Docket No.: 50-458

Mr. William J. Cahill, Jr. Senior Vice President River Bend Nuclear Group Gulf States Utilities Company Post Office Box 2951 Beaumont, Texas 77704 ATTN: Mr. J. E. Booker

Dear Mr. Cahill:

SUBJECT: DRAFT LICENSE FOR RIVER BEND STATION UNIT 1

Enclosed is a draft low power license for the River Bend Station, Unit 1. Please review the enclosure and submit your comments in writing to the NRC Project Manager, Stephen Stern, by August 2, 1985.

Should you have any questions regarding this matter, please contact the NRC Project Manager, Stephen Stern, at (301)492-8348.

Thomas M. Novak, Assistant Director for Licensing Division of Licensing

Enclosure: As stated

cc: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

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Hr. William J. Cahill, Jr. Gulf States Utilities Company

cc: Troy B. Conner, Jr., Esq. Conner and Wetterhahn 1747 Pennsylvania Avenue, NW Washington, D.C. 20006

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Resident Inspector P. C. Pcx 1051 St. Francisville, Louisiana 70775

Gretchen R. Rothschild Louisianians for Safe Energy, Inc. 1659 Glenmore Avenue Baton Rouge, Louisiana 70775

James W. Pierce, Jr., Esq. P. G. Box 23571 Baton Rouge, Louisiana 70893

Regional Administrator, Region IV U.S. Nuclear Regulatory Commission Office of Executive Director for Operations 611 Ryan Plaza Drive, Suite 1000 Arlington, Texas 76011 River Bend Nuclear Plant

Ms. Linda E. Watkins/Mr. Steven Irving Attorney at Law 355 Napoleon Street Baton Rouge, Louisiana 70802

Mr. David Zaloudek Nuclear Energy Division Louisiana Department of Environmental Quality P. O. Box 14690 Baton Rouge, Louisiana 70898

Mr. J. David McNeill, III William G. Davis, Esq. Department of Justice Attorney General's Office 7434 Perkins Road Baton Kouge, Louisiana 70808

H. Anne Plettinger 3456 Villa Rose Drive Baton Kouge, Louisiana 70806



UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

License Revisions Rev. 2

GULF STATES UTILITIES COMPANY AND CAJUN ELECTRIC POWER COOPERATIVE DOCKET NO 50-458 RIVER BEND STATION, UNIT 1 FACILITY OPERATING LICENSE

License No. NPF-40

- 1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for license filed by Gulf States Utilities Company, acting on behalf of itself and Cajun Electric Power Cooperative, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the River Bend Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-106 and the application, as amended, the provisions of the Act and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - E. Gulf States Utilities Company* is technically qualified to engage in the activities authorized by this license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. Gulf States Utilities Company and Cajun Electric Power Corporative have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements", of the Commission's regulations;
 - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;

^{*}Gulf States Utilities Company is authorized to act as agent for Cajun Electric Power Cooporative and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Facility Operating License No. NPF-40, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
- I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
- Based on the foregoing findings Facility Operating License NPF-40 is hereby issued to Gulf States Utilities Company and Cajun Electric Power Cooperative (the licensees), to read as follows:
 - A. This license applies to the River Bend Station, Unit 1, a boiling water nuclear reactor and associated equipment, owned by Gulf States Utilities Company and Cajun Electric Power Cooperative. The facility is located approximately 2 miles east of the Mississippi River in West Feliciana Parish, Louisiara, approximately 2.7 miles southeast of St. Francisville, Louisiana and approximately 18 miles northwest of the city limits of Baton Rouge, Louisiana, and is described in the licensee's "Final Safety Analysis Report," as supplemented and amended, and in the licensee's Environmental Report-Operating License Stage, as supplemented and amended.
 - E. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - Gulf States Utilities Company (GSU) and Cajun Electric Power Cooperative to possess the facility at the designated location in West Feliciana Parish, Louisiana, in accordance with the procedures and limitations set forth in this license;
 - (2) GSU, pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the above designated location in accordance with the procedures and limitations set forth in this license;
 - (3) GSU, pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

- (4) GSU, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) GSU, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) GSU, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
 - (1) Maximum Power Level

GSU is authorized to operate the facility at reactor core power levels not in excess of 2894 megawatts thermal (100% rated power) in accordance with the conditions specified herein. Pending Commission approval this license is restricted to power levels not to exceed five percent of rated power (144.7 megawatts thermal).

