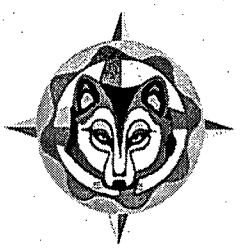
MSFIS Configuration Management Plan, Rev. 0

MAIN STEAM & FEEDWATER ISOLATION SYSTEM (MSFIS) CONTROLS REPLACEMENT



MSFIS CONFIGURATION MANAGEMENT PLAN

SEPTEMBER 16TH, 2006

REVISION 0

PROJECT MANAGER - GREGG CLARKSON

MANAGEMENT SPONSOR - PATRICK GUEVEL

EXECUTIVE SPONSOR - TERRY GARRETT

Wolf Creek Nuclear Operating Corporation

PO Box 411

1550 Oxen Lane, NE

Burlington, KS 66839

Table of Content

1 Introduction

1.1 Executive Summary

The purpose of the Main Steam and Feedwater Isolation System (MSFIS) Controls Replacement Project is to replace the existing Consolidated Controls MSFIS controls system with an Advanced Logic System (ALS). The replacement installation is schedule for Refuel 16, spring 2008. The MSFIS Controls Replacement Project is one aspect of an overall project to replace the existing Main Steam Isolation Valve (MSIV) bodies and actuators as well as the Main Feedwater Isolation Valve (MFIV) bodies and actuators. The existing MSFIS controls system does not support the operation of the replacement MSIV and MFIV actuators. A modified or replacement controls system is required to operate the new valve actuators. In addition to the lack of capability, the existing MSFIS controls system is based on obsolete technology and that has become less reliable as the system ages. A recent plant trip (August 2003) was due to a failed circuit card in the existing MSFIS control system. Several single point failures exist in the existing MSFIS Controls system.

1.2 Project Description

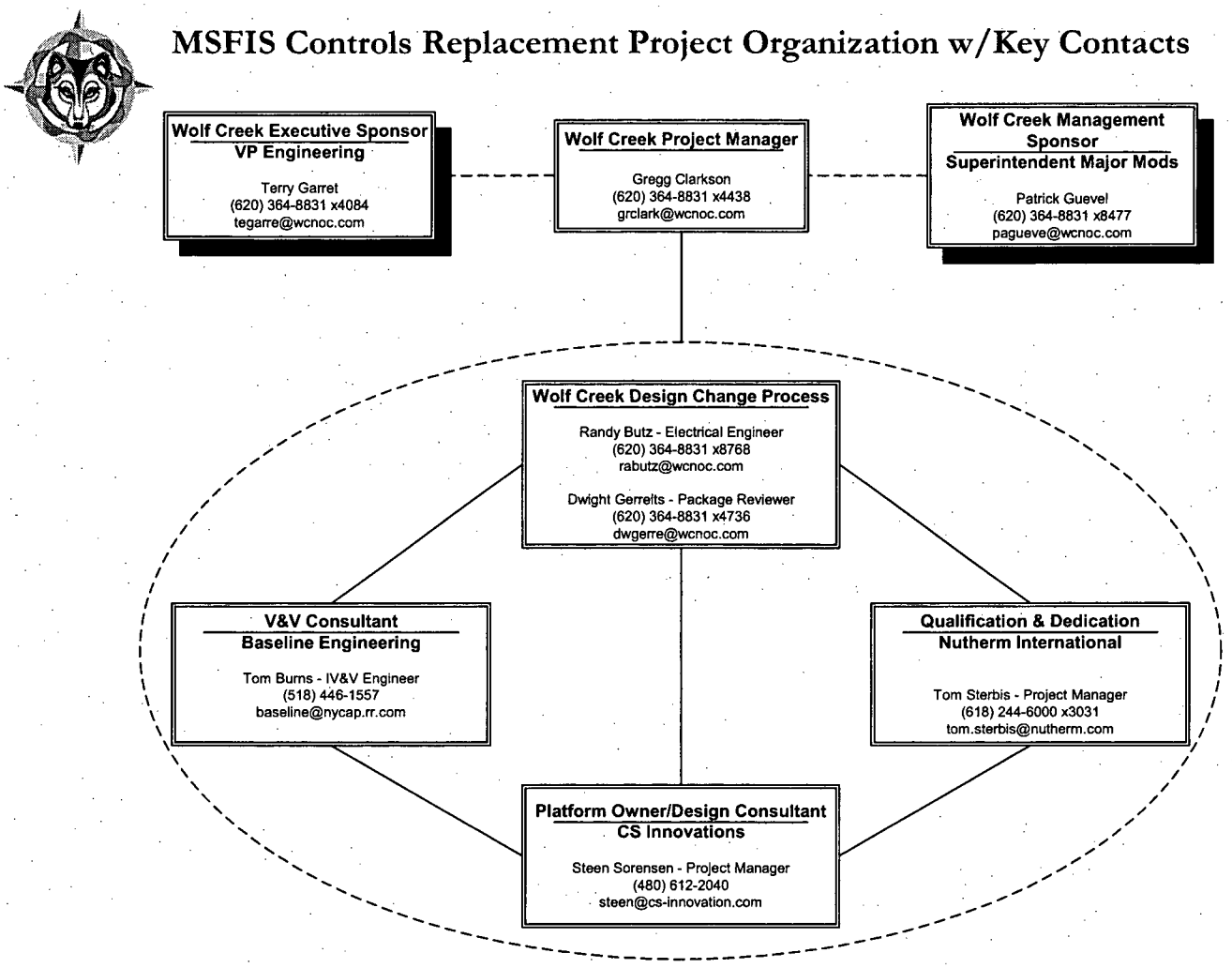
The MSFIS Controls Replacement Project is replacing the existing Consolidated Controls system with an Advanced Logic System (ALS). The ALS provides several advantages over the existing system; 1) Non-obsolete, based on a technology to mitigate future obsolescence 2) Increase reliability, no single point of failure will cause a false actuation 3) Modular design to allow additional safety-related controls systems to be replaced with the ALS. This provides benefits in the form of common spares and reduced training for plant personnel 4) Reduced manual testing due to automated and interactive automated testing inherent to the ALS.

