EGG-NTA-9161

TECHNICAL EVALUATION REPORT

CONFORMANCE TO REGULATORY GUIDE 1.97: NINE MILE POINT-1

Docket No. 50-220

Alan C. Udy

Published September 1991

EG&G Idaho, Inc.
Idaho National Engineering Laboratory
Idaho Falls, Idaho 83415

Prepared for the
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Under DOE Contract No. DE-AC07-76ID01570
FIN No. A6483
TAC No. 69209

SUMMARY

This EG&G Idaho, Inc., report documents the review of the Regulatory Guide 1.97, Revision 2, submittals for Unit Number 1 of the Nine Mile Point Nuclear Station and identifies areas of nonconformance to the regulatory guide. Exceptions to Regulatory Guide 1.97 are evaluated and those areas where sufficient basis for acceptability is not provided are identified.

FIN No. A6483
B&R 120-19-15-02-0
Docket No. 50-220
TAC No. 69209

PREFACE

This report is supplied as part of the "Program for Evaluating Licensee/Applicant Conformance to RG 1.97," being conducted for the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Division of Systems Technology, by EG&G Idaho, Inc., Regulatory and Technical Assistance Unit.

CONTENTS

CONFORMANCE TO REGULATORY GUIDE 1.97: NINE MILE POINT-1

1. INTRODUCTION

On December 17, 1982, Generic Letter No. 82-33 (Reference 1) was issued by D. G. Eisenhut, Director of the Division of Licensing, Nuclear Reactor Regulation, to all licensees of operating reactors, applicants for operating licenses, and holders of construction permits. This letter included additional clarification regarding Regulatory Guide 1.97, Revision 2 (Reference 2), relating to the requirements for emergency response capability. These requirements have been published as Supplement No. 1 to NUREG-0737, "TMI Action Plan Requirements" (Reference 3).

Niagara Mohawk Power Corporation, the licensee for the Nine Mile Point Nuclear Station, provided a Unit 1 specific response to Item 6.2 of the generic letter on April 2, 1984 (Reference 4). The licensee provided additional information in submittals dated October 18, 1985 (Reference 5), and December 6, 1985 (Reference 6). These submittals were the basis for a previous Technical Evaluation Report, EGG-NTA-6880 (Reference 7).

The licensee provided schedules on May 19, 1989 (Reference 8). The licensee supplied updated information for their Unit 1 instrumentation on July 31, 1989 (Reference 9). Reference 9 superseded the earlier information. The licensee provided additional information on May 25, 1990 (Reference 10), October 29, 1990 (Reference 11), and August 26, 1991 (Reference 12).

This report, based on the recommendations of Regulatory Guide 1.97, Revision 2, compares the instrumentation described in the licensee's Unit 1 submittals with these recommendations.

satisfied the plant's original seismic design basis criteria, it was acceptable for meeting the seismic criteria of Regulatory Guide 1.97. Therefore, this report addresses only those exceptions to Regulatory Guide 1.97 identified by the licensee. The following evaluation is an audit of the licensee's submittals based on the review policy described in the NRC regional meetings.

1. are monitored and controlled post-accident to mitigate the consequences of the event and to assure the accomplishment of plant safety functions,

2. are used to assess a need for manual operator action, or

3. are maintained, by operator action, either above or below an EOP specified value or limit.

The licensee states that EOP key parameters are Category 1 variables. Thus, the definition of EOP key parameters is inclusive of the definition for Type A variables. The licensee defines the following variables as EOP key parameters.

1. neutron flux -- average power range monitors

2. coolant level in reactor

3. reactor coolant system (RCS) pressure

4. suppression pool (torus) water temperature

5. suppression pool (torus) water level

6. drywell temperature

7. drywell pressure

8. containment hydrogen concentration

9. containment oxygen concentration

10. drywell water level

We note that drywell water level is not a Regulatory Guide 1.97 variable.

The licensee is revising the power sources for this instrumentation to achieve divisional independence.