(2) Deferred Items

The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.

(3) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. GSU shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(4) Antitrust Conditions

GSU shall comply with the antitrust conditions in Appendix C to this license.

(E) Turbine System Maintenance Program (Section 3.5.1 and 3.3, SER)*

GSU shall submit a turbine system maintenance program by October 26, 1987. Prior to review and approval of that program by the NRC staff, GSU shall volumetrically inspect all low pressure turbine rotors at the second refueling outage and every other (alternate) refueling outage thereafter.

(6) Feedwater Check Valve Analysis (Section 3.6.2, SER and SSER 3)

Prior to exceeding five percent rated power GSU shall submit the results of its feedwater check valve analysis.

(7) Inservice Testing of Pumps and Valves (Section 3.9.6, SER and SSER 2)

> Pursuant to 10 CFR Part 50.55a the relief identified in the Pump and Valve Inservice Testing Program Plan for the River Bone Station Unit 1, Revision 1 dated that GSU has requested from the pump and valve testing requirements of 10 CFR Part 50, Section 50.55a(g) is granted for a period of no longer than 2 years from the date of issuance of the operating license or until the detailed review has been completed, whichever comes first.

(6) <u>Seismic and Dynamic Qualification of Seismic Category 1 Mechanical</u> and Electrical Equipment (Section 3.10, SER and SSER 3)

GSU shall complete the requirements of the seismic and dynamic qualification of mechanical electrical equipment as specified in Attachment 2. Attachment 2 is hereby incorporated into this license.

(9) Equipment Qualification (Section 3.11, SER and SSER 3)

All electrical equipment within the scope of 10 CFR 50.49 must be environmentally qualified by November 30, 1985.

(10) <u>Residual Heat Removal System in Steam Condensing Mode (Section</u> 6.2.1.9, <u>SSER 2)</u>

GSU shall not use the residual heat removal system in the steam condensing mode.

(11) <u>Inservice Inspection Program (Section 5.2.4.3</u> and 6.6.3, SER and SSER 3)

GSU shall submit the inservice inspection program for NRC staff review and approval by one year from date of this license.

- *L*, -

^{*}The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

(12) <u>Bypassed and Inoperable Status Indication (Section 7.1.4.1, SEP</u> and SSER 3)

Prior to startup following the first refueling outage, GSU shall implement design modifications to improve the capabilities of existing bypassed and inceprable status indication used to monitor the status of safety related systems. The specific design changes to be implemented are identified in a GSU letter dated December 3, 1984 as clarified in a GSU letter dated March 5, 1985.

(13) Engineered Safety Feature Reset Controls (Section 7.1.4.2, SER and SSER 3)

Prior to exceeding five percent of rated power GSU shall conduct preoperational tests to demonstrate that all safety related equipment which changes modes in response to a system level engineered safety features (ESF) actuation signal, remains in its emergency mode following a reset of the actuation signal. GSU shall provide the results of the preoperational tests for NRC staff review.

(14) Multiple Control Systems Failures (Section 7.1.4.2 SER and SSEF 3)

Prior to startup following the first refueling outage, GSU shall resolve any concerns resulting from the NRC staff's review of GSU's analysis of the effects of multiple non-safety related (control) system failures, caused by the failure or malfunction of power supplies or sensors (including instrument sensing lines) common to more than one control system.

(15) <u>Capability for Safe Shutdown Following Loss of a Bus Supplying</u> <u>Power to Instruments and Controls (Section 7.1.4.2, SER and SSER 3)</u>

Prior to startup following the first refueling outage, GSU shall resolve any concerns resulting from the NRC staff's review of GSU's analysis of the capability to achieve and maintain a safe shutdown condition following the loss of power to any bus (ac or dc) used to supply instruments and controls.

(16) Ultimate Heat Sink (Section 9.25, SER and SSER 3)

Prior to startup following the first refueling outage GSU shall have installed and operational in the ultimate heat sink a Class IE qualified temperature monitoring system and associated Technical Specification modifications acceptable to the NRC staff.

