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SOUTHERN COMPANY

July 17, 2013

Docket Nos.: 50-424
50-425

NL-13-1460

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

Vogtle Electric Generating Plant – Units 1 and 2
Southern Nuclear Operating Company Response to the
Request for Additional Information Regarding Overall Integrated Plan for
Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

Ladies and Gentlemen:

By letter dated February 27, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML13059A386), Southern Nuclear Operating Company (SNC) submitted its Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation at the Vogtle Electric Generating Plant (VEGP) in accordance with Order Number EA-12-051. Subsequently, by letter dated June 18, 2013 (ADAMS Accession Number ML13157A176), the Nuclear Regulatory Commission (NRC) submitted a Request for Additional Information (RAI) to enable completion of the review.

Enclosure 1 to this letter contains the SNC response to the RAI. If there is insufficient information to respond to an RAI, it is noted in the response and an anticipated date for supplying the information to the NRC is given. Enclosures 2 and 3 provide sketches in response to RAI 1b) and RAI 2, respectively.

This letter contains no NRC commitments. If you have any questions, please contact John Giddens at 205.992.7924.

Mr. C. R. Pierce states he is 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,

C. R. Pierce

Mr. C. R. Pierce
Regulatory Affairs Director

CRP/CLN/lac

Sworn to and subscribed before me this 17 *day of* July, *2013.*

Laura L. Crumpton
Notary Public

My commission expires: 11-02-2013

Enclosures:
1. Southern Nuclear Operating Company Response to the Request for Additional Information Regarding Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)
2. Sketch in Response to NRC RAI - 1b)
3. Sketches in Response to NRC RAI - 2

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. T. E. Tynan, Vice President – Vogtle
Mr. B. L. Ivey, Vice President – Regulatory Affairs
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RType: CVC7000

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Senior Project Manager – Vogtle
Mr. L. M. Cain, Senior Resident Inspector – Vogtle

State of Georgia
Mr. J. H. Turner, Environmental Director Protection Division

Vogtle Electric Generating Plant – Units 1 and 2
Southern Nuclear Operating Company Response to the
Request for Additional Information Regarding Overall Integrated Plan for
Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

Enclosure 1

Southern Nuclear Operating Company Response to the Request for Additional Information Regarding Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

SNC Response to Request for Additional Information

LEVELS OF REQUIRED MONITORING

The OIP states, in part, that

1. Level adequate to support operation of the normal fuel pool cooling system -Fuel pool level when suction loss occurs can be conservatively defined as the SFP cooling system low level set point 217-0" which is above the elevation at the top of the fuel pool cooling system suction line that is at approximately 214'-11" (References 11,12, 14 through 17).
2. Level adequate to provide substantial radiation shielding for a person standing on the spent fuel pool operating deck -Elevation 203'-9 1/8" is approximately 10'-0" above elevation 193'-91/8", the highest point of the fuel racks for both Unit 1 and 2 (plus or minus 1 foot (Reference 10 -FSAR Section 9.1.2.2 and Figure 9.1.2-1 (Sh. 1 of 2) and References 11 &12).
3. Level where fuel remains covered -Elevation 193'-91/8" is the nominal level of the highest fuel rack (Reference 10 -FSAR Section 9.1.2.2 and Figure 9.1.2-1 (Sh. 1 of 2) and References 11 &12).

NRC RAI-1

Please provide the following:

a) For Level 1, specify how the identified location represents the HIGHER of the two points described in the NEI 12-02 guidance for this level.

b) A clearly labeled sketch depicting the elevation view of the proposed typical mounting arrangement for the portions of instrument channel consisting of permanent measurement channel equipment (e.g., fixed level sensors and/or stilling wells, and mounting brackets). Indicate on this sketch the datum values representing Level 1, Level 2, and Level 3 as well as the top of the fuel. Indicate on this sketch the portion of the level sensor measurement range that is sensitive to measurement of the fuel pool level, with respect to the Level 1, Level 2, and Level 3 datum points.

SNC Response to RAI-1a)

Level 1 is established as the SFP cooling system low level set point of 217'-0", which is above the elevation at the top of the fuel pool cooling system suction line that is at approximately 214'-11". Two trains supply Unit 1 and Unit 2 spent fuel pool cooling water. When adjusted for saturated steam conditions, the pool level needed to meet the NPSH required is 214'-6" for Train A and 219'- 6" for Train B but only one train is required for operation. Thus, the two points described in NEI 12-02 for loss of NPSH for the VEGP Spent Fuel Pool are 214'-11" and 214'-6" and the HIGHER of the two points is 214' -11". However, VEGP conservatively selects Level 1 as 217'-0" since it is the normal low level set point for the SFP Cooling system.