The ACUREX fuel zone transmitters (36-24A and 36-24B) share a common reactor vessel low-end tap and sensing line. The licensee committed to train control room operators for a postulated break in this sensing line. The licensee lists indications useful in diagnosing this postulated event. The licensee lists alternate means for determining the reactor vessel water level if this occurs. The licensee states these instruments do not start any automatic actions or confirm any automatic actions. The instrument line is approximately one inch in diameter. This break size is an analyzed postulated event in the Final Safety Analysis Report. Emergency Operating Procedure EOP-2, "RPV Control," includes actions needed to restore and maintain the RPV water level. Based on the licensee analysis and available contingencies, we find the design with a single vessel tap and sensing line acceptable.

3.3.5 BWR Core Thermocouples

Regulatory Guide 1.97 recommends Category 1 instrumentation for this variable. However, Section 6.1.b of Supplement No. 1 to NUREG-0737 (Reference 3) excludes this instrumentation. Therefore, this variable does not require instrumentation.

3.3.6 Reactor Coolant System (RCS) Pressure

Regulatory Guide 1.97 recommends Category 1 instrumentation for this variable. Category 1 criteria include qualified isolation devices for transmission of signals to other equipment. The licensee's instrumentation had two problems in this area. First, the signal feeds the feedwater control system without using a qualified isolation device. Second, a switch has inputs from both channels. The switch feeds the selected signal to a common recorder display with a span of 950 psig to 1050 psig. The licensee has rewired this switching network to maintain separation (Reference 13).

The licensee lists nonclass 1E power for the following components.

Closed contact	Open contact	Valve
44.2-15-1LSC	44.2-15-1LSO	44.2-15A
44.2-16-1LSC	44.2-16-1LSO	44.2-16A
44.2-17-1LSC	44.2-17-1LSO	44.2-17A
44.2-18-1LSC	44.2-18-1LSO	44.2-18A
40-02-1LSC	40-02-1LSO	40-02B
40-12-1LSC	40-12-1LSO	40-12B

Reference 12 clarifies this situation. Nonclass 1E power powers the indication lamps that are part of the control switch. The primary containment isolation valve mimic display uses Class 1E power for the position indication for these valves. We find this acceptable.

The mimic display needs no individual annotation of the Regulatory Guide 1.97 function, as the mimic's function is to display the status of containment isolation.

3.3.10 Radiation Level in Circulating Primary Coolant

The licensee states that the following radiation level measurements indicate fuel cladding failure:

- containment radiation level
- main steamline radiation level
- off-gas radiation level
- post-accident sampling system

The NRC reviewed and approved the post-accident sampling system as part of their review of NUREG-0737, Item II.B.3.

1. are monitored and controlled post-accident to mitigate the consequences of the event and to assure the accomplishment of plant safety functions,

2. are used to assess a need for manual operator action, or

3. are maintained, by operator action, either above or below an EOP specified value or limit.

The licensee states that EOP key parameters are Category 1 variables. Thus, the definition of EOP key parameters is inclusive of the definition for Type A variables. The licensee defines the following variables as EOP key parameters.

1. neutron flux -- average power range monitors

2. coolant level in reactor

3. reactor coolant system (RCS) pressure

4. suppression pool (torus) water temperature

5. suppression pool (torus) water level

6. drywell temperature

7. drywell pressure

8. containment hydrogen concentration

9. containment oxygen concentration

10. drywell water level

We note that drywell water level is not a Regulatory Guide 1.97 variable.

to 12.5 percent power, with manual switching between linear ranges. The IRMs share, via switching, recorders with the APRMs.

The licensee's SRMs consist of four channels. Two channels receive power from RPS bus 11; the remaining two channels receive power from RPS bus 12. The detectors are seismically qualified. The licensee states that environmental qualification is not required. All four SRM channels have indicators. The licensee also records two of the four channels. The range is 1 count per second to 10^6 counts per second. The licensee states that this range covers up to 10^{-5} percent of full reactor power.

