

November 13, 2015

MEMORANDUM TO: Michael A. Norato, Chief  
Materials Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

FROM: John J. Hayes, Project Manager /RA/  
Materials Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: PUBLICLY NOTICED CONFERENCE CALL SUMMARY

On October 29, 2015, a publicly noticed conference call was held between U.S. Nuclear Regulatory Commission (NRC) personnel from the Material Control, Independent Spent Fuel Storage Installation, and Decommissioning Branch of NRC Region III, the Materials Decommissioning Branch of the Office of Nuclear Materials Safety and Safeguards and representatives of the Westinghouse Electric Company (WEC) Hematite Facility located in Hematite, MO. Mr. Ben Moore of the Missouri Department of Natural Resources participated as a member of the public.

Enclosure 1 is the agenda for the call. Enclosure 2 is a listing of the call participants.

In the introductory remarks, the NRC explained that the conference call was a Category 1 Publicly Noticed Call in which members of the public were invited to listen to the call consistent with past practice. The public would be allotted the opportunity to communicate with the NRC after the business portion of the call but before the call was adjourned. The NRC stated that there was nothing which required the licensee to respond to any comments or questions from members of the public. However, while there was no requirement to respond, there was also nothing which precluded the licensee from responding to questions or comments if the licensee chose to do so.

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Following the introduction of each participant, each of the agenda items was discussed.

The first agenda item involved a discussion of NRC's views on the WEC White Paper on 100 percent Gamma Walkover Survey (GWS) (Enclosure 3). WEC indicated that they had read the NRC response (Enclosure 4) and had no objections to it.

The second agenda item dealt with WEC's proposed reuse stockpile and the discussion of how the combined stockpile 9 would be treated as a Class 1 unit and would be surveyed in 6 inch lifts and receive a final status survey by soil sampling and 100 percent GWS.

Members of the public were asked whether they had any questions or comments regarding the discussion. They had none.

Enclosures:

1. Agenda
2. Participant List
3. Paper Provided by Westinghouse  
on 100 percent GWS
4. NRC Response

Following the introduction of each participant, each of the agenda items was discussed.

The first agenda item involved a discussion of NRC's views on the WEC White Paper on 100 percent Gamma Walkover Survey (GWS) (Enclosure 3). WEC indicated that they had read the NRC response (Enclosure 4) and had no objections to it.

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**PUBLICLY NOTICED CALL ON WESTINGHOUSE HEMATITE DECOMMISSIONING**

*Agenda*  
*Thursday, September 24, 2015*  
*10:30 a.m. - 11:30 a.m.*

- Introductory Remarks - NRC
- Topics for Discussion -
  - WEC White Paper on 100% GWS
  - Reuse of Stockpile Soil
- Public's Opportunity for Comments and/or Questions - Public
- Concluding Remarks - NRC

**CONFERENCE CALL PARTCIPANT LIST**

October 29, 2015

Name	Organization	Title
Mike LaFranzo	NRC, Region III	Senior Health Physicist, Material Control, ISFSI and Decommissioning Branch
Karen Pinkston	NRC/NMSS	Systems Performance Analyst
Greg Chapman	NRC/NMSS	Nuclear Process Engineer
Clark Evers	Westinghouse	Radiation Safety Officer, Hematite Decommissioning Project
Gay Fussell	Westinghouse	
Joe Smetanka	Westinghouse	Director, Hematite Decommissioning Project
Katie Tapp	NRC/NMSS	Health Physicist
Leah Parks	NRC/NMSS	Systems Performance Analyst
Tim Vitkus	ORAU/IEAV	Associate Director
Scott Zoller	Northwind	
Ben Moore	Missouri Department of Natural Resources	Member of the Public
Ken Pallagi	Westinghouse	Licensing Manager
Mike Norato	NRC, FSME	Chief, Materials Decommissioning Branch

## **NRC Review of Clarification of Intent Regarding the “100 percent Gamma Walkover Survey” Performed in Class 1 Survey Units at HDP**

The NRC reviewed Westinghouse’s Clarification of Intent Regarding the “100 percent Gamma Walkover Survey” Performed in Class 1 Survey Units at HDP. In that paper Westinghouse provided the following conclusions:

- Procedures as written & implemented & GWS as performed meet the intent of MARSSIM guidance, the DP & the RAIs;
- Westinghouse has complied with the intent of the DP statement “The FSS will consist of a GWS of 100 percent of the exposed excavated surfaces to be included in the survey unit, or portion of survey unit” in all cases for Class 1 survey units; and,
- “That 100 percent GPS coverage is not a reasonably attainable expectation, nor is it an industry standard expectation.”

