

October 6, 1999

Mr. M. Wadley
President, Nuclear Generation
Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

SUBJECT: NRC INSPECTION REPORT 50-282/99012(DRS); 50-306/99012(DRS)

Dear Mr. Wadley:

On September 17, 1999, the NRC completed the baseline problem identification and resolution inspection of your Prairie Island Nuclear Generating Plant, Units 1 and 2. The results of this inspection were discussed on September 17, 1999, with Mr. J. P. Sorensen and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to identification and resolution of problems and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observation of activities, and interviews with personnel. Specifically, this inspection focused on the adequacy and implementation of the Prairie Island corrective action program.

The corrective action program at Prairie Island was well implemented and effective. No risk significant problems or performance issues were identified during the inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules and Practices," a copy of this letter, the enclosure, and the response (if provided) will be placed in the NRC Public Document Room.

We will gladly discuss any questions you have concerning the inspection.

Sincerely,

Original /s/ John M. Jacobson

John M. Jacobson, Chief
Mechanical Engineering Branch
Division of Reactor Safety

Docket Nos. 50-282; 50-306
License Nos. DPR-42; DPR-60

Enclosure: Inspection Report 50-282/99012(DRS);
50-306/99012(DRS)

See Attached Distribution

M. Wadley

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cc w/encl: Site General Manager, Prairie Island
Plant Manager, Prairie Island
S. Minn, Commissioner, Minnesota
Department of Public Service
State Liaison Officer, State of Wisconsin
Tribal Council, Prairie Island Dakota Community

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-282; 50-306
License Nos: DPR-42; DPR-60

Report No: 50-282/99012(DRS); 50-306/99012(DRS)

Licensee: Northern States Power Company

Facility: Prairie Island Nuclear Generating Station
Units 1 and 2

Location 1717 Wakonade Drive East
Welch, MN 55089

Dates: August 23 through September 17, 1999

Inspectors: H. A. Walker, Lead Inspector
G. F. O'Dwyer, Reactor Engineer
C. S. Thomas, Resident Inspector

Approved by: J. M. Jacobson, Chief,
Mechanical Engineering Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

Prairie Island Nuclear Power Station, Units 1 & 2
NRC Inspection Report 50-282/99012(DRS); 50-306/99012(DRS)

This report covers the pilot baseline inspection for the annual review of problem identification and resolution. This was an announced two week on-site inspection by two Region based inspectors and one resident inspector. The inspection covered the corrective action process and included the methods used for identification, cause investigation, and correction of quality related problems. To conduct the inspection, the inspectors used inspection procedure IP 71152, "Identification and Resolution of Problems."

The inspection covered an inspectable area for the seven cornerstones for which there are no performance indicators. Adequate or superior performance is not reported. Findings are assessed according to their potential risk significance and are categorized within color coded bands based on this assessment. The green band indicates those issues of low risk significance which can be turned over to the licensee for corrective action. The white band indicates issues with some increased risk to safety which would require additional regulatory and licensee concern. The yellow band is indicative of more serious issues with higher potential risk to safety. No individual finding is indicative of either acceptable or unacceptable performance.

Corrective Action Program Effectiveness

The existing methods of identifying and resolving problems at Prairie Island were complicated with a number of different documents used to identify and track different types of problems. Licensee personnel implemented the program well and the program was effective. No risk significant problems or performance issues were identified during the inspection. The inspectors verified that licensee personnel were cognizant of and understood the existing corrective action process and that adequate communications existed in the prompt identification, cause determination, and resolution of problems.

Report Details

Summary of Plant Status

Prairie Island Units 1 and 2 operated at power for the entire inspection period.

