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IES UTILITIES

NG-97-0885
May 16, 1997

Mr. Samuel J. Collins, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-37
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No. 50-331
Operating License No. DPR-49
Reporting of Changes to the Quality Assurance Program Description (QAPD), UFSAR 17.2

Reference: Revision 13 of the DAEC Updated Final Safety Analysis Report dated May 16, 1997 (NG-97-0833 from John F. Franz to Samuel J. Collins)

File: A-116, A-365, Q-98

Dear Mr. Collins:

This letter transmits changes to Revision 17 of the IES Utilities Inc. Quality Assurance Program Description (QAPD) for the Duane Arnold Energy Center (DAEC) in accordance with the requirements of 10 CFR 50.54(a)(3).

This submittal includes the following changes to the QAPD, none of which is a reduction in commitment:

- Revised Updated Final Safety Analysis Report (UFSAR) Table 3.2-1 to recognize facility modifications which removed the Main Steam Isolation Valve (MSIV) Leakage Control System and added the MSIV Leakage Treatment System.

- Corrected previous omissions and incorrect classifications for "Code Class" and "Equivalent ASME B&PV Code Section III" for the Emergency Service Water (ESW) system in UFSAR Table 3.2-1.

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- Made editorial changes for "title" and recognized the removal of comments in UFSAR Table 3.2-1.

- Revised basis for the inservice inspection program to ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda.

Attachment 1 to this submittal is the changed pages in UFSAR Table 3.2-1, UFSAR Section 17.2, and Appendix A thereto (Revision 18). Changes to UFSAR 17.2 are identified by revision bars in the margin. Changes to Table 3.2-1 are identified by "clouding" the changes.

Attachment 2 to this submittal discusses the changes in UFSAR Table 3.2-1 and the QAPD, the reasons for the changes, and states the bases for concluding that the program continues to satisfy the criteria of 10 CFR Part 50, Appendix B.

Changes to UFSAR Table 3.2-1 are included in the UFSAR update (Reference 1) submitted on May 16, 1997 in accordance with 10 CFR 50.71(e). Upon approval, changes to UFSAR Section 17.2, and Appendix A will be incorporated into Revision 18 of the IES Utilities Inc. QAPD.

Very truly yours,

Kenneth E. Peveler
Manager, Regulatory Performance

KEP/DJJ/jg
Attachments: 1) Affected Pages from the DAEC UFSAR, Chapter 17.2
2) Discussion of Changes in the Quality Assurance Program Description

cc: L. Root
J. Franz
D. Jantosik
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NRC Resident Office
DOCU

Attachment 1
to NG-97-0885

Affected Pages from the DAEC UFSAR, Chapter 17.2

Sampling methods and process monitoring will be used when inspection is impossible or disadvantageous.

17.2.10.3 Process Monitoring

Process monitoring of work activities, equipment, and personnel will be used as a control if inspection of processed items is impossible or disadvantageous. Both inspection and process monitoring will be provided when control is inadequate without both. As an alternative, a suitable level of confidence in structures, systems, or components on which maintenance or modifications have been performed will be attained by inspection. As appropriate, an augmented inspection program will be implemented until such time as a suitable level of performance has been demonstrated.

The monitoring of processes will be performed to verify that activities affecting quality are being performed in accordance with documented instructions, procedures, drawings, and specifications.

17.2.10.4 In-Service Inspection

Required in-service inspection, including nondestructive examination, pressure tests, and in-service tests of pumps and valves, will be planned and executed. The results of these examinations and tests shall be documented, including corrective actions required and the actions taken.

The basis for the in-service inspection program is the ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda. The specific issue and addendum of requirements beyond the base commitment is as specified in 10 CFR Part 50, Section 50.55a(g), except where specific exemptions have been granted by the NRC.

The Engineering Department has the overall responsibility for developing the inspection program, for ensuring compliance with the ASME Code Section XI rules, and for evaluating the inspection results. The inspection plans shall be updated as required to accommodate the as-built condition of the DAEC.

17.2.10.4.1 Ten Year Inspection Program

The Ten-Year Inspection Program includes inspections and tests of those pressure boundary welds and materials as defined in ASME Boiler and Pressure Vessel Code, Section XI. Also included are the pressure boundary welds and materials that are defined as "Augmented" in-service inspections. The Ten-Year Inspection Program identifies the welds and items to be examined, the frequency of such examinations, the methods, and confirms the continuing acceptability of the selected welds and items.

20.0 REGULATORY GUIDE 1.155, "Station Blackout"

COMMENTS AND CLARIFICATIONS:

IES Utilities Inc. complies with Appendix A, "Quality Assurance Guideline for Non-Safety Systems and Equipment," to Regulatory Guide 1.155, Revision 1, August 1988.

21.0 REGULATORY GUIDE 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment"

COMMENTS AND CLARIFICATIONS

IES Utilities Inc. complies with the Regulatory Position in Regulatory Guide 4.15, Revision 1, February 1979.

22.0 ASME B&PV Code, Section XI, 1989 Edition With No Addenda

COMMENTS AND CLARIFICATIONS:

The IES Utilities Inc. commitments relative to the Ten-Year Inspection Program and the Pump and Valve Test Program are established separately in formal correspondence with the Nuclear Regulatory Commission and incorporated into appropriate IES Utilities Inc. documents.

