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August 29, 1978

Mr. D. W. Hayes  
Project Section Chief  
Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Mr. Hayes:

Enclosed is the letter I received from Edwin Hofstadter concerning possible welding defects in the cable trays being installed in the Zimmer and Clinton nuclear power plants. I appreciate the interest you showed in this matter in our telephone conversation today. I also appreciate your willingness to send me copies of, or citations to, NRC inspection reports, if there are any, concerning cable trays or other Husky products used in the Zimmer and Clinton projects.

Thank you for your attention to this matter.

Sincerely yours,

Michael H. Bancroft  
Attorney  
Public Citizen Litigation Group

MHB/fb  
Enclosure

cc: Irving Peltier, Zimmer Project Manager  
Claire Miles, NRC Public Affairs (w/o enclosure)  
Edwin Hofstadter (w/o enclosure)  
Richard Pollock, Critical Mass Energy Project

SEP 11 1978

7812220040

20 Aquilla  
Florence, Kentucky 41042

August 18, 1978

Public Interest Research Group  
2000 F Street N. W.  
Washington, D. C. 20036

Attention: Mr. John Abbotts

Dear Mr. Abbotts:

I am writing this as a former employee of Hisky Products Inc. of Florence, Kentucky to report serious and deliberate non-conformance to 10 CFR 50 Nuclear Requirements and Engineering Specifications based on the above requirements. To make it even worse they send out notarized Certificates of Compliance with the full knowledge they are false.

In May of this year I had occasion to visit the Zinzer Nuclear Containment area and to see the various control areas and in particular to see Hisky cable trays in position and many filled with the cables.

Since this visit I have been disturbed by two aspects of Hisky's non-conformance, particularly as they relate to the safe operation of this plant after completion of construction.

These two important aspects are as follows:

1. Use of inferior and weak material completely out of specifications.
2. Trays welded by incompetent welders with every type weld defect present in every tray assembly.

The following illustrates these two aspects in more detail. They are related to the Zinzer job specifically which was the original job with the 10 CFR 50 requirements. On this job flagrant and serious non-conformance occurred and with this as a pattern it has occurred on all subsequent jobs.

#### MATERIAL:

All tray is designed with a load capacity which includes a safety factor. The tensile strength of the side rails largely determines this capacity. On the Zinzer job the tensile strength of the side rail material was to be in excess of 35,000 pounds. Hisky received and tested material as low as 18,000 pounds and a considerable amount in the range of 20 to 23,000 pounds. Some was rejected, some accepted on the basis it would be used for fittings where strength is not as critical.

Instead the material was not kept separate and thus many very weak side-rails were made up into long straight assemblies. After finding out that cotton mill steel varied so widely in tensile strength no more testing was done so that they could remain "unaware" of this condition. Incidentally more testing of T-6 aluminum was also performed and a wide range of tensile strength was also found. This was also ignored as above. What this adds up to is that Husky has built tray that will not carry the rated load even with safety factor included.

#### WELDING:

The Elmer job was the first job requiring the use of Certified welders in order to insure good welds. Husky contracted with Gladstone Laboratories of Cincinnati to set up a welder certification program. They did this and then tested all the welders. Without exception they failed the tests miserably. Husky then called in various welding Engineers and Mr. Spiveack of Technicon School of Welding in Cincinnati who submitted a written report of findings. A copy of his report is attached. In general all the weld Engineers concurred with Mr. Spiveack's report. Mr. Spiveack was asked if he could or would train the welders. He refused, stating that it is very difficult, if not nearly impossible to untrain people first, then try to retrain, than it is to start fresh with a person having no prior welding knowledge or experience.

Husky then proceeded to work on their own in crash programs in which the welders finally welded one piece which would pass a bend test. This welder then became "Certified" by Husky. However, what is critically important is that nothing occurred to the quality of the production welds! In fact it remains to date in the same sad state as Mr. Spiveack's findings dated October 30, 1974. Just a few weeks ago one welder was "tested" over 60 times before he finally made a test piece which was only marginally acceptable. Now he is a Husky "Certified" welder!

Starting in July and continuing this month a new type of non-conformance is presently in process on the Clinton job. Fittings are being MIG spot welded contrary to specific Engineering requirements. In addition Aluminum Bronze filler rod is being used with full knowledge that aluminum is not permitted in the containment area. Even worse the position of the spot is in such a manner the weld is less than 35% effective!

Substantiation of all these charges can be accomplished thru examination of Husky documents in relation to Material and to the Welders by the records, visual examination of the welds and by retesting the so called "Certified" welders by a competent Welding Engineer. Visual inspection of the Clinton fittings will substantiate the charges outlined.



What disturbs me even more than the actual incidents described is the fact so many top management people see nothing wrong in all these actions. So little real concern is shown to producing a truly quality product within the specifications. This should become even more particularly so when nuclear safety is directly involved.

Yours truly,

*Edwin P. Hefstadter*

Edwin P. Hefstadter

Distribution as follows:

Engineering Companies that may or may not be concerned.

Esasco  
United Engineers and Constructors  
Bechtel Corp.  
Brown & Root

~~Bechtel Corp.~~

Sargent & Lundy  
Stone & Webster  
Black & Veatch

This may not be complete, however to the best of my knowledge it is.

Government Agencies:

Nuclear Regulatory Commission  
Congressional Joint Atomic Energy Committee

Private Group:

Public Interest Research Group



Report of the Findings at  
Husky Products Incorporated  
on October 30, 1974

Submitted by: Lee Spiowack, President  
Technichron Inc., School of Welding

It was generally found that the reason your company has had difficulty in certifying your weldors is due to the fact that while some of your men are qualified weldors, they suffer from the ills of an employee that is offering an incentive program.

In order for an employee of your company to meet his required production level, plus benefit by the incentive program it was found that their welding machines were set at maximum output allowable, which is just below the point of blowing holes in the parent metal. This condition creates improper welding methods, and instead of establishing good welding, you have a situation of blasting the metal together. These extreme amperage settings also make it necessary to use higher gas flow in order to control the arc. This has to be extremely costly to your company.

Because of the conditions that exist (welding machine settings and gas flows) it was observed that improper welding is a common occurrence at Husky Products. The welds are not structurally sound.