The licensee is a sponsoring utility of the Boiling Water Reactor Owners Group (BWROG) appeal of the NRC staff position that directed the installation of upgraded, qualified neutron monitoring instrumentation. The licensee deferred plant specific implementation until the BWROG appeal is resolved.

The NRC is currently reviewing the BWROG appeal. Upon resolution of the appeal, the licensee should install instrumentation that complies with the resolution of the BWROG appeal. We conclude that the existing instrumentation is acceptable for interim operation.

3.3.2 Control Rod Position

Regulatory Guide 1.97 recommends Category 3 instrumentation for this variable to indicate full in or not full in. The licensee's instrumentation indicates steps 00 through 48. We find this alternate range acceptable.

3.3.3 Reactor Control System Soluble Boron Concentration

Regulatory Guide 1.97 recommends sampling and analysis for this variable. It recommends resolution between zero and 1000 parts per million. The licensee's post-accident sampling system can resolve between 50 parts per

The instrumentation is usable after showing instrument operability following an offscale excursion. The licensee uses portable survey instruments, containment atmosphere sampling, and radiation monitors in the plant stack for release detection and assessment and for long term surveillance. Based on the alternative indications, instrument capabilities, and Revision 3 of the regulatory guide, we find this instrumentation acceptable.

3.3.18 Effluent Radioactivity - Noble Gases

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable with a range of 10^{-6} μCi/cc to 10^{3} μCi/cc. The licensee indicates that the three RAGEMS channels provide this data. The licensee states that the instrumentation is in a mild environment. The instrumentation display is in the chem lab. The licensee lists two channels with a range of 10^{-6} μCi/cc to 10^{-3} μCi/cc. The remaining channel has a range of 10^{-6} μCi/cc to 10^{3} μCi/cc. Section 6.2 of Supplement No. 1 to NUREG-0737 (Reference 3) makes allowance for displays in places other than the control room. The instrumentation is in a mild environment. A channel of this instrumentation exceeds the recommended range. Therefore, we find the provided instrumentation acceptable.

3.3.19 Suppression Chamber Spray Flow
Drywell Spray Flow

Regulatory Guide 1.97 recommends Category 2 instrumentation for these two variables. The licensee's containment spray system consists of two redundant pumping and distribution trains. The licensee's instrumentation measures the flow at the output of each pump. Thus, the instrumentation measures the total system flow to both of the sprays included in the regulatory guide criteria. The licensee indicates that each spray header receives a fixed portion of the total flow. We find the total flow indication

3.3.21 Main Steamline Isolation Valves' Leakage Control System Pressure

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The licensee states that Nine Mile Point-1 has no leakage control system on the main steamline isolation valves. Therefore, this variable does not require instrumentation.

3.3.22 Primary System Safety Relief Valve Positions

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The licensee's valve tailpipe thermocouple system is Category 3. The licensee's acoustic monitoring system is Category 2. Thus, the licensee's acoustic monitoring instrumentation satisfies the regulatory guide criteria for this variable.

3.3.23 Reactor Core Isolation Cooling System Flow

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The licensee states that Nine Mile Point-1 has no reactor core isolation cooling system. Therefore, this instrumentation is not required.

3.3.24 High Pressure Coolant Injection (HPCI) System Flow

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The licensee states that the main feedwater pumps perform the HPCI function. The main feedwater flow has instrumentation that does not satisfy the environmental qualification criteria for Category 2 instrumentation.

The licensee clarified the environmental qualification requirements for the main feedwater flow instrumentation. Because the transmitters are in a mild post-accident environment, they do not require environmental

The licensee is revising the power sources for this instrumentation to achieve divisional independence.