Table 3.2-1
DAEC Classification of Components in Systems

| | Principal Component | Scope of Supply (a) | Safety Class (b) | Code Class | Construction Code (c) | Quality Group Class | Quality Assurance Req. (d) | Seismic Category (e)(f) | PO Date (g) | Equivalent ASME B & PV Code Section III (h) | Footnotes | Comments (i) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4. | Pumps | GE | Other | 3 | ANSI B31.1.0 or ASME Code for Pumps and Valves for Nuclear Power, Class 3, or ASME Section III, 1971 Edition, Class 3 | C | D | NA | - | 3 | - | - |
| 5. | Piping | B | Other | 3 | USAS B31.7-1969 | C | D | NA | - | - | 1a | - |
| 6. | Valves | B | Other | - | ANSI B31.1.0 or ASME Code for Pumps and Valves for Nuclear Power, Class 3, or ASME Section III, 1971 Edition, Class 3 | C&D | D | NA | - | - | 1f | - |
| XXI | Control Room & Remote Shutdown Panels H11 C61 | | | | | | | | | | | |
| 1. | Electrical modules, with safety function | GE | 2 | - | - | NA | B | I | - | - | 1c | - |
| 2. | Cable, with safety function | B | 2 | - | - | - | B | I | - | - | - | - |
| XXII | Local Panels and Racks H21 | | | | | | | | | | | |
| 1. | Electrical modules, with safety function | GE/B | 2/2 | - | - | B/- | B/B | I/I | - | - | 1c | - |
| 2. | Cable, with safety function | B | 2 | - | - | - | B | I | - | - | - | - |
| XXIII | Offgas System N62 | | | | | | | | | | | |
| 1. | Tanks | GE | Other | - | AWWA D100 or API-650 | - | D | NA | 10/21/71 | - | 1h | - |
| 2. | Heat exchangers | GE | Other | - | Section III & TEMA-C | - | D | NA | 11/20/72 | - | - | - |
| 3. | Piping | B | Other | 3 | ASME Section III-1971 | - | D | NA | 07/27/72 | - | 1k | Yes |
| 4. | Pumps | GE | Other | - | - | D | D | NA | - | - | 1e, 1k | Yes |
| 5. | Valves, flow control | B | Other | - | - | D | D | NA | - | - | 1f, 1k | Yes |
| 6. | Valves, other | B | Other | - | - | D | D | NA | 11/29/71 | - | 1f, 1k | Yes |
| 7. | Mechanical modules | GE | Other | - | - | D | D | NA | - | - | 1c | - |
| 8. | Pressure vessels | GE | Other | - | - | D | D | NA | 10/21/71 | - | - | - |
| XXIV | Emergency Service Water E13 | | | | | | | | | | | |
| 1. | Piping | B | 3 | ~~3~~ | ANSI B31.1.0-1967 | ~~D+QA~~ | B | I | 07/30/70 | ~~3~~ | - | Yes |
| 2. | Pumps | B | 3 | 3 | ASME Code for Pumps and Valves for Nuclear Power | ~~D+QA~~ C | B | I | - | 3 | 1e | - |
| 3. | Pump motors | B | 3 | - | - | - | B | I | - | - | - | - |
| 4. | Valves | B | 3 | 3 | ASME Code for Pumps and Valves for Nuclear Power | ~~D+QA~~ C | B | I | 10/16/70 | 3 | 1f | - |
| 5. | Electrical modules, with safety function | B | 3 | - | - | - | B | I | - | - | 1c | - |
| 6. | Cable, with safety function | B | 3 | - | - | - | B | I | - | - | - | - |
| XXV | RHR Service Water System E12 | | | | | | | | | | | |
| 1. | Piping | B | 3 | 3 | USAS B31.7-1969 | C | B | I | 07/30/70 | 3 | 1p | - |
| 2. | Pumps | B | 3 | 3 | ANSI B31.1.0 or ASME Code for Pumps and Valves for Nuclear Power, Class 3, or ASME Section III, 1971 Edition, Class 3 | C | B | I | - | 3 | 1e | - |
| 3. | Pump motors | B | 3 | - | - | - | B | I | - | - | - | - |

