The results of Irradiation Capsules V and R analyses are presented in WCAP 8908 and WCAP 9878, respectively. Heatup and cooldown limit curves for normal operation of the reactor vessel are presented in Figures TS 3.1-1 and TS 3.1-2 and represent an operational time period of 10 effective fullpower years.

Pressurizer Limits 60

Although the pressurizer operates at temperature ranges above those for which there is reason for concern about brittle fracture, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with Code requirements. In-plant testing and calculations have shown that a pressurizer heatup rate of 100°F/hr cannot be achieved with the installed equipment.

REFERENCES

1. ASME Boiler and Pressure Vessel Code, "Nuclear Power Plant Components" Section III, Summer 1972 Addenda, Non-Mandatory Appendix G - "Protection Against Non-ductile Failure."

2. Standard Method for Measuring Thermal Neutron Flux by Radioactivation Techniques, ASTM designation E262-70, 1975 Book of ASTM Standards, Part 45, pp. 756-763.

3. W. S. Hazelton, S. L. Anderson, and S. E. Yanichko, "Basis for Heatup and Cooldown Limit Curves," WCAP 7924, July 1972.

4. S. E. Yanichko, S. L. Anderson, and K. V. Scott, "Analysis of Capsule V from the Wisconsin Public Service Corporation Kewaunee Nuclear Plant Reactor Vessel Radiation Surveillance Program," WCAP 8908, January 1977.

5. S. E. Yanichko, et al, "Analysis of Capsule R from the Wisconsin Public Service Corporation Kewaunee Nuclear Plant Reactor Vessel Radiation Surveillance Program," WCAP 9878, March, 1981.

6. Letter from P. S. VanTeslaar (Westinghouse) to C. W. Giesler (WPS) dated April 30, 1981, transmitting KNPP Heatup and Cooldown curves based on Capsule R results.

TABLE TS 3.5-1 (Page 1 of 2)

ENGINEERED SAFETY FEATURES INITIATION INSTRUMENT SETTING LIMITS

NO.	FUNCTIONAL UNIT	CHANNEL	SETTING LIMIT
1	High Containment Pressure (Hi)	Safety Injection(1)	$\leq$ 4 psig
2	High Containment Pressure (Hi-Hi)	a. Containment Spray	$\leq$ 23 psig
		b. Steam Line Isolation of Both Lines	$\leq$ 17 psig
3	Pressurizer Low Pressure	Safety Injection(1)	$\geq$ 1815 psig
4	Low Steam Line Pressure	Safety Injection(1)	$\geq$ 500 psig
		Lead Time Constant	$\geq$ 12 seconds
		Lag Time Constant	$\leq$ 2 seconds
5	High Steam Flow in a Steam Line Coincident with Safety Injection and "Lo-Lo" T_{avg}	Steam Line Isolation Affected Line(2)	$\leq$ d/p corresponding to 0.745 x 10^6 lb/hr at 1005 psig 60
			$\geq$ 540° F
6	High-High Steam Flow in a Steam Line Coincident with Safety Injection	Steam Line Isolation of Affected Line(2)	$\leq$ d/p corresponding to 4.5 x 10^6 lb/hr at 735 psig
7	Forebay Level	Trip circ. water pumps	
8	Containment Purge and Vent System Radiation Particulate Detector Radioactive Gas Detector	Containment Ventilation Isolation	$\leq$ value of Radiation Levels in exhaust duct as defined in Note(3)

Table TS 3.5-1 (Page 1 of 2)

Proposed Amendment No. 60

TABLE TS 3.5-4 (Page 1 of 2)

INSTRUMENT OPERATING CONDITIONS FOR ISOLATION FUNCTIONS

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MINIMUM OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	6 OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
1	CONTAINMENT ISOLATION						
	a. Safety Injection	See Item No. 1 of Table TS 3.5-3					Hot Shutdown***
	b. Manual	2	1	1	-		Hot Shutdown
2	STEAM LINE ISOLATION						
	a. Hi-Hi Steam Flow with Safety Injection	2/loop	1	1	-		Hot Shutdown***
	b. Hi Steam Flow and 2 of 4 "Lo-Lo" T_{avg} with Safety Injection	2/loop	1	1	-		Hot Shutdown***
	c. "Hi-Hi" Containment Pressure	3	2	2	-		Hot Shutdown***
	d. Manual	1/loop	1/loop	1/loop	-		Hot Shutdown

