



April 13, 2009

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U S Nuclear Regulatory Commission
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Prairie Island Nuclear Generating Plant Units 1 and 2
Dockets 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Supplemental Information Regarding Application for Renewed Operating Licenses

By letter dated April 11, 2008, Northern States Power Company, a Minnesota Corporation, (NSPM) submitted an Application for Renewed Operating Licenses (LRA) for the Prairie Island Nuclear Generating Plant (PINGP) Units 1 and 2. As a result of related NSPM activities, it has been determined that certain minor changes should be made to the LRA for clarity and completeness. This letter submits those changes.

Enclosure 1 provides changes to LRA Sections 3.3 and 3.4 to account for condensation which can form on exterior surfaces of the tubes in selected ventilation system air coolers.

Enclosure 2 provides a change to LRA Section 3.3 to account for bolting which is submerged in raw water in the Cooling Water System.

Enclosure 3 provides several changes to the previous NSPM response to RAI 2.3-03 submitted in a letter (L-PI-08-104) dated December 18, 2008. Changes relate to scoping of gravity drain piping in composite samplers.

Enclosure 4 provides changes to LRA Section 3.1 to add information about Incore Instrumentation Seal Table valves.

Enclosure 5 provides a change to LRA Section 3.4 to reflect a material change for restricting orifices in the Turbine Generator and Support System.

Enclosure 6 provides changes to four Aging Management Programs. Changes are made to the LRA Section B2.1.4 description of the ASME Section XI, Subsection IWE Program to reflect an update in accordance with 10 CFR 50.55a; and to the descriptions of three electrical programs in LRA Sections B2.1.12, B2.1.13 and B2.1.21 to reflect use of the final IEEE Standard 1205 rather than the preliminary version of the standard, P1205.

Enclosure 7 provides an additional change to the previous NSPM response to RAI 3.5.2.2-2 submitted in a letter (L-PI-09-006) dated January 20, 2009. To provide consistency, the exact wording change that was submitted in the initial response to RAI 3.5.2.2-2 needed to also be made in a second location in the LRA.

Enclosure 8 provides changes to LRA Section 3.3 to add information about Fire Protection System valves and piping.

Enclosure 9 provides changes to LRA Sections 2.3 and 3.3 to account for modifications to the heating system.

If there are any questions or if additional information is needed, please contact Mr. Eugene Eckholt, License Renewal Project Manager.

Summary of Commitments

This letter contains no new commitments or changes to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on April 13, 2009.



Michael D. Wadley
Site Vice President, Prairie Island Nuclear Generating Plant Units 1 and 2
Northern States Power Company - Minnesota

Enclosures (9)

cc:

Administrator, Region III, USNRC
License Renewal Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island; USNRC
Prairie Island Indian Community ATTN: Phil Mahowald
Minnesota Department of Commerce

Enclosure 1

LRA Changes to Account for Condensation on Selected Air Cooler Tubes

Heat exchanger tubes in selected ventilation air coolers that are normally in service, and therefore, could normally be exposed to condensation, should have been evaluated for an external environment of Wet Air/Gas (Ext), but were incorrectly evaluated as being exposed to Plant Indoor Air – Uncontrolled (Ext) or Primary Containment Air (Ext). Exposure to condensation can result in aging effects that are not accounted for in the Plant Indoor Air - Uncontrolled or Primary Containment Air environments. For completeness, to account for the additional aging effects from condensation, the LRA is hereby changed as follows.

