



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

July 14, 1994

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

Attention: Document Control Desk

Subject: LaSalle County Nuclear Power Station Units 1 and 2

Commonwealth Edison Company Response to NRC's questions
regarding company's Thermo-Lag Test Program

NRC Dockets 50-373 and 50-374

- Reference:
- (1) M. J. Vonk letter to Document Control Desk dated April 6, 1994 transmitting the LaSalle Thermo-Lag Test Program
 - (2) A. Gody Jr. letter to D. L. Farrar dated May 18, 1994, "Review of Commonwealth Edison Proposed Fire Barrier Testing Program"
 - (3) M. J. Vonk letter to Document Control Desk dated June 2, 1994 transmitting ComEd response to Reference (2)
 - (4) A. Gody Jr. letter to D. L. Farrar dated June 22, 1994, "Review of Commonwealth Edison Proposed Fire Barrier Testing Program"

In reference (1), Commonwealth Edison submitted its proposed test plan to resolve fire barrier issues associated with repair/replacement of Thermo-Lag 330-01 barriers. References (2) through (4) have attempted to clarify certain questions resulting from that submittal. This letter responds to the specific questions of Reference (4). The complete fire test report for the LaSalle configuration, while not requested as part of this submittal, will be transmitted when complete under separate cover.

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- I.a Please provide an explanation of this accreditation process and how it confirms that independence is maintained.

The British government, like the NRC, recognized the importance of maintaining the operational integrity of a testing laboratory when faced with testing materials available from both a firm with business connections to the laboratory and unattached competitors. The qualification standard was developed to address this situation as part of the certification process. A copy of the NAMAS Regulations, Regulations to be met by Calibration and Testing Laboratories is included as Attachment 1. Also included are copies of Faverdale Laboratories original NAMAS Certification and a copy of their most recent inspection. (Attachments 2 and 3 respectively) In addition, one of the NAMAS inspectors has indicated a willingness to discuss any questions/concerns you may have. That inspector is:

Mike Richardson
Fire Rescue Station
Phone: 011-44819536177

- I.b Please explain what responsibilities and controls the FPE has over the testing program.

The ComEd Fire Protection Engineer (actually, a series of Engineers) was responsible for overall supervision of the test program to ensure that the test was performed in accordance with the Standards put forth in Generic Letter 86-10. ComEd personnel observed the construction, installation, and subsequent test of the assembly in all phases. ComEd was also specifically responsible for security of the assembly when not in actual view. Trip reports of the cognizant engineers are included as Attachment 4. The Q.A. Inspection Report will be transmitted under separate cover. A copy of the Fire Test Checklist, developed by ComEd and TRANSCO which was used by the Fire Protection Engineers is included as Attachment 5.

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July 14, 1994

- II Based on its review of your program, the staff does not consider the proposed cable tray fire barrier test configuration to be representative of the proposed field condition.

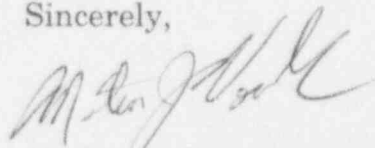
The test assembly was constructed to be representative of the worst case conditions for the proposed field application. The worse case was identified as a large "L" shaped structure with minimal thermal adsorption. To minimize the material available to act as a heat sink, only one cable tray was included and it did not contain cabling or Thermo-Lag material which would provide additional thermal adsorption. The fire test assembly consisted of a single horizontal run of 4"x30" wide solid back steel cable tray. The long leg of the "L" leg is enclosed in a structural steel frame. The wall and ceiling of the two sides are concrete with the other two surfaces (away from the wall) protected with DARMATT KM1 material. The other leg of the "L" shape will come out of the enclosure and will be protected on all four sides with DARMATT material. Included with the tray specimen are various hangers, penetrating conduit (both protected and unprotected), and a junction box. When actually installed at LaSalle, two trays will actually be enclosed within the DARMATT material in a configuration that is consistant with the configuration tested.

Generic Letter 86-10 Supplement 1 was used for acceptance criteria for this test. ASTM E-119 was used to determine the exposure fire.

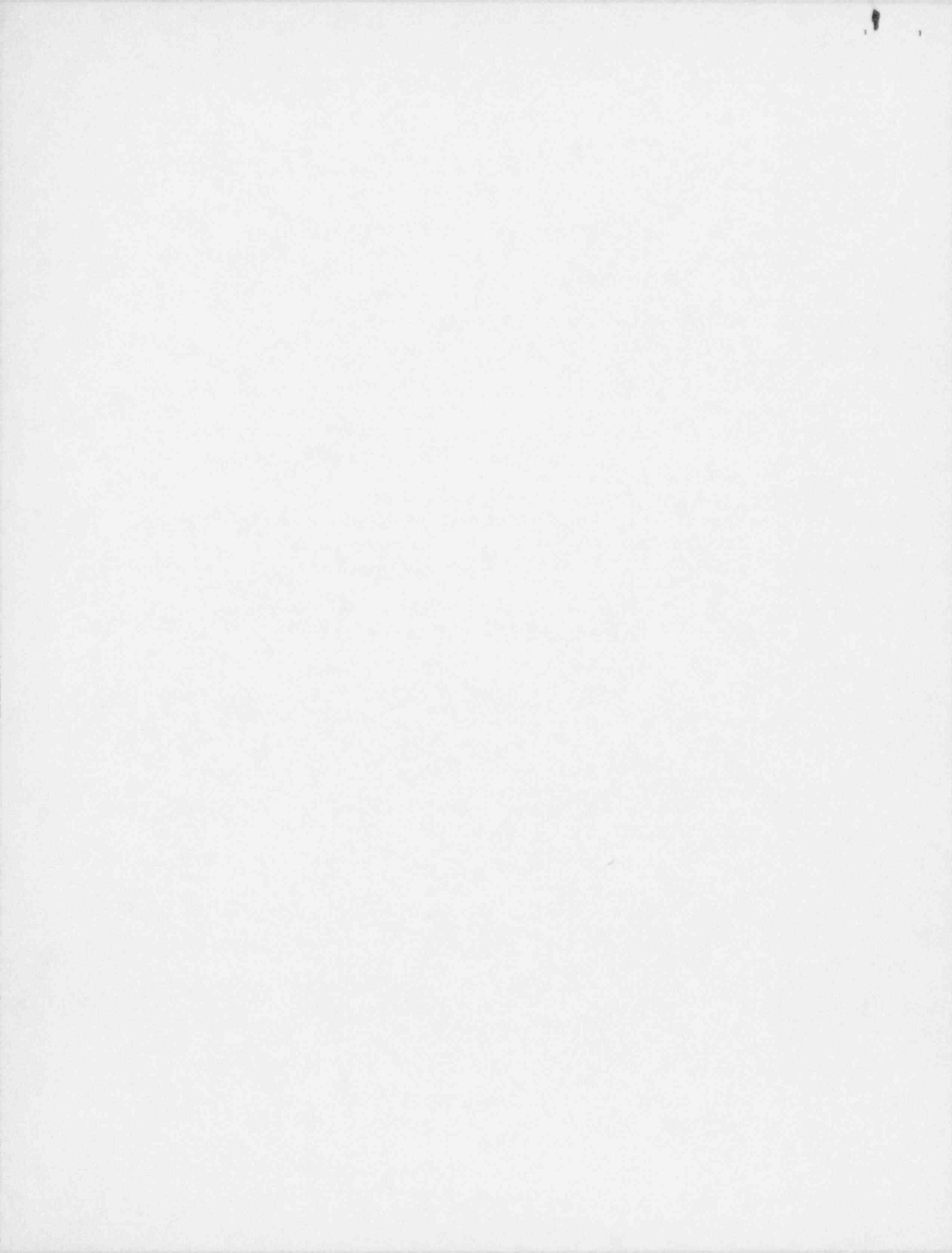
Test Configuration Drawings are provided as Attachment 6.

Please direct any questions pertaining to this response to Mr. Shahram Javidan at (708) 663-7685 and or Jim Behn at (708) 663-7387.

Sincerely,



Martin J. Vonk
Generic Issues Administrator
Nuclear Regulatory Services



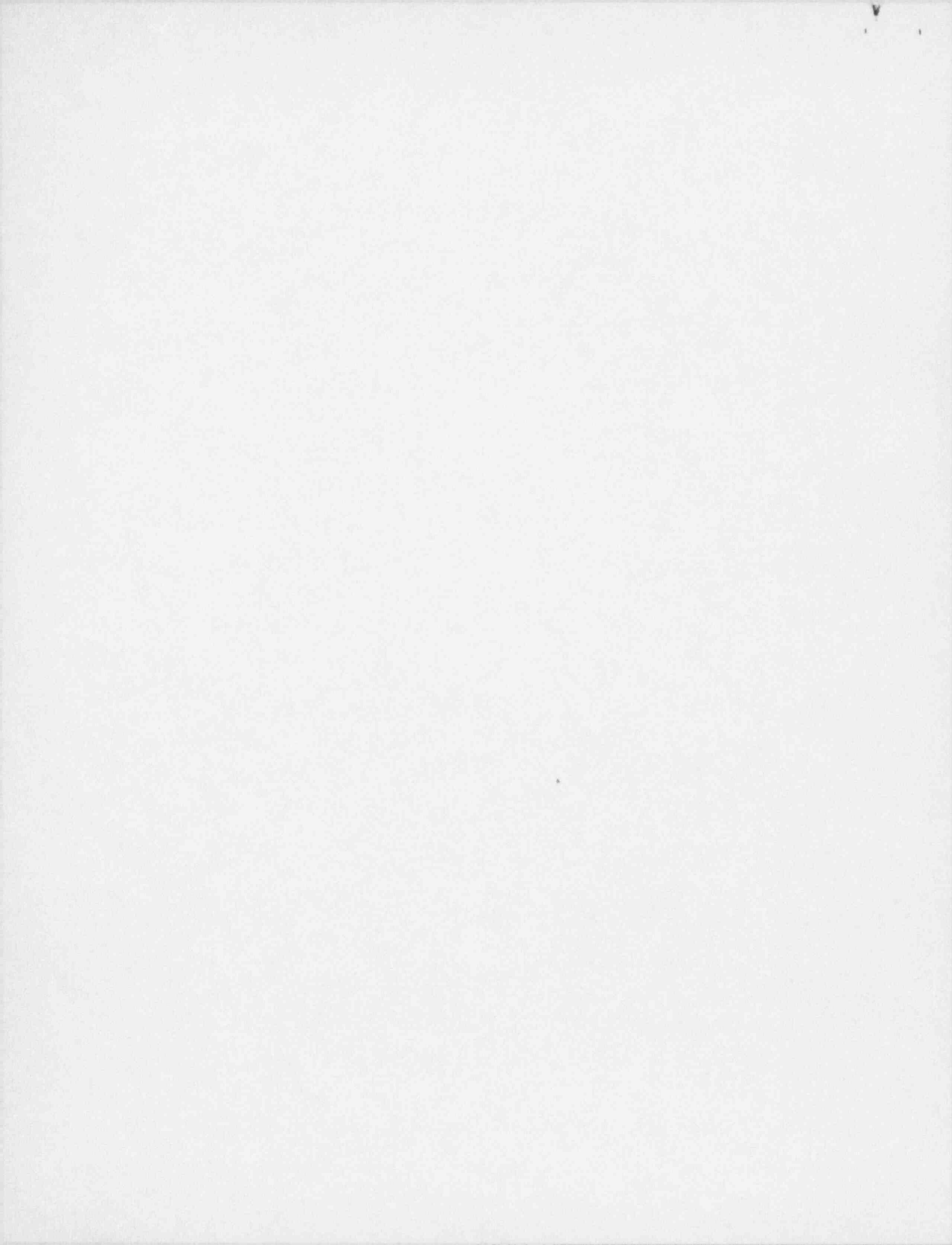
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Attachments:

(4)

July 14, 1994

- 1) NAMAS REGULATIONS, Regulations to be met by Calibration and Testing Laboratories
- 2) Faverdale Laboratories Initial NAMAS Certification Report
- 3) Faverdale Laboratories Current Certification Inspection Report
- 4) ComEd Fire Protection Engineer Trip Reports
- 5) Fire Test Checklist
- 6) Test Configuration Drawings

cc: J. Martin, Regional Administrator, NRC Region III
W. Schaefer, NRC Region III
R. Capra, Director of Directorate III, NRR
G. Dick, Generic Issues Project Manager, NRR
A. Gody, Jr., LaSalle Project Manager, NRR
S. West, DSSA, NRR



Attachment 1

NAMAS REGULATIONS
Regulations to be met by
Calibration and Testing Laboratories

NAMAS REGULATIONS

Regulations to be met by Calibration and Testing Laboratories

CONTENTS

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NAMAS REGULATIONS

REGULATIONS TO BE MET BY CALIBRATION AND TESTING LABORATORIES

1 GENERAL

- > 1.1 The NAMAS Executive (hereinafter referred to as NAMAS), acting on behalf of the Secretary of State for Trade and Industry, is the sole authority for the granting, maintenance, renewal, or termination of accreditation under the National Measurement Accreditation Service (hereinafter referred to as the Service).
- 1.2 The granting, maintenance, extension and renewal of accreditation will be afforded only to a Calibration or Testing Laboratory which:
- (a) is legally identifiable;
 - (b) complies with these Regulations, the NAMAS Accreditation Standard (NAMAS document M10) and any other relevant criteria of competence specified by NAMAS;
 - (c) pays such fees as are due to NAMAS;
 - (d) gives such undertakings as NAMAS may require.
- 1.3 The NAMAS Executive will issue a Certificate of Accreditation and a Schedule of Accredited Calibrations or Accredited Tests to the Laboratory that complies with these Regulations and the relevant criteria of competence specified by NAMAS.
- 1.4 NAMAS will indicate how monitoring of compliance with these Regulations and the relevant criteria of competence will be carried out.
- 1.5 The frequency with which the Laboratory is normally subject to surveillance and reassessment will be prescribed by NAMAS. It will be dependent in any given case on the specific character of the task of the Laboratory and on the types of calibration or test for which it has been accredited, but as a general guide surveillance visits would normally take place at intervals of around 12 months, and reassessment every 3 to 4 years. Over and above this, NAMAS reserves the right to carry out unscheduled surveillance and to require surveillance visits or reassessment at intervals other than those prescribed.
- 1.6 NAMAS will specify the procedures by which application for accreditation should be made, the conditions for granting, maintenance and renewal of accreditation, and the conditions under which accreditation may be refused, suspended, terminated or reinstated.

> 1.7 NAMAS may, at its discretion, suspend or terminate accreditation, reduce the scope of an accreditation, or require reassessment, if

(a) there is any change in any aspect of the Laboratory's status or operation that affects the Laboratory's compliance with these Regulations and the relevant criteria of competence or affects the Laboratory's capability or scope of activity; or

> (b) the Laboratory fails to comply with the requirements of these Regulations and/or the relevant criteria of competence specified by NAMAS.

1.8 NAMAS may, at its discretion, terminate accreditation

(a) if, the Laboratory being owned by an individual, such individual is declared bankrupt or enters into a composition with his creditors; or

(b) if the Laboratory, being a Company, enters into liquidation, whether compulsory or voluntary (but not including liquidation for the purposes of reconstruction), or has a Receiver of its business appointed; or

(c) if the management of the Laboratory fails in any respect to comply with the law of the land; or

(d) where, in the reasonable view of NAMAS, the Laboratory has made unreasonable or irresponsible use of subcontracting.

1.9 All information gained by NAMAS and its representatives in the granting, maintenance and renewal of accreditation will be treated as confidential between the Laboratory and NAMAS. Such information will be handled within NAMAS on a strict "need to know" basis and will not, subject to the law of the land, be divulged without the express written instructions of the Laboratory management.

2 PRESCRIPTION OF RELEVANT CRITERIA OF COMPETENCE

2.1 NAMAS shall have the right to specify the relevant criteria of competence against which an applicant laboratory shall be assessed.

2.2 The criteria set out in the NAMAS Accreditation Standard will normally be taken as the basis for assessing the competence of the Laboratory, but additional or alternative criteria may be prescribed at the discretion of NAMAS.

3 CONDITIONS TO BE MET BY CALIBRATION AND TESTING LABORATORIES

> 3.1 IMPARTIALITY, INDEPENDENCE AND INTEGRITY

3.1.1 The Laboratory and its personnel shall be free from any commercial, financial and other pressures which might influence their technical judgement.

3.1.2 The Laboratory shall not allow persons or organisations external to the Laboratory to influence the results of calibrations or tests performed by the Laboratory.

3.1.3 The Laboratory shall not engage in any activities that may endanger the trust in its independence of judgement and integrity in relation to its calibration or testing activities.

3.1.4 The remuneration of the personnel engaged in calibration or testing activities shall not depend on the number of calibrations or tests carried out nor on the results of such calibrations or tests.

3.2 COOPERATION WITH CLIENTS

3.2.1 The Laboratory shall afford the Client or his representative reasonable cooperation to enable him to monitor the performance of the Laboratory in relation to his contract. This cooperation shall include:

- (a) undertaking any reasonable check calibrations or tests to enable the Client to verify the calibration or testing capability of the Laboratory;
- (b) affording the Client or his representative access (subject to the confidentiality of work for other clients) to relevant areas of the Laboratory, for the witnessing of calibrations or tests performed for the Client;
- (c) preparation, packaging and dispatch of calibration items, test pieces, samples or other items needed by the Client for verification purposes.

3.3 COOPERATION WITH NAMAS

3.3.1 The Laboratory shall afford NAMAS and its representatives such reasonable accommodation and cooperation as necessary, to enable NAMAS to monitor compliance with these Regulations and the relevant criteria of competence. This cooperation shall include:

- (a) affording NAMAS and its representatives access to relevant areas of the Laboratory, for the witnessing of calibrations or tests;
- (b) undertaking any reasonable check calibrations or tests to enable NAMAS to verify the calibration or testing capability of the Laboratory;
- (c) preparation, packaging and dispatch of calibration items, test pieces, samples or other items needed by NAMAS for verification purposes;
- (d) permitting scrutiny by NAMAS and its representatives of calibration certificates, test reports, test certificates and other records relevant to accredited activities;

- (e) permitting scrutiny by NAMAS and its representatives of the results of the Laboratory's own internal quality system audits, measurement audits or proficiency tests;
- (f) assisting NAMAS and its representatives in the investigation and resolution of any properly authenticated complaints made by third parties about the Laboratory's accredited calibration or testing activities.

3.4 DUTIES RESULTING FROM THE USE OF ACCREDITATION

3.4.1 The accredited Laboratory shall:

- (a) at all times comply with these Regulations, with the relevant criteria of competence prescribed by NAMAS, and with the conditions prescribed by NAMAS for use of the NAMAS logo or reference to NAMAS accreditation;
- (b) claim that it is accredited only in respect of calibration or testing services for which it has been granted accreditation and which are carried out in accordance with these Regulations and the criteria of competence prescribed by NAMAS;
- (c) pay such fees for application, assessment, surveillance, maintenance of accreditation and other services as shall from time to time be determined by NAMAS to be fair and appropriate, having regard to the costs of the Service;
- (d) not use its accreditation in such a manner as to bring the Service into disrepute, and shall not make any statement relevant to its accreditation which NAMAS may reasonably consider to be misleading;
- (e) upon suspension or termination of its accreditation (however determined) forthwith discontinue its use of accreditation and all advertising matter which contains any reference thereto;
- (f) upon termination of its accreditation by NAMAS return the certificate of accreditation;
- (g) make it clear in all contracts with its clients that the Laboratory's accreditation or any of its reports or certificates by themselves in no way constitutes or implies product approval by NAMAS or any other body;
- (h) endeavour to ensure that no certificate or report or part thereof shall be used by a client, or be authorised for use by a client, for promotional or publicity purposes, if NAMAS considers such use to be misleading; certificates or reports shall not be reproduced except in full without the written approval of both NAMAS and the Laboratory;

- (ii) endeavour to ensure that any properly authenticated complaints from third parties are promptly investigated and resolved in accordance with the Laboratory's documented policies and procedures for handling complaints.