Table TS 3.5-4 (Page 1 of 2)

Proposed Amendment No. 60

60

Rod Bow Effects

The $F^N_{\Delta H}$ limits of specification 3.10.b.1 include consideration of fuel rod bow effects. Since the effects of rod bow are dependent on fuel burnup an additional penalty is incorporated through a decrease in the $F^N_{\Delta H}$ limit of 2% for 0-15000 MWD/MTU fuel burnup, 4% for 15000-24000 MWD/MTU fuel burnup, and 6% for greater than 24000 MWD/MTU fuel burnup. These penalties are counter-balanced by credits for increased Reactor Coolant flow and lower Core inlet temperature. The Reactor Coolant System flow has been determined to exceed design flow by greater than 8%. Since the flow channel protective trips are set on a percentage of full flow, significant margin to DNB is provided. One half of the additional flow is taken as a DNB credit to offset 2% of the $F^N_{\Delta H}$ penalty. The existence of 4% additional reactor coolant flow will be verified after each refueling at power prior to exceeding 95% power. If the reactor coolant flow measured per loop averages less than 92560 gpm, the $F^N_{\Delta H}$ limit shall be reduced at the rate of 1% for every 1.8% of reactor coolant design flow (89000 gpm design flow rate) for fuel with greater than 15000 MWD/MTU burnup. Uncertainties in reactor coolant flow have already been accounted for in the flow channel protective trips for design flow. The assumed T_{inlet} for DNB analysis was 540°F while the normal T_{inlet} at 100% power is approximately 532°F. The reduction of maximum allowed T_{inlet} at 100% power to 536°F as addressed in specification 3.10.k provides an additional 2% credit to offset the rod bow penalty. The combination of the penalties and offsets results in a required 2% reduction of allowed $F^N_{\Delta H}$ for high burnup fuel, > 24000 MWD/MTU. The permitted relaxation in $F^N_{\Delta H}$ allows radial power shape changes with rod insertion to the insertion limits. 60

4.10 ENVIRONMENTAL MONITORING

Applicability

Applies to the periodic monitoring and recording of radioactive effluents and the routine testing of plant environs.

Objective

To verify that radioactive releases are maintained within allowable limits and that plant operations have no significant detrimental effects on the environment.

Specification

a. Environmental samples shall be collected and analyzed according to Table TS 4.10-1, where minor changes in descriptions or locations of specific sampling points may occur as necessitated by private ownership. 60

b. Reports shall be submitted in accordance wilth Section 6.9 of the Technical Specifications.

Basis

The operational program of environmental monitoring described in Section 2.8 of the FSAR has been in progress for more than two years before initial plant startup. The number and distribution of sampling locations and the various types of measurement, together with the pre-operational background data, provides verification of the effectiveness of plant effluent control and indication of measurable changes in the activity of the environment. From time to time minor changes to sample locations and/or descriptions are required which do not alter the intent of the sampling program. These changes are permitted by specification 4.10.a above. 60

TABLE TS 4.10-2

(Page 1 of 1)
Sampling Locations

Code	Location	
K-1	Onsite	
1a	North Creek	
1b	Middle Creek	
1c	North of condenser discharge	60
1d	Condenser discharge	
1e	South Creek	
1f	Meteorlogical tower	
1g	South Well	
1h	North Well	
1i	Deleted	60
K-2	WPS Operations Building in Kewaunee	
K-3	Farm - 6.0 mi N of site	
K-4	Farm - 3.0 mi N of site	60
K-5	Farm - 3.5 mi NNW of site	60
K-6	Farm - 6.7 mi WSW of site	
K-7	Farm - 2.75 mi SSW of site	60
K-8	Catholic Church - 5.0 mi WSW of site	
K-9	Rostok Water Intake for Green Bay, Wisconsin, two miles north of Kewaunee	
K-10	Farm - 1.5 mi NNE of site	60
K-11	Farm - 1.0 mi NW of site	
K-12	Farm - 1.5 mi WSW of site	60
K-13	General Store - 3 mi S of site	
K-14	Two Creeks Park - 2.5 miles south of site	
K-15	Gas Substation - 9.25 mi NW of site	60
K-16	WPS Division Office Building, Green Bay, Wisconsin	
K-17	Farm - 4.25 mi W of site	
K-18	Replaced by K-26	60
K-19	Farm - 1.75 mi N of site	
K-26	Food Stand - 10.7 mi SSW of site	60