In LRA Section 3.3.2.1.5, Control Room and Miscellaneous Area Ventilation System, on Page 3.3-10, under Environment, a new bullet is added as follows:

- Wet Air/Gas (External)

In LRA Section 3.3.2.1.6, Cooling Water System, on Page 3.3-11, under Environment, a new bullet is added as follows:

- Wet Air/Gas (External)

In LRA Section 3.3.2.1.14, Primary Containment Ventilation System, on Page 3.3-23, under Environment, a new bullet is added as follows:

- Wet Air/Gas (External)

In LRA Section 3.4.2.1.8, Turbine Generator and Support System, on Page 3.4-12, under Environment, a new bullet is added as follows:

- Wet Air/Gas (External)

In LRA Table 3.3.1, Summary of Aging Management Evaluations in Chapter VII of NUREG-1801 for Auxiliary Systems, on Page 3.3-49, the Discussion entry for line Item 3.3.1-25 is changed in its entirety to read as follows:

The plant-specific AMP used to manage loss of material due to pitting and crevice corrosion of copper alloy HVAC piping, piping components, and piping elements exposed to condensation (external) is the External Surfaces Monitoring Program. Further evaluation is documented in Section 3.3.2.2.10.3.

In LRA Table 3.3.1, Summary of Aging Management Evaluations in Chapter VII of NUREG-1801 for Auxiliary Systems, on Page 3.3-50, the Discussion entry for line Item 3.3.1-27 is changed in its entirety to read as follows:

The plant-specific AMPs used to manage loss of material due to pitting and crevice corrosion of stainless steel HVAC ducting and aluminum HVAC piping, piping components and piping elements exposed to condensation is either the Compressed Air Monitoring Program or the External Surfaces Monitoring Program. Further evaluation is documented in Section 3.3.2.2.10.5.

Enclosure 1

LRA Changes to Account for Condensation on Selected Air Cooler Tubes

In LRA Section 3.3.2.2.10.3 on Page 3.3-40, the existing section is replaced in its entirety to read as follows:

Loss of material due to pitting and crevice corrosion could occur for copper alloy HVAC piping, piping components, and piping elements exposed to condensation (external). This aging effect is managed with the External Surfaces Monitoring Program. The External Surfaces Monitoring Program performs periodic system inspections and walkdowns to visually inspect accessible external surfaces for degradation. This program assures the intended function of affected components will be maintained during the period of extended operation.

In LRA Section 3.3.2.2.10.5 on Page 3.3-40, the existing section is replaced in its entirety to read as follows:

Loss of material due to pitting and crevice corrosion could occur for stainless steel HVAC ducting and aluminum HVAC piping, piping components and piping elements exposed to condensation. This aging effect is managed with either the Compressed Air Monitoring Program or the External Surfaces Monitoring Program. The Compressed Air Monitoring Program performs periodic air quality sampling, inspections, component functional testing, and leakage testing for the SA System. Additionally, preventive maintenance is performed at regular intervals to assure system components continue to operate reliably, thereby assuring that quality air is supplied to plant equipment. The External Surfaces Monitoring Program performs periodic system inspections and walkdowns to visually inspect accessible external surfaces for degradation. This program assures the intended function of affected components will be maintained during the period of extended operation.

In LRA Table 3.3.2-5, Auxiliary Systems - Control Room and Miscellaneous Area Ventilation System - Summary of Aging Management Evaluation, on Page 3.3-112 and 113, for Heat Exchanger Tubes of both Copper Alloy and Aluminum, and for Intended Functions of both Heat Transfer and Pressure Boundary, delete the entries for Plant Indoor Air - Uncontrolled (Ext). The following new line item is inserted:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1 Item	Notes
Heat Exchanger Tubes	Heat Transfer	Copper Alloy	Wet Air/Gas (Ext)	Heat Transfer Degradation - Fouling	External Surfaces Monitoring Program			H
	Pressure Boundary	Aluminum	Wet Air/Gas (Ext)	Loss of Material - Crevice Corrosion	External Surfaces Monitoring Program	VIII.F2-12	3.3.1-27	E
				Loss of Material - Pitting Corrosion	External Surfaces Monitoring Program	VIII.F2-12	3.3.1-27	E