#### Aluminum Welding:

All the welds have craters and it was observed that most of these craters show the common condition known as "crater cracking". It was further observed that there were many welds that had both cracking conditions in the weld as well as the crater. These conditions are primarily caused by the extremely high amperage and gas coverage. Your weldors are running extremely hot welds due to speed and thus you have rapid cooling conditions and cracking. The high gas flows (while costly) also causes rapid cooling and thus cracking.

Generally it was observed that the weldors in your aluminum welding areas had good welding techniques however lack knowledge in setting up the proper welding conditions before welding.

These men lacked the following knowledge:

1. Setting the welding machine
2. Setting the proper gas flow
3. Dulling the tungsten rather than pointing it
4. Controlling the weld to prevent craters
5. Cleaning the parent metal before welding

Steel Welding:

Four men were observed in the steel welding areas. One man had the knowledge of proper machine and gas flow settings however he lacked the welding techniques. This man was one of your oldest welders. The other three men had very little knowledge about proper settings and one of the three lacked the proper welding techniques. This man was your oldest employee in your welding department. Again it was apparent that all conditions existed to turn out maximum production.

As long as you have these conditions you will find that certifying welders is going to be extremely difficult. When observing several of the test coupons run by your welders it was found that the following conditions existed:

1. Crystallizations of the weld
2. Porosity
3. Penetration that exceeded 100%
4. Undercut
5. Weakening of parent metal in the heat effected zone

All the conditions are created directly by running too high of amperages, too high of gas flows, and dirty metal.

Other Observations:

1. The using of fans in the welding areas is common practice. This condition causes the gas shield to be blown away, thus causing porosity in the welds. This is another reason for the high gas flow pressures which is costly since larger volumes of gas are used than necessary.
2. It was noted that Argon/CO<sup>2</sup> mix was being used in your M.I.G. welding operations on steel. This again is costly because CO<sup>2</sup> would be adequate for your operation. Straight CO<sup>2</sup> costs about 1/6 of what 75/25 Argon/CO<sup>2</sup> mix costs.
3. Many of your employees do not use eye protection or face protection. I'm certain you must have frequently absenteeism due to eye flash injuries.
4. No use of safety glasses in the entire plant. Welders must wear safety glasses under their welding hood. (An OSHA Standard).
5. The plant is not in compliance with OSHA Standards. This could cause extreme hardship in the future especially if you have a severe injury of one of your employees.

Suggestions:

Husky Products Inc., should consider a training program for those individuals employed in their welding department. This program should emphasize welding methods as well as welding techniques.

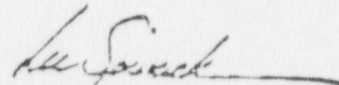
Any success arising from this training program is highly questionable, since proper welding methods and techniques would cut production. The present attitude in your welding department is quantity not quality. Sound certified quality welds will definitely reduce quantity, however the savings in cost of materials will most likely improve or equalize profits.



I am submitting this report with the intension of creating many constructive suggestions and have no intension to sound like I am being critical. You realized you had some concerns or you would have never contacted Technichron in the first place. Therefore, I sincerely hope that I have been of service to your company and that we may serve you again in the future.

Thank you.

Respectively Submitted

A handwritten signature in dark ink, appearing to read "Lee Spicvack", with a long horizontal flourish extending to the right.

Lee Spicvack

President

Technichron School of Welding

September 22, 1978

Husky manufactures Cable Trays to NEMA Standards as per a catalog as a commercial item. It also manufactures modifications of Standard items and specials to a customer's specifications.

Zimmers were special in 4 important ways as follows.:

1. They required special wrap around splice plates with different bolt holes to strengthen the joints where 2 trays come together.
2. They specified side rail material to have a minimum tensile strength of 35,000 pounds.
3. Welding was to be Mig Welded in accordance with ASME Section 9 and to be performed by certified welders.
4. All pertinent records relative to Quality are to be retained on long term retention basis.

In respect to the welding this meant that the welds were to have a quality level equal to that required for boilers and pressure vessels. These were to be top quality welds with good fusion, structurally sound and with minimum of defects. These were to be welded by qualified welders certified as such thru testing as called out in Section 9 of ASME.

Husky welders are competent to produce commercial type welds for an ordinary commercial product where defects and lack of fusion is acceptable. This is the type of weld done daily on our commercial work. We have Incentive Standards on this work and our welders earn from 160 to 200¢ day in and day out. This is the type welding described in Mr. Spievack's report.

Testing of our welders established their incompetence to produce quality welds at pressure vessel standards. Husky worked with the welders until they made one good piece which would pass a bend test. The welder is then certified and then goes right back to production making commercial type welds for Incentive which is the only type weld ever made. Outside of making this one test piece they have no production experience in this type weld. Based on their difficulty in passing the test they need considerably more training, followed with actual production experience, before they can be competent to produce a high quality type of weld.

Quality welding would greatly increase the manufacturing cost, particularly if we changed all welding to become quality type. A second alternative would be to produce quality welds when required on nuclear work and commercial quality on all other work. Husky's decision was to certify the welders but produce only the normal commercial type welds on all work. We would tell people we weld to Section 9 of ASME with certified welders. This has never changed. We have never made any effort to produce pressure vessel quality welds.

SEP 25 1978

This was done on the Zimmer job and was incorporated into the Quality Centre I Manual that Husky Welding is in conformance with ASME section 9 and the welds are made by certified welders. This is misleading in that people think that they will get quality welds. Instead everybody gets commercial quality welds made by a welder who once made one quality weld piece. On this basis Husky has secured additional nuclear work.

The top Managers of Husky are on a bonus setup. Anything that adds cost subtracts from profit which in turn reduces their bonus. To produce quality would be very expensive and would reduce their bonus. It is entirely possible the decision not to produce the specified quality welds was based entirely on the cost required to do so. The reason given to me and my people was, "that it is completely unnecessary."

*Edwin P. Hoptaeter*  
*Sept. 22, 1975*



20 Aquilla  
Florence, Ky. 41042

September 30, 1978

United States Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attention: Mr. James E. Fester

Dear Mr. Fester:

I have marked up various sections of the last three pages of the 100FR50 copy you gave me. These each have a number near it. By this number you will see my comments pertinent to it.

