ATTACHMENT (2)

KG&E MANAGEMENT PLAN

OCTOBER 26, 1984

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MANAGEMENT PLAN FOR THE RESOLUTION OF CAR 19

Overview

The objectives of this plan are as delineated in CAR 19. These objectives will be met by providing objective evidence that each of the corrective actions specified within CAR 19 are satisfactorily implemented. The intent is to verify that both the hardware and programmatic aspects of all safety related activities utilizing AWS D1.1 welding are in compliance with the FSAR (i.e. AWS D1.1-1975) and the Design and Construction Program Manual (Section 17.1B).

The attached logic chart illustrates the approach to be used in providing the above mentioned verifications. The Corrective Actions associated with each of the steps on the logic chart are identified on the chart.

All Corrective Actions shall be implemented in strict accordance with CAR 19 including review and approval of specific items by KG&E QA where requested. Flow diagrams (attachments C-1 and C-2 of the CAR) have been and will continue to be considered in developing corrective actions.

Upon completion of each of the corrective actions necessary to resolve CAR 19, reports will be prepared which summarize action taken. These summary reports will be used internally by DIC in the preparation of evaluations which will be submitted to KG&E to be used in the preparation of a final report.

Findings and Corrective Actions

The following pages include the Findings and Corrective Actions as presented in the subject CAR. The detailed activities required to implement each Corrective Action are listed beneath the Corrective

Actions. The numbering system for findings and corrective actions used in CAR 19 correspond directly with those used herein. Responsible key personnel are also provided.

Finding # 1: "The results of the Document Reconciliation Task Force indicated that 1509 of 6816 MSSWR's for Safety Related Structural Steel Welds are missing."

RESPONSIBILITY

1a) "Based on DIC program requirements assure that all of the welders and welding procedures were qualified to AWS D1.1."

K. Hollingsworth
B. Newton

1a-1 DIC develop AWS D1.1 attribute checklist and review welding procedure and welder qualification procedure against this checklist; include documentation of procedure review cycle.

"

1a-2 DIC perform statistical sampling plan in accordance with MIL-STD-105D to verify qualifications of welders appearing on randomly selected MSSWR's.

G. Stanley
M. Pitre

1a-3 Bechtel review and comment on DIC Welding Procedure Specification and Welder Qualification Procedure as to compliance to AWS D1.1.

K. Hollingsworth

1a-4 Provide report summarizing the results of the above.

1b) "Review the DIC program for the purchase and control of filler material to ensure that only acceptable filler material was used in safety related welds. Assure that both safety related and non-safety related filler materials were properly controlled to preclude improper application."

K. Hollingsworth B. Newton	1b-1	DIC review procedures for the purchase and control of filler and base materials and prepare description/justification.
G. Stanley	1b-2	Bechtel review procedures for the purchase and control of filler materials and comment.
K. Hollingsworth	1b-3	Prepare summary report.

1c) "Evaluate the adequacy of the DIC inspection criteria and procedures to determine if these elements could have adversely impacted the inspection results. Document and provide this evaluation to KG&E QA for review prior to inspection implementation. Any changes in inspection criteria and procedures shall be provided to KG&E QA for review prior to implementation.

L. Easterwood D. Mauldin	1c-1	Develop AWS and site specification attribute checklist related to inspection requirements. Review DIC inspection criteria and procedures in accordance with checklists.
	1c-2	Document this evaluation.
	1c-3	Provide this evaluation to KG&E QA for review.
	1c-4	Prepare changes/revisions as necessary and submit to KG&E QA for review.
D. Mauldin	1c-5	Prepare summary report items 1c-1 through 1c-4.

L. Pardi 1d) "Obtain a documented evaluation to determine the validity of inspections performed with the presence of paint on the weld."

K. Hollingsworth B. Newton	1d-1	Obtain information from other utility/AE's that have developed a validation plan.

B. Newton	1d-2	DIC Welding Engineering and Bechtel Review; add site specific requirements/justification as necessary
K. Hollingsworth	1d-3	Submit to KG&E QA for review and approval.
D. Mauldin	1d-4	Prepare summary report items 1d-1 through 1d-3.

1e) "Utilize personnel certified to ANSI N45.2.6 - 1978 for the inspection of safety related structural steel welds. Inspections shall be performed in accordance with the DIC Quality Program and training shall be performed and documented to assure that inspectors are cognizant of the DIC Quality program requirements."

