DUKE POWER COMPANY
PCP REVISION APPROVAL

Revised PCP Section:

Corporate PCP, Rev _____
ONS PCP, Rev _____
MNS PCP, Rev 8
CNS PCP, Rev _____

This revision has been reviewed against Technical Specifications and applicable NRC guidance documents and found to be acceptable.

PREPARED BY: O. E. Ekechukwu
TITLE: Nuclear Production Engineer
DATE: 12/4/89

General Office Review

BY: Mary B. Patrick
TITLE: Nuclear Production Engineer
DATE: 12/4/89

Station Review

BY: Chris R Carpenter
TITLE: Chemistry Supervisor
DATE: 12/5/89

This revision is approved for use at McGuire Nuclear Station.

R W Eaker
Technical System Manager
DATE: 12/5/89

[signature]
McGuire Technical Services Superintendent
DATE: 12-5-89

Tony L. McConnell/gs
Station Manager
DATE: 12/5/89

DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

PROCESS CONTROL PROGRAM

1.0 PURPOSE

The purpose of the McGuire Nuclear Station Process Control Program is to insure all requirements of the DPC Corporate Process Control Program have been met for each container of solidified or dewatered radioactive waste shipped for burial at a licensed burial facility. The PCP is applicable only to the solification or dewatering of liquid or wet solid radioactive waste.

2.0 COMPOSITION

2.1 The McGuire Nuclear Station PROCESS CONTROL PROGRAM shall consist of:

2.1.1 The Duke Power Company Process Control Manual Introduction (Section 1).

2.1.2 The Duke Power Company Corporate Process Control Program.

2.1.3 A list of all station-specific procedures that implement the requirements of the Corporate Process Control Program.

2.1.4 McGuire Nuclear Station diagrams or drawings or drawing numbers showing all connections between CNS radwaste systems and solidifications and dewatering equipment.

2.1.5 Documentation of NRC approval of the initial McGuire Nuclear Station Process Control Program.

2.1.6 Documentation of Technical System Manager Nuclear Chemistry, MNS Technical Services Superintendent and MNS Station Manager approval of the changes to the Corporate Process Control Program.

2.1.7 Documentation that all changes to the Corporate and/or CNS Process Control Program were sent to the NRC in the Semi-Annual Radioactive Effluent Report.

2.1.8 Relevant sections and subsections of Process Control Program-related definitions transferred from Section 1 of McGuire Nuclear Station Technical Specifications.

2.1.9 Relevant sections and subsections of Process Control Program-related limiting conditions for operation, bases and surveillance requirements transferred from Sections 3/4 of the McGuire Nuclear Station Technical Sepcifications.

3.0 EXCEPTIONS

3.1 The McGuire Nuclear Station Process Control Program takes the following exceptions with DPC Corporate Process Control Program:

3.1.1 For Corporate PCP Section 2.1.2, station review and station Technical Services Superintendent approval are not required. Corporate review and approval of vendor solidification services are sufficient.

3.1.2 For Corporate PCP Section 3.1.2, station review and station Technical Services Superintendent approval are not required. Corporate review and approval of vendor dewatering services are sufficient.

DUKE POWER COMPANY
PROCESS CONTROL PROGRAM

SECTION 2.1.3

IMPLEMENTING PROCEDURE

CP/O/B/8300/20	"Radwaste Chemistry Procedure for Handling of Laboratory Quantities of Spent Resin"
CP/O/B/8600/11	"Radwaste Chemistry Procedure for Sampling Evaporator Concentrates and Resin (Isolock Sampler)"
HP/O/B/1004/04	"Preparation and Shipment of Mechanical Radwaste Materials"
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HP/O/B/1004/14	"Preparation and Shipment of Dewatered Resins"
OP/O/B/6200/32	"Radwaste Procedure for the Nuclear Solid Waste (WS) Disposal System Operation"
OP/O/B/6200/37	"Radwaste Procedure for Contaminated Oil Storage Tank Operation"
OP/O/B/6200/53	"Radwaste Chemistry Procedure for Transfer, Solidification and Preparation for Shipment"
OP/O/B/6200/64	"Radwaste Chemistry Procedure for Transfer, Dewatering and Shipment of Bead Resin"
OP/O/B/6200/65	"Radwaste Chemistry Procedure for Transfer, Dewatering and Shipment of Powdex Resin"
OP/O/B/6200/66	"Radwaste Chemistry Procedure for Dewatering and Shipment of Vendor Demineralizers and Filters"
OP/O/B/6200/67	"Process Control Program for CNSI-Acid Solidification"
OP/O/B/6200/68	"Process Control Program for CNSI Cement Solidification Units"
OP/O/B/6200/69	"Process Control Program for Cement/Oil Solidification"

