Progress Energy

Serial: NPD-NRC-2009-224
November 2, 2009

10CFR52.79

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

LEVY NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 52-029 AND 52-030
SUPPLEMENT 1 TO RESPONSE TO ACCEPTANCE REVIEW REQUEST FOR ADDITIONAL INFORMATION

References:
1. Letter from Brian Anderson (NRC) to James Scarola (PEF), dated October 6, 2008, "Acceptance Review for the Levy County Nuclear Power Plant Units 1 and 2 Combined License Application"

2. Letter from Garry D. Miller (PEF) to U. S. Nuclear Regulatory Commission, dated November 20, 2008, "LNP COLA Request for Additional Information", Serial: NPD-NRC-2008-064

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits a supplemental response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in Reference 1. A supplemental response to one of the NRC questions (02.05.02-1) is provided in the enclosure.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (727) 820-4481.

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

Executed on November 2, 2009.

Sincerely,

John Elnitsky
Vice President
Nuclear Plant Development

Enclosure

cc : U.S. NRC Region II, Regional Administrator
Mr. Brian C. Anderson, U.S. NRC Project Manager

Progress Energy Florida, Inc.
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St. Petersburg, FL 33733

D094
NRO

Levy Nuclear Plant Units 1 and 2
Supplement 1 to Response to NRC Acceptance Review Request for Additional Information, dated October 6, 2008

NRC RAI #	Progress Energy RAI #	Progress Energy Response
02.05.01-1	L-0001	NPD-NRC-2008-064; November 20, 2008
02.05.01-2	L-0002	NPD-NRC-2008-064; November 20, 2008
02.05.01-3	L-0003	NPD-NRC-2008-064; November 20, 2008
02.05.01-4	L-0004	NPD-NRC-2008-064; November 20, 2008
02.05.01-5	L-0005	NPD-NRC-2008-064; November 20, 2008
02.05.01-6	L-0006	NPD-NRC-2008-064; November 20, 2008
02.05.01-7	L-0007	NPD-NRC-2008-064; November 20, 2008
02.05.02-1	L-0008 & L-0560	NPD-NRC-2008-064; November 20, 2008 & supplemental response enclosed – see following pages
02.05.02-2	L-0009	NPD-NRC-2008-064; November 20, 2008
02.05.04-1	L-0010	NPD-NRC-2008-064; November 20, 2008
02.05.04-2	L-0011	NPD-NRC-2008-064; November 20, 2008
02.05.04-3	L-0012	NPD-NRC-2008-064; November 20, 2008
03.08.05-1	L-0013	NPD-NRC-2008-064; November 20, 2008

NRC Letter Date: October 6, 2008

NRC Acceptance Review of Levy COL Application

NRC RAI NUMBER: 02.05.02-1

Text of NRC RAI:

Please describe your plans for ensuring the shear wave velocity post-grouting was appropriately represented in the site response analyses you performed in your previous calculation of the GMRS.

PGN RAI ID #: L-0560

PGN Response to NRC RAI:

This RAI was previously addressed in Letter NPD-NRC-2008-064. During the Grout Test Program conducted in December 2008, the shear wave velocity of the grouted zone was measured using P-S suspension logging in Verification Boring V-1 before and after grouting operations. ***Figure RAI 02.05.02-1-01***, below, shows the pre- and post-grouting data.

PEF LNP BORING V-1 PRE- AND POST- GROUT
Receiver to Receiver V_s and V_p Analysis

