UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

MAR 17 1992

Report Nos: 50-348/92-05 and 50-364/92-05

Licensee: Alabama Power Company
600 North 18th Street
Birmingham, AL 35291-0400

Docket Nos.: 50-348 and 50-364 License Nos.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection Conducted: February 10 through 14, 1992

Inspector: R. P. Carrion — 16 MARCH '92
R. P. Carrion — Date Signed

Accompanied by: T. R. Volk

Approved by: T. R. Decker — 3/16/92
T. R. Decker, Chief — Date Signed
Radiological Effluents and
Chemistry Section
Radiological Protection and
Emergency Preparedness Branch
Division of Radiation Safety
and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of confirmatory measurements, contingencies made for long term storage of low level radioactive waste, and onsite landfill disposal.

Results:

The confirmatory measurement comparison showed good agreement between the results of the licensee and the NRC mobile lab. However, one anomaly was identified. The licensee had established a good Count Room radiochemical analysis program. (Paragraph 2)

The licensee had begun a study to prepare contingencies for long-term storage of low level radioactive waste in the event that the current disposal facility closes as scheduled. (Paragraph 3)

The licensee had an adequate program in place to assure that no radioactively contaminated material was released to an Unrestricted Area and/or disposed of in the onsite landfill. (Paragraph 4).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*W. R. Bayne, Safety Audit and Engineering Review Supervisor
*T. M. Burr, Chemistry/Environmental Technician
P. E. Farnsworth, Radwaste Supervisor
*S. Fulmer, Superintendent of Operations Support
*O. M. Graves, Health Physics (HP) Supervisor
J. W. Kale, Chemistry/Environmental Superintendent
R. A. Livingston, Environmental Supervisor (Acting)
*M. W. Mitchell, HP Superintendent
D. N. Morey, General Manager - Nuclear Plant
C. L. Nesbitt, Manager - Operations
*S. K. Osterholtz, Technical Manager
*L. M. Stinson, Assistant General Manager of Operations
*R. T. Wood, Chemistry Supervisor

Nuclear Regulatory Commission

G. Maxwell, Senior Resident Inspector
*M. Morgan, Resident Inspector

*Attended exit interview

2. Confirmatory Measurements (84750)

10 CFR 20.201(b) requires the licensee to perform surveys as necessary to evaluate the extent of radiation hazards. To evaluate the licensee's analytical capability to make consistently accurate radioactivity measurements, the following samples were analyzed for radionuclide concentrations by the licensee and the NRC Region II mobile laboratory: reactor coolant system (RCS), liquid radwaste, and noble gases (which were collected by the licensee) and an NRC-spiked gas Marinelli flask, an NRC-spiked particulate filter, and an NRC-spiked charcoal cartridge. The purpose of these comparative measurements was to verify the licensee's capability to accurately detect and identify gamma-emitting radionuclides and to quantify their concentrations. The licensee analyzed all of the samples in the Chemistry Count Rooms of both units, which were equipped with two High Purity Germanium (HPGe) gamma spectroscopy detectors.

The inspector reviewed calibration curves for each geometry utilized for each of the four detectors used for the confirmatory measurement exercise. Specifically included were a 30-ml bottle on shelf #2 (for the RCS sample), a

1-liter Marinelli container (for gas and liquid samples), a charcoal cartridge on shelf #0 (for iodine and/or other gamma-ray emitters), and a filter on shelf #0 (for airborne particulates).

The inspector reviewed Certificates of Calibration for the five sources used to generate the referenced calibration curves. Each source was prepared using an aliquot measured gravimetrically from a master radionuclide solution source which was calibrated using a germanium gamma spectrometer system. This calibration had been confirmed by the National Institute of Standards and Technology (NIST) in a Measurements Assurance Program as described in NRC Regulatory Guide 4.15, Rev. 1, dated February 1979. Confirmation was obtained for each gamma ray listed to within the limits stated on the certificate.

The inspector concluded that the calibration curves and Certificates of Calibration were current and sufficient.

The inspector reviewed selected portions of Chemical-Radiochemical Control Procedure FNP-2-CCP-651, Rev. 7, entitled "Sampling the Reactor Coolant System," approved on December 22, 1991. The portions reviewed included sampling instructions and were adequate for the intended purpose. The inspector observed a licensee technician obtain the reactor coolant sample and noted that the procedure was followed closely as he completed his duties. Proper sampling techniques and health physics practices were utilized.