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager has overall on-site responsibility for plant operation. In the absence of the Plant Manager, the succession to this responsibility shall be in the following order:

a. Maintenance Superintendent
b. Operations Superintendent
c. Assistant Superintendent Operations
d. Plant Technical Superintendent | 60
e. Plant Services Superintendent | 60
f. Shift Supervisor | 60

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for plant management and technical support shall be as shown on Figure TS 6.2-1.

FACILITY STAFF

6.2.2 The plant organization shall be as shown on Figure TS 6.2-2 and:

a. Each on-duty shift complement shall consist of at least:
   (1) One Shift Supervisor (SRO)
   (2) Two licensed Reactor Operators
   (3) One Auxiliary Operator
   (4) One Equipment Operator
   (5) One Radiation Technologist

b. While above cold shutdown, the on-duty shift complement shall consist of the personnel required by 6.2.2a. above and an additional SRO. | 60

c. In the event that one of the shift members becomes incapacitated due to illness or injury or the Radiation Technologist has to accompany an injured person to the hospital, reactor operations may continue with the reduced complement until a replacement arrives. In all but severe weather conditions, a replacement is required within two hours. | 60

d. At least one licensed operator shall be in the control room when fuel is in the reactor. 60

e. At least two licensed operators shall be present in the control room during reactor startup, turbine generator synchronization to the grid, and during recovery from reactor trips. 60

f. At least one SRO and one RO shall be present in the control room when the unit is in an operational mode other than cold shutdown or refueling. 60

g. Refueling operations shall be directed by a licensed Senior Reactor Operator assigned to the refueling operation who has no other concurrent responsibilities during the refueling operation. 60

h. A five man fire response team, consisting of 3 Fire Brigade members and 2 Assistant Fire Brigade personnel, shall be maintained If a member of the fire response team becomes incapacitated due to illness or injury this requirement is deemed satisfied if a replacement arrives within two hours in all but the severest weather. 60

i. When the reactor is above the cold shutdown condition, a qualified Shift Technical Advisor shall be within 10 minutes of the control room. 60

ORGANIZATIONAL CHANGES

6.2.3 Changes not affecting safety may be made to the offsite and facility staff organizations. Such changes shall be reported to the Commission in the form of an application for license amendment within 60 days of the implementation of the change.

6.3 PLANT STAFF QUALIFICATIONS

6.3.1 Qualification of each member of the Plant Staff shall meet or exceed the minimum acceptable levels of ANSI N18.1-1971 for comparable positions, except for the Radiation Protection Supervisor who shall meet or exceed the recommendation of Regulatory Guide 1-8, Revision 1-R, September 1975, or their equivalent as further clarified in Attachment 1 to the Safety Evaluation Report enclosed with Amendment No. 46 to Facility Operating License DPR-43. 60

6.3.2 The Shift Technical Advisor shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in the design of the Kewaunee Plant and plant transient and accident analysis.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for:

a. Review of operating, maintenance and other procedures including emergency operating procedures which affect nuclear safety as determined by the plant manager. Changes to those procedures are made in accordance with the provisions of TS 6.8.1. 60

b. Review of all proposed tests and experiments that affect nuclear safety.

c. Review of all proposed changes to the Technical Specifications.

d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.

e. Review all reports covering the investigation of all violations of the Technical Specifications and the recommendations to prevent recurrence.

f. Review plant operations to detect potential safety hazards.

g. Performance of special reviews and investigations and prepare reports thereon as requested by the Chairman of the Nuclear Safety Review and Audit Committee.

