



**ENERGY
NORTHWEST**
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USE CURRENT REVISION

ENVIRONMENTAL MANAGEMENT SYSTEM

NUMBER EMS-01	APPROVED BY D. R. Coody - Revision 0	DATE 12/22/04
TITLE ENVIRONMENTAL MANAGEMENT SYSTEM PROGRAM DESCRIPTION		

NUMBER EMS-01	REVISION 0	PAGE 1 of 101
------------------	---------------	------------------

TABLE OF CONTENTS

	<u>Page</u>
1.0 PURPOSE	4
2.0 DESIGN OF THE EMS	4
3.0 SCOPE OF THE EMS	5
4.0 COMPANY PROFILE	6
5.0 ORGANIZATION	6
6.0 FACILITIES	7
6.1 Power Producing Facilities	8
6.2 Columbia Generating Station (CGS) Support Facilities	8
6.3 Other Initiatives/Business Ventures	9
7.0 ENVIRONMENTAL ASPECTS	11
8.0 LICENSES AND PERMITS	12
9.0 EMS ELEMENTS	12
9.1 Index of EMS Elements	13
9.3 Environmental Policy	15
9.4 Environmental Aspects and Impacts	17
9.5 Environmental Requirements and Voluntary Commitments	18
9.6 Objectives, Targets, and Environmental Management Programs	20
9.7 Structure and Responsibility	23
9.8 Training, Awareness, and Competence	27
9.9 Communication	31
9.10 EMS Documentation	36
9.11 Document Control	36
9.12 Records	39
9.13 Operational Control	41
9.14 Emergency Planning, Preparedness, and Response	45
9.15 Monitoring and Measurement	47
9.16 Nonconformance and Corrective and Preventive Action	50
9.17 Compliance Assurance (Evaluation of Compliance)	52
9.18 Internal Environmental Management System Audit	53
9.19 Management Review	55

NUMBER	REVISION	PAGE
EMS-01	0	2 of 101

TABLE OF CONTENTS (contd.)

	<u>Page</u>
10.0 REFERENCES	56
11.0 ATTACHMENTS	60
11.1 CEO/CNO Organization Chart	61
11.2 Ems Roles, Responsibilities and Authorities	62
11.3 Operational Control/environmental Management Programs	69
11.4 Facilities at Columbia Generating Station	78
11.5 Energy Northwest Facilities Locations	79
11.6 Regulatory Agencies	80
11.7 Environmental Records	82
11.8 EMS Model	86

NUMBER EMS-01	REVISION 0	PAGE 3 of 101
----------------------	-------------------	----------------------

1.0 PURPOSE

The purpose of this program description (also referred to as the EMS Manual) is to provide a “roadmap” or guide to the Energy Northwest Environmental Management System (EMS), by describing the main elements of the EMS and their interaction, and cross-referencing related documentation.

This EMS Manual is developed by the EMS Coordinator with input from owners of other management or business systems associated with the EMS. It can be used by staff who want to learn more about how the EMS works. It is also used during internal and external EMS audits. It is revised as necessary when conditions change, and is reviewed at least every three years to ensure that it is accurate and up-to-date.

2.0 DESIGN OF THE EMS

An EMS is a tool to systematically identify, manage, control, and monitor environmental impacts. Energy Northwest’s EMS is designed to promote environmental stewardship and help improve environmental performance, provide for compliance with the law, improve efficiency and effectiveness, reduce costs, and earn and retain regulatory and community trust.

In order to determine which EMS was most suitable for its activities, Energy Northwest evaluated five EMS models: International Chamber of Commerce Business Charter for Sustainable Development (ICC), Commission for Environmental Cooperation Guidance Document, International Organization of Standardization ISO 14001 Standard, EPA Code of Environmental Management Principles, and the International Council of Chemical Associations Responsible Care program.

Energy Northwest then developed an adapted EMS that conforms primarily to the requirements of ISO 14001 (including recent planned revisions), and secondarily to the principles in the ICC Charter. This model, referred to as the Energy Northwest Composite EMS Model (located in Attachment 11.8), or simply the “EMS model,” also incorporates the strongest elements of other EMS models (such as employee involvement) that Energy Northwest believes are not adequately addressed by the ISO 14001 standard and the ICC Charter and are compatible and appropriate for Energy Northwest’s goals and activities. See EMS Elements for the content of the EMS model and a description of how Energy Northwest satisfies each requirement.

NOTE: For the purposes of registration to the ISO 14001 standard, Energy Northwest’s conformance to both the ISO 14001 standard and voluntary commitments (the EMS Model) are evaluated.

NUMBER	REVISION	PAGE
EMS-01	0	4 of 101

3.0 SCOPE OF THE EMS

The Energy Northwest EMS is corporate in scope, and applies company-wide to all activities as defined in this EMS Manual, including the Columbia Generating Station (CGS, also referred to as the “plant”) and other power producing facilities, with the following exceptions:

- **Terminated Projects:** The EMS does not apply to terminated projects that are no longer owned by Energy Northwest.
- **Other Initiatives or Business Ventures:** Application of the EMS to other initiatives or business ventures is limited to activities owned or led by Energy Northwest. See discussions under each activity listed in that section of this document.
- **Work performed off-site (on property not owned or leased by Energy Northwest) or performed as a contractor:** If Energy Northwest staff are contracted to perform work at a facility that belongs to another party, in accordance with that client’s policies, programs and procedures, the EMS as a system does not apply. However, during work planning, Energy Northwest’s activities may be evaluated to determine whether they are consistent with Energy Northwest policies etc. before accepting the work. An exception would be if someone hired Energy Northwest because they have an EMS, and specified in the contract that Energy Northwest apply the EMS programs and practices to the work.

That said, the Energy Northwest environmental stewardship policy creates an expectation that Energy Northwest employees may bring an environmental ethic with them wherever they work. This means, for example, that an Energy Northwest employee is expected to follow the client’s procedures designed to protect the environment. While working within the constraints imposed upon them by the client, they may also promote responsible environmental management, such as suggesting and helping implement pollution prevention when they become aware of opportunities.

Activities are defined in the EMS model as: “operations and functions of all organizational units. Includes projects, products and services. Includes maintenance, design and operation of facilities, decommissioning, and leaving” (i.e., terminating activities at) a site. Facilities where Energy Northwest conducts its activities are described under the Facilities section.

NUMBER EMS-01	REVISION 0	PAGE 5 of 101
------------------	---------------	------------------

4.0 COMPANY PROFILE

Energy Northwest is an energy services provider headquartered in Richland, Washington. It is a municipal corporation and joint operating agency of the State of Washington, organized in 1957. Energy Northwest's current membership consists of sixteen public utility districts (PUDs) and the cities of Richland, Seattle, and Tacoma.

Energy Northwest is empowered to finance, acquire, construct, and operate facilities for the generation and transmission of electric power. All electrical energy produced by Energy Northwest business units is ultimately delivered to electrical distribution facilities owned and operated by the Bonneville Power Administration (BPA) as part of the Federal Columbia River Power System. Energy Northwest is the source of approximately 12% of BPA's power. Energy Northwest's FY 2004 annual operating expenses were \$345 million. Non-operating expenses and debit service were \$330 million.

5.0 ORGANIZATION

The Energy Northwest Board of Directors, with representation from each of the member utilities, has the authority to initiate and terminate projects. An eleven member Executive Board oversees Energy Northwest operations. Five Executive Board members are elected from the full board, three outside members are appointed by the full board, and three outside members are appointed by the governor. Management of all operational activities of Energy Northwest is the responsibility of the Chief Executive Officer (CEO). A team of four vice-presidents, each with various organizational responsibilities, supports the CEO. The corporate organizational chart is provided as Attachment 11.1.

In 2004, Energy Northwest had a total of approximately 1,255 employees and 60 - 100 contractors working at eleven different locations. During biennial maintenance and refueling outages at Columbia Generating Station (CGS), approximately 600 - 1000 additional temporary contract workers are hired.

Environmental organization and staffing, and roles and responsibilities are described under the Structure and Responsibility element, and in Attachments 11.2 and 11.3.

NUMBER EMS-01	REVISION 0	PAGE 6 of 101
------------------	---------------	------------------

6.0 FACILITIES

Attachment 11.4 - Map of Facilities at Columbia Generating Station (CSG)

Attachment 11.5 - Washington State Map of Energy Northwest facilities locations

The EMS is limited to those facilities and operations managed and operated by Energy Northwest. The EMS is applicable to the following facilities:

- Columbia Generating Station (CGS)
- Industrial Development Complex
- Applied Process Engineering Laboratory (APEL)
- Energy Northwest Office Complex (ENOC)
- Nine Canyon Wind Project
- Packwood Lake Hydroelectric Project
- White Bluffs Solar Station

A detailed description of these facilities is provided in the table below and pages 8 through 11.

Facility	Approx Acres Occupied	Buildings and Trailers	Approx Building Sq. Ft.	Employees
CGS and Support Facilities	300	70	585,000 ⁽²⁾	1200
Nine Canyon	40	1	5,000	8
White Bluffs	1	0	N/A	0
Packwood	530 ⁽¹⁾	7	20,000	2
Applied Process Engineering Laboratory (APEL)	6	2	90,000	10
Industrial Development Complex (Projects 1 and 4)	800	40	330,000 ⁽³⁾	10
ENOC	17	3	175,000	25

(1) Energy Northwest owns approximately 30 acres

(2) Does not include CGS power block

(3) Does not include Unit 1 power block

NUMBER EMS-01	REVISION 0	PAGE 7 of 101
------------------	---------------	------------------

6.1 Power Producing Facilities

- 6.1.1 Energy Northwest’s primary “business unit” is Columbia Generating Station (CGS), a 1,200-megawatt nuclear unit completed in 1984. The CGS site is located north of Richland, Washington on the U.S. Department of Energy (USDOE) Hanford Site, approximately 3 1/4 miles west of the Columbia River. The leased area of CGS site is about 1,100 acres. A plot plan of the CGS industrial area is included as Attachment 11.4.
- 6.1.2 The Packwood Lake Hydroelectric Project is located near Packwood, Washington on about 30 acres of company-owned land and about 500 acres of U.S. Forest Service land in the Gifford Pinchot National Forest (see Attachment 11.5). This 26-megawatt facility, which was completed in 1964, generates “green” power as defined by the USDOE Energy Efficiency and Renewable Energy Office (“power generated from renewable energy sources, such as wind and solar power, geothermal, hydropower and various forms of biomass”).
- 6.1.3 The Nine Canyon Wind Project, a wind turbine farm located on leased land south of Kennewick (see Attachment 11.5), was completed in two phases between February 2002 and December 2003. The project is capable of generating 64 megawatts from 49 wind turbines. This project also generates “green” power.
- 6.1.4 Energy Northwest operates and maintains the White Bluffs Solar Station, a solar power demonstration project developed through a joint effort of Energy Northwest, Bonneville Environmental Foundation, BPA, DOE, and Newport Northwest LLC. The station was constructed in the spring of 2002 on the Energy Northwest Industrial Development site about one mile east-southeast of CGS and is comprised of 242 photovoltaic panels and with a peak output of 38.7 kilowatts DC (converted to 29.5 kilowatts AC). This project also generates “green” power.

6.2 Columbia Generating Station (CGS) Support Facilities

Support facilities at CGS range from small modular storage units to 100,000-ft² office buildings used to support operation and maintenance of the station. The support functions include mechanical and electrical equipment maintenance, vehicle maintenance, painting and coating, solid and liquid waste processing, training, and general office work.

- 6.2.1 The Plant Support Facility (Kootenai Building), located 3/4 mile southwest of CGS, houses staff and facilities for training, telecommunications, and laboratory support (analytical chemistry and instrument calibration).

NUMBER	REVISION	PAGE
EMS-01	0	8 of 101

- 6.2.2 A warehouse complex located east of the plant provides material receipt, storage and distribution services.
- 6.2.3 A pump house on the west bank of the Columbia River supplies water for the CGS condenser cooling system.
- 6.2.4 A central sanitary waste treatment system located to the southeast of CGS provides treatment for wastes from CGS, the Industrial Development Complex (Projects 1 and 4), the Plant Support Facility, and the USDOE 400 Area.
- 6.2.5 A security training facility, with a small arms range, is located on the Project 4 site, which is within the boundaries of the Industrial Development Complex.
- 6.2.6 The Independent Spent Fuel Storage Installation (ISFSI) has been constructed north of CGS to store spent nuclear fuel (SNF) in dry cask storage until a federal repository becomes available.
- 6.2.7 The electrical output of CGS is delivered to the Bonneville Power Administration's H.J. Ashe Station located 1/2 mile north of the plant.

6.3 Other Initiatives/Business Ventures

Energy Northwest is pursuing a number of new business initiatives to diversify the organization and reduce CGS operating costs. Activities include project development and facility management.

- 6.3.1 Applied Process Engineering Laboratory (APEL), a 90,000 ft² high-tech research “incubator” facility in North Richland (see Attachment 11.5), is owned and managed by Energy Northwest. APEL is a joint venture of Energy Northwest, the Port of Benton, the City of Richland, Pacific Northwest National Laboratory (PNNL), and the USDOE. A PNNL Environmental Compliance Representative and a Facility Service (waste management) Representative provide environmental technical support to APEL.

Application of EMS: The EMS applies to the APEL facility itself, and to Energy Northwest operations within the building, including work performed by Energy Northwest employees for Energy Northwest. PNNL has its own EMS, which is registered under ISO 14001.

- 6.3.2 Energy Northwest has provided construction-management expertise to complete several building projects for the City of Richland.

Application of EMS: Limited to role as a contractor.

NUMBER	REVISION	PAGE
EMS-01	0	9 of 101

6.3.3 Energy Northwest provides engineering support to the Grant County PUD through two loaned employees.

Application of EMS: Limited to role as a contractor.

6.3.4 Engineering and maintenance services have been provided to other public power operators of hydroelectric facilities in the Northwest.

Application of EMS: Limited to role as a contractor.

6.3.5 Energy Northwest is a member of “Hometown Connections,” an organization sponsored by the American Public Power Association. The current product line-up for Hometown Connections is extensive and includes such services as: green pricing program, wholesale energy risk management, automated external defibrillators, power plant engineering and construction, meter reading systems, customer information systems, customer surveys, and cyber security services.

Application of EMS: Limited to role as a contractor.

6.3.6 Energy Northwest provides analytical chemistry and instrument calibration services to several “offsite” customers (including Hanford contractors, Washington State University, Philip Services Corporation, the City of Richland).

Application of EMS: As these services are conducted at Energy Northwest facilities by Energy Northwest staff, they are within the scope of the EMS.

6.3.7 The Energy Northwest Office Complex (ENOC) consists of several hundred thousand square feet of rental office space in North Richland (see Attachment 11.5) managed by Energy Northwest. Approximately twenty-five Energy Northwest personnel have offices in a portion of this space.

Application of EMS: The EMS applies to the facilities owned by Energy Northwest, and to Energy Northwest operations within the building, including work performed by Energy Northwest employees for Energy Northwest.

6.3.8 Energy Northwest has a contract to provide operations and maintenance services to the Klickitat PUD for its electric power generation facility at the Roosevelt Landfill. The combustion engines for this 10.5-MWe plant are fueled with compressed landfill gas (principally methane).

Application of EMS: Limited to role as a contractor.

NUMBER EMS-01	REVISION 0	PAGE 10 of 101
------------------	---------------	-------------------

6.3.9 Energy Northwest has a contract to provide Operations & Maintenance services for Duke Energy North America’s partially constructed combined-cycle combustion turbine project near Satsop, Washington. Construction of the project was suspended in 2002. Energy Northwest has a contract to provide environmental technical support services to Duke. Energy Northwest is a co-certificate and co-permit holder for the Satsop project.

Application of EMS: Limited to role as a contractor.

6.3.10 Energy Northwest has an agreement with Franklin County PUD to provide operations personnel for the PUDs 44-MWe combustion turbine plant in Pasco. Because of the high relative cost of natural gas, the plant has not operated.

Application of EMS: Limited to role as a contractor.

6.3.11 Industrial Development Complex - The Energy Northwest Industrial Development Complex is located east of Columbia Generating Station on a portion of the 970-acre site leased from the USDOE for the terminated Nuclear Projects 1 and 4. Activities on the site are focused on the initial phases of dismantlement and securing of the nuclear plant structures. It is expected that the site infrastructure will be used to support diversified development. Several small tenants use existing facilities at the complex.