The design and implementation of the replacement MSFIS Controls System is being accomplished by three independent entities working under the oversight of Wolf Creek project management and Wolf Creek design change and QA Program. The three independent entities are; 1) Platform Owner and System Design Consultant, CS Innovations 2) Qualification & Dedication Services, Nutherm International 3) IV&V Consultant, Baseline Engineering. A diagram of the project organization is provided in Section 1.4.

1.3 Scope of Work

The scope of work for the Main Steam & Feedwater Isolation System controls replacement project is to replace the existing Consolidated Controls Corporation system located in cabinets SA075A and SA075B with an Advanced Logic System (ALS). The scope of this project is limited to work within cabinets SA075A and SA075B. The replacement MSFIS Controls are to interface with the replacement MSIV and MFIV actuators. The installation of the replacement controls is to occur during Wolf Creek Refueling Outage 16, which is in April of 2008.

1.4 Project Organization



2 Introduction

2.1 Purpose

The purpose of the Configuration Management Plan (CMP) is to provide the methods and tools to establish the baseline, control changes to the baseline, record and track status, and audit the Advanced Logic System Main Steam and Feedwater Isolation Valve Control System (ALS MSFIS) product.

The intended audience for the CMP is technical personnel from Wolf Creek that specify the system, the design team, the Appendix B supplier, and the independent group that will actually implement and perform the Verification and Validation Plan.

The Configuration Management Plan is based upon the requirements of IEEE 828-1990, IEEE Standard for Software Configuration Management Plans. Although the ALS MSFIS is a logic-based system and does not contain any microprocessors or micro-controllers nor does it contain any executable software, the principles given therein as specifically applicable to software development systems shall be symmetrically applied to certain elements of the design, hardware, and logic design of the ALS MSFIS throughout the life cycle.

2.2 Scope

The ALS MSFIS project will generate the system that implements the monitoring and control functions specified in the equipment specification (J-105A (Q)), including the documentation, testing and test data files that will be used in testing the system.

The CMP is applicable to the following Configuration Items (CI), developed for the MSFIS project:

- Project control documents
- System design including drawings, documents, analyses
- Test documents
- Test data
- Finished product

The CMP is applicable to the CI's identified above, for the entire life cycle, to the extent defined herein.

This CMP assumes that the design will be in accordance with the scope as defined in the J105A(Q). Significant changes to the scope, schedule or to other assumptions made will be reflected in changes to this CMP.

2.3 Reference Material

Binding documents for this project are:

2.3.1 Wolf Creek Nuclear Operating Company (WCNOC) Specification J-105A(Q)

2.3.2 IEEE 828-1990 - IEEE Standard for Software Configuration Management Plans.

2.3.3 ASME NQA-1-2004 – Quality Assurance Requirements for Nuclear Facility Applications

3 Management Organization

The project includes three independent groups, under the oversight of the ALS MSFIS Project Manager and WCNOC Engineering, shown in section 1.4:

1. WCNOC Engineering - responsible for the design and implementation of modifications at Wolf Creek using established Wolf Creek processes and procedures (AP 05-002 Design Change Process). As a part of the established processes and procedures, an independent V&V of the Design Change Package is performed by a qualified Wolf Creek Engineer.