The NRC review concludes that the paper has these deficiencies:

- No discussion of Westinghouse’s manner for justifying that the actual GWS coverage achieved is deemed sufficient if 100 percent GWS coverage is not attained;
- No description of the part in the process where Westinghouse reviews the data and determines the precise percentage of coverage obtained during the performance of the GWS; and,
- No discussion of the possibility for situations which stretch the ability to perform the 100 percent GWS in the usual manner or prevent 100 percent GWS (e.g., inaccessible areas or underwater areas).

The NRC staff has the following recommendations with regard to the FSS approach:

- It is the NRC’s position that, as stated in the DP, 100 percent GWS is the expected objective. However, the NRC recognizes that 100 percent GWS may not be attained when performing the FSS in all Class 1 survey units.
- Westinghouse’s FSS should reflect that 100 percent GWS is the expected objective. Westinghouse’s program, as presented in the paper of September 29, 2015, does not reflect that.
- Westinghouse’s procedures which implement the FSS should be designed to meet MARSSIM guidance and the commitments in the DP and the RAI responses. The scope of the procedures should include steps to take if adherence to MARSSIM guidance and the

commitments in the DP and the RAI responses are not possible. For example, the licensee should consider how the DQO process will be utilized and how justification for any procedural deviations will be documented and communicated to the NRC. Westinghouse should provide justification when 100 percent GWS coverage is not achieved, or does not appear to be achieved based on the output of the GPS software. The extent of justification required may be greater for situations where 100 percent survey was not performed due to inaccessibility than is required when gaps appear due to artifacts of the GPS system.

**Resolution Table for Report HDP-RPT-FSS-109, Data Summary Report for Combined Reuse Stockpile 4-7**  
**(License No. SNM-00033, Docket No. 070-00036)**

Westinghouse has indicated in their responses to many of the NRC's issues that they agreed with the NRC's proposed resolution. In Westinghouse's response there was no information provided as to how, when, or in which document they will implement the proposed resolution nor their manner for tracking those commitments. How is Westinghouse planning to implement their commitments in the document under review and in future documents? Will there be a crosswalk prepared of all comments that have been generated for the various documents reviewed thus far, to ensure Westinghouse has included the appropriate responses in future documents? Since the FSSR is a stand-alone document, the NRC's expectation is that the appropriate information would be contained in the FSSR. Referring to other documents, in lieu of the actual information, would not facilitate the transmission of information either to the public or the NRC and would not facilitate the NRC's review.

Page No.	Issues	Discussion Points	Proposed Resolution	Westinghouse Response	NRC Discussion
All	Common aspects to all reuse piles should be pulled out and put into Chapter 1 of Volume 2.	Document was Volume 2, Chapter 4. Various aspects of Chapter 4 would seem to be common to most of the Chapters of Volume 2. Those aspects of Chapter 4 which seemed common appeared in the following: Background (1.0), Purpose of the Report (2.0) Reuse Soil Criteria (4.0), Survey Design (5.0), Survey Implementation (6.0), ISO-Pacific Soil Screening (7.3), Quality Control (8.0), Selection of Personnel (8.1), Instrumentation Operation and Daily Quality Control (8.2), Laboratory Quality Control Measurements (8.4) and Data Quality Assessment (Items 2-5 of 9.0)	Develop Chapter 1 of Volume 2 to include information which will be common for Chapters 2- ? of Volume 2.	Westinghouse agrees with the NRC's proposed resolution.	
Page 3, 1 <sup>st</sup> paragraph	The uniform approach is described as being more conservative of the CSMs. However, both CSMs correspond to 25 mrem/yr, so neither approach is more or less conservative.	Neither the uniform nor three layer approach is more conservative – both correspond to 25 mrem/yr. The DCGL values for each of the three layers are less than those for the uniform CSM. However, because the sum of fractions must be used in the three layer approach, the activity	Revise the discussion of the three layer and uniform CSMs to clarify that the uniform CSM is not more conservative.	Westinghouse agrees with the NRC's proposed resolution.	