Table 3.2-1
DAEC Classification of Components in Systems

| | Principal Component | Scope of Supply (a) | Safety Class (b) | Code Class | Construction Code (c) | Quality Group Class | Quality Assurance Req. (d) | Seismic Category (e)(f) | PO Date (g) | Equivalent ASME B & PV Code Section III (h) | Footnotes | Comments (i) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6. | Electrical modules with safety function | B | 3 | - | - | - | B | I | - | - | 1c | - |
| 7. | Cable, with safety function | B | 3 | - | - | - | B | I | - | - | - | - |
| 8. | Diesel fuel storage tanks | B | Other | - | API-650 or AWWA-D100 or ANSI B96.1 or equivalent plus NDE per ASME Section VIII, Div. 1. | C | B | I | - | - | - | - |
| 9. | Diesel Air Start System | B | 2 | - | - | - | B | I | - | - | - | - |
| XXX | Containment Atmosphere Control System T48 | | | | | | | | | | | |
| 1. | Piping and valves from primary containment through outer isolation valve | B | 2 | B | ASME Nuclear Vessels Code Section III, Extension of Code Cases 1425, 1426 and 1427 | B Containment | B | I | 07/30/70 | - | - | - |
| XXXI | Standby Gas Treatment System T46 | | | | | | | | | | | |
| 1. | All components with safety function, including offgas stack dilution fans | B | 3 | - | - | - | B | I | - | - | - | - |
| XXXII | ECCS Equipment Area Cooling System T41 | | | | | | | | | | | |
| 1. | All components with safety functions | B | 3 | - | - | - | B | I | - | - | - | - |
| XXXIII | Power Conversion System N11 N21 | | | | | | | | | | | |
| 1. | Main steam piping from outboard MSIV to turbine stop valves and branch line piping up to and including first valve | B | Other | - | USAS B31.1.0 | D+QA | B | I | 07/30/70 | - | 1a | Yes |
| 2. | Steam piping and valves, other | B | Other | - | USAS B31.1.0 | D+QA | D | NA | 07/30/70 | - | 1a | - |
| 3. | Reactor feedwater piping and valves, RPV to outermost isolation valve | B | 1 | 1 | USAS B31.7-1969 | A | B | I | 07/30/70 | 1 | 1a, 1b, 1f | - |
| 4. | Reactor feedwater piping and valves, other | B | Other | - | USAS B31.1.0 | D+QA | D | NA | 07/30/70 | - | 1a, 1f | Yes |
| XXXIV | Condensate Storage and Transfer System P11 | | | | | | | | | | | |
| 1. | Condensate storage tank | B | Other | - | API-650 plus augmented NDE of welds | D+QA | - | NA | 07/30/70 | - | 1i | Yes |
| 2. | Piping and valves | B | Other | - | USAS B31.1.0 | D | D | NA | - | - | 1f, 1q | - |
| 3. | Other components | B | Other | - | - | D | D | NA | - | - | 1q | - |
| XXXV | Auxiliary a-c Power System R20, R22-24 | | | | | | | | | | | |
| 1. | All components with safety function | B | 2 | - | - | - | B | I | - | - | - | Yes |
| XXXVI | 125/250 Volt d-c Power System R42 | | | | | | | | | | | |
| 1. | All components with safety function | B | 2 | - | - | - | B | I | - | - | - | - |
| XXXVII | River Water Supply W10 | | | | | | | | | | | |
| 1. | Piping, pumps and valves | B | 3 | - | ANSI B31.1.0 | D+QA | B | I | - | - | 1f | YES |
| 2. | Intake traveling screen, trash rakes | B | 3 | - | - | - | B | I | - | - | - | - |
| 3. | Pump motors | B | 3 | - | - | - | B | I | - | - | - | - |
| 5. | MSIV-LTS Piping & Valves | IE | OTHER | - | USAS B31.1.0 | D+QA | D | A | 07/30/70 | - | - | YES |

Table 3
DAEC Classification of Components in Systems

| Principal Component | Scope of Supply (a) | Safety Class (b) | Code Class | Construction Code (c) | Quality Group Class | Quality Assurance Req. (d) | Seismic Category (e)(f) | PO Date (g) | Equivalent ASME B & PV Code Section III (h) | Footnotes | Comments (i) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| XXXVIII HSIV Leakage Control B21 | | | | | | | | | | | |
| 1. Piping and valves up to the first isolation valve of the inboard subsystem | B | 1 | 1 | ANSI B31.7 | A | B | I | - | - | 1a, 1b, 1f | - |
| 2. Piping and valves, other | B | 2 | 2 | ASME Section III-1974 | - | B | I | - | - | 1a, 1b, 1f | - |
| 3. Blowers | GE | 2 | - | - | B | B | I | - | - | - | - |
| XXXIX HVAC | | | | | | | | | | | |
| 1. Control room | - | 3 | - | - | - | B | I | - | - | - | - |
| 2. Pump house | - | 3 | - | - | - | B | I | - | - | - | - |
| 3. Emergency diesel generator room | - | 3 | - | - | - | B | I | - | - | - | - |
| 4. Reactor building secondary containment isolation dampers | - | 3 | - | - | - | B | I | - | - | - | - |
| 5. Battery rooms | - | 3 | - | - | - | B | I | - | - | - | - |
| 6. Intake structure | - | 3 | - | - | - | B | I | - | - | - | - |
| 7. Essential switchgear rooms | - | 3 | - | - | - | B | I | - | - | - | - |
| XXXX Miscellaneous Components | | | | | | | | | | | |
| 1. Reactor Building Crane | B | 3 | - | - | - | B | I | - | - | - | - |
| 2. Containment Penetrations for Process Piping and Electrical | B | 2 | - | - | - | B | I | - | - | - | - |