SNC Response to RAI-1b)

Enclosure 2 provides a sketch that depicts an elevation view of the Unit 1 and 2 SFP. The sketch depicts the datum values representing Level 1, Level 2, and Level 3, as well as the top of the SFP rack. Per NEI 12-02, Level 3 corresponds nominally (i.e., +/- 1 foot) to the highest point of any rack seated in the spent fuel pool. The top of the fuel elevation that is shown on the sketch is a nominal value that varies depending upon the specific fuel assembly type and fuel bundle attachments. The level sensor sensitive measurement range will span from a minimum of 3 inches above the high SFP level alarm setpoint to 3 inches above the top of the spent fuel pool rack.

3.0 INSTRUMENTATION DESIGN FEATURES

3.2 Arrangement

The OIP states, in part, that

> SFP level probes will be installed separate from each other in the SFP. Both existing and new barriers will be used to provide a level of protection for the cable located on the refueling floor from falling debris missiles generated by the event.

NRC RAI-2

Please provide a clearly labeled sketch or marked-up plant drawing of the plan view of the SFP area, depicting the SFP inside dimensions, the planned locations/placement of the primary and back-up SFP level sensor and mounting brackets, and the proposed routing of the cables that will extend from the sensors toward the location of the read-out/display device.

SNC Response to RAI-2

Enclosure 3 depicts a section of marked up plant drawings AX2D09A011 and AX2D09A012. This attachment shows a plan view of the SFP area of each unit. The drawings show inside dimensions for the SFPs and the anticipated locations of the level sensors and associated mounting brackets (identified by the circle inside the square box). There is no designated primary or backup sensor as both serve an equal purpose. The routing of the instrument cables from the sensors to the display device will be determined after a location for the display unit has been finalized. SNC intends to provide specific SFP area cable routing information in the February 2014 Overall Integrated Plan 6 month update.

3.3 Mounting

The OIP states, in part, that

> Per NEI 12-02 Section 3.3, Mounting, the new equipment will be mounted to maintain the current Seismic Class of the Spent Fuel Pool which is Seismic Class I (Reference 13). Thus, the new equipment will be seismically qualified to Class I. In addition, the mounting of the primary and backup channel components throughout

the plant will meet the criteria of the structure it will be routed through or attached to (refer to Qualification details below relating to cable and raceway installation criteria).

NRC RAI-3

Please provide the following:

a) The design criteria that will be used to estimate the total loading on the mounting device(s), including static weight loads and dynamic loads. Describe the methodology that will be used to estimate the total loading, inclusive of design basis maximum seismic loads and the hydrodynamic loads that could result from pool sloshing or other effects that could accompany such seismic forces.

b) A description of the manner in which the level sensor (and stilling well, if appropriate) will be attached to the refueling floor and/or other support structures for each planned point of attachment of the probe assembly. Indicate in a schematic the portions of the level sensor that will serve as points of attachment for mechanical/mounting or electrical connections.

c) A description of the manner by which the mechanical connections will attach the level instrument to permanent SFP structures so as to support the level sensor assembly.

SNC Response to RAI-3a)

The methodology that will be used to estimate the total loading for the mounting devices will be based upon the seismic analytical methods and test results performed in accordance with IEEE 344. Computational Fluid Dynamics (CFD) analysis will be performed to estimate the total hydrodynamic forces. The total loading on the mounting devices would include static weight, seismic, hydrodynamic, and other applicable loads in accordance with the Plant Vogtle design criteria. The detailed design will be contained in the completed mount documentation package. Sloshing will be addressed by the vendor's analysis methods, typically by increasing the resultant forces by an acceptable percentage.

SNC Response to RAI-3b)

Details of the level sensor and stilling well mounting design will be determined by the SFP mechanical and operational requirements. SFP walk down activities have recently been performed and the design activities associated with the level sensor mounts began in June 2013. Completion and acceptance of the design is currently scheduled prior to the February 2014 Overall Integrated Plan 6 month update. SNC intends to provide specific sensor mounting design information in the February 2014 Overall Integrated Plan 6-month update.

SNC Response to RAI-3c)

Details of the manner by which the mechanical connections will attach the level instrument to permanent SFP structures so as to support the level sensor assembly would be determined by the SFP mechanical design and operational requirements. SFP walk down activities have recently been performed and the design activities associated with the manner by which the mechanical connection will attach the level instrument to permanent SFP structures began in June 2013. These details will be designed in accordance with Plant Vogtle design criteria. Completion and acceptance of the design is currently scheduled prior to the February 2014 Overall Integrated Plan 6 month update. SNC intends to provide specific sensor mounting design information in the February 2014 Overall Integrated Plan 6 month update.

3.4 Qualification

The OIP states, in part, that

> The specific values to use for the shock and vibration qualification will be determined in the design phase of the implementation using FSAR and Design Basis information. Components of the instrument channels installed in the SFP area will be qualified for shock and vibration using one or more of the following methods (note different methods may be used for the various sub components of the primary and back-Up instrument channels): ...
>
> For seismic impact on instrument channel components required after a potential seismic event for installed components, the following measures will be used to verify that the design and installation is adequate. Applicable components of the instrument channels are rated by the manufacturer (or otherwise tested) for seismic impact at levels commensurate with those of postulated design basis event conditions in the area of instrument channel component use using one or more of the following methods (note different methods may be used for the various sub components of the primary and back-up instrument channels): ...