2. Design Contractor - responsible for the design, development and integration of the product. For this project, CS Innovations (CSI) is providing this function.

3. Qualification Contractor - responsible to provide both oversight and direct actions to ensure that the requirements on qualification of Safety-Related hardware for the Class 1E system, including its performance, integration, and configuration control, and documentation, are satisfied. As the Appendix B supplier, Nutherm International (NI) is performing this function.

4. V&V Consultant - responsible to provide independent oversight and direct actions to ensure that the V&V requirements for a Class 1E system are satisfied. Baseline Engineering is performing this function.

3.1 Configuration Management Responsibilites

Responsibilities apply to all procedures, documentation, drawings and any development activity.

Responsibilities specific to Configuration Management of the MSFIS development are as follows:

- Configuration management of a design item (i.e. drawings, test procedures), before initial baselining of that design item is implemented by the designer.

- Baselining of a document, drawing, or program positing a design item consists of the formal issue and archiving of the document, drawing, or computer program and is the responsibility of the Design Engineer.

- Changes to a design item after baselining may be accomplished only in accordance with a change control document that evidences the approval of WCNOC.

- A record of the configuration of the entire product at shipment will be maintained by NI for the projected lifetime of the project.
- Design document management and changes after shipping the product to the customer is implemented by CSI and NI.
- Documentation configuration management and protection from spurious alteration, is implemented by CSI and NI.

3.2 Interface Control

Interface between the system and the external equipment is defined in the J105A(Q) and is the responsibility of the project manager.

4 Configuration Management Activities

4.1 Configuration Identification

This section identifies the items covered by the Configuration Management Plan.

4.1.1 Documentation

All documentation and drawings submitted to WCNOC and produced for the ALS MSFIS shall be placed under configuration control after initial baselining.

4.1.1.1 Configuration item baselining shall be accomplished as follows:

A revision number beginning with Revision 0 shall be used when a document is first issued for release and shall be increased for each subsequent released revision. Draft documents shall be identified by an alpha character (beginning with "A") appended to the revision number (e.g. 0A, 0B, 1A, 1B, etc.) and shall be submitted to the Project Manager for distribution for comment.

Following review and resolution/incorporation of any comments with the originator of the document, the originator shall remove the alpha character appended to the revision number, insert the current date, and:

- Issue the document as follows:

  Wolf Creek Project Manager

- Store the file in the Company (CSI or NI) Project Archive file.

4.1.1.2 Document Revision Control

Control of revisions to documents after initial baselining shall be in accordance with the following:

Individual perceiving need for a revision to a previously baselined document shall initiate the process for change by completing an Engineering Change Notice (ECN) form (copy attached) defining the required changes and submitting the form to the Project Manager for approval. In the event that changes may require further evaluation, design effort, or customer action, and/or individual does not have authority to initiate such actions, individual shall prepare a Problem Report (form attached) defining the issue for later resolution.

Project Manager and Verification and Validation Engineer shall review the ECN for approval of initiating the revision.

Following approval to initiate the revision, the originator will obtain a copy of the last previously archived revision of the document, and after changing the date to the current date and changing the revision designation from the existing to the next revision plus an alpha character (e.g. Rev. 1 would become Rev. 2A), will provide that file to the Project Manager for approvals.

After the necessary approvals are obtained by the Project Manager, the originator will remove the alpha designation, change the date to the current date, and issue and archive the latest revision as for the initial baselined issue described above.

Following the issue of the revised document, drawing or program, the ECN form shall be signed off as completed by the Project Manager and the V&V Engineer

4.1.2 Drawings

All drawings submitted to WCNOC and produced for the ALS MSFIS shall be placed under configuration control after initial baselining.

4.1.2.1 Initial Baselining shall be accomplished as follows:

Drawing shall bear a "REVISION 0A" designation and be submitted to the Verification and Validation Engineer for baselining.

Following review by the V&V Engineer and resolution/incorporation of any comments with the originator of the drawing, the V&V Engineer shall submit the drawing for approval by the Project Manager.