		remaining in each layer must be a fraction of the DCGL if there is activity present in multiple layers.			
<b>Page 3, last paragraph, Figure 6-1</b>	Figure 6-1 (and supporting text in the body of the document) is incomplete.	<p>Figure 6-1 does not incorporate all the process steps described in the last paragraph on page 3 nor does it include decisions regarding the MIL comparison. It also doesn't include the S3 sorter step.</p> <p>The flowchart should provide additional decision/requirement paths. In particular, the first "Primary Disposition" requirement should include additional Evaluation of Results decision paths, once the Tc-99 data are received. The current flowchart ends and the text does not provide a discussion of disposition of those soil loads identified with Tc-99 concentrations greater than the MIL.</p> <p>The Figure suggests that decisions are made per truckload (e.g., that certain truckloads are segregated based on sample results). This was not the case with Combined Reuse Stockpile 4-7). The Figure should clarify if decisions are made per truckload or per some average for the entire stockpile.</p> <p>Additionally, this chart lacks clarity on what occurs if a truck fails the</p>	<p>In this report and reports for future reuse stockpiles, articulate better how waste is decided to be diverted. When completing Volume 2 Chapter 1 of the FSSR, include a revised Figure 6-1 detailed such that it matches the process description and the complete set of outcomes for where soil will be used or diverted for disposal (e.g., if the SOF <math>\leq 1</math> for Uniform and <math>&gt;Tc-99</math> MIL, etc.).</p>	<p>Figure 6-1 was originally developed to illustrate the reuse process as outlined in Chapter 14 of the DP, but it was not updated to include changes made after the DP such as comparison to the Tc-99 MIL. Westinghouse proposes removing Figure 6-1 and replacing it with a more detailed commentary of the reuse soil process.</p> <p>This additional discussion will address the NRC's comments regarding the details needed to understand the Tc-99 MIL, the ISO Pacific soil sorting process, individual truckload DCGL exceedances, and the restricted placement of a stockpile to a specific layer.</p>	

		SOF for Uniform DCGL but passes the Excavation DCGL. Would this material go to USEI, be used only in the Deep stratum, or be used in the Deep and Surface stratum?			
4	Revision numbers are needed when referencing procedures.	Page 4 lists the procedures which were used to conduct the survey. It is known that many procedures have been revised at the site. Some of the revisions were based on problems identified during the implementation of a specific procedure. Therefore, the document should include which procedure revision was used to ensure the NRC an adequate survey was completed.	Update document to include the correct revision of the procedures used to survey the reuse piles.	Westinghouse agrees with the NRC's proposed resolution.	
<b>Sections 7.1 &amp; 7.2, last paragraph on Page 6 and 2<sup>nd</sup> paragraph on Page 9</b>	Use of MIL is only for Tc-99	Pages 6 and 9 discuss the use of Tc-99 Uniform MIL to identify Tc-99 hot spots. All radionuclides of concern, when assessed via composite sampling, should typically have an associated MIL to identify a DCGL hot spot of concern unless other surveys are used. It is understood that the gamma walkover surveys and ISO-Pacific Soil Screening are intended to identify locations that could present a DCGL hot spot concern for all radionuclides of concern except for Tc-99. For completeness the document should "tie together" the two requirements.	When completing Volume 2 Chapter 1 of the FSSR, include justification for the reasons why a MIL is only being used to identify a DCGL hot spot of concern for Tc-99. Additionally, describe and justify what surveys HDP is proposing to utilize to identify hot spots of concern for the other radionuclides of concern.	Westinghouse agrees with the NRC's proposed resolution.	