NRC RAI-4

Please provide the following:

a) A description of the specific method or combination of methods which are to be applied to demonstrate the reliability of the permanently installed equipment under Beyond Design-Basis (BDB) ambient temperature, humidity, shock, vibration, and radiation conditions.

b) A description of the testing and/or analyses that will be conducted to provide assurance that the equipment will perform reliably under the worst-case credible design basis loading at the location where the equipment will be mounted. Include a discussion of this seismic reliability demonstration as it applies to a) the level sensor mounted in the SFP area, and b) any control boxes, electronics, or read-out and re-transmitting devices that will be employed to convey the level information from the level sensor to the plant operators or emergency responders.

c) Please provide a description of the specific method or combination of methods that will be used to confirm the reliability of the permanently installed equipment such that, following a seismic event, that instrument will maintain its required accuracy.

SNC Response to RAI-4a) & 4b)

Two independent guided wave radar instrumentation systems will be installed per unit for the SFP level monitoring. They will be purchased as commercial-grade equipment and qualified to operate under the normal and Beyond Design Basis (BDB) environments as required by NRC Order EA-12-051 and the guidance of NEI 12-02. The equipment will be qualified seismically (IEEE 344) and environmentally (IEEE 323). The "in-pool" components and transmitter will be qualified to ANSI/ISA-S71.03 Class SA1 (Shock) and ANSI/ISA-S71.03 Class VC2 (Vibration). These qualifications will be performed to bounding conditions. As part of the design change process, the seismic qualification for the equipment will be reviewed by SNC for the specific location at Plant Vogtle to ensure that the bounding conditions envelope the specific plant conditions. An instrument/equipment qualification calculation will be prepared to document the radiation as a function of the water level covered on the top of spent fuel during normal operation and BDB conditions.

SNC Response to RAI-4c)

Equipment robustness and reliability will be assured through the use of conservative design margins and a seismic qualification process that will confirm accurate instrumentation performance following a seismic event. However, the specific method or combination of methods that would be used to confirm the reliability of the permanently installed equipment has not yet been determined by the instrumentation manufacturer.

3.5 Independence

The OIP states, in part, that

> The primary and backup instrument channels are of the same technology, are permanently installed, separated by distance or barriers, and utilize independent power supplies from different buses/switchgear.

NRC RAI-5

Please provide the following:

a) A description of how the two channels of the proposed level measurement system meet this requirement so that the potential for a common cause event to adversely affect both channels is minimized to the extent practical.

b) Further information on how each level measurement system, consisting of level sensor electronics, cabling, and readout devices will be designed and installed to address independence through the application and selection of independent power sources, the use of physical and spatial separation, independence of

signals sent to the location(s) of the readout devices, and the independence of the displays.

SNC Response to RAI-5a)

The level measurement system for the SFP will consist of two identical guided wave radar channels. The SNC selected vendor intends to use the following qualification methods:

- environmentally qualified for the service location per IEEE 323-2003
- seismically qualified for Seismic Category I per IEEE 344-2004
- qualified for shock per ANSI/ISA-S71.03 Class SA1
- qualified for vibration per ANSI/ISA-S71.03 Class VC2
- EMI/RFI qualified per RG 1.180

In addition to these design requirements, providing sufficient channel separation, by distance and/or protective barriers will minimize the likelihood that a common cause event which adversely affects both channels would occur. As noted in SNC Letter NL-13-0173, "Cabling for power supplies and indications for each channel will be separated for missile protection (falling debris) and routed in separate conduits from cabling for the other channel".

SNC Response to RAI-5b)

Each level measurement system will be designed and installed to achieve physical and spatial separation and electrical independence. Independent power sources will be provided from separate 120V AC Distribution Panels, for both SFP level monitoring channels for each Vogtle Unit. Dedicated conduit will be used to provide physical separation between the probes and the transmitters. From the transmitters to the readouts the separation will be in accordance with Plant Vogtle electrical design criteria, RG 1.75 and IEEE 384. Different penetrations in the SFP room wall and other walls will be used for the level signals from the sensors to the transmitters and to the readout devices, which will be mounted in separate enclosures.

3.6 Power supplies

The OIP states, in part, that

> Each channel will normally be powered from independent (different buses/switchgear) 120V AC power sources and will have a dedicated battery backup. The battery backup will be dedicated to each channel, should have the capability of automatically switching and operating on backup batteries and will have manual switching as a minimum. A minimum battery life of 24 hours will be provided to allow for power restoration from portable equipment (refer to attachment 2 for a typical sketch). Refer to Safety Function Support section of the SNC Integrated Plan February 28, 2013, submittal for NRC Order EA-12-049 for details on the power strategy from portable FLEX Diesel Generators (DGs).

