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January 31, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Subject: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370
NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants"

Dear Mr. Denton:

On December 22, 1980, Mr. D. G. Eisenhut (NRC/ONRR) issued a letter requesting that Duke Power Company review its controls for the handling of heavy loads to determine the extent to which the guidelines of NUREG-0612 were satisfied at McGuire Nuclear Station, identify the changes and modifications that would be required in order to fully satisfy those guidelines, and provide information documenting the results of our review and implementation of the required changes and modifications. NRC Generic Letter 81-07, "Control of Heavy Loads", was issued on February 3, 1981 correcting several minor errors in the December 22, 1980 letter.

Duke Power Company has submitted several responses to the letter, the most recent being my letter dated August 17, 1984. As indicated in that response, the following are the lifting devices at McGuire which can be categorized as special lifting devices and which must be evaluated for compliance with the requirements of ANSI N14.6-1978 (as supplemented by NUREG-0612, Section 5.1.1(4)) in accordance with Guideline No. 4, "Special Lifting Devices", of the December 22, 1980 letter:

a. Reactor vessel head lifting rig and load cell

b. Reactor internals lifting rig

c. Reactor Coolant Pump motor lifting rig

d. Control Rod Drive Mechanism (CRDM) missile shield lifting rig

The NRC's August 31, 1982 Draft TER supplied a list of the specific sections of ANSI N14.6-1978 which must be addressed to determine compliance with Guideline No. 4. The August 17, 1984 submittal provided an assessment of each of these sections demonstrating compliance for items c and d above (which were designed and constructed by Duke Power Company), and indicated that Duke was pursuing additional information on items a and b from Westinghouse (which manufactured these two items) necessary for their evaluation, with an assessment to be made

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and submitted later. Attachment No. 1 provides this assessment for items a and b. In general, ANSI N14.6 contains detailed requirements for the design, fabrication, testing, maintenance, and quality assurance of special lifting devices. The evaluation performed on items a and b to determine the acceptability of these devices to meet the above requirements included a detailed comparison of the information contained in ANSI N14.6 -1978 with the information that was used to design, manufacture, inspect and test these special lifting devices. This comparison shows that these devices meet the intent of the ANSI document for design, fabrication and quality control, and will meet the requirements for periodic maintenance, proof and functional testing upon completion of certain actions (as indicated in Attachment No. 1).

The August 17, 1984 submittal also indicated (Attachment No. 1, Section 5.2.1) that load tests for the McGuire Reactor Coolant Pump Motor Lifting Rig and the CRDM Missile Shield Lifting Rigs were conducted, followed by non-destructive testing of each rig for which no indications were present except for a surface lamination on one of the Unit 1 CRDM Missile Shield Lifting Rig's bolts used to attach the Missile Shield to the lifting rig (this lamination did not occur as a result of the load test, but rather appeared to have been made at the time of manufacture). Even though the bolt successfully carried the test load, Duke Power stated that it would be replaced and an NDE performed on the new bolt prior to placing it into service. The bolt having the surface lamination has been replaced, with the new bolt having received an NDE. In addition, when the RCP motor lifting rig was tested, the turnbuckles used with the rig were mistakenly left off. It was stated that the turnbuckles would be load tested separately and then inspected, with the results of these tests to be forwarded upon completion. These turnbuckles were tension tested by Superior Rope & Sling (Atlanta). Each turnbuckle was tested to 33,125 pounds and held for 10 minutes. This test load was equivalent to 150% of the individual turnbuckle load at the rated capacity of the rig. An NDE was performed at McGuire and the turnbuckles have been placed into service. This completes load testing of these special lifting rigs for NUREG-0612 at McGuire.

With the submittal of this information full compliance with Guideline No. 4 has been demonstrated. Consequently, McGuire has now demonstrated full compliance with all guidelines of NUREG-0612 Section 5.1.1. Since information regarding the guidelines of Sections 5.1.2 through 5.1.6 of NUREG-0612 as well as other aspects of the December 22, 1980 letter has been previously submitted, this completes Duke Power Company's response to this letter for the McGuire Nuclear Station, and it is requested that this issue be closed. Accordingly, Duke Power Company also considers that Facility Operating License NPF-17 (McGuire Nuclear Station Unit 2) Condition 2.C.(8), "Heavy Loads", is satisfied. Please advise if there are any questions regarding this matter.