I would first like to give you a little personal background. I have nearly 20 years experience working with very good quality control programs. I have nearly 12 years experience at Bendix in Aircraft and Missile work. After being there less than 30 days I knew positively that the company from the very top down wanted nothing less than the very best possible effort from everyone to produce and send out absolutely nothing but the very best possible. In my work I had occasion to visit many other Bendix plants. This constant emphasis on quality and seriousness of purpose of everyone everywhere was readily apparent. I had over 7 years experience at American Standard where everyone knew that we were to produce and ship only the very best product possible. In fact if anything they placed far too much emphasis on aesthetics principally because of pressure from the sales people.

I am convinced that control of Quality must come from the top and go down. It cannot start at the bottom and go up. Neither can it start in the middle and go both ways. At Husky it never started period.

COMMENTS ON 100FR50 SECTIONS MARKED:

1. Skills--For a competent QC function Husky has only 2 basic processes in their plant.
  - a. Knowledge of sheet metal job shop type of work including Shearing, Brake Forming, other forming including Roll Forming and simple stamping work. In most instances the quality is determined by the tooling, providing it is properly used. Skill requirement to control quality of this work is minimal and training if necessary is also minimal. This is not a problem area. Quality is adequately controlled.
  - b. Welding--2 types of welding are used. Resistance Welding and Manual, Mig and Tig.
    1. Resistance Welding. Quality is largely dependent on the machine and its settings. Basic understanding of the process, the machine variables and relatively simple training will suffice to control the quality. In this area quality is under a fair degree of control.

2. Manual Welding--Mig and Tig. This is the area where knowledge of welding, particularly in the area of the different type of weld defects, knowing how to recognize them and also knowing what causes them becomes critically important. This is absolutely necessary if QC of this work is even attempted. This is the area where nothing is done. The QC Manager is not knowledgeable in welding and none of his people ever have been. Nothing has ever been done to even begin to exercise some control over this work. Quality of the work is entirely controlled by each welder and by nothing or nobody else.
2. Outside Contractors--only minimal control, minimum effort. Weld work sent out to weld shops without certified welders.
3. Prints changed--To my knowledge the customer is usually not informed.
4. Not complied with.
5. Best description of Husky efforts in this area is a "big farce". This is a principal allegation in original letter.
6. Not complied with. Rejected work with tags on are taken to shipping. Tags are removed and the item shipped as is.
7. Weld Failures--Such as at Louisville Gas & Electric shipment which should have highlighted need for a corrective action program, instead nothing of a lasting value was done.
8. Our audits are perfunctory--to say the least.

The following top Managers at Husky were or are knowledgeable of these conditions to the % shown. (This is my best personal estimate)

D. Ring	50%plus
F. Banta	100%
C. Duncan	100%
H. Wong	100%
B. Schuster	75%
R. Bitter	75%
C. Byrne	50%
H. Parker	50%plus

These people are knowledgeable to the fact shipments are made where Husky certifies full compliance. This is also an allegation in the original letter.

If after going over this you have any questions I will try to explain or answer as best I can.

Yours truly,

*Edwin P. Hofstadter*

Edwin P. Hofstadter

# configurations

Criterion 62—Monitoring fuel and waste storage. Appropriate systems shall be provided in fuel storage and radioactive waste systems and associated handling areas (1) to detect conditions that may result in loss of residual heat removal capability and excessive radiating levels and (2) to initiate appropriate safety actions.

Criterion 64—Monitoring radioactivity release. Means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of loss-of-coolant accident fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences and from postulated accidents.

## APPENDIX B—QUALITY ASSURANCE CRITERIA FOR NUCLEAR POWER PLANTS AND FUEL REPROCESSING PLANTS

Introduction. Every applicant for a construction permit is required by the provisions of 10 CFR 50.34 to include in its preliminary safety analysis report a description of the quality assurance program to be applied to the design, fabrication, construction, and testing of the structures, systems and components of the facility. Every applicant for an operating license is required to include in its final safety analysis report, information pertaining to the managerial and administrative controls to be used to assure safe operation. Nuclear powerplants and fuel reprocessing plants include structures, systems and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. This appendix establishes quality assurance requirements for the design, construction, and operation of those structures, systems and components. The pertinent requirements of this appendix apply to all activities affecting the safety-related functions of those structures, systems and components. These activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying.

As used in this appendix "quality assurance" comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service. Quality assurance includes quality control which comprises those quality assurance actions related to the physical characterization of a material, structure, component, or system which provide a means to control the quality of the material, structure, component, or system to predetermined requirements.

### I. ORGANIZATION

The applicant shall be responsible for the establishment and execution of the quality assurance program. The applicant may delegate to others, such as contractors, agents or consultants the work of establishing and executing the quality assurance program or any part thereof, but shall retain responsibility therefor. The authority and duties of persons and organizations performing activities affecting the safety-related functions of structures, systems and components shall be clearly established and delineated in writing. These activities include both the performing functions of attaining quality objectives and the quality assurance functions. The quality assurance functions are those of (a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying such as by checking, auditing and inspection, that activities affecting the safety-related functions have been correctly performed. The persons and organizations performing quality assurance functions shall have sufficient authority and organizational freedom to identify quality problems, to initiate, recommend or provide solutions and to verify implementation of solutions. Such persons and organizations

While the term "applicant" is used in these criteria, the requirements are, of course, applicable after such a person has received a license to construct and operate a nuclear power plant or a fuel reprocessing plant. These criteria will also be used for guidance in evaluating the adequacy of quality assurance programs in use by holders of construction permits and operating licenses.

\* Amended 36 FR 18301.

performing quality assurance functions shall report to a management level such that the required authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms provided that the persons and organizations assigned the quality assurance functions have the required authority and organizational freedom irrespective of the organizational structure. The individuals assigned the responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this Appendix are being performed shall have direct access to such levels of management as may be necessary to perform this function.