7.0 ENVIRONMENTAL ASPECTS

Significant environmental aspects at the individual Energy Northwest facilities may include one or more of the following:

- Regulated industrial, hazardous, radioactive, and mixed wastes
- Atmospheric emissions
- Liquid effluents
- Storage or use of chemicals or radioactive materials
- Water consumption
- Energy consumption
- Land use (including structure erection or alteration)

NUMBER	REVISION	PAGE
EMS-01	0	11 of 101

8.0 LICENSES AND PERMITS

All Energy Northwest facilities except the ENOC and Nine Canyon Wind Project have waste generator ID numbers from the Washington Department of Ecology (WDOE). In 2004, only CGS is a large quantity waste generator. CGS also has interim RCRA permit status for onsite storage of mixed hazardous and radioactive wastes. The only other RCRA-permitted facility is APEL, which has an RD&D permit from WDOE and USEPA. The permit, issued in December 1998, has not yet been activated. CGS has an NPDES permit for cooling water discharges and APEL has a wastewater pretreatment permit for discharges to the municipal sanitary sewer system. With regard to air emissions, CGS has synthetic minor status and APEL operates under an order from the local air authority. A site certification agreement (SCA) from the Energy Facility Site Evaluation Council (EFSEC) is the major “umbrella” state permit for the CGS site. The Industrial Development Complex (Nuclear Projects 1 and 4) also holds an EFSEC site certification agreement. The operating license issued by the U.S. Nuclear Regulatory Commission for CGS is a major federal license and governs the liquid and gaseous radioactive emissions and the management of solid radioactive waste. The Packwood Lake Hydroelectric Project operates under a license from the Federal Energy Regulatory Commission.

9.0 EMS ELEMENTS

The Energy Northwest EMS is comprised of eighteen inter-related elements. The following sections list the element of the EMS model (*in italics*), along with a description of how Energy Northwest meets the requirements.

The terms “shall,” “should,” and “may” are used in the EMS model as follows:

- shall - required because either it is in the ISO 14001 standard, or is considered essential to implementation of an ISO 14001 EMS;
- should - a management expectation, but considered optional - a best management practice left to management discretion. Management approval would generally be expected for deviation.
- may - suggested. Non-mandatory and optional.

At Energy Northwest, documented procedures may take a variety of forms, depending on their scope and applicability. A GIH (General Information Handbook) applies to all Energy Northwest activities. A Site Wide Procedure (SWP) applies to Columbia Generating Station, the facility with the majority of significant environmental aspects. Organizations may also have department or unit specific implementing instructions and procedures.

NUMBER EMS-01	REVISION 0	PAGE 12 of 101
------------------	---------------	-------------------

9.1 Index of EMS Elements

- 9.1 General Criteria, Environmental Stewardship, and Integration
- 9.2 Environmental Policy
- 9.3 Environmental Aspects and Impacts
- 9.4 Environmental Requirements and Voluntary Commitments
- 9.5 Objectives, Targets, and Environmental Management Programs
- 9.6 Structure and Responsibility
- 9.7 Training, Awareness and Competence
- 9.8 Communication
- 9.9 EMS Documentation
- 9.10 Document Control
- 9.11 Records
- 9.12 Operational Control
- 9.13 Emergency Planning, Preparedness and Response
- 9.14 Monitoring and Measurement
- 9.15 Nonconformance and Corrective and Preventive Action
- 9.16 Compliance Assurance
- 9.17 Internal EMS Audit
- 9.18 Management Review

NUMBER	REVISION	PAGE
EMS-01	0	13 of 101

9.2 General Criteria, Environmental Stewardship, and Integration

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization:</i></p> <ul style="list-style-type: none"> <i>should recognize environmental management as a corporate priority and strive to facilitate a culture of environmental stewardship;</i> 	<p>The Environmental Stewardship Policy (PSM 5.7) establishes environmental management as a corporate priority. It includes a commitment to foster a culture of environmental stewardship, promoting consideration of the environment by all employees in everything they do.</p>
<ul style="list-style-type: none"> <i>shall establish, institutionalize, and maintain an environmental management system (EMS) that includes policies, programs, and practices for conducting activities in an environmentally responsible manner; and</i> <i>should fully integrate the EMS into all its activities, including overall decision-making and planning (e.g., investments, capital improvements, product and process design, training programs, and maintenance activities).</i> 	<p>Energy Northwest has developed and implemented an EMS that goes beyond the requirements of ISO 14001, as described in the EMS Model. The EMS is designed to incorporate environmental stewardship into all its activities (as defined in the scope section of this document). The environmental policy speaks to stewardship, and responsibly balancing environmental and social factors and business needs. Policies, programs and practices for conducting activities in an environmentally responsible manner have been integrated with environmental and other business systems (see following sections).</p>
<p><i>The organization may also promote adoption of sound environmental principles by contractors (including suppliers, contractors, distributors and onsite service providers) acting on behalf of the organization, by encouraging, where appropriate, improvements in their practices and adoption of comparable environmental stewardship principles.</i></p>	<p>Once the EMS is registered to the ISO 14001 standard, and has gone through several improvement cycles, Energy Northwest may consider expanding sphere of influence by promoting the adoption of sound environmental principles in its supply chain.</p> <p>Energy Northwest contractors are required to adhere to applicable requirements, pursuant to general provisions clauses included in contracts and procurements, entitled “Environmental Program</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
	Requirements.” Requirements for environmentally responsible behavior are being incorporated into new contracts, and a program to promote procurement of environmentally preferable products is being considered.

9.3 Environmental Policy

Energy Northwest has had a formal policy on environmental protection since May 1982. A policy that conforms to the EMS Model requirements was issued on July 22, 2003. This policy was signed by the Chief Executive Officer, and endorsed by the Board of Directors and Executive Board. Minor revisions to the policy were made on February 26, 2004.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<i>After considering environmental requirements and stakeholder expectations and concerns, top management shall define the organization’s environmental policy and ensure that it:</i>	The CEO issued the Environmental Stewardship Policy (PSM 5.7) after considering environmental requirements and stakeholder expectations and concerns.
<ul style="list-style-type: none"> • <i>is appropriate to the nature, scale, and environmental impacts of the organization’s activities;</i> 	The policy references providing energy services in a manner that responsibly balances environmental and social factors and business needs. It is corporate in scope, and addresses the operations and facilities noted above.
<ul style="list-style-type: none"> • <i>includes a commitment to:</i> <ul style="list-style-type: none"> ◦ <i>achieve and maintain compliance with environmental requirements;</i> ◦ <i>conform to other voluntary commitments to which the organization subscribes;</i> ◦ <i>conduct operations in an environmentally responsible manner, including managing and reducing environmental impacts/risks;</i> 	The policy contains commitments to environmental stewardship, the EMS and continual improvement, environmental compliance, pollution prevention, and communication. It provides a framework for setting environmental objectives and targets.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> ○ <i>prevent pollution;</i> ○ <i>share information, as appropriate, with employees, the public, and stakeholders on the organization’s policy, EMS, and environmental performance; and</i> ○ <i>continually improve.</i> ○ <i>provides the framework for setting and reviewing environmental objectives and targets;</i> 	
<ul style="list-style-type: none"> • <i>is documented, implemented, maintained, and clearly communicated to all employees; and</i> 	<p>The policy is documented in PSM 5.7. It is reviewed during EMS Management Reviews, and revised as necessary. It is communicated to employees in accordance with GIH-8.2.2. internal newsletter, EMS Communication, via a variety of methods, including meetings, a brochure, a badge card, articles in the training and posting. It is communicated to contractors via a variety of methods, including “Blue Badge” training and CGS Plan Access Training. Contractors may also be provided a brochure that summarizes the environmental policy as part of their pre-job briefing.</p>
<ul style="list-style-type: none"> • <i>is available to the public.</i> 	<p>The policy is published on the Energy Northwest external website. A hard copy is also available to anyone upon request.</p>
<p><i>The Chief Operating Office should sign the environmental policy. Other members of top management may also sign the environmental policy as a visible sign of senior management commitment to the policy.</i></p>	<p>The policy is signed by the CEO, and has been endorsed by the Executive Board and Board of Directors.</p>

9.4 Environmental Aspects and Impacts

GIH-8.2.1, Environmental Aspects Identification, describes the process used to identify environmental aspects. Environmental Services and Regulatory Services support staff, along with department EMS Representatives, are responsible for identifying significant aspects and maintaining the information up-to-date. The procedure defines significance based on five criteria: severity and frequency of the environmental impact, regulatory implications, and internal and external stakeholder issues.

As a result of performing a detailed analysis of activities, products and services performed at Energy Northwest, five significant environmental aspects have been identified: waste generation, air emissions, liquid effluents, storage and use of hazardous materials, and land use.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall establish and maintain (a) procedure(s) to identify the environmental aspects of its activities, taking into account planned, new, or modified activities that it can control and those which it can influence. The procedure(s) shall also describe the criteria or method the organization uses to determine those aspects that have or can have significant impacts on the environment (i.e., significant environmental aspects).</i></p>	<p>GIH-8.2.1, Section 3.1.</p>
<p><i>The organization shall ensure that the aspects related to these significant impacts are considered in setting its environmental objectives, and in developing, implementing, and maintaining its EMS.</i></p>	<p>GIH-8.2.1, Sections 1.1 and 3.4 indicate that significant aspects information will be use to develop prioritized goals, objectives and targets for controlling, managing, and improving operations with a potential to significantly impact the environment.</p> <p>GIH-2.9.1, Strategic and Business Planning, describes the corporate planning process.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall document this information on environmental aspects and keep it up-to-date.</i></p>	<p>GIH-8.2.1, Section 3.3 describes the process for maintaining aspects information. Section 3.2.3.f indicates who approves aspects matrices. Aspects are documented on a matrix found in Attachment 6.4 of the GIH . Attachment 6.3, Table of Significant Environmental Aspects, is subject to annual review and update.</p> <p>GIH-8.2.7, Work Planning and Control Process, Section 3.2, includes a link to the Environmental Aspects Identification process to ensure that new activities are reviewed for environmental aspects.</p>

9.5 Environmental Requirements and Voluntary Commitments

RPI 12.0, Review and Management of Environmental Requirements and Commitments, documents the process used by Regulatory Services to identify, review, and track new, revised, or proposed environmental requirements and other voluntary commitments that are related to the environmental aspects of Energy Northwest activities and programs. Section 7.1 of RPI 12.0 contains a list of potentially applicable federal, state and local regulations.

When new or revised requirements are identified that may apply to Energy Northwest, they are tracked by the subject matter expert to ensure that they are reviewed for applicability, and to determine if any actions are needed to conform. Requirements are communicated to affected staff via procedures (e.g., desk instructions, Plant Procedure Manual, Site Wide Procedures, General Information Handbook (GIH)), training, and/or e-mail, as appropriate. Facility specific permit requirements or operating limits are communicated formally to the appropriate line manager. New or revised requirements are communicated to suppliers and contractors via the procurement and/or contracting process and through training. Subject matter experts are available to provide technical assistance to line organizations impacted by new/changed requirements to develop strategies that minimize the fiscal impact of new requirements on operations, and to ensure compliance.

<p>NUMBER EMS-01</p>	<p>REVISION 0</p>	<p>PAGE 18 of 101</p>
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9.5.1 Regulatory Agencies

Energy Northwest operations are subject to regulation and oversight by a number of federal, state and local agencies. These agencies are identified in Attachment 11.6.

Specific activities may require interaction with a number of other agencies. These include city services departments, county building departments, regional air authorities, state resource agencies (such as Department of Natural Resources, Washington Fish & Wildlife Service), and federal agencies (e.g., U.S. Geological Survey, U.S. Forest Service, U.S. Fish & Wildlife Service, National Marine Fisheries Service, and the Army Corps of Engineers.)

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>With regard to environmental requirements, and other voluntary commitments, the organization:</i></p> <ul style="list-style-type: none"> <i>shall establish and maintain a procedure to monitor and identify, determine applicability, and have access to those requirements/commitments that are related to the organization's environmental aspects;</i> 	<p>RPI 12.0, Section 5.0.</p>
<ul style="list-style-type: none"> <i>should, where possible, anticipate changes including new requirements that may apply as a result of changes in activities;</i> 	<p>RPI 12.0, Section 5.0.</p>
<ul style="list-style-type: none"> <i>should incorporate them, or changes to them, into the EMS; and</i> 	<p>RPI 12.0, Section 5.0.</p>
<ul style="list-style-type: none"> <i>should have a process(s) to implement them.</i> 	<p>RPI 12.0, Section 5.0.</p> <p>Also, GIH-1.1.1, Manual Control, requires that GIHs are processed in accordance with the SWP-PRO series. SWP-PRO-02, Section 3.1.3, requires that the author/sponsor identify and review change management actions for completeness and appropriate application, thus ensuring that changes required by the GIH are implemented. Under change management, affected employees typically receive broadcast e-mails when key procedures change.</p>

9.6 Objectives, Targets, and Environmental Management Programs

The Energy Northwest process for establishing objectives and targets at each level of the organization is described in GIH-2.9.1, “Strategic and Business Planning.” Corporate environmental goals flow down to the organizational and individual staff levels.

9.6.1 Review For Correctness

The process works as follows:

- a. Senior management articulates Energy Northwest strategy.
- b. A set of corporate goals and strategies is developed on an annual basis, and incorporated into the annual Energy Northwest Strategic Plan.
- c. Vice Presidents, Managers, and Supervisors articulate the strategy and actions appropriate for their organizations.
- d. Supervisors and key employees review the strategy and actions, and recommend changes.
- e. Changes are selected by managers and fed back into the Department and Group strategies and actions.
- f. Implementing business plans are then developed at the Vice President and department levels.
- g. Implementing actions are assigned to individual employees via performance plans. GIH-4.3.12, Performance Planning/Appraisal, Section 3 describes the process for establishing employee performance expectations and measurements and their linkage with strategic objectives and, as applicable, department goals and group actions.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall establish and maintain documented environmental objectives and targets at each relevant function and level within the organization. The objectives and targets shall be consistent with the environmental policy, including the commitments to pollution prevention, compliance, communication, and continual improvement.</i></p>	<p>GIH-2.9.1, Strategic and Business Planning, Section 2.0 describes the objective setting process. On an annual basis, environmental objectives and targets are documented in the corporate Strategic Plan and/or business level implementation plans, as appropriate.</p> <p>GIH-8.2.1, Section 3.4 addresses development of corporate-level environmental stewardship objectives.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
	<p>GIH-2.9.1, Section 3.2, requires management to develop and implement management activities and programs to achieve strategic objectives. Appendix A of this document identifies responsibilities implementing and supporting the EMS throughout the organization.</p>
<p><i>When establishing and reviewing its objectives, the organization shall consider environmental requirements and voluntary commitments; its significant environmental aspects; technological options; financial, operational and business requirements; and the views of stakeholders.</i></p>	<p>The Environmental Stewardship Policy (PSM 5.7) is considered when developing objectives. It provides the framework for considering other needs by stating, “responsibly balances environmental and social factors and business needs.” GIH-8.2.1, Environmental Aspects Identification, Sections 1.1 and 3.4 indicate that significant aspects information will be use to develop prioritized goals, objectives and targets for controlling, managing, and improving operations with a potential to significantly impact the environment.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall establish and maintain programs for achieving its objectives and targets. These environmental management programs shall include:</i></p> <ul style="list-style-type: none"> • <i>designation of responsibility and accountability for achieving objectives and targets at each relevant function; and</i> • <i>an action plan that includes measurable milestones and the means and time-frame by which they are to be achieved.</i> <p><i>If a project relates to new developments or new activities, program(s) shall be amended where relevant to ensure that environmental management applies to such activities.</i></p>	<p>Objective Implementation Plans for environmental objectives and targets are developed annually, and updated as needed. They include designation of owners, and an action plan with milestones (steps and dates) and required resources.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i><u>NOTE:</u> Objectives and programs that support environmental stewardship may include:</i></p> <ul style="list-style-type: none"> • <i>Developing, designing, and operating facilities and conducting activities, taking into consideration efficient use of energy and materials, sustainable use of resources, minimization of adverse environmental impact and waste generation, and the safe and responsible disposal of wastes.</i> • <i>Identifying and implementing opportunities for reducing hazardous substance use and hazardous waste generation.</i> • <i>Identifying and adopting improvements in the EMS that allow the organization to identify, evaluate, and implement pollution prevention opportunities in the future.</i> 	<p>GIH-8.2.7, Work Planning and Control Process, and organizational specific documents (see discussion under Operational Control element) provide for consideration of sustainable development, pollution prevention, and resource conservation.</p> <p>The pollution prevention program addresses opportunities for reductions in resource consumption (e.g., energy efficiency), material use (e.g., hazardous materials), and waste generation (e.g., mixed low-level waste).</p>

9.7 Structure and Responsibility

All employees have a role to play in the EMS. Roles for the following positions are described in Attachment 11.2: Chief Executive Officer, Executive Board, Vice Presidents, Vice President Technical Services, EMS Management Representative, Line Organizations, Support Organizations, EMS Representatives, EMS Coordinator, Employees, and Contractors.