Enclosure 1
LRA Changes to Account for Condensation on Selected Air Cooler Tubes

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1 Item	Notes
Heat Exchanger Tubes	Pressure Boundary	Copper alloy	Wet Air/Gas (Ext)	Loss of Material - Crevice Corrosion	External Surfaces Monitoring Program	VII.F1-16	3.3.1-25	E
				Loss of Material - Pitting Corrosion	External Surfaces Monitoring Program	VII.F1-16	3.3.1-25	E
				Loss of Material - Selective Leaching	Selective Leaching of Materials Program			H

In LRA Table 3.3.2-6, Auxiliary Systems, Cooling Water System – Summary of Aging Management Evaluation, on Page 3.3-129, for heat Exchanger Tubes of Copper Alloy with an Intended Function of Pressure Boundary, delete the entries for Primary Containment Air (Ext). The following new line item is inserted:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1 Item	Notes
Heat Exchanger Tubes	Heat Transfer	Copper Alloy	Wet Air/Gas (Ext)	Heat Transfer Degradation - Fouling	External Surfaces Monitoring Program			H
	Pressure Boundary	Copper Alloy	Wet Air/Gas (Ext)	Loss of Material - Boric Acid Wastage	Boric Acid Corrosion Program	VII.I-12	3.3.1-88	A
				Loss of Material - Crevice Corrosion	External Surfaces Monitoring Program	VII.F2-14	3.3.1-25	E
				Loss of Material - Pitting Corrosion	External Surfaces Monitoring Program	VII.F2-14	3.3.1-25	E
				Loss of Material - Selective Leaching	Selective Leaching of Materials Program			H

In LRA Table 3.3.2-14, Auxiliary Systems - Primary Containment Ventilation System - Summary of Aging Management Evaluation, on Page 3.3-278, for Heat Exchanger Tubes of Material Copper-Nickel, and for Intended Functions of both Heat Transfer and

Enclosure 1
LRA Changes to Account for Condensation on Selected Air Cooler Tubes

Pressure Boundary, delete the entries for Primary Containment Air (Ext). The following new line item is inserted:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1 Item	Notes
Heat Exchanger Tubes	Heat Transfer	Copper-Nickel	Wet Air/Gas (Ext)	Heat Transfer Degradation - Fouling	External Surfaces Monitoring Program			H
	Pressure Boundary	Copper-Nickel	Wet Air/Gas (Ext)	Loss of Material - Boric Acid Wastage	Boric Acid Corrosion Program	VII.I-12	3.3.1-88	A
				Loss of Material - Crevice Corrosion	External Surfaces Monitoring Program	VII.F3-16	3.3.1-25	E
				Loss of Material - Pitting Corrosion	External Surfaces Monitoring Program	VII.F3-16	3.3.1-25	E
				Loss of Material - Selective Leaching	Selective Leaching of Materials Program			H

In LRA Table 3.4.2-8, Steam and Power Conversion System - Turbine Generator and Support System - Summary of Aging Management Evaluation, on Page 3.4-131, for Heat Exchanger Tubes of Copper-Nickel, delete the entry for Plant Indoor Air - Uncontrolled (Ext). The following new line item is inserted:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1 Item	Notes
Heat Exchanger Tubes	Pressure Boundary	Copper-Nickel	Wet Air/Gas (Ext)	Loss of Material - Crevice Corrosion	External Surfaces Monitoring Program	VII.F2-14	3.3.1-25	E
				Loss of Material - Pitting Corrosion	External Surfaces Monitoring Program	VII.F2-14	3.3.1-25	E
				Loss of Material - Selective Leaching	Selective Leaching of Materials Program			H

Enclosure 2
LRA Changes to Account for Bolting/Fasteners Submerged in Raw Water

The Cooling Water System contains bolting or fasteners that are submerged in raw water. However, the evaluation of Bolting/Fasteners addressed in LRA Table 3.3.2-6, Auxiliary Systems – Cooling Water System – Summary of Aging Management Evaluation, did not include a Raw Water (Ext) Environment. For completeness, to account for aging effects in bolting/fasteners submerged in raw water, the LRA is hereby changed as follows.