Table 3.2-1
DAEC Classification of Components in Systems
Footnotes

| Foot# | FootNote | Systems |
|---|---|---|
| a | GE = General Electric; B = Bechtel; C = CB&I; IE = Iowa Electric Light & Power Co. | |
| b | 1, 2, 3, "other" = safety classes defined in Section 3.2.4; "unc" = unclassified as defined in Section 3.2.4. | |
| c | The equipment shall be constructed in accordance with the codes listed in Table 3.2-2, if no Code of Construction is provided in this table. The term "construction", as used in this UFSAR, includes provisions for design, materials, fabrication, erection, testing and inspection. | |
| d | B = The equipment shall meet the quality assurance requirements of 10CFR50, Appendix B, in accordance with the quality assurance program described in Chapter 17. D = The equipment shall be constructed in accordance with the quality assurance requirements consistent with good practice for steam power plants. | |
| e | I = The equipment shall be constructed in accordance with the seismic requirements for the safe shutdown earthquake, as described in Section 3.7, Seismic Design. NA = The seismic requirements for the safe shutdown earthquake are not applicable to the equipment. | A = SEISMIC ADEQUATE FOR MSIV-LTS |
| f | Portions of 'non-seismic category I' piping (seismic category NA) passing through rooms containing safeguard equipment are seismically supported as seismic category I. | |
| g | Date on the purchase order for the component. Where provided, this can be used to establish the code edition and addenda in effect for the component. | |
| h | This column is for information only. The Code Class given here is that which would apply if the current edition of Section III were to be used as the Code of Construction. The column under the heading "Code Class" shall be used to determine the actual Construction Code class of the item. | |
| i | A "yes" in this column signifies there is a comment regarding the item at the end of Table 3.2-1. | |
| 1a | The following items are applicable to instrument, sampling or small bore (3/4" NPS and smaller), as noted: **(1)Lines 3/4" and smaller which are part of the reactor coolant boundary shall be Safety Class 2. **(2)All instrument lines which are connected to the reactor coolant pressure boundary and are utilized to actuate safety systems shall be Safety Class 2 from the outer isolation valve or the process shutoff valve (root valve) to the sensing instrument. **(3)All instrument lines which are connected to the reactor coolant pressure boundary and are not utilized to actuate safety systems shall be Quality Group D from the outer isolation valve or the process shutoff valve (root valve) to the sensing instrumentation. **(4)All other instrument lines through the root valve shall be of the same classification as the system to which they are attached, except those lines that contain an excess flow check valve (EFCV) are classified as Quality Group D beyond the EFCV. See Figure 3.2-2. **(5)All other instrument lines beyond the root valve, if used to actuate a safety system, shall be the same classification as the system to which they are attached. **(6) All other instrument lines beyond the root valve, if not used to actuate a safety system, shall be Quality Group D. **(7)All sample lines from the outer isolation valve or the process root valve through the remainder of the sampling system shall be Quality Group D. | I-10, II-7, II-8, II-13, II-4, III-1, IV-4, IV-8, V-7, V-8, VI-1, IX-3, IX-4, X-1, X-3, X-2, XI-3, XI-1, XI-7, XI-2, XII-7, XII-2, XII-1, XII-3, XVIII-4, XVIII-3, XIX-4, XIX-3, XX-5, XXXIII-3, XXXIII-1, XXXIII-4, XXXIII-2, XXXVIII-2, XXXVIII-1, |
| 1b | ANSI B31, Code Case 78 applies for B31.7 Class 1 and Class 2 pipe and fittings 3/4" nominal pipe size (NPS) and smaller. | I-10, II-7, II-8, II-13, II-4, III-1, IV-8, V-8, V-7, VI-1, IX-4, IX-3, X-2, X-3, X-1, XI-2, XI-1, XI-3, XI-7, XII-1, XII-3, XII-7, XII-2, XVIII-3, XVIII-4, XIX-3, XIX-4, XXVIII-3, XXXIII-3, XXXVIII-2, XXXVIII-1, |
| 1c | A module is an assembly of interconnected components which constitute an identifiable device or piece of equipment. For example, electrical modules include sensors, power supplies, and signal processors. Mechanical modules include turbines, strainers, and orifices. | II-14, II-15, III-7, IV-10, V-9, VI-3, VII-1, VIII-1, IX-10, IX-11, X-9, XI-10, XII-10, XVIII-8, XIX-8, XXI-1, XXII-1, XXIII-7, XXIV-5, XXV-5, XXIX-6, |