Responsibilities for environmental compliance and enhancement are distributed among several organizational units in Energy Northwest. Support for EMS elements that are not strictly environmental (such as communication and records management) is provided by a number of organizations. The respective responsibilities of those organizations are also described in Attachment 11.2, under Support Organizations.

Through the Energy Northwest position descriptions/performance plans, the strategic/business planning process, work planning processes, and the training program, staff members are made aware of their responsibilities, authorities, and accountabilities.

NUMBER EMS-01	REVISION 0	PAGE 23 of 101
------------------	---------------	-------------------

Energy Northwest defines the principal accountabilities for each non-bargaining position through position descriptions. For bargaining staff, performance is defined and measured as agreed upon in their contract. Senior management holds staff accountable for their performance.

SWP-PRO-03, Section 3.2.3 requires inclusion of a Responsibilities Section in written administrative procedures. (GIH-1.1.1 applies the SWP-PRO series corporate wide.) The Responsibilities Section lists the positions identified in the body of the procedure, and describes general performance expectations that cannot be effectively described in the main Procedure/Guideline Section. Otherwise, responsibilities are to be identified in the Procedure/Guideline Section.

Training programs such as Plant Access Training and Blue Badge Training address expectations and responsibilities.

The following GIHs are related to the structure and responsibility EMS element:

- GIH-4.2.6, Performance Improvement, Standards of Conduct, indicates staff are expected to plan and conduct work by following environmentally sound work practices and procedures. It notes that staff have a responsibility to notify management of concerns related to environmental issues. It holds nonbargaining staff accountable to environmental Standards of Conduct. It includes guidance for addressing environmental performance concerns.
- GIH-4.3.12, Performance Planning/Appraisal, Section 2.1, requires that each non-bargaining position have current goals documented in a performance plan. These plans link personal goals to strategic and business goals. For bargaining staff, performance is defined and measured as agreed upon in their contract. The GIH also describes how managers/supervisors, in conjunction with the employee, develops an employee performance plan that establishes specific employee expectations, performance monitoring. Employee performance is reviewed and documented quarterly by the manager and employee.
- GIH-4.2.1, Employee Recognition and Awards, includes the Environmental Stewardship Awards Program, which enables use of all Energy Northwest awards for exceptional environmental performance.
- GIH-2.9.1, Strategic and Business Planning, requires the allocation of resources to processes (e.g., EMS) and departments for each fiscal year. Input is received from the strategic planning process and the prior year’s business planning results. Group and Department business plans are then developed. Staffing and budgets are determined based on business plan action requirements.

NUMBER	REVISION	PAGE
EMS-01	0	24 of 101

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>Roles, responsibilities and authorities shall be defined, documented, and communicated in order to facilitate effective environmental management.</i></p>	<p>Attachment 11.2 of this EMS Manual, GIH-4.2.6, (Performance Improvement), position descriptions (or contracts for bargaining staff), and the responsibilities sections in procedures define and document roles, responsibilities and authorities. GIH-8.2.7, Work Planning and Control Process, Section 3.3.2 references ensuring that employees and contractors understand their roles and responsibilities.</p> <p>This information is communicated to staff through training programs and tools (e.g., the “EMS and You” brochure), and during the performance planning and appraisal process.</p>
<p><i>The organization may establish clearly defined employee performance standards that include environmental issues, as appropriate; and recognize and reward exceptional environmental performance.</i></p>	<p>GIH-4.2.1, Section 5 establishes the Environmental Stewardship Award program. GIH-4.2.6, “Standards of Conduct” Attachment 5.1, establishes environmental stewardship employee performance standards.</p>
<p><i>Management:</i></p> <ul style="list-style-type: none"> • <i>should seek to instill the attitude that all employees are responsible for implementing the EMS and improving environmental performance;</i> 	<p>The Environmental Stewardship Policy (PSM 5.7) addresses fostering a culture of environmental stewardship, promotes consideration of the environment by all employees in everything they do, and indicates that environmental stewardship is a responsibility of all employees.</p> <p>GIH-4.2.6, Standards of Conduct Attachment establishes employee responsibility to:</p> <ul style="list-style-type: none"> • Maintain awareness of potential environmental impact of work. Plan and conduct work by following environmentally sound work practices and procedures.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
	<ul style="list-style-type: none"> • Identify potential environmental hazards or concerns, and unsafe conditions or practices, and implement or suggest controls to minimize risk, protect human health and safety, conserve resources and prevent pollution. • Notify management of concerns related to environmental or safety issues, including the use or disposal of hazardous materials, environmental incidents, or violations of requirements. • Cease work activity upon observing imminent environmental or safety danger, and report the danger immediately to management.
<ul style="list-style-type: none"> • <i>should have a system in place for the identification of needs and allocation of resources to implement the environmental policy; and</i> • <i>should commit and shall provide, or assure the availability of, resources essential to the implementation and control of the EMS (including achievement of objectives and targets, and implementation of environmental management programs). Resources include human resources (i.e., the availability and assignment of sufficient personnel), specialized skills, and technology, and allocation of financial resources.</i> 	<p>GIH-2.9.1 (Strategic and Business Planning) provides requirements for allocating resources for EMS related activities. Staffing, equipment, materials, training, and travel are determined prior to the next fiscal year (July 1 - June 30) based on Group and Department business plans. Budgets are approved by senior management, the Board of Directors, and BPA.</p>
<p><i>Top management shall appoint a specific management representative who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for:</i></p>	<p>The Manager of Regulatory Programs has been designated as the EMS Management Representative. This person's roles, responsibilities and authority are documented in this EMS Manual, and in GIH-8.2.3, EMS Management Review.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> • <i>ensuring that EMS requirements are established, implemented, and maintained in accordance with ISO 14001; and</i> • <i>reporting on the performance of the EMS to top management for review and as a basis for improvement of the EMS.</i> 	

9.8 Training, Awareness, and Competence

Hiring processes ensure that staff meet minimum qualifications, augmented as necessary by additional training. The Energy Northwest training policy is stated in PSM 6.11, Training - Qualifications. The policy indicates that Energy Northwest uses the Systematic Approach to Training (SAT) for regulatory and industry standards, and may use a graded approach to SAT for non-regulatory or industry standard training. The policy requires that line managers identify duties that require training.

On the corporate level, the Corporate Training Advisory Group (CTAG), described in GIH-4.4.10, Corporate Training Advisory Group, provides a focal point for the oversight and approval of all corporate training for Energy Northwest. The CTAG is responsible for ensuring that training meets business needs, is aligned with strategic objectives, and that training resources are maximized.

GEN-TQS-01, Training Program Administration, and GIH-4.4.2, Management Training and Development describe processes for identifying training needs for employees and contractors, and ensuring that staff are qualified to perform their assigned duties. Training needs for most staff are captured in the Energy Northwest Personnel Qualification Directory (PQD), an online module of the Passport system that tracks training requirements and provides notification of the need to update training. (NOTE: Some offsite facilities have their own training tracking systems.) PQD provides a listing of all training courses Energy Northwest provides to staff.

During work planning process, described in GIH-8.2.7, Work Planning and Control Process, applicable requirements are identified, including training requirements. This combination of processes, programs and procedures ensure that only staff with appropriate qualifications are assigned to tasks. Department managers and supervisors, with support from the raining staff, have prime responsibility for assuring that staff are trained and competent to perform their work.

NUMBER EMS-01	REVISION 0	PAGE 27 of 101
------------------	---------------	-------------------

Training courses have been developed to enhance environmental awareness and provide staff with necessary skills. General Employee Training (GET), Plant Access Training (PAT), and Blue Badge Training are the three key courses that provide Energy Northwest employees and contractors with the environmental awareness and job-specific training required.

9.8.1 **GET (General Employee Training - Green Badge)** - is provided annually to employees and contractors who require unescorted access to the CGS “protected area” and the CGS “radiological controlled area (RCA)”. The training is presented in two parts: Protected Area Training (PAT) and Radiation Worker Training (RWT). Individuals who need access to the protected area only take PAT, which includes modules on environmental management (policy, aspects/impacts, compliance, pollution prevention, and waste management); hazardous materials management; quality programs and problem reporting; fire protection; industrial safety; fitness for duty; emergency response; and radiological protection. This course provides both awareness and job specific training on many of the generic environmental aspects found at the CGS.

Individuals who need access to the RCA must take RWT in addition to PAT. RWT includes information on radiation sources, types and measures; biological effects; limits and guidelines; dosimetry; contamination; exposure; and radioactive waste.

9.8.2 **Blue Badge** - All remaining Energy Northwest employees staff and contractors who do not need GET take “Blue Badge” training. Typically, employees/contractors at sites other than CGS sites other than CGS take this training, however, some at CGS take it if unescorted access to the protected area is not required. The training includes the same environmental management module as GET and also covers industrial safety, emergency response, fitness for duty, and nuclear safety.

9.8.3 **Job Specific Training** - Staff whose jobs can significantly impact the environment have been identified and receive job specific training. Since the PAT awareness - level training provides many of the topics typically covered under job specific training, the approach for identifying the target employees was tailored in a manner that focused on those persons who perform the following activities:

- a. Those with significant aspects not specifically addressed in PAT training,
- b. Permitted operations,
- c. Those with unique conditions that would benefit from specific instructions to address environmental issues.

NUMBER	REVISION	PAGE
EMS-01	0	28 of 101

Since each organizational unit evaluated their activities, identified associated environmental aspects, and documented the results, the documentation was used to identify the specific activities that require job specific training. Once these were identified, the job position and/or staff members associated with these activities were identified. Training is typically “presented in group toolbox” meetings and documented in PQD. For these staff, the courses described above are augmented with job-specific training courses such as Rad Worker or department-specific training (e.g., MX00149, Maintenance Work Practice) and/or pre-job briefings as necessary.

9.8.4 CGS contractor training requirements are described in PPM 1.4.7, Control of Contractors and Vendors. This PPM discusses training requirements for Technical Representatives and those supervising contractors, and qualifications for contractors (e.g., level of technical competence and knowledge and compliance with applicable procedures, briefings, etc.).

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall:</i></p> <ul style="list-style-type: none"> • <i>educate and train employees to conduct their activities in an environmentally responsible manner;</i> 	<ul style="list-style-type: none"> • PSM 6.11 • GIH-4.4.2 • GEN-TQS-01 • General Employee Training (PAT & RWT) • Blue Badge Training Course • On the job training • Pre-job briefings
<ul style="list-style-type: none"> • <i>identify training needs;</i> 	<ul style="list-style-type: none"> • GIH-8.2.7, Section 3.3 • GIH-4.4.2 • GEN-TQS-01 • Passport module - Personnel Qualification Directory (PQD) for CGS Personnel • Requirements in plans (e.g., Spill Plan) and procedures

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> • <i>require that all personnel whose work may create a significant impact upon the environment or result in noncompliance have received appropriate training to carry out the environmental responsibilities of their positions. The training program should include task specific skills; and</i> 	<ul style="list-style-type: none"> • PSM 6.11 • GEN-TQS-01 • PQD • GIH-8.2.7, Section 3.3
<ul style="list-style-type: none"> • <i>establish and maintain procedures to make persons working for the organization or on its behalf aware of:</i> <ul style="list-style-type: none"> ◦ <i>the importance of conformance with the environmental policy (including the importance of compliance), procedures, and the requirements of the EMS;</i> ◦ <i>environmental requirements associated with their tasks;</i> ◦ <i>their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the EMS, including emergency preparedness and response requirements;</i> ◦ <i>the significant environmental aspects and impacts, actual or potential, of their work activities;</i> ◦ <i>the environmental benefits of improved personal performance;</i> ◦ <i>and</i> ◦ <i>the potential consequences of departure from specified operating procedures.</i> 	<ul style="list-style-type: none"> • General Employee Training (PAT/RWT) • Blue Badge Training • Augmented by job-specific training as necessary • GIH-8.2.7, Section 3.3.2

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>Personnel performing tasks which can cause significant environmental impacts or which can result in noncompliance shall be competent on the basis of appropriate education, training, skills, and/or experience.</i></p>	<ul style="list-style-type: none"> • Position Descriptions identify minimum qualifications • Hiring processes ensure staff meet minimum qualifications, augmented as necessary by additional training needs as defined in PQD.
<p><i>The organization should also have a program to provide appropriate guidance, information, and provide training or require it as a prerequisite, to contractors and leaseholders on the risks associated with the work they will be performing.</i></p>	<ul style="list-style-type: none"> • PPM 1.4.7 • GET (PAT/RWT) • Blue Badge Training • Contractor brochure/other written information provided • Contract clauses • On the job/pre-job briefings
<p><i>In addition, it should have a program/process for receiving information from suppliers on goods and services that the organization will use.</i></p>	<p>GIH-8.2.2, Section 2.7, addresses acquisition/procurement processes</p> <p>Material Safety Data Sheets (MSDS) are obtained from suppliers. Energy Northwest staff follow SWP-PUR-04 when purchasing of supplies, which notes that for chemicals, an MSDS must be obtained, and a Request for Chemical Permit must be completed per SWP-CHE-05 for most chemicals used in the CGS power block facilities.</p>

9.9 Communication

At Energy Northwest, the majority of EMS communication requirements are fulfilled in four procedures:

- 9.9.1 GIH-8.2.2, Environmental Management System Communications - the umbrella document that defines and/or references all communication procedures.
- 9.9.2 RPI 8.0, Processing of Incoming Regulatory and Industry Correspondence and Commitment Screening - provides for documentation of external communication with regulatory and industry agencies.
- 9.9.3 SWP-REC-01, Records Management - Section 3.16 documents the receipt, documentation, and response to external requests for Public Records.

<p>NUMBER</p> <p>EMS-01</p>	<p>REVISION</p> <p>0</p>	<p>PAGE</p> <p>31 of 101</p>
-----------------------------	--------------------------	------------------------------

- 9.9.4 Desk Procedure, Data Entry for Environmental Management System Public Inquiry Log - documents the receipt and response to internal and external comments and requests for information not covered by RPI 8.0 or SWP-REC-01.
- 9.9.5 GIH-9.1.3, Chief Executive Officer Event Notification, provides guidance on what events require CEO notification and time frames. Events include events such as emergency classification of Unusual Event or Higher, workplace incidents that may result in adverse publicity, an issue raised by a regulatory agency if judged to be significant, and environmental damage estimated to exceed \$100,000.

