

**From:** John Hickman  
**To:** Yankee, Alice Carson  
**Date:** 06/14/2006 9:13:06 AM  
**Subject:** Comments on first 3 FSS for discussion today

Alice,

Comments are attached. I couldn't get a conference bridge for today so let me know what number to call at the site.

Thanks

John

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YR-TBN-FSS-Questions.wpd

5037

06/12/2006 8:13:36 AM

YR\_WST-FSS-Questions.wpd

3966

06/12/2006 1:39:26 PM

YR\_NOL-FSS-Questions.wpd

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## YR TBN Final Status Surveys Comments/Questions

### TBN01-00 FSS Questions:

(TBN-01-01; TBN-01-09 through TBN-01-17)

1. **Section 5.2.4 Survey Results** and the **Table 10** results are in cpm, and the fixed-point measurement criteria or DCGL criteria is in dpm/100-cm<sup>2</sup>. YR has not demonstrated that the criteria was not exceeded.

2. **Table 9** - Summary of ISOCS Scan results - provides the number of scans for each survey unit and the 'results' (action level exceeded) as "NO". Where is the ISOCS scan data - other than in the ISOC scan reports?

3. Vol. 1, Main Report: **Table 5** DCGLw & DCGL-EMC for ISOCS (Co-60 and Cs-137. DCGLw for Co-60 is 6.3E+3 dpm/ 100cm<sup>2</sup>, and Cs137 2.2E+4 dpm/100 cm<sup>2</sup>).

Co-60 AF= 7.3 (comparison used 1-m<sup>2</sup> EMC)

Cs-137 AF= 7.3 (comparison used 1-m<sup>2</sup> EMC)

**Table 11** (Co-60 only. DCGL is 7.2E+3 dpm/100 cm<sup>2</sup>.)

Co-60 AF=16.67 (area of EMC not specified)

4. Vol. 1, Main Report, **Table 10**. Sample size is a function of relative shift (delta/sigma), and the relative shift should be a dimensionless number. LBGR & sigma are in different units. LBGR in dpm/100cm<sup>2</sup> and sigma is in cpm.

5. Vol. 1, Main Report, **Table 11**. An Investigation level is listed for the HP 100C & SPA-3. Please provide an example calculation for the HP 100C scan MDC for alpha and beta radiation. Table 11 lists HP 100C IL as > 1.2E+4 or 7.2E+4 dpm/100 cm<sup>2</sup> & a statistical outlier.

LTP page 5-39 indicates that the scan MDCs will be documented prior to performing the FSS.

6. Vol. 1, Main Report, **Section 4.1.3**. Are compensatory measures needed for situations where a 4 cm<sup>2</sup> "hot spot" was not detected by ISOCS? Table 5 indicates that the ISOCS Co-60 DCGL<sub>EMC</sub> = 4.6E+4 dpm/100 cm<sup>2</sup> or assuming that activity is uniformly spread over a one-m<sup>2</sup> area.

7. Vol 3, Appendix C, YA-REPT-00-018-05. Table 3 provide the one-meter squared surface DCGLw values (Co-60 is 6300 dpm/ 100 cm<sup>2</sup> adjusted to 8.73mrem/y and DCGL<sub>EMC</sub> is 46,000 dpm/100 cm<sup>2</sup> over 1-m<sup>2</sup>).

8. Vol. 3, Appendix B, SUs TBN-01-10, -12, -13, -16, -17. The mean ambient background column is 20 entries and the sample data is 10 entries? **Comments**

## YR WST Final Status Surveys Comments/Questions

### WST-01-01 Survey Unit

*Background information:*

*Class 1 survey unit.*

*(WST-01-01 is a single survey unit (WST-01-02) of the remnants of WST-0101 which was the "Old PCA Storage Building" that has been demolished. Reinforced concrete remnants of the potentially-contaminated-area (PCA) storage building within the RCA yard area.)*

1. Page 12, Table 7. What are the ISOCS results? Suggest that this information be placed in the FSS.
2. Regarding the ISOCS scans locations map: It appears to be more then 97 ISOCs scans (114 data set ) ?
3. Regarding the direct measurements locations map: The concrete structure in the upper portion had only one measurement and 12 ISOCS scans?
4. Page 1, Section 1.3: Indicates that 97 ISOCS scans supplemented by hand-held survey meters and 24 fixed-point measurements were taken. Did the data variability indicate that adequate samples were taken.
5. ISOCs measurements were affected by radiation from the ISFSI. These areas were supplemented by SPA-3 scans. The SPA-3 scans identified two elevated soil areas in NOL-05-02.

## YR NOL Final Status Survey Units Comments/Questions

### NOL-01 has four (4) final status survey units

1. The NOL FSS documentation is much better written than TBN01-00. It includes the ISOCS data for the survey units (i.e., fraction - DCGI)

2. Tables 16 & 17 indicate that an investigation was done for samples no. 17. What were the results of the soil sample that prompted the investigation?

**Table 16** - Summary of ISOCS Scan Results for Survey Unit NOL-01-02. **Table 16** indicates to See **Table 17**, but **Table 17** does not provide soil samples results in terms of pCi/g, but indicates that the sample results was 1.13 f-DCGL.

Page 32. An Investigation was done at scan location 17. The elevated area was 2-m x 2.3-m. Four random soil samples were taken and an EMC calculation was made. The sum-of-fractions appears to be 0.25 (0.10 + 0.15), and the survey unit passes the criteria.

3. What are the implications for YR survey methodologies by the fact that ORISE identified an elevated area of activity in NOL-01-03? Additional remediation was required & table 23 presents the results of the post-remediation sampling.

Are there any indicators (ISOCS scan results or otherwise) that may have indicated that elevated activity was in that survey unit?

See **Table 22** & **Table 23**.

4. An investigation was done because of the **ISOCS scan NOL-01-03-012** results. The data for this ISOCS scan is not provided in the **Table 25**.

It would be appropriate to indicate the mean and variance/standard deviation of the mean for the data in **Table 26**.

5. Data Quality Assessment.

Are the data evaluations geared toward validating the assumptions (spatially independent concentrations, etc.) underlying the statistical tests used?

Is the data uncertainty larger than the assumed sigma used to calculate the number of soil samples needed? YR indicates that the retrospective power curve indicated that the survey unit would pass the criteria for the samples taken.

Thy  
June 2006