The ACUREX fuel zone transmitters (36 24A and 36-24B) share a common reactor vessel low-end tap and sensing line. The licensee committed to train control room operators for a postulated break in this sensing line. The licensee lists indications useful in diagnosing this postulated event. The licensee lists alternate means for determining the reactor vessel water level if this occurs. The licensee states these instruments do not start any automatic actions or confirm any automatic actions. The instrument line is approximately one inch in diameter. This break size is an analyzed postulated event in the Final Safety Analysis Report. Emergency Operating Procedure EOP-2, "RPV Control," includes actions needed to restore and maintain the RPV water level. Based on the licensee analysis and available contingencies, we find the design with a single vessel tap and sensing line acceptable.

3.3.5 BWR Core Thermocouples

Regulatory Guide 1.97 recommends Category 1 instrumentation for this variable. However, Section 6.1.b of Supplement No. 1 to NUREG-0737 (Reference 3) excludes this instrumentation. Therefore, this variable does not require instrumentation.

3.3.6 Reactor Coolant System (RCS) Pressure

Regulatory Guide 1.97 recommends Category 1 instrumentation for this variable. Category 1 criteria include qualified isolation devices for transmission of signals to other equipment. The licensee's instrumentation had two problems in this area. First, the signal feeds the feedwater control system without using a qualified isolation device. Second, a switch has inputs from both channels. The switch feeds the selected signal to a common recorder display with a span of 950 psig to 1050 psig. The licensee has rewired this switching network to maintain separation (Reference 13).

automatically isolate at the primary containment penetration should an accident occur. Drywell temperature, drywell pressure, and reactor pressure vessel water level can also show leakage from the reactor coolant system.

We conclude that the alternate instrumentation provided by the licensee will provide the appropriate monitoring of the sumps for the parameters of concern. We base this conclusion on the following.

1. For small leaks, the instrumentation will not experience a harsh environment during operation and will show response to the leak.

2. For larger leaks, the sumps fill promptly and the sump drain lines isolate due to the increase in drywell pressure, thus negating the drywell sump level and drywell drains sump level instrumentation.

3. The drywell pressure and temperature (both Category 1), as well as the reactor pressure vessel water level (Category 1) are alternative indications of leakage in the drywell.

4. This instrumentation neither automatically starts nor alerts the operator to start operation of a safety-related system in a post-accident situation.

Therefore, we find the provided alternate instrumentation acceptable.

3.3.9 Primary Containment Isolation Valve Position

Regulatory Guide 1.97 recommends Category 1 indication of the open-closed position of the primary containment isolation valves. Category 1 criteria include redundancy, environmental and seismic qualification, Class 1E power, and labeling in the control room. The licensee provides a comprehensive listing of their containment isolation valves with a description of the position monitoring components.

The licensee lists nonclass 1E power for the following components.

Closed contact	Open contact	Valve
44.2-15-1LSC	44.2-15-1LSO	44.2-15A
44.2-16-1LSC	44.2-16-1LSO	44.2-16A
44.2-17-1LSC	44.2-17-1LSO	44.2-17A
44.2-18-1LSC	44.2-18-1LSO	44.2-18A
40-02-1LSC	40-02-1LSO	40-02B
40-12-1LSC	40-12-1LSO	40-12B

Reference 12 clarifies this situation. Nonclass 1E power powers the indication lamps that are part of the control switch. The primary containment isolation valve mimic display uses Class 1E power for the position indication for these valves. We find this acceptable.

The mimic display needs no individual annotation of the Regulatory Guide 1.97 function, as the mimic's function is to display the status of containment isolation.

3.3.10 Radiation Level in Circulating Primary Coolant

The licensee states that the following radiation level measurements indicate fuel cladding failure:

- containment radiation level
- main steamline radiation level
- off-gas radiation level
- post-accident sampling system

The NRC reviewed and approved the post-accident sampling system as part of their review of NUREG-0737, Item II.B.3.

feet above the normal operating level. Therefore, we find the provided 1.25 foot to 14.75 feet suppression pool water level instrumentation acceptable.