4. OTHER ACTIVITIES (OA)

4OA1 Identification and Resolution of Problems

.1 Corrective Action Program Review

a. Inspection Scope

The inspectors reviewed the methods used at Prairie Island for problem identification, cause determination, and corrective actions. The corrective action program (CAP) and its effectiveness was evaluated by reviewing selected documents and records and discussing the program with selected licensee personnel, which included management and supervision as well as engineers and craftsmen. The inspection also included a review of applicable procedures and records for adequate documentation, appropriate reviews, and corrective actions.

b. Observations and Findings

The existing methods of identifying and resolving problems at Prairie Island were fragmented and complicated with a number of different documents used to identify and track different types of problems. In many cases, the same problem was documented and tracked using several different documents. Licensee personnel were aware of this issue and were developing a new CAP to simplify and improve the problem identification and resolution process. Licensee personnel stated that implementation of the new program was to be completed by October 15, 1999, and that an internal assessment to measure program effectiveness was scheduled to be conducted after the implementation was completed.

The existing CAP, although complicated, was properly documented, well implemented and effective. The inspectors verified that licensee personnel were cognizant of and understood the existing corrective action process and that adequate communications existed in the prompt identification, cause determination, and resolution of problems.

There were no risk significant problems or performance issues identified during the inspection.

.2 Problem Identification and Documentation

a. Inspection Scope

The inspectors selected and reviewed condition reports (CRs), which were used at Prairie Island to identify, document, and track problems. The documents were selected for review from each of the seven cornerstone areas using risk-significance and performance issues as a guide for selection. The CRs were reviewed for adequacy of identification, documentation, classification, and follow-up. The inspectors reviewed the methods used to identify repetitive problems and adverse trends, and also reviewed a

recent internal assessment of the trend program. Plant personnel of various disciplines were interviewed to determine their willingness to document problems and to determine if reluctance to identify and document problems existed.

b. Observations and Findings

Based on the interviews, the inspectors noted that most workers were not hesitant to write CRs to document and report problems. Many CRs were written by system engineers who were involved with the operation and maintenance of their assigned systems. Additionally, in many cases, issues were brought to the attention of a supervisor, who in turn prepared the appropriate CRs. The inspectors verified that licensee personnel were cognizant of and understood the corrective action process and that adequate communications existed for the prompt identification and resolution of problems. In the review of records, the inspectors determined that appropriate corrective actions had been completed or initiated with reasonable schedules for completion.

There were no risk significant problems identified in this area.

.3 Problem Resolution and Correction

a. Inspection Scope

The inspectors selected and reviewed a number of corrective action reports (CARs) to verify that adequate corrective actions had been developed that addressed the causes of identified issues and that appropriate priorities were assigned. Cause determination, detailed cause analyses and actions to prevent recurrence were reviewed as appropriate. Detailed cause analyses, associated with level one CRs as well as some special detailed cause analyses requested by management, were reviewed. Proper status and tracking of actions were included in the reviews. The selection of records for review was based on risk significant problems or problems important to safety. Problem records were selected and reviewed in the seven cornerstones and corrective action effectiveness was evaluated when possible.

b. Observations and Findings

The threshold for cause investigation and corrective actions appeared to be low. Cause investigation and corrective actions to prevent recurrence were required for level one CRs only. Level one CRs were defined as problems which had the most significant possible consequences. Problem resolutions were effective and the detailed cause analyses reviewed were appropriately investigated and were acceptable.

There were no risk significant problems identified in this area.

.4 Safety Review Committees

1. Inspection Scope

The inspectors reviewed the methods used by the four separate and independent review committees at Prairie Island to verify adequacy, control, and compliance with regulatory requirements. These committees were the Causal Work Review Team, the Self Assessment and Improvement Team, the Operations Committee, and the Corrective Action Review Board. The review included the controlling procedures, selected records

of activities, and attendance at selected group meetings. In addition, the functions, activities, and findings of the four groups were discussed with cognizant licensee personnel, including selected committee members. The inspectors also reviewed meeting minutes and selected attachments for the three most recent Safety Audit Committee meetings. Meetings, attended by the inspectors, included the Causal Work Review Team, the Self Assessment and Improvement Team, the Operations Committee, and the Corrective Action Review Board.

2. Observations and Findings

Reviews and assessments completed by the independent review committees were good and actions and recommendations were appropriate. No items were noted where the committee reviews or actions were considered inadequate.

There were no risk significant problems identified in this area.