Very truly yours,

H.B. Tucker / RBW

Hal B. Tucker

PBN/mjf

Attachment

cc: Mr. J. P. O'Reilly, Regional Administrator
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ATTACHMENT 1

ASSESSMENT OF SPECIAL LIFTING DEVICES FOR COMPLIANCE WITH GUIDELINE NO.4

The following is an assessment of the Reactor Vessel Head Lifting Rig and Load Cell and Reactor Internals Lifting Rig for Compliance with the requirements of ANSI N14.6-1978 (as supplemented by NUREG-0612, Section 5.1.1(4)). Strict interpretation of compliance of existing special lifting device design with the criteria of ANSI N14.6-1978 cannot be made. Accordingly, only those sections directly related to load-handling reliability of the lifting devices need be addressed. Several sections of ANSI N14.6-1978 do not contain requirements concerning load-handling reliability: Scope (Section 1), Definitions (2), Design Considerations to Minimize Decontamination Efforts (3.4), Coatings (3.5), Lubrication (3.6), Inspector's Responsibilities (4.2), and Fabrication Considerations (4.3). Evaluation of compliance with Section 6 (Special Lifting Devices for Critical Loads) need not be included since no load has been determined to be a "critical load." The specific sections of ANSI N14.6-1978 referenced below are those stated in the August 31, 1982 TER for which compliance or equivalence must be demonstrated in order to determine compliance with guideline no. 4. (Note that the TER referenced the applicable ANSI sections both by number and brief description. However, several of the numbers did not correspond to the sections indicated by the description. For these cases Duke Power assumed the descriptions referenced the section for which compliance or equivalence with was intended.)

<u>Section 3.1.1</u>: No design specification was written concerning these specific requirements. The reactor vessel head lift rig, the reactor vessel internals lifting rig and load cell and load cell linkage, were designed and built for the McGuire Units 1 and 2 Nuclear Power Plants, circa 1972-74. These devices were designed to the requirement that the resulting stress in the load carrying members when subjected to the total combined lifting weight should not exceed the allowable stresses specified in the AISC code (Manual of Steel Construction, Seventh Edition, American Institute of Steel Construction).

Also a 125 percent load test was required on both devices, followed by appropriate nondestructive testing. These items were not classified as nuclear safety components and requirements for formal documentation of design requirements and stress reports were not applicable. Thus, stress reports and design specifications were not formally documented. Westinghouse defined the design, fabrication and quality assurance requirements on detailed manufacturing drawings and purchase order documents. Westinghouse also issued field assembly and operating instructions, where applicable. Although no specific design specification was written, the assembly and detailed manufacturing drawings and purchase order documents contain equivalent requirements, including:

- Material specification for all the critical load path items to ASTM, ASME specifications or special listed requirements.
- All welding, weld procedures and welds to be in accordance with ASME Boiler and Pressure Code - Section IX.
- Special nondestructive testing for specific critical load path items to be performed to written and approved procedures in accordance with ASTM or specified requirements.
- All coatings to be performed to strict compliance with specified requirements.
- Letters of compliance for materials and specifications were required for verfication with original specifications.

No limitations were identifed as to the use of these devices under adverse environments. Markings and nameplate information were not addressed. These devices, for the most part, were manufactured under Westinghouse surveillance with identified hold points, procedure review and personnel qualification which adequately meet these related ANSI requirements.

Section 3.1.2: A critical items list has been prepared per Section 3.1.2 for the reactor vessel head lift rig, the reactor vessel internals lift rig and the load cell and load cell linkage. Load carrying members and welds of these special lifting devices are considered to be the critical items. The list includes the material identification, and the applicable nondestructive volumetric and surface inspections that were performed in the fabrication of these special lifting devices. In some instances, nondestructive testing was not specified since the material selection and strength result in very low tensile stresses and thus, nondestructive testing was not justified. The material selection for all critical load path items was made to ASTM, ASME or special material requirements. The material requirements were supplemented by Westinghouse imposed nondestructive testing, and/or special heat treating requirements for almost all of the critical items. Westinghouse required all welding, welders, and weld procedures to be in accordance with ASME Boiler and Pressure Vessel Code Section IX for all welds. Westinghouse required a certificate, or letter of compliance that the materials and processes used by the manufacturer were in accordance with the purchase order and drawing requirements. Westinghouse also performed final inspections on these devices and issued quality releases for the internals and head lifting rigs.

