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SOUTHERN COMPANY

AUG 0 1 2012

Docket Nos.: 52-025
52-026

ND-12-1601
10 CFR 50.90

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for License Amendment:
Basemat Concrete/Rebar Details (LAR-12-007)

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC), the licensee for Vogtle Electrical Generating Plant (VEGP) Units 3 and 4, hereby requests an amendment to the combined licenses (COLs) for VEGP Units 3 and 4, COL Numbers NPF-91 and NPF-92, respectively. The proposed amendment will depart from VEGP Units 3 and 4 plant-specific Design Control Document (DCD) Tier 2* material by revising the details associated with the nuclear island basemat concrete and reinforcement bar. The departures from information provided in the Tier 2* text and figure are addressed in the enclosed License Amendment Request (LAR).

The requested departures are necessary to accommodate the development length of the reinforcement bar in the nominal six foot thick portion of the nuclear island basemat. The description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration determination), and environmental considerations for the proposed changes in the LAR are contained in Enclosure 1 to this letter. The proposed markups of the text and figure depicting the requested changes to the updated final safety analysis report (UFSAR) which incorporates the plant-specific DCD are contained in Enclosure 2. This letter contains no regulatory commitments.

SNC requests staff approval of the license amendment by October 23, 2012 to support installation of nuclear island basemat concrete. Delayed approval of this license amendment would result in a delay of this construction activity and subsequent dependent construction activities.

SNC expects to implement the proposed amendment (through incorporation into the licensing basis documents; e.g., the UFSAR) within 30 days of approval of the requested changes.

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NRO

In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

Should you have any questions, please contact Mr. Wesley A. Sparkman at (205) 992-5061.

Mr. C. R. Pierce states that he is the Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

C. R. Pierce

C. R. Pierce

CRP/ERG/kms

Sworn to and subscribed before me this 1 *day of* August, *2012*

Notary Public: Mary G Sherbert

My commission expires: 12-1-2012

NOTARY PUBLIC STATE OF ALABAMA AT LARGE
MY COMMISSION EXPIRES: Dec 1, 2012
BONDED THRU NOTARY PUBLIC UNDERWRITERS

Enclosures:
1. Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment Regarding Basemat Concrete/Rebar Details (LAR-12-007)
2. Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Licensing Basis Documents – Proposed Changes (LAR-12-007)
3. Supporting Figures (LAR-12-007)

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File AR.01.02.06

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Southern Nuclear Operating Company

ND-12-1601

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Request for License Amendment
Regarding Basemat Concrete/Rebar Details
(LAR-12-007)

Pursuant to 10 CFR 50.90, Southern Nuclear Operating Company (SNC) hereby requests an amendment to Combined License (COL) Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively.

SNC requests staff approval of the license amendment by October 23, 2012 to support installation of the nuclear island basemat concrete. Delayed approval of this license amendment would result in a delay of this construction activity and subsequent dependent construction activities.

1. Summary Description

The proposed amendment will depart from Vogtle Electric Generating Plant (VEGP) Units 3 and 4 plant-specific Design Control Document (DCD) Tier 2* material by increasing the concrete specified compressive strength for the nuclear island basemat (the nominal 6 ft. thick, cast-in-place, reinforced concrete foundation for the nuclear island structures, consisting of containment, shield building, and auxiliary building) and the removal of an unnecessary reinforcement design detail. The requested departures are necessary to address the ACI 349 required development length of the reinforcement bar in the nominal six foot thick portion of the nuclear island basemat.

2. Detailed Description

Updated Final Safety Analysis Report (UFSAR) Subsection 3.8.5.4.4 describes the design of the nuclear island basemat. This design description is identified as Tier 2* information. The design of the basemat reinforcement must satisfy requirements in American Concrete Institute (ACI) 349-01 (Reference 1) Chapters 13, 15, and 21.

One key requirement from these chapters of ACI 349 is that the embedment of the reinforcing bars must be sufficient to fully develop the yield strength of the reinforcement bar at the inside face of the associated wall. The detailing of the bottom side layers of the basemat longitudinal reinforcement has been determined to not satisfy the ACI 349 requirements for embedment using the specified compressive strength for the concrete included in the certified design. ACI 349 refers to the design strength of the concrete as the specified compressive strength of concrete. Increased specified compressive strength for the basemat concrete has been determined to permit the design reinforcement detailing to satisfy the requirement for full development of the longitudinal reinforcement.

The description of the basemat concrete, identified in UFSAR Subsection 3.8.4.6.1.1 as having a specified compressive strength of 4000 psi is proposed to be revised to require a 5000 psi specified compressive strength for the basemat under the nuclear island.

The first paragraph of UFSAR Subsection 3.8.4.6.1.1 is proposed to be modified as shown below.

[*The compressive strength of concrete used in the seismic Category I structures and containment internal structures is* $f_c^{'}$ *= 4000 psi* *except as noted in the following. For the nuclear island basemat (the nominal 6 ft. thick foundation described in Subsection 3.8.5.1) the compressive strength of concrete is* $f_c^{'}$ *= 5000 psi.* *For the SC composite portion of the shield building structure including the connection region below the SC/RC interface and the shield building roof, the compressive strength of concrete is* $f_c^{'}$ *= 6000 psi.*]* The test age of concrete containing

pozzolan is up to 56 days. The test age of concrete without pozzolan is up to 28 days. Concrete is mixed, batched, and placed according to Reference 6, Reference 7, and ACI-349.

UFSAR Figure 3H.5-3 is proposed to be revised as outlined below.

In the Lower-Section detail of UFSAR Figure 3H.5-3 that represents the basemat below the exterior wall, the 0" dimension is removed.

3. Technical Evaluation

System Description

The nuclear island structures, consisting of the containment, shield building, and auxiliary building are founded on the 6-foot-thick, cast-in-place, reinforced concrete basemat foundation. The basemat provides the interface between the nuclear island structures and the supporting soil. The basemat transfers the load of nuclear island structures to the supporting soil. The basemat transmits seismic motions from the supporting soil to the nuclear island. Resistance to sliding of the concrete basemat foundation is provided by soil friction.

Supporting Technical Details

The activity describes an increase in the concrete specified compressive strength for the basemat and the removal of an unnecessary reinforcement design detail.

Compressive strength: The activity changes the concrete specified compressive strength for the basemat with no change in the amount of steel provided for reinforcement. ACI 349 refers to the design strength of the concrete as the specified compressive strength of concrete. The increased specified compressive strength is accomplished with a small change in the amount of cementitious material and a small change in the ratio of water to cementitious material. The 5000 psi concrete mix conforms to the requirements of ACI 349 and ASTM standards referenced in UFSAR Subsection 3.8.4.6.1.1. The use of the 5000 psi concrete mix does not require changes to the processes for mixing, batching, or placing the concrete.

Soil-structure interaction (SSI) sensitivity analyses were performed to assess the change in the specified compressive strength of the basemat concrete from 4000 psi to 5000 psi. The analysis was performed using the SASSI NI20 model developed for the AP1000 design certification. The SASSI NI20 model was modified by changing the modulus of elasticity of the basemat shell elements to reflect the 5000 psi concrete. The sensitivity analyses were performed using the Vogtle best estimate soil profile and seismic input. The resulting seismic floor response spectra (FRS), soil pressures and basemat stresses for the appropriate nodes and elements of the Nuclear Island model were obtained and compared to the results using the original Vogtle model and material properties associated with a 4000 psi basemat concrete compressive strength, and the maximum generic AP1000 enveloping soil profile. The sensitivity analyses results are summarized below.

- The change in FRS at the Nuclear Island six (6) key locations and in the basemat at all frequencies across the 100 hertz (Hz) frequency spectrum is less than one (1) percent, and the Vogtle FRS at the six key locations are enveloped by the corresponding generic AP1000 FRS. Supporting figures showing the spectra at the six locations comparing the results for the 4000 psi concrete and the 5000 psi concrete are provided as Enclosure 3.

- The exceedances of the AP1000 in-structure response spectra (ISRS) by the Vogtle site-specific ISRS previously described and evaluated in the Vogtle UFSAR are not affected by the change of the basemat specified minimum concrete compressive strength. The magnitude of these previously identified exceedances were very small and occurred over a very narrow frequency range around 0.55 Hz. Based on the sensitivity study, the change to 5000 psi concrete does not change or shift the frequency ranges of the ISRS. The spectral acceleration amplitudes (SA) remain essentially unchanged; where the magnitude of the change of the SA was found to be less than 0.1 percent. Thus, the basis for acceptance of these exceedances remains unaffected by the change to 5000 psi concrete. The small effect on the previously identified exceedances is shown in the Enclosure 3 spectra for the six key locations.

- The change in maximum seismic plus deadweight soil pressure on the soil elements beneath the Vogtle basemat is less than one (1) percent.

- There is a negligible change in the uplift contact area beneath the Vogtle basemat based on less than one percent change in soil pressure and less than one percent change in the FRS at the six key locations as well the FRS in the basemat.

- The percent change in the average seismic membrane and bending stress in the Vogtle basemat compared to the AP1000 generic average seismic membrane and bending stresses is approximately 3.3 percent. The Vogtle 4000 psi and 5000 psi basemat average seismic membrane and bending stresses are 57.2 and 60.5 percent of the corresponding AP1000 generic maximum stresses, respectively.

- The change in basemat concrete compressive strength from 4000 psi to 5000 psi results in no additional required reinforcement.

The change in the specified compressive strength of the concrete will not have an adverse impact on the strength of the basemat or the response of basemat to loads, including seismic loads, from the nuclear island structures supported by the basemat. The evaluation of the basemat design has found that there is minimal change in the stresses in the basemat that is more than offset by the increase of shear strength of the concrete. There is no change to the information on basemat longitudinal and shear reinforcement identified in UFSAR Subsection 3.8.5, Table 3.8.5-3 and Figure 3.8.5-3. An evaluation of the increase in the concrete specified compressive strength demonstrates that the increased strength does not have an adverse impact on the response of the basemat to loads, including seismic loads from the nuclear island structures supported by the basemat. The design of the basemat is compliant with the ACI codes and standards identified in UFSAR Subsections 3.8.4.2 and 3.8.4.6.1.1 including ACI 349.

There is no change to the design or analysis of the excavation or backfill material, mudmat, waterproofing system, or mechanically stabilized earth (MSE) walls because there is no change in the analysis assumptions for density, weight, friction, or seismic motions due to the increase in the concrete specified compressive strength. There is no increase in the portions of the basemat subject to lift-off during seismic motions. There is minimal change to soil pressures on the basemat due to the change in stiffness properties of the basemat concrete.

As noted in the bullets above, the additional concrete stiffness and strength of the basemat does not have an adverse impact on the seismic design spectra or the structural analysis of the other nuclear island structures. The AP1000 certified design identifies 6 key locations at which site specific conditions are evaluated. The design response spectra (seismic floor response spectra) at the 6 key locations determined using the 5000 psi concrete properties and Vogtle specific seismic spectra were compared to spectra determined using 4000 psi concrete properties and found to be nearly identical (less than one (1) percent change in the acceleration for the entire frequency spectrum). The figures showing the spectra are provided as Enclosure 3. The certified design spectra bound the spectra at the 6 key locations determined using the 5000 psi concrete and Vogtle specific seismic spectra. As noted above, the stresses in the basemat due to the seismic demand for the Vogtle basemat using the properties for the 5000 psi concrete does not exceed the seismic demand for the certified design. The strength of the other seismic Category I structures is not changed. The reinforcement and concrete specified compressive strength of the walls connected to the basemat are not changed. The seismic input to the spent fuel pool and spent fuel racks is not changed. The structural damping used for the analysis of reinforced concrete is not changed. The increase in concrete specified compressive strength for the basemat does not change the requirements or analysis for bearing, settlement, construction sequence, sliding or overturning because the analysis for the certified design remains bounding.