6 & 30	<p>It is unclear how soil volumes which are intended for a specific stratum are controlled/tracked so they are placed in the correct specific stratum.</p>	<p>Because the soil which exceeded the criteria to be used in any stratum was not separated from the soil which failed the criteria, the entire stockpile is reserved for the deep or surface stratum. Page 30 states “the soil comprising Combined Reuse Stockpile 4-7 will be restricted for use as backfill within the deep stratum or surface stratum”. It is unclear if this will be the same approach intended for other reuse piles. Also, it is unclear how the Combined Reuse Stockpile 4-7 will be appropriately segregated from other soils that are intended for the entire Uniform stratum.</p> <p>If soil that fails the Uniform SOF is then sent through the S3 sorter with other waste that passed the Uniform SOF, how can the licensee know that certain waste is destined for only the excavation or surface stratum? For future stockpiles, does Westinghouse always plan to reserve an entire stockpile for the Excavation Stratum if any truckload fails the Uniform SOF or Tc-99 MIL? Also, will Westinghouse plan to use any soil that is reserved for the excavation layer in the surface layer also? The logistics of that scenario seem complicated. Are there</p>	<p>When completing Volume 2 Chapter 1 of the FSSR, include details about how soil that is destined for a specific stratum is tracked once it has been sampled. For example, how is it marked/separated when sent through the S3 sorter and stored before reuse?</p>	<p>Each truckload of soil was sampled prior to combination into a larger stockpile. After combination into the larger stockpile it was identified that a single truckload of material from Stockpile 7 exceeded a Uniform SOF of 1.0 primarily due to Th-232 and Ra-226. Stockpile 4 and Stockpile 7 were combined and 85 percent was sent through the ISO Pacific S3 system, with the remaining 15 percent being combined into Stockpile 9 for additional survey at a later date.</p> <p>The action level for the S3 was 175 Bq/kg (4.7 pCi/g total net activity) so that the S3 would reject a Uranium fuel pellet with a minimum activity of 0.19 <math>\mu</math>Ci. While it cannot be said definitively, it is likely that the elevated truckload was diverted (e.g. separated as waste) by the S3, or placed into Stockpile 9 for survey at a later time.</p> <p>However due to this individual exceedances of the Uniform SOF, and the 29 exceedances of the Tc-99 MIL this entire stockpile will be restricted to placement in the Deep or Surface layers. This can be easily accomplished as each stockpile is kept physically isolated and separate after S3 screening.</p>	<p>This response details what specifically occurred with Stockpile 4-7 but there are still remaining questions about how truckload sample data is driving decisions about segregation treatment of future stockpiles. For example, the question “For future stockpiles, does Westinghouse always plan to reserve an entire stockpile for the Excavation Stratum if any truckload fails the Uniform SOF or Tc-99 MIL?” was not addressed in this response. In this case, the failure of a truckload for the Uniform SOF was not identified until after its combination into the larger stockpile. Is this timing of sample data results after combination into larger stockpiles expected for future truckloads.</p> <p>Since the one truckload exceeding the Uniform SOF may have been combined with Stockpile 9, does that mean that all of Stockpile 9 will also be restricted for use in the Excavation Layer? What are the future sampling plans for Stockpile 9? Will the 15 percent of Stockpile 7 be mixed/blended with Stockpile 9 and the whole amount be resampled by truckloads? Have the truckloads associated with Stockpile 9 already been</p>
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		<p>procedures which discuss how placing soil in the Deep and Surface layers (but not the Root) layer will be accomplished?</p>		<p>The stockpiles are separated by physical barriers and labeled. When a stockpile is chosen as backfill, work package HDP-WP-ENG-802, <i>Backfill and Site Restoration</i> governs the use and placement of the soil. A combination of worker briefings, Management Observations, and civil survey of the placement is used to ensure proper placement of the soil.</p>	<p>sampled?</p> <p>With regards to separation of soil when placing the soil, how will Westinghouse ensure that the material gets into only the Excavation or Surface layer and not the Root layer? Does the work package HDP-WP-ENG-802, <i>Backfill and Site Restoration</i> discuss this particular scenario? Is Westinghouse's approach proceduralized so that the workers have the appropriate guidance?</p> <p>Also, the response does not commit to including these details when completing Volume 2, Chapter 1 of the FSSR.</p>
<b>Page 10, last paragraph, Page 30, 4<sup>th</sup> Paragraph</b>	<p>Clarify the ultimate metric for reuse of soil within any stratum (i.e., the Uniform stratum).</p>	<p>Page 10 states, "...the ultimate metric for backfill reuse within any stratum is a weighted average SOF less than unity, as evaluated against the Uniform DCGL<sub>ws</sub> – and in this respect, the original Reuse Stockpile 7 soil volume is compliant."</p> <p>The sentence can readily be interpreted to mean that control of the material exceeding the SOF was not maintained and dilution was then an acceptable means for demonstrating compliance. Is this the intent of the statement? If the ultimate metric is the weighted</p>	<p>When completing Volume 2 Chapter 1 of the FSSR, clarify the ultimate metric for reuse of soil within any stratum. If the metric is a weighted average SOF, include details about the maximum volume over which the weighted average SOF will be calculated.</p>	<p>Statements regarding "the ultimate metric for backfill reuse" will be clarified, and will include discussions regarding the Tc-99 MIL and the restrictions placed on the stockpile earlier in the document.</p> <p>The intent of the statement was to relay the language used in Chapter 14 of the DP, and not to imply that dilution was intentionally used at any time.</p>	<p>Westinghouse has not clarified what the ultimate metric for backfill reuse within any stratum is (e.g., a weighted average SOF, a single exceedance of the Uniform SOF, a single exceedance of the Tc-99 Uniform MIL, etc.). Westinghouse has not clarified the maximum volume over which a weighted average will be calculated. Since clarification has not been provided, it is difficult to conclude that Westinghouse has satisfactorily addressed the staff's issue.</p> <p>For example, the staff is unclear to</p>