Table 3.2
DAEC Classification of Components in Systems
Footnotes

| Foot# | FootNote | Systems |
|---|---|---|
| 1d | GE Specification 21A1100AS (Ref. 243) adds the following code requirements to the Reactor Vessel: The Winter 1967 Addenda to the ASME Code Section III is not to be included as a basis for purchase of this vessel, except as follows: 1)Charpy impact tests per N-331.2 of the Winter 1967 Addenda will be furnished; 2)Welds are to be ultrasonically examined using the angle beam method described by N-625 of Winter 1967 Addenda; 3)The changes to Article 4-Design by the Winter 1967 Addenda are included; 4)The addition of Appendix IX-Quality Control and Nondestructive Examination Methods is included. | I-1, I-2, I-3, I-5, I-9, |
| 1e | For pump designs, the applicable class, section, or subsection of the referenced ASME B&PV Code is used as a guide in calculating the thickness of pressure-retaining portions of the pump and in sizing cover bolting. For example, use ASME Section III, Class C, 1968 Edition, for a design guide for Quality Group A & B pumps. For Quality Group D below 150 psig and/or 212 deg. F, manufacturer's standard pump for service intended may be used. | III-4, V-2, IX-5, X-4, XI-4, XII-4, XVIII-5, XIX-5, XXIII-4, XXIV-2, XXV-2, |
| 1f | ANSI B16.5 or MSS-SP-66 apply for valves [Note MSS-SP-66-1964 was withdrawn from publication in favor of ANSI B16.34-1973]. | II-9, II-10, II-11, II-12, II-13, III-5, IV-1, IV-2, IV-3, IV-4, V-4, V-5, V-6, VI-2, IX-8, IX-9, IX-7, X-7, X-6, X-8, XI-5, XI-6, XI-8, XII-5, XII-6, XII-8, XVIII-6, XVIII-7, XIX-6, XIX-7, XX-6, XXIII-6, XXIII-5, XXIV-4, XXV-4, XXXIII-3, XXXIII-4, XXXIV-2, XXXVII-1, XXXVIII-1, XXXVII-2, |
| 1g | The RCIC and HPCI turbines do not fall within the applicable design codes. To assure that the turbines are fabricated to the standards commensurate with their safety and performance requirements, General Electric has established specific design requirements for these components. | XI-9, XII-9, |
| 1h | Existing API/AWWA standards and supplementary requirements apply. Tanks are to be constructed to meet the intent of API Standards 620 or 650 or AWWA Standard D100 for those fuel, oil, or water storage tanks. | XVIII-1, XXIII-1, |
| 1i | The condensate storage tank will be designed, fabricated and tested to meet the intent of API Standard 650. In addition, the specifications for this tank will require 100% surface examination of the side wall to bottom joint and 100% volumetric examination of the side wall weld joints. | XXXIV-1, |
| 1j | ASME Section VIII, Division 1, and USAS B31.1.0 apply downstream of the outermost isolation valves. | XVIII-4, XVIII-5, XVIII-6, XVIII-7, XVIII-8, |
| 1k | The gaseous radwaste system piping, pumps and valves containing gaseous radwaste shall be constructed in accordance with the applicable codes of Quality Group D. | XXIII-3, XXIII-4, XXIII-5, XXIII-6, |
| 1l | Some of this piping was also constructed to B31.1.0 | IV-4, IV-8, |
| 1m | Some lines, such as ECB-9 (drain to filter/demineralizer), are class 3, non-seismic. | V-8, |
| 1n | DELETED | |
| 1o | Lines DCB-1 and DCB-2 are nuclear class 3, according to Bechtel Specification M-190. | XIX-4, XIX-7, |
| 1p | The RHRSW backwash line (GBD-62 and GBD-63) is non-seismic, according to Bechtel Specification M-190, Sheet 23A. | XXV-1, XXV-4, |
| 1q | Portions of this system which supply suction for HPCI, RCIC, and Core Spray from the condensate storage tank are seismic category I. | XXXIV-2, XXXIV-3, |
| 1r | The return line to the condensate storage tank was classified as "Q" by Bechtel in the Q-list (Ref. 225) and was built that way by Bechtel. However, these lines are actually Quality Group D, with no QA requirement. That is the way these lines are classified in this table. | XI-3, XII-3, |
| 1s | The Bechtel Q-list (Ref. 225, item 2.4365) notes this item as Q. However, the entry refers to Bechtel Specification M 119 (Reference 252). This document addresses Seismic Category I supports only. Therefore, only the supports in this item have a requirement for quality assurance and are Seismic Category I. | XXVI-2, XXVII-2, |
| 1t | The Bechtel Q-list (Ref. 225, item 2.1510) notes this item as Q. However, only pipe hangers and supports provide a specification (M-119, Ref. 252) as a reference. Therefore, only pipe hangers and supports for this item are seismic category I and have special Quality Assurance requirements. | XIX-1, XIX-2, XIX-4, XIX-5, XIX-7, XIX-8, |