D. Mauldin	1e-1	Incorporate CAR 19 Inspection Verification Plan into DIC procedure QCP-VII-200, "Inspection of Welding Process."
W. G. Westhoff K. Fletcher	1e-2	Inspection personnel to be certified to ANSI N45.2.6 - 1978 in accordance with DIC certification program based on education and experience levels.
L. Easterwood J. Fletcher	1e-3	Site specific qualifications will be limited to the re-inspection of structural steel welds in accordance with the requirements of QCP-VII-200.
D. Mauldin	1e-4	Prepare summary report items 1e-1 through 1e-3.

1f) "Perform a 100% reinspection of all structurally significant safety related structural steel welds with missing MSSWR's. The identification of "structurally significant" welds shall be made by the Architect - Engineer."

L. Easterwood
J. Fletcher

1f-1 Identification of "structurally significant" welds by the Architect - Engineer.

"Structurally significant" joints are defined as all field welded joints which support or potentially support safety related equipment and building components. This basically includes all field welds on structural and miscellaneous steel with the exception of handrail, toeplates, grating, checkered plate, stairs, ladders and monorail supports. These are non-Q items which typically see significant service loads during the construction process. Some are designated as II/I, however, II/I seismic loads are considered to be less severe than service loads. Monorails have been load tested as part of startup procedures.

The joints are selected by Bechtel based on a review of erection drawings prepared by the structural and miscellaneous steel fabricators.

L. Easterwood
J. Fletcher

1f-2 Perform re-inspections in accordance with the CAR 19 Inspection Verification Plan.

- Use the project nonconformance program to obtain and document a suitability for service evaluation of inaccessible welds.
- Report all identified deficiencies on an NCR.

Bechtel will perform a case by case evaluation of each joint inspected to determine if:

- as-built condition meets design allowables.
- if the as-built condition is a significant deficiency in accordance with 10CFR50.55(e).
- any rework is required.

D. Mauldin 1f-3 Prepare summary report items 1f-1 through 1f-2.

Finding #2: "An Inspection verification effort of safety-related structural steel welding, undertaken by AWS certified weld inspections identified several areas of deficiencies. These deficiencies have been categorized below:"

- Undersized welds
- Weld defects
- Incorrect configuration
- Weld underrun
- Weld undercut

RESPONSIBILITY		CORRECTIVE ACTIONS
L. Easterwood D. Mauldin	2a)	"Determine and document the "root cause" of the previous acceptance of deficient structural welds. Analyze the HVAC Support, Electrical Support, Pipe-Whip Restraint and any other safety-related program utilizing AWS D1.1 Welding to ensure that the same "root causes" inherent in the structural steel welding program were not generic to other programs."

L. Easterwood D. Mauldin	2a-1	Review evaluations of DIC inspection program as performed in 1c. Determine if procedures could contribute to "root cause".
"	2a-2	Review inspection training and certification procedures to verify compliance to ANSI N45.2.6 - 78.
K. Hollingsworth B. Newton	2a-3	Analyze the deficiencies found in structurally significant safety related structural steel welds as documented in the CAR 19 Inspection Verification Plan utilizing the original MSSWR, the Re-Inspection Data Sheets, and the Architect Engineer evaluation.
L. Easterwood D. Mauldin	2a-4	Identify all safety related activities utilizing AWS D1.1 welding.
"	2a-5	Review previously compiled information relative to inspection and acceptance of HVAC and Electrical Supports, and Pipe Whip Restraints and any other safety related program utilizing AWS D1.1. Examples of compiled information include Construction Self Assessment, task force reports, QA audits and surveillances.
L. Easterwood K. Hollingsworth	2a-6	Summarize results of any previous investigations/ reports related to welding/inspection of above items.
L. Easterwood D. Mauldin	2a-7	Analyze programmatic element. utilized in the erection/ welding of structural steel and HVAC and Electrical Supports, Pipe Whip Restraints and other items. Develop list of programmatic differences and determine extent to which these differences would influence "root causes".

D. Mauldin — 2a-8 Provide summary report items 2a-1 through 2a-7.

2b) "Perform a 100% reinspection of all structurally significant safety related structural steel welds having MSSWR's. The identification of "structurally significant" welds shall be made by the Architect/Engineer."

L. Easterwood
J. Fletcher — 2b-1 Proceed as in item 1f.

D. Mauldin — 2b-2 Provide summary report.

Finding #3: "A small number of safety related structural steel welds were not made or had missing material."