.5 Operating Experience Assessment (OEA) Program

a. Inspection Scope

The inspectors reviewed the methods used to control and evaluate offsite operating experience, industry information and problem notifications such as Generic Letters, Information Notices, vendor information letters, etc. The review verified that licensee personnel received and evaluated the outside problem related information and that corrective actions were taken when appropriate. The review included the controlling procedure and selected records of operating experience assessments. The acceptability and completion or scheduling of recommended actions was also verified. The inspectors also reviewed Generation Quality Services (GQS) audit report number AG 1998-E-3 of the OEA program issued November 2, 1998.

b. Observations and Findings

The methods used for assessing outside operating experience appeared to be adequate and were functioning properly. Audit AG 1998-E-3 of the OEA program was thorough and acceptable. The inspectors noted that the licensee's monthly External OEA Status Report indicated that, as of the end of July 1999, 106 of the 210 open recommended actions were overdue. In addition to the lack of timeliness on recommended actions, there were a number of the scheduled operating experience assessments for plant impact, which were past due. The inspectors did not identify problems associated with the lack of timeliness of any items.

There were no risk significant problems identified in this area.

.6 Audits and Assessments

1. Inspection Scope

The inspectors performed an evaluation of the licensee's audit and assessment program by reviewing selected records of audits and assessments completed within the last two years. The audits were performed quarterly by GQS in the four former SALP areas; operations, plant support, maintenance, and engineering. The inspectors selected and reviewed ten of these audit reports. In addition, the inspectors verified that the corrective action program was being audited and was included as an integral part of the licensee's audit program.

2. Observations and findings

There were no risk significant problems identified in this area.

.7 Review of Non-Cited Violations

1. Inspection Scope

The inspectors evaluated licensee's actions on non-cited violations (NCVs). A list of the NCVs issued during the past two years was reviewed and seven were selected for further review. Records of the selected NCVs were reviewed to verify that adequate actions, including cause investigations and actions to prevent recurrence, if appropriate, were completed or had been scheduled.

b. Observations and Findings

There were no risk significant problems identified in this area.

40A5 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. P. Sorensen, and other members of licensee management in an exit meeting on September 17, 1999. The inspectors noted that no documents provided during the inspection were identified as proprietary. Licensee personnel acknowledged the information presented and agreed that no proprietary information was provided to the inspectors.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Amundson, General Superintendent Engineering
T. Breeze, Superintendent Nuclear Engineering
G. Eckholt, Licensing Project Manager
J. Goldsmith, General Superintendent Design Engineering
J. Hill, Quality Manager
M. Klee, Corrective Action Process Manager
D. Schulke, Plant Manager
J. Sorensen, Site General Manager
B. Stephens, Maintenance Rule Coordinator

NRC

S. Ray, Senior Resident Inspector
S. Reynolds, Deputy Director, Division of Reactor Safety

INSPECTION PROCEDURES USED

IP 71152: Identification and Resolution of Problems

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection, including documents prepared by others for the licensee. Inclusion of a document on this list does not imply that NRC inspectors reviewed the entire documents, but, rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. In addition, inclusion of a document on this list does not imply NRC acceptance of the document, unless specifically stated in the body of the inspection report.

Procedures

5AWI 1.5.0 -- Procedure Control, Revision 6
5AWI 1.7.2 -- Management Action Tracking System, Revision 1
5AWI 1.10.0 -- Corrective Action Process, Revision 2
5AWI 1.10.1 -- Condition Reporting Process, Revision 0
5AWI 3.2.0 -- Work Control, Revision 4
5AWI 3.3.0 -- Operations Committee, Revision 7
5AWI 3.7.0 -- Operating Experience Assessment, Revision 3
5AWI 3.15.2 -- Employee Observation Reporting, Revision 8
5AWI 3.17.0 -- Site Trending, Revision 1
5AWI 3.17.1 -- Root Cause Evaluation and Corrective Action Guidance, Revision 2
5AWI 6.1.0 -- Design Change General, Revision 3
5AWI 8.4.0 -- Nonconformances, Revision 7
5AWI 14.5.0 -- Site Inspection Program, Revision 4
SAP 2.6 -- Security Related Nonconformance Procedure, Revision 0
SP 2100, 21 -- Motor Driven AFW Pump Monthly Test, Revision 54
SP 1101, 12 -- Motor-Driven AFW Pump Once Every Refueling Shutdown Flow Test, Revision 33
SP 1100, 12 -- Motor Driven AFW Pump Monthly Test, Revision 57
LGP 7.1 -- Safety Audit Committee Procedure, Operation of the Committee," Revision 12
LGP 7.3 -- Safety Audit Committee Procedure, Review Program, Revision 5

Condition Reports

In the corrective action program, Prairie Island used several different types of condition reports to document different type problems or actions. Condition reports of several specified types were reviewed and are listed below.