Other relevant communication procedures include:

- 9.9.6 GIH-9.1.1, Preparation of Documents for Submittal to the Executive Board/Board of Directors, General Information Handbook, Administrative Procedures Manual
- 9.9.7 GIH-9.6.1, Submitting Articles for Supply System Communications, General Information Handbook, Administrative Procedures Manual

NUMBER	REVISION	PAGE
EMS-01	0	32 of 101

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>With regard to its environmental aspects and EMS, the organization shall establish and maintain procedures for:</i></p> <ul style="list-style-type: none"> <i>internal communication between the various levels and functions of the organization. This may include how environmental requirements and environmental performance will be communicated; and</i> 	<p>GIH-8.2.2 defines internal communications and references other relevant procedures</p>
<ul style="list-style-type: none"> <i>receiving, documenting, and responding to relevant communication from external interested parties, including concerns regarding environmental performance and compliance.</i> 	<ul style="list-style-type: none"> RPI 8.0 defines procedures for regulatory and industry correspondence SWP-REC-01 defines procedures for requests for public records GIH-8.2.2, Section 3.5 and the Public Inquiry Log cover procedures for all other external communications
<p><i>The organization also:</i></p> <ul style="list-style-type: none"> <i>shall communicate relevant procedures and environmental requirements to persons working on behalf of the organization (e.g., employees, contractors) and suppliers;</i> 	<ul style="list-style-type: none"> GIH-8.2.2, Section 2.7 (defines Procurement as having lead responsibility for communication with contractors and suppliers)
<ul style="list-style-type: none"> <i>shall consider processes for external communication on its significant environmental aspects, and record its decision.</i> 	<p>GIH-8.2.2, Section 3.0. Significant aspects will be communicated in the annual report.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> • <i>should fully inform top management about pertinent environmental issues.</i> 	<ul style="list-style-type: none"> • GIH-8.2.2, Section 3.0 • GIH-8.2.3, EMS Management Review describes information that will be included in the review. Information is also shared via regular staff meetings. • GIH-8.2.4, Environmental Compliance Assessments, Section 3.8, and GIH-8.2.8, EMS Audits, Section 3.6 discuss notification of senior management of pertinent findings. • The Corrective Action Process (described in GIH-1.3.1 and SWP-CAP-06) provides for notification of management of problems and status. • GIH-9.1.3 provides for immediate notification of the CEO of certain events.
<p><i>In order to foster openness and dialogue with stakeholders, the organization:</i></p> <ul style="list-style-type: none"> • <i>Should, at intervals it deems appropriate, prepare an environmental statement, report, or other communication that is available to stakeholders. The statement should be presented in a clear and comprehensible manner and may include:</i> <ul style="list-style-type: none"> ◦ <i>the organization’s significant environmental aspects;</i> ◦ <i>its targets and objectives relative to significant environmental aspects;</i> ◦ <i>the organization’s environmental requirements;</i> ◦ <i>its environmental performance;</i> 	<p>Communication of this information is performed on a case by case basis, as indicated by the term “should,” but many of these items are addressed in GIH-8.2.2, Section 3.2, particularly via the Annual Report</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> ◦ <i>progress relative to its significant environmental aspects, and its targets and objectives (including environmental leadership); and</i> ◦ <i>numerical data, where applicable.</i> 	
<ul style="list-style-type: none"> • <i>should encourage employee feedback on pollution prevention and other means to reduce environmental impact;</i> • <i>may assess employee and community concerns about the organization’s activities; and anticipate, where possible, and respond to, their concerns about the potential environmental hazards and impacts of activities;</i> • <i>may periodically seek advice and counsel through dialogue with persons in communities near its facilities;</i> • <i>may involve stakeholders in the development of its EMS;</i> • <i>may encourage employee involvement in development and implementation of the EMS.</i> 	<p>GIH-8.2.2, Section 3.0, including:</p> <ul style="list-style-type: none"> • Section 3.1.2, “Support continuous improvement of the EMS by soliciting and responding to feedback from key audiences, using all appropriate communication vehicles.” • Section 3.3, which defines key audiences and covers site neighbors and all types of employees. <p>Employees and contractors have access to internal and external programs (e.g., reporting to the NRC, use of a web-based form which offers anonymous reporting directly to the CEO, filing of Condition Reports in accordance with GIH-1.3.1, Corrective Action Program) to raise concerns and have them resolved.</p>
<p><i>The organization may also consider sharing knowledge and lessons learned with other electrical utilities.</i></p>	<p>Sharing of knowledge and lessons learned with other nuclear utilities may occur through vehicles such as INPO connections, through professional conferences, publications, and the Energy Northwest website.</p>

9.10 EMS Documentation

This EMS Manual describes the main elements of the EMS, their interaction, and provides references to related documentation. Also refer to discussions under Document Control and Records elements for more information.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>EMS documentation shall include:</i></p> <ul style="list-style-type: none"> • <i>the documented environmental policy, objectives and targets;</i> 	<ul style="list-style-type: none"> • Environmental Stewardship Policy (PSM 5.7) • GIH-2.9.1 Strategic and Business Planning and corresponding Implementation Plans
<ul style="list-style-type: none"> • <i>a description of the main elements of the EMS, and their interaction and reference to related documentation;</i> 	<p>This EMS Program Manual</p>
<ul style="list-style-type: none"> • <i>documents required by ISO 14001;</i> 	<p>Documents required by ISO 14001 are referenced in each section in this EMS Program Manual - Also see References and Attachment 11.7 for lists.</p>
<ul style="list-style-type: none"> • <i>documents determined by the organization to be necessary to ensure the effective planning, operation and control of processes that relate to its significant environmental aspects; and</i> 	<p>These documents are referenced in this EMS Program Manual - also see References and Attachment 11.7 for lists.</p>
<ul style="list-style-type: none"> • <i>records required by ISO 14001</i> 	<p>Records required by ISO 14001 are listed in Appendix C and are currently being incorporated into the general records retention schedule.</p>

9.11 Document Control

Document control requirements are primarily addressed through two procedures:

GIH-1.1.3, Document Control, establishes the corporate level document control program. It requires organizations to either follow SWP-DOC-01, Document Control, or develop their own documented procedure that addresses the document control requirements in the EMS Model.

<p>NUMBER</p> <p>EMS-01</p>	<p>REVISION</p> <p>0</p>	<p>PAGE</p> <p>36 of 101</p>
-----------------------------	--------------------------	------------------------------

In addition, GIH-1.1.1, Manual Control, requires the use of the SWP-PRO series for procedures to be included in the General Information Handbook, with minor variations. SWP-PRO-01 describes the procedures program. It applies to all levels of procedures, instructions, and forms, that affect CGS nuclear operations and the Independent Spent Fuel Storage Installation (ISFSI) and to GIHs, which apply to all Energy Northwest activities. It describes the document hierarchy (starting with policies), and how the need for a procedure is determined; preparation, review and approval (cross-referencing SWP-PRO-02 and SWP-PRO-03); format; vendor procedures (which are either approved with the governing procedure or through the vendor submittal review and approval process); procedure use requirements (e.g., “all users are responsible for verifying that the procedures they are using are the correct revision...”). SWP-PRO-01 also includes requirements to thoroughly review procedures prior to use, that strict adherence to approved written procedures is expected, and describes the PASSPORT Document Management System database. Revision information is available in Passport.

The Energy Northwest document control system supports location of documents. The most up-to-date internal operating procedures for CGS are maintained in the online Passport system. Revision numbers and dates are tracked in the system, and previous revisions are also available online. There are a number of triggers for document review and update, such as identification of new or revised source material. Desk instructions and other standard operating procedures are controlled, but are not included in the Passport system.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>Documents required by an EMS and by ISO 14001 shall be controlled. A procedure(s) shall be established and maintained to define the controls needed to:</i></p>	<p>GIH-1.1.3 and SWP-DOC-01.</p>
<ul style="list-style-type: none"> • <i>Approve documents for adequacy prior to issue;</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Section 3.2.1 and SWP-DOC-01, Section 2.1.3 address approving controlled documents prior to issue. Section 3.2.2 of SWP-DOC-01 also requires that controlled documents be reviewed for technical adequacy by qualified personnel prior to approval for issue. • GIH-1.1.1 (referencing SWP-PRO series) addresses review and approval of procedures.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> • <i>Review, update as necessary and re-approve documents;</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Section 3.2.2 and SWP-DOC-01, Section 3.2.5 address reviewing, updating and re-approving controlled documents. • GIH-1.1.1 (referencing SWP-PRO series) addresses review and approval of procedures.
<ul style="list-style-type: none"> • <i>Ensure that changes and the current revision status of documents are identified;</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Section 3.2.3 requires identifying changes and current revision status for controlled documents. • SWP-DOC-01, Section 3.5.2 requires that the current revision status of controlled documents shall be identified and maintained. For documents contained in Passport, changes and the current revision status are noted. These include SWPs, vendor manuals, forms, plant procedures, drawings, calculations, and some department instructions.
<ul style="list-style-type: none"> • <i>Ensure that relevant versions of applicable documents are available at points of use;</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Section 3.2.4, requires ensuring that relevant versions of applicable documents are available at points of use. • Sections 2.1.4, 2.2, and 3.3.6 of SWP-DOC-01 address ensuring access of applicable documents at points of use.
<ul style="list-style-type: none"> • <i>Ensure that documents remain legible, dated (with dates of revision) and readily identifiable;</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Section 3.2.5 requires ensuring that documents remain legible and readily identifiable. • SWP-DOC-01, Section 3.1.2 requires that controlled documents have a title, unique document number, revision number and when appropriate, an issue date. Section 3.3.1 of the procedure references legibility

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> • <i>Manage documents of external origin determined by the organization to be necessary for the planning and operation of the EMS; and</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Section 3.2.6. These documents are being incorporated into the records management system described in GIH-3.4.9, Records Management and SWP-REC-01. A list of environmental records is also found in Appendix C. • RPI 12.0 addresses management of legal and other requirements.
<ul style="list-style-type: none"> • <i>Prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.</i> 	<ul style="list-style-type: none"> • GIH-1.1.3, Sections 3.2.7 and 3.2.8, require prevention of unintended use of obsolete documents. • SWP-DOC-01, Sections 2.2.3 and 3.4.3 address precluding the use of obsolete documents.

9.12 Records

Two procedures define the records management program:

9.12.1 GIH-3.4.9, Records Management, establishes requirements for the Energy Northwest’s Records Management Program and directs all projects to follow requirements in SWP-REC-01.

9.12.2 SWP-REC-01 establishes requirements for generation, turnover, transfer, storage, maintenance, retention and disposition of records and required by codes, standards, specifications, regulatory and Energy Northwest requirements.

NOTE: The Environmental Protection Plan requires that records relative to environmental aspects of CGS operation and records of modifications to plant structures, systems and components determined to potentially affect the continued protection of the environment be retained for the life of the plant. Records listed with a Lifetime retention (e.g., offsite environmental monitoring records) are those records required to be retained and managed for the life of the plant, life of the equipment, life of the system, or other event or item to which they relate. The retention period is always keyed to an item, event, or process that has a definite start and stop date.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall establish and maintain procedures to define controls needed for the identification, storage, protection, retrieval, retention, and disposition of environmental records.</i></p>	<p>Environmental records have been identified (see Attachment 11.7) and are managed within the Energy Northwest Records Management Program defined under GIH-3.4.9.</p>
<p><i>Environmental records shall be and remain legible, identifiable and traceable.</i></p>	<p>GIH-3.4.9 establishes records management requirements and directs all projects to follow requirements in SWP-REC-01. Section 3.3.2, applies SWP-REC-01 to all public, essential, and quality assurance records, and requires retention of those records in varying media forms, including paper, film, and electronic media.</p> <p>SWP-REC-01 Section 3.2.5 requires that Quality Assurance records be legible, properly completed, and adequately identifiable to the item or activity involved.</p> <p>GIH-1.1.3, Document Control, that Energy Northwest organizations establish a document control program that ensures document remain legible and readily identifiable.</p>
<p><i>Records shall be maintained as appropriate to the system and to the organization, to demonstrate conformity to the requirements of ISO 14001.</i></p>	<p>A listing of environmental records has been developed (see Attachment 11.7), and is incorporated into the Energy Northwest records schedule. This list includes records that demonstrate conformity to the requirements of ISO 14001.</p>

9.13 Operational Control

Engineered and administrative operational controls are in place to manage environmental aspects and impacts. Administrative controls are documented in procedures (e.g., GIHs, SWPs, desk instructions, etc.) and plans. Engineered controls include measures such as spill containment, and filters for radiological effluent controls, etc., with operating criteria specified as necessary in procedures. Security is provided in buildings and facilities to prevent unauthorized entry.

A number of operational control programs (described in Attachment 11.3) have been developed and implemented. As discussed under the EMS Element Environmental Aspects, Energy Northwest has identified the following significant environmental aspects. Programs/operational controls in place to manage these aspects are described in Attachment 11.3. There is also an environmental monitoring program that covers a variety of aspects.

- Air emissions (see Air Emissions, Asbestos, and Refrigerants)
- Liquid effluents (see Industrial Wastewater, Sanitary Wastewater)
- Storage and use of hazardous materials (see Chemical Control, Community Right-to-Know, PCBs, Emergency Spill Preparedness and Response, and Pollution Prevention)
- Waste generation (see Solid Waste, Hazardous [Dangerous] Waste, Mixed Waste, Radioactive Waste, and Pollution Prevention)
- Land use (see Land Use).

Contractors are made aware of Energy Northwest's commitment to Environmental Stewardship through the General Provisions attachments to contracts and other procurement documents, which since August 2004 include EMS clauses that emphasize Environmental Program Requirements. PPM 1.4.7, Control of Contractors and Vendors discusses requirements for contractors. Additionally, using the guidance offered in the User's Guide to Contracting, the Contracting Officer and/or Technical Representative are prompted to contact Regulatory Programs for guidance if the planned work:

- Involves the storage, handling, or use of chemicals or radioactive materials
- Generates waste (solid, hazardous, mixed, etc.) or air emissions or liquid effluent
- Has the potential for hazardous materials or petroleum product spill
- Requires significant use of energy or water
- Involves significant disturbance of the land surface.

The Contracting Officer and/or Technical Representative also offers general EMS information to the contractor through a brochure or other materials as needed, e.g., during pre-job briefings.

NUMBER	REVISION	PAGE
EMS-01	0	41 of 101

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall identify those activities that are associated with the identified significant environmental aspects and compliance with environmental requirements, consistent with its policy, objectives and targets.</i></p>	<ul style="list-style-type: none"> • GIH-8.2.1, Environmental Aspects Identification, describes the process for identifying significant aspects. All key work activities have been evaluated for their impact on significant environmental aspects. A walk through and completed worksheet on each activity was completed. • For new project work, GIH-8.2.7, Work Planning and Control Process, Purpose and Scope Section, requires review of new or modified activities, those that have not already been reviewed, and any activities where failure of existing operational controls results in potential or actual environmental impact. • For activities at CGS requiring plant design changes, procedures DES-2-1, and 2-7 Attachment 8.2 require an initial screening that includes environmental review for design inputs. Attachment 8.3 provides an environmental checklist to be used for that review. In addition, when activities could potentially require changes to the plant licensing basis, an applicability determination form must be completed. That form requires an evaluation of the environmental impact of the proposed activity. • PJM-2-1 requires environmental considerations during the initial Project Team meeting. The project must be discussed with the organization's EMS Representative to identify environmental aspects.
	<ul style="list-style-type: none"> • GIH-8.2.7, Work Planning and Control establishes the corporate

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall plan these activities in order to ensure that they are carried out under specified conditions by:</i></p> <ul style="list-style-type: none"> <i>establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the environmental policy and the objectives and targets. This may include engineering and operational controls to detect and prevent unplanned releases to the environment and minimize human error, and other precautionary approaches to prevent environmental degradation such as pollution prevention;</i> 	<p>work planning and control process. Section 3.4.1 requires development of procedures where the absence of such procedures could lead to deviations from the Energy Northwest environmental policy and objectives.</p> <ul style="list-style-type: none"> Work planning procedures also exist at the organizational level. For example, at CGS: MI 1.8, MI 1.28, SWP-MAI-01, PPM 1.3.68, PassPort Planners Guide, CSM 3.1.10, and ESBI 2.5. SWP-PRO-01 SWP-PRO-02, and SWP-PRO-03 describe the document hierarchy (starting with policies), how the need for a procedure is determined; preparation, review and approval; format; vendor procedures (which are either approved with the governing procedure or through the vendor submittal review and approval process); and procedure use requirements for both the Administrative Procedures Manual (the location of the corporate level procedures) for CGS.
<ul style="list-style-type: none"> <i>stipulating operating criteria in the procedures;</i> 	<p>GIH-8.2.7, Section 3.4.1 says that procedures with operating criteria stipulated should be developed and maintained where the absence of such procedures could lead to deviations from the Energy Northwest environmental policy and objectives.</p>
<ul style="list-style-type: none"> <i>enabling personnel to perform their functions consistent with policies and environmental requirements; and</i> 	<p>GIH-8.2.7, Section 3.3.2, states that training and qualifications of Energy Northwest employees and contractors performing the work ensures they are fully qualified to perform the work, consistent with policies and applicable environmental requirements.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<ul style="list-style-type: none"> <i>establishing and maintaining procedures related to the identifiable significant environmental aspects of goods and services used by the organization.</i> 	<p>The General Provisions for Consultant and Technical Services (Appendix D), Invitation for Bid (equipment), Invitation for Bid (Construction), and the General Provisions for Purchase Orders contain contract clause language regarding environmental expectations of contractors.</p> <p>The User's Guide to Contracting requires that Technical Representatives and/or Contracting Officer contact Regulatory Programs if a new project/contract has the potential to impact significant environmental aspects.</p> <p>SWP-PUR-01, Section 3.1.6 requires a determination of procurement requirements for contractors and suppliers. The Work Supervisor reviews the Service Evaluation, noting any added controls required from the applicable Technical and Administrative reviews, and establishing a mechanism to assure that controls are implemented by suppliers performing onsite services.</p> <p>SWP-PUR-04, Section 3.1.1 addresses purchasing of supplies for use within CGS. It requires that an MSDS be provided, and a Chemical Permit acquired per SWP-CHE-05, if applicable, along with approvals by either 1) Radiation Protection Manager, 2) Industrial Safety, 3) Plant Fire Marshal.</p>

9.14 Emergency Planning, Preparedness, and Response

Energy Northwest has an Emergency Preparedness/Response program, as required to maintain compliance with requirements for operating a nuclear power plant. The program includes procedures for emergency preparedness and response, and drills are conducted.