RESPONSIBILITY — CORRECTIVE ACTIONS

3a) "Forward the "as-built" information to the Architect/Engineer via an NCR to obtain an engineering evaluation and disposition."

L. Easterwood
J. Fletcher — 3a-1 Missing welds or material detected in the inspections performed in 1f and 2b above shall be documented on NCR(s) showing the "as-built" information. These NCR(s) shall be given to the AE for evaluation and disposition.

D. Blizzard
F. Raycher — 3a-2 Verification of incorporation of design changes.

3a-3 Evaluate and determine probably cause of 3a-1.

D. Mauldin — 3a-4 Prepare summary report.

Finding #4: One (1) weld was documented as having been inspected when in reality the weld was not made. (Ref. NCR 1SN20495CW)

RESPONSIBILITY		CORRECTIVE ACTIONS
	4a)	"Investigate the concern to determine the root cause of the error. Immediately notify KG&E Quality Assurance if any other problems of this nature are identified. Document the investigative actions. The notification of KG&E QA shall not preclude the issuance of an NCR."
L. Easterwood D. Mauldin	4a-1	Evaluate the results of the CAR 19 Inspection Verification Plan (i.e. those inspections performed in 1f and 2b) and determine whether a pattern of this type of deficiency exists.
"	4a-2	Identify further actions required if a pattern of deficiencies is found.
D. Mauldin	4a-3	Prepare summary report.

Finding #5: "Objective evidence that the mechanical and structural welding inspection/documentation problems identified in KG&E QA Surveillance Report S-372 were rectified has not been provided."

RESPONSIBILITY		CORRECTIVE ACTIONS
	5a)	"Provide objective evidence that the mechanical and structural support welding inspection/documentation problems identified in Surveillance Report S-372 have been corrected. If such evidence is not available, research the extent of the problem and take the appropriate remedial actions."
R. Harper L. Payne	5a-1	Review and provide objective evidence that Mechanical Deficiency Reports identified in S-372 have been correctly closed out.

D. Blizzard V. McBride	5a-2	Review and provide objective evidence that Civil Deficiency Reports identified in S-372 have been correctly closed out.
D. Mauldin	5a-3	Prepare summary report.

RESPONSIBILITY #6 REPORT

P. Halstead — A final comprehensive report including all evaluations performed and the results of activities conducted to provide objective evidence to satisfy the corrective actions required by CAR 19 will be prepared and submitted to KG&E Quality.

SCHEDULE OF CORRECTIVE ACTIONS
CAR #19

10/26/84

	CORRECTIVE ACTION	START/COMPLETE DATES
1a-1	DIC develop AWS D1.1 checklist; review welding and welder qualification procedures.	10/18 - 10/26
1a-2	DIC perform statistical sampling plan to verify welder qualifications.	10/27- 11/02
1a-3	Bechtel review/comment DIC welding and welder qualification procedures.	In process - 10/27
1a-4	Report summarizing 1a-1, 1a-2, 1a-3	11/02 - 11/08
1b-1	DIC review procedures for purchase and control of base and filler material.	10/22 - 10/27
1b-2	Bechtel review procedures for purchase and control of filler materials.	In process - 10/25
1b-3	Report summarizing 1b-1, 1b-2	10/28 - 10/30
1c-1	Develop AWS/site specification checklist. Review DIC inspection criteria and procedures.	10/18 - 10/24
1c-2	Document evaluation 1c-1	10/18 - 11/03
1c-3	Provide evaluation to KG&E QA	11/04
1c-4	Prepare changes/revisions as necessary, submit to KG&E QA	10/18 - 10/26
1c-5	Prepare summary report items 1c-1 through 1c-4.	11/08 - Completion
1d-1	Obtain information necessary to validate inspections performed with paint on welds.	Complete
1d-2	DIC/Bechtel review 1d-1 information; add site specific requirements and justification.	In process - 10/26
1d-3	Submit to KG&E Quality Assurance	10/25 - 10/31
1d-4	Prepare summary report items 1d-1 through 1d-3.	11/08 - Completion
1e-1	Obtain approval of CAR #19 Inspection Verification Plan by KG&E QC, DIC Quality Engineering and Architect Engineer.	Complete
1e-2	Certify inspectors to ANSI N45.2.6 - 1978	10/15 - 10/21
1e-3	Provide site specific qualifications of inspectors.	10/18 - 10/21