### II. QUALITY ASSURANCE PROGRAM

The applicant shall establish at the earliest practicable time consistent with the schedule for accomplishing the activities a quality assurance program which complies with the requirements of this appendix. This program shall be documented by written policies, procedures or instructions and shall be carried out throughout plant life in accordance with those policies, procedures or instructions. The applicant shall identify the structures, systems and components to be covered by the quality assurance program and the major organizations participating in the program, together with the designated functions of these organizations. The quality assurance program shall provide control over activities affecting the quality of the identified structures, systems and components to an extent consistent with their importance to safety. Activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment, suitable environmental conditions for accomplishing the activity such as adequate cleanliness and assurance that all prerequisites for the given activity have been satisfied. The program shall take into account the need for special control processes, test equipment, tools and skills and shall provide for the use of the best for verification of quality by inspection and test. The program shall provide for the identification and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained. The applicant shall regularly review the status and adequacy of the quality assurance program. Management of other organizations participating in the quality assurance program shall regularly review the status and adequacy of that part of the quality assurance program which they are executing.

### III. DESIGN CONTROL

Measures shall be established to assure that applicable regulatory requirements and the design basis as defined in 10 CFR 50.2 and as specified in the license application for those structures, systems and components to which this appendix applies are correctly translated into specifications, drawings, procedures and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Measures shall also be established for the selection and review for suitability of application of materials, parts, equipment and processes that are essential to the safety-related functions of the structures, systems and components.

Measures shall be established for the identification and control of design interfaces and for coordination among participat-



ing design organizations. These measures shall include the establishment of procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces.

The design control measure shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. The verifying or checking process shall be performed by individuals or groups other than those who performed the original design, but who may be from the same organization. Where a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, it shall include suitable qualification testing of a prototype unit under the most adverse design conditions. Design control measures shall be applied to items such as the following: reactor physics, stress, thermal, hydraulic, and accident analyses; compatibility of materials; accessibility for in-service inspection, maintenance, and repair; and demonstration of acceptance criteria for inspections and tests.

Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization.

#### VI. PROCUREMENT DOCUMENT CONTROL

Measures shall be established to assure that appropriate procurement requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services, whether purchased by the applicant or by its contractors or subcontractors. To the extent necessary, procurement documents shall require contractors or subcontractors to provide a quality assurance program consistent with the pertinent provisions of this appendix.

#### V. INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, or a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

#### VI. DOCUMENT CONTROL

Measures shall be established to control the issuance of documents such as instructions, procedures, and drawings including changes thereto which prescribe all activities affecting quality. These measures shall assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed. Changes to documents shall be reviewed and approved by the same organizations that performed the original review and approval unless the applicant designates another responsible organization.

#### VII. CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

Measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection

at the contractor or subcontractor source, and examination of products upon delivery. Documentary evidence that material and equipment conform to the procurement requirements shall be available at the nuclear powerplant or fuel reprocessing plant site prior to installation or use.

Of stock material and equipment. This documentary evidence shall be retained at the nuclear powerplant or fuel reprocessing plant site and shall be sufficient to identify the specific requirements, such as codes, standards, or specifications, met by the purchased material and equipment. The effectiveness of the control of quality by contractors and subcontractors shall be assessed by the applicant or designer at intervals consistent with the importance, complexity, and quantity of the product or services.

#### VIII. IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

Measures shall be established for the identification and control of materials, parts, and components, including partially fabricated assemblies. These measures shall assure that identification of the item is maintained by heat number, part number, serial number, or other appropriate means, either on the item or on records traceable to the item as required throughout fabrication, erection, installation and use of the item. These identification and control measures shall be designed to prevent the use of incorrect or defective material, parts, and components.

#### IX. CONTROL OF SPECIAL PROCESSES

Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

#### X. INSPECTION

A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. Such inspection shall be performed by individuals other than those who performed the activity being inspected. Examinations, measurements, or tests of material or products processed shall be performed for each work operation where necessary to assure quality. If inspection of processed material or products is impossible or disadvantageous, indirect control by monitoring processing methods, equipment, and personnel shall be provided. Both inspection and process monitoring shall be provided when control is inadequate without both. If mandatory inspection hold points which require witnessing or inspecting by the applicant's designated representative and beyond which work shall not proceed without the consent of its designated representative are required, the specific hold points shall be indicated in appropriate documents.

#### XI. TEST CONTROL

A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. The test program shall include, as appropriate, proof tests prior to installation, preoperational tests, and operational tests during nuclear powerplant or fuel reprocessing plant operation, of structures.

\*Amended 36 FR 18301.

systems, and components. Test procedures shall include provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used and that the test is performed under suitable environmental conditions. Test results shall be documented and evaluated to assure that test requirements have been satisfied.

#### XII. CONTROL OF MEASURING AND TEST EQUIPMENT

Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits.

#### XIII. HANDLING, STORAGE, AND SHIPPING

Measures shall be established to control the handling, storage, shipping, cleaning, and preservation of material and equipment in accordance with work and inspection instructions to prevent damage or deterioration. When necessary for particular products, special protective environments such as inert gas atmosphere, specific moisture content levels, and temperature levels, shall be specified and provided.

#### XIV. INSPECTION, TEST, AND OPERATING STATUS

Measures shall be established to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the nuclear powerplant or fuel reprocessing plant. These measures shall provide for the identification of items which have satisfactorily passed required inspections and tests, where necessary to preclude inadvertent bypassing of such inspections and tests. Measures shall also be established for indicating the operating status of structural systems, and components of the nuclear powerplant or fuel reprocessing plant, such as by tagging valves and switches, to prevent inadvertent operation.

#### XV. NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include as appropriate procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items shall be removed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

#### XVI. CORRECTIVE ACTION

Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management.

#### XVII. QUALITY ASSURANCE RECORDS

Sufficient records shall be maintained to furnish evidence of activities affecting quality. The records shall include at least the following: Operating logs and the results of reviews, inspections, tests, audits, monitoring of work performance, and materials analyses. The records shall also include closely-related data such as qualifications of personnel, procedures, and equipment. Inspection and test records shall, as a mini-

must identify the inspector or data recorder, the type of observation, the results, the acceptability and the action taken in connection with any deficiencies noted. Records shall be identifiable and retrievable. Consistent with applicable regulatory requirements, the applicant shall establish requirements concerning record retention, such as duration, location, and assigned responsibility.

#### IV. AUDITS

A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits shall be performed in accordance with the written procedures or check lists by appropriately trained personnel not having direct responsibility in the area being audited. Audit results shall be documented and reviewed by management having responsibility in the area audited. Follow-up action, including re-audit of deficient areas, shall be taken where indicated.