Section 3.1.3: Although a stress report was not originally required (as indicated in Section 3.1.1), Section 3.1.3 of ANSI N14.6 and NUREG 0612 Section 5.1.1(4) require a stress report to be prepared. Special loads and allowable stress criteria are specified for this analysis. Stress analyses were performed on the McGuire Units 1 and 2 reactor vessel head lift rig, reactor vessel internals lift rig and the load cell and load cell linkage to determine the acceptability of these devices to meet the design requirements of ANSI N14.6. As part of the invoking of the ANSI N14.6 document, the NRC requested utilities to demonstrate their compliance with the stress criteria with some qualifying conditions. The stress report for these devices was performed in accordance with the criteria of ANSI N14.6, including the NRC qualifying conditions of NUREG 0612 (Section 5.1.1(4)). All of the tensile and shear stresses with the exception of the rod housing and the guide sleeve meet the design criteria of Section 3.2.1.1 of ANSI N14.6, requiring application of stress design factors of three and five with the accompanying allowable stress limits of yield and ultimate strength, respectively. In addition, all of the tensile and shear stresses meet the requirements of the AISC code. It should be noted that the design weight used for the reactor vessel internals lift rig in the stress calculations is based on the weight of the lower internals. The lower internals are only removed when a periodic inservice inspection of the vessel is required (once/10 years). Prior to removal of the lower internals, all fuel is removed. Thus the concern for handling over fuel is non-existent in this particular case. Normal use of this rig is for moving the upper internals which weighs approximately one-half of the lower internals. The design weight is based on lifting the lower internals. Thus all the stresses could be reduced by approximately 50 percent and considered well within the ANSI N14.6 criteria for stress design factors.

Section 3.1.4: Although repair procedures were not originally identified by Westinghouse, Westinghouse states that any repair to these special lifting devices is considered to be in the form of welding. Should pins, bolts or other fasteners need repair, they should be replaced, in lieu of repair, in accordance with the original or equivalent requirements for material and nondestructive testing. Weld repairs should be performed in accordance with the requirements identified in NF-4000 and NF-5000 (Fabrication and Examination) of the ASME Boiler and Pressure Vessel Code, Section III, Division 1 Subsection NF. All special lifting devices are unique to the item they were designed to lift. Any repairs made would also be unique to each lifting device; therefore, all repairs would be handled on an individual basis and would depend on the severity of the problem. Any major repair would be subject to 125 percent load test.

Section 3.2.1: NUREG 0612, 5.1.1(4) states: "In addition, the stress design factor stated in Section 3.2.1.1 of ANSI N14.6 should be based on the combined maximum static and dynamic loads that could be imparted on the handling device based on characteristics of the crane which will be used. This is in lieu of the guideline in Section 3.2.1.1 of ANSI N14.6 which bases the stress design factor on only the weight (static load) of the load and of the intervening components of the special handling device." It can be inferred from this paragraph that the stress design factors specified in Section 3.2.1.1 of ANSI N14.6 (3 and 5) are not all inclusive. The application of the ANSI N14.6 criteria for stress design factor of 3 and 5 are only for shear and tensile loading conditions. Other loading conditions are to be analyzed to other appropriate criteria.