The response of the reactor coolant system, core, and other safety related systems to normal operation, anticipated transients, and postulated accident conditions is not impacted by the increase of the specified compressive strength for the basemat concrete because the design, operation and analyzed loads due to seismic motions for these components and systems are not changed. There is no change to the shielding provided by seismic Category I structures because the basemat does not provide shielding. The strength of these structures is not changed. The increase in the concrete specified compressive strength for the basemat has no impact on design, analysis, or operation of safety related systems and components because the design, operation and analyzed loads due to seismic motions for these components and systems are not changed.

The increase in the concrete specified compressive strength for the basemat has no impact on plant operating procedures or on the control of the reactions in the core because the design, operation and analyzed loads due to seismic motions for mechanical and fluid systems and component are not changed. There are no tests or experiments associated with the increase of the specified compressive strength for the basemat concrete.

The ex-vessel severe accident assessment considers interaction of core material and concrete in the containment above the nuclear island basemat and the probability of core material penetrating the containment vessel shell. The containment basemat discussed in Appendix 19B of the UFSAR is the mass concrete inside the containment vessel beneath the containment internal structures. The containment vessel is located above the nuclear island basemat. The nuclear island basemat is not credited in the ex-vessel severe accident assessment.

Rebar details: UFSAR Figure 3H.5-3 is revised to remove the 0″ dimension in the portion of the figure showing the basemat below the wall. In the figure, the 0″ dimension indicates that some of the vertical reinforcement will be in the same vertical plane. However, there is no text description of the application of this 0″ dimension, nor of its purpose. Further, such information is not a key design feature nor is it considered in the analyses. This dimension is removed for the Vogtle design as the hook tails are not aligned in the same vertical plane.

This change does not change the design of the basemat longitudinal or shear reinforcement, or conformance with the ACI 349 Code.

Summary

This activity does not adversely affect any AP1000 design function. The departure does not involve an adverse change to the method of evaluation for establishing design bases or safety analyses. It does not adversely affect a design feature credited in the ex-vessel severe accident assessment. Tests, experiments, and procedures described in the licensing basis are unchanged by this activity.

4. Regulatory Evaluation

4.1 Significant Hazards Consideration

The proposed changes would amend the Combined Licenses in regard to the concrete and reinforcement details specified compressive strength for the nuclear island basemat. The basemat is the common 6-foot-thick, cast-in-place, reinforced concrete foundation for the nuclear island structures, consisting of the containment, shield building, and auxiliary building. The departure from Tier 2* information involves changing the concrete specified compressive strength from 4000 psi to 5000 psi for the basemat in Updated Final Safety Analysis Report (UFSAR) Subsection 3.8.4.6.1.1 and removing the 0" dimension from the Lower-Section detail that represents the basemat below the exterior wall in UFSAR Figure 3H.5-3.

An evaluation to determine whether or not a significant hazards consideration is involved with the proposed amendment was completed by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

4.1.1 Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The design function of the basemat is to provide the interface between the nuclear island structures and the supporting soil. The basemat transfers the load of nuclear island structures to the supporting soil. The basemat transmits seismic motions from the supporting soil to the nuclear island.

The change to the concrete/rebar details for the basemat does not have an adverse impact on the response of the basemat and nuclear island structures to safe shutdown earthquake ground motions or loads due to anticipated transients or postulated accident conditions because there is not an adverse change to the seismic floor response spectra and transient and postulated accidents are not affected by seismic motions. The change to the concrete/rebar details for the basemat does not impact the support, design, or operation of mechanical and fluid systems because change in the loads on these systems due to seismic motions is negligible. There is no change to the design of plant systems or the response of systems to anticipated transients and postulated accident conditions. The basemat supports the structures and the mechanical system and component supports. There is no change to this function. Because the change to the concrete/rebar details does not change the response of systems to postulated accident conditions and is unrelated to

any accident source term parameters, there is no change to the predicted radioactive releases due to postulated accident conditions. Therefore, there is no change to the consequences of an accident before or after implementation of the proposed amendment. The plant response to previously evaluated accidents or external events is not adversely affected, nor does the change described create any new accident precursors. Therefore, there is no difference between the probability of a seismically induced event before or after the implementation of the proposed amendment. The concrete specified compressive strength and 0" dimension are not parameters considered as an initiator for any accident previously evaluated. Therefore, there is no difference in the probability or consequences of a seismically induced event before or after implementation of the proposed amendment. Based on the considerations outlined above, there is no significant increase in the probability or consequences of an accident previously evaluated.

4.1.2 Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed change is an increase in the concrete specified compressive strength for the basemat and a change in the reinforcement details. The change to the concrete/rebar details does not change the design function of the basemat or nuclear island structures. The change to the concrete/rebar details does not change the design function, support, design, or operation of mechanical and fluid systems. Because the basemat will be designed to the American Concrete Institute (ACI) Codes specified in the UFSAR and the concrete will be specified, mixed, batched and placed to the same codes and standards specified in the UFSAR, the change to the concrete/rebar details does not result in a new failure mechanism for the basemat or new accident precursors. As a result, the design function of the basemat is not adversely affected by the proposed change. Therefore, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

4.1.3 Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The margin of safety for the design of the seismic Category I structures including the basemat is determined by the use of the ACI 349 code and the analyses of the structures required by the UFSAR. The change to the concrete/rebar details does not have an adverse impact on the strength of the basemat. The change to the concrete/rebar details does not have an adverse impact on the seismic design spectra or the structural analysis of the basemat or other nuclear island structures. The change to the concrete/rebar details does not significantly impact the analysis requirements or results for the nuclear island for bearing, settlement, construction sequence, sliding, or overturning, because there is no change in the analysis assumptions for density, weight, friction, or seismic motions due to the increase in the concrete specified compressive strength. There is no increase in the portions of the basemat subject to predicted lift-off (zero contact force) during seismic motions

analyzed for the safe shutdown earthquake. There is minimal change to soil pressures on the basemat due to the change in stiffness of the basemat. As a result, the design function of the basemat is not adversely affected by the proposed change. Therefore, the proposed change will not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.2 Applicable Regulatory Requirements/Criteria

The basemat and nuclear island structures are required to comply with requirements in ACI 349 and supplementary requirements included in UFSAR Sections 3.7 and 3.8. The proposed changes to the concrete/rebar detail design and the UFSAR description are consistent with ACI 349 and other supplementary UFSAR requirements.

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 1, *Quality standards and records*, requires structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of safety functions to be performed. Because the quality standards will continue to be implemented by the proposed amendment, the change to the concrete/rebar details for the basemat does not affect compliance with GDC 1.

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 2, *Design bases for protection against natural phenomena, requires* structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. Because the basemat will continue to be designed to withstand the effects of natural phenomena by the proposed amendment, the change to the concrete/rebar details for the basemat does not affect compliance with GDC 2.

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 4, *Environmental and dynamic effects design basis*, requires structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-cooling accidents. Because the basemat will continue to be designed to accommodate the effects of and to be compatible with the required environmental conditions by the proposed amendment, the change to the concrete/rebar details for the basemat does not affect compliance with GDC 4.

10 CFR Part 52, Appendix D, Section VIII requires NRC approval for departures from Tier 2* information. Although this departure does not adversely affect safety, it does involve changes to Tier 2* information. Therefore, NRC approval is required prior to making the Tier 2* changes addressed in this departure. Because this license amendment request requests NRC approval prior to implementation of the proposed Tier 2* departure, the requirements of 10 CFR Part 52, Appendix D, Section VIII are met.

4.3 Precedent

No precedent is identified.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5. Environmental Considerations

This document supports a departure from the Combined Licenses for Vogtle Electric Generating Plant Units 3 & 4 in regard to the concrete/rebar details for the basemat. The proposed departure from Tier 2* information involves changes to the information on concrete and reinforcement details for the basemat in UFSAR Subsection 3.8.4.6.1.1 and UFSAR Figure 3H.5-3.

It has been determined that the proposed departure would change a requirement with respect to installation or use of a facility component within the restricted area, as defined by 10 CFR 20, or would change an inspection or surveillance requirement; however, a review of the anticipated construction and operational effects of the proposed amendment has determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

(i) There is no significant hazards consideration.

As documented in Section 4.1, Significant Hazards Consideration, of this license amendment request, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration determined that (1) the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the proposed amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The basemat is located approximately 40 feet below grade beneath the nuclear island. The change to the concrete/rebar details will not change the types of materials used in the basemat or the construction methods. The change in the concrete mix will include small changes in the amounts or ratios of some of these materials used to batch the concrete. These changes will not change the overall amounts of concrete and reinforcing steel used in construction and assumed in the evaluation of environmental effects. The proposed amendment changes to the nuclear island basemat are

unrelated to any aspects of plant construction or operation that would introduce any changes to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents) or affect any plant radiological or non-radiological effluent release quantities. Furthermore, these changes do not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation.

Therefore, it is concluded that the proposed amendment does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

This change would only affect the basemat and would have no effect on any aspects of plant design or operation that would affect individual or cumulative occupational radiation exposure during plant operation.

Based on the above review of the proposed amendment, it has been determined that facility construction and operation following implementation of the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6. References

1) American Concrete Institute (ACI), ACI 349-01, Code Requirements for Nuclear Safety-Related Concrete Structures

Southern Nuclear Operating Company

ND-12-1601

Enclosure 2

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Licensing Basis Documents - Proposed Changes
(LAR-12-007)

UFSAR Tier 2* Subsection 3.8.4.6.1.1

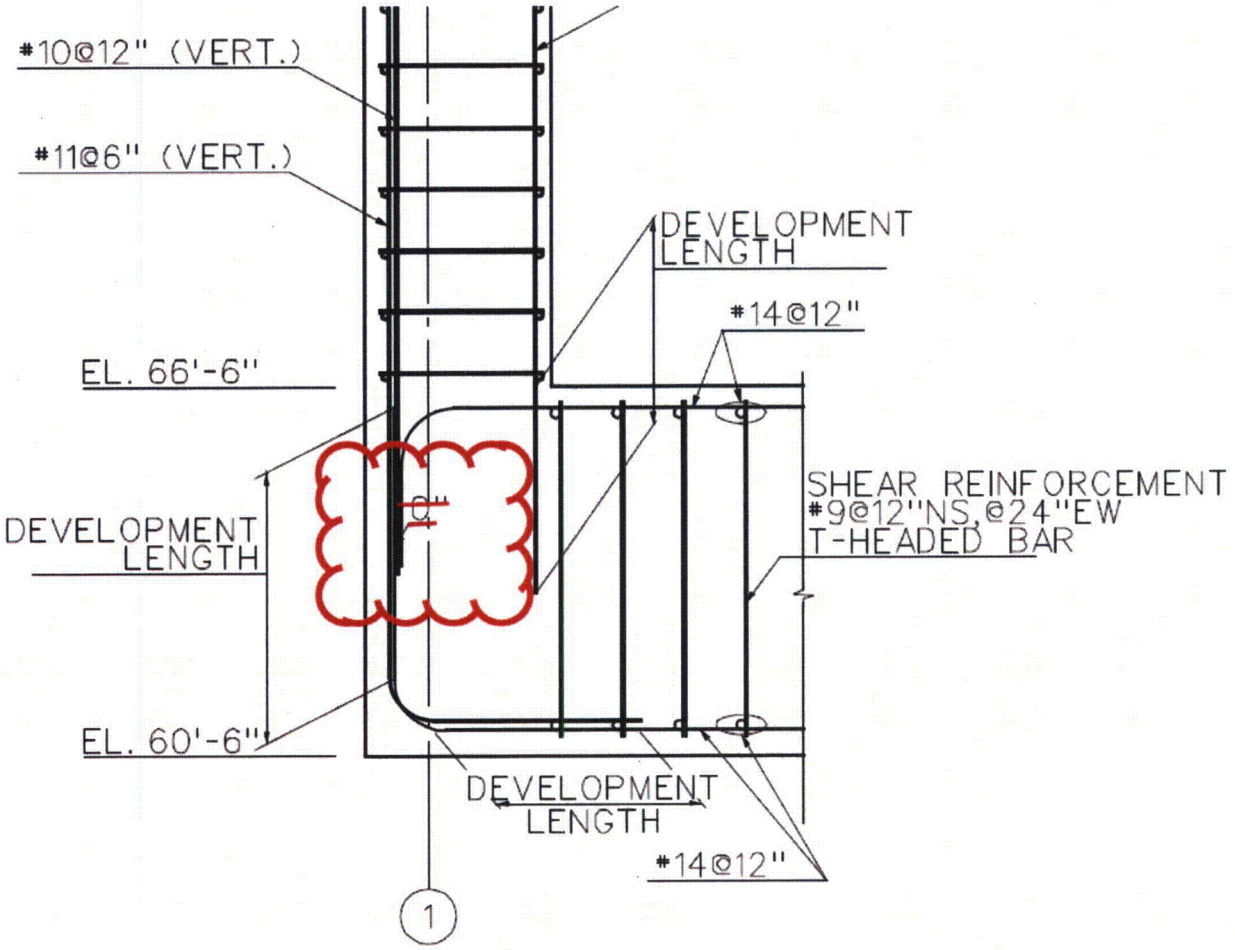
Revise the first paragraph of Subsection 3.8.4.6.1.1 as shown below.