SCHEDULE OF CORRECTIVE ACTIONS
CAR #19

10/26/84

	CORRECTIVE ACTION	START/COMPLETE DATES
1e-4	Prepare summary report items 1e-1 through 1e-3.	11/08 - Completion
1f-1	Identification of structurally significant welds by Bechtel.	In process - 11/01
1f-2	Perform re-inspection of all structurally significant safety related structural steel welds with missing MSSWR's.	In process - Completion
1f-3	Prepare summary report items 1f-1 through 1f-2.	11/08 - Completion
2a-1	Review evaluations performed in 1c. Determine if procedures contribute to "Root Cause".	10/24 - 10/26
2a-2	Review inspection training and certification procedures.	10/18 - 10/27
2a-3	Analyze deficiencies found during the CAR #19 Inspection Verification Plan.	11/01 - 11/20
2a-4	Identify all safety related activities utilizing AWS D1.1.	10/17 - 10/22
2a-5	Review previously compiled information relative to all other programs utilizing AWS D1.1.	10/21 - 10/25
2a-6	Summarize review in 2a-5.	10/23 - 11/03
2a-7	Analyze programmatic elements utilized in various safety related AWS D1.1 welding activities. Determine extent to which programmatic differences would influence "Root Causes".	10/18 - 10/30
2a-8	Provide summary report items 2a-1 through 2a-7.	11/08 - Completion
2b-1	Perform 100% re-inspection of all structurally significant safety related structural steel welds having MSSWR's.	In Process - Completion
2b-2	Prepare summary report.	11/08 - Completion
3a-1	Document missing welds or material on NCR's; submit to Bechtel.	In Process - 11/09

SCHEDULE OF CORRECTIVE ACTIONS
CAR #19

10/26/84

	CORRECTIVE ACTION	START/COMPLETE DATES
3a-2	Verification of incorporation of Design Changes.	Complete
3a-3	Evaluate and determine probable cause of 3a-1.	10/18 - 11/11
3a-4	Prepare summary report.	11/12 - 11/13
4a-1	Evaluate results of CAR #19 Inspection Verification Plan to determine "Root Cause" of missing welds with inspection documentation; determine if pattern exists.	10/27 - 11/10
4a-2	Identify further actions if required.	10/30 - 11/11
4a-3	Prepare summary report.	11/12 - 11/13
5a-1	Assure Mechanical Deficiency Reports in S-372 have been correctly closed out.	10/18 - 10/30
5a-2	Assure Civil Deficiency Reports in S-372 have been correctly closed out.	10/18 - 10/30
5a-3	Prepare summary report.	11/08 - Completion
6	Prepare final report - submit to KG&E Quality	11/22 - 11/28

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FORM 1177 REV 1-67

Enclosure 1

INTEROFFICE CORRESPONDENCE

TO: G.L. Fouts KQLKWC 84-002

FROM: R.M. Grant

DATE: October 17, 1984

SUBJECT: Corrective Action Request (CAR) No. 19

Attached is Corrective Action Request (CAR) #19 which is being issued to obtain corrective actions to problems associated with safety-related AWS D1.1 structural steel welding.

Please respond to this Corrective Action Request by completing Section 5 of the subject CAR. Your schedule for implementing corrective actions and an explanation of any actions you have already taken should be submitted to me by October 24, 1984.

RMG/dkb

cc: K.R. Brown
G.L. Koester
F.J. Duddy
W.J. Rudolph II
C.E. Parry
C.G. Patrick

D12

WOLF CREEK GENERATING STATION

CORRECTIVE ACTION REQUEST

CAR NO. 19

1. CONDITION DESCRIPTION:

See Attached.

2. RESPONSIBLE ORGANIZATION:

KG&E Construction

3. CAUSE OF CONDITION:

QA Program breakdown associated with safety-related AWS D1.1 structural steel welding.

4. RECOMMENDED CORRECTIVE ACTION:

See Attached.

Reviewer 10-17-84 Date

Quality Branch Representative 10-17-84 Date

5. SCHEDULE FOR IMPLEMENTATION OF ACTION:

Responsible Supervisor Date

6. NRC REPORTABLE: (Yes) No
9/18/84 See Attached Telephone Call Record

7. STOP WORK ACTION TAKEN: Yes (No)
If Yes, Report # _____

8. CORRECTIVE ACTION VERIFIED - Method of Verification:

Quality Branch Representative Date

Supervisor Date

9. CAR CLOSED: Yes

Quality Branch Representative Date

Supervisor Date

10. APPROVAL _____ DATE _____
Director - Quality

I. CONDITION DESCRIPTION

A. Objectives

- To document a consolidated project plan for the identification, evaluation and resolution of problems associated with Safety-Related AWS D1.1 Welding.