3.3.14 Containment and Drywell Hydrogen Concentration

Regulatory Guide 1.97 recommends instrumentation for this variable with a range of zero to 30 percent. The licensee's instrumentation has a range of zero to 100 percent. This represents either zero to 5 percent or zero to 20 percent, depending on the position of a selector switch. Each channel of instrumentation has its own range selector switch.

The licensee states that the primary concern for an inerted containment is the concentration of oxygen. Combustion could not occur if sufficient oxygen is not present.

The NRC reviewed and approved this instrumentation as part of their review of NUREG-0737, Item II.F.1.6. We find this a good faith attempt [as defined in NUREG-0737, Supplement No. 1, Section 3.7 (Reference 3)] to meet NRC requirements. Therefore, this instrumentation is acceptable.

3.3.15 Containment and Drywell Oxygen Concentration

Regulatory Guide 1.97 recommends instrumentation for this variable with a range of zero to 10 percent. The licensee's instrumentation has a range of zero to 100 percent. This represents either zero to 5 percent or zero to 25 percent, depending on the same selector switch used for hydrogen concentration. Each channel of instrumentation has its own range selector switch.

While the zero to 5 percent span does not comply with the regulatory guide, the zero to 25 percent span does. Therefore, this instrumentation is acceptable.

We find the use of the above instrumentation valid as an alternate indication of SLCS flow.

3.3.28 Standby Liquid Control System (SLCS) Storage Tank Level

Regulatory Guide 1.97 recommends instrumentation for this variable with a range from the bottom to the top of the tank. The licensee's instrumentation has a span of 350 gallons to 4150 gallons. The span corresponds to the pump suction inlet and the tank overflow vent. Plant Technical Specifications require a maximum volume of 4080 gallons in this tank. At 350 gallons, the tank is essentially empty. Additional pumping will not occur from below the pump suction line. Therefore, the 350 gallon to 4150 gallon range is acceptable.

The licensee notes that they are processing a modification to change this range. The licensee identified the new range in Reference 12 as zero to 2000 gallons. The licensee states that they will use enriched boron. With enriched boron, the technical specifications require a minimum of 1185 gallons. The maximum expected level is 1500 gallons. Based on these limits, we find the zero to 2000 gallon range acceptable.

3.3.29 Residual Heat Removal (RHR) System Flow

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The regulatory guide recommends a range of zero to 110 percent of design flow. Nine Mile Point-1 has no direct indication of RHR system flow. The licensee states that the RHR function is part of the shutdown cooling system. The shutdown cooling system operates after establishing a normal, stable shutdown cooling condition in the long term recovery. The immediate post-accident recovery does not use the RHR function.

3.3.31 Cooling Water Temperature to Engineered Safety Features System Components

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The licensee indicates that the subgroup of engineered safety features components for this variable are the core spray pumps and the containment spray pumps. These pumps receive cooling water from the recirculation of a portion of the pump discharge flow. Pump suction is from the suppression pool. Category 1 instrumentation monitors the suppression pool temperature.

As the cooling water temperature is essentially the same as the suppression pool water temperature, we find the licensee's instrumentation and design for this variable acceptable.

3.3.32 Cooling Water Flow to Engineered Safety Features System Components

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. Nine Mile Point-1 does not use a separate cooling system to cool these components. The core spray pumps and the containment spray pumps receive cooling water from the recirculation of a portion of the pump discharge flow. Pump suction is from the suppression pool. Thus, cooling water flow to these components is coincident with pump operation. No other components are the subject of this variable.

Based on the described features of these components, we find this exception from the Regulatory Guide 1.97 recommendations acceptable.

3.3.33 High Radioactivity Liquid Tank Level

Regulatory Guide 1.97 recommends instrumentation for this variable with a range from the top to the bottom of the tank. The instrument span is zero to 166 inches, with an indicator marked zero to 100 percent. The tank height

alternate instrumentation used by the licensee with this back-up instrumentation, we find the compliment of instruments proposed to monitor the secondary containment area radiation acceptable.