In LRA Table 3.3.2-6 on Page 3.3-125, the following new line item is inserted:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1 Item	Notes
Bolting/ Fasteners	Pressure Boundary	Carbon Steel	Raw Water (Ext)	Loss of Material - Crevice Corrosion	Bolting Integrity Program			G
				Loss of Material - Galvanic Corrosion	Bolting Integrity Program			G
				Loss of Material - General Corrosion	Bolting Integrity Program			G
				Loss of Material - MIC	Bolting Integrity Program			G
				Loss of Material - Pitting Corrosion	Bolting Integrity Program			G
				Loss of Preload - Thermal, Gasket Creep, Loosening	Bolting Integrity Program			G

Enclosure 3
Corrections to Previous NSPM Response to RAI 2.3-03

In a letter dated December 18, 2009, NSPM responded to NRC RAI 2.3-03. Subsequent reviews have identified the need for minor clarifications to several of the responses. The clarifications are as follows:

RAI 2.3-03 (2.3.3.20 Seventh Bullet)

RAI 2.3-03 (2.3.3.20 Seventh Bullet) indicated that drawing LR-39249, location C-5, shows a continuation of 2" piping to the Unit 1 composite sampler tech manual, but the continuation drawing XH-69-8 was not provided. The NSPM response stated that the continuation from Drawing LR-39249, location C-5, To Unit 1 Composite Sampler, extends through the Composite Sampler to the Turbine Building sump; and that the interconnected piping/fittings are within the scope of License Renewal, subject to AMR, and included in Table 2.3.3-20. Further, it was stated that the Composite Sampler was active and not subject to AMR.

Correction to NSPM Response to RAI 2.3-03 (2.3.3.20 seventh bullet): The gravity drain piping downstream of the unit 1 Composite Sampler, continuing to the Turbine Building Sump, is not within the scope of License Renewal. This gravity drain piping is not pressurized, is located in the Turbine Building Condenser Pit, and its failure would not prevent satisfactory accomplishment of any Criterion 1 functions. The piping/fittings upstream of the Composite Sampler were incorrectly stated as being included in Table 2.3.3-20; they are included in Table 2.3.4-8 with the Turbine Generator and Support System, as depicted by the system boundary breaks shown on LR-39249, location C-5.

RAI 2.3-03 (2.3.3.20 Eighth Bullet)

RAI 2.3-03 (2.3.3.20 eighth bullet) indicated that drawing LR-39250, location B-2, shows a continuation of 2" piping to the Unit 2 composite sampler tech manual, but drawing XH-69-8 was not provided. The NSPM response stated that the continuation from Drawing LR-39250, location B-2, To Unit 2 Composite Sampler, extends through the Composite Sample to the Turbine Building sump; and that interconnected piping/fittings are within the scope of License Renewal, subject to AMR, and included in Table 2.3.3-20. Further, it was stated that the Composite Sampler was active and not subject to AMR.

Correction to RAI 2.3-03 (2.3.3.20 eighth bullet): The gravity drain piping downstream of the unit 2 Composite Sampler, continuing to the Turbine Building Sump, is not within the scope of License Renewal. This gravity drain piping is not pressurized, is located in the Turbine Building Condenser Pit, and its failure would not prevent satisfactory accomplishment of any Criterion 1 functions. The piping/fittings upstream of the Composite Sampler were incorrectly stated as being included in Table 2.3.3-20; they are included in Table 2.3.4-8 with the Turbine Generator and Support System, as depicted by the system boundary breaks shown on LR-39250, location B-2.

RAI 2.3-03 (2.3.4.7 Second Bullet)

RAI 2.3-03 (2.3.4.7 second bullet) indicated that drawing LR-39250, location B-1, shows a continuation of the 2-2WL-501 pipe to the Unit-2 composite sampler, but drawing X-

Enclosure 3
Corrections to Previous NSPM Response to RAI 2.3-03

HIAW-69-8 was not provided. The NSPM response stated that the continuation from Drawing LR-39250, location B-1, To Unit 2 Composite Sampler, extends through the Composite Sample to the Turbine Building sump; and that interconnected piping/fittings are within the scope of License Renewal, subject to AMR, and included in Table 2.3.3-20. Further, it was stated that the Composite Sampler was active and not subject to AMR.