- To provide assurance, based on objective evidence, that AWS D1.1 Welding of Safety-Related Structural Steel complies with all Quality Criteria as specificed in the related design documents and is within the tolerances of acceptable deviations as determined by the Architect - Engineer.

- To provide assurance that the documentation which supports the inspection of safety related structural steel welds is:

  - Available
  - Complete
  - Reflects appropriate information
  - Traceable to the item or activity

- To evaluate supporting elements of the DIC Quality Assurance Program to ensure that those elements were adequately and effectively implemented to demonstrate that the DIC welding of safety related structural steel, HVAC Supports, Electrical Supports, Pipe Whip Restraints and any other AWS D1.1 safety related welding activities were in compliance with the FSAR (i.e. AWS D1.1 - 1975) and the Design and Construction QA Program Manual, Section 17.1.B.

B. Definitions

Joint - A structural steel welded connection. A joint may consist of numerous welds. A joint may also be referred to as a connection.

Weld - A continuous length of weld material with only one start and one stop.

MSSWR - Miscellaneous Structural Steel Weld Record; a form used by DIC to document installation and inspection data for welds made to structural steel.

AWS D1.1 - American Welding Society's Structural Welding Code. This code covers welding requirements applicable to welded structures. It is to be used in conjunction with any complementary code or specification for the design and construction of steel structures.

Miscellaneous Structural Steel - See Attachment B for Complete Definition.

Structurally Significant Welds - See Attachment B for Complete Definition.

C. Background Information

- KG&E Surveillance Report S-372 (October, 1981) identified a Quality Program breakdown due to the following deficiencies:

  - Missing inspection documentation
  - Incomplete/improper resolution of identified electrical, mechanical and structural weld documentation deficiencies.

  The Surveillance Report resulted in the issuance of DIC CAR #9. CAR #9 pertained exclusively to the major finding of the Surveillance Report, that being electrical support weld inspection documentation. An agreement between KG&E and DIC Quality Management was reached that required KG&E to issue a CAR if the DIC resolution was unsatisfactory to KG&E.

- DIC CAR No. 1-E-009 (October, 1981) was subsequently issued to address the electrical support weld inspection documentation concerns identified in the KG&E Surveillance Report. The root causes of the problems identified in the KG&E Surveillance Report were determined by DIC to be:

  - The lack of notification by the responsible craft to Quality inspectors that welding activity was scheduled to commence.
  - Improper processing and filing of weld records.
  - The existance of a single part document as opposed to a triplicate type form to record inspections.

  The corrective measures taken by DIC involved the retraining of construction engineering personnel and the placement of limitations on the authorization level required to initiate the dispositions to Deficiency Reports. The CAR was closed in November, 1982.

- DIC CAR 1-W-0029 (March, 1983) was initiated to address some weld inspection inconsistancies in the Auxiliary, Control and Fuel Buildings. To investigate the extent of the problem 241 welds were inspected of which 147 were identified by the inspectors as deficient. To resolve the condition identified on the CAR, NCR 1SN10381PW was generated. The evaluation of the NCR involved another inspection by Welding Engineering which resulted in the determination that only 22 welds exhibited potentially significant conditions and were subsequently evaluated by the Architect - Engineer and dispositioned "use-as-is". Based on the NCR and its closure, DIC closed CAR 1-W-0029 in October, 1983.

- DIC CAR 1-C-0031 (August, 1983) states in part:

  "MSSWRs used to document safety related structural steel welded connections through out "Q" designated areas is inadequate. A sample survey made by (DIC) Q.E. has shown 16.4% of the required MSSWRs cannot be located for all "Q" welds in the Fuel Bldg. A survey of 6 erection/design drawings in the Reactor Bldg revealed 24% of the welds are missing documentation. In addition, M/W Quality has initiated a NCR (1SN11957CW) to document 42 missing MSSWRs for welds in the ESWS Pumphouse."

The CAR was dispositioned to write an NCR for each safety related building to address the missing MSSWR's. Although the CAR remains open, the proposed justification for closure is based in part on the closure of DIC CAR 1-W-0029.