NRC RAI-6

a) Please provide a description of the normal electrical AC power sources and capacities for the primary and backup channels.

b) If the level measurement channels are to be powered through a battery system (either directly or through an Uninterruptible Power Supply (UPS), provide the design criteria that will be applied to size the battery in a manner that ensures, with margin, that the channel will be available to run reliably and continuously following the onset of the BDB event for the minimum duration needed, consistent with the plant mitigation strategies for beyond-design basis external events (Order EA-12-049).

SNC Response to RAI-6a)

Normal electrical AC power will be provided by different sources of the non-safety related 120V AC Distribution System for each level measurement channel.

SNC Response to RAI-6b)

Each level measurement channel will be powered from a dedicated Uninterruptible Power Supply (UPS) and battery system supplied by the vendor. Each battery and UPS will be sized with margin by the vendor to power the load at its respective level monitoring channel for a minimum of one day (24 hours) under Station Blackout (SBO) conditions. The sizing criteria will be based on the ambient conditions expected during BDB/SBO, for the location(s) selected for the UPS/battery. In the detailed design, the vendor will provide the design basis sizing criteria which will be used for the battery, battery charger, and UPS. This design basis sizing criteria will be reviewed for margin and to ensure that each channel will be available to run reliably and continuously following the onset of the Beyond Design Basis (BDB) event for the minimum duration needed, consistent with plant FLEX program plans.

3.7 Accuracy

The OIP states, in part, that

> Instrument channels will be designed such that they will maintain their design accuracy without recalibration following a power interruption or change in power source. SNC plans for the instrument design accuracy to be within ± 1 inch, or as close as reasonably achievable, over the entire range for the expected environmental and process conditions. Accuracy will consider SFP post event conditions, e.g., saturated water, steam environment, or concentrated borated water. Additionally, the instrument accuracy of the GWR technology will be sufficient to allow trained personnel to determine when the actual level exceeds the specified level of each indicating range (levels 1, 2 and 3) without conflicting or ambiguous indication. The accuracy will be within the resolution requirements of Figure 1 of NEI 12-02.

NRC RAI-7

Please provide the following:

a) An estimate of the expected instrument channel accuracy performance (e.g., in % of span) under both a) normal SFP level conditions (approximately Level 1 or higher) and b) at the BDB conditions (i.e., radiation, temperature, humidity, post-seismic and postshock conditions) that would be present if the SFP level were at the Level 2 and Level 3 datum points.

b) A description of the methodology that will be used for determining the maximum allowed deviation from the instrument channel design accuracy that will be employed under normal operating conditions as an acceptance criterion for a calibration procedure to flag to operators and to technicians that the channel requires adjustment to within the normal condition design accuracy.

SNC Response to RAI-7a)

The level sensor is designed to operate under the worst case postulated BDB operating conditions. The accuracy of the system will be +/-3 inches (+/-1% of span) under all operating conditions which includes both normal SFP conditions and worst case conditions and encompasses the SFP level values at the Level 1, Level 2, and Level 3 datum points.

SNC Response to RAI-7b)

The methodology will consist of utilizing test components provided by the vendor that will simulate a signal into the transmitter and performing a calibration on an annual basis in accordance with plant procedures which will utilize vendor recommendations. The calibration will certify the equipment end-to-end accuracy of +/- 1 inch. A deviation of more than 2 inches between channel displays and/or any other pool level monitoring device constitutes reason to recalibrate all level monitoring channels.

3.8 Testing

The OIP states, in part, that

> Instrument channel design will provide for routine testing and calibration consistent with Order EA-12-051 and the guidance in NEI 12-02:
> - SNC plans for the design to facilitate in-situ testing and/or calibration of the Static or non-active installed (fixed) sensors.
> - SNC plans for the design to facilitate the microprocessor based channel features to be capable of testing while mounted in the pool.
> - Existing work control processes will be used to control maintenance and testing (e.g., Preventive Maintenance (PM) Program, Surveillance Program, Vendor Contracts, or work orders).
> - Other testing and calibration requirements are located in Program Controls testing sub section below.

NRC RAI-8

Please provide the following:

a) A description of the capability and provisions the proposed level sensing equipment will have to enable periodic testing and calibration, including how this capability enables the equipment to be tested in-situ.

b) A description of how such testing and calibration will enable the conduct of regular channel checks of each independent channel against the other, and against any other permanently-installed SFP level instrumentation.

c) A description how functional checks will be performed and the frequency at which they will be conducted. Describe how calibration tests will be performed, and the frequency at which they will be conducted. Provide a discussion as to how these surveillances will be incorporated into the plant surveillance program.

d) A description what preventative maintenance tasks are required to be performed during normal operation, and the planned maximum surveillance interval that is necessary to ensure that the channels are fully conditioned to accurately and reliably perform their functions when needed.