4.1.2.2 Drawing Revision Control

Control of revisions to drawings after initial baselining shall be in accordance with the following:

Individual perceiving need for a revision to a previously baselined document shall initiate the process for change by completing an Engineering Change Notice (ECN) form defining the required changes, and submitting the form to the Project Manager and Verification and Validation Engineer for approval. In the event the corrective action cannot be performed directly or the resolution is outside the area of responsibility of the individual, that individual shall prepare a Problem Report (copy of form attached) describing the defect.

Project Manager and Verification and Validation Engineer shall review the ECN for approval of initiation of the revision.

Following approval to make the revision, the Project Manager shall authorize changing the revision designation from the existing to the next revision plus an alpha character (e.g. Rev. 1 would become Rev. 2A)

For the first revision of a drawing, the Title Block of the Drawing shall be revised to indicate the signatures that were affixed to the approved Revision 0 (i.e., by entering S/XXX indicating that XXX signed Revision 0 of the drawing) of the drawing, and the Revision Block shall designate the new revision level in preparation. Indication of the original approvers of the drawing shall remain in the title block MSFIS through all future changes.

After completion, the revision will be submitted to the Project Manager and the V&V Engineer for approval.

After approval by the Project Manager and the V&V Engineer, the originator (CSI or NI) will remove the alpha designation issue and archive the latest revision as for the initial baselined issue described above.

4.1.3 Approval Authority

Approval authority for each baselining of a document, or drawing shall include at least the following

Project Manager

Verification and Validation Engineer

Circuit description listing approvals shall be internal to the Design Team (CSI). Circuit description listings are not addressed in the VVP and is included in this CMP only to ensure that the "as-qualified" and "as-shipped" configurations are captured and controlled.

4.1.4 Methods to Process Change Approval

Changes to previously baselined document, including procedures, plans, drawings, test procedures, and reports shall be initiated only in accordance with an Engineering Change Notice (ECN) approved by the Project Manager and the Verification and Validation Engineer, and shall be issued only with the approval of the Project Manager. The ECN shall identify any iteration affecting other documents, and retest requirements relating to the change.

4.2 Configuration Status Accounting

The Verification and Validation Engineer shall maintain a log of the revision level in effect and date of each document that has previously been baselined.

4.3 Configuration Audits and Reviews

An audit and review of all documentation and change documents will be performed by the V&V Engineer before the system is installed.

5 Configuration Management Plan Maintenance

5.1 Responsibilities

The V&V Engineer shall be responsible for monitoring the CMP to ensure that it meets all of the requirements of the Wolf Creek QA Program. The Verification and Validation Engineer shall be responsible for ensuring that the Configuration Management Plan is kept current with the project as the design evolves.

5.2 Updates

Updates to the CMP shall be made as necessary. Minor or editorial changes identified during a given design phase may be held for issue until the end of that phase. Changes shall not be held open between design phases without the concurrence of the Project Manager.

5.3 Change Approval

Any revision to the CMP shall be reviewed and approved by the Project Manager.

5.4 Change Distribution

Following approval of any change to the CMP, copies shall be distributed to the persons approving the change, the V&V Engineer, the Project Manager, and the project files.

Attachment 1: Engineering Change Notice (ECN) Form

Attachment 2: Problem Report Form

ATTACHMENT 1

ENGINEERING CHANGE NOTICE
(ECN)
FORM

#ECN/000
ECN controlled number

ENGINEERING CHANGE NOTICE (ECN)

I) REQUESTED CHANGE

Originator's name	Date	Signature

JOB NUMBER:

ITEM IDENTIFICATION:

DESCRIPTION OF CHANGE:

RECOMMENDED ACTION:

II) ENGINEERING ACTION

ACTION TO BE TAKEN:

DRAWING/REPORT CHANGE NEEDED: YES __ NO __ **RESPONSIBILITY:**

DRAWING(S)/REPORT(S): _____ **REV.**

CUSTOMER APPROVAL REQUIRED: YES___ NO __ **RESPONSIBILITY:**

SPECIAL TESTING REQUIRED: YES __ NO ___ **RESPONSIBILITY:**

TEST PROCEDURE NUMBER: _____ **RESPONSIBILITY:**

SOFTWARE CHANGE REQUIRED: YES __ NO___ **RESPONSIBILITY:**

OTHER CHANGES NECESSARY: YES __ NO___ **RESPONSIBILITY:**

PROPOSED ACTION APPROVED: _____ _____
Project Manager Date

_____ _____
V&V Engineer Date

III) ACTION COMPLETED

DRAWING OR REPORT CHANGES COMPLETED AND PROPERLY REVIEWED:

DRAWING/REPORT NUMBER: _____ **REV.**

SPECIAL TESTING COMPLETED:

DATE

ACCEPTABLE: YES ___ NO ___ _____ _____
COGNIZANT ENGINEER SIGNATURE DATE

REQUIRED VERIFICATION TESTING COMPLETED: _____
DATE

ACCEPTABLE: YES ___ NO ___ _____ _____
V & V ENGINEER DATE

ALL OTHER CHANGES IDENTIFIED IN SECTION II, HAVE BEEN COMPLETED:
(Identify what other changes have been completed and the dates when the action was completed.)