The source of the liquid waste sample was the Waste Evaporator Condensate Tank (WECT), the source of the noble gases sample was the Unit 1 Containment Atmosphere. Because the Containment Atmosphere sample contained only two isotopes, the licensee was given an NRC-spiked gas Marinelli flask to count. The licensee was also given an NRC-spiked particulate filter and charcoal cartridge for analysis.

Attachment 1 provides a comparison of the licensee's results to the NRC's results for each sample. Attachment 2 provides the criteria for assessing the agreement between the analytical results. As indicated in Attachment 1, the results were generally in agreement for the samples analyzed. However, there was one isotope of disagreement in the RCS sample, I-132. This anomaly had not been resolved as of this writing. However, this isotope is in a transient equilibrium situation, being the daughter with a short half life (2.28 hours) compared to its parent (Te-132) with a much longer half life (78.0 hours). This is a complicated analytical condition due to the rapid changes of activities of both isotopes (but especially the daughter (I-132, in

this case)) whereby small differences in time can yield large differences in activities. Furthermore, the inspector was satisfied that the licensee's program was adequate because the energy of radiation of not only the other four isotopes identified in the RCS, but of all of the other identified isotopes in all of the other samples, bracketed (i.e., were above and below) those of I-132. And all of them compared favorably with the NRC results, indicating that the licensee's analysis system was capable of identifying isotopes over a wide energy spectrum.

From the observations made during this inspection, the inspector concluded that the licensee demonstrated that a good Count Room radiochemical analysis program was in place.

No violations or deviations were identified.

3. Low Level Radwaste (LLW) Storage (84760)

A. Background

In 1985, the Federal Government enacted the Low Level Radioactive Waste Amendments Act, which required all states to provide for disposal of LLW. Eight southeastern states voted to form the Southeast Compact for this purpose. Barnwell, South Carolina has served as the Compact's LLW disposal site since that time but it is scheduled to close on December 31, 1992. North Carolina was chosen as the next host state for the LLW burial facility. In 1987, the North Carolina General Assembly established the North Carolina Low Level Radioactive Waste Management Authority, chartered with the responsibility to site, build, lease, or operate a LLW disposal facility in North Carolina for the Southeast Compact so that members could properly dispose of waste by-product materials produced by nuclear generators.

The siting process is approximately two years behind schedule and the facility is not anticipated to be completed when the current facility closes. If that happens, the members of the Southeast Compact will be without a disposal facility for an estimated two-year period.

The governor of South Carolina and the South Carolina Budget and Control Board have recommended keeping the Barnwell facility open to regional and non-regional radwaste generators. However, legislative action by the South Carolina General Assembly is required to extend the license and determine under what conditions and cost.

B. Farley Contingencies

The inspector requested to see the licensee's long-term LLW storage facilities to review issues such as ensuring integrity of packaging and maintenance of waste form (shielding from the elements and extremes of temperature and humidity); procedures and equipment available to repackage waste, should the need arise; and locating wastes in a restricted area secured against unauthorized removal.

The Radioactive Waste Supervisor explained to the inspector that Farley did not currently have a LLW storage facility, per se. However, the issue was being addressed by Southern Company management via a study to evaluate existing radwaste storage capabilities for interim storage for a period of time during which the Southeast Compact may not have access to a disposal facility.

Potential storage locations, generated radwaste quality data, and existing facilities were considered in a detailed generic study for all three nuclear plants of the Southern Company. The study envisioned the use of concrete pads and storage modules and would require approximately three months to construct. Preliminary sketches were being reviewed for comments and Production Change Request 91-0-7860 was being routed for approval and was expected to be issued by early June, 1992, followed by a detailed complete design to be issued in October, 1992.

The inspector concluded that the licensee's management was acting in a prudent manner.

No violations or deviations were identified.

4. Onsite Landfill Disposal (84750)

During Inspection 91-22 in December 1991, the inspector determined that no contaminated soil was on site awaiting future disposal nor had any been disposed of via onsite burial. However, due to time constraints, the inspector was unable to actually go to the onsite landfill to conduct a survey of its contents. Therefore, the inspector took the opportunity during this inspection to do that. The landfill operation was continuous. Shortly after a shipment was received at the landfill, it was covered by a layer of soil. The inspector found green bags of non-radioactive waste, various new (but expired) spare parts, metallic items, etc. No activity levels over natural background were measured.