Corrective Action Reports (CAR)

CAR 19950916 -- Implement 5 recommendations of CR 19870431 masonry walls
CAR 19951112 -- Revise Calculation ENG-ME-046 to reflect effect of VOTES testing directional hysteresis error
CAR 19951113 -- Revise H5 to include discussion of VOTES testing directional hysteresis error
CAR 19981126 -- AWI clarified to state that corrective actions cannot be closed unless the action is completed
CAR 19981262 -- Investigate cause for cool down of RCS following reactor trip.
CAR 19981699 -- Replaced the positioner pilots for CC HX CLG WRT OUTLET CV's
CAR 19982095 -- Unit 2 surveillance procedures SP 2101 and 2103 were quarantined
CAR 19982096 -- Develop a method to quarantine procedures
CAR 19982097-- Training for entering clear data into CHAMPS system

- CAR 19982098 -- Improve flow element orifice installation instructions
- CAR 19982099 -- Orifice installation added to continuing training and RTC lesson plans
- CAR 19982100 -- Added orifice orientation to Special Considerations Checklist of 5AWI 3.2.2, Work Package Preparation and Review
- CAR 19982101-- Installed tags on AF orifices indicating orifice orientation.
- CAR 19982102 -- No further tagging was needed. Training and AWI change was sufficient
- CAR 19982104 -- Implemented change to 5AWI 1.5.2 and PINGP 436 to use priority codes on procedure changes
- CAR 19982105 -- Corrected erroneous dates in NCR 19980935.
- CAR 19982106 -- 5000 series MSIP written to improve installation instructions for square and beveled edge orifices
- CAR 19983092 -- Phonographic finishes machined on 21 and 22 HL/CL primary manway gasket surfaces
- CAR 19983093 -- Manway and insert gasket seating surfaces machined to 125-250 AARH finish
- CAR 19983094 -- Packaged gaskets in plastic bags with desiccant and note to evaluate color prior to issuing item
- CAR 19983095 -- Updated SG Tech manual with Westinghouse letter and machining results
- CAR 19983096 -- Westinghouse evaluated that 2 inch deep gouge in 11 SG cold leg primary manway is acceptable
- CAR 19983097 -- 11 SG cold leg primary manway bolt hole surface determined to be in same condition as November 1998
- CAR 19983098 -- Determined that old 11 SG cold leg manway cover could be remachined and reused
- CAR 19983099 -- MSIP written for inspection and machining of Flexatallc gasket surfaces
- CAR 19983100 -- Unit 2 SG primary manway bolt holes were repaired using inserts
- CAR 19983101 -- Westinghouse evaluated SG primary manway bolt holes as satisfactory for continued use with studs installed in manway covers
- CAR 19983102 -- Old 11 SG cold leg primary manway gaskets was not reused and storage of remaining gaskets was improved.
- CAR 19983103 -- Phonographic finish installed on 12 SG hot leg and cold leg primary manways
- CAR 19983466 -- WO 9812907 initiated to install spare RCP motor at next refueling outage
- CAR 19983472 -- Install appropriate method to prevent line over-pressurization (Unit 1)

Employee Observation Reports

- EOR 19972521-- Safety Injection pump test recorded maximum stroke time.
- EOR 19972543 -- Impellers wear out, 21 pump running slower than 22.