SNC Response to RAI-8a)

Guided wave radar level measurement systems determine pool depth by measuring the time of flight of a pulse from the transmitter to the water interface and back to the transmitter's receiver. A calibration device, provided by the manufacturer, incorporates time of flight delays equal to various pool levels. The device is connected to the transmitter and is exercised for each test level. Plant procedures will provide instructions to enable in-situ testing and calibration of the equipment.

SNC Response to RAI-8b)

A post-calibration channel check between the two channels for the SFP level instruments will be completed per plant procedures. Existing permanently-installed SFP level indication is provided by a ruled scale mounted on the side of the SFP. The two channels from the SFP level instruments may at times be cross-checked against this visual indication. An evaluation of the output from available level instrumentation will be used when determining the frequency of calibration activities on SFP level instruments.

SNC Response to RAI-8c) & 8d)

The design phase of the SFPLI system began in June of 2013, with the design completion and plant organization acceptance of the design scheduled for February of 2014. Following the issue of the design, procedures will start being developed. SNC intends to provide the requested detail in the August 2014 Overall Integrated Plan 6 month update.

3.9 Display

The OIP states, in part, that

> Primary and backup indication will be provided in the Main Control Room, at the alternate shutdown panel, or another appropriate and accessible location (reference NEI 12-06) that complies with the NEI 12-02 characteristics. If multiple display locations are powered from the instrument loop, then the guidance in NEI 12-02 regarding multiple displays will be followed (refer to attachment 2 for a typical sketch).

NRC RAI-9

Please provide the following:

a) The specific location for the primary and backup instrument channel display.

b) If the primary or backup display location is other than the main control room, then provide justification for prompt accessibility to displays including primary and alternate route evaluation, habitability at display location(s), continual resource availability for personnel responsible to promptly read displays, and provisions for communications with decision makers for the various SFP drain down scenarios and external events.

c) The reasons justifying why the locations selected enable the information from these instruments to be considered "promptly accessible" to various drain-down scenarios and external events.

SNC Response to RAI-9a), 9b), & 9c)

The design phase of the SFPLI system began in June of 2013, with the design completion and plant organization acceptance of the design scheduled for February of 2014. SNC intends to provide the requested information in the February 2014 6 month Overall Integrated Plan update.

4.0 PROGRAM FEATURES

4.2 Procedures

The OIP states, in part, that

> Procedures will be developed using guidelines and vendor instructions to address the maintenance, operation, and abnormal response issues associated with the new SFP instrumentation consistent with NEI 12-02.
>
> Procedures will address a strategy to ensure SFP water level addition is initiated at an appropriate time consistent with implementation of NEI 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide (References 5 and 7).

NRC RAI-10

Please provide a description of the standards, guidelines, and/or criteria that will be utilized to develop procedures for inspection, maintenance, repair, operation, abnormal response, and administrative controls associated with the SFP level instrumentation.

SNC Response to RAI-10

Procedures for inspection, maintenance, repair, operation, abnormal response, and administrative controls associated with the SFP level instrumentation will be developed in accordance with existing controlled station administrative and technical procedures that govern procedure development. These procedures ensure standardization of format and terminology and ease of use along with assurance of a consistent level of quality.

4.3 Testing and Calibration

The OIP states, in part, that

> Processes will be established and maintained for scheduling and implementing necessary testing and calibration of the primary and backup spent fuel pool level instrument channels to maintain the instrument channels at the design accuracy. Testing and calibration of the instrumentation will be consistent with vendor recommendations and any other documented basis. Calibration will be specific to the mounted instrument and the monitor. Out of service time as identified in NEI 12-02 will be incorporated consistent with the programmatic process used for compliance with NRC Order EA-12-049 (Order to Modify Licenses With Regard to Requirements for Mitigation Strategies for Beyond Design Basis External Events).

NRC RAI-11

Please provide the following:

a) Further information describing the maintenance and testing program the licensee will establish and implement to ensure that regular testing and calibration is performed and verified by inspection and audit to demonstrate conformance with design and system readiness requirements. Include a description of your plans for ensuring that necessary channel checks, functional tests, periodic calibration, and maintenance will be conducted for the level measurement system and its supporting equipment.

b) A description of how the guidance in NEI 12-02 Section 4.3 regarding compensatory actions for one or both non-functioning channels will be addressed.

c) A description of what compensatory actions are planned in the event that one of the instrument channels cannot be restored to functional status within 90 days.

SNC Response to RAI-11a)

The maintenance and testing of the SFP level instrumentation system will be incorporated into the normal station surveillance and work control processes based on vendor recommendations for maintenance and periodic testing. The preventive maintenance, test and calibration program will be developed consistent with the vendor's recommendations.

The design phase of the SFPLI system began in June of 2013, with the design completion and plant organization acceptance of the design scheduled for February of 2014. Following the issue of the design, procedures will start being developed. SNC intends to provide the description of plans for ensuring necessary channel checks, functional tests, periodic calibration, and maintenance to be conducted for the level measurement system and its supporting equipment in the August 2014 Overall Integrated Plan 6 month update.