Also, it can be inferred that the static load should be increased by an amount based on the crane dynamics characteristics. The dynamic characteristics of the crane would be based on the main hook and associated wire ropes holding the hook. Most main containment cranes use sixteen (16) or more wire ropes to handle the load. Should the crane hook suddenly stop during the lifting or lowering of a load, a shock load could be transmitted to the connected device. Because of the elasticity of the sixteen or more wire ropes, the dynamic factor for a typical containment crane is considered to be not much larger than 1.0. Both the reactor vessel head and internals lift rig were originally designed to the requirement that all resulting stresses in the load carrying members, when subjected to the total combined lifting weight, should not exceed the allowable stresses specified in the AISC code. The design criteria of Section 3.2.1.1 of ANSI N14.6, requiring application of stress design factors of three and five with the accompanying allowable stresses, are to be used for evaluating load bearing members of a special lifting device when subjected to loading conditions resulting in shear or tensile stresses. Application of these design load factors to other loading conditions is not addressed in ANSI N14.6. However, these two stress design factors have been used to determine the stresses of the load carrying members when subject to other loading conditions, viz, bending, bearing. This is an extremely conservative approach and in several instances the resulting stresses exceed the accompanying allowable stress limit. The parts of the internals lift rig that do not meet the ANSI N14.6 criteria when analyzed for bearing stresses are the lower sling leg clevis, the lower clevis pin, the spreader leg, the leg lug, and the guide sleeve. However, since bearing stresses are localized stresses, they can be considered under Section 3.2.1.2, which states that the stress design factors of 3.2.1.1 are not intended to apply to situations where high local stresses are relieved by slight yielding. None of the bearing stresses reach the yield stress, and in fact, all of the bearing stresses meet the design criteria of the AISC code. The combined tensile stress from bending and tension, in the leg lug of the internals lift rig exceeds the Section 3.2.1.1 criteria. Bending, however, is not a uniform stress, but a local fiber stress, and is at maximum at the outermost fiber. Even if the fiber stress reached anywhere near the yield stress, the rest of the cross section could assume the additional load. As indicated above, bending too can be considered under Section 3.2.1.2. Bending contributes to the major portion of the stress, and, as a result, the tensile stress without bending is extremely low and well within the Section 3.2.1.1 criteria. The combined stress also meet the AISC code criteria. The fillet weld connecting the leg lug to the leg channel and the mounting block welds on the internals lift rig meets the ASME criteria for weld stresses based on base material properties. However, when applying the ANSI N14.6 3W and 5W criteria to the nominal stress value, the ASME allowable stress value is exceeded. But, since the ASME allowable stress is satisfied for this weld, it is considered acceptable. The rod housing and the guide sleeve do not meet the ANSI N14.6 criterion in tension. However, they do meet the AISC allowables for tension and thus the design of these is considered acceptable. High strength materials are used in some of these devices (mostly for pins, load cell). Although the fracture toughness was not determined, the material was selected based on its fracture toughness characteristics. However, in lieu of a different stress design factor, the stress design factors listed in ANSI N14.6 Section 3.2.1 of 3 and 5 were used in the analysis and the resulting stresses are considered acceptable. In summary, a stress report has been generated which addresses the capability of these rigs to meet the ANSI design stress factors. The stresses on each of the parts which make up the reactor vessel head, load cell and load cell linkage and the internals lift rig were determined. All of the tensile and shear stresses, with the exception of the rod housing and the guide sleeve meet the design criteria of Section 3.2.1.1 of ANSI N14.6, requiring application of stress design factors of three and five with accompanying allowable stress limits of yield and ultimate strength, respectively. In addition, all of the tensile and shear stresses meet the requirement of not exceeding the allowables of the AISC code.

Section 3.2.4: Where necessary, the weight of pins was considered for handling.

Section 3.2.5: All slings at McGuire Nuclear Station are inspected and tagged with a color coded I.D. tag annually. The slings comply with ANSI B30.9 (1971).

Section 3.2.6: Fracture toughness requirements were not identified for all the material used in these special lifting devices. However, the material selection was based on its fracture toughness characteristics.

Section 3.3.1: The lifting rigs are protected from the environment and from galling. Lamellar tearing is not a problem.

Section 3.3.4: The rig's design assures even distribution of load.

Section 3.3.5: Locking plates, pins, etc., are used throughout these special lifting devices.

Section 3.3.6: Remote actuation is only used when engaging the internals lift rig with the internals and position indication is provided from the operating platform.

Section 4.1.3: All critical load carrying members require certificates of compliance for material requirements. Westinghouse performed certain checks and inspections during various steps of manufacturing. Final Westinghouse review includes visual, dimensional, procedural, cleanliness, personnel qualification, etc., and issuance of a quality release to ensure conformance with drawing requirements.

Section 4.1.4: All the manufacturers welding procedures and nondestructive testing procedures were reviewed by Westinghouse prior to use. Westinghouse performed certain checks and inspections during various steps of manufacturing. Liquid penetrant, magnetic particle, ultrasonic and radiograph inspections were performed in accordance with ASTM specifications, ASME Code, Westinghouse process specifications or as noted on detailed drawings and provide similar results to the requirement of the ASME Code referenced in ANSI N14.6 Section 5.5. Westinghouse Quality Assurance personnel performed some in-process and final inspections similar to those identified in ANSI N14.6 Section 4.2, and issued a Quality Release. Westinghouse also required nondestructive tests and inspections on critical load path parts and welds both as raw material and as finished items. Westinghouse's objective was to provide a quality product and this product was designed, fabricated, assembled and inspected in accordance with internal Westinghouse requirements. General good manufacturing processes were followed in the manufacture of these devices. Final Westinghouse review includes visual, dimensional, procedural, cleanliness, personnel qualification, etc., and issuance of a quality release to ensure conformance with drawing requirements.