The inspector also surveyed several drums in the nearby Drum Disposal Area. Three drums indicated activity levels somewhat higher than natural background. When notified of this finding, the licensee immediately assembled a team to investigate the situation. Resulting surveys found an activity of 500 counts per minute (cpm) in one drum and 300 cpm in the other two. An isotopic analysis determined that only naturally-occurring nuclides were contained in the contents of the drums, including K-40, Pb-212, Pb-214, and Bi-214. (K-40 has a half life of 1.28 billion years, while the other three are part of the radon decay chain and have half lives of a few minutes to a few hours, depending upon the particular nuclide.)

The inspector also reviewed Radiation Control and Protection Procedure FNP-0-RCP-57, Rev. 16, entitled "Radioactive and Potentially Radioactive Material Handling," issued March 31, 1991, which was utilized to ensure that no radioactive material was released from the Radiation Controlled Area (RCA) to an Unrestricted Area. Basically, it identified three separate inspections and verifications, as well as the associated documentation that these materials needed as they were moved from the RCA to an Unrestricted Area. Material which passed through to the Unrestricted Area under the auspices of this Procedure was deemed to be non-radioactive and could be disposed of at the onsite landfill.

The inspector concluded that there was no evidence of disposal of fission product or activation product nuclides in the onsite landfill, based on the referenced Procedure and survey of the landfill.

No violations or deviations were identified.

5. Exit Interview

The inspection scope and results were summarized on February 14, 1992, with those persons indicated in Paragrapn 1. The inspector described the areas inspected and discussed the inspection results, including likely informational content of the inspection report with regard to documents and/or processes reviewed during the inspection. The licensee did not identify any such documents or processes as proprietary. Dissenting comments were not received from the licensee.

6. Acronyms and Initialisms

cpm - counts per minute
FNP - Farley Nuclear Plant
HP - Health Physics
HPGe - High Purity Germanium

LLW - Low Level Radwaste
ml - milli-liter
NIST - National Institute of Standards and Technology
NRC - Nuclear Regulatory Commission
RCA - Radiologically Controlled Area
RCS - Reactor Coolant System
Rev - Revision
WECT - Waste Evaporator Condensate Tank

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ATTACHMENT 1

COMPARISON OF NRC AND FARLEY ANALYTICAL RESULTS
February 10-14, 1992

Type of Sample: Unit 2 Reactor Coolant System (RCS)

Sample Container: NRC 50 ml bottle
Farley 30 ml bottle

Radio-nuclide	Licensee's Value	NRC Value	Reso-lution	Ratio	Compar-ison
Detector #1 of Unit 1					
I-132	6.28E-4	(1.48 +/- 0.08)E-3	19	0.42	Disagree
I-133	7.86E-4	(7.07 +/- 0.54)E-4	13	1.11	Agree
I-134	2.90E-3	(2.79 +/- 0.13)E-3	21	1.04	Agree
I-135	1.43E-3	(1.54 +/- 0.11)E-3	14	0.93	Agree
Cs-138	3.26E-3	(2.86 +/- 0.25)E-3	11	1.14	Agree
Detector #2 of Unit 1					
I-132	7.10E-4	(1.48 +/- 0.08)E-3	19	0.47	Disagree
I-133	7.73E-4	(7.07 +/- 0.54)E-4	13	1.09	Agree
I-134	2.97E-3	(2.79 +/- 0.13)E-3	21	1.06	Agree
I-135	1.51E-3	(1.54 +/- 0.11)E-3	14	0.98	Agree
Cs-138	3.04E-3	(2.86 +/- 0.25)E-3	11	1.06	Agree
Detector #1 of Unit 2					
I-132	9.52E-4	(1.48 +/- 0.08)E-3	19	0.64	Disagree
I-133	7.64E-4	(7.07 +/- 0.54)E-4	13	1.08	Agree
I-134	2.63E-3	(2.79 +/- 0.13)E-3	21	0.94	Agree
I-135	1.55E-3	(1.54 +/- 0.11)E-3	14	1.01	Agree
Cs-138	2.63E-3	(2.86 +/- 0.25)E-3	11	0.92	Agree
Detector #2 of Unit 2					
I-132	1.16E-3	(1.48 +/- 0.08)E-3	19	0.78	Agree
I-133	7.16E-4	(7.07 +/- 0.54)E-4	13	1.01	Agree
I-134	2.67E-3	(2.79 +/- 0.13)E-3	21	0.96	Agree
I-135	1.46E-3	(1.54 +/- 0.11)E-3	14	0.95	Agree
Cs-138	2.89E-3	(2.86 +/- 0.25)E-3	11	1.01	Agree