Table 3.2-1
DAEC Classification of Components in Systems
Comments

| Sys#/Comp# | | Comments |
|---|---|---|
| XVIII | 1. | 1 Unprocessed liquid radioactive waste piping and equipment pressure parts installed prior to January 1, 1983, were classified as Quality Group C. Unprocessed liquid radioactive waste piping and equipment pressure parts installed subsequent to January 1, 1983, may be included in Quality Group D with added quality control (D+QA) in accordance with the design guidance contained in Regulatory Guide 1.143, Revision 1, modified as follows: **(1)Paragraphs C.1.1.3, C.2.1.3, and C.3.1.3 - The commitment is limited to the seismic design methods used in the original construction of the DAEC and is not upgraded to Regulatory Guide 1.143, Revision 1, requirements. **(2)Paragraph C.4.3 - Systems will be fabricated in accordance with good operability, maintenance, and repairability practices. **(3)Paragraph C.6 - All of paragraph C.6 is replaced in its entirety by the following sentence. "All safety related systems or portions of systems shall be designed, fabricated and installed in accordance with Quality Level II requirements." |
| XVIII | 4. | 1 Unprocessed liquid radioactive waste piping and equipment pressure parts installed prior to January 1, 1983, were classified as Quality Group C. Unprocessed liquid radioactive waste piping and equipment pressure parts installed subsequent to January 1, 1983, may be included in Quality Group D with added quality control (D+QA) in accordance with the design guidance contained in Regulatory Guide 1.143, Revision 1, modified as follows: **(1)Paragraphs C.1.1.3, C.2.1.3, and C.3.1.3 - The commitment is limited to the seismic design methods used in the original construction of the DAEC and is not upgraded to Regulatory Guide 1.143, Revision 1, requirements. **(2)Paragraph C.4.3 - Systems will be fabricated in accordance with good operability, maintenance, and repairability practices. **(3)Paragraph C.6 - All of paragraph C.6 is replaced in its entirety by the following sentence. "All safety related systems or portions of systems shall be designed, fabricated and installed in accordance with Quality Level II requirements." |
| XIX | 4. | 1 Segments of the RWCU piping have been replaced with IGSCC resistant materials. |
| XXIII | 3. | 1 The construction codes used for Offgas pipe, pumps, and valves were USAS B31.7; ASME Sections III and VIII; and the Draft Pump and Valve Code. To identify the correct code for a component it is necessary to research the receiving inspection files (File Q2.321). There are two reasons that several codes and dates were applied. The first reason is that the Offgas design was changed during Procurement/Construction. The second reason is that the codes were changing rapidly during the period of the design. The project correspondence which records when the Offgas System construction code was changed is given in APED-N62-076. |
| XXIII | 4. | 1 The construction codes used for Offgas pipe, pumps, and valves were USAS B31.7; ASME Sections III and VIII; and the Draft Pump and Valve Code. To identify the correct code for a component it is necessary to research the receiving inspection files (File Q2.321). There are two reasons that several codes and dates were applied. The first reason is that the Offgas design was changed during Procurement/Construction. The second reason is that the codes were changing rapidly during the period of the design. The project correspondence which records when the Offgas System construction code was changed is given in APED-N62-076. |
| XXIII | 5. | 1 The construction codes used for Offgas pipe, pumps, and valves were USAS B31.7; ASME Sections III and VIII; and the Draft Pump and Valve Code. To identify the correct code for a component it is necessary to research the receiving inspection files (File Q2.321). There are two reasons that several codes and dates were applied. The first reason is that the Offgas design was changed during Procurement/Construction. The second reason is that the codes were changing rapidly during the period of the design. The project correspondence which records when the Offgas System construction code was changed is given in APED-N62-076. |
| XXIII | 6. | 1 The construction codes used for Offgas pipe, pumps, and valves were USAS B31.7; ASME Sections III and VIII; and the Draft Pump and Valve Code. To identify the correct code for a component it is necessary to research the receiving inspection files (File Q2.321). There are two reasons that several codes and dates were applied. The first reason is that the Offgas design was changed during Procurement/Construction. The second reason is that the codes were changing rapidly during the period of the design. The project correspondence which records when the Offgas System construction code was changed is given in APED-N62-076. |
| XXIV | 1. | 1 Emergency service water system meets the pressure integrity requirements of Quality Group D, including the additional quality assurance requirements for "critical" piping, as stated in Section 17.1.8.1. All inspection records will be retained according to the Quality Assurance Program of Chapter 17. These records include data pertaining to the qualification procedures and examination results. |
| XXXIII | 1. | 1 For Main Steam and Turbine Bypass piping and valves, all inspection records were retained according to the Quality Assurance Program of Chapter 17. These records include data pertaining to the qualification of inspection personnel, examination procedures, and examination results. |
| XXXIII | 1. | 2 Turbine Stop, Control, and Bypass Valves: A certification was obtained from the vendors of these valves indicating that all cast pressure-retaining parts of a size and configuration for which volumetric examination methods are effective have been examined by radiographic methods by qualified personnel. Ultrasonic examination to equivalent standards are used as an alternative to radiographic methods. |
| XXXIII | 1. | 3 The main steam piping between the outermost containment isolation valves up to the turbine stop valves, the main turbine bypass piping up to the turbine bypass valves and all branch line connected to these portions of the main steam and turbine bypass piping up to the first valve capable of timely actuation are classified as Quality Group D and meet the additional quality assurance requirements for "critical" piping, as stated in Section 17.1.8.1, Schedule IV. |
| XXXIII | 1. | 4 The first valve capable of timely actuation in branch lines connected to the main steam lines between the outermost containment isolation valves and turbine stop valves and connected to the turbine bypass valves meets all of the pressure integrity requirements of Quality Group D, including the additional quality assurance requirements for "critical" piping, as stated in Section 17.1.8.1, Schedule IV. |