[*The compressive strength of concrete used in the seismic Category I structures and containment internal structures is* $f_c' = 4000$ *psi* *except as noted in the following. For the nuclear island basemat (the nominal 6 ft. thick foundation described in Subsection 3.8.5.1) the compressive strength of concrete is* $f_c' = 5000$ *psi.* *For the SC composite portion of the shield building structure including the connection region below the SC/RC interface and the shield building roof, the compressive strength of concrete is* $f_c' = 6000$ *psi.*]* The test age of concrete containing pozzolan is up to 56 days. The test age of concrete without pozzolan is up to 28 days. Concrete is mixed, batched, and placed according to Reference 6, Reference 7, and ACI-349.

UFSAR Tier 2* Figure 3H.5-3 (Partial)

Revise Figure 3H.5-3 as described and shown below.

In the Lower-Section detail of Figure 3H.5-3 that represents the basemat below the exterior wall, the 0″ dimension is removed.



LOWER-SECTION

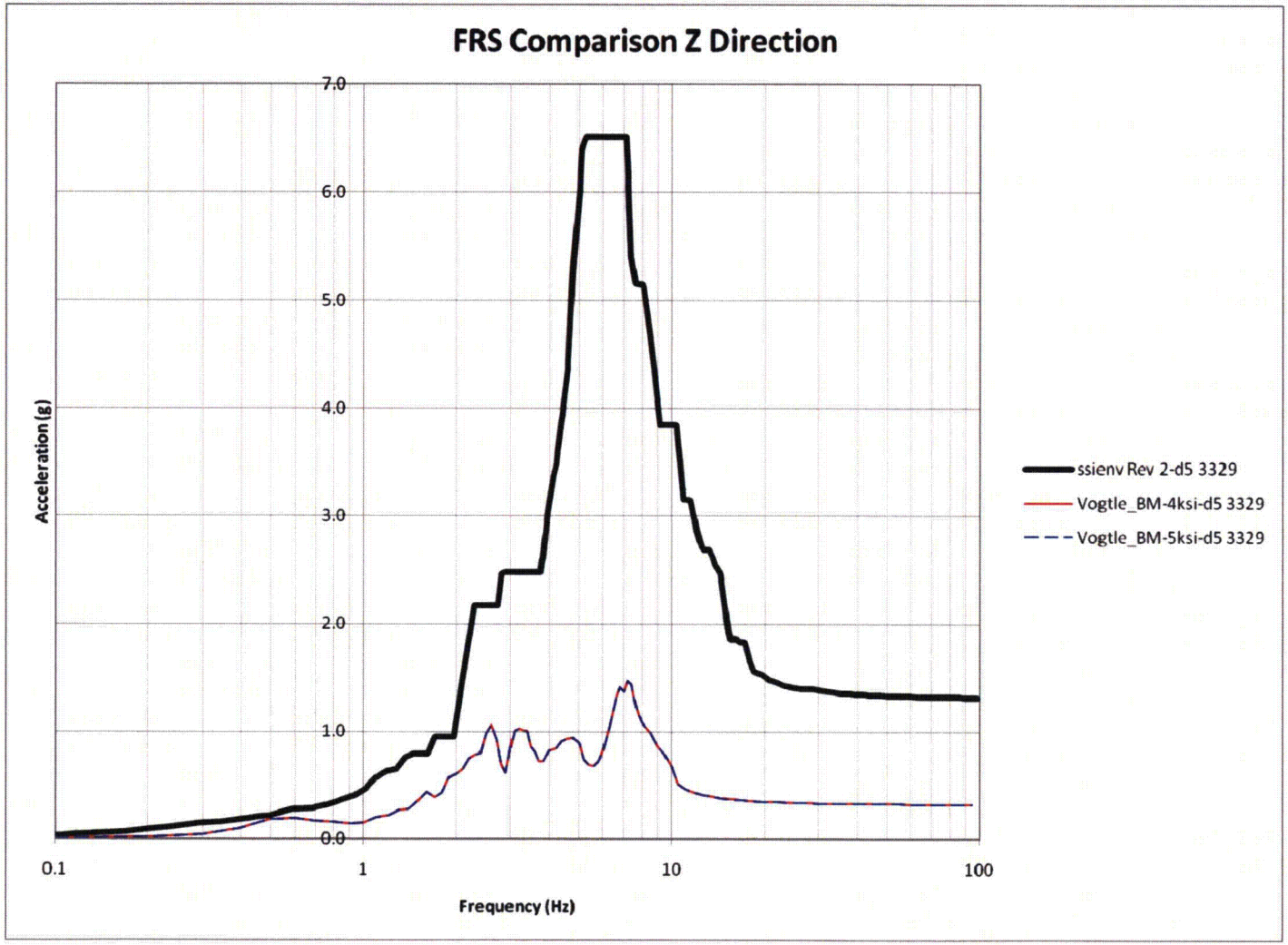
Southern Nuclear Operating Company

ND-12-1601

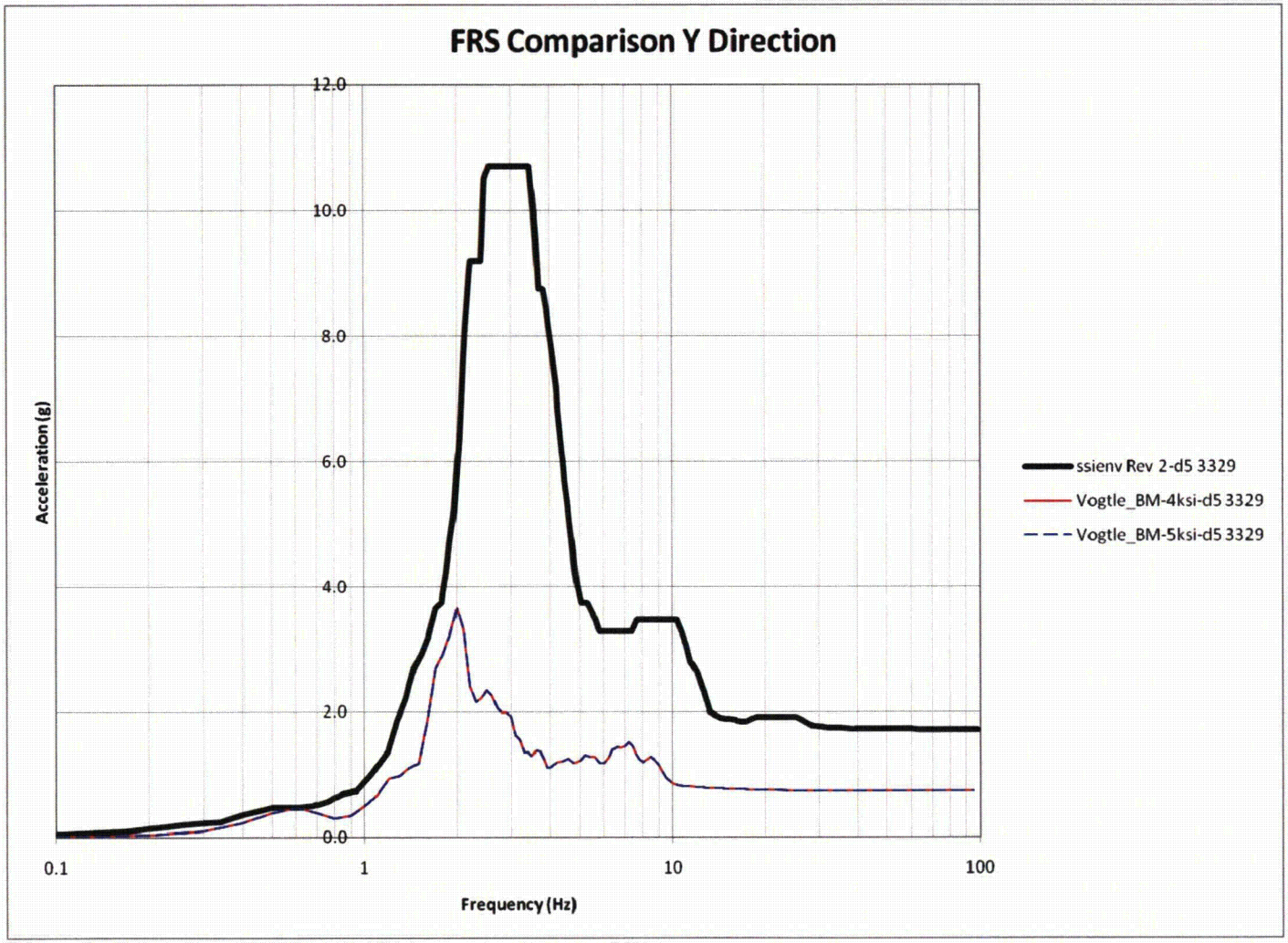
Enclosure 3

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

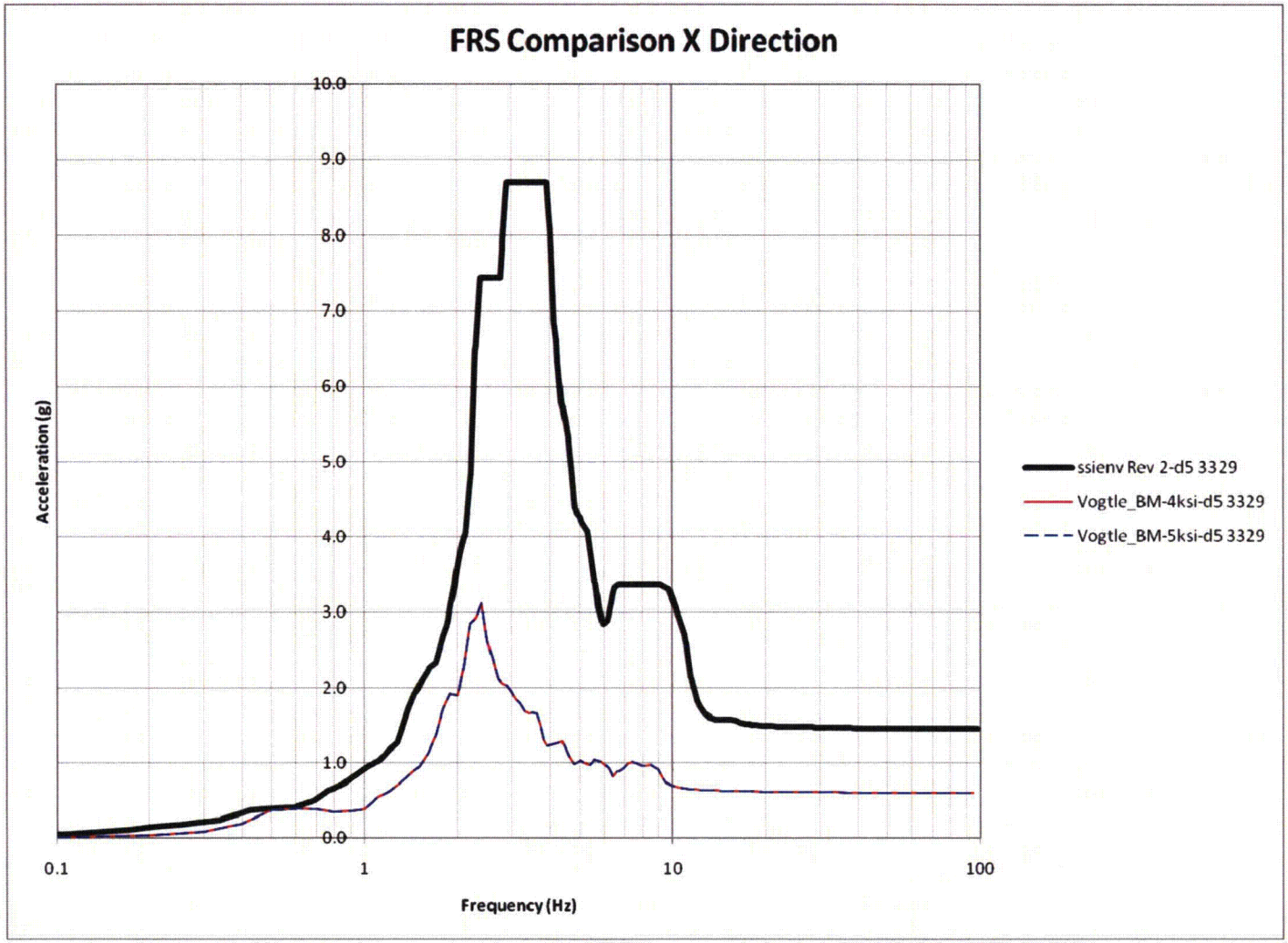
Supporting Figures
(LAR-12-007)