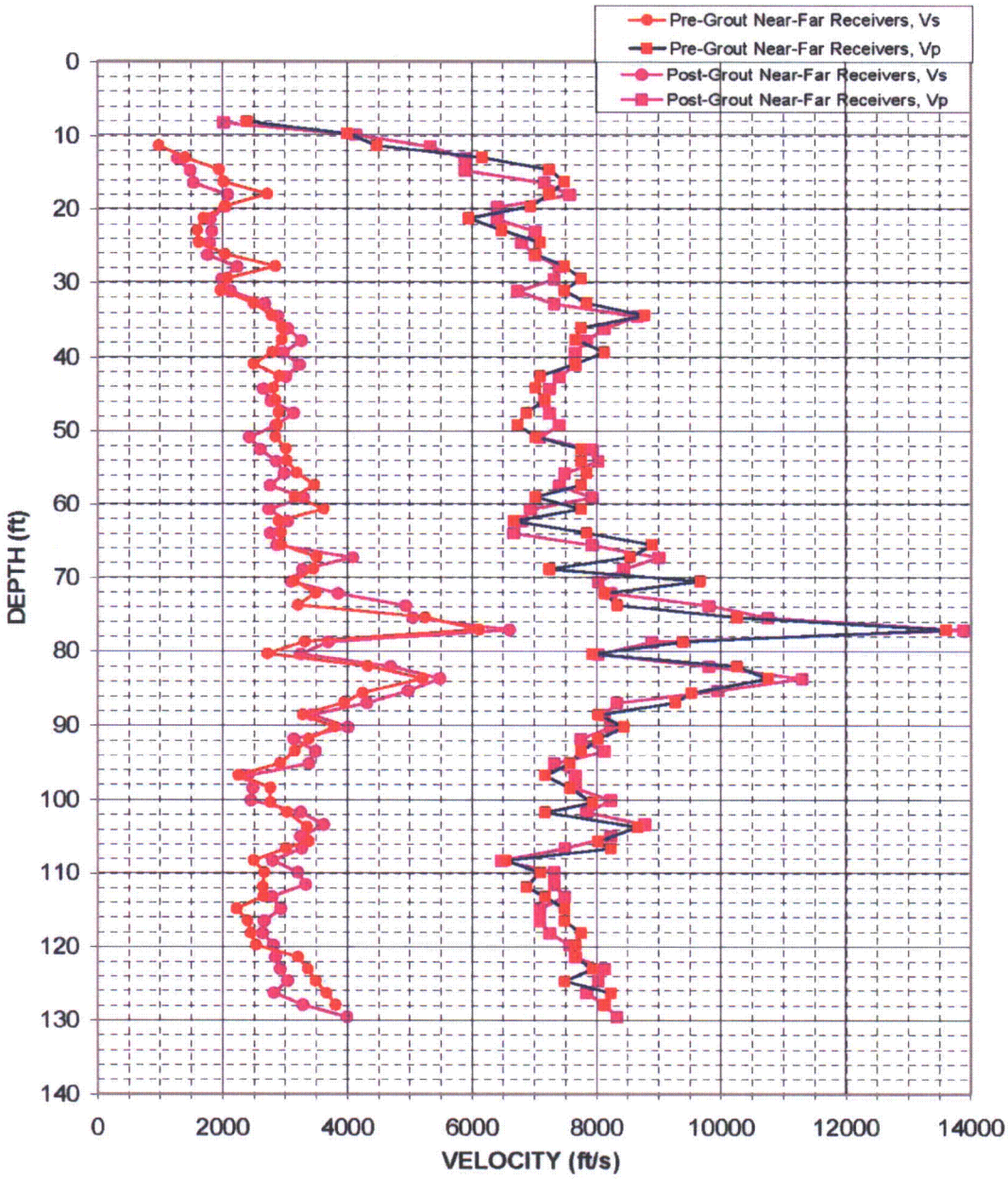

Figure RAI 02.05.02-1-01
Pre- and Post-Grout Shear Wave Velocity

The data compare closely for both pre- and post-grout data sets, and P- and S_H-wave profiles track each other closely. The pre- and post-grouting measurements are nearly identical, within the expected precision of the suspension method.

Additionally, the pre- and post-grouting measurements were compared to the range considered in the randomization of the soil profiles used in the site response analysis. The randomization of velocity profiles described in FSAR Section 2.5.2.5.1.6 considered a standard deviation ($\sigma_{ln(Vs)}$)

of 0.15 for the upper layers of the Avon Park Formation. The standard deviation of pre- and post-grouting data sets was found to be 0.133 for this layer. Thus, the change in shear wave velocity from pre- to post-grouting is within the range considered in the existing site response analysis.

The pre- and post-grouting measurements were performed in Verification Boring V-1, which was cased with 4" PVC. ASTM Standard D7400, "Standard Method for Downhole Seismic Testing," lists casing the borehole with PVC as its preferred method of borehole preparation.