		<p>average SOF, will this allow for some truckloads that fail the Uniform DCGL SOF test to still be used in all stratum? Will this also allow for truckloads which fail the Tc-99 MIL for Uniform to be placed in any stratum? Is this the intent of the statement?</p> <p>Page 30 states that since 29 truckloads exceeded the Tc-99 MIL, the whole stockpile will be reserved for the deep and surface stratum. This explanation should occur earlier in the document. The ultimate metric that Westinghouse relies on is ambiguous. It could easily be misunderstood how Westinghouse is using the MIL comparison.</p>		<p>what Westinghouse's process is with regards to the incorporation of the 15 percent of Stockpile 7 into Stockpile 9 and how the weighted average SOF would be calculated in that instance to determine the future use of Stockpile.</p> <p>Also if a truckload has a Uniform SOF &gt;1, how is that truckload treated?</p> <p>Resolution of this item may necessitate Westinghouse providing their proposed modification before the item can be closed. Westinghouse has not demonstrated the homogeneity of their stockpiles, and therefore a weighted average may not be appropriate. The NRC identified a manner for doing this but that approach was not taken by Westinghouse.</p>	
<b>Sections 7/9/10</b>	In several places, you show data histograms with a normal distribution super-imposed. It is apparent from these diagrams that the data is most likely log-normally distributed but summary statistics and discussion appear to assume normal distribution methods.		Clarify that statistical tests show the data is normally distributed with >90 percent confidence or else perform log transforms of the data before generating summary statistics and confidence intervals.	Westinghouse agrees with the NRC's proposed resolution.	Is Westinghouse committing to better representation of statistical parameters?