Section 4.1.5: All the manufacturers welding procedures and nondestructive testing procedures were reviewed by Westinghouse prior to use. Final Westinghouse review includes visual, dimensional, procedural, cleanliness, personnel qualification, etc., and issuance of a quality release to ensure conformance with drawing requirements.

Section 4.1.6: Westinghouse performed certain checks and inspections during various steps of manufacturing. Final Westinghouse review includes visual, dimensional, procedural, cleanliness, personnel qualification, etc., and issuance of a quality release to ensure conformance with drawing requirements.

Section 4.1.7: All critical load carrying members require certificates of compliance for material requirements. Westinghouse performed certain checks and inspections during various steps of manufacturing. Final Westinghouse review includes visual, dimensional, procedural, cleanliness, personnel qualification, etc., and issuance of a quality release to ensure conformance with drawing requirements.

Section 4.1.9: All the manufacturers welding procedures and nondestructive testing procedures were reviewed by Westinghouse prior to use. All critical load carrying members require certificates of compliance for material requirements. Westinghouse performed certain checks and inspections during various steps of manufacturing. Final Westinghouse review includes visual, dimensional, procedural, cleanliness, personnel qualification, etc., and issuance of a quality release to ensure conformance with drawing requirments. Although there wasn't any design specification for these rigs, the Westinghouse Quality Release is considered to be an acceptable alternate to verify that the criteria for the letters of compliance for materials and specifications required by Westinghouse drawings and purchasing document were satisfied.

Section 5.1.3: All special lifting devices are covered under our preventative maintenance (PM) inspection program. They are inspected prior to use at the beginning of an outage. A visual inspection is performed via a PM Work Request. The PM lists step by step instructions of which welds require visual inspection.

Section 5.1.4: Operating instructions for the reactor vessel internals lifting rig were furnished to Duke Power Company and operating procedures were prepared and are used. Procedures for the removal or movement of equipment associated with special lifting devices were developed or incorporated in the procedures for work on that equipment. The operating procedure does not outline maintenance of the devices, however, there is a yearly preventative maintenance which covers inspection. Each lifting device is designed to lift only one piece of equipment and therefore are limited to those applications - procedures specify use of appropriate rigs.

Section 5.1.5: It is obvious, from their designs, that these rigs are specific lifting devices and can only be used for their intended purpose and parts are not interchangeable. Specific identification of the rig will be made by marking with stencils, the rig name and rated capacity (probably on the spreader assembly).

Section 5.1.6: An equipment history is kept for all PM Work Requests. Any discrepancies found during the PM inspections are repaired on that PM Work Request.

Section 5.1.7: All special lifting devices are inspected on an as required basis. If any indications are found in the inspection areas, the device will be tagged and removed from service until the problem is resolved.

Section 5.2.1: The reactor vessel head and internals lifting rigs were designed and built for McGuire Units 1 and 2, circa 1972-74. A 125 percent load test was required on both devices, followed by appropriate nondestructive testing. Westinghouse also required nondestructive tests and inspections on critical load path parts and welds both as raw material and as finished items. Both the reactor vessel head and internals lifting rigs and load cell were proof tested upon completion with a load of approximately 1.25 times the design weight. Upon completion of the test, all parts, particularly welds, were visually inspected for cracks or obvious deformation and critical welds were magnetic particle inspected. In addition the Westinghouse Quality Release verified that the criteria for letters of compliance for materials and specifications required by the Westinghouse drawings and purchasing documents were satisfied. Although these rigs were not subjected to an initial acceptance load test prior to use equal to 150 percent of the maximum load, the 125 percent of maximum load test that was performed should be acceptable in lieu of the 150 percent load test. The NRC has recognized that the specification of a 150 percent overload test is somewhat arbitrary and has provided for exceptions to verbatum compliance with NUREG-0612 guidelines via the "Synopsis of issues associated with NUREG-0612" (dated May 4, 1983) which was transmitted with the January 12, 1983 TER. NUREG-0612 Section 5.1.1(4) also indicates that certain load tests may be accepted in lieu of certain material requirements in the ANSI standard. The rigs were tested to 125% overload which has been standard industrial practice for some time.