3.3.35 Noble Gases and Vent Flow Rate - Common Plant Vent

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. Category 2 criteria include environmental qualification. The regulatory guide recommends ranges of 10^{-6} μCi/cc to 10^{3} μCi/cc (10^{4} μCi/cc if including certain purge flows) and zero to 110 percent of vent design flow. The licensee's radiological assessment and gaseous effluent monitoring system (RAGEMS) measures from 10^{-6} μCi/cc to 10^{3} μCi/cc. The display is in the chem lab. The licensee infers that coverage beyond this is not necessary; that the provided range meets the recommendations of the regulatory guide. Reference 5 describes acceptable flow instrumentation. Reference 12 indicates that the range of zero to 250,000 cubic feet per minute satisfies the recommendations of the regulatory guide. Additionally, Section 6.2 of Supplement No. 1 to NUREG-0737 (Reference 3) makes allowance for displays in places other than the control room. Therefore, we find the instrumentation supplied for this variable acceptable.

3.3.36 Particulates and Halogens-- All Identified Plant Release Permits

Regulatory Guide 1.97 recommends sampling with onsite analysis capability for this variable and measurement of flow. It recommends an analysis capability of 10^{-3} μCi/cc to 10^{2} μCi/cc. The licensee indicates an analysis capability of 10^{-8} μCi/cc to 10^{-3} μCi/cc. The RAGEMS flow instrument monitors the flow. In Reference 5, the licensee discusses the analysis of undiluted and diluted samples. With a six decade span for undiluted samples, and the capability to dilute the samples, we find the provided analysis capability acceptable.

12. The minimum range recommended for hydrogen content is zero. The provided minimum limit is 0.1 percent. The minimum range recommended for oxygen content is zero. The provided minimum limit is 0.5 percent.

The licensee deviates from the Regulatory Guide 1.97 post-accident sampling capability recommendations. The NRC reviewed and approved the licensee's post-accident sampling facility as part of their review of NUREG-0737, Item II.B.3.

3.3.40 Redundancy and Separation

Regulatory Guide 1.97 recommends protecting Category 1 instrument channels against potential single failures by applying the redundancy and separation criteria of Regulatory Guide 1.75 up to and including any isolation devices. Nine Mile Point-1 was designed and constructed before the guidance of Regulatory Guide 1.75 was available.

The licensee acknowledges that their separation of divisional cables is not consistent. The licensee determined that no single hazard source would render both redundant instrument loops inoperable for any variable. The licensee's cable routing design guideline, EDG-1300, provides design guidance for redundancy and separation for system modifications. Reference 11 gives details on the licensee's analysis of cable routing. Verification and validation activities document, evaluate, report, and resolve any separation anomalies identified. The licensee has determined that they will not lose both redundant instrument channels for any variable simultaneously due to a single event. The licensee has committed to provide redundancy and separation for modifications. The licensee has committed to maintain the existing redundancy and separation. Therefore, we find the licensee's redundancy and separation Design Criteria Document acceptable for Regulatory Guide 1.97.

3.3.42 Instrument Upgrades

The licensee is developing Design Criteria Documents, and associated personnel training, to assure meeting the design basis requirements of Regulatory Guide 1.97 separation, environmental qualification, seismic qualification, quality assurance, and power sources (including fuse sizing and coordination and wiring sizing) for future modifications and designs. Thus, the licensee has a design modification procedure for instrumentation to assure the incorporation of the recommendations of Regulatory Guide 1.97 into future instrumentation modifications. We find this commitment commendable.

5. REFERENCES

1. Letter, NRC (D. G. Eisenhut) to All Licensees of Operating Reactors, Applicants for Operating Licenses, and Holders of Construction Permits, "Supplement No. 1 to NUREG-0737--Requirements for Emergency Response Capability (Generic Letter No. 82-33)," December 17, 1982.

2. Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Regulatory Guide 1.97, Revision 2, NRC, Office of Standards Development, December 1980.

3. Clarification of TMI Action Plan Requirements, Requirements for Emergency Response Capability, NUREG-0737, Supplement No. 1, NRC, Office of Nuclear Reactor Regulation, January 1983.

4. Letter, Niagara Mohawk Power Corporation (C. V. Mangan) to NRC, April 2, 1984.

5. Letter, Niagara Mohawk Power Corporation (C. V. Mangan) to NRC, "Request for Additional Information Concerning Niagara Mohawk Power Corporation's Submittal on Section 6 of Supplement 1 to NUREG-0737, Regulatory Guide 1.97 - Application to Emergency Response Facilities," October 18, 1985.

6. Letter, Niagara Mohawk Power Corporation (C. V. Mangan) to NRC, December 6, 1985.

7. Technical Evaluation Report, "Conformance to Regulatory Guide 1.97, Nine Mile Point Nuclear Station, Unit No. 1," EGG-EA-6880, Revision 1, A. C. Udy, January 1986, EG&G Idaho, Inc., Idaho National Engineering Laboratory, Idaho Falls, ID 83415.

8. Letter, Niagara Mohawk Power Corporation (C. D. Terry) to NRC, May 19, 1989, NMP1L 0401.

9. Letter, Niagara Mohawk Power Corporation (C. D. Terry) to NRC, July 31, 1989.

10. Letter, Niagara Mohawk Power Corporation (C. D. Terry) to NRC, May 25, 1990, NMP1L0507.

11. Letter, Niagara Mohawk Power Corporation (C. D. Terry) to NRC, October 29, 1990, NMP1L 0534.

12. Letter, Niagara Mohawk Power Corporation (C. D. Terry) to NRC, August 26, 1991, NMP1L 0601.

13. Letter, NRC Region I (J. P. Durr) to Niagara Mohawk Power Corporation (L. Burkhardt III), "Inspection No. 50-220/89-35," February 1, 1990.

NRC FORM 335 U.S. NUCLEAR REGULATORY COMMISSION

BIBLIOGRAPHIC DATA SHEET

(See instructions on the reverse)

1 REPORT NUMBER (Assigned by NRC, Add Vol., Supp., Rev., and Addendum Numbers, if any.)

EGG-NTA-9161

2 TITLE AND SUBTITLE

CONFORMANCE TO REGULATORY GUIDE 1.97: NINE MILE POINT-1

3 DATE REPORT PUBLISHED

MONTH: September YEAR: 1991

4 OR GRANT NUMBER

A6483

5 AUTHOR(S)

Alan C. Udy

6 TYPE OF REPORT

Technical Evaluation

7 PERIOD COVERED (Inclusive Dates)

8 PERFORMING ORGANIZATION – NAME AND ADDRESS (If NRC, provide Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address; if contractor, provide name and mailing address.)

Regulatory and Technical Assistance
EG&G Idaho, Inc.
P.O. Box 1625
Idaho Falls, ID 83415-2409

9 SPONSORING ORGANIZATION – NAME AND ADDRESS (If NRC, type "Same as above"; if contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address.)

Division of Systems Technology
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

10 SUPPLEMENTARY NOTES

11 ABSTRACT (200 words or less)

This EG&G Idaho, Inc., report documents the review of the Regulatory Guide 1.97, Revision 2, submittals for Unit No. 1 of the Nine Mile Point Nuclear Station, and identifies areas of nonconformance to the regulatory guide. Exceptions to Regulatory Guide 1.97 are evaluated and those areas where sufficient basis for acceptability is not provided are identified.

12 KEY WORDS/DESCRIPTORS (List words or phrases that will assist researchers in locating the report.)

13 AVAILABILITY STATEMENT

14 SECURITY CLASSIFICATION

(This Page)

(This Report)

15 NUMBER OF PAGES

16 PRICE

NRC FORM 335 (2-89)