### APPENDIX C—A GUIDE FOR THE FINANCIAL DATA AND RELATED INFORMATION REQUIRED TO ESTABLISH FINANCIAL QUALIFICATIONS FOR FACILITY CONSTRUCTION PERMITS AND OPERATING LICENSES

#### GENERAL INFORMATION

This appendix is intended to apprise applicants for licenses to construct and operate production or utilization facilities of the types described in § 50.21(b) or § 50.22 or a testing facility of the general kinds of financial data and other related information that will demonstrate the financial qualifications of the applicant to carry out the activities for which the permit or license is sought. The kind and depth of information described in this guide is not intended to be a rigid and absolute requirement. In some instances, additional pertinent material may be needed. In any case, the applicant should include information other than that specified if such information is pertinent to establishing the applicant's financial ability to construct and operate the proposed facility.

Since separate findings of financial qualifications will be made by the Commission at the construction permit stage of the licensing process and at the operating license stage, the nature of the information to be included in the application at each of these stages is discussed separately.

It is important to observe also that both § 50.33(f) and this appendix distinguished between applicants which are established organizations and those which are newly formed entities organized primarily for the purpose of engaging in the activity for which the permit or license is sought. Those in the former category will normally have a history of operating experience and be able to submit financial statements reflecting the financial results of past operations. With respect, however, to the applicant which is a newly formed company established primarily for the purpose of carrying out the licensed activity with little or no prior operating history, somewhat more detailed data and supporting documentation will generally be necessary. For this reason, the appendix describes separately the scope of information to be included in applications by each of these two classes of applicants.

In determining an applicant's financial qualifications, the Commission will require the minimum amount of information necessary for that purpose. No special forms are prescribed for submitting the information. In many cases the financial information usually contained in current annual financial reports, including summary data of prior years, will be sufficient for the Commission's needs. The Commission reserves the right, however, to require additional financial information at the construction permit stage, at the operating license stage, and during operation of the facility, particularly in cases in which the proposed power generating facility will be commonly owned by two or more existing companies or in which financing depends upon long-term arrangements for the sharing of the power from the facility by two or more electrical generating companies.

Applicants, permit holders, and licensees are encouraged to consult with the Commission with respect to any questions they may have relating to the requirements of the Commission's regulations or the information set forth in this appendix.

#### I. APPLICANTS WHICH ARE ESTABLISHED ORGANIZATIONS

A. Applications for construction permits—1. Estimate of construction costs. For electric utilities, each applicant's estimate of the total cost of the proposed facility should be broken down as follows and be accompanied by a statement describing the bases from which the estimate is derived:

(a) Total nuclear production plant costs \$ \_\_\_\_\_

(b) Transmission, distribution, and general plant costs \$ \_\_\_\_\_  
(c) Nuclear fuel inventory cost for first core \$ \_\_\_\_\_  
Total estimated cost \$ \_\_\_\_\_

If the fuel is to be acquired by lease or other arrangement that purchases the application should so state. The items to be included in these categories should be the same as those deduced in the applicable electric plant and nuclear fuel inventory accounts prescribed by the Federal Power Commission or an explanation given as to any departure therefrom.

Since the computation of construction cost estimates for production and utilization facilities other than nuclear power reactors will vary according to the type of facility, no particular format is suggested for submitting such estimates. The estimate should, however, be itemized by categories of cost in sufficient detail to permit an evaluation of its reasonableness.

2. Source of construction funds. The application should include a brief statement of the applicant's general financial plan for financing the cost of the facility, identifying the source or sources upon which the applicant relies for the necessary construction funds, e.g., internal sources such as undistributed earnings and depreciation accruals, or external sources such as borrowings.

3. Applicant's financial statements. The application should also include the applicant's latest published annual financial report, together with such current interim financial statements as are pertinent. If such report is not published, the balance sheet and operating statement covering the latest complete accounting year together with all pertinent notes thereto and certification by a public accountant should be furnished.

B. Applications for operating licenses. An application for a facility operating license will usually be filed near the time of completion of construction of the facility. Section 50.33(f) requires that all applications for operating licenses show that the applicant possesses the funds necessary to cover estimated operating costs or has reasonable assurance of obtaining the necessary funds, or a combination of the two. In addition, each application for a license for a facility other than a medical or research reactor is required to show that the applicant possesses or has reasonable assurance of obtaining the funds necessary to pay the estimated costs of operation for the period of the license or for 5 years, whichever is greater, plus the estimated costs of permanently shutting down the facility and maintaining it in a safe condition. For purposes of the latter requirement, it will ordinarily be sufficient to show at the time of filing of the application availability of resources sufficient to cover estimated operating costs for each of the first 5 years of operation plus the estimated costs of permanent shutdown and maintenance of the facility in safe condition. It is also expected that in most cases, the applicant's annual financial statements contained in its published annual reports will enable the Commission to evaluate the applicant's financial capability to satisfy this requirement.

#### II. APPLICANTS WHICH ARE NEWLY FORMED ENTITIES

A. Applications for construction permits—1. Estimate of construction costs. The information that will normally be required of applicants which are newly formed entities will not differ in scope from that required of established organizations. Accordingly, applicants should submit estimates as de-

<sup>1</sup> Section 2.90 of 10 CFR Part 2 and § 2.5 of 10 CFR Part 9 indicate the circumstances under which information submitted by applicants may be withheld from public disclosure.



20 Aquilla  
Florence, Ky. 41042

October 19, 1978

United States Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attention: Mr. James E. Foster

Dear Mr. Foster:

At this stage of your investigation I am very seriously concerned at a great many events and statements which show almost complete and utter disregard for the possible safety factors involved in my original letter.

In respect to statements, CG&E and DP&L officials state they have investigated and the charges have no basis. A Jan Strassma a public affairs employee of your NRC office says Illinois Power investigated and found nothing wrong. Then Strassma went on to add that even if weakness is present the safety of the plant would not be threatened. These are strange statements to be coming out while an investigation supposedly in depth is underway!