4 SIGNIFICANCE OF ACCREDITATION

- 4.1 Accreditation should not be regarded as in any way diminishing the normal contractual responsibilities between the Laboratory and user. While accreditation will normally be a sound indicator of the quality of service offered by the Laboratory, it cannot be taken to constitute a guarantee by NAMAS that the Laboratory always maintains a particular level of performance.
- 4.2 Accreditation does not, of itself, qualify the Laboratory to approve any particular product (although accreditation may be a relevant factor enabling approval and certification authorities to decide whether to use a given laboratory in connection with their own activities, or whether to delegate approval or certification authority to a particular laboratory).
- 4.3 Charging arrangements between the Laboratory and its clients are in no way the responsibility of, and are not subject to the control of NAMAS.

5 NOTIFICATION OF CHANGE

- 5.1 The Laboratory shall inform NAMAS without delay, in the event of any change in any aspect of the Laboratory's status or operation that affects the Laboratory's compliance with these Regulations and the relevant criteria of competence, or affects the Laboratory's capability or scope of activity. The Laboratory shall inform NAMAS immediately of any change in:
 - (a) the Laboratory's legal, commercial or organisational status;
 - (b) the Laboratory's organisation and management, eg Head of Laboratory, Technical Manager or Quality Manager;
 - (c) the Laboratory's policies or procedures;
 - (d) the Laboratory's premises;
 - (e) the Laboratory's personnel, equipment, facilities, working environment or other resources;
 - (f) the Laboratory's authorised signatories;
 - (g) the Laboratory's compliance with NAMAS requirements.

- 5.2 The Laboratory will be given due notice of any intended changes relating to these Regulations, the relevant criteria of competence, and any other requirements prescribed by NAMAS and will also be given such time, as in the opinion of NAMAS is reasonable, to carry out the necessary adjustments to its procedures. The Laboratory shall notify NAMAS when such adjustments have been completed.
- 5.3 Accreditation may be relinquished by the Laboratory upon giving one month's notice (or other time period agreed upon between the parties) in writing to NAMAS.
- 5.4 Any notice or other communication required to be given or sent under these Regulations by NAMAS shall be deemed to be duly given or sent if sent by recorded delivery post to the address of the Laboratory last known to NAMAS and shall be deemed to be given at the time when the same would have been delivered in the ordinary course of post.
- 6 **APPEAL**
- 6.1 Appeals against the refusal, suspension or termination of accreditation, and disputes concerning the interpretation of these Regulations and the specified criteria of competence or otherwise arising in the operation of the Service, will be considered by the NAMAS Advisory Committee acting with the advice of its appropriate specialist committee.

Attachment 2

Faverdale Laboratories
Initial NAMAS Certification Report



- 7 APR 1994

COMMERCIAL IN CONFIDENCE

Mr A Sayers
Faverdale Technology Centre Ltd
Faverdale Industrial Estate
Darlington
Co Durham
DL3 0PX

NAMAS Executive
National Physical Laboratory

Teddington
Middlesex
United Kingdom
TW11 0LW

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Telex 262344 NPL C
Fax 081-943 7134

Direct line
Our ref
Your ref
Date

081-943 6266
NPD 31/0666 SI

6 April 1994

Dear Mr Sayers

GRANT OF ACCREDITATION - CATEGORY I

I have much pleasure in formally granting NAMAS accreditation effective from 29 March 1994, for the measurements detailed in the Schedule dated 29 March 1994 and bearing the accreditation number 0666 SI.



W T K HENDERSON
Head NAMAS Executive

MF122
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Issue No. 6
February 1992

COMMERCIAL IN CONFIDENCE



- 7 APR 1994

COMMERCIAL IN CONFIDENCE

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Our ref
Your ref
Date

081-943 6266
NPD 31/0666 SI

6 April 1994

Dear Mr Sayers

GRANT OF ACCREDITATION - CATEGORY I

I have much pleasure in formally granting NAMAS accreditation effective from 29 March 1994, for the measurements detailed in the Schedule dated 29 March 1994 and bearing the accreditation number 0666 SI.

Maintenance of accreditation is subject to continuing compliance with NAMAS requirements as specified in the *NAMAS Accreditation Standard (M10)*, *NAMAS Regulations (M11)* and other publications listed in *NAMAS Publications (M4)*.

May I take this opportunity to wish your accredited laboratory every success for the future.

Yours sincerely

W T K HENDERSON
Head NAMAS Executive

MF122
Page 1 of 1
Issue No. 6
February 1992

COMMERCIAL IN CONFIDENCE

Commercial in Confidence



NF118(CONF)

orig SAT cc DDA

Line No: 9432155

To

0666
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Faverdale Industrial Estate
Darlington
Co Durham
DL3 0PX

From
NAMAS Executive
National Physical Laboratory
Teddington Middlesex TW11 0LW
Tel: 081-977 3222 (exchange)
or 081-943 6101 (direct dialling)

1 / 1

Your ref:
Our ref: NPD 31/ 0666
Date: 22 Nov. 1993

Dear Mr. Hall,

CONFIRMATION OF RECOMMENDATION FOLLOWING VISIT

* This is to confirm that Accreditation will be ~~offered~~ maintained subject to non-compliances noted at the recent ~~assessment~~ ~~regression~~ ~~surveillance~~ visit on 25-26 OCT. 1993 (date) being discharged as detailed on each NF117 and the NF 118 by 26 Nov. 1993 (date).

* Copies of relevant NAMAS Forms NF117 and NF118 are with you ~~enclosed herewith~~.

Evidence of corrective action:

* should be posted to NAMAS Executive, to arrive within five days of the date of discharge stated on the NF 118.

~~* will be inspected at a further visit.~~

* Delete as appropriate

Yours sincerely

NAMAS Executive Contact: BARRY MIDDLETON

Comments:

CAT 1 & CAT 2 ACCREDITATIONS TO BE PREPARED TO
CORRECT EARLIER OMISSION. CATD SCHEDULE TO BE
SUITABLY AMENDED.

Commercial in Confidence



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NF118(CONF)

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Issue No 4

November 1990

Commercial in Confidence



MF 122(CONF)

Mr C T M Hall
Faverdale Technology Centre Ltd
Faverdale Industrial Estate
Darlington
Co Durham DL3 0PX

NAMAS Executive
National Physical Laboratory

Teddington
Middlesex
United Kingdom
TW11 0LW
Switchboard
081-977 3222

Telex 262344 NPL G
Fax 081-943 7134

Direct line 081-943 6245
Our ref NPD 031/0666
Your ref
Date 20 August 1992

CONFIRMATION OF ACCREDITATION

Dear Cliff

We are pleased to confirm that your NAMAS Accreditation is maintained following

- * our visit to your laboratory on 14-15 May 1992 (date)
- * our/your letter(s) dated 26 June and 2 August 1992

Accreditation will be subject to continuing compliance with the NAMAS Accreditation Standard, the NAMAS Regulations and any further requirements prescribed by NAMAS.

Your scope of accreditation

- * ~~remains as described on the current schedule in your possession~~
- * is as shown on the new schedule enclosed/~~to be despatched~~, issue 8

We look forward to our continuing association.

Yours sincerely

G. R. CHAPMAN
NAMAS Technical Officer

*Delete as appropriate

- ① Please note that your new Technical Officer will be Mr Barry Middleton. His telephone number is 081-943 6241 and you should contact him with regard to any matters pertaining to your NAMAS accreditation in future.

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Many thanks for your co-operation and hospitality extended to me during the past few years. Best regards.

The National Physical Laboratory is an Executive Agency
of the Department of Trade and Industry

MF 122(CONF)
Page 1 of 1
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August 1991

Commercial in Confidence



MF 122(CONF)

To Faverdale Technology Centre Ltd
Faverdale Industrial Estate
Darlington
Co Durham
DL3 0PX

From
NAMAS Executive
National Physical Laboratory
Teddington Middlesex TW11 0LW
Tel: 081-977 3222 (exchange)
or 081-943 7076 (direct dialling)

For the attention of:- Mr CTH Hall

Your ref:

Our ref:

Date: 8 October 1991

CONFIRMATION OF ACCREDITATION

Dear Cliff

We are pleased to confirm that your NAMAS Accreditation is maintained following

* our visit to your laboratory on 6 June 1991 (date)

* our letter dated 11 July

Accreditation will be subject to continuing compliance with the NAMAS Criteria of Competence, the NAMAS Regulations and any further requirements prescribed by NAMAS.

Your scope of accreditation

* remains as described on the current schedule in your possession

* is as shown on the new schedule enclosed to be despatched, issue 5 (Please destroy the previous issue.)

We look forward to our continuing association.

Yours sincerely

NAMAS Technical Officer: G. H. CHAPMAN

* Delete as appropriate

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June 1990

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Please write in black

NOVEM R 1992 • ISSUE 1 • MF 118

MF 118

SUMMARY REPORT

25.10.93

0666

Fairweather Technology Centre
Darlington
Co. Durham
Cat 1 @ Aycliffe.
MR A. Sayers.

Calibration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Calibration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Assessment Team
Lead Assessor: MR RICHARDSON
Assessors: B. Middleton

Coverage of visit
As detailed in MF 111, dated 28.9.93 relating to
a) Initial Schedule Issue No. 9 Calibration Field
and/or Application for accreditation/extension dated
All relevant non-compliances recorded at previous visit have ☒ have not ☐ been discharged

Summary of findings at this visit
Number of major non-compliances (Type 1) ☐ Number of grouped minor non-compliances (Type 2) ☐ Number of minor non-compliances (Type 3) 6

The non-compliances were mainly related to the extension to scope both in additional equipment and manual updates.
The organization gave an impression of both teamwork and knowledge of operating procedures.

Number of MF 112 forms attached: 4 Number of MF 117A forms attached: 2

Proposed recommendations on accreditation (including changes to schedule)
The extension to scope, as agreed, to be added to schedule together with the change of parts of the scope to Cat 1, in recognition of the new compliances.