SNC Response to RAI-11b)

The guidance in NEI 12-02, Rev. 1, states:

> The primary or back-up instrument channel can be out of service for testing, maintenance and/or calibration for up to 90 days provided the other channel is functional. Additionally, compensatory actions must be taken if the instrumentation channel is not expected to be restored or is not restored within 90 days. If both channels become non-functioning then initiate actions within 24 hours to restore one of the channels of instrumentation and implement compensatory actions (e.g., use of alternate suitable equipment or supplemental personnel) within 72 hours.

In the event a channel of SPF level instrumentation is out of service for any reason, a condition report will be entered to restore the channel to service within 90 days. Functionality of the other channel will be confirmed via appropriate surveillance measures within the following 7 days and every 90 days thereafter until the non-functioning channel is restored to service. If both channels are determined to be non-functional, SNC will initiate appropriate actions within 24 hours.

SNC Response to RAI-11c)

The appropriate compensatory actions have not yet been specified. Procedures will be developed following the guidance of NEI 12-02, including the requirements associated with compensatory actions, after the issuance of the design. SNC intends to provide the requested detail in the August 2014 Overall Integrated Plan 6 month update.

Vogtle Electric Generating Plant – Units 1 and 2
Southern Nuclear Operating Company Response to the
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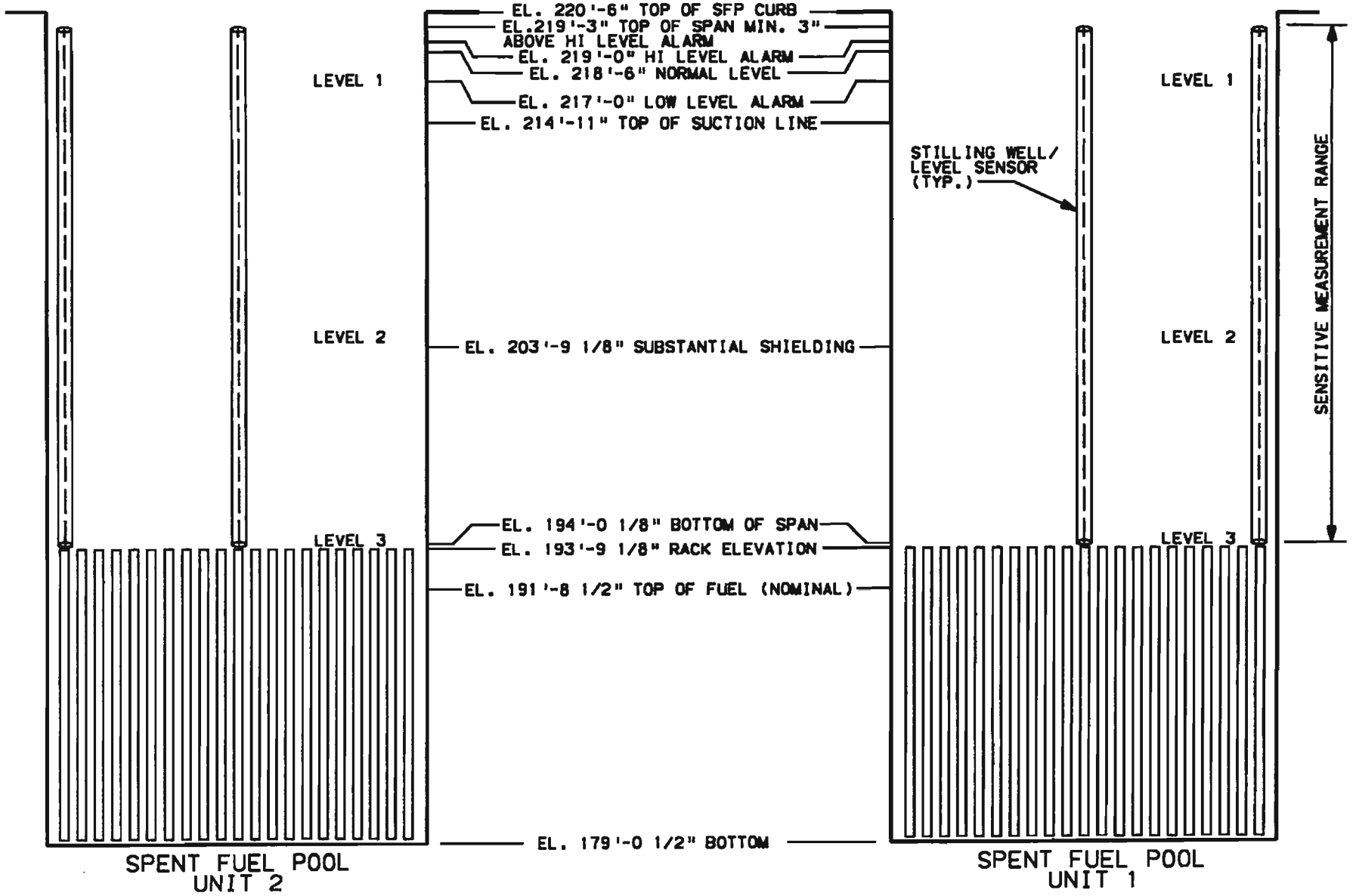
Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

