grid inner pitch
c
16 px -0.712475 \$ Zr grid cell boundary
17 px 0.712475 \$ Zr grid cell boundary
18 py -0.712475 \$ Zr grid cell boundary
19 py 0.712475 \$ Zr grid cell boundary
c
c Overall Fuel Height including blanket - 144 inches
c
20 pz -182.88
21 pz 182.88
c
c Axial Blanket/enriched fuel zone - 6 inches below top & bottom
c
22 pz -167.64
23 pz 167.64
c
c Top and bottom plenum regions
c
24 pz [REDACTED]
25 pz [REDACTED]
c
c Channel bottom plate
c
26 pz -192.151
27 pz -194.691
c
c Lower Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c Smear mass over rectangle for now
c Bottom of LTP
30 pz -186.953 \$ Water to bottom of lowest poison pin B4C
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301 pz -178.65725 \$ Poison in lowest poison pin to steel
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315 pz 156.0957 \$ Poison in next poison pin to steel
316 pz 190.0301 \$ Steel to bottom of top poison pin B4C
317 pz 203.07935 \$ Poison in top poison pin to steel - through UTP
c
c Upper Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c Smear mass over rectangle for now
c Top of UTP
31 pz 206.538
c

Attachment 2
Replacement pages for the Proprietary CSAR

January 2000

```

6  py -0.71501 $ fuel rod cell boundary
7  py  0.71501 $ fuel rod cell boundary
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c
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25 pz ████████
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317 pz 203.07935 $ Poison in top poison pin to steel - through UTP
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```


January 2000

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January 2000

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c
c    Upper Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c    Smear mass over rectangle for now
c    Top of UTP
31  pz 206.538
c
c
33  pz 213.512    $ Top of FA
c
c    Square Cell for Channel
c
40  px -11.3022
41  px -11.1125
42  px  11.1125
43  px  11.3022
44  py -11.3022

```

January 2000

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c
10     cz  0.64897  $ ID
11     cz  0.69088  $ OD
c
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c
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c
24     pz ████████
25     pz ████████
c
c      Channel bottom plate
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27     pz -194.691
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316    pz 190.0301   $ Steel to bottom of top poison pin B4C
317    pz 203.07935  $ Poison in top poison pin to steel - through UTP
c
c      Upper Tie Plate - use FA px/py (8.424 in pitch vs 8.436 in for FA)
c
c      Smear mass over rectangle for now
c      Top of UTP
31     pz 206.538
c

```