By whom all non-compliances are to be discharged November 26

Signature of lead assessor: MR Richardson Date: 26.10.93
Acknowledgement by management representative: A. Sayers Date: 26/10/93

MF 117

DETAIL REPORT

Date of visit

25.10.93

Laboratory Ref No

0666

NAMES

USE BLOCK CAPITALS	Detailed Report No	MR 1
	Laboratory name	Faversham Tech Centre
	Division/Dept	Fire Testing
	Accompanying lab representative	MR A. Sayer
	Lead assessor	MR M. Richardson
Reporting assessor	MR M. Richardson	

The report is by (tick whichever applies)

Calibration

Testing

☐☒

Assessment

Fire assessment

Surveillance

Extension

☐☐☒☒

CAT 0

CAT 1

CAT 2

CAT 3

☒☐☐☐

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	Lab file/nomenclature not maintained on every sheet	A. Sayer
2	Devil's work to work in laboratory for identification of test specimens	A. Sayer
3	Specified time for temperature change required	A. Sayer
4	Assessment to be made will be needed to assess extension	A. Sayer
5	4m x 3m fire furnace not suitable for tests	A. Sayer

Reporting assessor

Signed

MR Richardson

Obs No	Non-compliances / Observations and Requirements						
	Non-compliance type				Requirement		Further comment by lead assessor (eg reference to BS, NIS or other documentation)
	1	2	3	Obs	M10 rel	M11 rel	
1					115		
2					67		
3					67		
4					34		
5					62		

Obs No	Corrective actions intended by organisation
1	Memo will be issued drawing attention to requirements
2	Weights will be rechecked
3	Beams will be purchased & copy of product data forwarded
4	
5	Furnace will be run for 4 hours & data logged for 1 hour

Management representative of laboratory

Signed

A. Sayer

Date

25/10/93

MF 117A

INDIVIDUAL

ASSESSOR'S REPORT

258260ct93

0666

Lab name	Faversham Technical Centre	This report is for 10% and 100% compliance			
Lab address	M.R. Richardson	Calibration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Reporting officer	H.R. Richardson	Assessment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Assessment type	FIRE TESTING	CAP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

REPORT BY ASSESSOR

The findings of the above named reporting officer at the visit are recorded below, and the extent (Full, Partial, Nil) of compliance of the requirements has been indicated. Comments are included to indicate the extent to which the laboratory complies with specific NAMAS requirements and cross references are made to any observations noted on Form MF 117.

Requirements (E.P.N.)	Extent of compliance	Comments and reference numbers of observations noted on Form MF 117	Type
			1 2 3
NAMAS PUBLICATIONS (M6)	N		
GENERAL REQUIREMENTS (M10, Section 1)	N		
ORGANISATION & MANAGEMENT (M10, Section 2)	P	No change since last visit	
QUALITY SYSTEM (M10, Section 3)	P	Comments on the adequacy of the laboratory's quality system to give confidence in the quality of its calibration/testing services Quality manual will need updating to cover extension to scope and transfer to Cat 1 of wall furnace.	1
QUALITY AUDIT & REVIEW (M10, Section 4)	P	Records covered.	
COMPLAINTS & ANOMALIES (M10, Section 13)	N		
SUB-CONTRACTING (M10, Section 14)	N		
SERVICES & SUPPLIES (M10, Section 15)	P	Log of furnace use checked at Site address.	
NAMAS REGULATIONS (M11)	N		

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AMERICAN IN CONFIDENCE

Type:		1 2 3		
QUALITY CONTROL (M10, para 4.8)	N			
STAFF (M10, Section 5)	P.	References to the laboratory's documents that provide information on the technical qualifications, training, experience, and authority of the staff, particularly those responsible for the technical validity of calibration certificates / test reports / test certificates <i>Our staff used on site testing - previous consulting this morning.</i>		
EQUIPMENT (M10, Section 6)	P.	Bain furnace new 4m x 3m and run at hydrocarbon.		
TRACEABILITY AND CALIBRATION (M10, Section 7)	P.	checked over Fire Testing		
METHODS AND PROCEDURES (M10, Section 8)	P.	Extension to Scope standards obtained		
ACCOMMODATION & ENVIRONMENT (M10, Section 9)	P.	Correct.		
HANDLING OF CALIBRATION & TEST ITEMS (M10, Section 10)	N			
RECORDS (M10, Section 11)	P.	Test information & data checked.		
CERTIFICATES & REPORTS (M10, Section 12)	P.	Fire Resistance and PT. 4 Reports checked		
PROFICIENCY TESTING (M10, para 4.8b) and/or MEASUREMENT AUDIT (M10, para 1.6)	N	Name of scheme & performance of laboratory		

Calibrations tests performed

The annex should list the calibrations / tests performed, used to indicate partial agreement

Calibration Test	Operator	Calibration Test	Operator
BS. 476 - Floor Furnace	MR P. Hogg		
BS. 476 - Wall Furnace Cat 1	MR P. Hogg		

Signed: *M. H. Chubb* 26/10/93

MF 117A

INDIVIDUAL

ASSESSOR'S REPORT

25 OCT 1993

0666

Facility Name	FACILITY TECH. CENTRE			
Assessor	MR. M. R. RICHARDSON			
Report Number	BARRY MIDDLETON			
Report Title	DOCUMENTATION			
REPORT BY ASSESSOR			Type	
The following table shows the results of the assessment of the facility against the requirements of the NAMA standard. The results are recorded in the table below. The results are recorded in the table below. The results are recorded in the table below.			1 2 3	
NAMA PUBLICATIONS (M4)	F	M, N AND MS SERIES CHECKED MF 117: GM/1.1, 1.2 REFER		
GENERAL REQUIREMENTS (M10, Section 1)	N			
ORGANISATION & MANAGEMENT (M10, Section 2)	N			
QUALITY SYSTEM (M10, Section 3)	P	Comments on the adequacy of the laboratory's quality system to give confidence in the quality of its calibration/testing services CHECKED QUALITY MANUAL WITH REFERENCE TO THE OTHER SECTIONS DETAILED ON THIS FORM		
QUALITY AUDIT & REVIEW (M10, Section 4)	P	RECORDS CHECKED MF 117: GM/2.1 REFER		
COMPLAINTS & ANOMALIES (M10, Section 13)	P	RECORDS CHECKED — FOLLOWED ENTIRE PROCESS TO ADITS + REVIEWS		
SUB-CONTRACTING (M10, Section 14)	P	SYSTEM CHECKED. SUB-CONTRACTOR RECORDS APPROVED MF 117: GM 2/2 RECORDS		1
SERVICES & SUPPLIES (M10, Section 15)	N			
NAMA REGULATIONS (M11)	P	M11: 3.3 COOPERATION WITH NAMA SATISFACTORY		

		Type	
		1	2
QUALITY CONTROL (M10, para 4.6)	N		
STAFF (M10, Section 5)	P		
References to the laboratory's documents that provide information on the technical qualifications, training, experience, and authority of the staff, particularly those responsible for the technical validity of calibration certificates / test reports / test certificates <i>TRAINING / AUTOMATION INTERNALISED SOFTWARES</i>			
EQUIPMENT (M10, Section 6)	N		
TRACEABILITY AND CALIBRATION (M10, Section 7)	N		
METHODS AND PROCEDURES (M10, Section 8)	N		
ACCOMMODATION & ENVIRONMENT (M10, Section 9)	P		
HANDLING OF CALIBRATION & TEST ITEMS (M10, Section 10)	P		
RECORDS (M10, Section 11)	P		
CERTIFICATES & REPORTS (M10, Section 12)	N		
PROFICIENCY TESTING (M10, para 4.8b) and/or MEASUREMENT AUDIT (M10, para 1.5)	N		

Calibration/Testing

The assessment should be the calibration/Testing with used items to indicate partial assessment

Calibration/Testing	Operator	Calibration/Testing	Operator

Signed

[Signature]

BARRY MIDDLETON

25 OCT 1998

MF 117

DETAIL REPORT

25 Oct 1993

0666

Assessor's name	SM 1 2	Assessor's title	Technical Centre
Assessor's address	DOCUMENTATION	Assessor's telephone	Mr D.P. Aglin
Assessor's email	Mr M.R. Richardson	Assessor's fax	
Assessor's signature	BARRY MIDDLETON	Assessor's date	

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	As. 75 & Review: Non-wood cases have to be assigned a categorisation of serious/major	D.P. Aglin
2	Sub-contracting: The laboratory has not maintained a sub-contracting register	D.P. Aglin

Assessor's signature	Signed <i>[Signature]</i> BARRY MIDDLETON
----------------------	---

Non-compliances / Observations and Requirements									
Obs No	Non-compliance type				Requirement		Further comment by lead assessor (eg reference to BS, NIS or other documentation)		
	1	2	3	Obs	M10 ref	M11 ref	Lead's assessment	Signed	
1				✓			M51: 7.5(6)		
2				✓	14.5				

Obs No	Corrective actions intended by organisation
1	Asst 1 operating procedure will be commenced
2	Register will be started.

Assessor's signature	Signed <i>A. Sagar</i>	Date	25/10/93
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MF 117

DETAIL REPORT

25 OCT 93

0666

Assessor's Name	SM 1 1
Assessment Site	FAYRDALE TECH. CENTRE
Assessment Documents	NAMAS DOCUMENTS
Assessor's Name	Mr. D.P. Ayling
Assessor's Name	Mr. M.R. Richardson
Assessor's Name	BARRY MIDDLETON

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	LAB FILE DOES NOT CONTAIN: M9, NIS 7: JUN '91, NIS 53	D.P. Ayling
2	LAB FILE CONTAINS THE FOLLOWING SUPPLEMENTARY DOCUMENTS: NI, N9, N16, N18, NIS 3, NIS 4, NIS 9, NIS 10, NIS 15, NIS 17, NIS 18, NIS 20, NIS 21, NIS 6: APR '91, NIS 7: JUL '84, NIS 8: JAN '88, NIS 12: APR '88, '90, NIS 13: MAR '87, NIS 23: NOV '88, NIS 31: OCT '88	D.P. Ayling

Signed

BARRY MIDDLETON

Obs No	Non-compliances / Observations and Requirements				Requirement		Further comment by lead assessor (eg reference to BS, NIS or other documentation)	
	Non-compliance type				M10 ref	M11 ref	Signed	
1								
2								DOCUMENTS SHOULD BE SEPARATED AND/OR SEPARATELY LABELED WITH STAMP.