The use of PVC casing in Boring V-1 does not compromise the data used to compare pre- and post-grouting conditions. During Site Characterization, both Downhole and P-S Suspension methods were used to determine shear wave velocity in the cased I-Series boreholes. As shown on ***Figure RAI 02.05.02-1-02 and RAI 02.05.02-1-03***, data obtained from both of these methods tracked with each other.

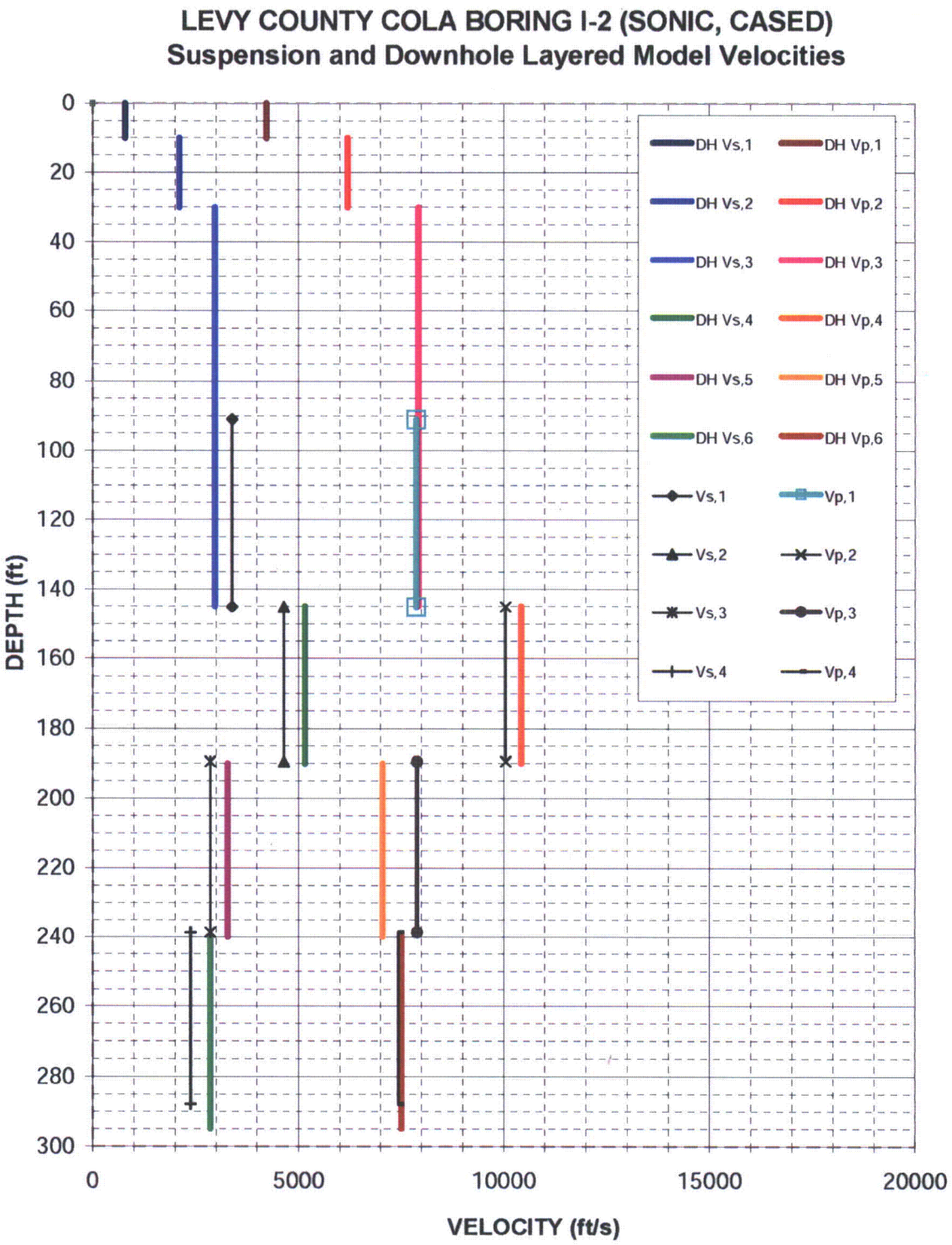

Figure RAI 02.05.02-1-02
Boring I-2 (cased) Suspension and Downhole Layered Models