<b>General</b>	<p>It is unclear exactly what the disposition of this soil will be. Specifically, it appears that the soil may be utilized in several places/strata. While the data show the whole pile will likely pass a onetime statistical comparison, what if only part of a pile is used in multiple areas/strata/survey units. Will the dispositioned soil be sampled again? How will the data for the soil that is moved be maintained to accurately reflect the final dispositioning?</p>	<p>Because contamination ranges significantly, it is unclear how the soil which is used (if only a part is used) will be tabulated within the survey unit under consideration. For example, will all soil taken from the pile be considered to be at the 95 percent upper confidence limit for the pile? Is resampling after being dispositioned planned to generate "as left" data?</p>	<p>Either the soil will have to be resampled after being dispositioned, a conservative assumption made for the contamination levels, or else only dispositioned in one place/manner.</p>	<p>If a stockpile is placed into more than one survey unit, then the entire stockpile dose will be added to each survey unit into which that stockpile is placed.</p> <p>Example:</p> <p>Stockpile A has a 0.5 Uniform SOF</p> <p>Unit 1 has a 0.2 Uniform SOF</p> <p>If any amount of soil from stockpile A is placed into Unit 1, the total SOF will be reported as 0.7 (even if the entire stockpile was not used in Unit 1).</p> <p>This will apply to every survey unit where Stockpile soil is placed.</p>	<p>Westinghouse has stated that they intend to use the weighted average SOF for an entire Stockpile if a portion of it is used in a Survey Unit. Why does Westinghouse believe this approach appropriately/conservatively reflects the actual material being placed in the Survey Unit?</p> <p>Is Westinghouse's approach proceduralized so that the workers have the appropriate guidance? What are the mechanisms in place that ensure WEC tracks which stockpile was used in which Survey Unit?</p> <p>It appears that Westinghouse conducts sampling prior to defining the stockpiles and then combines portions of stockpiles with other stockpiles. Given the recombination of stockpiles after sampling is completed, how does a portion of a final stockpile relate to the weighted average (which was presumably calculated before mixing and matching parts of stockpiles)?</p> <p>For example, if a portion of the combined Stockpile 9 with 15 percent of Stockpile 7 is used in a</p>
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					<p>Survey Unit, what weighted average SOF will be used for that reuse soil in the Survey Unit? Similarly, if a portion of Stockpile 4-7 is used in a Survey Unit, what weighted average will be used? Does that weighted average include the 15 percent that is no longer in Stockpile 4-7? In general, when a portion of Stockpile X is combined with a Stockpile Y how does that impact the future sampling, potential segregation, and weighted average SOF of Stockpile Y. What if soil from more than one stockpile is used in a single Survey Unit? Which SOF will be applied?</p> <p>A possible alternative solution for Westinghouse might be to commit to taking samples for every 6 inch lift in the Survey Unit.</p>
<b>General</b>	While I understand the use and logic for a weighted average SOF, I don't think presenting a weighted SOF for each truck/sample is appropriate and can be misleading. Instead, provide the weighting factor used and do not do summary statistics for a "weighted SOF population."	Use of a "weighted SOF" number for each sample/truck is misleading to the reader as it raises questions regarding how such is applied. For example, sample data which is 1.5 SOF could simply be divided between two trucks and resampled to achieve a 0.75 weighted SOF. Summary tables and summary statistics shouldn't use the weighted SOF except as a stand-alone	Remove weighted SOF data from tables and summary statistics and instead show the weighting factor for each sample/truck load in tables. A weighted average SOF should be included in the summary statistics.	Because each truckload of soil is a unique weight and volume, the intent of the weighted SOF was to normalize the SOF of each truckload of material. For example, one truckload is 25 percent full and has a SOF of 0.1, and one truckload is 95 percent full and has a SOF of 0.9. It would be very misleading to average the SOF of the two truckloads. Instead the	Westinghouse's response should show an example calculation mathematically rather than, or in addition to, the narrative description. It appears, if reading correctly, that the weighted average determination is acceptable and similar to what other sites have done. Example of what it appears they are doing: 5 trucks with weights in tons and