SEISMIC CATEGORY I

Table 3.2-1
DAEC Classification of Components in Systems
Comments

| Sys#/Comp# | | Comments |
|---|---|---|
| XXXIII | 1. | 5 All inspection records for the main steam and turbine bypass piping and the first valve in the branch lines connected to this piping were retained according to the Quality Assurance Program of Chapter 17. These records include data pertaining to the qualification of inspection personnel, examination procedures, and examination results. |
| XXXIII | 4. | 1 Materials used in feedwater control valves are as follows: **(1)Valve body is ASTM A105 Gr. II. **(2)Valve bonnet is ASTM A105 Gr. II and A234 Gr. WPB. |
| XXXIII | 4. | 2 Examination and testing requirements for the feedwater control valves are as follows: **(1)All pressure retaining castings are radiographed, after final heat treatment, in accordance with the ASME B&PV Code, Section III, Appendix IX, paragraph 330 and ASTM E142. Discontinuities are judged by ASTM E71, E186, and E280. **(2)All accessible surfaces of all pressure retaining castings are examined in finished condition, after final heat treatment, by either liquid penetrant methods per paragraph N323.4 or magnetic particle methods per paragraph N323.3, with acceptance criteria per paragraph N323.4 of the Summer 1969 addenda to ASME Section III. **(3)All pressure retaining forgings are examined in the as-furnished condition by the ultrasonic method per paragraph N322 of the Summer 1969 Addenda to ASME, Section III. |
| XXXIV | 1. | 1 The condensate storage tank was designed, fabricated, and tested to meet the intent of API Standard 650. In addition, the specifications for this tank require (1) 100% surface examination of the side wall to bottom joint and (2) 100% volumetric examination of the side wall weld joints. |
| XXXIV | 1. | 2 Page 13.2-5 of the UFSAR (Ref. 233) says that the CST is non-seismic. |
| XXXV | 1. | 1 The Auxiliary a-c Power System is composed of the 4160 VAC Switchgear, the 480 VAC Load Centers, and the 480 VAC Motor Control Centers. The Instrument AC Control Power System (R20) is not within the boundary of the Auxiliary a-c Power System and does not perform a safety function, but was upgraded to a Class 1E power source by DCP-1411 to support Post Accident Monitoring Instrumentation for Regulatory Guide 1.97. |
| GENERAL | | 1 B31.1.0 and B31.7 were originally published as USA Standards (USAS), but are now designated as ANSI Standards. |
| GENERAL | | 2 See additional material examination requirements of Section 17.1.8.1 for piping and valves. |
| GENERAL | | 3 Code effective date is obtained by the Purchase Order date for the particular component (see Table 3.2-1) or by referring to Table 3.2-2. |
| XXXIII | 5. | 1 SEISMIC ADEQUATE CATEGORY (A) AS ADDED FOR MSIV-LTS WAS BASED ON ORIGINAL CONSTRUCTION OF PIPE AS "CRITICAL" USING THE SAME RECORDS AS SEISMIC CATEGORY I PIPE. A SEISMIC EVALUATION BASED ON WALKDOWNS WAS PERFORMED IN LIEU OF A FORMAL SEISMIC ANALYSIS. |
| XXXIII | 5. | 2 THE QA REQUIREMENTS FOR MSIV-LTS ARE DRIVEN BY THE SER FOR AMENDMENT 207 TO LICENSE NO DRP 49 (DOCKET NO. 50-331) |
| XXXVII | 1. | 1 RIVER WATER SYSTEM MEETS THE PRESSURE INTEGRITY REQUIREMENTS OF QUALITY GROUP D, INCLUDING QUALITY ASSURANCE REQUIREMENTS FOR SEISMIC CATEGORY I. INSPECTION RECORDS WILL BE RETAINED ACCORDING TO THE QUALITY ASSURANCE PROGRAM OF CHAPTER 17. THESE RECORDS INCLUDE DATA PERTAINING TO THE QUALIFICATION PROCEDURES AND EXAMINATION RESULTS. |

# Discussion of Changes in the Quality Assurance Program Description

1. UFSAR 17.2.2.3 Identification of Safety-Related Structures, Systems, Components and Items, and Table 3.2-1, "DAEC Classification of Components in Systems"

**Identification of the Change:**

Revised Table 3.2-1 to correct errors in the table:

1. Changed the classification of components in the Emergency Service Water (ESW) system (XXIV) as follows:

    - for piping, the Code Class and the Equivalent ASME B & PV Code Section III changed from "3" to "none".
    - for pumps and valves, the Quality Group Classification changed from "D+QA" to "C".

2. Revised the Construction Code for the Containment Atmosphere Control System (XXX) to insert the word "containment" between "...Extension of" and "Code Cases..."

3. Added "Yes" to comments column for the piping, pumps and valves of the River Water Supply System (XXXVII) to indicate the following comment added for XXXVII-1 for piping, pumps and valves in the River Water Supply system in Table 3.2-1: "River Water System meets the pressure integrity requirements of quality Group D, including quality assurance requirements for seismic category 1. Inspection records will be retained according to the Quality Assurance Program of Chapter 17. These records include data pertaining to the qualification procedures and examination results."

4. Revised first sentence of comment for System XXIV to replace "..."critical" piping as stated in Section 17.1.8.1..." with "...seismic category I piping."

**Reason for the Change:**

The changes to Table 3.2-1 correct errors in the table. The errors are corrected to update the table to conform to the plant design and licensing basis.

1. The Code Class and the equivalent ASME B&PV Code Section III piping for the Emergency Service Water changed from "3" to "none". The change recognizes that the installed piping for the Emergency Service Water System is not subject to Code Class requirements and thus there is no equivalent ASME B&PV Code Section III. The Emergency Service Water System piping was designed, fabricated and installed to the requirements of ANSI B31.1.0-1967 as identified in Table 3.2-1.

Discussion of Changes
in the Quality Assurance Program Description

2. The Quality Group Classification for pumps and valves in the Emergency Service Water System changed from "D+QA" to "C". Before the change Table 3.2-1 incorrectly classified the pumps and valves as the Quality Group Classification "D+QA" which is similar to the Quality Group Classification for the ESW piping. Changing the Quality Group Classification of ESW pumps and valves from "D+QA" to "C" revises Table 3.2-1 to correctly recognize the increased level of quality assurance applied to the pumps and valves during the original procurement process. The procurement specification for the ESW pumps and valves invoked the draft "ASME Code for Pumps and Valves for Nuclear Power", dated November 1968. The draft code specified quality assurance requirements (e.g. design requirements, nondestructive testing, qualification of inspectors, procedure requirements, change control, inspection requirements, test criteria and records) which satisfy Quality Class C requirements. A comparison of the pump and valve code indicates a similarity to the requirements in USAS B31.7 and does not indicate any special requirements that could pose a concern for either the pumps or the valves. Thus, the ESW pumps and valves meet the design requirements for Quality Group C.

3. Revised the Construction Code for the Containment Atmosphere Control System (XXX) to insert the word "containment" between "...Extension of" and "Code Cases..." The change clarifies the description of the code cases for the Containment Atmosphere Control System. This is an editorial change for clarification of the text.