- Current Project Actions

  - Document Reconciliation Task: On August 13, 1984, a document reconciliation effort was initiated at the direction of project management to determine which safety related structural steel welds identified on design drawings were lacking inspection documentation in the form of MSSWRs.

  - Inspection Verification Plan: On August 17, 1984, an inspection verification effort was initiated at the direction of project management to provide an accurate assessment of the "as-built" conditions of safety related strucutral steel welded connections with unretrievable MSSWR's. These activities are being performed by a combined team of DIC and Architect - Engineer AWS Certified Welding Inspectors under direct supervision of KG&E Construction QC. These activities are being performed in accordance with written instructions issued by KG&E Construction QC which reflect the criteria of AWS D1.1-1975 and the applicable Architect - Engineer design documents. The results of these verifications and the review of Surveillance Report S-372 have caused the findings in Section E of this report to be issued.

D. Requirements

The welding of safety related structural steel connections at WCGS is governed by welding code AWS D1.1-1975. The WCGS FSAR invokes this code for each safety related structure. In addition, SNUPPS project specification 10466-C-122 (Q) Rev. 0 through 14 entitled "Technical Specification for Contract for Erection of Structural Steel for the (SNUPPS) Power Plant" and specification 10466-C-132(Q), Rev. 0 through 8 titled "Technical Specification for Erecting Miscellaneous Metal for the Standardized Nuclear Unit Power Plant System (SNUPPS)" requires structural steel welds to be performed in accordance with AWS D1.1-1975, with exceptions in the criteria for undercut (para. 8.5.2) and weld convexity (para. 8.5.3).

E. Findings - Impacts - Recommended Corrective Actions

The five findings listed below were identified during the two WCGS management assessments described in the 'Background Information' section of this report and a review of Surveillance Report S-372 by KG&E QA. Collectively, these represent a breakdown of the constructor's Quality Assurance program. This condition was caused by an apparent inconsistent application of weld inspection criteria, failure to implement procedural requirements for documenting inspections, and failure to implement effective corrective actions for identified deficiencies.

<u>Finding #1</u>: **The results of the Document Reconciliation Task indicated that 1509 of 6816 MSSWRs for safety related structural steel welds are missing.** (See Attachment B)

<u>Impact</u>: Without the documentation for the structural welds, the following areas are indeterminate:

- Welder identification and qualification
- Filler metal traceability
- Visual inspection results
- Qualified weld procedures specification used

<u>Recommended Corrective Actions</u>: Actions 1a through 1h below will adequately address all of the concerns identified in Finding #1 and the "root cause" concerns associated with Finding #2.

1a. Based on DIC program requirements, assure that all of the welders and welding procedure specifications were qualified to AWS D1.1 - 1975.

1b. Review the DIC program for the purchase and control of filler material to ensure that only acceptable filler material was used in safety related structural steel welds.

1c. Evaluate the adequacy of the DIC inspection criteria and procedures to determine if these elements could have adversely impacted either the results of the initial inspections or the results of the verification plan. Document and provide this evaluation to KG&E QA for review prior to any additional inspection implementation. Any changes in inspection criteria and procedures shall be provided to KG&E QA for review.

1d. Obtain a documented evaluation to determine the validity of inspections performed with the presence of paint on the weld.

1e. Utilize personnel certified to ANSI N45.2.6 - 1978 for the inspection of safety-related structural steel welds. Inspections shall be performed in accordance with the DIC Quality Program and training shall be performed and documented to assure that inspectors are cognizant of the DIC Quality Inspection program requirements.

1f. Perform a 100% reinspection of all structurally significant safety-related structural steel welds with missing MSSWR's. The identification of "structurally significant" welds shall be made by the Architect - Engineer (See Attachment B). Inspect the welds per recommendations 1c, 1d, 1e, 1g, 1h and 2a.

1g. Use an NCR to obtain and document a suitability for service evaluation of inaccessable welds.

1h. Report all identified deficiencies on an NCR.

* *

Finding #2: **An inspection verification effort of safety-related structural steel welding, undertaken by AWS certifed weld inspectors identified several areas of deficiencies. These deficiencies have been catagorized below:**

- **Undersized welds**
- **Weld defects**
- **Incorrect configuration**
- **Weld underrun**
- **Weld undercut**

Impact: These deficiencies could jeopardize the structural integrity of the connection.

Recommended Corrective Actions: Actions 2a through 2d below will adequately address all of the concerns identified in Finding #2 and the investigative actions required by Finding #5.