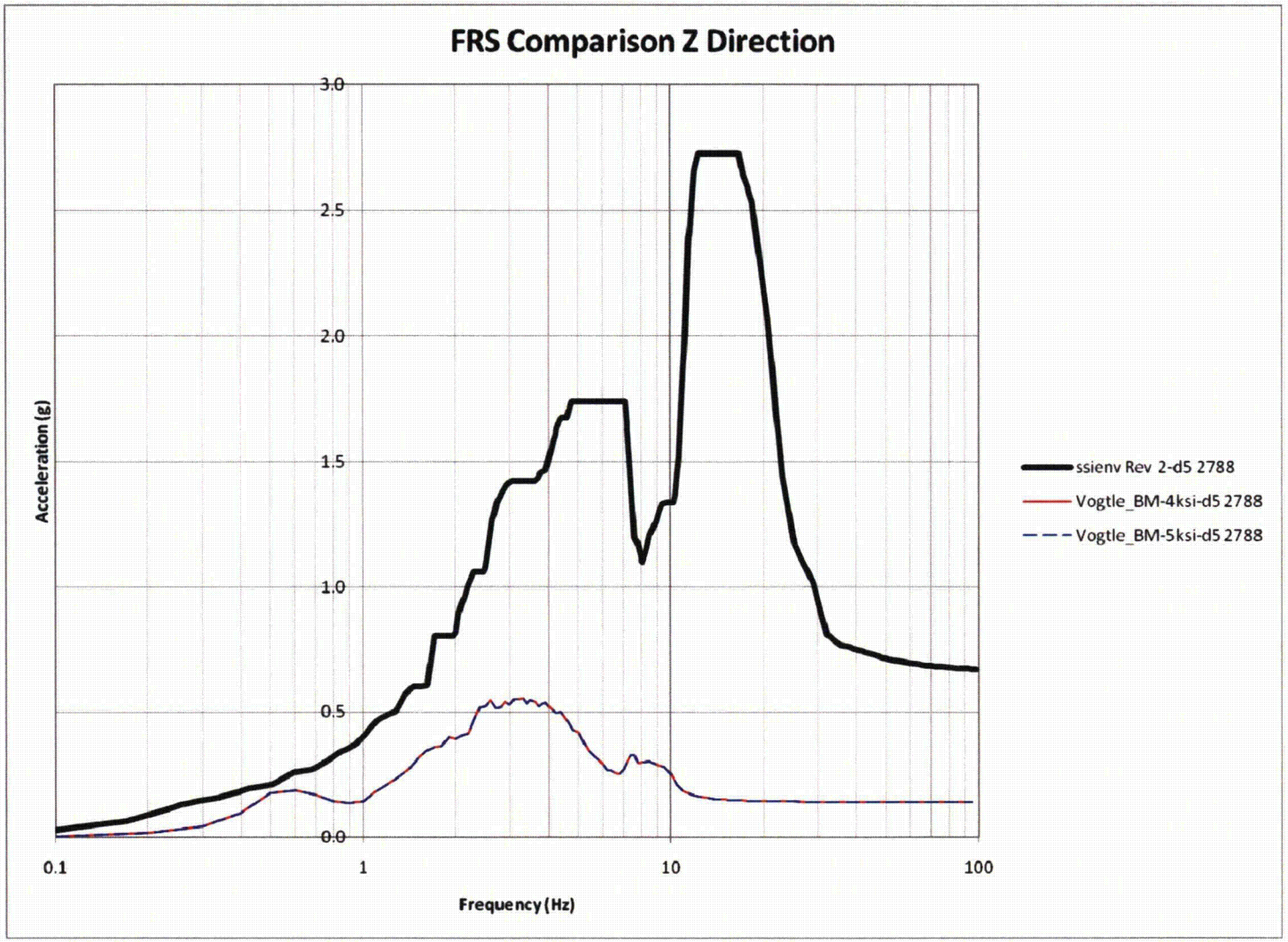
Auxiliary shield building roof area elevation 327.41'



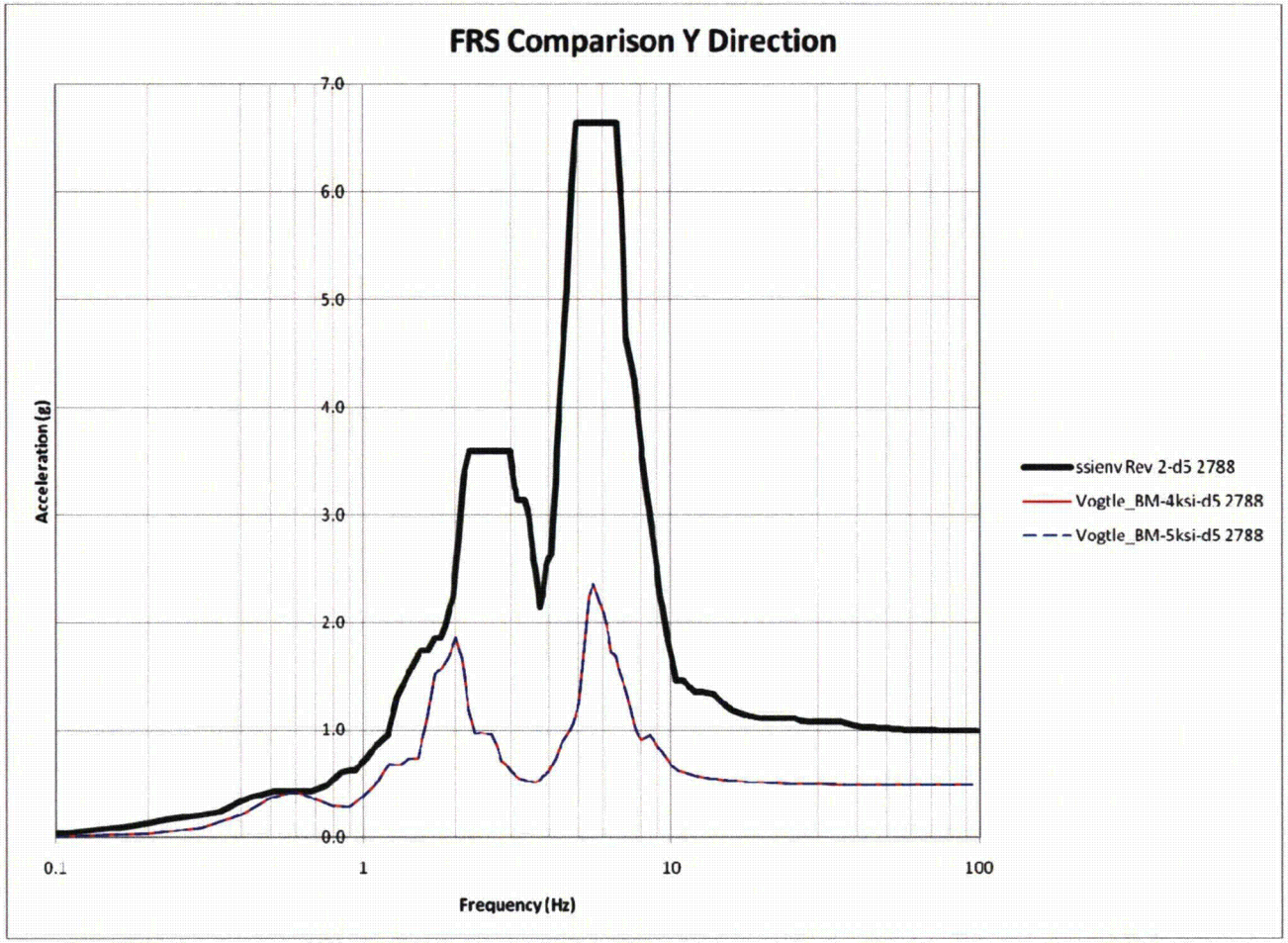
Auxiliary shield building roof area elevation 327.41'



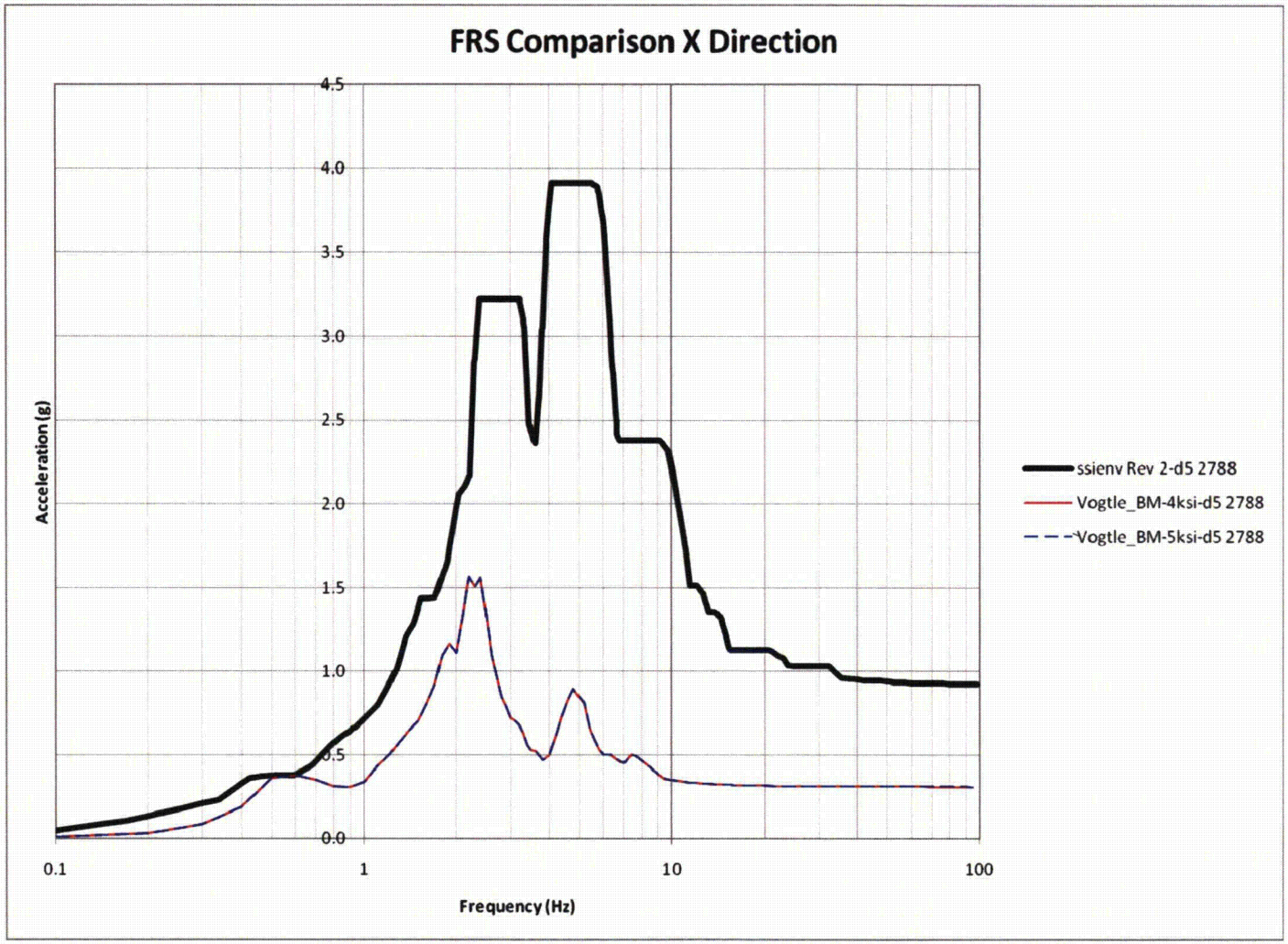
Auxiliary shield building roof area elevation 327.41'