Last Wednesday (Oct. 4) You told me by phone that some Zimmer Welds were tested and found OK. On Wednesday (Sept. 27) when you and Tom and Mr. Wescott were at my house you told me the weld problem at Clinton was serious. Mr. Wescott said he didn't see how the Husky Welders could fail the tests so badly and then pass them in such a short time. Now you test a weld or welds and say they are OK! This is not the question at all. The question is, that the specifications called out for a specific type of QUALITY weld to be used on the product. This is an Engineering requirement they demanded in the assembly of the product. In order to insure this compliance the welders were to be certified thru a prescribed test to establish their competency.

Husky compliance or non-compliance to this requirement is what must be determined. I have in great detail gone thru my personal involvement in this testing and told you that it was a farce in every sense of the word. I have also told you Husky Welders never welded differently on any product. Thus all welds on all products are similar to the welds described in Mr. Spievack's report. It certainly appears very clear cut to me all the way thru.

1. The Engineering Specification is clear and definite.
2. Husky non-conformance is clear and definite.

Why would you waste time and money to test a weld or welds that were clearly made in a non-compliance manner? Even a very bad weld will pass some degree of testing. I thought that the NRC was to evaluate complaints of non-conformance and particularly where the offense is deliberate and safety is involved. I never imagined the NRC could simply ignore the deliberate non-conformance and in effect test a weld-- welds and then say "the welds are OK."

OCT 19 1978



This is contrary to any QC program whatsoever and if followed in any other area our nations nuclear safety is indeed in critical jeopardy.

This will never solve any problem. It can only compound it. In many instances something is either right or wrong and there is no middle ground of acceptability. Nuclear safety demands no middle ground in my opinion! The only means to hold Hisky trays together are the welds. The weld process used by Hisky produces a very minimum amount of fusion. Without fusion you have a bad weld. These are the facts on which a determination must be made. If we are to have safety—really true safety in our nuclear plants we can never in any situation compromise basic facts and situations. We must make all decisions as right or wrong, never "good enough" particularly when safety becomes involved.

When a person needs surgery such as for a heart by-pass operation he does not consult with or even consider a surgeon who removes appendix or gall bladder and so forth. Why? Simply because he wants a surgeon with training and experience in heart surgery. Welders are no different. You cannot get something from him that he does not have. Hisky welders lack training and experience necessary to produce quality welds. I elaborated in more detail on this in my memo to you dated September 22, 1978.

Overall, I think that the cart is in front of the horse. I think the basic question is to determine Conformance or Non-conformance with 100FR50 and then if non-conformance is established it must then be determined if this was intentional and deliberate. This is the basic charge and the three instances--welding for Zimmer--material mixup--Clinton welding deviation are only illustrations of non-conformance. By no means are these the only violations! I simply thought these were the 3 that could be most easily checked out. At this time I feel the weld situation can be clearly and positively established if the effort and skill necessary to do so is properly exercised.

Something peculiar has happened to the material records. These were in 3 categories.

1. Material received--tested OK and accepted.
2. Material received--tested bad returned for replacement.
3. Material received--tested bad accepted for limited use in fittings.

It was category 3 where the material was not kept segregated that resulted in the material problem. However in your checking of the records you report finding only category 1. I can understand the disappearance of category 3. What convinces me beyond any doubt that something is wrong with the records is the absence of category 2 records. On the whole these would be favorable to Hisky as they did 100% what was proper and correct. The only possible conclusion is that someone decided you should only see records of good material. This proves to me that something happened, simply because it is too good. As these records were at 3 places (Hisky-Test Lab-Steel supplier) I felt sure they would not be fooled with. How wrong can one be? There is one possibility to explore. The Hisky estimator can take the Zimmer bill of material and tell you within a few pounds the total weight requirements for the job. You can compare this with the weight of the good records you have been shown. If this total is less than required some material records are missing. If the weights check then some paperwork had to be destroyed and replaced. I do not know how to check this out, but possibly there is a way.

In regard to Modern Sheet Metal welding Zimmer material with uncertified welders. Randy Pratt can find all the records of this for you in less than 2 hours if you really wish to establish this occurrence. These are the same parts he personally followed up on as these were cut out in segments at Cincinnati Ventilating across the street. Have him also pull the part prints of the components and the assembly prints. On the component part prints the material to be used is called out. This was sheet material and to my knowledge no sheet material was tested. This should have been done. Modern Sheet Metal performed this work in November or December of 1975. Their welders were certified later in 1976. Randy can also verify this fact because he assisted them in their certification efforts.

I stated earlier that by no means were these the only violations. On your card it says "Investigation Specialist". This should be a real challenge to you to dig and find others thru your own efforts particularly if someone tells you they are there if someone takes the time and effort to uncover them. On some others that I am knowledgeable of, I will only disclose under prescribed conditions that will assure me no more Hinky Panky occurs. If you really dig into all that you now have and properly evaluate it you will see that you have a strong solid pattern of non-conformance.

In regard to good and bad QC programs I think that the object or purpose of the program is most critical.

At Bendix the objective was to increase air safety thru a very high reliability of product.

At American Standard they wanted to maintain their reputation for excellent products particularly with Architects, Engineers and Contractors.

At Hisky the only objective was "window dressing" to satisfy the various Engineering Companies. I knew this as a fact as I had the title of QC manager prior to C. Duncan becoming sane. I revised the Manual several times in different ways to cover a situation the Engineers wished spelled out. This was done on paper but nothing else changed. Now, in comparing the 3 different objectives, is it any wonder that Bendix and American Standard have good QC programs and Hisky's is something else?

After talking with me and going thru all I have written you should now begin to realize that after nearly 5 years of being party to some extent of completely contemptible and disgraceful actions a person stands until he can stand no more. The Clinton non-conformance coupled with my seeing the trays packed with cables at Zimmer are the straws that broke my back. It is not only Zimmer and Clinton but all the other nuclear plants that Hisky supplied material to that makes the problem even greater. I feel like it is sitting on a time bomb with somebody else setting the time. You must certainly realize by now that this is not a complaint by a crackpot or disgruntled employee as I have read in the papers.

I honestly think that you have an enormous and responsible job to put all this together so that the full implications of a possible disaster can be clearly seen. It is there--it is entirely up to you to put it together.