4. "Yes" added to comments column for the piping, pumps and valves of the River Water Supply System (XXXVII) to indicate that a comment is included in Table 3.2-1 to provide more detail regarding the basis for determining that the River Water Supply System is classified Quality Class "D+QA". Specifically, the River Water Supply System was constructed to the "D+QA" requirements similar to the Emergency Service Water described in item 2 above. As such, the River Water Supply System meets the pressure integrity requirements for Quality Class "D". Furthermore, the system meets the quality assurance requirements for a seismic category I system and the inspection records, including data pertaining to the qualification procedures and examination results, are controlled in accordance with the approved Quality Assurance Program described in UFSAR 17.2.

5. Comment for System XXIV revised to state that the piping class of the ESW system is seismic category I. This change recognized that such piping as shown in Table 3.2-1, page T3.2-11 is seismic as indicated by the "1" in the Seismic Category column. By identifying the piping as seismic category 1 there is no need to direct the reader to UFSAR Section 17.1.8.1.

Discussion of Changes
in the Quality Assurance Program Description

**Basis for Concluding that Change Continues to Satisfy 10 CFR 50 Appendix B and Previous QA Program Commitments**

The changes to Table 3.2-1 correct omissions, incorrect designations and clarifications to the table. The corrections to the table are editorial in nature. Table 3.2-1 is updated to be consistent with the existing plant configuration and approved processes.

These changes are not a reduction in commitment with regard to the application of the DAEC QAPD to these systems and components. 10CFR50, Appendix B has been and continues to be applied, with an improved accuracy of the table with respect to the details consistent with the design and licensing basis.

Discussion of Changes
in the Quality Assurance Program Description

2. UFSAR 17.2.2.3 Identification of Safety-Related Structures, Systems, Components and Items, and by reference to Table 3.2-1, "DAEC Classification of Components in Systems"

**Identification of the Change:**

Revised Table 3.2-1 to delete the Main Steam Isolation Valve Leakage Control System (System XXXVIII) and associated references to System XXXVIII in footnotes 1a, 1b and 1f. Related changes in the table revised the description of the Power Conversion System (XXXIII) to include: adding the piping and valves of the Main Steam Isolation Valve Leakage Treatment System (MSIV-LTS) (item 5); changing the Quality Assurance requirements from "none" to "D" for the steam piping and valves (other item 2), and the reactor feedwater piping and valves (item 4); supplementing footnote "e" for Table 3.2-1 on page T-3.2-15 by adding "A = adequate for MSIV-LTS"; and adding two comments to the Main Steam Isolation Valve Leakage Treatment System (XXXIII item 5) as follows:

XXXIII 5. 1. Seismic Adequate Category (A) as added for MSIV-LTS was based on original construction of pipe as "critical" using the same records as seismic category 1 pipe. A seismic evaluation based on walkdowns and comparative analysis was performed in lieu of a formal seismic analysis.

XXXIII 5. 2 The QA requirements for MSIV-LTS are driven by the SER for Amendment 207 to License No DRP-49 (Docket No.50-331).

**Reason for the Change:**

The DAEC removed the Main Steam Isolation Valve Leakage Control System (MSIV-LCS) following NRC approval of Amendment 207 to the Facility Operating License dated February 22, 1995. Table 3.2-1 is changed to incorporate the removal of the MSIV-LCS and to recognize the use of drain pathways in the Power Conversion System as an alternate method for MSIV leakage treatment. The Quality Assurance requirements for the alternate drain pathways were upgraded following confirmation via the seismic analysis of piping, supports and equipment that the components satisfied the increased requirements. The evaluation of the seismic analysis is described on page 9 of the Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 207.

Discussion of Changes
in the Quality Assurance Program Description

**Basis for Concluding that Change Continues to Satisfy 10 CFR 50 Appendix B and Previous QA Program Commitments**

The removal of MSIV-LCS and the use of alternate drain pathways for MSIV leakage is described in Amendment No. 207 to the DAEC Operating License. The changes to Table 3.2-1 are updates to the table to recognize the removal of MSIV-LCS and the use of the alternate drain pathways as a result of modifications to the facility which affect the application of quality assurance requirements to structures, systems and components.

This change is consistent with the changes to the facility previously reviewed and approved by the NRC in Amendment 207 to the DAEC Technical Specifications.

Discussion of Changes
in the Quality Assurance Program Description

3. 17.2.10.4 In-service Inspection
17.2 Appendix A, Paragraph 22

**Identification of the Change:**

Revised 17.2.10.4 and Appendix A, Paragraph 22 to update the basis for the in-service inspection program from the ASME Boiler and Pressure Vessel Code, Section XI, 1980 Edition with Addenda through Winter 1981 to the 1989 Edition with no Addenda.

**Reason for the Change:**

This change satisfies the DAEC commitment to periodically update the basis for implementing the ASME Boiler and Pressure Vessel Code consistent with the requirements of 10 CFR 50.55a.

**Basis for Concluding that Change Continues to Satisfy 10 CFR 50 Appendix B and Previous QA Program Commitments**

The DAEC has committed to implement an effective in-service inspection program. At ten year intervals the basis of the in-service inspection program is updated. This change is made to update the basis for the ASME Boiler and Pressure Vessel Code, Section XI to the 1989 Edition with no Addenda. Commitments to 10 CFR 50 Appendix B and to implement an ASME program per 10 CFR 50.55a requirements remain unchanged.

This change is consistent with the requirements of 10 CFR 50.55a and updates 17.2. This change is not a reduction in commitment.