h. Review of the Security Plan and Emergency Plan and their respective implementing procedures and shall submit recommended

changes to the Vice President-Power Production. 60

AUTHORITY

6.5.1.7 The PORC shall:

a. Recommend to the Plant Manager approval or disapproval of items considered under 6.5.1.6a through d above.

b. Make determinations with regard to whether or not each item considered under 6.5.1.6a through e above constitutes an unreviewed safety question.

c. Provide immediate notification in the form of draft meeting minutes to the Manager-Nuclear Power and the Chairman-Nuclear Safety Review and Audit Committee of disagreement between the PORC and the Plant Manager. The Plant Manager shall have responsibility for resolution of such disagreements.

RECORDS

6.5.1.8 Minutes shall be kept of all meetings of the PORC and copies shall be sent to the Manager -Nuclear Power and the Chairman-Nuclear Safety Review and Audit Committee.

6.5.2 CORPORATE NUCLEAR ENGINEERING STAFF (CNES)

FUNCTION

6.5.2.1 The CNES shall function to provide engineering,

6. Review and/or prepare safety evaluations of all plant design changes.
7. Audits as required by the Quality Assurance Program and as outlined in Section 6.5.3.8.

AUTHORITY

6.5.2.4 Members of the Fuel Services and System Planning and Engineering groups, although not directly responsible to the Vice President-Power Production are available for special projects and support of the Kewaunee Plant. 60

The Nuclear Design Change, Nuclear Services, and Nuclear Training Groups and Power Plant Design and Construction are responsible to the Manager-Nuclear Power. The Nuclear Licensing and Systems Group is responsible to the Vice President-Power Production. 60

6.5.3 NUCLEAR SAFETY REVIEW AND AUDIT COMMITTEE (NSRAC)

FUNCTION

6.5.3.1 The NSRAC shall function to provide independent review and audit of designated activities in the areas of:

a. Nuclear Power Plant Operations
b. Nuclear Engineering
c. Chemistry and Radio-Chemistry
d. Metallurgy
e. Instrumentation
f. Radiological Safety
g. Mechanical and Electrical Engineering
h. Quality Assurance Practices
i. Other appropriate fields as determined by the Committee, to be associated with the unique characteristics of the nuclear power plant.

COMPOSITION

6.5.3.2 The NSRAC shall be composed of, but not necessarily limited to:

g. Any other area of plant operation considered appropriate by the NSRAC or the Vice President-Power Production. | 60

AUTHORITY

6.5.3.9 The NSRAC shall report to and advise the Vice President-Power Production on those areas of responsibility specified in Section 6.5.3.7 and 6.5.3.8. | 60

RECORDS

6.5.3.10 Records of NSRAC activities shall be prepared, approved and distributed as follows:

a. Minutes of each NSRAC meeting forwarded to the Vice President-Power Production within 14 days following each meeting. | 60

b. Reports of reviews required by Section 6.5.3.7e, f, g and h above, forwarded to the Vice President-Power Production within 14 days following completion of the review. | 60

c. Reports of audits performed by NSRAC shall be forwarded to the Vice President-Power Production and to the management positions responsible for the areas audited within 30 days after completion of the audit. | 60

6.6 DELETED

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a safety limit is violated:

a. The reactor shall be shutdown and operation shall not be resumed until authorized by the Commission.

b. The Safety Limit violation shall be reported to the Commission, the Manager-Nuclear Power, and to the NSRAC-Chairman within 14 days of the violation.

c. The report shall be prepared in accordance with Section 6.9 of the Technical Specifications.