OP/O/B/6200/70	"Operating Procedure for the CNSI Mobile Solidification Unit for 55-gallon drums (MSU-Drum-C-3)"
OP/O/B/6250/09	"Condensate Polishing Demineralizer Operation"
OP/O/B/6200/77	"Babcock and Wilcox Aquaset/Petroset Solidification Process"

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.4

DRAWING INDEX

Plant Interfaces:

MC-1100-01.02
MC-1423-19.32-02
MC-1566-1.0
MC-1566-1.1
MC-1566-2.0
MC-1566-3.0
MC-1590-1.3
MC-1604-1.1

All portable system interfaces are shown on diagrams in the applicable station procedure.

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.8

DEFINITIONS

1.0 DEFINITIONS

The defined terms of this section appear in capitalized type and are applicable throughout this PROCESS CONTROL PROGRAM.

Note: This section is transferred directly from pre-1989 Technical Specifications per NRC Generic Letter GL 89-01.

OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s), and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support functions(s).

PROCESS CONTROL PROGRAM (PCP)

1.22 The PROCESS CONTROL PROGRAM shall contain the provisions to assure that the SOLIDIFICATION of wet radioactive wastes results in a waste form with properties that meet the requirements of 10 CFR part 61 and of low level radioactive waste disposal sites. The PCP shall identify process parameters influencing SOLIDIFICATION such as pH, oil content, H_2O content, solids content, ratio of solidification agent to waste and/or necessary additivites for each type of anticipated waste, and the acceptable boundary conditions for the process parameters shall be identified for each waste type, based on laboratory scale and full scale testing or experience. The PCP shall also include an identification of conditions that must be satisfied, based on full scale testing, to assure that dewatering of bead resins, powdered resins, and filter sludges will result in volumes of free water, at the time of disposal, within the limits of 10CFR Part 61 and of low level radioactive waste disposal sites.

SOLIDIFICATION

1.32 SOLIDIFICATION shall be the immobolization of wet radioactive wastes such as evaporator bottoms, spent resins, sludges, and reverse osmosis concentrates as a result of a process of thoroughtly mixing the waste type with a SOLIDIFICATION agent(s) to form a free standing monolith with chemical and physical characteristics specified in the PROCESS CONTROL PROGRAM (PCP).

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM
SECTION 2.1.9

LIMITING CONDITIONS FOR OPERATIONS,
BASES AND SURVEILLANCE REQUIREMENTS

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTES

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of the inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Radwaste System as necessary to prevent recurrence.

b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQURIEMENTS

4.11.3 SOLIDIFICATION of at least one representative test specimen from at least every tenth batch of each type of wet radioactive wastes (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions and sodium sulfate solutions) shall be verified in accordance with the PROCESS CONTROL PROGRAM:

a. If any test specimen fails to verify SOLIDIFICATION, the SOLIDIFICATION, of the batch under test shall be suspended until such time as additional test specimens can be obtained, alternative SOLIDIFICATION parameters can be determined in accordance with the PROCESS CONTROL PROGRAM, and a subsequent test verifies SOLIDIFICATION. SOLIDIFICATION of the batch may then be resumed using the alternative

SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM;

b. If the initial test specimen from a batch of waste fails to verify SOLIDIFICATION, the PROCESS CONTROL PROGRAM shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least three consecutive initial test specimens demonstrate SOLIDIFICATION. The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure Solidification of subsequent batches of waste; and

c. With the installed equipment incapable of meeting Specification 3.11.3 or declared inoperable, restore the equipment to OPERABLE status or provide for contract capability to process wastes as necessary to satisfy all applicable transportation and disposal requirements.