Obs No	Corrective actions intended by organisation
1	

Signed

A. Sayen

25/10/93

20
15
NAMAS

MF 117

DETAIL REPORT

Date of visit
26.10.93

Laboratory Ref No
0666

USER BLOCK CAPITALS	Detail Report No	REF 1 2	This report is for (tick whichever applies)			
	Laboratory name	Faversham Tech. Centre	Calibration	Testing		
	Division/Dept activity requested	Fire Testing	<input type="checkbox"/>	<input type="checkbox"/>		
	Accompanying lab representative	MR A Sayer	Assigned	Re-assigned	Substantive	Extension
	Lead assessor	MR M. Richardson	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Reporting assessor	MR M. Richardson	CAT 0	CAT 1	CAT 2	CAT 3	

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	Amendments to manual needed as follows (a) Refer to site address (b) Separate schedule to be detailed (c) Separate methodology for site testing (d) Additional information on testing (e.g. results) (f) Information for comparison agreement between checks and findings (g) Cycle time to be 1 day	A. Sayer

Reporting assessor: Signed M. R. Richardson

Obs No	Non-compliances / Observations and Requirements						Further comment by lead assessor (eg reference to BS, NIS or other documentation)
	Non-compliance type				Requirement		
	1	2	3	Obs	M10 ref	M11 ref	
1					SH		

Obs No	Corrective actions intended by organisation
1	Manual to be amended as agreed

Manager/Lead representative of laboratory: Signed A. Sayer Date: 26/10/93



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DETAIL REPORT

25 OCT 1995

0666

Assessment type	SM 1 2	Assessment date	
Assessment location	Future Tech Centre	Assessment by	
Assessment method	Documentation	Assessment by (signature)	
Assessment by (signature)	Mr D.P. Aglin	Assessment by (name)	
Assessment by (name)	Mr. M.R. Richardson	Assessment by (signature)	
Assessment by (signature)	BARRY MIDDLETON	Assessment by (name)	

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	Points & Review: Non-compliance found as required A LATERALISATION of SPIN/MIRO	D.P. Aglin
2	SUB-CONTRACTING: THE LABORATORY NOT NOT MOUNTAIN A SUB-CONTRACTOR RECEIPT	D.P. Aglin

Obs No	Non-compliance type				Requirement		Further comment by lead assessor (eg reference to BS, NIS or other documentation)
	1	2	3	Obs	M10 ref	M11 ref	
1				✓			M51: 7.5(6)
2				✓		14.5	

Obs No	Corrective actions intended by organisation
1	Point's operating procedure will be re-examined
2	Registers will be started.

Assessed by (signature)	Signed	A. Sanger	25/10/95
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MF 117

DETAIL REPORT

Date of visit

25/10/93

Laboratory Ref No

0666

USE BLOCK CAPITALS	Detail Report No	MR 1	This report is for (tick whichever are applicable)				
	Laboratory name	Faversham Tech Centre	Calibration	<input type="checkbox"/>	Testing	<input checked="" type="checkbox"/>	
	Director/Deputy	Fire Testing	Assessment	<input type="checkbox"/>	Re-assessment	<input type="checkbox"/>	
	Accompanying lab representative	MR A Sayer	Screening	<input checked="" type="checkbox"/>	Extension	<input checked="" type="checkbox"/>	
	Lead assessor	MR M. Richardson	CAT 0	<input checked="" type="checkbox"/>	CAT I	<input type="checkbox"/>	
Reporting assessor	MR M Richardson			CAT II	<input type="checkbox"/>	CAT III	<input type="checkbox"/>

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	Lab file/print data not numbered on every sheet	A. Sayer
2	Dead weights used in load test to be identified and Repts separate	A. Sayer
3	Specified beam for suspended ceiling required	A. Sayer
4	Amplifier to manual will be needed to cover extension	A. Sayer
5	4mx3m floor furnace not run for 4 hours	A. Sayer

 Reporting assessor: MR Richardson

Obs No	Non-compliances / Observations and Requirements						
	Non-compliance type				Requirement		Further comment by lead assessor (eg reference to BS, NIS or other documentation)
	1	2	3	Obs	M10 ref	M11 ref	
							Lead Assessor: Signed: <i>[Signature]</i>
1			/		11.5		
2			/		6.1		
3			/		6.1		
4			/		3.4		
5			/		6.2		

Obs No	Corrective actions intended by organisation
1	Memo will be issued drawing attention to requirements
2	Weights will be identified
3	Beams will be purchased & copy of purchase order forwarded
4	
5	Furnace will be run for 4 hours & 1 hr. before & 1 hr. after

Management representative of laboratory

Signed

A. Sayer

Date

25/10/93

MF 117

DETAIL REPORT

Date of visit

26.10.93

Laboratory Ref No

0666

SAMAS

USE BLOCK CAPITALS	Detail Report No	APR 1 2
	Laboratory name	Faversham Tech Centre
	Division/Dept	Fire Testing
	Accompanying lab representative	Mr H Sayer
	Lead assessor	Mr M. Richardson
	Reporting assessor	Mr M. Richardson

This report is for (tick whichever applies)			
Calibration	Testing		
Assessment	Re-assessment	Proficiency	Extension
CAT-0	CAT-I	CAT-II	CAT-III

Obs No	Observations (Refer to location, tests, equipment and relevant documentation)	Signature of lab representative
1	<p>Amendments to manual needed as follows:</p> <p>(A) Refer to site address (B) Separate schedule to be detailed (C) Separate audit category for site testing (D) Additional items in review making agenda (E) Tolerance for temperature agreement between checks at Darlington, only</p> <p>Outchiff to be $\pm 2^{\circ}\text{C}$</p>	A. Sayer

Reporting assessor

Signed

M. Richardson

Obs No	Non-compliances / Observations and Requirements				Further comment by lead assessor (eg reference to BS, NIS or other documentation)	
	Non-compliance type		Requirement		Lead assessor	Signed
	1	2	3	Obs	M10 ref	M11 ref
1					S14	

Obs No	Corrective actions intended by organisation
1	Manual to be amended as agreed

Management representative of laboratory

Signed

A. Sayer

Date

26/10/93

MF 117A

INDIVIDUAL

ASSESSOR'S REPORT

25826 Oct 93

0666

1. Laboratory Name	Faversham Laboratory Centre		This report is for (tick one)		
2. Lead Assessor	M.R. Richardson		Calibration	16310	
3. Report Assessor	H.R. Richardson		Assessment		
4. Other Details	FIRE TESTING		CAT		

REPORT BY ASSESSOR			Type		
The following observations were made during the assessment at the Faversham Laboratory Centre. The extent (Full, Partial, Nil) of each of the requirements has been indicated. Indicate the extent to which the laboratory complies with specific NAMAS requirements. If a major non-compliance is observed, it should be noted in the comments. If a minor non-compliance is observed, it should be noted in the comments. If a minor non-compliance is observed, it should be noted in the comments.			1	2	3
Requirements (F.P.N)		Comments and reference numbers of observations			
NAMAS PUBLICATIONS (M4)	N				
GENERAL REQUIREMENTS (M10, Section 1)	N				
ORGANISATION & MANAGEMENT (M10, Section 2)	P	No change since last visit			
QUALITY SYSTEM (M10, Section 3)	P	Comments on the adequacy of the laboratory's quality system to give confidence in the quality of its calibration/testing services Quality manual will need updating to cover extension to scope and transfer to Cat 1 of wall furnace.			1
QUALITY AUDIT & REVIEW (M10, Section 4)	P	Records covered.			
COMPLAINTS & ANOMALIES (M10, Section 13)	N				
SUB-CONTRACTING (M10, Section 14)	N				
SERVICES & SUPPLIES (M10, Section 16)	P	log of furnace use checked at site address			
NAMAS REGULATIONS (M11)	N				

		Total number of		Type		
				1	2	3
QUALITY CONTROL (M10, para 4.6)	N					
STAFF (M10, Section 5)	P.	References to the laboratory's documents that provide information on the technical qualifications, training, experience, and authority of the staff, particularly those responsible for the technical validity of calibration certificates / test reports / test certificates <i>Our staff used on site testing - previous owned by this firm</i>				
EQUIPMENT (M10, Section 6)	P.	Bain furnace new 4m x 3m and run at hydrocarbon.				3
TRACEABILITY AND CALIBRATION (M10, Section 7)	P.	checked over P. Hogg				
METHODS AND PROCEDURES (M10, Section 8)	P.	Extension to Scope SV standards obtained				
ACCOMMODATION & ENVIRONMENT (M10, Section 9)	P.	Correct				
HANDLING OF CALIBRATION & TEST ITEMS (M10, Section 10)	N					
RECORDS (M10, Section 11)	P.	Test information & data checked				1
CERTIFICATES & REPORTS (M10, Section 12)	P.	Fire Resistance and PT 4 Reports checked				
PROFICIENCY TESTING (M10, para 4.6b) and/or MEASUREMENT AUDIT (M10, para 1.5)	N	Name of scheme & performance of laboratory				

Calibration and test results

The following table lists the calibrations / tests performed, the date, and the operator

Calibration/test	Operator	Calibration/test	Operator
BS 476 - Floor Furnace	MR P. Hogg		
BS 476 - Wall Furnace	MR P. Hogg		

H. H. Hogg

MF117A

INDIVIDUAL

ASSESSOR'S REPORT

25 OCT 1995

0666

ASSESSOR'S NAME	FARRINGHAM TECH. CENTRE				
ASSESSOR'S NAME	MR. M. R. RICHARDSON				
ASSESSOR'S NAME	BARRY MIDDLETON				
ASSESSOR'S NAME	DOCUMENTATION				
REPORT BY ASSessor	The assessor has been asked to report on the assessment of the laboratory's compliance with the requirements of the standard. The assessor has been asked to report on the assessment of the laboratory's compliance with the requirements of the standard. The assessor has been asked to report on the assessment of the laboratory's compliance with the requirements of the standard.				
Comments on the adequacy of the laboratory's quality system to give confidence in the quality of its calibration/testing services	Comments on the adequacy of the laboratory's quality system to give confidence in the quality of its calibration/testing services				
NAMAS PUBLICATIONS (M4)	F	M, N AND MS SERIES CAPACITORS	Type 1 2 3		
GENERAL REQUIREMENTS (M10, Section 1)	N	MF 117: BM/1.1, 1.2 REFER			
ORGANISATION & MANAGEMENT (M10, Section 2)	N				
QUALITY SYSTEM (M10, Section 3)	P	Comments on the adequacy of the laboratory's quality system to give confidence in the quality of its calibration/testing services			
QUALITY AUDIT & REVIEW (M10, Section 4)	P	Records checked			
COMPLAINTS & AMENDMENTS (M10, Section 15)	P	Records checked - followed entire process to parts + reviews			
SUB-CONTRACTING (M10, Section 14)	P	SYSTEM CHECKED. SUB-CONTRACTING RECORDS			
SERVICES & SUPPLIES (M10, Section 15)	N				
NAMAS REGULATIONS (M17)	P	M11: 3.3 LOCATION WITH NEARLY SATISFACTORY			