Enclosure 2

Sketch in Response to NRC RAI - 1b)

Enclosure 2 to NL-13-1460

ATTACHMENT 1
SKETCH IN RESPONSE TO RAI ITEM 1.b



NOTE: ELEVATIONS SHOWN ARE TYPICAL FOR BOTH UNITS

Vogtle Electric Generating Plant – Units 1 and 2
Southern Nuclear Operating Company Response to the
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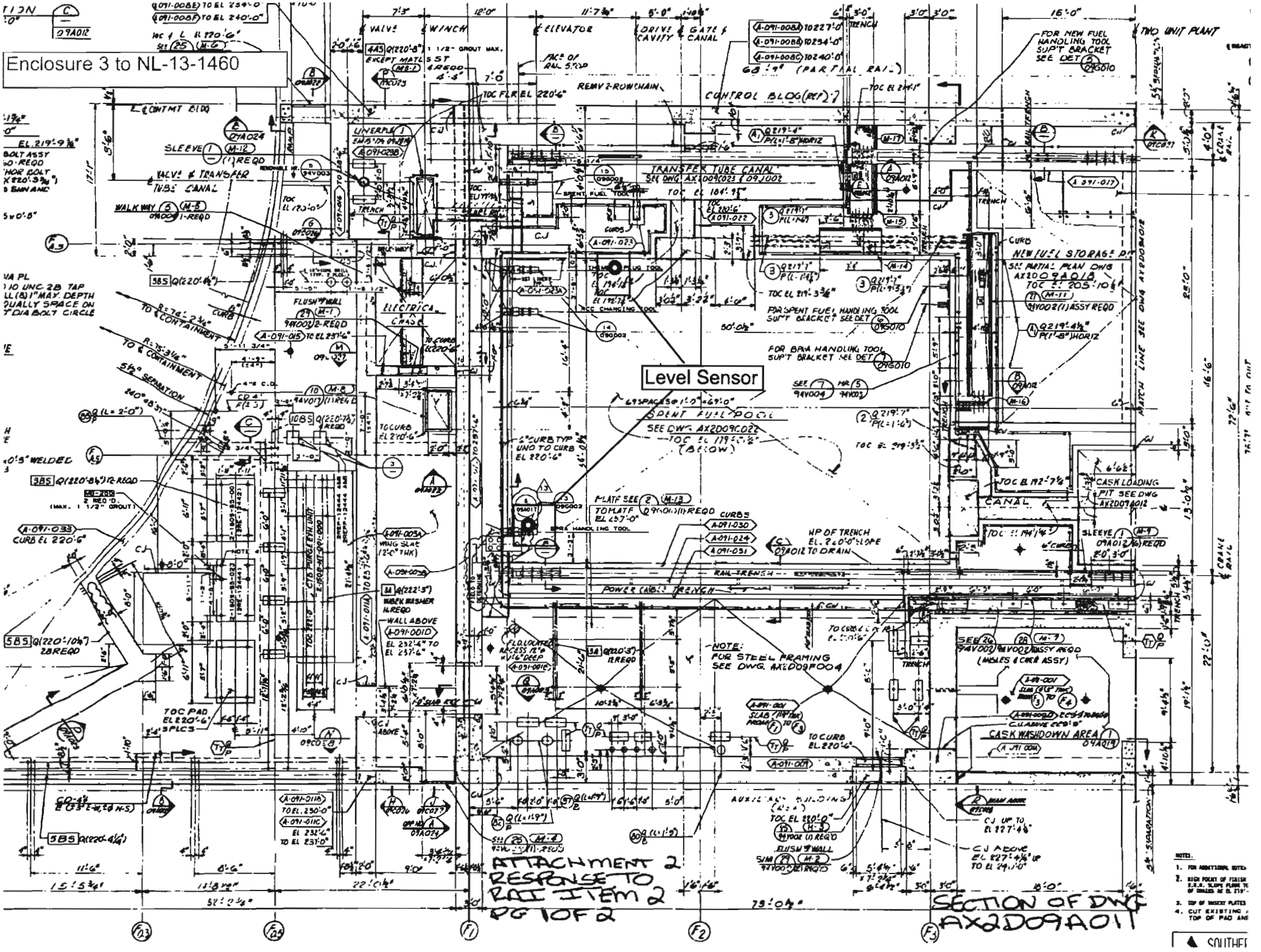
Enclosure 3