BASES

3/4.11.3 SOLID RADIOACTIVE WASTES

This specification implements the requirements of 10 CFR 50.36a and General Design Criterion 60 of Appendix A to 10 CFR Part 50. The process parameters included in establishing the Process Control Program may include, but are not limited to waste type, waste pH, waste/liquid/SOLIDIFICATION agent/catalyst ratios, waste oil content, waste principal chemical constituents, and mixing and curing times.

DUKE POWER COMPANY
PCP REVISION APPROVAL

Revised PCP Section:

Corporate PCP, Rev _____
ONS PCP, Rev _____
MNS PCP, Rev 8
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This revision has been reviewed against Technical Specifications and applicable NRC guidance documents and found to be acceptable.

PREPARED BY: O. E. Ekechukwu
TITLE: Nuclear Production Engineer
DATE: 12/4/89

General Office Review

BY: Mary B. Patrick
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BY: Chris R Carpenter
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This revision is approved for use at McGuire Nuclear Station.

R W Eaker
Technical System Manager
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McGuire Technical Services Superintendent
DATE: 12-5-89

Tony L. McConnell/gb
Station Manager
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DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

PROCESS CONTROL PROGRAM

1.0 PURPOSE

The purpose of the McGuire Nuclear Station Process Control Program is to insure all requirements of the DPC Corporate Process Control Program have been met for each container of solidified or dewatered radioactive waste shipped for burial at a licensed burial facility. The PCP is applicable only to the solification or dewatering of liquid or wet solid radioactive waste.

2.0 COMPOSITION

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2.1.2 The Duke Power Company Corporate Process Control Program.

2.1.3 A list of all station-specific procedures that implement the requirements of the Corporate Process Control Program.

2.1.4 McGuire Nuclear Station diagrams or drawings or drawing numbers showing all connections between MNS radwaste systems and solidifications and dewatering equipment.

2.1.5 Documentation of NRC approval of the initial McGuire Nuclear Station Process Control Program.

2.1.6 Documentation of Technical System Manager Nuclear Chemistry, MNS Technical Services Superintendent and MNS Station Manager approval of the changes to the Corporate Process Control Program.

2.1.7 Documentation that all changes to the Corporate and/or CNS Process Control Program were sent to the NRC in the Semi-Annual Radioactive Effluent Report.

2.1.8 Relevant sections and subsections of Process Control Program-related definitions transferred from Section 1 of McGuire Nuclear Station Technical Specifications.

2.1.9 Relevant sections and subsections of Process Control Program-related limiting conditions for operation, bases and surveillance requirements transferred from Sections 3/4 of the McGuire Nuclear Station Technical Sepcifications.

3.0 EXCEPTIONS

3.1 The McGuire Nuclear Station Process Control Program takes the following exceptions with DPC Corporate Process Control Program:

3.1.1 For Corporate PCP Section 2.1.2, station review and station Technical Services Superintendent approval are not required. Corporate review and approval of vendor solidification services are sufficient.

3.1.2 For Corporate PCP Section 3.1.2, station review and station Technical Services Superintendent approval are not required. Corporate review and approval of vendor dewatering services are sufficient.

DUKE POWER COMPANY
PROCESS CONTROL PROGRAM

SECTION 2.1.3

IMPLEMENTING PROCEDURE

CP/O/B/8300/20	"Radwaste Chemistry Procedure for Handling of Laboratory Quantities of Spent Resin"
CP/O/B/8600/11	"Radwaste Chemistry Procedure for Sampling Evaporator Concentrates and Resin (Isolock Sampler)"
HP/O/B/1004/04	"Preparation and Shipment of Mechanical Radwaste Materials"
HP/O/B/1004/09	"Preparation and Shipment of Processed Radwaste Materials"
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OP/O/B/6200/77	"Babcock and Wilcox Aquaset/Petroset Solidification Process"

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.4

DRAWING INDEX

Plant Interfaces:

MC-1100-01.02
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All portable system interfaces are shown on diagrams in the applicable station procedure.