		<p>descriptive statistic for showing compliance.</p>	<p>weight of each individual truckload is divided by the average truckload weight, then multiplied by the individual truckload SOF to determine the weighted SOF for that truckload.</p> <p>The average weighted SOF of the entire stockpile is calculated by averaging the weighted SOF of each individual truckload of soil. This is consistent with DP Chapter 14.3.2.4 that states “For each stockpile of soil, the average concentration of the stockpile will be calculated and accounted based on a weighted average of each lift or container as the material is added to the stockpile. This average value will then be used to evaluate the dose impacts of using that particular stockpile of soil as backfill.”</p> <p>To add clarity, both non-weighted SOF and weighted SOF summary statistics can be provided moving forward as well as the weighting factor applied to each pile and an explanation of the weighting calculation.</p>	<p>(SOFs) of: 20 (0.95), 18 (0.75), 10 (0.10), 12 (0.20), and 15 (0.8). 75 tons total. Weighted SOF:</p> $\left(\frac{20}{75} \times 0.95\right) + \left(\frac{18}{75} \times 0.75\right) + \left(\frac{10}{75} \times 0.10\right) + \left(\frac{12}{75} \times 0.20\right) + \left(\frac{15}{75} \times 0.80\right) = 0.638$
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## **NRC Review of Clarification of Intent Regarding the “100% Gamma Walkover Survey” Performed in Class 1 Survey Units at HDP**

The NRC reviewed Westinghouse’s Clarification of Intent Regarding the “100% Gamma Walkover Survey” Performed in Class 1 Survey Units at HDP. In that paper Westinghouse provided the following conclusions:

- Procedures as written & implemented & GWS as performed meet the intent of MARSSIM guidance, the DP & the RAIs,
- Westinghouse has complied with the intent of the DP statement “The FSS will consist of a GWS of 100 percent of the exposed excavated surfaces to be included in the survey unit, or portion of survey unit” in all cases for Class 1 survey units, and
- That 100% GPS coverage is not a reasonably attainable expectation, nor is it an industry standard expectation

The NRC review of the Westinghouse document concluded the following:

- The paper contains these deficiencies:
  - No discussion of Westinghouse’s manner for justifying that GWS coverage achieved is deemed sufficient if 100% GWS coverage is not attained,
  - No description of the part in the process where Westinghouse reviews the data and determines the percentage of coverage obtained during the performance of the 100% GWS, and
  - Identification of alternatives if situations are encountered or known to exist which stretch the ability to perform the 100% GWS in the usual manner or prevent 100% GWS.
- Westinghouse’s FSS should to be designed to meet MARSSIM and the commitments presented in the Hematite DP and the RAI responses. Westinghouse’s FSS and their associated procedures do not. Instead, Westinghouse’s procedures are designed to meet the of MARSSIM guidance, the DP & the RAIs
- Westinghouse’s procedures should be designed to meet MARSSIM guidance and the commitments in the DP & the RAI responses. The scope of the procedures should include steps to take if adherence to MARSSIM guidance and the commitments in the DP & the RAI responses are not possible. For example, the licensee should consider how the DQO process will be utilized and how justification for any procedural deviations will be documented and communicated to the NRC.
- Westinghouse’s procedures should be sufficiently thorough that if their implementation does not allow for complete adherence to MARSSIM guidance and the commitments in the DP & the RAI responses, then the procedures contain alternatives. These alternatives should provide Westinghouse the format for concluding that the FSS work performed is sufficient. Such a conclusion should require that a justification be provided when the FSS work is completed for the survey unit and the justification should be attached to Documentation/discussion in the FSS report.
- NRC disagrees with Westinghouse’s premise that 100% GPS coverage is not an industry standard or expectation. While a standard and an expectation, both the NRC

and industry recognize that 100% may not be attained when performing the FSS in all Class 1 survey units.

- Westinghouse's FSS should reflect that 100% GWS is expected. Westinghouse's program, as presented in the paper of September 29, 2015 does not reflect that.

There are two other observations that the NRC had regarding the Westinghouse paper. The first is that data associated with the 100% GWS for finished FSS areas has not been provided by Westinghouse. The second is that the NRC believes that there may be additional information which Westinghouse could have presented but did not present in the paper.