Type of Sample: Liquid Radwaste (Waste Evaporator Condensate Tank, Split)

Sample Container: NRC 1000 ml liquid marinelli
Farley 1000 ml liquid marinelli

Radio-nuclide	Licensee's Value	NRC Value	Reso-lution	Ratio	Compar-ison
Detector #1 of Unit 1					
Co-58	7.95E-7	(8.33 +/- 1.18)E-7	7	0.95	Agree
Co-60	2.73E-6	(2.76 +/- 0.20)E-6	14	0.99	Agree
Ag-110m	6.67E-6	(6.34 +/- 0.34)E-6	19	1.05	Agree
Detector #2 of Unit 1					
Co-58	8.29E-7	(8.33 +/- 1.18)E-7	7	1.00	Agree
Co-60	2.73E-6	(2.76 +/- 0.20)E-6	14	0.99	Agree
Ag-110m	6.50E-6	(6.34 +/- 0.34)E-6	19	1.02	Agree
Detector #1 of Unit 2					
Co-58	8.03E-7	(8.33 +/- 1.18)E-7	7	0.96	Agree
Co-60	2.43E-6	(2.76 +/- 0.20)E-6	14	0.88	Agree
Ag-110m	6.61E-6	(6.34 +/- 0.34)E-6	19	1.04	Agree
Detector #2 of Unit 2					
Co-58	7.07E-7	(8.33 +/- 1.18)E-7	7	0.85	Agree
Co-60	2.66E-6	(2.76 +/- 0.20)E-6	14	0.96	Agree
Ag-110m	6.33E-6	(6.34 +/- 0.34)E-6	19	1.00	Agree

Type of Sample: Gas Marinelli Spike

Sample Container: NRC 1 liter Marinelli
Farley 1 liter Marinelli

Radio-nuclide	Licensee's Value	NRC Value	Reso-lution	Ratio	Compar-ison
Detector #1 of Unit 1					
Co-57	2.94E-5	(2.70 +/- 0.08)E-5	34	1.10	Agree
Co-60	1.77E-4	(1.59 +/- 0.05)E-4	32	1.11	Agree
Sr-85	2.97E-6	(2.54 +/- 0.27)E-6	9	1.17	Agree
Y-88	2.93E-5	(2.67 +/- 0.09)E-5	30	1.10	Agree
Cd-109	1.57E-3	(1.74 +/- 0.05)E-5	35	0.90	Agree
Sn-113	2.17E-5	(1.84 +/- 0.10)E-5	18	1.18	Agree
Cs-137	1.87E-4	(1.66 +/- 0.06)E-6	28	1.13	Agree
Ce-139	1.50E-5	(1.28 +/- 0.04)E-5	32	1.17	Agree
Detector #2 of Unit 1					
Co-57	3.03E-5	(2.70 +/- 0.08)E-5	34	1.12	Agree
Co-60	1.81E-4	(1.59 +/- 0.05)E-4	32	1.13	Agree
Sr-85	3.01E-6	(2.54 +/- 0.27)E-6	9	1.19	Agree
Y-88	2.93E-5	(2.67 +/- 0.09)E-5	30	1.10	Agree
Cd-109	1.66E-3	(1.74 +/- 0.05)E-5	35	1.05	Agree
Sn-113	2.24E-5	(1.84 +/- 0.10)E-5	18	1.22	Agree
Cs-137	1.92E-4	(1.66 +/- 0.06)E-6	28	1.16	Agree
Ce-139	1.53E-5	(1.28 +/- 0.04)E-5	32	1.20	Agree
Detector #1 of Unit 2					
Co-57	2.98E-5	(2.70 +/- 0.08)E-5	34	1.10	Agree
Co-60	1.80E-4	(1.59 +/- 0.05)E-4	32	1.13	Agree
Sr-85	2.91E-6	(2.54 +/- 0.27)E-6	9	1.15	Agree
Y-88	2.93E-5	(2.67 +/- 0.09)E-5	30	1.10	Agree
Cd-109	1.60E-3	(1.74 +/- 0.05)E-5	35	0.91	Agree
Sn-113	2.27E-5	(1.84 +/- 0.10)E-5	18	1.23	Agree
Cs-137	1.93E-4	(1.66 +/- 0.06)E-6	28	1.16	Agree
Ce-139	1.53E-5	(1.28 +/- 0.04)E-5	32	1.20	Agree
Detector #2 of Unit 2					
Co-57	3.02E-5	(2.70 +/- 0.08)E-5	34	1.12	Agree
Co-60	1.81E-4	(1.59 +/- 0.05)E-4	32	1.14	Agree
Sr-85	2.99E-6	(2.54 +/- 0.27)E-6	9	1.18	Agree
Y-88	3.05E-5	(2.67 +/- 0.09)E-5	30	1.14	Agree
Cd-109	1.69E-3	(1.74 +/- 0.05)E-5	35	0.97	Agree
Sn-113	2.28E-5	(1.84 +/- 0.10)E-5	18	1.24	Agree
Cs-137	1.90E-4	(1.66 +/- 0.06)E-6	28	1.15	Agree
Ce-139	1.54E-5	(1.28 +/- 0.04)E-5	32	1.20	Agree