		Type	
		1	2 3
QUALITY CONTROL (M10, para 4.8)	N		
STAFF (M10, Section 5)	P		
References to the laboratory's documents that provide information on the technical qualifications, training, experience, and authority of the staff, particularly those responsible for the technical validity of calibration certificates / test reports / test certificates TRAINING / AUTOMATION OUTRIGGER SIGNATURES			
EQUIPMENT (M10, Section 6)	N		
TRACEABILITY AND CALIBRATION (M10, Section 7)	N		
METHODS AND PROCEDURES (M10, Section 8)	N		
ACCOMMODATION & ENVIRONMENT (M10, Section 9)	P		
more moved to calibration			
HANDLING OF CALIBRATION & TEST ITEMS (M10, Section 10)	P		
BODILY IN + INTERIOR HANDLING.			
RECORDS (M10, Section 11)	P		
RELEVANT RECORDS WITH REFERENCE TO OTHER SECTIONS DETAILED ON THIS FORM			
CERTIFICATES & REPORTS (M10, Section 12)	N		
PROFICIENCY TESTING (M10, para 4.8b) and/or MEASUREMENT AID (M10, para 1.5)	N		
Name of scheme & performance of laboratory			

Calibration records maintained

Examination records should not be maintained in the laboratory but should be maintained in the laboratory

Calibration/test	Operator	Calibration/test	Operator

Report

Signature

[Signature]

BARRY MIDDLETON

25 OCT 1991

MF 118

SUMMARY REPORT

25.10.93

0666

Farnsdale Technology Centre

Darlington
Co. Durham

Cat 1 @ Aycliffe.

MR. A. Sayers.

NAMAS
Technical Officer

B. Huddleston

M. R. Richardson

Assessors:

Coverage

As detailed in MF 118 dated 28.9.93

relating to

other

Schedule Issue No.

9

Calibration Field

and/or

Application for accreditation extension dated

All relevant non-compliances recorded at previous visit have

☒

have not

☐

have not

Number of major
non-compliances (Type 1)☐Number of grouped minor
non-compliances (Type 2)☐Number of
non-compliances

6

The non-compliances were mainly related to the
extension to scope both in additional equipment and
manual updates.

The organisation gave an impression of both teamwork and
knowledge of operating procedures.

Number of forms attached

☒

Number of MF 118A forms attached

2

Recommendations on accreditation (including changes to schedule)

The extension to scope, as agreed, to be added to schedule together
with the change of part of the scope to Cat 1, in consequence of the
non-compliances.

Date of next visit

November 26

M. R. Richardson

Date

26.10.93

Acknowledgement by management

A. Sayers

26/10/93

Attachment 3

Faverdale Laboratories Current Certification Inspection Report



- 7 APR 1994

COMMERCIAL IN CONFIDENCE

Mr A Sayers
Faverdale Technology Centre Ltd
Faverdale Industrial Estate
Darlington
Co Durham
DL3 0PX

NAMAS Executive
National Physical Laboratory

Teddington
Middlesex
United Kingdom
TW11 0LW

Switchboard
081-977 3222

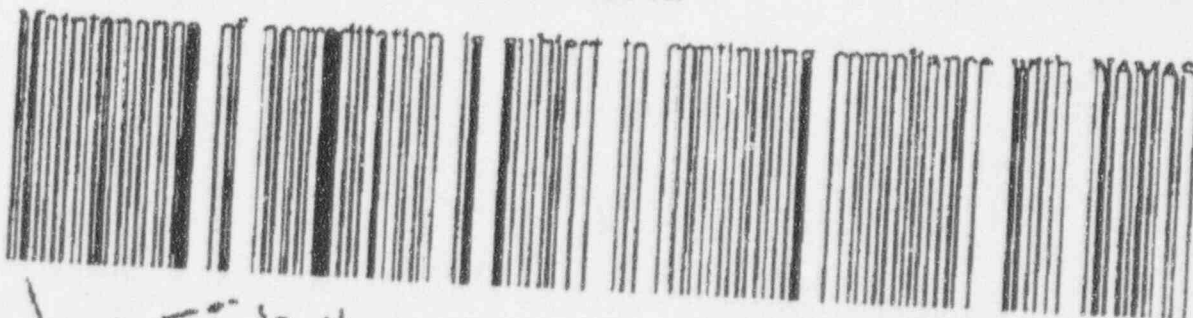
Telex 262344 NPL C
Fax 081-943 7134

Direct line 081-943 6266
Our ref NPD 31/0666 SI
Your ref
Date 6 April 1994

Dear Mr Sayers

GRANT OF ACCREDITATION - CATEGORY I

I have much pleasure in formally granting NAMAS accreditation effective from 29 March 1994, for the measurements detailed in the Schedule dated 29 March 1994 and bearing the accreditation number 0666 SI.



W T K Henderson
W T K HENDERSON
Head NAMAS Executive

MF122
Page 1 of 1
Issue No. 6
February 1992

COMMERCIAL IN CONFIDENCE

NPL

The National Physical Laboratory is an Executive Agency
of the Department of Trade and Industry



- 7 APR 1994

COMMERCIAL IN CONFIDENCE

Mr A Sayers
 Paverdale Technology Centre Ltd
 Paverdale Industrial Estate
 Darlington
 Co Durham
 DL3 0PX

NAMAS Executive
 National Physical Laboratory

Teddington
 Middlesex
 United Kingdom
 TW11 0LW

Switchboard
 081-977 3222

Telex 262344 NPL G
 Fax 081-943 7134

Direct line 081-943 6266
 Our ref NPD 31/0686 SI
 Your ref
 Date 6 April 1994

Dear Mr Sayers

GRANT OF ACCREDITATION - CATEGORY I

I have much pleasure in formally granting NAMAS accreditation effective from 29 March 1994, for the measurements detailed in the Schedule dated 29 March 1994 and bearing the accreditation number 0666 SI.

Maintenance of accreditation is subject to continuing compliance with NAMAS requirements as specified in the *NAMAS Accreditation Standard (M10)*, *NAMAS Regulations (M11)* and other publications listed in *NAMAS Publications (M4)*.

May I take this opportunity to wish your accredited laboratory every success for the future.

Yours sincerely

W T K HENDERSON
 Head NAMAS Executive

MF122
 Page 1 of 1
 Issue No. 8
 February 1992

COMMERCIAL IN CONFIDENCE



The National Physical Laboratory is an Executive Agency
 of the Department of Trade and Industry

Commercial in Confidence



NF118(CONF)

P.04

To

0666
Mr C T M Hall
Feverdale Technology Centre Limited
Feverdale Industrial Estate
Darlington
Co Durham
DL3 9PX

Fax No: 9432155

From
NAMAS Executive
National Physical Laboratory
Teddington Middlesex TW11 0LW
Tel: 081-977 3222 (exchange)
or 081-943 6201.. (direct dialling)

1 / 1

Your ref:

Our ref: NPD 31/ 0666

Date: 22 Nov. 1993

Dear Mr. Hall,

CONFIRMATION OF RECOMMENDATION FOLLOWING VISIT

* This is to confirm that Accreditation will be ~~offered~~ maintained subject to non-compliances noted at the recent ~~assessment~~ assessment ~~of~~ surveillance visit on... 25-26 OCT... (1993) (date) being discharged as detailed on each NF117 and the NF 118 by... 26 NOV... 1993 (date).

* Copies of relevant NAMAS Forms NF117 and NF118 are with you ~~enclosed herewith~~.

Evidence of corrective action:

* should be posted to NAMAS Executive, to arrive within five days of the date of discharge stated on the NF 118.

~~with the completion of a further visit.~~

* Delete as appropriate

Yours sincerely

NAMAS Executive Contact: BARRY MIDDLETON

Comments:

CAT 1 & CAT 2 ACCREDITATIONS TO BE AWARDED TO
CONVERT BRITISH UNITS. CAT 2 SCHEME TO BE
SUMMARY PROVIDED.

Commercial in Confidence



The National Physical Laboratory is an Executive Agency
of the Department of Trade and Industry

NF118(CONF)
Page 1 of 1
Issue No 4
November 1990

Commercial in Confidence



MF 122(CONF)

Mr C T M Hall
Faverdale Technology Centre Ltd
Faverdale Industrial Estate
Darlington
Co Durham DL3 0PX

NAMAS Executive
National Physical Laboratory

Teddington
Middlesex
United Kingdom
TW11 0LW

Switchboard
081-977 3222

Telex 262344 NPL G
Fax 081-943 7134

Direct line 081-943 6245
Our ref NPL 071/0666
Your ref
Date 20 August 1992

CONFIRMATION OF ACCREDITATION

Dear Cliff

We are pleased to confirm that your NAMAS Accreditation is maintained following

- * our visit to your laboratory on 14-15 May 1992 (date)
- * our/your letter(s) dated 24 June and 2 August 1992

Accreditation will be subject to continuing compliance with the NAMAS Accreditation Standard, the NAMAS Regulations and any further requirements prescribed by NAMAS.

Your scope of accreditation

- * ~~remains as described on the current schedule in your possession~~
- * is as shown on the new schedule enclosed/to be despatched, issue 8

We look forward to our continuing association.

Yours sincerely

G. R. CHAPMAN
NAMAS Technical Officer

*Delete as appropriate

- ② Please note that your new Technical Officer will be Mr Barry Middleton. His telephone number is 081-943 6241 and you should contact him with regard to any matters pertaining to your NAMAS accreditation in future.

Commercial in Confidence

Many thanks for your co-operation and hospitality extended to us during the past four years. Best regards, Hugh Chapman

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of the Department of Trade and Industry

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Page 1 of 1
Issue No 4
August 1991

ATTACHMENT 4

ComEd Fire Protection Engineer Trip Reports

FIRE TEST TRIP REPORT
JUNE 7-14,1994
FAVERDALE LABORATORIES
DARLINGTON, ENGLAND
JAMES D. BEHN

Between June 7, 1994 and June 13, I was at Faverdale Laboratories, Darlington England for the purpose of witnessing the construction of the LaSalle test assembly as well as securing the test materials and test assembly during the none working hours. Also present were Kevin Hawks, a Q.C. person, and an installation foreman, all of TRANSCO.