Yours truly,

*Edwin P. Hofstadter*

Edwin P. Hofstadter

Mr. Foster,

Oct. 9, 1978

I just prior to mailing the letter I reread Andy Pratts report on Field Inspection at Louisville Gas & Electric dated Oct. 24, 1945. This was in the package you made copies of.

This report bears out as an actual occurrence that covers everyone of the strong points I brought out in my welding memo — the Q.C. letter and this letter today.

This job was aluminum but I can guarantee that Hasty welds are inferior. Steel on aluminum they have no difficulty whatsoever to make a bad weld.

Also if you had "tested" these welds at Hasty they would most likely "Test OK" also.

Welds quite often have a domino effect. One breaks then the rest follow in quick succession.

A bad weld can break any time.  
A good weld with fusion will NEVER break at the weld.  
Ed. Reptadler



20 Aquilla  
Florence, Ky. 41042

October 19, 1978

United States Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attention: Mr. James E. Fester

Dear Mr. Fester:

Confirming our phone conversation, Monday Evening October 16, 1978.

You reported on the status of your Clinton investigative activities. You said the welding of Fittings was in non-compliance essentially as I reported. You also reported that as a result of this checking it was found that the straights with Resistance welds were found to have serious problems. This means to me that my involvement in Clinton is at an end as it is now in the hands of NRC in a manner I expected.

You then discussed portions of my letter of October 9, 1978 in a random manner for some length of time. On a few items we agreed on, we did so for different reasons. This bothers me in that all my efforts to clarify and simplify all of the various non-compliance actions relative to Zimmer in particular, are not understood as to their real significance.

It would seem to me that the NRC would be very much interested in how a company can have a QC Manual and program essentially in compliance with 10 CFR 50 yet which is probably only 40 to 60 % put into actual practice and thus is really only paperwork. The NRC should be concerned as to why the various audits of the different Engineering Companies failed to turn up this as a finding. This should clearly show that audits must dig deeper, particularly in establishing that effective QC control is an actuality and not just paperwork. If Husky had an effective QC program these problems would never have come up.

Almost every problem has a cause. We cannot eliminate or control the problem until we work on the cause. This is the basic situation at Husky in relation to Zimmer and using this as a pattern it was followed on all succeeding Nuclear work.

CAUSE: Weak ineffective QC program with no purpose other than to satisfy the Engineering companies with an acceptable QC program. Then to put into practice only the portions which are convenient and do not cost anything.

EFFECT: Quality of Welding, for example, at Husky it is entirely in the hands of each welder. Nobody attempts to control it and even worse no Inspector has ever been trained to have the capability of visually checking welds for obvious visual defects.

RESULTS: Sooner or later there will be weld failures at the job site. The laws of probability will prevail and this will occur.

11 26 1978

I wrote you in the letter dated October 9, 1978 outlining the areas of Husky non-compliance with 10 CFR 50. This is the cause of the problems, yet it seems as of now, it is ignored.

When you check a weld or welds and then say they are all good as a result of this check you are ABSOLUTELY WRONG when you base this judgement on a process that has no control other than the operator whose principal concern is earning incentive. Couple this with the fact his ability to produce a quality weld is also under serious question makes any decision that leans toward acceptance of the welds as very foolhardy to say the least! You had better reread Mr. Spiveack's report SLOWLY and CAREFULLY. Particularly where he says "the welds are not structurally sound." Visually 80 to 90% of the welds look OK. Some look good. However it is the 10 to 20% that are bad in varying degrees. These are the specific ones the laws of probability will prevail on. You have a perfect illustration of this occurrence on the Louisville Gas & Electric trip report. This job was aluminum, the problem on steel is identical, possibly not as frequent, but it definitely exists. Field weld failures are a fairly frequent occurrence but they are called "shipping Damage" or "rough field handling. Surprisingly most customers accept this explanation.

On the Weld Certification. It was similar to a college athlete being given the questions and answers and coached on them. Then he takes the exam again and again repeating as often as necessary until he passes. If this isn't a farce what name would you give it? I knew this occurred and I knew you have verified some and you can verify the remainder if you take the time. This is why I am positive that some given number of welds are bad. How can you establish any base to say the opposite?

WHAT WOULD MAKE FAR MORE SENSE THAN TESTING SOME WELDS WOULD BE FOR YOU TO SET UP AN UNANNOUNCED TESTING PROGRAM OF THE WELDERS. FOR EXAMPLE HAVE GLADSTONE OR SOME SIMILAR GROUP GET PREPARED AND YOU AND MR. WESCOTT AND THE PEOPLE COME IN AND RETEST THE WELDERS COLD TURKEY. THIS WILL IMMEDIATELY GIVE YOU A FAIRLY FIRM BASIS FOR FUTURE ACTION BASED ON THESE RESULTS, ANYTHING LESS THAN THIS BECOMES CONJECTURE ONLY.

Every Husky welder should pass 8 weld tests to be certified in all the work that comes to him from time to time. Fittings can and do require Horizontal and Vertical welds. By passing either Vertical or Horizontal automatic passing of Flat position occurs.

The various weld tests are as follows:

MIG:	Steel--Horizontal and Vertical
	Aluminum--Horizontal and Vertical
TIG:	Steel--Horizontal and Vertical
	Aluminum--Horizontal and Vertical

As of April of this year not one welder passed all the tests. Yet he welded on 10 CFR 50 work anyway! At the time of Zimmer job Husky had 6 welders who had passed 14 tests out of 48 necessary for full certification. The tests passed were so divided that one man could not complete an assembly requiring Horizontal and Vertical welds. You can easily make up a chart showing who was qualified in what position and check it against the Zimmer orders and you will readily see most of the fittings were made by people who could not pass the required tests.

I called the people incompetent in the original letter. You would probably call them unqualified. To me this is semantics, what is important is that it was wrong and everybody knew it was wrong.

There is a strong possibility that your findings on the Resistance Welding at Clinton opens up a new can of worms at Zimmer! This is based on a fact you are unaware of. Husky has 2 Automatic Resistance Welders. Zimmer was welded on the old unit. Clinton was welded on the new unit. The old unit lacked Electrical capacity to make consistent good welds on pre-gal material. The new unit has adequate Electrical capacity to make consistently good welds. In substance this means the quality of the welds at Clinton have to be superior to those at Zimmer. Or conversely whatever is bad at Clinton it will be worse at Zimmer. One other factor would be involved. This covers changing of tips. Here again a direct QC problem is left entirely up to the operator. A typical situation could be-- Saturday work at time and a half and Incentive at time and a half--one hour left on the day--the tips should be changed--but this would cost the operator and his crew incentive earnings--so they continue running--with the result being many bad welds.