GIH-8.2.5, Environmental Emergency Preparedness, describes planning for and response to industrial environmental emergencies at Energy Northwest facilities. The procedure does not identify potential emergency situations/accidents (such as meteorological events or wildfires) that could have an environmental impact, nor does it describe how to respond to such incidents. Additionally, the procedure does not address coordination with outside agencies. This procedure does not include response to Columbia Generating Station (CGS) nuclear or radiological emergencies. As a commercial nuclear power generating facility licensed by the Nuclear Regulatory Commission, CGS has a comprehensive program designed to enable an effective response to emergency situations. The core of this program is the “Columbia Generating Station Emergency Plan” and its implementing procedures.

Each offsite location has a spill/fire/emergency response plan.

Select procedures or plans relevant to spill response are:

- ABN-HAZMAT, Hazardous Materials Spills/Releases - provides plant operators with quick guidance for immediate actions, including spills and releases. It also discusses potential consequences of spills. It indicates, “Hazardous material spills may require reporting to local, State, and Federal agencies, depending on the type and quantity of material spilled.” ABN-HAZMAT directs staff to follow SWP-ENV-02, which incorporates reporting requirements. It is an Operations emergency procedure activated when a spill/release of hazardous material occurs on Energy Northwest property, or a hazardous material spill/release has the potential to threaten control room habitability.
- SWP-ENV-02, Oil and Hazardous Substances Spill Prevention, Control, and Counter-Measure Plan (reference in the RCRA Contingency Plan). This is the principal guidance for spill response at CGS. The procedure provides measures to minimize the risk of releases of hazardous substances and prescribes appropriate responses to such releases. The procedure covers prevention and preparedness, response actions, spill site assessment, cleanup and disposal, notifications and reports, training, and medical surveillance.
- PPM 1.10.1, Notification and Reportable Events - catalogues event-related reports such as for spills and unauthorized releases for CGS.

NUMBER	REVISION	PAGE
EMS-01	0	45 of 101

- Spill/Fire/Emergency Response plans exist for Packwood, Nine Canyon Industrial Development Complex, ENOC, and White Bluffs.

Volume 13, Emergency Plan implementing procedures (EPIPs), directs responses from radiological accidents at CGS that could impact the environment. EPIP 13.8.1, Emergency Dose Projection System Operations, provides instructions for the use of computer models to predict offsite dose rates, integrated doses, and radioactive material deposition within the 10-mile plume emergency planning zone and the 50-mile ingestion emergency planning zone. EPIP 13.9.1, “Environmental Field Team Monitoring Operations,” provides instruction to field team personnel for sampling and field analyses to confirm radiological releases through actual measurements in the field. EPIP 13.13.3, “Intermediate Phase MUDAC Operations,” provides direction for evaluating post accident radiological conditions and for developing recommendations that lead to protection of the public and further spread of contamination to the environment.

Emergency preparedness and response procedures have been reviewed and revised after drills, and lessons learned have been incorporated.

The Control Room is established as a focal point for reporting spills at CGS. The Shift Manager/Control Room Supervisor serves as the on-duty emergency coordinator. The primary initial responders for emergency situations are the Plant Fire Brigade members, with backup from the Hanford Fire Department. Environmental Services provides direction for recovery, cleanup and disposal of spill residues. Initial external reports are by the Control Room or Regulatory Services. Regulatory Services prepares, with input from others, any follow-up reports that may be required by regulators.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<i>The organization shall establish and maintain (a) procedure(s) to identify potential emergency situations and potential accidents that can have (an) environmental impact(s), and how it will respond to them. The organization shall respond to actual emergency situations and accidents, and prevent or mitigate associated environmental impacts.</i>	CGS and offsite facilities have emergency response plans.
<i>The organization should coordinate emergency planning, preparedness, and response with emergency services, relevant authorities, and the local community, as appropriate.</i>	Arrangements have been made to coordinate with the Hanford Fire Department for events at Richland facilities.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<i>The organization shall periodically test such procedures where practicable.</i>	GIH-8.2.5, Environmental Emergency Preparedness, requires drills.
<i>The organization shall periodically review and revise, where necessary, its emergency preparedness and response procedures, in particular after the occurrence of accidents or emergency situations.</i>	Per GIH-8.2.5 requires periodic review and revision of emergency preparedness and response procedures, in particular after accidents on emergencies. Findings are documented via a Condition Report in accordance with the Corrective Action Program, per GIH-1.3.1 which documents any accident/emergency event and ensures corrective/preventive actions are taken, including modification of procedures as necessary.

9.15 Monitoring and Measurement

With regard to monitoring and measuring of objectives and targets, Energy Northwest has a well-developed strategic/business planning system, and provides regular feedback to employees and managers on status and progress. Action items associated with business plans are assigned and can be tracked in the Plant Tracking Log. Color-coded performance reports (e.g., green = exceeds expectations, yellow = needs improvement, etc.) are provided on a quarterly basis to employees and the Board of Directors through the Energy Northwest Performance Indicator Web Application.

A corporate indicator of environmental performance has been developed - the environmental index, which is described in GIH-8.2.6, Environmental Performance Management. This GIH documents the measures and the data collection and reporting in the Performance Indicator Web Application.

Evaluation of the adequacy of operational controls occurs in accordance with GIH-8.2.7, Work Planning and Control and its associated organization-level procedures, and GIH-8.2.4, Environmental Compliance Assessments.

Energy Northwest maintains a routine environmental monitoring program (described in Attachment 11.3) for radiological and non-radiological pollutants, including liquid effluents and air emissions. There are administrative procedures for permit compliance monitoring (e.g., for NPDES and REMP) and other required monitoring programs. The Energy Northwest analytical laboratory has a set of calibration and laboratory procedures. These procedures address document control, analytical lab instructions, sample analysis sheets, quality reviews, and an electronic information management system, and include:

NUMBER EMS-01	REVISION 0	PAGE 47 of 101
------------------	---------------	-------------------

- Landfill Groundwater Sampling, Environmental and Analytical Laboratory Instructions, EALI 3.15
- SWP-CHE-02 addresses compliance with NPDES permit requirements
- PPMs Vol. 12, 16 and V
- SWP for mixed and hazardous waste management
- PPM 1.11.1, Radiological Environmental Monitoring Program (REMP) Implementation Procedure
- License Control Specifications
- NPDES Permit Compliance, Environmental Control, Administrative Procedures, Procedure Number 1.14.5
- Potable Water Quality Assurance, Chemistry Quality Assurance, Chemistry Procedures, Procedure Number 12.1.2
- Avian and Bat Monitoring Plan for the Nine Canyon Wind Project
- Various Standard Laboratory Instructions (SLIs), Supplemental Analytical Laboratory Instructions (SALIs) and Standard Operating Procedures (SOPs), Environmental Services

Energy Northwest Calibration Services are treated as an outside vendor, and are subject to NUPIC audits as a Quality Supplier. They follow ANSI NCL2 540, Calibration Laboratory Quality procedures, recall system for tracking, and monitoring system to report deficiencies.

NUMBER EMS-01	REVISION 0	PAGE 48 of 101
------------------	---------------	-------------------

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall establish and maintain (a) procedure(s) to monitor and measure, on a regular basis, the key characteristics of its activities that can have a significant impact on the environment. This shall include recording information to track performance, relevant operational controls and conformance with the organization's environmental objectives and targets.</i></p> <p><i>The procedure may describe the organization's system for periodically gathering, analyzing, managing, and recording information to track, assess, and determine trends on environmental performance, applicable operational controls, and conformance with the organization's environmental objectives and targets, and identify areas for improvement (including areas where performance is or is likely to become substandard).</i></p>	<ul style="list-style-type: none"> • GIH-8.2.6, Environmental Performance Management (tracking environmental indicators) • GIH-2.9.1, Strategic and Business Planning, Section 3.4 on tracking performance on top tier actions, etc. • Evaluation of the adequacy of operational controls is evaluated during the work planning and control process (GIH-8.2.7, Work Planning and Control Process), and during compliance assurance self-assessments (conducted in accordance with GIH-8.2.4)
<p><i>The organization shall calibrate and maintain monitoring and measurement equipment, and</i></p>	<ul style="list-style-type: none"> • See procedure references above.
<p><i>shall retain associated records.</i></p>	<ul style="list-style-type: none"> • Environmental records are managed in accordance with GIH-3.4.9, Records Management and SWP-REC-01, Records Management, and relevant SOPs. Environmental records include those associated with monitoring and measurement (see Attachment 11.7)

9.16 Nonconformance and Corrective and Preventive Action

GIH-1.3.1, Corrective Action Program, describes the Energy Northwest process used to document issues or conditions (other than those that are security or personnel related), and manage them using the Condition Report (CR) process. For CGS, the site-wide procedure series SWP-CAP is followed.

Anyone (including contractors) can initiate a CR. CRs applicable to CGS are reviewed within 24 hours by operations staff who look at the need for immediate actions. The CR then goes to the CR Review Group, which includes staff from Performance Management, Operations, Maintenance and Engineering, for review and a determination of the level of disposition. This group categorizes all CRs in accordance with SWP-CAP-06, Section 4.0, and reviews and determines how they should be dispositioned (e.g., need to trend, evaluate only, or do an apparent cause analysis, or root cause analysis.) All root cause analyses are done via the Problem Evaluation Request (PER) process. Staff are trained in root cause analysis techniques. Per SWP-CAP-06 and GIH-1.3.1, root cause analysis is required when specific criteria are triggered, such as significant release of radioactive materials, oil or chemicals to the environment.

CRs and the Plant Tracking Log (PTL) system are used to track lessons learned, corrective actions, commitments, etc. The PTL system has trending capabilities. If procedure changes are needed, this is also tracked. Accountability for follow-up is clear and timeliness with regard to closing issues tracked in PTL is monitored closely.

The Performance Management group reviews and grades apparent cause and root cause analysis response and resolution. Initiators of CRs that result in apparent cause or root cause analysis receive a written package on the resolution.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall establish and maintain (a) procedure(s) for dealing with nonconformances and associated preventive and corrective actions (e.g., for incidents such as equipment malfunction, operator error, and accidental release of hazardous substances that could cause an adverse environmental impact.)</i></p>	<ul style="list-style-type: none"> • GIH-1.3.1, Corrective Action Program • SWP-CAP-XX series, Corrective Action Program

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<i>The procedure shall address:</i>	
<ul style="list-style-type: none"> • <i>detecting and investigating nonconformance or situations that could lead to nonconformances; (Note: This should include evaluating the cause of nonconformances and the need to take corrective or preventive action);</i> 	GIH-1.3.1, Section 3.0 and SWP-CAP-XX Series provide requirements for initiating, evaluating, and determining corrective/preventive actions.
<ul style="list-style-type: none"> • <i>defining responsibility and authority for handling and investigating nonconformances;</i> 	GIH-1.3.1, Section 2.0 (Responsibilities) and SWP-CAP-06, Section 3.0 (Responsibilities)
<ul style="list-style-type: none"> • <i>promptly initiating and completing corrective action to mitigate any adverse environmental impacts caused, and taking preventive action to eliminate the cause of actual nonconformances in order to prevent recurrence; and</i> 	GIH-1.3.1, Section 3.0, for CGS, SWP-CAP-01, Section 3.2 provide requirements for timely corrective/preventive actions.
<ul style="list-style-type: none"> • <i>reporting nonconformance (internally, and as required, externally.)</i> 	GIH-1.3.1, Section 2.1, for CGS, SWP-CAP-01, Section 4.6.6 provide requirements for reporting.
<i>Any action taken to identify, correct, mitigate or eliminate the causes or effects of actual and potential nonconformances shall be appropriate to the magnitude of problems and the environmental impact encountered.</i>	GIH-1.3.1, Section 2.0, for CGS, SWP-CAP-02, Section 4.4 & 4.6, provide requirements for implementing actions appropriate to the problem.
<i>The organization shall review the actions taken and implement and record procedural changes resulting from preventive and corrective action.</i>	GIH-1.3.1, Section 3.6 requires CR's involving corrective/preventive actions to be dispositioned in accordance with GIH-1.3.2, which references the SWP-CAP-XX series for developing and reviewing action to ensure procedure changes, SWP-CAP-01, Section 4.10.1.
<i>The organization should have a system to track key corrective and preventive actions to closure.</i>	GIH-1.3.1, Section 1.5, provide for PTL system tracking of CR actions.

9.17 Compliance Assurance (Evaluation of Compliance)

GIH-8.2.4, Environmental Compliance Assessments, provides requirements and guidance for periodically assessing the performance of Energy Northwest and its contractors with regard to applicable environmental requirements.

Assessments include self-assessments conducted by line organizations (e.g., CGS, Maintenance, Chemistry), programmatic assessments (e.g., evaluations by Environmental Services or Regulatory Programs of corporate compliance with environmental permit requirements), and monitoring of contractor compliance. Under SWP-ASU-01, Evaluation of Programs, Processes and Suppliers, the Radiological Environmental Monitoring Program (REMP), NPDES program, and radiological effluents requirements (all of which are considered “License-based” programs covered under 10 CFR 50 Appendix B, which is NRC’s comprehensive quality assurance program) are audited/surveilled every two years for compliance to regulatory requirements. Under SWP-ASU-02, Self-Assessment Program, management walkthroughs of CGS are conducted to observe work practices, and are documented in an Observation Log.

GIH-4.2.6, Performance Improvement, states that staff are responsible for notifying management of concerns related to environmental issues. Employees have access to internal and external programs (e.g., reporting to the NRC) to raise concerns and have them resolved.

PPM 1.4.7, Control of Contractor Personnel, and The User’s Guide to Contracting discuss requirements for monitoring contractor performance.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization should have a program to proactively identify and resolve potential compliance problems.</i></p>	<ul style="list-style-type: none"> • GIH-8.2.4, Environmental Compliance Assessments establishes the corporate compliance assessment program. • SWP-ASU-02, Section 4.2.1 establishes requirements for management walkthroughs at CGS. • Reference to requirement to develop an annual self-assessment plan, that requires development of a schedule indicating what will be audited when.
<p><i>The organization shall establish and maintain a documented procedure for periodically evaluating compliance with applicable legal environmental requirements.</i></p>	<ul style="list-style-type: none"> • GIH-8.2.4, Environmental Compliance Assessments

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization should also monitor the performance of its contractors with regard to environmental requirements, and applicable requirements of the EMS.</i></p>	<ul style="list-style-type: none"> • The scope of GIH-8.2.4, Section 3.5 requires monitoring of contractor compliance with applicable requirements. • The User’s Guide to Contracting requires that the Technical Representatives monitor the contractor’s performance, relative to environmental requirements contained in contract clauses and statements of work.

9.18 Internal Environmental Management System Audit

EMS audit requirements are documented in GIH-8.2.8, EMS Audits. This procedure addresses auditing the EMS to determine whether it conforms to planned arrangements, including the requirements of the EMS Model, and determining whether it has been properly implemented and maintained. It addresses responsibilities, scope and frequency, requirements, team selection and qualifications, documentation of audit results, and corrective action.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>The organization shall ensure that internal EMS audits are conducted at planned intervals in order to:</i></p> <ul style="list-style-type: none"> • <i>determine whether the EMS:</i> <ul style="list-style-type: none"> ◦ <i>conforms to planned arrangements for environmental management including the requirements of ISO 14001; and</i> ◦ <i>has been properly implemented and maintained;</i> • <i>provide information on the results of audits to management; and</i> • <i>make appropriate adjustments to objectives and targets as changing conditions warrant.</i> 	<p>GIH-8.2.8, Section 1.0 discusses purpose and scope. Section 3.5 addresses providing information on results to management, and Section 3.6 notes that audit results are used to evaluate whether adjustments to objective and targets are warranted.</p>
<p><i><u>NOTE:</u> The audit may be either third party or internal. The periodic assessment may include an assessment of</i></p>	<p>GIH-8.2.8, Section 3.2 addresses audit scope and frequency. EMS audits are included on the long range schedule.</p>

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<p><i>the entire EMS. However, annual assessment should be conducted that, at a minimum, addresses the elements contained in the EMS Alternative to Pollution Prevention Planning, February 1997 (i.e., pollution prevention, objectives and targets, responsibilities and resources, and training) in order to determine whether each of these elements is continuing to operate within the EMS.</i></p>	
<p><i>The audit program shall be planned, established and maintained by the organization, taking into consideration the environmental importance of the activity concerned and the results of previous audits.</i></p>	<p>GIH-8.2.8, Section 3.2 indicates that audit scope and frequency shall be based on consideration of past performance and the environmental importance of the activity.</p>
<p><i>The audit procedure shall be established and maintained, and include the following:</i></p> <ul style="list-style-type: none"> • <i>audit criteria, scope, frequency and methods; and</i> • <i>responsibilities and requirements for planning and conducting audits, and for reporting results.</i> 	<p>GIH-8.2.8 is the EMS audit procedure. Section 2 addresses responsibilities, Section 3.2 addresses scope and frequency, Section 3.3 addresses requirements, and Section 3.5 addresses documentation of results.</p>
<p><i>Selection of auditors and conduct of audits should ensure objectivity and the impartiality of the audit process.</i></p>	<p>GIH-8.2.8, Section 3.4 addresses EMS audit team selection and qualification.</p>

9.19 Management Review

GIH-8.2.3, Environmental Management Review describes the management review requirements. The EMS Management Representative, with assistance from the EMS Coordinator, EMS Representatives and the other management system owners, has prime responsibility for collecting, compiling, and presenting the required information to senior management to enable them to carry out this evaluation.