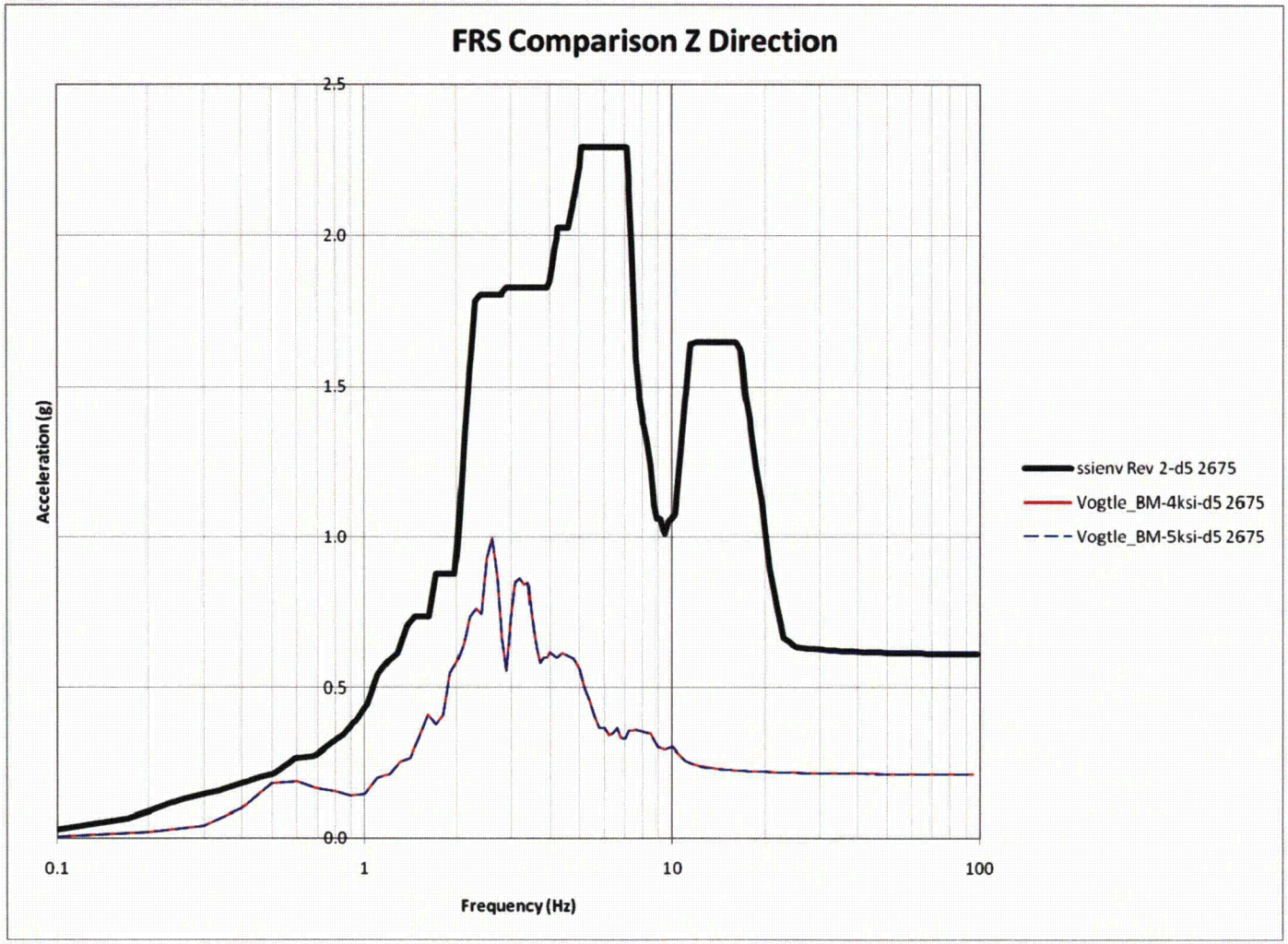
Steel containment vessel near polar crane elevation 224.0'



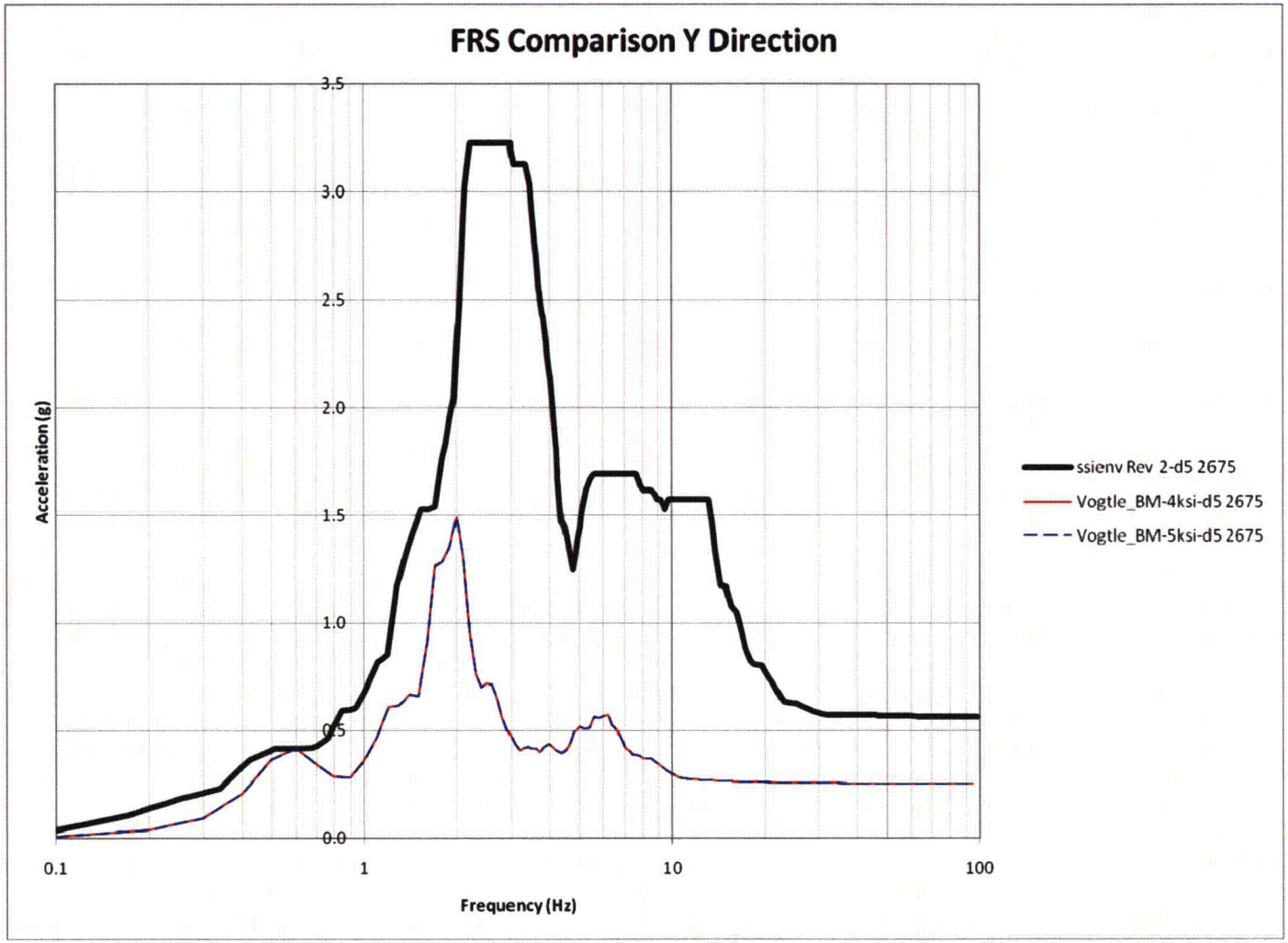
Steel containment vessel near polar crane elevation 224.0'



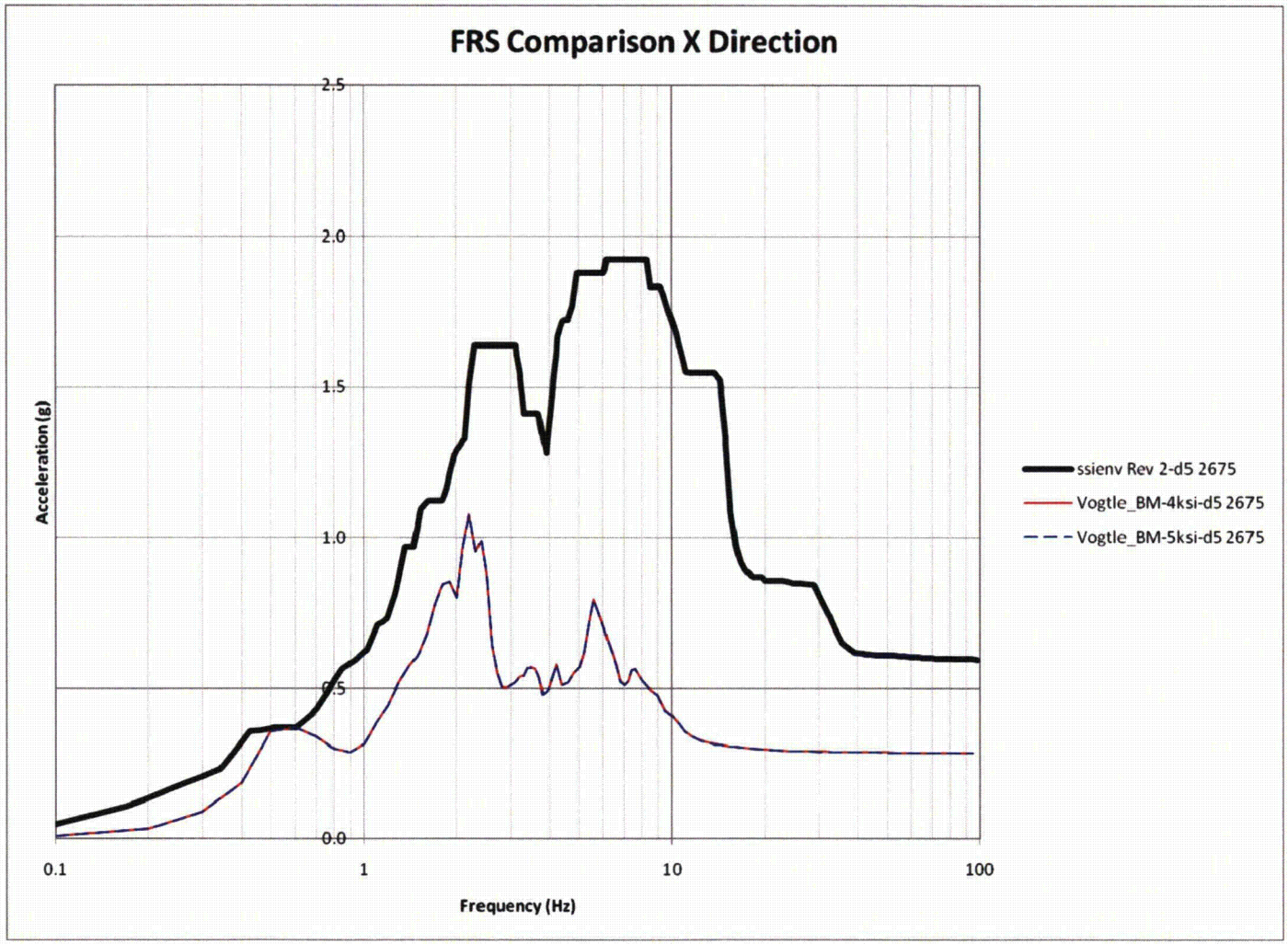
Steel containment vessel near polar crane elevation 224.0'