I do Not enjoy writing these letters but will continue until you start to see the light, hopefully soon.

Yours truly,

*Edwin P. Hofstadter*

Edwin P. Hofstadter



20 Aquilla  
Florence, Ky 41042

October 20, 1978

United States Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attention: Mr. James E. Foster

Dear Mr. Foster:

I mailed your letter at the Post Office and as it is near to the Boone County Library I stepped in to see if they had the ASME book on welding in order to review Section 9. They only had 2 books on welding. One a large book titled "Welding" and the second issued by Arco Welding Co. dealing entirely with weld testing, written and physical. The book "Welding" also had a section devoted to tests. Both referenced ASME as a reference source.

Both books were identical in listing major requirements. What is important is that some of these specific requirements which I told you by memory and you told me different, I now find that I was right and you were wrong. I told you that the entire Testing Process and the Production Process HAVE to be identical and remain identical. You told me there was no requirement for them to be the same. Another time you told me that as long as the welders pass the test that was your only concern. From this point on you said it was up to QC to check and control the welds. When I told you QC did not check the weld as they lack capability to do so, you have as yet not replied. It is very simple to establish that the Test Process and the Production Process are different. Both books are very specific in stating that "the process, settings and techniques used in the test and in production must be identical." It says nothing about any exceptions. What backup source do you have for your differing statements?

In respect to length of certification both books concur it is indefinite with 2 exceptions.

1. Failure to use the Process for a period exceeding 90 days.
2. Whenever the ability of a welder is under question it is then necessary to retest the welder to resolve the question. They both cover retesting identically in event of failure. A retest can only be made after the man receives necessary and needed training and practice. I am sure they do not mean 5 minutes instruction, 5 minutes practice and then retest and then repeat this process over and over and over and over repeating until he passes.

At this time you had better SLOWLY reread my memo relative to welding dated Sept. 22, 1978. This memo is like Ivory Soap which is 99 and 44/100% pure, the only difference being I am right in place of "pure".

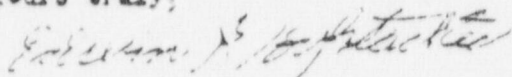
Therefore, based on above one of the first things you should have done was to retest the welders. Instead first you visually look at the welds and tell me they look good. Then you test a weld or welds and then try to convince me all the welds are good. Had I been positive of all this yesterday my letter would have been much stronger. Particularly where I asked you to gasifier retesting the welders. Now I know that you should have done this as the first step as it is a requirement necessary to resolve a question raised.

OCT 23 1978

I think I have the answer on the Modern Sheet Metal work you were tracking down. You gave me the missing link. This was the fact Husky had another job going thru at the same time requiring 3 piece construction. I did not know this. What was sent to Modern was these parts. This was in error. The intention was to send the Zimmer parts. This then resulted in the parts being welded at Husky after the strike by M. Brock or J. Allen using Tig when it should have been Mig as they were not certified in Mig at this time. I wondered at the time how another Zimmer lot followed the other so closely. Now I see that it was not 2 Zimmer lots but 1 of Zimmer and 1 for another job. We were only to use Mig on the Zimmer job. Brock and Allen only have Tig Equipment in this work center. This is why you need a chart showing who passed what on specific dates to compare with dates they worked on different jobs and used their stamp improperly.

Modern Sheet Metal welders were certified in 1977. From 1975 to 1977 prior to certification other nuclear work requiring certification was sent to Modern. Each time it went out that I was aware of it I told Dunsan that he had better work with Modern to get their welders certified. You found this one so it means to me you can find the others.

Yours truly,



Edwin P. Hofstadter

20 Aquilla  
Florence, Ky. 41042

October 31, 1978

United States Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attention : Mr. James E. Foster

Dear Mr. Foster:

Confirming our phone conversation of October 29, 1978.

Relative to J. Allen, M. Brock welding Zimmer 3 piece construction fittings. Each weld center at Husky performs only one type welding as follows:

WC 2---Tig	} This has been constant 1973 thru July 1978 and even today to the best of my knowledge.
WC 4---Tig	
WC 35---Mig	
WC 41---Mig	

J. Allen, M. Brock and sometimes welders from WC 4 and WC 35 work in WC 41. Nobody is assigned regularly to work in WC 41. J. Allen, M. Brock normal WC is WC 2. They make all fittings only in WC 2. What this means is that they welded Zimmer fittings in WC 2 using Tig when they were certified for Mig. (They could not pass the Tig test)

This paperwork is at Husky as follows:

The routings are filed for each part and assembly. The welder who welded the assembly stamped each routing with his stamp. The I. E. group files the daily computer performance report which is the basis for calculating the incentive earned. These have to show the fittings welded in WC 2 by J. Allen, M. Brock. Any nuclear welding job can be checked in this manner. You have already found that F. Williams passed only one Mig Test, yet he welded on fittings requiring Vertical and Horizontal welds and stamped the routings with his stamp. Checking thru all the routings for this weld stamp will establish this as a common occurrence with other welders on other jobs.

Randy Pratt knows all this occurred as he audited the daily performance sheets and he knew who was and who was not qualified to do the work performed. At least twice a month he would point out a violation to me of this type. He also knows how to find all the paperwork to verify this. This is what I keep telling you was one of the non-compliances that became a pattern.

I have paperwork (of which you have a copy) from Randy similar to the Clinton job, where Randy tells the shop and Duncan these fittings must be Mig welded because nobody is certified in Tig. Yet, just like on the Clinton job, this was ignored and they were Tig Welded.

This letter will cover just this item. I would like for you to verify this, then we can go on to others.

Yours truly,

*Edwin P. Hofstadter*

Edwin P. Hofstadter

NOTE: J. ALLEN, M. BROCK ARE THE FASTEST WELDERS AT HUSKY. NOT THE BEST, BUT THE FASTEST. THEY WERE THE WELDERS ON THE LOUISVILLE GAS & ELECTRIC JOB.

NOV 3 1978