Error Reduction Task Force Reports

- ERT 19980935 -- Reporting of incorrect information to the NRC & improper installation of the AF Flow Element Orifices.
- ERT 19983080 -- ERTF 98-12, Personnel receive unplanned exposure during U-1 containment at power entry.
- ERT 19983081-- ERTF 98-13, Atomizing steam back-flowed into the station air system.
- ERT 19983583 -- Wrong Breaker Racked Out and Wrong Fuse Pulled for WO 9812067

ERT 19991437 -- ERTF 99-09, Near-miss safety event during inspection of bus 122.
ERT 19983583 -- "Wrong Breaker Racked Out and Wrong Fuse Pulled for WO
9812067.

Error Reduction Actions

ERA 19990245 -- Complete Repair of Gauge S2003 Per WO 9812082
ERA 19990246 -- Install a check valve in the atomizing air supply
ERA 19990247 -- Determine and address other permanent or temporary connections to
the station air system.
ERA 19990249 -- Evaluate the steam drum pressure for switching atomizing modes.
ERA 19990251-- Recommend changing the label and "CHAMPS" equipment module
description for gauge S2003.
ERA 19990253 -- Evaluate an additional plant audible alarm
ERA 19990512 -- New dosimeters with vibrating alarms are being evaluated
ERA 19990513 -- Consider using WRM-91 remote monitoring dosimetry system when
work is conducted in high dose rate areas.
ERA 19990515 -- Consider removing the locking into the vaults from the steam
generator ladder platform.
ERA 19990516 -- The ladder lock should be moved to prevent entry to the vault or
ladder platform.
ERA 19990517 -- High noise levels in containment make it difficult for an RPS to control
work in this area.
ERA 19990518 -- Investigate vault mounted camera system that allows inspection from
low dose areas.
ERA 19990519 -- The dose rates on the ladder platform should be added to routine
containment survey files.
ERA 19990520 -- Develop a procedure to collect data from past experience for finding
leaks in containment.
ERA 19991137 -- Use this procedure to reinforce self checking (STAR) with QVIV and
operations personnel.
ERA 19991142 -- Reevaluate the change to the requirements in 5AWI 3.10.1 for
performing the IV of breakers.
ERA 19991143 -- Improve fuse labeling.

Nonconformance Reports

NCR 19971538 -- Microbiological growth in jacket cooling of 22 DDCLP.
NCR 19981154 -- Plant Emergency Communication Outside Design Basis as Described
in USAR
NCR 19980111 -- SE dampers for train B of control room vent excessive
NCR 19980172 -- Inadvertent loss of substation breaker 1H3 and associated feeder to
SE.
NCR 19980173 -- Pressurizer safety valves 2-RV-8010B & N57872-00-002 Work
performed by Crosby Valve P.O. # PL3324CQ & CGE-P1-0132 R O.
NCR 19980303 -- Satisfaction of WSI QC hold points are unclear. (See CAR
19980316)
NCR 19980327 -- Under WO 9800077, a new 70A HFB Breaker was installed in breaker
112G-12 breaker was tagged, (Additional Testing Required).
NCR 19980388 -- Rosemount 3051 XMTR failed unexpectedly after 6 months of operation
due to small hole in diaphragm.