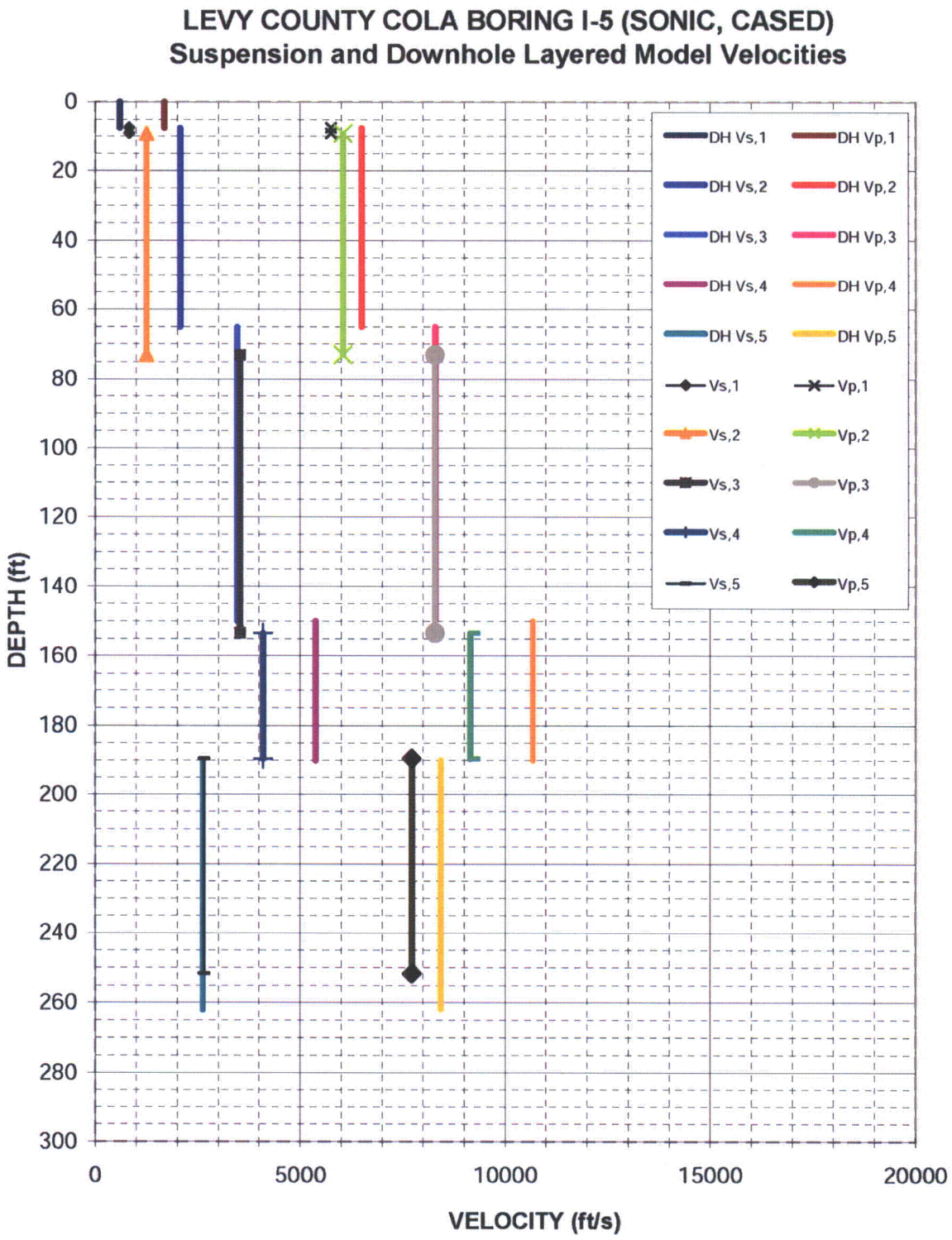

Figure RAI 02.05.02-1-03
Boring I-5 (cased) Suspension and Downhole Layered Models

As shown in the figures above, the PVC casing within the borehole did not systematically affect velocity readings obtained by P-S Suspension logging methods.

Associated LNP COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

None.