EMS REQUIREMENT	RELEVANT PROCEDURES, ETC.
<i>The organization's top management shall, at intervals that it determines, review the EMS to ensure its continuing suitability, adequacy and effectiveness.</i>	GIH-8.2.3, Section 3.2.2
<i>The management review process shall ensure that the necessary information is collected to allow management to carry out this evaluation.</i>	GIH-8.2.3, Section 3.1.3
<p><i>The management review shall address the possible need for changes to policy, objectives and other elements of the EMS, in light of EMS audit results, changing circumstances; and the commitment to continual improvement.</i></p> <p><i>The management review may also address:</i></p> <ul style="list-style-type: none"> • <i>internal and external audit results;</i> • <i>results from any benchmarking conducted to compare its environmental operations and EMS with other organizations and management standards, where appropriate;</i> • <i>stakeholder expectations; the adequacy of resources assigned to EMS programs; and</i> • <i>performance against objectives and compliance requirements.</i> 	GIH-8.2.3, Section 3.2.1
<i>This review shall be documented.</i>	GIH-8.2.3, Section 3.3

10.0 REFERENCES

10.1 Policies

- PSM 5.7, Environmental Stewardship Policy
- PSM 6.11, Training - Qualifications

10.2 General Information Handbook

- GIH-1.1.1, Manual Control
- GIH-1.1.3, Document Control
- GIH-1.3.1, Corrective Action Program
- GIH-1.3.2, Cause Determination (PER Resolution)
- GIH-2.9.1, Strategic and Business Planning
- GIH-3.4.9, Records Management
- GIH-4.2.1, Recognition and Awards Program
- GIH-4.2.6, Performance Improvement
- GIH-4.3.12, Performance Planning/Appraisal
- GIH-4.4.2, Management Training and Development
- GIH-4.4.10, Corporate Training Advisory Group (CTAG)
- GIH-8.2.1, Environmental Aspects Identification
- GIH-8.2.2 Environmental Management System Communications
- GIH-8.2.3, Environmental Management Review
- GIH-8.2.4, Environmental Compliance Assessments
- GIH-8.2.6, Environmental Performance
- GIH-8.2.7, Work Planning and Control for Environmental Aspects
- GIH-8.2.8, EMS Audits
- GIH-9.1.1, Preparation of Documents for Submittal to the Executive Board/Board of Directors, General Information Handbook, Administrative Procedures Manual
- GIH-9.1.3, Chief Executive Officer Event Notification
- GIH-9.6.1, Submitting Articles for Supply System Communications, General Information Handbook, Administrative Procedures Manual

10.3 Site-Wide Procedures

- SWP-ASU-01, Evaluation of Programs, Processes and Suppliers
- SWP-ASU-02, Self Assessment Program
- SWP-CAP-01, Corrective Action Program
- SWP-CAP-02, Cause Determination
- SWP-CAP-03, Operating Experience Program
- SWP-CAP-06, Condition Review Group (CRG)
- SWP-CHE-02, Chemical Process Management and Control - identifies effluent permit effluent limitations

NUMBER	REVISION	PAGE
EMS-01	0	56 of 101

- SWP-CHE-05, Chemical Control Program
- SWP-DOC-01, Document Control
- SWP-ENV-01, Refrigeration Management Program
- SWP-ENV-02, Oil and Hazardous Substance Spill Prevention, Control and Counter-Measure Plan
- SWP-ENV-03, Hazardous Waste Management
- SWP-MAI-01, Work Management Process Overview
- SWP-ORG-01, Organizational Changes
- SWP-PRO-01, Description and Use of Procedures and Instructions
- SWP-PRO-02, Preparation, Review, Approval, and Distribution of Procedures
- SWP-PRO-03, Procedure Writer’s Manual
- SWP-PUR-01, Procurement of Services
- SWP-PUR-04, Material, Equipment, Parts and Supplies Procurement
- SWP-REC-01 Records Management
- SWP-RMP-01, Radioactive Waste Management Program
- SWP-RMP-02, Radwaste Process Control Program
- SWP-RPP-01, Radiation Protection Program

10.4 Organization Level Procedures (Not All Are Listed - These Are Examples or Procedures Specifically Referenced in this EMS Manual)

- ABN-HAZMAT, Hazardous Materials Spills/Releases
- Avian and Bat Monitoring Plan for the Nine Canyon Wind Project
- CMS 3.1.10, Environmental Management in the Work Planning Process, Construction and Maintenance Services
- DES-2-1, Plant Design Changes
- DES-2-7, Minor Plant Design Change
- PJM-2-1, Project Teams
- Desk Procedure, Data Entry for Environmental Management System Public Inquiry Log
- Volume 13, Emergency Plan implementing procedures (EIPs)
- ESBI 2.5, Generation Project Development Checklist, Energy and Business Services
- MI 1.28, Environmental Requirements, Maintenance Services
- MI 1.8, Conduct of Maintenance, Maintenance Services
- RPI 8.0 Processing of Incoming Regulatory and Industry Correspondence and Commitment Screening
- RPI 12.0 Review and Management of Environmental Requirements and Commitments
- GEN-TQS-01, Training Program Administration

NUMBER	REVISION	PAGE
EMS-01	0	57 of 101

10.5 PPMs

- PPM 1.3.1, Operating Policies, Programs and Practices
- PPM 1.3.56, Conduct of Maintenance
- PPM 1.3.58, Conduct of Chemistry
- PPM 1.3.68, Work Management Process
- PPM 1.4.7, Control of Contractors and Vendors
- PPM 1.10.1, Notification and Reportable Events - identifies the non-routine reporting requirements
- PPM 1.11.1, Radiological Environmental Monitoring Program (REMP) Implementation Procedure
- PPM 1.14.3, PCB Spill Prevention, Control, and Counter-Measure Plan
- PPM 1.14.5, NPDES Permit Compliance - identifies requirements and assigns responsibilities
- PPM 2.4.5, Standby Service Water System - notes requirements on system backwashes
- PPM 2.6.1, Circulating Water and Cooling Towers - notes limits on cooling water blow down
- PPM 12.1.2, Potable Water Quality Assurance
- PPM 12.2.9, Circulating and Plant Service Water Halogenation Surveillance - includes blowdown approval sequence
- PPM 12.14.1, Chemical Treatment of Standby Service Water - includes precautions re: permit compliance for chemical treatment
- PPM 12.14.3, Circulating Water - Corrosion Inhibition Addition - identifies pH limits re: corrosion control
- PPM 1.17.1, Sampling Hazardous Substances
- PPM 1.17.2, Hazardous and Mixed Waste Management at 437(Radwaste

10.6 Manuals, Program Plans and Guides

- EMS Manual (this document)
- PassPort Planners Guide
- Pollution Prevention Program Description
- User's Guide to Contracting
- Packwood Lake Hydroelectric Project Emergency Plan
- Industrial Safety Procedures Manual (ISPM)

NUMBER	REVISION	PAGE
EMS-01	0	58 of 101

10.7 Other

- Contractor Brochure
- EMS and You brochure
- Energy Northwest Composite EMS Model
- Employee Development Guidelines
- General Provisions for Consultant and Technical Services
- General Provisions for Purchase Orders
- Invitation for Bid
- ISO 14001:1996, Environmental management systems - Specifications with guidance for use
- Map 1: CGS locations
- Map 2: Energy Northwest Facility
- Environmental Objective Implementation Plans

NUMBER EMS-01	REVISION 0	PAGE 59 of 101
------------------	---------------	-------------------

11.0 ATTACHMENTS

11.1 CEO/CNO Organization Chart

11.2 EMS Roles, Responsibilities and Authorities

11.3 Operational Control/environmental Management Programs

11.4 Facilities at Columbia Generating Station

11.5 Energy Northwest Facilities Locations

11.6 Regulatory Agencies

11.7 Environmental Records

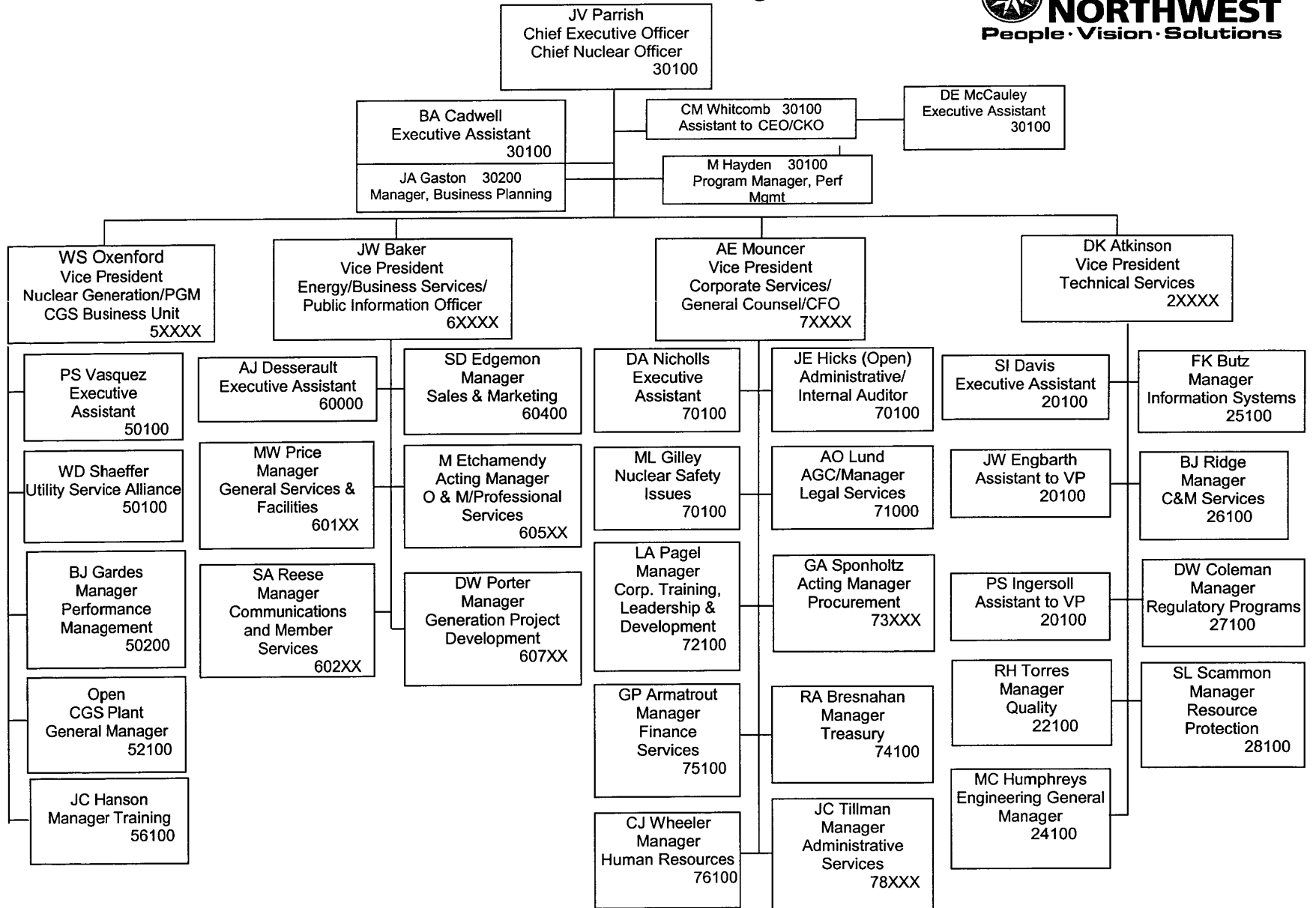
11.8 EMS Model

NUMBER EMS-01	REVISION 0	PAGE 60 of 101
------------------	---------------	-------------------

CEO/CNO Organization Chart



Chief Executive Officer/CNO Organization



NUMBER
EMMS-01
REVISION
0
PAGE
61 of 101

Attachment 11.1

EMS ROLES, RESPONSIBILITIES AND AUTHORITIES

As indicated in the Environmental Stewardship Policy, everyone at Energy Northwest has a role to play in the EMS. This section defines the roles and responsibilities associated with EMS development and implementation. Roles and responsibilities associated with maintenance and continual improvement of the EMS (and with specific positions, such as the manager of the environmental compliance organization, other supervisory positions, subject matter experts, etc.) may be further defined during EMS project closeout.

Roles described below include:

- Chief Executive Officer
- Executive Board
- Vice Presidents
 - Vice President Technical Services
- EMS Management Representative
- Line Organizations
- Support Organizations
- EMS Representatives
- EMS Coordinator
- Employees
- Contractors

CHIEF EXECUTIVE OFFICER (CEO)

The CEO should be knowledgeable and committed to successful implementation of the EMS. The CEO's responsibilities include:

- Expressing Energy Northwest's commitment to the environment by developing and issuing the environmental policy.
- Developing (with input from staff) overall organizational environmental stewardship goals and priorities.
- Providing adequate financial resources for the development and implementation of the EMS, or requiring that these resources be planned for and requested.
- Clearly identifying expectations and incorporating EMS requirements and environmental performance in the evaluation criteria for organizational units and senior managers, as appropriate.
- Considering potential environmental impacts of past, present, and future operations, in decision-making, and ensuring that overall organizational activities and plans are in line with the environmental policy.
- Periodically formally reviewing EMS progress, performance data, and the EMS itself to ensure continued suitability, adequacy, and effectiveness of the EMS, and ensuring that resources are provided for improvement as necessary.
- Communicating with external stakeholders on Energy Northwest's environmental goals, priorities, and policy commitments.

Attachment 11.2

Page 1 of 7

NUMBER	REVISION	PAGE
EMS-01	0	62 of 101

EXECUTIVE BOARD

The Executive Board also needs to be aware and supportive of the EMS. Their responsibilities include:

- Periodically reviewing environmental performance of Energy Northwest.
- Considering the commitments in the environmental policy and potential environmental impacts of past, present, and future operations in decision-making

VICE PRESIDENTS

Vice Presidents are responsible for the implementation and integration of the EMS within their organizations. In general, the responsibilities of the vice presidents include:

- Issuing supportive communication and guidance on the EMS
- Implementation within their organization.
- Assigning sufficient resources to implement, maintain, and improve the EMS by integrating applicable requirements into activities across their organization.
- Clearly identifying expectations and incorporating EMS requirements and environmental performance into the evaluation criteria for organizational units and staff, as appropriate.
- Assigning representative(s) to serve on the EMS Representatives committee (to coordinate implementation of the corporate EMS within their own organization), and ensuring they have the time, resources, and authority to make decisions for the line organization.
- Ensuring design, development, modification, and improvement of existing programs and procedures that they manage, in order to support the applicable requirements of the EMS and conformance to the composite EMS model (on the schedule indicated in this project plan).
- Ensuring the implementation, maintenance, and improvement of the EMS within their own organization, integrating applicable requirements into the activities, products and services with significant environmental aspects across their organization
- Ensuring the collection of environmental performance and project controls information for their organization and reporting this information to the EMS Coordinator.
- Ensuring establishment and achievement of Energy Northwest environmental objectives and targets related to their activities.
- Considering the commitments in the environmental policy, and potential environmental impacts of past, present, and future operations in decision-making.

NUMBER EMS-01	REVISION 0	PAGE 63 of 101
------------------	---------------	-------------------

VICE PRESIDENT OF TECHNICAL SERVICES

In addition to the responsibilities of all Vice Presidents, the Vice President of Technical Services, as the vice president of the organization managing the EMS project, is the senior management sponsor for the EMS and is ultimately responsible for EMS project implementation and maintenance of its infrastructure, including:

- Accountability to the chief executive officer for ensuring that the environmental policy is implemented and the EMS is maintained.
- Providing oversight, guidance and assistance, including the assignment of sufficient resources, to the EMS to ensure project objectives are accomplished.
- Issuing communication and information on the EMS development and implementation.
- With the EMS Coordinator, reporting on progress of the EMS to senior management.

EMS MANAGEMENT REPRESENTATIVE

This individual's corporate-level responsibilities include:

- Reporting to CEO and senior management on the overall performance of the EMS, environmental performance, project progress, and making recommendations for enhancements.
- Reporting periodically to the Executive Board as directed by management.