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.8

DEFINITIONS

1.0 DEFINITIONS

The defined terms of this section appear in capitalized type and are applicable throughout this PROCESS CONTROL PROGRAM.

Note: This section is transferred directly from pre-1989 Technical Specifications per NRC Generic Letter GL 89-01.

OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s), and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support functions(s).

PROCESS CONTROL PROGRAM (PCP)

1.22 The PROCESS CONTROL PROGRAM shall contain the provisions to assure that the SOLIDIFICATION of wet radioactive wastes results in a waste form with properties that meet the requirements of 10 CFR part 61 and of low level radioactive waste disposal sites. The PCP shall identify process parameters influencing SOLIDIFICATION such as pH, oil content, H_2O content, solids content, ratio of solidification agent to waste and/or necessary additivites for each type of anticipated waste, and the acceptable boundary conditions for the process parameters shall be identified for each waste type, based on laboratory scale and full scale testing or experience. The PCP shall also include an identification of conditions that must be satisfied, based on full scale testing, to assure that dewatering of bead resins, powdered resins, and filter sludges will result in volumes of free water, at the time of disposal, within the limits of 10CFR Part 61 and of low level radioactive waste disposal sites.

SOLIDIFICATION

1.32 SOLIDIFICATION shall be the immobolization of wet radioactive wastes such as evaporator bottoms, spent resins, sludges, and reverse osmosis concentrates as a result of a process of thoroughtly mixing the waste type with a SOLIDIFICATION agent(s) to form a free standing monolith with chemical and physical characteristics specified in the PROCESS CONTROL PROGRAM (PCP).

LIMITING CONDITIONS FOR OPERATIONS, BASES AND SURVEILLANCE REQUIREMENTS

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTES

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of the inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Radwaste System as necessary to prevent recurrence.

b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQURIEMENTS

4.11.3 SOLIDIFICATION of at least one representative test specimen from at least every tenth batch of each type of wet radioactive wastes (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions and sodium sulfate solutions) shall be verified in accordance with the PROCESS CONTROL PROGRAM:

a. If any test specimen fails to verify SOLIDIFICATION, the SOLIDIFICATION, of the batch under test shall be suspended until such time as additional test specimens can be obtained, alternative SOLIDIFICATION parameters can be determined in accordance with the PROCESS CONTROL PROGRAM, and a subsequent test verifies SOLIDIFICATION. SOLIDIFICATION of the batch may then be resumed using the alternative

SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM;

b. If the initial test specimen from a batch of waste fails to verify SOLIDIFICATION, the PROCESS CONTROL PROGRAM shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least three consecutive initial test specimens demonstrate SOLIDIFICATION. The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure Solidification of subsequent batches of waste; and

c. With the installed equipment incapable of meeting Specification 3.11.3 or declared inoperable, restore the equipment to OPERABLE status or provide for contract capability to process wastes as necessary to satisfy all applicable transportation and disposal requirements.

BASES

3/4.11.3 SOLID RADIOACTIVE WASTES

This specification implements the requirements of 10 CFR 50.36a and General Design Criterion 60 of Appendix A to 10 CFR Part 50. The process parameters included in establishing the Process Control Program may include, but are not limited to waste type, waste pH, waste/liquid/SOLIDIFICATION agent/catalyst ratios, waste oil content, waste principal chemical constituents, and mixing and curing times.

DUKE POWER COMPANY
PCP REVISION APPROVAL

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PREPARED BY: O. E. Ekechukwu
TITLE: Nuclear Production Engineer
DATE: 12/4/89

General Office Review

BY: Mary B. Fatrick
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DATE: 12/4/89

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BY: Chris R Caywood
TITLE: Chemistry Supervisor
DATE: 12/5/89

This revision is approved for use at McGuire Nuclear Station.