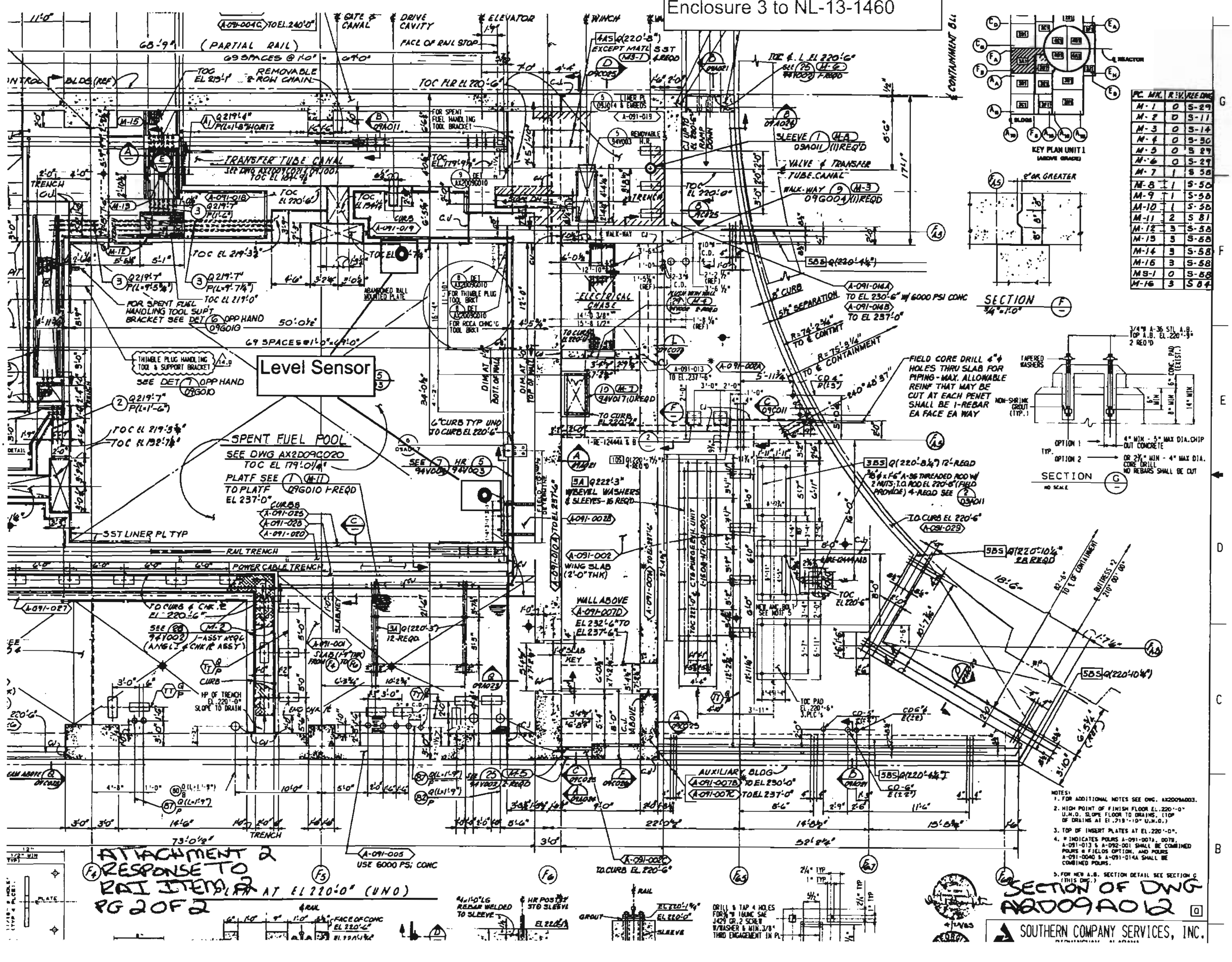
Sketches in Response to NRC RAI – 2

(2 pages)

Enclosure 3 to NL-13-1460



Enclosure 3 to NL-13-1460



PC. MK.	REV.	REF DWG
M-1	0	S-29
M-2	0	S-11
M-3	0	S-14
M-4	0	S-30
M-5	0	S 29
M-6	0	S-29
M-7	1	S 58
M-8	1	S-50
M-9	1	S-58
M-10	1	S-58
M-11	2	S 81
M-12	3	S-58
M-13	3	S-58
M-14	3	S-58
M-16	3	S-58
MS-1	0	S-58
M-16	3	S 84

NOTES:
1. FOR ADDITIONAL NOTES SEE DWG. AX2D09A003.
2. HIGH POINT OF FINISH FLOOR EL.220'-0" U.N.O. SLOPE FLOOR TO DRAINS. (TOP OF DRAINS AT EL.219'-10" U.N.O.)
3. TOP OF INSERT PLATES AT EL.220'-0".
4. * INDICATES POURS A-091-007A, 007B, A-091-013 & A-092-001 SHALL BE COMBINED POURS @ FIELDS OPTION, AND POURS A-091-004D & A-091-014A SHALL BE COMBINED POURS.
5. FOR NEW A.B. SECTION DETAIL SEE SECTION G (THIS DWG.)