Type of Sample: Unit 1 Containment Atmosphere

Sample Container: NRC 1 liter Marinelli
Farley 1 liter Marinelli

Radio-nuclide	Licensee's Value	NRC Value	Resolution	Ratio	Comparison
Detector #1 of Unit 1					
Ar-41	8.89E-7	(7.68 +/- 1.08)E-7	7	1.16	Agree
Xe-133	1.42E-6	(1.21 +/- 0.08)E-6	15	1.15	Agree
Detector #2 of Unit 1					
Ar-41	8.85E-7	(7.68 +/- 1.08)E-7	7	1.15	Agree
Xe-133	1.21E-6	(1.21 +/- 0.08)E-6	15	1.00	Agree
Detector #1 of Unit 2					
Ar-41	9.52E-7	(7.68 +/- 1.08)E-7	7	1.24	Agree
Xe-133	1.23E-6	(1.21 +/- 0.08)E-6	15	1.02	Agree
Detector #2 of Unit 2					
Ar-41	8.43E-7	(7.68 +/- 1.08)E-7	7	1.10	Agree
Xe-133	1.27E-6	(1.21 +/- 0.08)E-6	15	1.05	Agree

Type of Sample: Particulate Filter (NRC Spike)

Radio-nuclide	Licensee's Value	NRC Value	Resolution	Ratio	Comparison
Detector #1 of Unit 1					
Co-57	3.75E-3	(2.94 +/- 0.11)E-3	27	1.28	Agree
Co-60	2.83E-2	(2.41 +/- 0.09)F-2	27	1.17	Agree
Y-88	1.14E-2	(9.99 +/- 0.39)E-3	26	1.14	Agree
Cd-109	1.14E-1	(1.15 +/- 0.04)E-1	29	0.99	Agree
Cs-137	2.56E-2	(2.33 +/- 0.10)E-2	23	1.10	Agree
Detector #2 of Unit 1					
Co-57	3.57E-3	(2.94 +/- 0.11)E-3	27	1.21	Agree
Co-60	2.78E-2	(2.41 +/- 0.09)E-2	27	1.15	Agree
Y-88	1.13E-2	(9.99 +/- 0.39)E-3	26	1.13	Agree
Cd-109	1.08E-1	(1.15 +/- 0.04)E-1	29	0.94	Agree
Cs-137	2.48E-2	(2.33 +/- 0.10)E-2	23	1.06	Agree

Detector #1 of Unit 2

Co-57	3.46E-3	(2.94 +/- 0.11)E-3	27	1.18	Agree
Co-60	2.82E-2	(2.41 +/- 0.09)E-2	27	1.17	Agree
Y-88	1.13E-2	(9.99 +/- 0.39)E-3	26	1.13	Agree
Cd-109	1.06E-1	(1.15 +/- 0.04)E-1	29	0.92	Agree
Cs-137	2.53E-2	(2.33 +/- 0.10)E-2	23	1.08	Agree