(17) Fire Protection (Section 9.5, SER and SSER 3)

GSU shall complete the requirements of the fire protection program as specified in Attachment 3. Attachment 3 is hereby incorporated into this license.

(18) Operating Staff Experience Requirements (Section 13.1.2.1, SSER 2)

GSU shall have a licensed senior operator on each shift who has had at least six months of hot operating experience or a same type plant, including at least six weeks at power levels greater than 20% of full power, and who has had startup and shutdown experience. For those shifts where such an individual in not available on the plant staff, an advisor shall be provided who has had at least four years of power plant experience, including two years of nuclear plant experience, and who has had at least one year of experience on shift as a licensed senior operator at a similar type facility. Use of advisors who were licensed only at the RU level will be evaluated on a case by case basis. Advisors shall be trained on plant procedures, lechnical Specifications and plant systems, and shall be examined on these topics at a level sufficient to assure familiarity with the plant. For each shift, the remainder of the shift crew shall be trained as to the role of the advisors. The training of the advisors and remainder of the shift crew shall be completed prior to achieving criticality. Prior to achieving criticality, GSU shall certify to the NRC the names of the advisors who have been examined and have been determined to be competent to provide advice to the operating shifts. These advisors or fully trained and qualified replacements shall be retained until the experience levels identified in the first sentence above have been achieved. Any replacement advisor shall be certified by GSU prior to being placed on shift. The NRC shall be notified at least 30 days prior to the release of any special assigned advisors.

(19) Post- Fuel- Loading Initial Test Program (Section 14, SER and SSER 3)

Any changes to the Initial Test Program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

(20) Partial Feedwater Heating (Section 15.1, SER)

The facility shall not be operated with partial feedwater heating for the purpose of extending the normal fuel cycle.

(21) Salem ATWS Event, Generic Letter 83-28

GSU shall submit responses to and implement the requirements of Generic Letter 83-28 on a schedule which is consistent with that given in its letters dated August 3, 1984 and June 30, 1985.

(22) Emergency Response Capabilities (Generic Letter 82-33, Supplement 1 to NUREG-0737, Section 18, SER, SSER 2 and SSER 3)

GSU shall complete the requirements of NUREG-0737 Supplement #1 as specified in Attachment 4. Attachment 4 is hereby incorporated into this license.

(23) Emergency Planning

In the event the NRC staff finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

(24) TDI Diesel Engines (Section , SSER 3)

GSU shall complete the TDI diesel requirements as specified in Attachment 5. Attachment 5 is hereby incorporated into this license.

- L. 6SU shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans, including all amendments and revisions made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p), which are part of the license. These plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "River Bend Station Physical Security Plan," "River Bend Station Security Training and Qualification Plan" and "River Bend Station Safeguards Contingency Plan."
- E. Except as otherwise provided in the Technical Specifications or Environmental Protection Plan, GSU shall report any violations of the requirements contained in Section 2.C of this license in the following manner: initial notification shall be made within 24 hours to the NRC Operations Center via the Emergency Notification System with written followup within thirty days in accordance with the procedures described in 10 CFR 50.73(b), (c), and (e).

- The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, F. to cover public liability claims.
- This license is effective as of the date of issuance and shall expire 6. at midnight on 2025

FOR THE NUCLEAR REGULATORY COMMISSION

Harold R. Denton, Director Office of Nuclear Reactor Regulation

Attachments/Appendices:

- Attachments 1-5
 Appendix A Technical Specifications (NUREG Appendix B Environmental Protection Plan
 Appendix C Antitrust Conditions)

Date of Issuance:

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FOR THE NUCLEAR REGULATORY COMMISSION

Harold R. Denton, Director Office of Nuclear Reactor Regulation

Attachments/Appendices:

- Artachments 1-5
 Appendix A Technical Specifications (NUREG Appendix B Environmental Protection Flam)
- 4. Appendix C Antitrust Conditions

Date of Issuance:

ATTACHNERT 1 To-NPF 40 DEFERRED ITEMS

This attachment identifies items which must be completed to the satisfaction of the staff in accordance with the operational modes as identified below.