Section 5.2.2: At present, no spare parts are stocked for special lifting devices. Appropriate measures (i.e., compliance with Section 5.2.2) will be taken should any spare parts be stocked in the future. Replacement parts, should they be required, would be made of identical (or equivalent) material and inspections as originally required. Only pins, bolt and nuts are considered replacement parts for the reactor vessel head and internal lift rigs.

Section 5.3.1: These special lifting devices are used during plant refueling which is approximately once per year. During plant operation these special lifting devices are inaccessible since they are permanently installed and/or remain in the containment. They cannot be removed from the containment unless they are disassembled and no known purposes exist for disassembly. Load testing to 150 percent of the total weight before each use would require special fixtures and is impractical to perform. Crane capacity could also be limiting. Since the 150 percent load test is very impractical, annual load testing per Section 5.3.1 Part (1) for McGuire's lifting devices are omitted in accordance with Section 5.3.1 Part (2) of ANSI N14.6-1978. Consequently, a minimum of nondestructive testing of major load-carrying welds and critical areas is performed as permitted by Section 5.3.1 Part (2). Prior to McGuire Unit 1's second refueling the head and internal removal procedures will include the following: "Prior to use and after reassembly of the spreader assembly, lifting lug, and upper lifting legs to the upper portion of the reactor vessel head lift rig, visually check all welds. Raise the vessel head slightly above its support and hold for 10 minutes. During this time, visually inspect the sling block lugs to the lifting block welds, and spreader lug to spreader arm weld. If no problems are apparent, continue to lift, monitoring the load cell readout at all times. Prior to use of the reactor vessel internals lift rig, visually inspect the rig components and welds while on the storage stand for signs of cracks or deformation. Check all bolted joints to ensure that they are tight and secure. After connection to the upper or lower internals, raise the assembly slightly off its support and hold for 10 minutes. During this time, visually inspect the sling block lugs to the lifting block welds. If no problems are apparent, continue to lift, monitoring the load cell readout at all times.". [The above actions do not include a nondestructive test of these welds because: a) access to the welds for surface examination is difficult. These rigs are in containment and some contamination is present; b) all tensile and shear stresses in the welds are within the allowable stress; c) the items that are welded remain assembled and cannot be misused for any other lift other than their intended function; d) to perform nondestructive tests would require: 1) removal of paint around the area to be examined which is contaminated; 2) performance of either magnetic particle inspection or liquid penetrant inspection and 3) repainting after testing is completed; 4) cleanup of contaminated items.

Performing nondestructive tests on these welds every refueling would increase the critical path refueling time. Dimensional checking is not included since these structures are large (about 14 feet diameter by 44 feet high) and the results of dimensional checking would always be questionable. Other checks on critical load path parts such as pins, are also not included since an examination of these items would require disassembly of the special lift devices.] In summary, it is impractical to perform the 150 percent load test prior to each use. It is considered that a 100 percent load test, performed on each device, at each refueling, followed by a visual check of critical welds is sufficient to demonstrate compliance. Upon completion of the field assembly of the reactor vessel head lifting rig, the assembly procedure calls for a 100 percent load test (lifting of the assembled head), with a visual inspection for any signs of distortion. A check (visual) of critical welds and parts will be conducted at initial lift prior to moving to full lift and movement for these devices. Further note that with the use of the load cell for the head and internals lift rig, all lifting and lowering is monitored at all times.

Section 5.3.2: McGuire intends to load test all special lifting devices after major modifications or repairs in accordance with Section 5.3.2 of ANSI N14.6-1978.

Section 5.3.3: McGuire's special lifting devices are designed to specific pieces of equipment and should never be subjected to stress substantially greater than they were designed for. If they were subjected to an over-stressed condition, appropriate measures would be taken.

Section 5.3.6: All special lifting devices are visually inspected by personnel using the device prior to each use as specified in the Lift Supervisor's Handbook.

Section 5.3.7: Maintenance personnel inspect each lifting rig in accordance with PM requirements prior to outages (unless rig was inspected and used within the last 30 days). These rigs are inspected prior to outages (as opposed to every three months) in view of ALARA considerations, and since the rigs are only used during outages there is no reason to inspect them at three month intervals during power operation in which they wouldn't be used. In addition, a periodic nondestructive surface examination of critical welds and/or parts will be performed once every ten years as part of an inservice inspection outage. A PM will be written to cover this inspection.