LINE ORGANIZATIONS

The management and staff of the line organizations are responsible for ensuring that the EMS is effectively integrated into their operations, including:

- Implementing, maintaining and improving the EMS within their organization in alignment with the corporate EMS, including developing and implementing an action plan specific to their organization.
- Supporting their representative on the EMS Representatives committee and ensuring they have the time, resources, and authority to make decisions for their organization.
- Through their EMS Representative, participating in EMS project planning and coordination meetings, and providing input to the EMS project.
- Teaming with EMS Coordinator and their EMS Representative to integrate EMS requirements into their management systems and existing/new/modified/enhanced programs.
- Implementing pollution prevention and preventing environmental impacts from their activities.

NUMBER EMS-01	REVISION 0	PAGE 64 of 101
------------------	---------------	-------------------

SUPPORT ORGANIZATIONS

Regulatory Services and Environmental Services have key environmental management responsibilities. Construction and Maintenance Services, the CGS Plant Chemistry Department, and Plant Maintenance also have significant responsibilities in the environmental arena. The Applied Process Engineering Laboratory (APEL), and Industrial Development Complex also have staff who provide varying degrees of oversight on environmental issues with support from Environmental Services and Regulatory Services.

A number of support organizations own programs or systems (e.g., training, quality, etc.) that are closely intertwined with and critical to the EMS. The management and staff of these support organizations are responsible for ensuring that the EMS is effectively integrated into their programs/systems, including:

- Assigning sufficient resources, and teaming with the EMS Coordinator to implement, maintain, and improve the EMS by integrating applicable requirements into activities across their organizations. This may include developing/modifying/enhancing systems, procedures, plans, programs, objectives and targets, and operations to conform to the requirements of the composite EMS model.
- Supporting their representative on the EMS Representatives committee and ensuring they have the time, resources, and authority to make decisions for their organization.
- Through their EMS Representative, participating in EMS project planning and coordination meetings, and providing input to the EMS project.

Specific responsibilities for key organizations are described below.

- Administrative Services (Corporate Services/CFO/General Counsel) - Developing, enhancing, and modifying the supporting systems used to identify, control, manage, retain, and disposition environmental documents and records in accordance with the composite EMS model.
- CGS Plant Maintenance - hazardous waste management, refrigerant management.
- Chemistry (Nuclear Generation) - Developing, enhancing, and modifying the chemical control program for application at CGS. Applying the pollution prevention hierarchy to chemical management. National Pollutant Discharge Elimination (NPDES) permit compliance.
- Communications, Marketing and Member Services - Coordinating communication with internal and external stakeholders on the EMS, environmental issues, and performance, as well as maintaining records of the receipt and responses to communications from external interested parties.
- Construction & Maintenance Services - Solid waste management, pesticide application, refrigerant management.
- Corporate Training Leadership & Development - Responsible for developing and providing high quality, cost-effective leadership, employee and organization development services which are focused on EN strategic objectives, organizational excellence, and creating a learning environment.

Attachment 11.2

Page 4 of 7

NUMBER	REVISION	PAGE
EMS-01	0	65 of 101

- Emergency Preparedness (Technical Services) - Ensuring that emergency preparedness and response procedures and plans meet the requirements of the composite EMS model, including making necessary modifications to procedures and programs, and conducting drills.
- Environmental Services - Performs such services as hazardous waste management, spill preparedness, pollution prevention planning, hazardous materials information (i.e., Material Safety Data Sheet) management, chemical control, chemical hygiene, environmental sampling, laboratory analysis, and sanitary wastewater treatment system operation. Environmental monitoring programs (radiological and terrestrial programs) are also conducted by the Environmental Services Department.
- Finance (Corporate Services/CFO/General Counsel) - Assisting with the integration of the requirements in the EMS model for objectives, targets, and feedback from the management review process into planning processes. Ensuring that the planning process considers resources needed for EMS development, implementation and maintenance.
- Human Resources (Corporate Services/CFO/General Counsel) - Incorporating EMS model requirements for documenting roles, responsibilities, accountabilities, and authorities into position descriptions, performance appraisals, and recognition or disciplinary processes. Teaming with the EMS Coordinator to develop/enhance employee involvement programs.
- Maintenance Work Planning (Nuclear Generation); Construction & Maintenance Services work planning (Technical Services) - Developing a work planning process that considers requirements and environmental hazards and ensuring that necessary and sufficient operational controls (both administrative and engineered) are put into place.
- Operations and Maintenance Services (Energy/Business Services/PIO) - Ensuring a graded incorporation of EMS model requirements into all operating electrical generation projects other than Columbia Generating Station (e.g., Nine Canyon, Packwood, Industrial Development Complex).
- Performance Assessment/Regulatory Programs (Technical Services) - Providing support for any needed modification to monitoring and measurement procedures needed to conform to the composite EMS model.
- Performance Management (Nuclear Generation) - Assisting in the development and analysis of nonconformance reporting, corrective action, and preventive action planning processes.
- Procurement (Corporate Services/CFO/General Counsel) - Incorporating EMS model requirements applicable to contractors and suppliers of goods and services into procurement procedures and programs.
- Quality Services (Technical Services) - Assisting in the incorporation of EMS auditing, compliance assurance, and management review requirements from the composite EMS model into existing self-assessment and/or auditing programs/procedures.
- Regulatory Services (Technical Services) - Developing procedures for identifying, monitoring and analyzing environmental requirements and for compliance assurance. Has the lead for securing environmental permits and licenses and interfacing with the regulators.
- Training (Nuclear Generation) - Developing/modifying the training program infrastructure to support the identification, delivery, and tracking of environmental training and qualification requirements for managers, employees, and contractors.

Attachment 11.2

Page 5 of 7

NUMBER	REVISION	PAGE
EMS-01	0	66 of 101

EMS REPRESENTATIVES

As the lead for implementation of the EMS within their organizations, the EMS Representatives are responsible for ensuring the EMS is integrated into their organization's activities effectively and efficiently. Depending on operations, organizations may have their own EMS Representative, may share an EMS Representative with a similar organization, or may just have a point of contact to provide or receive input. The EMS representatives are responsible for:

- Serving as a communication link for EMS information between their line organization and the EMS Coordinator.
- Leading/coordinating the effective implementation and maintenance of the EMS within their assigned organization(s) according to the EMS technical program requirements, including developing an action plan and goals specific to their organization, and facilitating its implementation.
- Periodically collecting and reporting information on EMS implementation progress (including status, issues and corrective actions) and environmental performance within their assigned organization(s), to their senior management and the EMS Coordinator.
- Collecting and reporting resource expenditures and implementation progress to the EMS Coordinator.

EMS COORDINATOR

The EMS Coordinator (also referred to during EMS project implementation as the EMS Project Manager) is responsible for the day-to-day coordination and implementation of the EMS project, including:

- Chairing and managing the EMS Representatives committee.
- Providing technical assistance to line and support organizations and facilitating implementation of the EMS throughout Energy Northwest.
- Periodically compiling information on EMS implementation progress (including status, issues and corrective actions) and environmental performance.
- Assisting the Senior Management Representative with coordination of the EMS management review.
- Arranging for, coordinating, and supporting EMS audits, including ISO 14001 registration audits and maintenance of EMS registration status.
- Tracking closure of EMS audit findings, and raising concerns or issues with management as necessary.

NUMBER	REVISION	PAGE
EMS-01	0	67 of 101

EMPLOYEES

All employees within Energy Northwest have a role to play in the EMS (including those described in GIH-4.2.6, Performance Improvement), including:

- Being aware of the Energy Northwest environmental stewardship policy.
- Following all environmental requirements of the EMS that are applicable to their work.
- Understanding their roles and responsibilities in the EMS, including emergency preparedness and response requirements.
- Understanding how their actions may impact (positively or negatively) the environment and considering the environment when making decisions.
- Proactively working to improve the environmental performance of Energy Northwest within their own areas of responsibility, including suggesting ways to reduce waste and conserve resources, and participating in corporate pollution prevention and recycling programs.

CONTRACTORS

All contractors working on behalf of Energy Northwest whose work can have a significant negative impact on the environment, have a role to play in the EMS, including:

- Being aware of the Energy Northwest environmental stewardship policy.
- Following all environmental requirements of the EMS that are applicable to their work.
- Understanding their roles and responsibilities in the EMS, including emergency preparedness and response requirements.
- Understanding how their actions may impact (positively or negatively) the environment and considering the environment when making decisions.

NUMBER	REVISION	PAGE
EMS-01	0	68 of 101

OPERATIONAL CONTROL/ENVIRONMENTAL MANAGEMENT PROGRAMS

As discussed under the EMS Element Environmental Aspects, Energy Northwest has identified the following significant environmental aspects. Programs/operational controls in place to manage these aspects are described below. There is also an environmental monitoring program that covers a variety of aspects.

- Air emissions (see Air Emissions, Asbestos, and Refrigerants)
- Liquid effluents (see Industrial Wastewater, Sanitary Wastewater)
- Storage and use of hazardous materials (see Chemical Control, Community Right-to-Know, PCBs, Emergency Spill Preparedness and Response, and Pollution Prevention)
- Waste generation (see Solid Waste, Hazardous [Dangerous] Waste, Mixed Waste, Radioactive Waste and Pollution Prevention)
- Land use (see Land Use).

AIR EMISSIONS, ASBESTOS, AND REFRIGERANTS (Aspects: Air Emissions, Waste Generation)

Auxiliary boiler and diesel engine exhausts at CGS are covered by the SCA and EFSEC Order No. 672. The terms of the order, issued in 1996, limit fuel consumption on an annual basis and require submittal of an annual report of diesel fuel consumed. EN has also registered its fire suppression training facility (coordinates N12650, W0500) with the BCAA as an air pollutant source to avoid having to secure special burn permits for training exercises.

Maintenance activities occasionally involve the removal of asbestos material. As may be required by the anticipated scope, EN Industrial Safety or contractors provide notifications to the BCAA. Except for disposal issues, these activities are viewed more from a personnel safety perspective than from an environmental perspective. Section 17 of the Industrial Safety Manual captures most of the requirements.

Ozone depleting refrigerants are addressed through the refrigeration management program. An individual in CGS Maintenance organization is assigned responsibilities as the refrigeration coordinator. Mechanics in CGS Maintenance and Construction & Maintenance Services that work on refrigeration equipment are certified to the appropriate level. The refrigeration coordinator assures that the refrigerant inventory (using RCM software) is maintained and that leak rate criteria (40 CFR 82.156) are not exceeded. Refrigerant storage is consolidated in Building No. 72 (coordinates N10400, W0450). Procedure SWP-ENV-01 describes the programmatic controls.

NUMBER EMS-01	REVISION 0	PAGE 69 of 101
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INDUSTRIAL WASTEWATER (Aspect: Liquid Effluents)

Discharges from Columbia Generating Station are controlled by the station’s NPDES permit (No. WA-002515-1). The permit was renewed by EFSEC for a five-year term on April 9, 2001. It specifies three outfalls.

1. Outfall 001 (coordinates N12080, E16520) is in the Columbia River at river mile 351. Cooling water blow down averaging about two million gallons/day is discharged at this location. The permit specifies limits on total copper, total residual halogen (chlorine and bromine), flow, and pH.
2. Outfall 002 (coordinates N12600, W0320) is a storm water outfall to an unlined pond located about 1500 feet northeast of the reactor. In addition to storm water, the outfall receives water from potable water filter backwashes and miscellaneous equipment flushes and drainings. Flow to the pond averages between 20 and 25 gallons per minute. The permit specifies 24-hr composite samples twice a year but imposes no limits on discharges.
3. Outfall 003 (coordinates N10500, W0045) is a six-inch pipe discharging to a trench located about 1300 feet southeast of the reactor building. It receives batch releases (about 16,000 gallons each) of backwash water from a side stream filter on the standby service water system. The filter is backwashed one to three times per week between early May and late October. The permit requires monitoring the effluent and the groundwater at Outfall 003 for lead.

Plant Operations has primary responsibility for assuring compliance with the NPDES permit. Plant Chemistry oversees the chemical additions. Plant procedures related to permit compliance include:

- PPM 1.14.5 NPDES Permit Compliance - identifies requirements and assigns responsibilities
- PPM 1.10.1 Notifications and Reportable Events - identifies the non-routine reporting requirements
- SWP-CHE-02 Chemical Process Management and Control - identifies effluent permit effluent limitations
- PPM 2.4.5 Standby Service Water System - notes requirements on system backwashes
- PPM 2.6.1 Circulating Water and Cooling Towers - notes limits on cooling water blow down
- PPM 12.2.9 Circulating and Plant Service Water Halogenation Surveillance - includes blow down approval sequence
- PPM 12.14.1 Chemical Treatment of Standby Service Water - includes precautions re: permit compliance for chemical treatment
- PPM 12.14.3 Circulating Water - Corrosion Inhibition Addition - identifies pH limits re: corrosion control

NUMBER	REVISION	PAGE
EMS-01	0	70 of 101

Environmental Services collects and analyzes samples required at Outfalls 002 and 003. They also sample and analyze the circulating water (CW) for copper at least once per month per monitoring requirements for Outfall 001. The Environmental Services laboratory is accredited (per WAC 173-50) by the WDOE. Environmental Services also conducts special studies required by the NPDES permit such as a lead source and effects assessment for Outfall 003. Environmental Services compiles the routine effluent reports for plant management signature.

Regulatory Services takes the lead in preparing permit applications and all non-routine submittals (e.g., noncompliance reports, study plans). Regulatory Services also provides the primary interface with regulators.

EN also holds wastewater permits for Projects 1 & 4 and APEL. The NPDES permit for Projects 1 & 4 is largely inactive since the project has never discharged wastewater. Permit conditions relative to submittal of plans for solid waste management and spill preparedness are in effect. The pretreatment permit issued to APEL by the City of Richland has been in effect since March 1998.

SANITARY WASTEWATER (Aspect: Liquid Effluents)

Sanitary wastes from CGS, Industrial Development Complex, and the support facilities are piped to a treatment system that uses aeration lagoons and facultative stabilization ponds. This wastewater treatment facility is located about 1/2 mile southeast of CGS. The treatment facility also receives wastewater from the USDOE 400 Area located about 2-1/2 miles south-southwest of CGS. Influent averages about 30,000 gallons per day (gpd) (including 3,000 gpd from the 400 Area), with the higher flows being coincident with the maintenance and refueling outages at CGS. When the stabilization ponds are full, treated wastewater is discharged to percolation beds. These discharges are made one to three times per year in accordance with the conditions of an EFSEC resolution (No. 300, September 2001) that prescribes the discharge limits and the monitoring and reporting requirements.

The sanitary waste treatment facility (SWTF) is operated by a certified operator in the Environmental Services Dept. Most of the wastewater analyses are performed by Environmental Services. Environmental Services also compiles the monthly monitoring reports for submittal to EFSEC on a quarterly basis.

CHEMICAL CONTROL (Aspect: Hazardous materials use and storage)

The Chemical Control Program was initiated as an industry good practice for controlling chemicals harmful to plant systems, structures, components, and personnel. The program is based on pre-screening and approval of chemicals for specific uses through the issuance of chemical “permits.” the scope of this program is currently limited to buildings and areas inside the plant protected area/security fence. In addition to minimizing the unintentional contamination of process fluids and reducing the potential for corrosion of system component materials, the program contains elements to minimize fire hazards, the use of hazardous substances, chemical exposures to personnel, and the generation of hazardous and mixed wastes.

NUMBER	REVISION	PAGE
EMS-01	0	71 of 101

CGS Chemistry Manager is responsible for the Chemical Control Program, but Environmental Services develops, maintains, and monitors the program. This includes maintaining procedures, providing a “Chemical Control Coordinator” to administer the program, and maintaining the electronic MSDS database (that serves as a primary component of the Hazards Communication Program). The database contains about 2,400 Material Safety Data Sheets (MSDSs). Of these 2,400 chemicals, approximately 850 are within the scope of the permit program. Procedural direction is provided by SWP-CHE-05, Chemical Control Program.

COMMUNITY-RIGHT-TO-KNOW (Aspect: Hazardous materials use and storage)

Hazardous materials inventories (Tier II Reports) are prepared by Environmental and Regulatory Services for CGS, Industrial Development Complex, and APEL each year for submittal by March 1. There are no procedures associated with this program.