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- 1. <u>OUTSTANDING ITEMS TO BE ACCOMPLISHED PRIOR TO COMPLETION OF THE POWER</u> ASCENSION PROGRAM
- 2. <u>OUTSTANDING ITEMS TO BE CORRECTED PRIOR TO STARTUP FOLLOWING THE FIRST</u> REFUELING OUTAGE

(Note - This attachment will be developed in concert with Region IV)

ATTACHMENT 2

SEISHIC DYNAMIC QUALIFICATION OF SEISMIC CATEGORY 1 MECHANICAL AND ELECTRICAL EQUIPMENT

GSU shall complete the following requirements for seismic and dynamic qualification on the schedule noted below:

- 1. GSU shall, prior to startup following the third refueling outage, have completed modifications to the hydraulic control units to install an additional brace as used in the qualification testing of the hydraulic control unit as described in GSU's letter dated May 15, 1985.
- 2. The GSU shall, prior to exceeding five percent of rated power, perform an independent internal audit of the seismic qualification documentation described in GSU's letter dated June 25, 1985 and submit the results to the NRC staff. Any issues identified by the audit must be resolved with the NRC staff prior to exceeding five percent of rated power.
- 3. 6SU shall, prior to exceeding five percent of rated power, complete the seismic qualification of:
 - a) 125 dc panel board;
 - b) HPCS diesel generator; and
 - c) Borg Warner globe valves.
- 4. GSU shall complete the seismic qualification of the in-vessel rack prior to its use.

ATTACHMENT 3 FIRE PROTECTION PROGRAM REQUIREMENTS

OSU shall complete the requirements of the fire protection program as specified on the schedule noted below:

- 1. GSU shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility through Amendment 21 and as approved in the SER dated May 1984 (and Supplements dated) subject to provisions 2 and 3 below.
- 2. GSU may make no change to the approved fire protection program which would significantly decrease the level of fire protection in the plant without prior approval of the Commission. To make such a change GSU must submit an application for license amendment pursuant to 10 CFR 50.90.
- GSU may make changes to features of the approved fire protection 3. program which do not significantly decrease the level of fire protection without prior Commission approval provided (a) such changes do not otherwise involve a change in a license condition or technical specification or result in an unreviewed safety question (see 10 CFR 50.59), and (b) such changes do not result in failure to complete the fire protection program approved by the Commission prior to license issuance. GSU shall maintain, in an auditable form, a current record of all such changes, including an analysis of the effects of the change or the fire protection program, and shall make such records available to NRC inspectors upon request. All changes to the approved program shall be reported annually to the Director of the Office of Nuclear Reactor Regulation, along with the FSAR revisions required by 10 CFR 50.71(e).
- 4. Prior to exceeding five percent of rated power, GSU shall complete the fire wrapping of electrical raceways in the control building.
- 5. Prior to exceeding five percent of rated power, GSU shall complete the fire wrapping of electrical raceways in the fuel building.
- 6. Prior to exceeding five percent of rated power, GSU shall complete all modifications required to provide a means to safely shutdown the plant, in the event of a fire in the main control room, from outside of the control room, including revision of the plant procedures and re-training of the operators.

ATTACHMENT 4 EMERGENCY RESPONSE CAPABILITIES

GSU shall complete the following requirements of NUREG-C737 Supplement #1 on the schedule noted below:

- 1. The Safety Parameter Display System shall not be used by the operators for accident evaluation until the NRC staff has approved its use.
- 2. Actions and schedules for correcting all human engineering discrepancies (HEDs) identified in the "Detailed Control Room Design Review Summary Report dated October 31, 1984 and Supplements dated May 14 and June 12, 1985, and the applicant's letter dated July 30, 1985, shall be implemented in accordance with the schedule committed to by GSU in the Summary report and supplements and accepted by the NRC staff.
- 3. As part of I.C.1, information should be submitted pertaining to containment venting emergency procedures to be reviewed and approved by NRC staff prior to operation above five percent of rated power.
- 4. Prior to startup following the first refueling outage, GSU shall resolve any concerns resulting from the NRC staff's review of conformance of the post accident monitoring system instrumentation with the provisions of Regulatory Guide 1.97, Revision 2.