R W Eaker
Technical System Manager
DATE: 12/5/89

Acting for [illegible]
McGuire Technical Services Superintendent
DATE: 12-5-89

Tony L. McConnell/gb
Station Manager
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DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

PROCESS CONTROL PROGRAM

1.0 PURPOSE

The purpose of the McGuire Nuclear Station Process Control Program is to insure all requirements of the DPC Corporate Process Control Program have been met for each container of solidified or dewatered radioactive waste shipped for burial at a licensed burial facility. The PCP is applicable only to the solification or dewatering of liquid or wet solid radioactive waste.

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2.1.6 Documentation of Technical System Manager Nuclear Chemistry, MNS Technical Services Superintendent and MNS Station Manager approval of the changes to the Corporate Process Control Program.

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DUKE POWER COMPANY
PROCESS CONTROL PROGRAM

SECTION 2.1.3

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.4

DRAWING INDEX

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.8

DEFINITIONS

1.0 DEFINITIONS

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OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s), and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support function(s).

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LIMITING CONDITIONS FOR OPERATIONS,
BASES AND SURVEILLANCE REQUIREMENTS

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTES

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of the inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Radwaste System as necessary to prevent recurrence.

b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.

c. The provisions of Specification 3.0.3 are not applicable.

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SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM;

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MNS PCP, Rev 8
CNS PCP, Rev _____

This revision has been reviewed against Technical Specifications and applicable NRC guidance documents and found to be acceptable.

PREPARED BY: O. E. Ekechukwu
TITLE: Nuclear Production Engineer
DATE: 12/4/89

General Office Review

BY: Mary B. Eatrekin
TITLE: Nuclear Production Engineer
DATE: 12/4/89

Station Review

BY: Chris R Carpenter
TITLE: Chemistry Supervisor
DATE: 12/5/89

This revision is approved for use at McGuire Nuclear Station.

R W Eaker
Technical System Manager
DATE: 12/5/89

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McGuire Technical Services Superintendent
DATE: 12-5-89

Tony L McConnell/gs
Station Manager
DATE: 12/5/89

DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

PROCESS CONTROL PROGRAM

1.0 PURPOSE

The purpose of the McGuire Nuclear Station Process Control Program is to insure all requirements of the DPC Corporate Process Control Program have been met for each container of solidified or dewatered radioactive waste shipped for burial at a licensed burial facility. The PCP is applicable only to the solification or dewatering of liquid or wet solid radioactive waste.

2.0 COMPOSITION

2.1 The McGuire Nuclear Station PROCESS CONTROL PROGRAM shall consist of:

2.1.1 The Duke Power Company Process Control Manual Introduction (Section 1).

2.1.2 The Duke Power Company Corporate Process Control Program.

2.1.3 A list of all station-specific procedures that implement the requirements of the Corporate Process Control Program.

2.1.4 McGuire Nuclear Station diagrams or drawings or drawing numbers showing all connections between MNS radwaste systems and solidifications and dewatering equipment.

2.1.5 Documentation of NRC approval of the initial McGuire Nuclear Station Process Control Program.

2.1.6 Documentation of Technical System Manager Nuclear Chemistry, MNS Technical Services Superintendent and MNS Station Manager approval of the changes to the Corporate Process Control Program.

2.1.7 Documentation that all changes to the Corporate and/or CNS Process Control Program were sent to the NRC in the Semi-Annual Radioactive Effluent Report.

2.1.8 Relevant sections and subsections of Process Control Program-related definitions transferred from Section 1 of McGuire Nuclear Station Technical Specifications.

2.1.9 Relevant sections and subsections of Process Control Program-related limiting conditions for operation, bases and surveillance requirements transferred from Sections 3/4 of the McGuire Nuclear Station Technical Sepcifications.

3.0 EXCEPTIONS

3.1 The McGuire Nuclear Station Process Control Program takes the following exceptions with DPC Corporate Process Control Program:

3.1.1 For Corporate PCP Section 2.1.2, station review and station Technical Services Superintendent approval are not required. Corporate review and approval of vendor solidification services are sufficient.

3.1.2 For Corporate PCP Section 3.1.2, station review and station Technical Services Superintendent approval are not required. Corporate review and approval of vendor dewatering services are sufficient.