When I arrived at the facility, a single cable tray was constructed and secured in place in the test furnace. Also in place was a angle iron structural frame to which the Darmatt material was to be attached for the single cable tray that was to be enclosed in a single envelope. While this differed from the original test plan, the Faverdale people thought that without the steel frame, there was a possibility that during the hose stream test a hole or a seam would open up. A similar frame will be used in the actual field installation at LaSalle.

Faverdale did work from a Darchem assembly procedure. Prior to my appearance at the laboratory, a ComEd employee from the Q.A. Department at Downers Grove visited the Faverdale facility. The Darmatt boards were manufactured under his supervision and secured in a cage until my arrival at the lab. The boards were individually numbered to identify them.

The application of the Darmatt boards on the assembly were not installed until after my arrival. At the beginning of each day I would go to the cage in which the Darmatt material was being stored for the night and remove the lead seal. At this period of time the Faverdale people would remove the boards and place them on the table for cutting. After the cage was opened, the Q.C. representative from TRANSCO would stay with the board and identify each piece cut from the board to be used in the fire test assembly. At this time conduit sections were being manufactured and the Q.C. person would monitor the material in the same way as the boards were monitored. All conduit sections were identified. The Q.C. person would also monitor the assembly of the test specimen as to the spacing, size ,etc..

A checklist was developed at Downers Grove prior to the test such that the test criteria of Generic Letter 86-10 Supplement 1 was identified and verified in the field. The circuit integrity of the thermocouples wire was verified prior to the fire test.

The test assembly was put together outside the main building in a separate portable building in which both ends were open. A plastic tarp was secured at both ends at the end of the day and secured with a lead seal. In the morning the lead seals were removed and the tarp opened up. Access to the test assembly at night could only be achieved by cutting the tarp or breaking the lead seal.

Detail work(placing the boards around struts and obstructions) became labor intensive and really slowed the installation process down.

The installation was videotaped by Faverdale (partial) and will be available to ComEd in the near future. I also took 35mm pictures of the construction of the installation.

That portion of the furnace not in the portable building was kept in the main building.

On June 13, Rodney Vickers, fire protection systems engineer at LaSalle arrived at the Faverdale facility. During the day I informed Rodney what had taken place after my arrival. Greg Jarosz from TRANSCO also arrived at this time. The project was turned over to Rodney Vickers and the fire test was performed June 16.

Fire Test Trip Report for Rodney L. Vickers
June 13-17, 1994
Faverdale Laboratories
Darlington, England
Page 1 of 3

During my recent trip to Favordale Technologies Center in Darlington, England, I had the opportunity to witness the installation and testing of a fire barrier material called Darmatt KM1. Darmatt KM1 is a nuclear-grade flexible fire protection system for fire protection of cable trays and other safety-critical electrical equipment. This material was developed and manufactured by Darchem. In cooperation with Transco Products Inc.(TPI), of Chicago, this product is now being marketed to the U.S. Nuclear Industry.

The Darmatt KM1 fire barrier material will be used by LaSalle County Station to protect various electrical raceway assemblies that are required to safely shutdown the plant in the event of a fire. These electrical raceways are located in the Unit 1 and Unit 2 Diesel Generator corridors.

LaSalle County Station currently uses a fire barrier material called Thermo-Lag to protect the subject safe shutdown cables/raceways. The fire barrier resistance of the Thermo-Lag material is indeterminate and is the subject of numerous NRC Bulletins, Information Notices, and Generic Letters.

I arrived in England on Sunday, June 12. Greg Jarosz, Product Manager of TPI, also arrived in England on Sunday, June 12. Greg represented TPI at the laboratory from June 13 through June 17.

I went to Favordale Laboratories on Monday, June 13. When I arrived at the laboratory, I was informed of the status of the LaSalle County Station test specimen by Jim Behn, a CEC Co Corporate Fire Protection Engineer from NETS in Downers Grove.

Fire Test Trip Report for Rodney L. Vickers
June 13-17, 1994
Faverdale Laboratories
Darlington, England
Page 2 of 3

I witnessed the construction of the Darmatt KM1 Fire Barrier system test specimen. The installation/construction of the test specimen continued through Thursday, June 16. Prior to performing the test, the Fire Test Checklist was completed. The fire test was successfully performed on Thursday June 16, 1994. This test was performed in accordance with the requirements set forth in Supplement 1 to Generic Letter 86-10 and the ASTM E-119 Standard Time-Temperature Curve. The fire test demonstrated the ability of the fire barrier material/system to withstand the effects of a fire.

During the course of the week, I was also responsible for securing the test materials and the test specimen at the end of each working day. I was able to witness, first hand, the installation techniques used by personnel at the testing laboratory to fabricate the test specimen. I took several 35mm photographs of the test specimen during various stages of the construction. Additionally, portions of the installation and testing were video taped for future reference.

The test assembly was put together outside the main building in a separate portable building. This building had two open ends. At the end of each working day, the test specimen was secured by installing a plastic tarp on each open end. The tarps were secured using lead seals which were controlled by Jim Behn and me. Access to the test assembly, after working hours, could only be achieved by either cutting the tarps or by breaking the lead seals. The integrity of the tarps/seals was verified at the beginning of each working day prior to their removal. Additionally, the Darmatt material which was being used in the fabrication of the test specimen, was stored in a cage that was secured with a lead seal at the end of each working day. The integrity of this lead seal was also verified at the beginning of each working day prior to it's removal.

Other individuals present during the construction and the subsequent fire testing of the LaSalle County Station fire test specimen are as follows:

- 1) One Quality Control Inspector from TPI. This individual was responsible for documenting the installation of the LaSalle County Station fire test specimen (ie, identifying and marking each piece of Darmatt KM1 fire barrier material used in constructing the LaSalle County Station test specimen, documenting spacing of fasteners, gap sizes, etc...). This individual was at the laboratory from June 6 through June 17.

Fire Test Trip Report for Rodney L. Vickers
June 13-17, 1994
Faverdale Laboratories
Darlington, England
Page 3 of 3

- 2) One Installation Foreman from TPI. This individual was responsible for assisting in the installation of the Darmatt KM1 fire barrier material for the LaSalle County Station fire test specimen. This individual was at the laboratory from June 6 through June 17.
- 3) Howard Goss, Chairman of the Board, TPI. Howard was at the laboratory from June 14 through June 17.

Attachment 5

Fire Test Checklist

Attachment 5

Fire Test Checklist

Transco Products Inc.
 Test Procedure No. TR-213
 Fire Protection Checklist

FIRE TEST CHECKLIST

	Size	YES	NO	N/A
1). Equipment Installed				
Cable Tray		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conduit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free Air Cables		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Junction Box		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2). Cable Fill Demonstrated				
0%		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<15%		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
>15%		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3). Thermocouples Type Verification:				
Certified				
Certification Attached		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List Type of Thermocouple Material Used (i.e. "T" Type, "K" Type, etc.)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4). Thermocouples Installed Correctly				
A). Conduits		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>The temperature rise on the unexposed surface of a fire barrier system installed on a conduit shall be measured by placing the thermocouples every 152 mm (6 - inches) on the exterior conduit surface, between the conduit and the unexposed surface of the fire barrier material. The thermocouples shall be attached to the exterior conduit surface located opposite of the test deck and closest to the furnace fire source. The internal raceway temperatures shall be measured on a stranded AWG 8 bare copper conductor routed through the entire length of the conduit system with thermocouples installed every 152 mm (6 - inches) along the length of the copper conductor. Thermocouples shall be placed immediately adjacent to all structural members, supports, and barrier penetrations.</p>				

Transco Products Inc.
 Test Procedure No. TR-213
 Fire Protection Checklist

B.) Cable Trays

YES NO N/A
☐ ☐ ☐

The temperature rise on the unexposed surface of a fire barrier system installed on a cable tray shall be measured by placing the thermocouples every 152 mm (6 - inches) on the exterior surface of each tray side rails between the cable tray side rail and the fire barrier material.

Internal raceway temperatures shall be measured on a stranded AWG 8 bare copper conductor routed on the top of the cable tray rungs along the entire length and down the longitudinal center of the cable tray run with thermocouples installed every 152 mm (6- inches) along the length of the copper conductor. Thermocouples shall be placed immediately adjacent to all structural members, supports, and barrier penetrations.

C.) Junction Boxes (JB)

☐ ☐ ☐

The temperature rise on the unexposed surface of a fire barrier system installed on junction boxes shall be measured by placing thermocouples on either the inside or the outside of each JB surface. Each JB surface or face shall have a minimum of one thermocouple, located at its geometric center. In addition, one thermocouple shall be installed for every one square foot of JB surface area. These thermocouples shall be located at the geometric centers of the one square foot areas. At least one thermocouple shall also be placed within 25 mm (1-inch) of each penetration connector/interface.

D.) Airdrops

☐ ☐ ☐

The internal airdrop temperature shall be measured by a stranded AWG 8 bare copper conductor routed inside and along the entire length of the airdrop system with thermocouples installed every 152 mm (6-inches) along the length of the copper conductor. The copper conductor shall be in close proximity with the unexposed surface of the fire barrier material. Thermocouples shall also be placed immediately adjacent to all supports and penetrations...."

E.) Furnace

☐ ☐ ☐

A minimum of nine (9) atmosphere thermocouples shall be placed not less than 12" below the furnace deck/slab as

Transco Products Inc.
 Test Procedure No. TR-213
 Fire Protection Checklist

well as 12" away from representative elements of the test specimen accordance with ASTM E-119 requirements (as applicable). Additional furnace atmosphere thermocouples may be employed at the laboratories discretion to supplement data acquisition in areas where furnace atmosphere thermocouples can not be mounted to satisfy ASTM E-119 requirements because of the specimen's configuration, et cetera.

(Note: In accordance with GL 86-10 and supplement 1 requirements, "for the thermocouples installed on conduits, cable tray side rails, and bare copper conductors, a $\pm 13\text{mm}$ ($\pm 1/2$ inch) installation tolerance is acceptable". Hence, this tolerance shall be considered acceptable for use in this test. The tolerance is considered to be from the point of individual thermocouple placement and not compounded from one thermocouple to the next (i.e., all thermocouples can not be 6 1/2" from each other but rather must be $\pm 1/2$ " from the measured 6" [minimum] mark on the item being monitored).