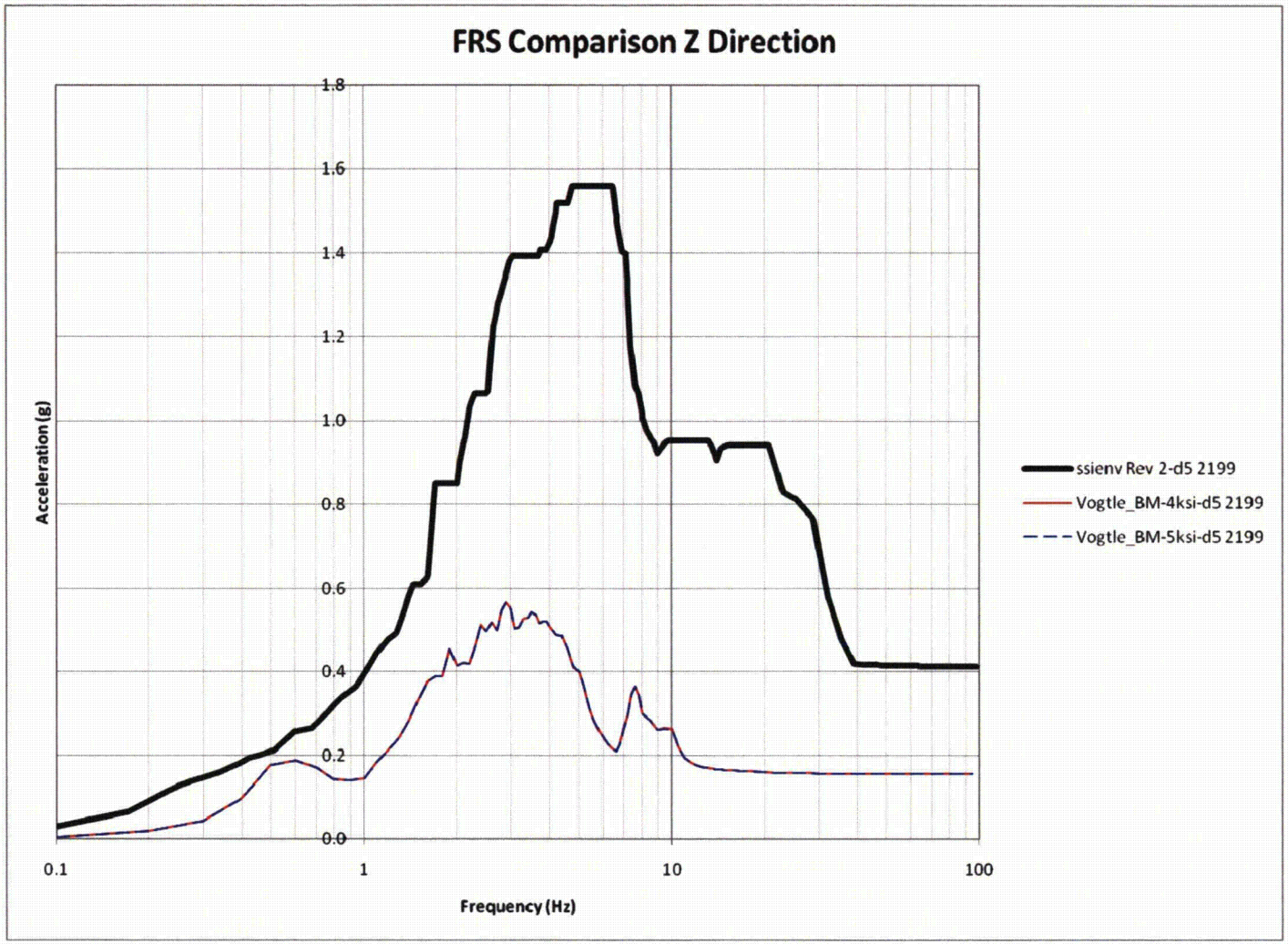
Auxiliary shield building corner of fuel building roof at shield building elevation 179.19'



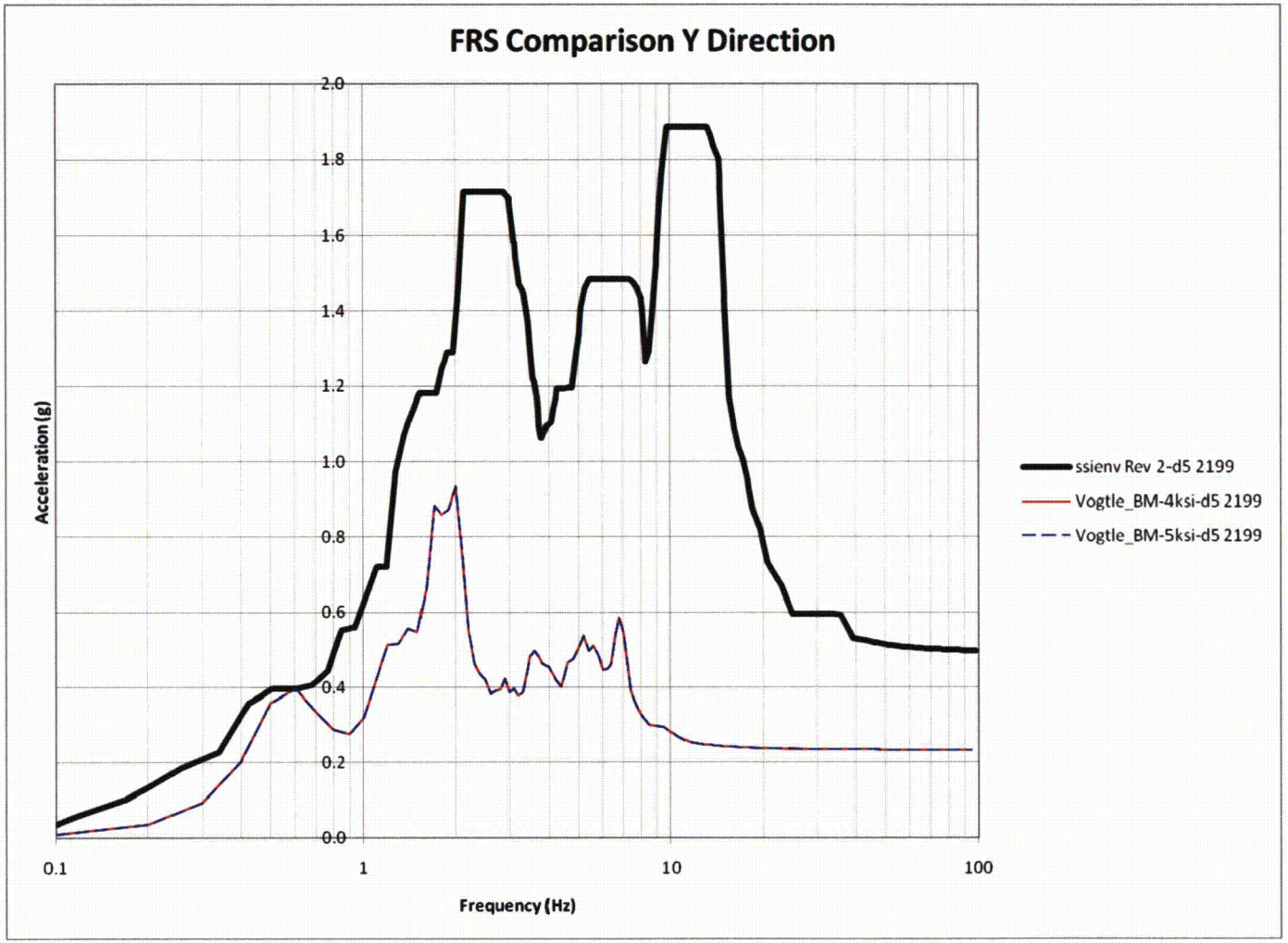
Auxiliary shield building corner of fuel building roof at shield building elevation 179.19'



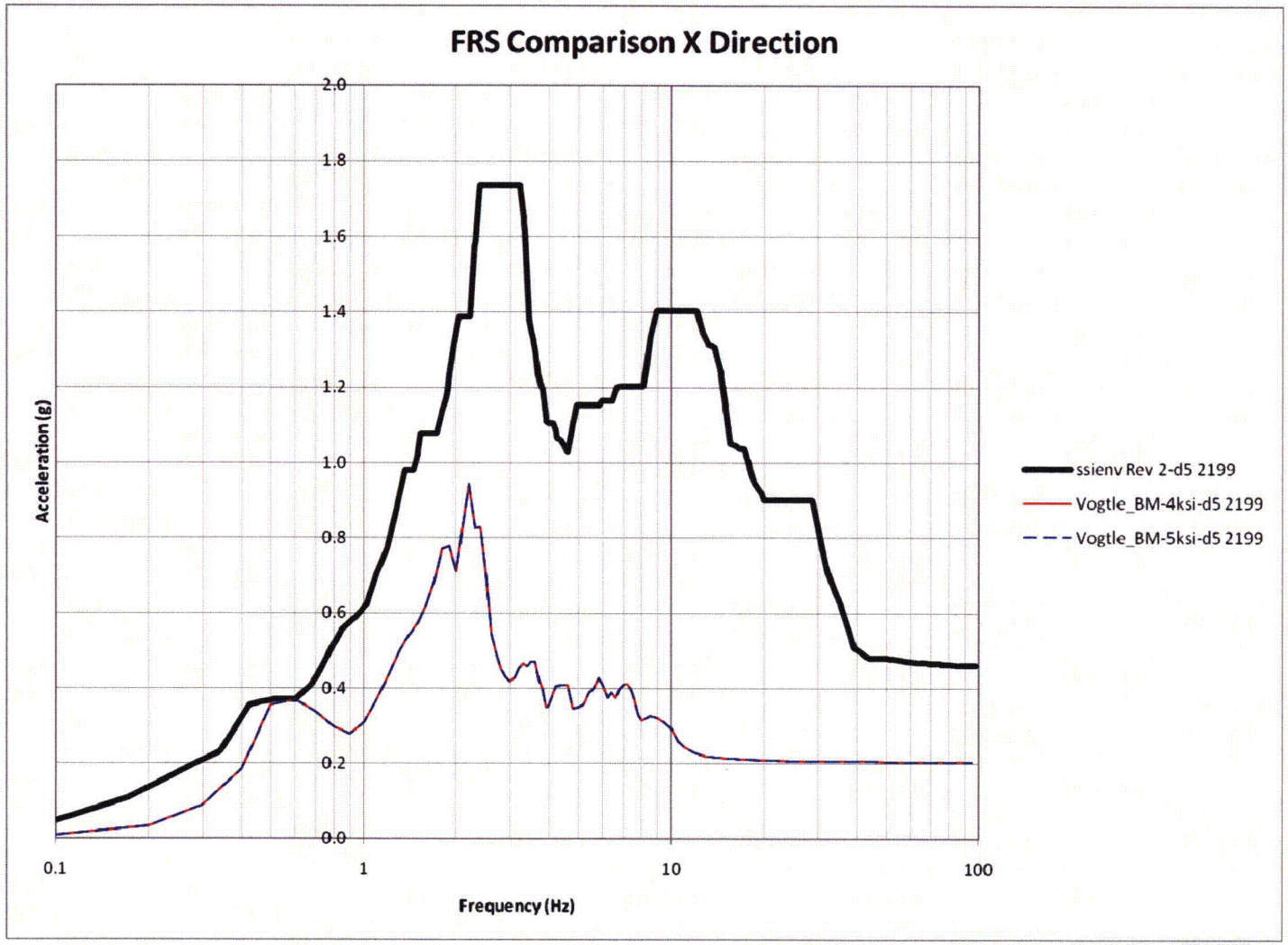
Auxiliary shield building corner of fuel building roof at shield building elevation 179.19'