DUKE POWER COMPANY
PROCESS CONTROL PROGRAM

SECTION 2.1.3

IMPLEMENTING PROCEDURE

CP/O/B/8300/20	"Radwaste Chemistry Procedure for Handling of Laboratory Quantities of Spent Resin"
CP/O/B/8600/11	"Radwaste Chemistry Procedure for Sampling Evaporator Concentrates and Resin (Isolock Sampler)"
HP/O/B/1004/04	"Preparation and Shipment of Mechanical Radwaste Materials"
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HP/O/B/1004/14	"Preparation and Shipment of Dewatered Resins"
OP/O/B/6200/32	"Radwaste Procedure for the Nuclear Solid Waste (WS) Disposal System Operation"
OP/O/B/6200/37	"Radwaste Procedure for Contaminated Oil Storage Tank Operation"
OP/O/B/6200/53	"Radwaste Chemistry Procedure for Transfer, Solidification and Preparation for Shipment"
OP/O/B/6200/64	"Radwaste Chemistry Procedure for Transfer, Dewatering and Shipment of Bead Resin"
OP/O/B/6200/65	"Radwaste Chemistry Procedure for Transfer, Dewatering and Shipment of Powdex Resin"
OP/O/B/6200/66	"Radwaste Chemistry Procedure for Dewatering and Shipment of Vendor Demineralizers and Filters"
OP/O/B/6200/67	"Process Control Program for CNSI-Acid Solidification"
OP/O/B/6200/68	"Process Control Program for CNSI Cement Solidification Units"
OP/O/B/6200/69	"Process Control Program for Cement/Oil Solidification"

OP/O/B/6200/70	"Operating Procedure for the CNSI Mobile Solidification Unit for 55-gallon drums (MSU-Drum-C-3)"
OP/O/B/6250/09	"Condensate Polishing Demineralizer Operation"
OP/O/B/6200/77	"Babcock and Wilcox Aquaset/Petroset Solidification Process"

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.4

DRAWING INDEX

Plant Interfaces:

MC-1100-01.02
MC-1423-19.32-02
MC-1566-1.0
MC-1566-1.1
MC-1566-2.0
MC-1566-3.0
MC-1590-1.3
MC-1604-1.1

All portable system interfaces are shown on diagrams in the applicable station procedure.

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.8

DEFINITIONS

1.0 DEFINITIONS

The defined terms of this section appear in capitalized type and are applicable throughout this PROCESS CONTROL PROGRAM.

Note: This section is transferred directly from pre-1989 Technical Specifications per NRC Generic Letter GL 89-01.

OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s), and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support functions(s).

PROCESS CONTROL PROGRAM (PCP)

1.22 The PROCESS CONTROL PROGRAM shall contain the provisions to assure that the SOLIDIFICATION of wet radioactive wastes results in a waste form with properties that meet the requirements of 10 CFR part 61 and of low level radioactive waste disposal sites. The PCP shall identify process parameters influencing SOLIDIFICATION such as pH, oil content, H_2O content, solids content, ratio of solidification agent to waste and/or necessary additivites for each type of anticipated waste, and the acceptable boundary conditions for the process parameters shall be identified for each waste type, based on laboratory scale and full scale testing or experience. The PCP shall also include an identification of conditions that must be satisfied, based on full scale testing, to assure that dewatering of bead resins, powdered resins, and filter sludges will result in volumes of free water, at the time of disposal, within the limits of 10CFR Part 61 and of low level radioactive waste disposal sites.

SOLIDIFICATION

1.32 SOLIDIFICATION shall be the immobolization of wet radioactive wastes such as evaporator bottoms, spent resins, sludges, and reverse osmosis concentrates as a result of a process of thoroughtly mixing the waste type with a SOLIDIFICATION agent(s) to form a free standing monolith with chemical and physical characteristics specified in the PROCESS CONTROL PROGRAM (PCP).