Correction to RAI 2.3-03 (2.3.4-7 second bullet): The gravity drain piping downstream of the unit 2 Composite Sampler, continuing to the Turbine Building Sump, is not within the scope of License Renewal. This gravity drain piping is not pressurized, is located in the Turbine Building Condenser Pit and its failure would not prevent satisfactory accomplishment of any Criterion 1 functions. The piping/fittings upstream of the Composite Sampler were incorrectly stated as being included in Table 2.3.3-20; they are included in Table 2.3.4-8 with the Turbine Generator and Support System, as depicted by the system boundary breaks shown on LR-39250, location C-2.

Enclosure 4

LRA Section 3.1 Changes for Incore Instrumentation Seal Table Valves

Reviews have determined that the valves on the incore instrumentation seal table are not explicitly addressed in LRA Section 3.1. For completeness, the following changes are made to incorporate seal table valve information in the LRA.

In LRA Table 2.3.1-4, Reactor Vessel System, on Page 2.3-17, a new line item is added to read as follows:

Components	Intended Function
INCORE INSTRUMENTATION SEAL TABLE VALVES	PRESSURE BOUNDARY

In LRA Section 3.1.2.1.4, Reactor Vessel System, on Page 3.1-6 under Environment, a new bullet is added to read as follows:

- Primary Containment Air (Internal)

In LRA Table 3.1.2-4, Reactor Vessel, Internals, and Reactor Coolant System - Reactor Vessel System - Summary of Aging Management Evaluation, on Page 3.1-100, a new line item is added to appear as follows:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1	Notes
Incore Instr Seal Table Valves	Pressure Boundary	Stainless Steel	Primary Containment Air (Ext)	None	None	IV.E-3	3.1.1.86	A
			Primary Containment Air (Int)	None	None	IV.E-3	3.1.1.86	A

Enclosure 5
LRA Section 3.4 Changes for Restricting Orifices in the
Turbine Generator and Support System

Reviews have determined that restricting orifices in the Turbine Generator and Support System electro hydraulic controls have been added with orifices of a different material which is not explicitly addressed in LRA Section 3.4. For completeness, the following changes are made to incorporate updated restricting orifice information into the LRA.

In LRA Table 3.4.2-8, Steam and Power Conversion System - Turbine Generator and Support System - Summary of Aging Management Evaluation, on Page 3.4-145, a new line item is added to appear as follows:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Volume 2 Line Item	Table 1	Notes
Restricting Orifices	Pressure Boundary	Stainless Steel	Hydraulic Oil (Int)	Loss of Material - Crevice corrosion	Lubricating Oil Analysis Program	VIII.A-9	3.4.1-19	A
					One-Time Inspection Program	VIII.A-9	3.4.1-19	A
				Loss of Material - Pitting Corrosion	Lubricating Oil Analysis Program	VIII.A-9	3.4.1-19	A
					One-Time Inspection Program	VIII.A-9	3.4.1-19	A

Enclosure 6
LRA Appendix B Changes to Aging Management Program Descriptions

ASME Section XI, Subsection IWE Program

Since submittal of the LRA, the ASME Section XI, Subsection IWE Program has been updated in accordance with 10 CFR 50.55a for entry into the second inspection interval. To reflect this program update, the following change is made to the LRA.

In LRA Section B2.1.4, ASME Section XI, Subsection IWE Program, Program Description on Page B-18, the following sentence is added to the end of the first paragraph:

Repair and replacement requirements associated with this program are in accordance with ASME Section XI, 2001 Edition through the 2003 Addenda.