<u>/.TTACHMENT 5</u> TDI DIESEL ENGINES REQUIREMENTS

GSU shall comply with the following requirements related to the TDI diesel engines.

- 1. Changes to the maintenance and surveillance program for the TD1 diesel engines, as identified and approved by the NRC staff in Supplement 3 to the SER, shall be subject to the provisions of 10 CFR 50.59.
- 2. Crankshafts shall be inspected as follows:

SD 1B: During the first refueling outage, inspect the fillets and oil holes of the three most heavily loaded crankpin journals (Nos. 5, 6, and 7) with fluorescent liquid penetrant and ET as appropriate.

SD 1A and 1B: During the second and subsequent refueling outages, inspect the fillets and oil holes of two of the three most heavily loaded crankpin journals in the manner just mentioned.

SU 1A and 1B: During each major engine overhaul, inspect the fillets and oil holes of the two main bearing journals between crankpin Nos. 5, 6, and 7, using fluorescent liquid penetrant and ET as appropriate. This inspection is in addition to the crankpin inspections.

- 3. Cylinder blocks shall be inspected at intervals calculated using the cumulative damage index (CDI) model and using inspection methodologies described by Failure Analysis Associates, Inc. in Design Review of TDI R-4 and RV-4 Series Emergency Diesel Generator Cylinder Blocks (FaAA-84-9-11-1). Liquid penetrant inspection of cylinder liner landing area shall be performed any time cylinder liners are removed. Visual daily inspection between adjacent cylinder heads and the general block top during any period of continuous operation following automatic diesel generator startup.
- 4. GSU shall roll the engines over with the air start system prior to any planned starts, unless that planned start occurs within four hours of a shutdown. In addition, after engine operation, the engines shall be rolled over on air after four hours but not more than eight hours after engine shutdown and then rolled over once again approximately 24 hours after each shutdown. In the event an engine is removed from service for any reason other than the rolling over procedure prior to expiration of the eight hour or 24 hour periods noted above, that engine need not be rolled over while it is out of service. Once the engine is returned to service, GSU shall roll it over with air once at the time that it is returned to service. Any head which leaks due to a crack shall be replaced.

- 5. If inspection of diesel generators 1A and/or 1B should reveal cracks in the crankshaft or in the cylinder block between stud holes of adjacent cylinders, this condition shall be reported promptly to the NRC staff and the affected engine(s) shall be considered inoperable. The engine(s) shall not be restored to "operable" status until the proposed disposition and/or corrective actions have been approved by the NRC staff.
- 6. The following actions are required if SD 1A or SD 1B is operated in excess of 3130 $KW^{(1)}$:
 - a) For indicated engine loads in the range of 3130 KW to 3200 KW for a period less than two hours⁽²⁾, no additional action shall be required.
 - b) For indicated engine loads in the range of 3130 KW to 3200 KW for a period equal to or exceeding two hours⁽²⁾, a crank-shaft inspection pursuant to Item d below shall be performed at the next refueling cutage.
 - c) For indicated engine loads in the range of 3200 KW to 3500 KW for a period less than 1 hour⁽²⁾, a crankshaft inspection pursuant to item d below shall be performed for the affected engine at the next refueling outage.
 - d) For indicated engine loads in the range of 3200 KW to 3500 KW for periods equal to or exceeding one hour ⁽²⁾, and for engine loads exceeding 3500 KW for any period of time, (1) the engine shall be removed from service as soon as safely possible, (2) the engine shall be declared inoperable, and (3) the crankshaft shall be inspected. The crankshaft inspection shall include crankpin journal numbers 5, 6, and 7 (the most heavily loaded) and the two main journals in between using fluorescent liquid penetrant and eddy current as appropriate.
- 7. Operation beyond the first refueling outage is subject to NRC staff approval based on the staff's final review of the Owners Group generic findings and of the overall design review and quality revalidation program at River Bend.

⁽¹⁾ Momentary transients (not exceeding 5 seconds) due to changing of bus loads need not be considered as an overload.

⁽²⁾ If there are multiple overload events within a given load range since the previous crankshaft inspection, then the time period criterion applies to the total accumulated time in that load range.