Detector #2 of Unit 2

Co-57	3.47E-3	(2.94 +/- 0.11)E-3	27	1.18	Agree
Co-60	2.76E-2	(2.41 +/- 0.09)E-2	27	1.14	Agree
Y-88	1.10E-2	(9.99 +/- 0.39)E-3	26	1.10	Agree
Cd-109	1.05E-1	(1.15 +/- 0.04)E-1	29	0.91	Agree
Cs-137	2.53E-2	(2.33 +/- 0.10)E-2	23	1.08	Agree

Type of Sample: Charcoal Cartridge (NRC spike)

Radio-nuclide	Licensee's Value	NRC Value	Reso-lution	Ratio	Compar ison
Detector #1 of Unit 1					
Co-57	8.50E-3	(7.72 +/- 0.26)E-3	30	1.10	Agree
Co-60	4.84E-2	(4.69 +/- 0.16)E-2	29	1.03	Agree
Y-88	7.93E-3	(7.53 +/- 0.37)E-3	20	1.05	Agree
Cd-109	4.51E-1	(4.89 +/- 0.14)E-1	35	0.92	Agree
Cs-137	5.22E-2	(4.67 +/- 0.21)E-2	22	1.12	Agree
Detector #2 of Unit 1					
Co-57	8.22E-3	(7.72 +/- 0.26)E-3	30	1.06	Agree
Co-60	4.69E-2	(4.69 +/- 0.16)E-2	29	1.00	Agree
Y-88	8.32E-3	(7.53 +/- 0.37)E-3	20	1.10	Agree
Cd-109	4.33E-1	(4.89 +/- 0.14)E-1	35	0.89	Agree
Cs-137	4.97E-2	(4.67 +/- 0.21)E-2	22	1.06	Agree
Detector #1 of Unit 2					
Co-57	8.28E-3	(7.72 +/- 0.26)E-3	30	1.07	Agree
Co-60	4.85E-2	(4.69 +/- 0.16)E-2	29	1.03	Agree
Y-88	7.94E-3	(7.53 +/- 0.37)E-3	20	1.05	Agree
Cd-109	4.34E-1	(4.89 +/- 0.14)E-1	35	0.89	Agree
Cs-137	5.14E-2	(4.67 +/- 0.21)E-2	22	1.10	Agree
Detector #2 of Unit 2					
Co-57	8.58E-3	(7.72 +/- 0.26)E-3	30	1.11	Agree
Co-60	4.97E-2	(4.69 +/- 0.16)E-2	29	1.06	Agree
Y-88	8.06E-3	(7.53 +/- 0.37)E-3	20	1.07	Agree
Cd-109	4.67E-1	(4.89 +/- 0.14)E-1	35	0.96	Agree
Cs-137	5.27E-2	(4.67 +/- 0.21)E-2	22	1.13	Agree

ATTACHMENT 2

CRITERIA FOR COMPARISONS OF ANALYTICAL MEASUREMENTS

This attachment provides criteria for the comparison of results of analytical radioactivity measurements. These criteria are based on empirical relationships which combine prior experience in comparing radioactivity analyses, the measurement of the statistically random process of radioactive emission, and the accuracy needs of this program.

In these criteria, the "Comparison Ratio Limits"[1] denoting agreement or disagreement between licensee and NRC results are variable. This variability is a function of the ratio of the NRC's analytical value relative to its associated statistical and analytical uncertainty, referred to in this program as "Resolution"[2].

For comparison purposes, a ratio between the licensee's analytical value and the NRC's analytical value is computed for each radionuclide present in a given sample. The computed ratios are then evaluated for agreement or disagreement based on "Resolution." The corresponding values for "Resolution" and the "Comparison Ratio Limits" are listed in the Table below. Ratio values which are either above or below the "Comparison Ratio Limits" are considered to be in disagreement, while ratio values within or encompassed by the "Comparison Ratio Limits" are considered to be in agreement.

TABLE

NRC Confirmatory Measurements Acceptance Criteria
Resolution vs. Comparison Ratio Limits

Resolution	Comparison Ratio Limits for Agreement
<4	0.4 - 2.5
4 - 7	0.5 - 2.0
8 - 15	0.6 - 1.66
16 - 50	0.75 - 1.33
51 - 200	0.80 - 1.25
>200	0.85 - 1.18

[1]Comparison Ratio = $\frac{\text{Licensee Value}}{\text{NRC Reference Value}}$

[2]Resolution = $\frac{\text{NRC Reference Value}}{\text{Associated Uncertainty}}$