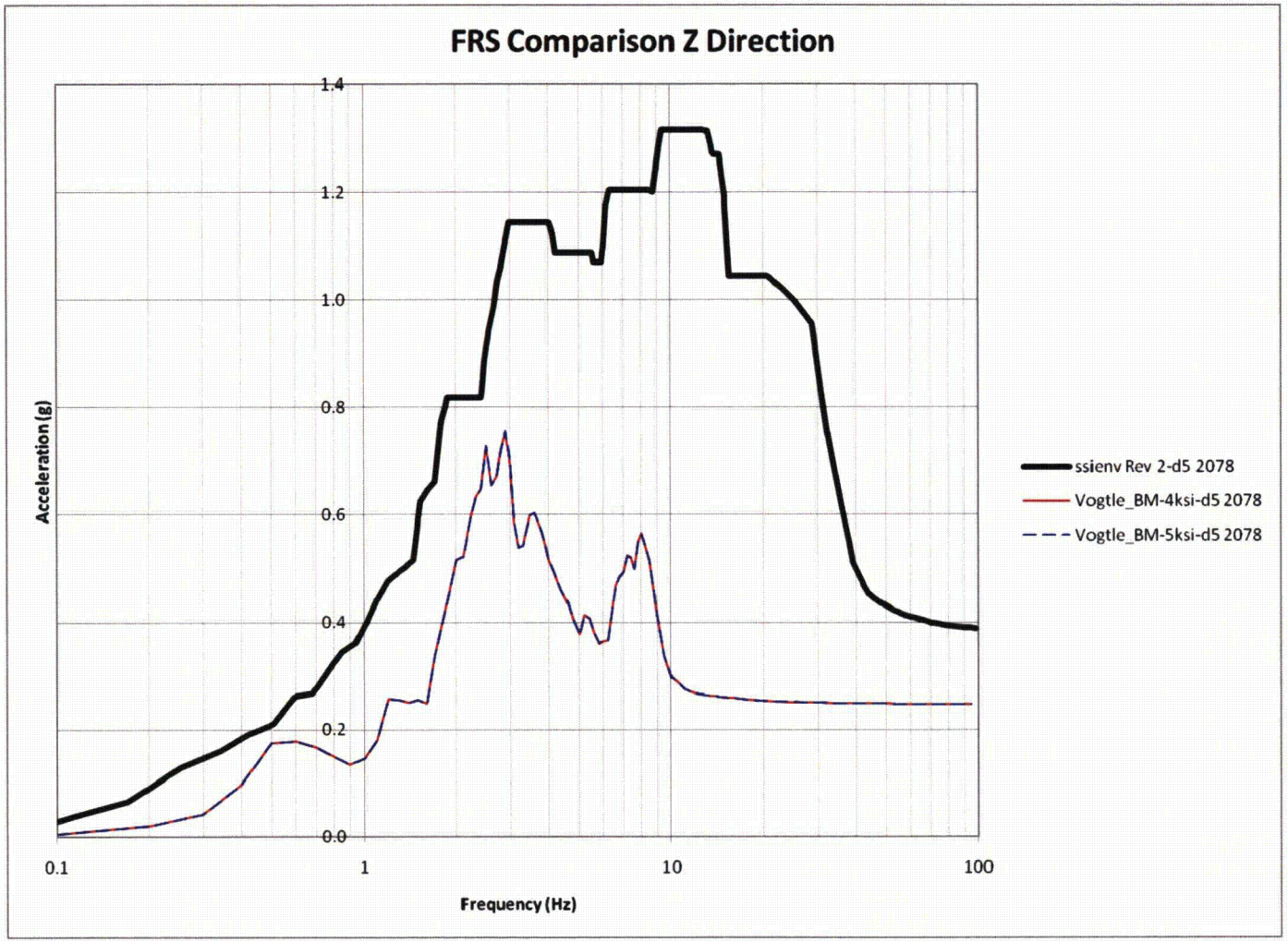
Containment internal structures at operating deck elevation 134.25'



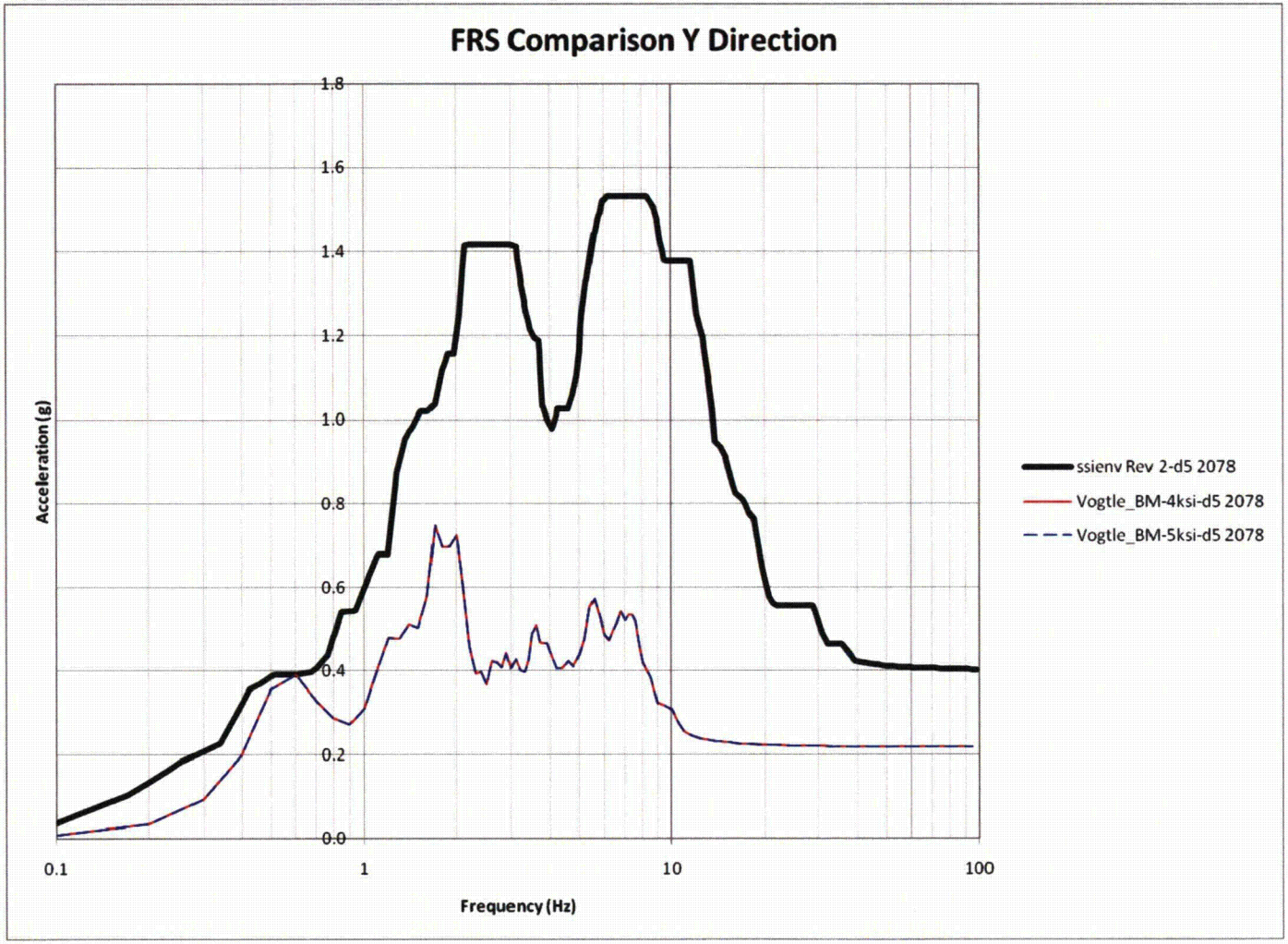
Containment internal structures at operating deck elevation 134.25'



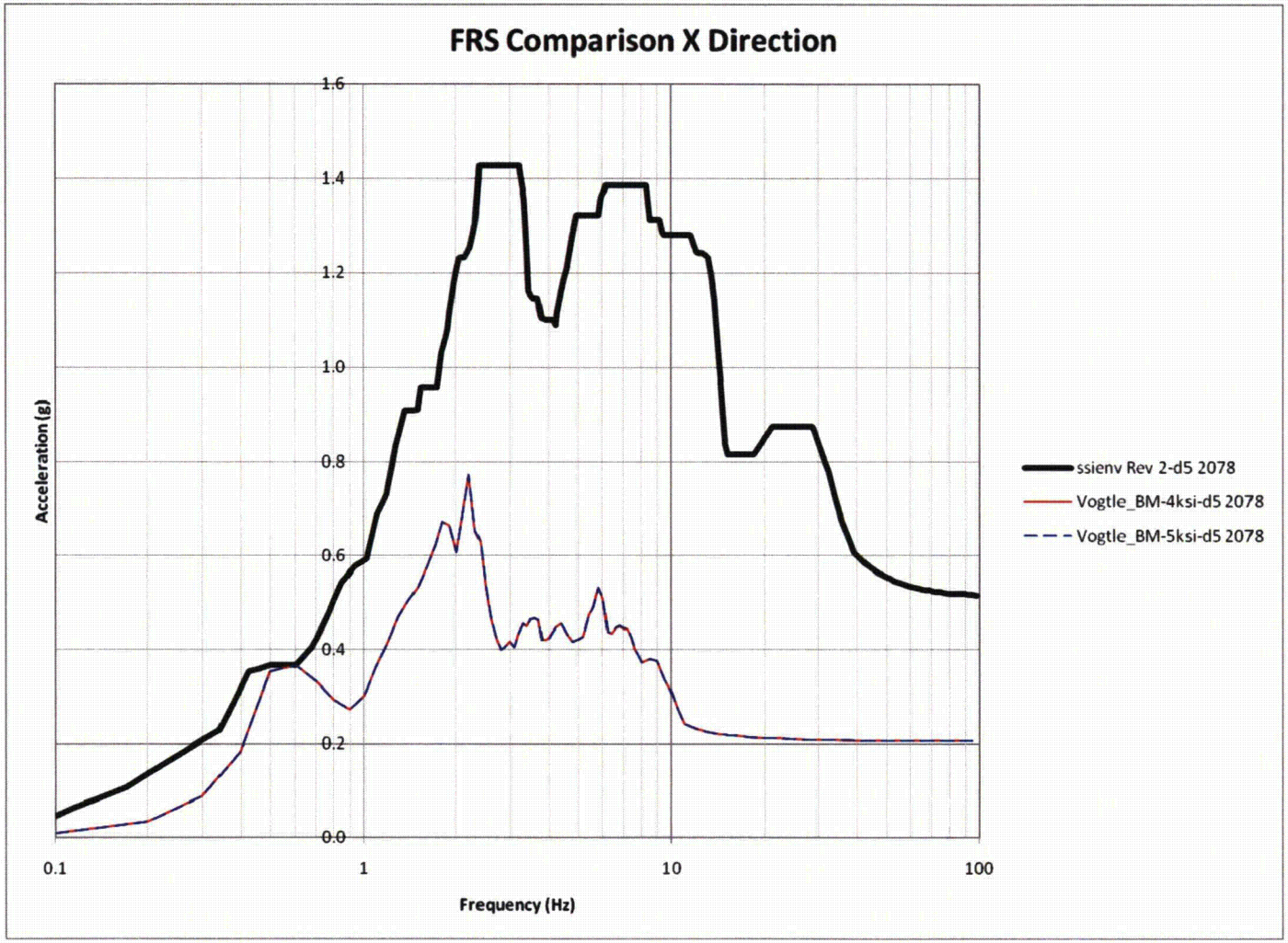
Containment internal structures at operating deck elevation 134.25'