2a. Determine and document the "root cause" of the previous acceptance of deficient structural welds. Analyze the HVAC Support, Electrical Support, Pipe-Whip Restraint and any other safety-related program utilizing AWS D1.1 Welding to ensure that the same "root causes" inherent in the structural steel welding program were not generic to other programs.

2b. Perform a 100% reinspection of all structurally significant safety-related structural steel welds having MSSWR's. The identification of "structurally significant" welds shall be made by the Architect - Engineer (See Attachment B). Inspect the welds per recommendations 1c, 1d, 1e, 1g, 1h, and 2a.

2c. Evaluate the results of the completed Inspection Verification Plan against the acceptance criteria used in Action 1c.

2d. Any identified deficiencies shall be documented on an NCR.

* *

Finding #3: **A small number of safety-related structural steel welds were not made or had missing material.**

Impact: The structural integrity has possibly been jeopardized.

Recommended Corrective Action: The following action and the engineering disposition will adequately address Finding #3.

3a. Forward the "as-built" information to the Architect - Engineer via an NCR to obtain an engineering evaluation and disposition.

* *

Finding #4: One (1) weld was documented as having been inspected when in reality the weld was not made. (Ref. NCR 1SN20495CW)

Impact: The inspector who made the error could have improperly documented other welds. The structural integrity has possibly been jeopardized.

Recommended Corrective Action: The following action will adequately address Finding #4.

4a. Investigate the concern to determine the root cause of the error. Immediately notify KG&E Quality Assurance if any other problems of this nature are identified. Document the investigative actions. The notification of KG&E QA shall not preclude the issuance of an NCR.

* *

Finding #5: Objective evidence that the mechanical and structural welding inspection/documentation problems identified in KG&E QA Surveillance Report S-372 were rectified has not been provided.

Impact: There is a possibility that the mechanical and structural support welding inspection/documentation problems identified in the Surveillance Report were not corrected.

Recommended Corrective Action: The following action will adequately address Finding #5.

5a. Provide objective evidence that the mechanical and structural support welding inspection/documentation problems identified in Surveillance Report S-372 have been corrected. If such evidence is not available, research the extent of the problem and take the appropriate remedial actions.

F. Recommended Corrective Action Flow Diagrams

See Attachment C.

ATTACHMENT A

DATE: 9/18/84

TIME: 3:00

LE: KSLNRC

TE: 40675-K152

TE: 53564-152

TELEPHONE CALL RECORD

TO: Lawrence Martin

FROM: OMaynard, BRudolph, MLindsay, CParry

COMPANY: NRC-Region IV

ADDRESS: Arlington, Texas

TELEPHONE NO.: 817/860-8100

(use ink)

SUBJECT: Potential 10CFR50.55(e) Inspection of Welds.

We informed Mr. Martin that during our re-inspection of welds for which we had no inspection records, we identified 4 welds on the containment cooler platfrom and 4 lateral supports for the incore instrumentation tubing that were not installed. We are investigating to determine whether or not the condition was documented and why they had not been installed.

RECEIVED

SEP 20 1984

QA

ACTION REQUIRED AND DATE: Licensing coordinate 30-day report - due: 10/18/84

DISTRIBUTION:

G Koester	F Duddy	H Bundy/B Bartlett/W Guldemond
F Rhodes	G Fouts	R Pogue/F Zaval
M Williams	R Grant	C Parry/M Lindsay
R Hagan	W Rudolph	J Bailey/D Prichard
M Johnson	R Glover	A Beat
G Rathbun	G Baker	S Seiken
L Stevens	B Meyer	
F Field		

O W Maynard

(signature)

ATTACHMENT B

1. **Definition of Miscellaneous Structural Steel:**

Miscellaneous Structural Steel is divided into two (2) parts for the purposes of this CAR.

A. **Main Frame and Associated Members:**

Main frame welds are those welds on structural steel connections which support the main building floors (concrete or grating) and roofs. For efficiency, these connections are identified on a "per drawing" basis rather than categorizing each piece of steel individually. Therefore, it is inevitable that this category will include certain "associated" connections, such as, welds other than those which support main building floors and roof, which are depicted on drawings primarily showing main building floor and roof steel.

B. **Miscellaneous:**

Miscellaneous welds connect steel which does not support main building floors or roofs (i.e., all structural steel welds not classified as main frame or associated welds). This does not include hand-rails, toe-plates, and similar items.