- NCR 19980535 -- 122 control room vent outside air supply damper controls (limit switch and solenoids) are located in Harsh environment.
- NCR 19981707 -- RCP breaker Q-list information appears to be in error.
- NCR 19981718 -- Excessive nuisance alarms on perimeter alarm system due to environmental conditions.
- NCR 19980891 -- 22 AFWP declared inoperable due to surveillance results that would not have met operability limits.
- NCR 19981257 -- Rx Cooldown Following Trip. Determine Source of Cooldown and Determine if Abnormal
- NCR 19981686 -- CV-31381 Slow stroke time during SP 1155 (WO 9805379) requires 96 hr evaluation, 7/28/98.
- NCR 19981718 -- Excessive Nuisance Alarms on Perimeter Alarm System Due to Environmental Conditions”
- NCR 19981865 -- Improper acceptance criteria used in SP 1155 base low/hi times for CV-31381 were incorrect.
- NCR 19982772 -- Unit 1 rod G-3 drop caused Reactor trip and bad cable was suspected.
- NCR 19982820 -- RCS leakage from 11 SG Cold Leg Primary Manway Cover.
- NCR 19983104 -- Single failure of BLAST level channel while channel in test may cause premature actuation of RWST to SI ISOL valves.
- NCR 19983261 -- RCP motor rotor 10-yr inspection findings and concerns.
- NCR 19983270 -- SG Primary Manway bolts do not have Charpy Impact Test Results.
- NCR 19983279 -- SG Primary Manway Bolt Hole Gaging Data Requires Resolution by Westinghouse.
- NCR 19983428 -- The SI Test Line Could Be Overpressurized During Large Break LOCA
- NCR 19990913 -- CV-31929 post LOCA hydrogen vent control valve failed to open during the performance of SP 1252.
- NCR 19991044 -- Pipe hanger support 1-BSH-29 has small bend in main support rod.
- NCR 19991282 -- Incorrect grade of material identified and used for RV seismic plates. Incorrect material provided versus purchase order.
- NCR 19991369 -- Evaluate if it is possible to pressure lock the “inside” sump B MV’s following injection phase of design accident.
- NCR 19991430 --Near-miss safety event during inspection of bus 122.
- NCR 19991513 -- Penetration H6 on Unit 1 RV Head as-welded centerline dimensions are not in agreement on 2 of 3 recorded.
- NCR 19991548 -- RYND01-SP 1300 (2300) Neutron Flux monitor source range functional test.
- NCR 19991629 -- MV-22271 and 32273 limit switches found with white/melamine rotors and finger bases.
- NCR 19991638 -- Loop A main steam non-return check valve damaged threads on rock shaft bearing flange stud holes.
- NCR 19991651 -- Snubber PI-271 exhibited a failure to stroke fully during as found drag testing following removal from SIRH-23B.
- NCR 19992054 -- Spring Pack Bearing Stems Found With Cracks; All found on Limitorque Actuator Size SMB/SB-3 During Rebuilds
- NCR 19992211 -- CV-31998 [11 TD AFW Pump Steam Supply Control Valve] Stuck in it’s Seat After Being Rebuilt per 9903951

Operating Experience Assessments (OEA)

OEA 19870431-- IN 87-67, Safety Related Masonry Walls

OEA 19950868 -- Liberty Letter 951204, MOV stem hysteresis in VOTES testing
OEA 19970787 -- IN 97-10, Containment Liner Plate Corrosion
OEA 19970802 -- IN 97-15, Reporting of LOCA analysis errors
OEA 19970819 -- IN 97-22, Failure of Welded Frames during Northridge Earthquake
OEA 19970849 -- IN 97-28, Elimination of Response Time Testing from FSAR
OEA 19981432 -- IN 98-22, Deficiencies Discovered During NRC Design Inspections
OEA 19991847 -- IN 99-14, Reactor Draindown Events

Assessment and Audits

The following Generation Quality Services audits were reviewed:

AG 1998-E-3, AG 1998-E-4, AG 1998-M-4, AG 1998-O-4, AG 1998-S-1, AG 1998-S-3,
AG 1999-E-2, AG 1999-M-2, AG 1999-O-2, and AG 1999-S-2.

Miscellaneous Documents

External Operating Experience Assessment Status As of July 31, 1999; 8/2/99
External Operating Experience Assessment Status As of August 31, 1999; 9/1/99
Internal Operating Experience Assessment, Reporting incorrect information to the NRC
and improper installation of the AF flow element orifices, 9/1/98
Second Quarter 1999 SAIT Report, 7/30/99
Safety Audit Committee meeting minute and attachments from meetings 102, 103, and
104.

LIST OF ACRONYMS USED

CAR	Corrective Action Report
CARB	Corrective Action Review Board
COM	Commitment
CR	Condition Report
DRS	Division of Reactor Safety
EOR	Employee Observation Report
ERA	Error Reduction Action
ERT	Error Reduction Task Force Report
ERTF	Error Reduction Task Force
GQS	Generation Quality Services
LER	Licensee Event Report
MOV	Motor Operated Valves
NCR	Non-conformance Report
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
NSP	Northern States Power
OEA	Operating Experience Assessment
SALP	Systematic Assessment of Licensee Performance