IV) APPROVALS

_____ _____
Project Manager Date

_____ _____
V&V Engineer Date

ATTACHMENT 2

PROBLEM REPORT FORM

PROBLEM REPORT

PROBLEM REPORTED

Originator's Name	Date	Signature

JOB NUMBER:

ITEM IDENTIFICATION:

PROGRAM PHASE WHEN PROBLEM WAS DETECTED:

PROBLEM DESCRIPTION: (Attach and number additional pages if required)

ENGINEERING ACTION (To be completed by the Cognizant Engineer)

PROBLEM RESOLUTION: (Attach and number additional pages if required)

ACTION TO BE TAKEN:

APPROVALS:

Project Manager	Date
V & V Engineer	Date

CS Innovations LLC letter 91000-00006, "Application for Withholding Proprietary Information from Public Disclosure"

Ref: 9100-00006

CS INNOVATIONS LLC

CS INNOVATIONS
9150 E. DEL CAMINO, SUITE 110
SCOTTSDALE, AZ, 85256

Direct phone: 480-612-2040
Fax: 623-505-1055
e-mail: steen@cs-innovation.com

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Our ref: 9100-00006
April 6th, 2007

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: **6000-00000, "ALS Level-1 System Specification"** dated April 2007
(CS Innovations LLC 2006 Confidential and Proprietary)

The proprietary information for which withholding is being requested in the above referenced report is further identified in Affidavit 9100-00007 signed by the owner of the proprietary information, CS Innovations LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by the Wolf Creek Nuclear Operating Corporation.

Correspondence with respect to the proprietary aspects of the application for withholding or the CSI affidavit should reference this letter, 9100-00006, and should be addressed to Steen D. Sorensen, President & CEO, CS Innovations LLC, 9150 E. Del Camino, Suite 110, Scottsdale, AZ, 85256.

Very truly yours,

Steen D. Sorensen
President & CEO

AFFIDAVIT

State of Arizona
County of Maricopa

Before me, the undersigned authority, personally appeared Steen D. Sorensen, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of CS Innovations LLC (CSI), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

Steen D. Sorensen, President & CEO

Sworn to and subscribed
before me this 12th day
of April, 2007

Notary Public

STEVEN STAMPS
Notary Public - Arizona
Maricopa County
My Commission Expires
October 31, 2009

(1) I am President & CEO, CS Innovations LLC (CSI), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of CSI.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the CSI "Application for Withholding" accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by CSI in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and been held in confidence by CSI.

(ii) The information is of a type customarily held in confidence by CSI and not customarily disclosure to the public. CSI has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determining when and whether to hold certain types of information in confidence. The application of that system and substance of that system constitutes CSI policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component structure, tool, method, etc.) where prevention of its use by any of CSI's competitors without license from CSI constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.) the application of which data secures a competitive economic advantage, e.g. by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals costs or price information, production capacities, budget levels, or commercial strategies of CSI, its customers or suppliers.

(e) It reveals aspects of past, present, or future CSI or customer funded development plans and programs of potential commercial value to CSI.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the CSI system which include the following:

(a) The use of such information by CSI gives CSI a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the CSI competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the CSI ability to sell products and services involving the use of the information.

(c) Use by our competitor would put CSI at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving CSI of a competitive advantage.

(e) The CSI capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.

(iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in 6000-00000, "ALS Level-1 System Specification" dated April 2007 (CS Innovations LLC 2006 Confidential and Proprietary). The information is provided in support of a submittal to the Commission, being transmitted by the Wolf Creek Nuclear Operating Corporation and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk.

This information is part of that which will enable CSI to:

(a) Provide a replacement MSFIS Controls for Wolf Creek Generating Station.

Further this information has substantial commercial value as follows:

(a) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by CSI.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of CSI.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive CSI effort and the expenditure of a considerable sum of money.

In order for competitors of CSI to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.