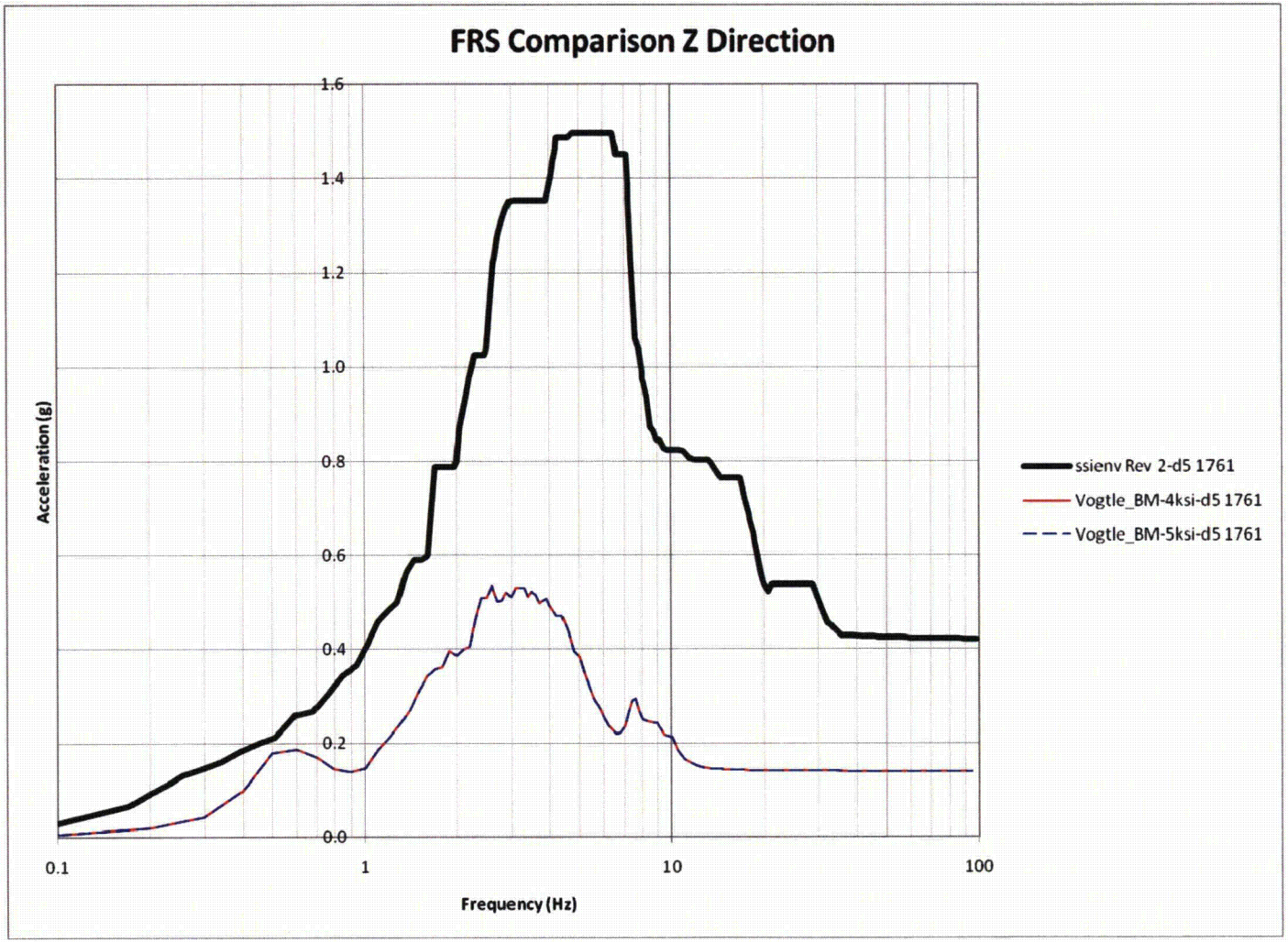
Auxiliary shield building north east corner at control room floor elevation 116.50'



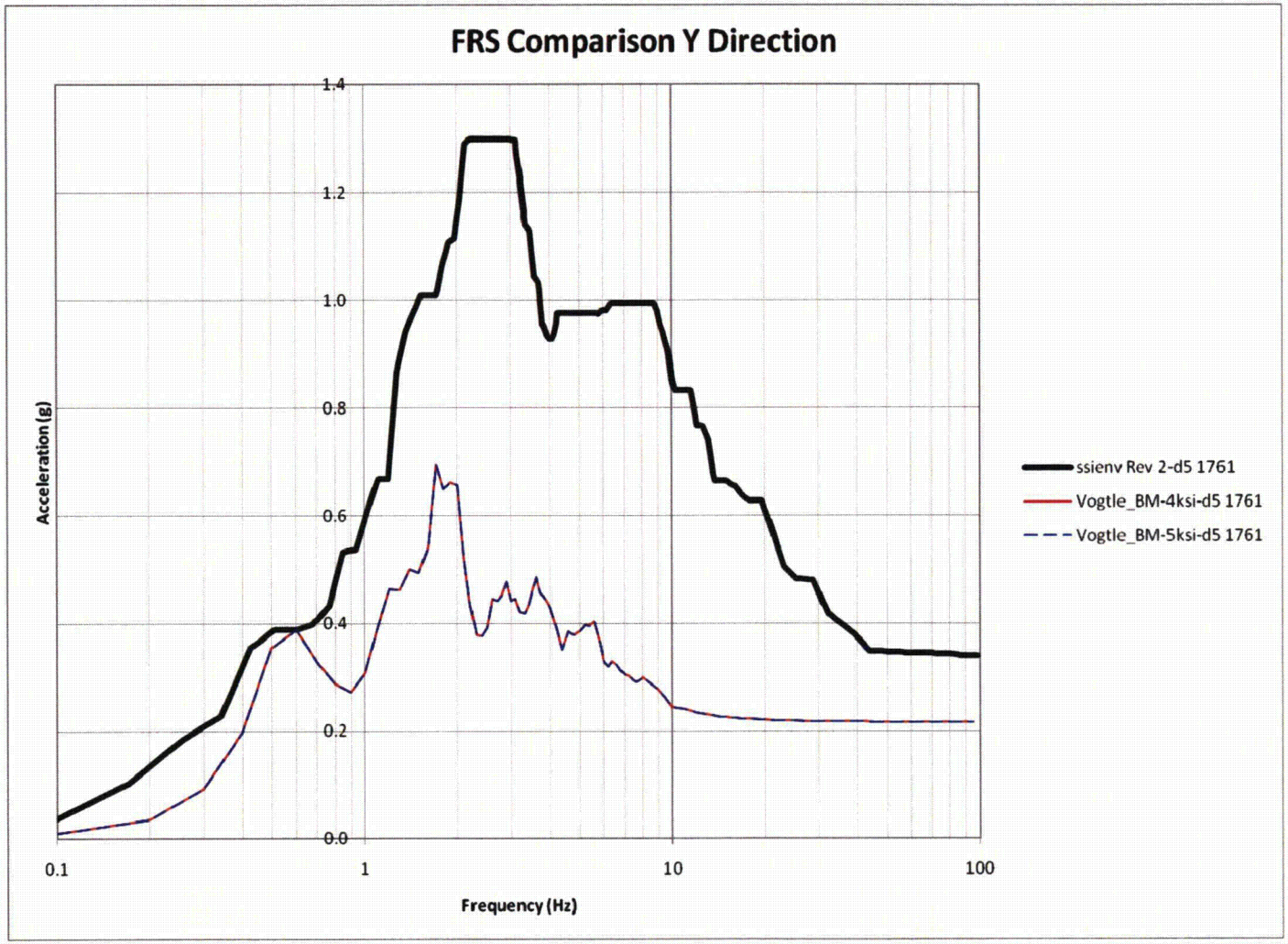
Auxiliary shield building north east corner at control room floor elevation 116.50'



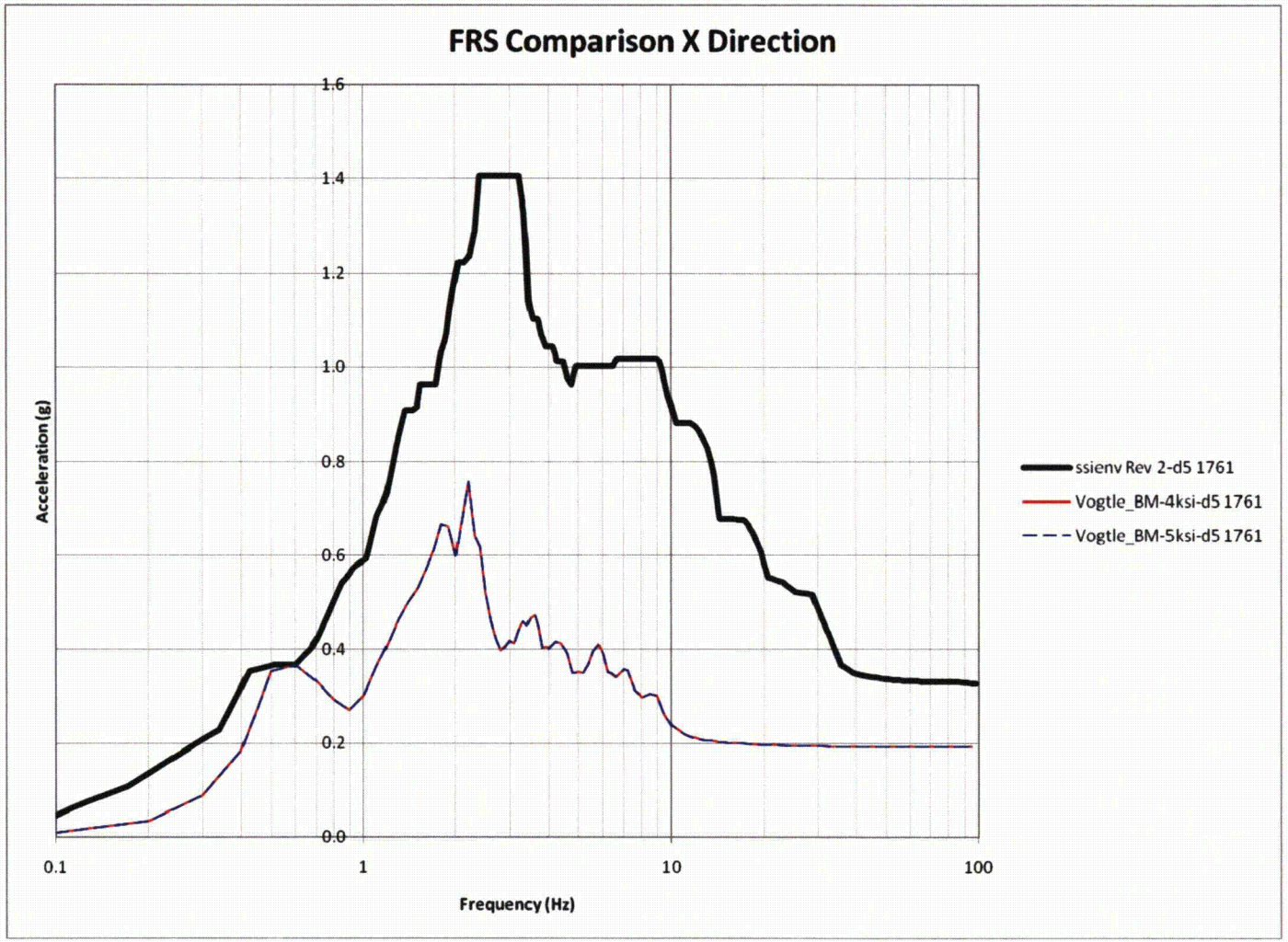
Auxiliary shield building north east corner at control room floor elevation 116.50'



Containment internal structures at reactor vessel support elevation 100.00'



Containment internal structures at reactor vessel support elevation 100.00'



Containment internal structures at reactor vessel support elevation 100.00'