6.8 PROCEDURES

6.8.1 Written procedures and administrative policies shall be established, implemented and maintained that meet the requirements and recommendations of Section 5.2.2, 5.2.5, 5.2.15 and 5.3 of ANSI N18.7-1976. 60

6.8.2 Changes to procedures are made in accordance with the provisions of ANSI N18.7-1976 Section 5.2.2 except that changes which clearly do not change the intent of the procedure shall, as a minimum, be approved by two individuals knowledgeable in the area affected one of which holds a valid SRO license at Kewaunee. 60

6.8.3 Deleted 60

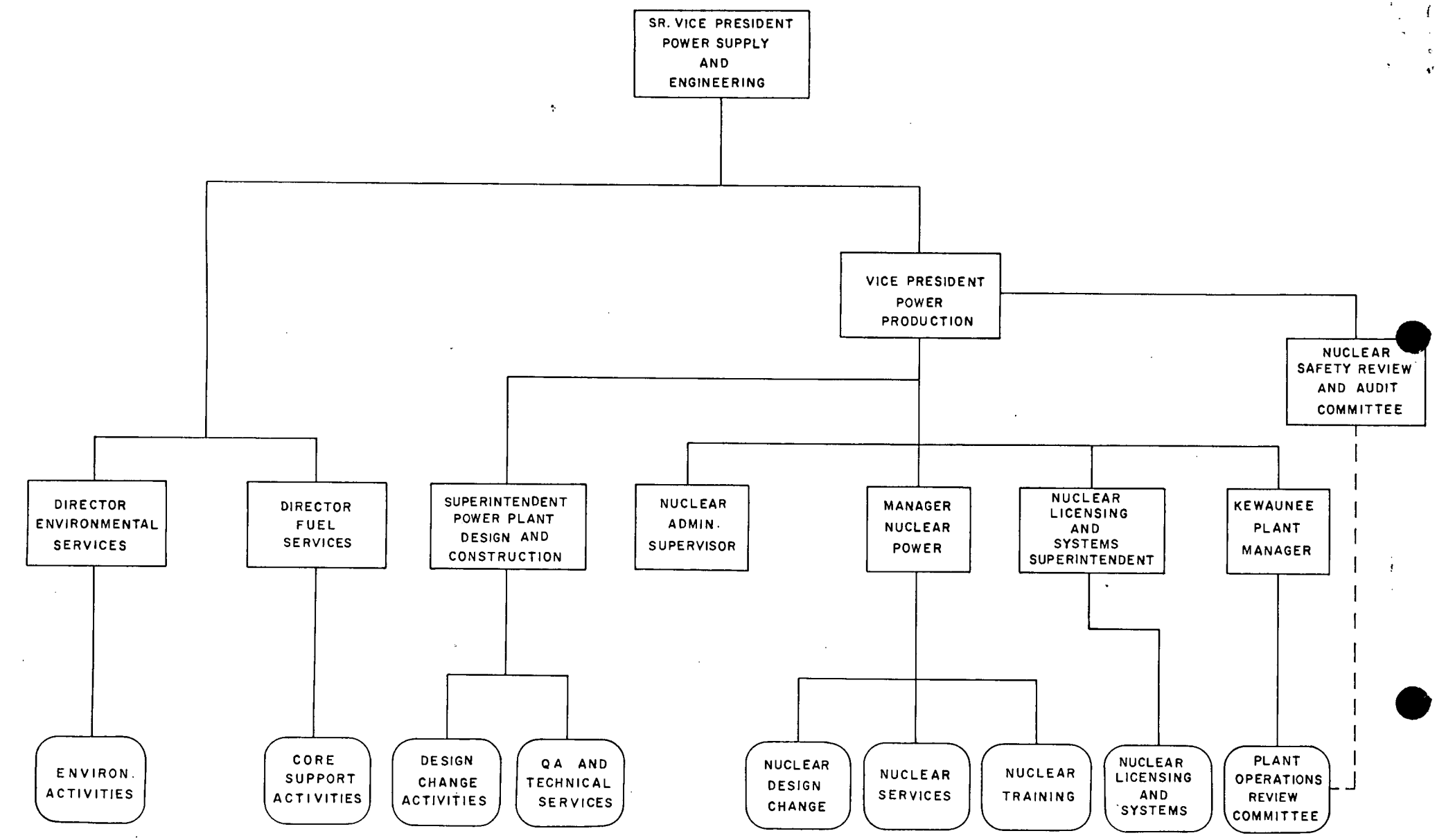

FIGURE TS 6.2-1

PROPOSED AMENDMENT NO. 60