LIMITING CONDITIONS FOR OPERATIONS,
BASES AND SURVEILLANCE REQUIREMENTS

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTES

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of the inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Radwaste System as necessary to prevent recurrence.

b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQURIEMENTS

4.11.3 SOLIDIFICATION of at least one representative test specimen from at least every tenth batch of each type of wet radioactive wastes (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions and sodium sulfate solutions) shall be verified in accordance with the PROCESS CONTROL PROGRAM:

a. If any test specimen fails to verify SOLIDIFICATION, the SOLIDIFICATION of the batch under test shall be suspended until such time as additional test specimens can be obtained, alternative SOLIDIFICATION parameters can be determined in accordance with the PROCESS CONTROL PROGRAM, and a subsequent test verifies SOLIDIFICATION. SOLIDIFICATION of the batch may then be resumed using the alternative

SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM;

b. If the initial test specimen from a batch of waste fails to verify SOLIDIFICATION, the PROCESS CONTROL PROGRAM shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least three consecutive initial test specimens demonstrate SOLIDIFICATION. The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure Solidification of subsequent batches of waste; and

c. With the installed equipment incapable of meeting Specification 3.11.3 or declared inoperable, restore the equipment to OPERABLE status or provide for contract capability to process wastes as necessary to satisfy all applicable transportation and disposal requirements.

BASES

3/4.11.3 SOLID RADIOACTIVE WASTES

This specification implements the requirements of 10 CFR 50.36a and General Design Criterion 60 of Appendix A to 10 CFR Part 50. The process parameters included in establishing the Process Control Program may include, but are not limited to waste type, waste pH, waste/liquid/SOLIDIFICATION agent/catalyst ratios, waste oil content, waste principal chemical constituents, and mixing and curing times.

DUKE POWER COMPANY
PCP REVISION APPROVAL

Revised PCP Section:

Corporate PCP, Rev ____
ONS PCP, Rev ____
MNS PCP, Rev 8
CNS PCP, Rev ____

This revision has been reviewed against Technical Specifications and applicable NRC guidance documents and found to be acceptable.

PREPARED BY: O. E. Ekechukwu

TITLE: Nuclear Production Engineer

DATE: 12/4/89

General Office Review

BY: Mary B. Eatrekin

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BY: Chris R Carpenter

TITLE: Chemistry supervisor

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This revision is approved for use at McGuire Nuclear Station.

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Technical System Manager

DATE: 12/5/89

D.O. Elliott by J.W. Foster
McGuire Technical Services Superintendent

DATE: 12-5-89

Tony L. McConnell / JF
Station Manager

DATE: 12/5/89

DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

PROCESS CONTROL PROGRAM

1.0 PURPOSE

The purpose of the McGuire Nuclear Station Process Control Program is to insure all requirements of the DPC Corporate Process Control Program have been met for each container of solidified or dewatered radioactive waste shipped for burial at a licensed burial facility. The PCP is applicable only to the solification or dewatering of liquid or wet solid radioactive waste.

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2.1.3 A list of all station-specific procedures that implement the requirements of the Corporate Process Control Program.

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DUKE POWER COMPANY
PROCESS CONTROL PROGRAM

SECTION 2.1.3

IMPLEMENTING PROCEDURE

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.4

DRAWING INDEX

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All portable system interfaces are shown on diagrams in the applicable station procedure.

MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.8

DEFINITIONS

1.0 DEFINITIONS

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Note: This section is transferred directly from pre-1989 Technical Specifications per NRC Generic Letter GL 89-01.

OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s), and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support functions(s).

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM
SECTION 2.1.9

LIMITING CONDITIONS FOR OPERATIONS,
BASES AND SURVEILLANCE REQUIREMENTS

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTES

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of the inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Radwaste System as necessary to prevent recurrence.

b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQURIEMENTS

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DUKE POWER COMPANY
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DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

PROCESS CONTROL PROGRAM

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DUKE POWER COMPANY
PROCESS CONTROL PROGRAM

SECTION 2.1.3

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.4

DRAWING INDEX

Plant Interfaces:

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM

SECTION 2.1.8

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MCGUIRE NUCLEAR STATION
PROCESS CONTROL PROGRAM
SECTION 2.1.9

LIMITING CONDITIONS FOR OPERATIONS,
BASES AND SURVEILLANCE REQUIREMENTS

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTES

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of the inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Radwaste System as necessary to prevent recurrence.

b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.

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