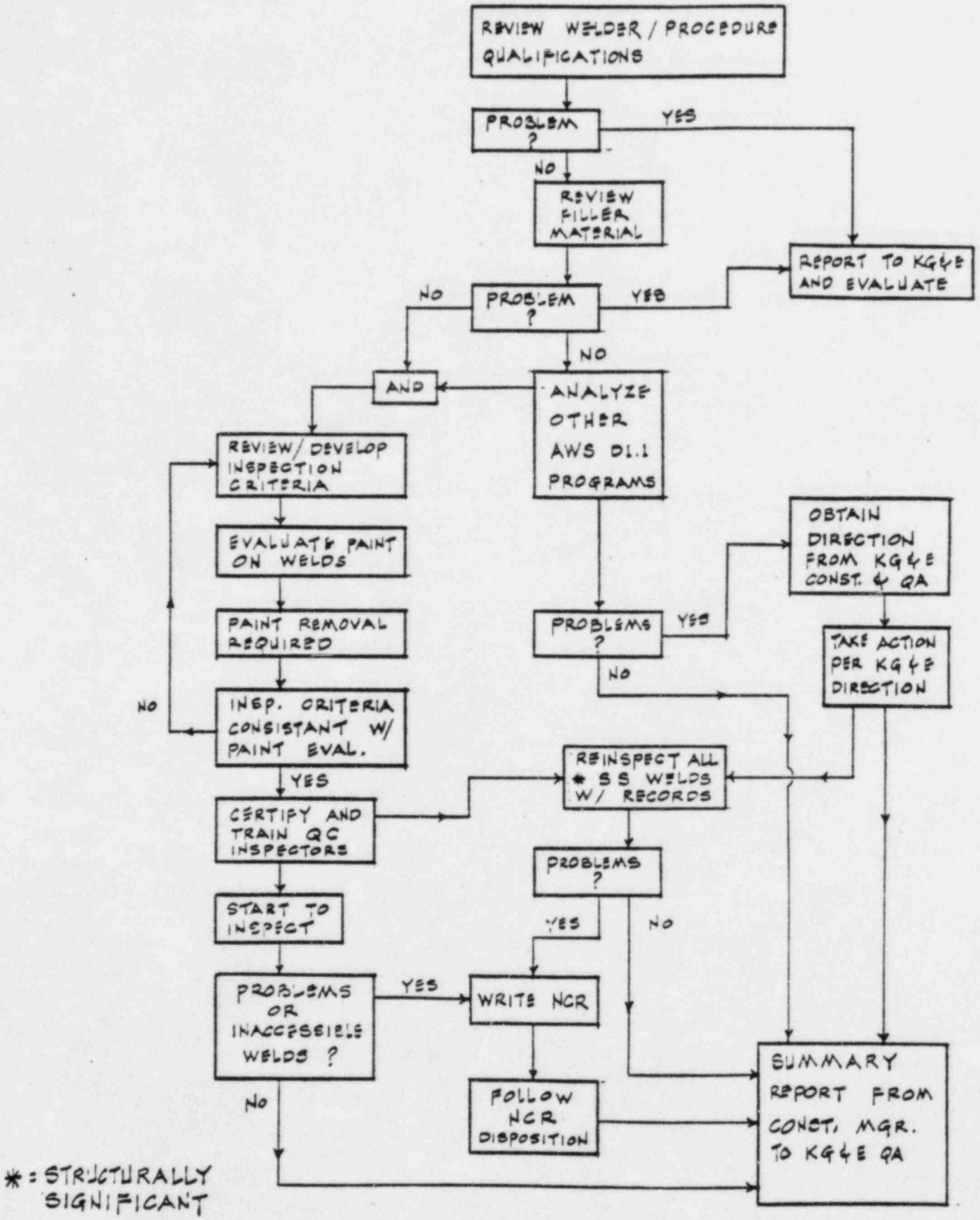
2. **Definition of Structurally Significant Welds:**

Those welds which are required in the completed building structure to support and protect safety related equipment and building components. Welds for temporary supports, non-safety related supports, hand-rails, toe-plates, and similar items are not considered to be structurally significant by this definition.

KG&E CAR 19 ATTACHMENT C-1

RECOMMENDED CORRECTIVE ACTION FLOW DIAGRAM

FINDING #1 & 2



KG&E CAR 19 ATTACHMENT C-2

RECOMMENDED CORRECTIVE ACTION FLOW DIAGRAM