5.) Material Installation

A.) Material Installation Complete

	YES	NO	N/A
Cable Tray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conduit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free Air Cable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Junction Box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B.) Quality Control Acceptance

	YES	NO	N/A
Cable Tray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conduit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free Air Cable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Junction Box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6) Fire Test in Accordance with ASTM E-119 Time

	YES	NO	N/A
Temperature Curve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

comments: _____

7.) Hose Stream Test Applied

	YES	NO	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A.) Type A

	YES	NO	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The stream applied at random to all exposed surfaces of the test specimen through a 6.4 cm (2 1/2-inch) national standard playpipe with a 2.9 cm (1 1/8-inch) orifice at a pressure of 207 kPa (30psi) at a distance or 6.1 meters (20

feet) from the specimen. (Duration of the hose stream application - 1 minute for a 1-hour barrier and 2 1/2 minutes for a 3-hour barrier); or

B.) Type B

The stream applied at random to all exposed surfaces of the test specimen through a 3.8 cm (1 1/2-inch) fog nozzle set at a discharge angle of 30 degrees with a nozzle pressure of 517kPa (75psi) and a minimum discharge of 284 lpm (75gpm) with the tip of the nozzle at maximum of 1.5 meters (5 feet) from the test specimen. (Duration of the hose stream application - 5 minutes for both 1-hour and 3-hour barriers), or

☐ ☐ ☐

C.) Type C

The stream applied at random to all exposed surfaces of the test specimen through a 3.8 cm (1 1/2-inch) fog nozzle set a discharge angle of 15 degrees with a nozzle pressure of 517 kPa (75psi) and a minimum discharge of 284 lpm (75gpm) with the tip of the nozzle at a maximum of 3 meters (10 feet) from the test specimen. (Duration of the hose stream application - 5 minutes for both 1-hour and 3-hour barriers).

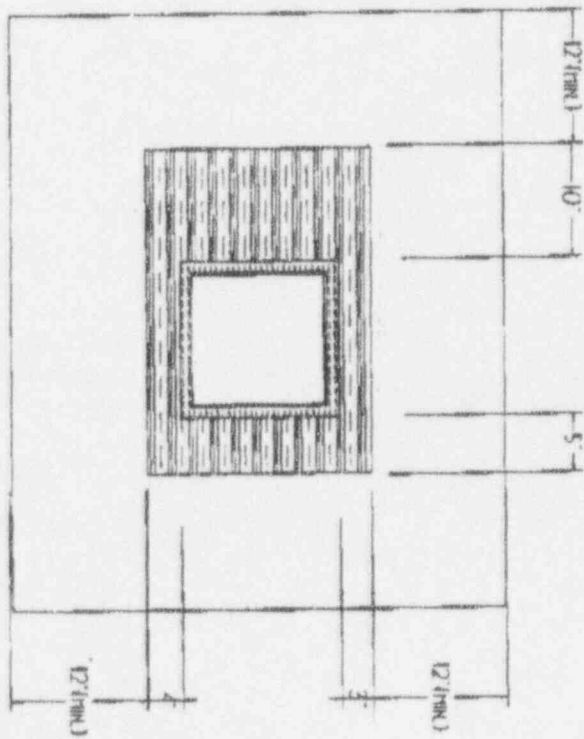
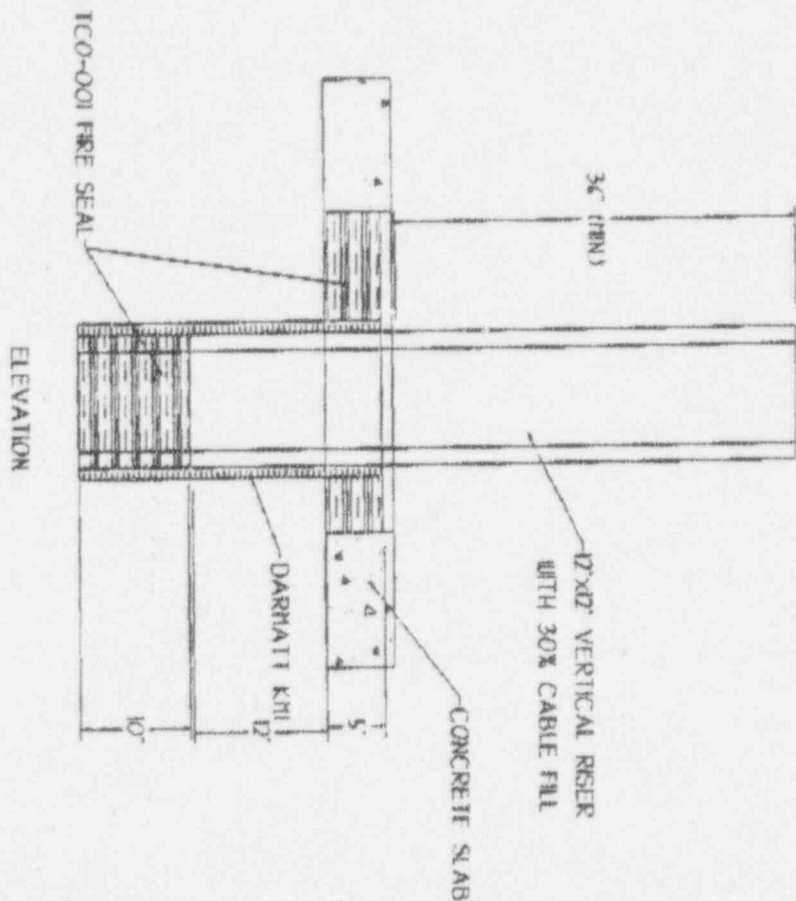
☐ ☐ ☐

Additional Notes and Comments:

1

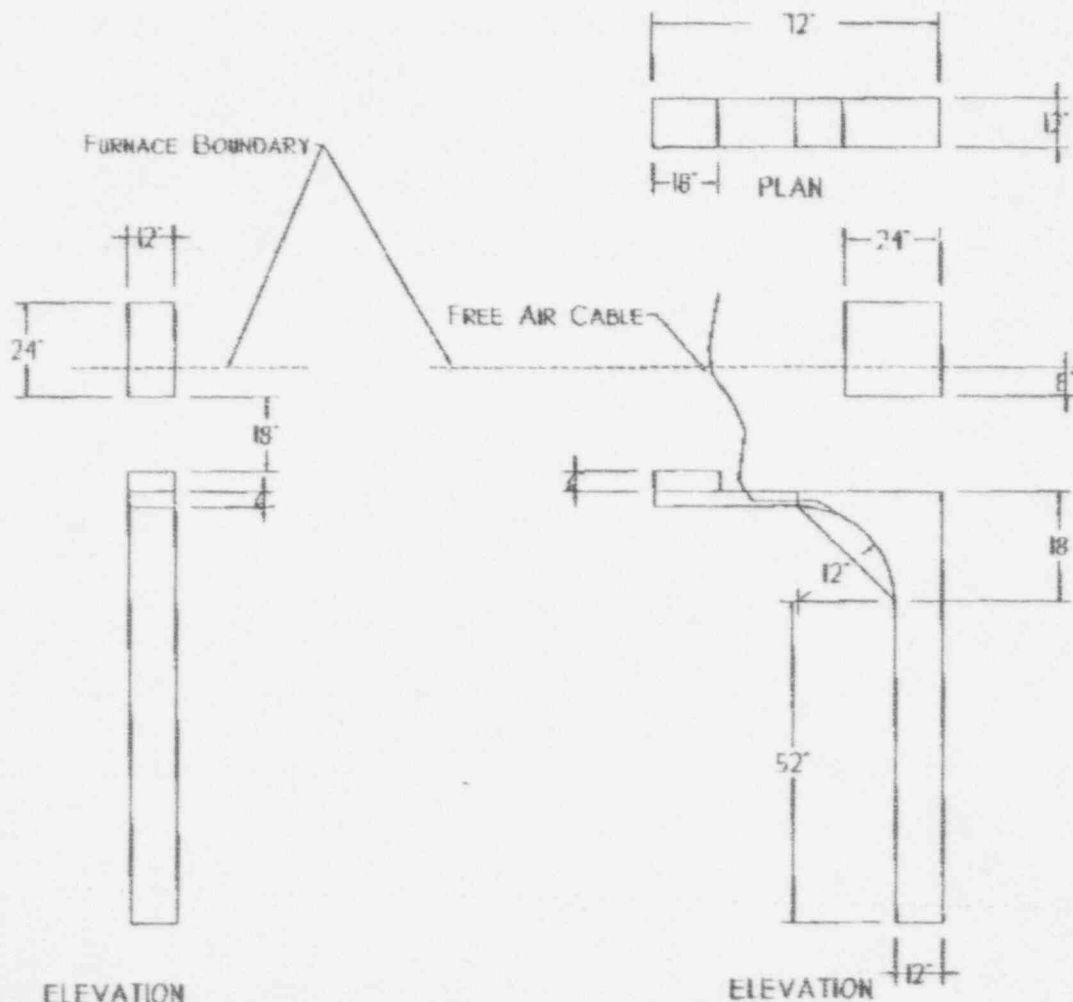
Attachment 6

Test Configuration Drawings



NO.	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
1	100-001 FIRE SEAL	1	EA		
2	CONCRETE SLAB	1	EA		
3	12"X12" VERTICAL RISER	1	EA		

TRANSCO PRODUCTS INC. 100-001 FIRE SEAL 12"X12" VERTICAL RISER 100-001 FIRE SEAL		CONSTRUCTION / BRIDGE / SPECIAL M. P. M. 100-001 FIRE SEAL 12"X12" VERTICAL RISER 100-001 FIRE SEAL
100-001 FIRE SEAL 12"X12" VERTICAL RISER 100-001 FIRE SEAL	100-001 FIRE SEAL 12"X12" VERTICAL RISER 100-001 FIRE SEAL	100-001 FIRE SEAL 12"X12" VERTICAL RISER 100-001 FIRE SEAL



1. Name of project 2. Date 3. Location 4. Description				5. Drawn by 6. Checked by 7. Approved by			
8. Title 9. Scale 10. Notes				11. Revision 12. Date 13. By			

TRANSCO PRODUCTS INC.
 14. Address
 15. Phone
 16. Fax
 17. E-mail
 18. Website

Fire Tool
 Single "T" Riser with Tee

19. Date
 20. By