Electrical Programs Referencing IEEE Preliminary Standard P1205

IEEE Standard 1205-2000, "IEEE Guide for Assessing, Monitoring and Mitigating Aging Effects on Class 1E Equipment Used in Nuclear Power Generating Stations," March 2000, is the approved version of draft standard IEEE Std. P1205-2000, "IEEE Guide for Assessing, Monitoring and Mitigating Aging Effects on Class 1E Equipment Used in Nuclear Power Generating Stations." Although NUREG-1801 Programs XI.E1, XI.E2 and XI.E3 cite the draft version of this standard (i.e., P1205), the new PINGP programs will consider the technical guidance provided in the approved version, IEEE Standard 1205-2000. Use of the approved version of the standard satisfies the intent of NUREG-1801, and therefore is not considered an exception. To reflect the use of IEEE 1205-2000, the following changes are made to the LRA.

In LRA Section B2.1.12, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program, in the last sentence of the Program Description on Page B-33, IEEE Std. P1205 is changed to IEEE Std. 1205.

In LRA Section B2.1.13, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits Program, in the first paragraph of the Program Description on Page B-35, IEEE Std. P1205 is changed to IEEE Std. 1205.

In LRA Section B2.1.21, Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program, in the last sentence of the Program Description on Page B-50, IEEE Std. P1205 is changed to IEEE Std. 1205.

Enclosure 7
Corrections to Previous NSPM Response to RAI 3.5.2.2-2

In a letter (L-PI-09-006) dated January 20, 2009, NSPM responded to NRC RAI 3.5.2.2-2. A subsequent review has identified the need to make an identical wording change in another location in the LRA to provide consistency with the initial response. The corresponding change is as follows:

On LRA Page 3.5-193 in the Notes for Tables 3.5.2-1 through 3.5.2-11, the fifth sentence for Plant-Specific Note Number 25 is hereby revised to read as follows:

“Additionally, welds are located in an air indoor environment.”

Enclosure 8
LRA Section 3.3 Changes for Valves and Piping in the
Fire Protection System

Reviews have determined that stainless steel valves and piping have been added in the Fire Protection System carbon dioxide sub-system which are not explicitly addressed in LRA Section 3.3. For completeness, the following changes are made to incorporate the added components into the LRA.

In LRA Table 3.3.2-9, Auxiliary Systems - Fire Protection - Summary of Aging Management Evaluation, on Page 3.3-193, new line items are added to appear as follows:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG - 1801 Volume 2 Line Item	Table 1 Item	Notes
Piping / Fittings	Pressure Boundary	Stainless Steel	Carbon Dioxide (Int)	None	None	VII.J-19	3.3.1-97	A
Valve Bodies	Pressure Boundary	Stainless Steel	Carbon Dioxide (Int)	None	None	VII.J-19	3.3.1-97	A

Enclosure 9
LRA Changes to Account for Modifications to the Heating System

Reviews have determined that the filters in the Heating System have been removed and new pumps of a different material have been added which are not explicitly addressed in LRA Table 3.3.2-11, Auxiliary Systems – Heating System – Summary of Aging Management Evaluation. For completeness, the following changes are made to incorporate removal of the filters and addition of the stainless steel pumps in the LRA.

In LRA Table 2.3.3-11, Heating System, on Page 2.3-80, delete the line item for Filer/Strainer Housings.

In LRA Table 3.3.2-11, Auxiliary Systems – Heating System – Summary of Aging Management Evaluation, on Page 3.3-233 and 234, delete all entries for Filter / Strainer Housings. On page 3.3-243, a new line item is added to appear as follows:

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG - 1801 Volume 2 Line Item	Table 1 Item	Notes
Pump Casings	Pressure Boundary	Stainless Steel	Treated Water (Int)	Loss of Material – Crevice Corrosion	Closed-Cycle Cooling Water System Program	VII.C2-10	3.3.1.50	B
				Loss of Material – Pitting Corrosion	Closed-Cycle Cooling Water System Program	VII.C2-10	3.3.1.50	B