POLYCHLORINATED BIPHENYLS (PCBS) (Aspects: Hazardous materials use and storage, Waste generation)

To reduce exposure to PCB issues, EN undertook a transformer retro-fill program at CGS in 1988. When the project was completed in 1994, the station had converted four PCB-contaminated (mineral oil) transformers and eleven (11) PCB (Askarel) transformers to non-PCB (< 50 PPM). The last PCB or PCB-contaminated transformer at the site, a small 10-kVA neutral grounding transformer on the High Pressure Core Spray diesel generator, was removed in August 2001. The only PCB materials regulated under 40 CFR Part 761 remaining onsite are in lighting ballasts. Although non-leaking small PCB capacitors could be disposed of as municipal waste (City of Richland landfill), Environmental Services has disposed of these as TSCA waste.

Regulatory Services prepares an annual document log for the file as required by 40 CFR §761.180). Relevant procedural guidance is in SWP-ENV-02, Oil and Hazardous Substances Spill, Prevention, Control, Counter-Measure Plan, and in SWP-ENV-03, Hazardous Waste Management.

Also PCB and PCB-contaminated equipment (capacitors and transformers) have been removed from the Packwood Lake Hydroelectric Project.

<p>NUMBER EMS-01</p>	<p>REVISION 0</p>	<p>PAGE 72 of 101</p>
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EMERGENCY AND SPILL PREPAREDNESS AND RESPONSE (Aspects: Hazardous materials use and storage, waste generation)

The Control Room is established as a focal point for reporting spills at Columbia Generating Station. The Shift Manager/Control Room Supervisor serves as the on-duty emergency coordinator. The primary initial responders for emergency situations are the Plant Fire Brigade members, with backup from the Hanford Fire Department. Environmental Services provides direction for recovery, cleanup and disposal of spill residues. Initial external reports are by the Control Room or Regulatory Services. Regulatory Services prepares, with input from others, any follow-up reports that may be required by regulators.

Columbia Generating Station has an Emergency Preparedness/Response program, as required to maintain compliance with requirements for operating a nuclear power plant. EN has procedures for emergency preparedness and response, and has held drills. The spill plan (SWP-ENV-02, Oil and Hazardous Substance Spill Prevention, Control and Counter-Measure Plan), which is referenced in the RCRA Contingency Plan. This is supplemented by the Corrective Action Program (SWP-CAP-01), which documents any accident/emergency event and ensures corrective/preventive actions are taken. Procedures relevant to spill response are:

- SWP-ENV-02 Oil and Hazardous Substances Spill Prevention, Control, and Counter-Measure Plan - this is the principal guidance for spill response
- PPM 1.10.1 Notification and Reportable Events - catalogues event-related reports such as for spills and unauthorized releases.
- ABN-HAZMAT Hazardous Materials Spills/Releases - provides operators with quick guidance for immediate actions.

Emergency preparedness and response procedures have been reviewed and revised after drills, and lessons learned have been incorporated.

GIH-8.2.5, Environmental Emergency Preparedness describes planning for and response to industrial emergencies and natural disasters at Energy Northwest facilities. These facilities also have spill prevention, control and countermeasure plans.

Packwood Lake Hydroelectric Project’s Emergency Plan covers environmentally related emergency situations such as stormwater pollution, forest fire, oil, fuel and hazardous material spills, meteorological, equipment failure, and geological events, as well as plant and equipment fires, safety and first aid emergencies, and man-made emergencies such as bomb threats.

NUMBER	REVISION	PAGE
EMS-01	0	73 of 101

SOLID WASTE DISPOSAL (Aspect: Waste Generation)

Most solid wastes¹ generated at EN facilities on the Hanford Site and in North Richland are collected and taken to the City of Richland municipal landfill by EN Construction & Maintenance Services staff. The exception is the inert and demolition wastes (e.g., concrete rubble, broken asphalt pavement) that are disposed onsite at either CGS or WNP-1/4. The NPDES permits for CGS and WNP-1/4 require the submittal of Solid Waste Control Plans that describe how solid wastes are managed.

The landfill at CGS is located in a borrow pit that was opened in about 1974 (coordinates N10400, W2050). Burial of construction-related waste material commenced in 1976. The landfill was the subject of a RCRA investigation in 1995 that identified low levels of organic solvents in the groundwater. A five-acre parcel was subsequently closed and capped in April/May 1999. A small area on the west side of the closed landfill is open to receive inert waste material. Construction & Maintenance Services operates the landfill.

Another active landfill for inert and demolition waste is located on the WNP-4 property. This eight-acre landfill (coordinates N12700, E6000) was first opened in 1982. Only wastes from the WNP-1/4 site are buried there. A special disposal activity that started in late 2000 is the burial of almost 30,000 cubic yd of asbestos cement material from six cooling towers. Approval to dispose of this waste onsite was granted by EFSEC in March 2000 through revisions to the landfill operations plan. No environmental monitoring is required or conducted at the landfill. Brief annual reports on the disposal activity at both CGS and WNP-1/4 landfills are submitted to EFSEC in accordance with the landfill operations plans.

HAZARDOUS (DANGEROUS) WASTE (Aspect: Waste Generation)

EN has hazardous waste generator ID numbers for CGS (WAD980738488), WNP-1 at Industrial Development Complex (WAD061666103), APEL (WAH000004507), and Packwood (WAH000019299) (WAD980188510). An ID number for the Richland office complex (WAD981767460) was placed in inactive status in late 1997.

Current operations include treatment by generator (corrosive waste-elementary neutralization), hazardous waste transportation (onsite only) in flatbed and enclosed trucks, hazardous waste accumulation, mixed waste storage, hazardous waste recycling (e.g., onsite paint waste distillation), and operation of the construction and demolition landfill described above. Types of materials handled include: organics, oils, solvents, pesticides, chlorinated hydrocarbons, PCB capacitors, radioactive material, water-reactives, inorganic acids/bases, metals, empty drums, contaminated soil, contaminated water, and asbestos. The only waste storage that occurs in tanks is radiological waste; the remainder is stored in drums.

¹The term “solid waste” in this discussion refers to non-liquid wastes that are not dangerous wastes.

NUMBER	REVISION	PAGE
EMS-01	0	74 of 101

Environmental Services coordinates the hazardous waste management program at CGS and provides expertise and oversight for other EN sites. (Support for waste management activities at APEL is provided by PNNL. The facility is not considered in this discussion.) The relevant procedures are:

- SWP-ENV-03 Hazardous Waste Management - identifies requirements for waste generation, accumulation, and disposal. Includes training and contingency plans.
- PPM 1.17.1 Sampling Hazardous Substances - provides methods for collecting waste and environmental samples.
- PPM 1.17.2 Hazardous and Mixed Waste Management at 437NRadwaste - provides direction for processing wastes out of the power block.

CGS is a large quantity generator of hazardous (dangerous) wastes. (Mixed radioactive and hazardous wastes and PCB wastes are discussed separately below.) Recurrent waste streams (some of which are recycled) include spent batteries, lamps, paint wastes, desiccants, and lab wastes. Non-recurrent wastes have included old or out-of-specification reagents, cleaners, adhesives, and coatings. Other than ubiquitous wastes such as batteries, the organizations generating the preponderance of the wastes are Construction & Maintenance Services, Plant Maintenance, and the Coatings Department.

Hazardous wastes are accumulated at eleven satellite accumulation areas. Wastes are moved to a 90-day accumulation area located southwest of the station (coordinates N10810, W2530). Environmental Services manages the 90-day accumulation area, including inspections and arrangement of offsite shipments for disposal. For several years Philip Services Corp. has provided transportation and disposal services. Environmental Services prepares the annual waste generator reports for CGS, WNP-1, and Packwood. Environmental Services also performs and documents hazardous waste designations.

MIXED WASTE

CGS generates and stores mixed (radioactive and hazardous) wastes. The designated storage area is about 500 ft² in the south central portion of the Radwaste Bldg at the 437Nelevation. After clarification of the regulatory status of mixed waste in July 1986 (51FR24504), a Part A permit application was submitted in May 1988. A Part B application was subsequently requested and the initial submittal was made in October 1990. A revised application was submitted in March 1996. In May 1997, EPA recommended that the processing of permit applications for commercial mixed waste facilities be suspended pending a review of safety and disposal issues. This recommendation was endorsed by WDOE with respect to CGS in early 1998. Consequently, CGS remains in interim permit status.

Environmental Services provides oversight to the mixed waste program. Procedural guidance is in PPM 1.17.2, Hazardous and Mixed Waste Management at 437NRadwaste.

NUMBER	REVISION	PAGE
EMS-01	0	75 of 101

RADIOACTIVE WASTE (Aspect: Waste generation)

Major objectives of the Radioactive Waste Management Program are to limit, control, minimize, and measure the production of radioactive materials in gaseous, liquid, and solid effluents. The program is implemented through approved written procedures including (for the solid waste management portion of the program) the Radwaste Process Control Program (SWP-RMP-02). Controls minimize exposure to onsite personnel and plant systems and equipment and reduce external effluents in support of ALARA principles. These objectives are in accordance with applicable NRC, DOT, and Washington Administrative Code (WAC) regulations in 10 CFR 20, 10 CFR 30, 10 CFR 40, 10 CFR 50, 10 CFR 61, 10 CFR 71, 49 CFR 171 through 49 CFR 180 and WAC 246-249 and 446-50.

The Radioactive Waste Management Program is an integrated program combining the efforts of the Operations, Health Physics, Chemistry, Engineering, Maintenance, Training, Licensing, Security, Procurement, and Quality functional areas. Responsibilities in the various functional areas are identified in SWP-ORG-01. The overall responsibility for the Radwaste Management Program lies in the Plant Chemistry Organization. Additional responsibilities are specified for the Health Physics, Operations, Maintenance, and Chemistry areas in SWP-RPP-01, PPM 1.3.1, PPM 1.3.56 and PPM 1.3.58, respectively.

POLLUTION PREVENTION (Aspect: Waste generation)

The pollution prevention program is described in the Pollution Prevention Program Description. The program addresses energy efficiency and conservation, water efficiency and conservation, waste minimization, spill prevention, and chemical management. Key program activities include developing implementation plans for the environmental stewardship objectives & targets, increasing employee awareness and communication of EMS and P2 activities, providing technical assistance on new P2 related initiatives, etc. 2003 and 2004 P2 program activities included expanding the recycling activities to include multiple new streams (e.g., white paper, cardboard, fluorescent tubes, toner cartridges, aluminum cans, batteries and more), performing three pollution prevention opportunity assessments, increasing internal communications, and more.

Environmental Services has the lead in implementing the Environmental Management System Alternative to the pollution prevention plan required by WAC 173-307. Based on historical waste generation rates, CGS was the only EN facility required by WDOE to develop a pollution prevention plan. The first Environmental Management System (EMS) Alternative plan was submitted in 2003 and approved by WDOE through a site visit. Procedural guidance is included in SWP-ENV-03, Hazardous Waste Management. The initial Hazardous Substance Use and Waste Reduction Plan was developed in 1994 and an updated plan, covering 1998 through 2002, and was submitted in September 1998. Previously annual progress reports were prepared by Environmental Services and submitted by Regulatory Services. Since 1994, hazardous substance use has been reduced by about 13,100 lbs., and hazardous waste generation has been reduced by about 43,500 lbs.

In addition, 2,019 lbs. of paint waste have been recycled. With the EMS Alternative plan in place, annual progress reports will not require detailed waste generation data but rather a progress report on the EMS Alternative plan and an annual site visit by WDOE.

NUMBER	REVISION	PAGE
EMS-01	0	76 of 101

LAND USE (Aspect: Land use)

New projects, in particular, have the potential to result in adverse environmental impacts due to land use. These potential impacts include erosion by wind and water, destruction of wildlife habitat, introduction of noxious weeds, disturbance of cultural or public resources, and diminished aesthetic values. These impacts are anticipated and minimized through project planning and review. The top-tier procedural control for this planning is provided through GIH-8.2.7, Work Planning and Control for Environmental Aspects. For significant new projects, compliance with the State Environmental Policy Act (SEPA) and its implementing rules (WAC 197-11) provides another comprehensive environmental review to identify impacts and mitigation measures.

ENVIRONMENTAL MONITORING

The CGS Radiological Environmental Monitoring Program (REMP) evaluates the radiological impact of plant operation on the environment in the airborne, direct radiation, waterborne, and ingestion pathways as specified in EFSEC Resolution No. 260 and the Offsite Dose Calculation Manual. Samples of air, water, milk, soil, sediment, fish and garden produce are collected throughout the year and analyzed for radionuclides specific to plant operations. Radiation levels are also monitored using thermoluminescent dosimeters.

The Nine Canyon Wind Project has an ongoing program to monitor the site for bird and bat casualties.

Various environmental performance indicators are tracked via GIH-8.2.6, Environmental Performance Management.

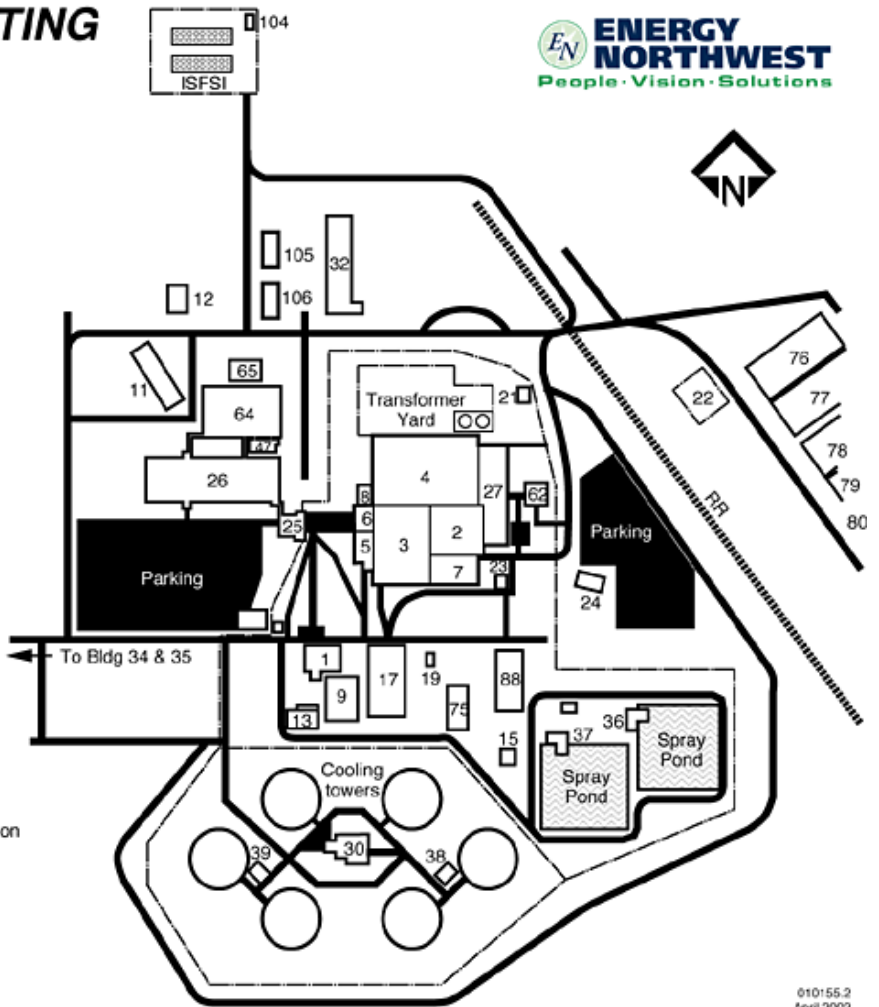
NUMBER EMS-01	REVISION 0	PAGE 77 of 101
------------------	---------------	-------------------

FACILITIES AT COLUMBIA GENERATING STATION

COLUMBIA GENERATING STATION SITE MAP



- | Bldg No. | New Name - bldg. Description/Old Name |
|------------|--|
| 1 | Administration Building |
| 2 | Reactor Building |
| 3 | Radwaste Building |
| 4 | Turbine Generator Building |
| 5 | Technical Support Building |
| 6 | Health Physics Access Point |
| 7 | Diesel Generator Building |
| 8 | ASD Building |
| 9 | Palouse - Engineering |
| 11 | Chelan - Construction & Maint. Services |
| 12 | Heavy Equip. Maintenance |
| 13 | Cowlitz - Facilities |
| 15 | Laborers Storage |
| 17 | Wenatchee - Site Maintenance |
| 19 | Battery Storage |
| 21 | Backflow Preventer Building |
| 22 | Service Substation |
| 23 | Diesel Fuel Polishing Building |
| 24 | Visitor Center (closed) |
| 25 | Protected Area Access Point (P.A.A.P.) |
| 26 | Deschutes - Plant Engineering Center |
| 27 | Yakima - General Service Building |
| 30 | Wind River - Circ Water Pumphouse |
| 32 | Colville - Site Contractor Fab Shop |
| 34 | Kootenai building - Plant Support Facility |
| 35 | Klickitat Training Building |
| 36 | Standby Service Water Pumphouse 1A |
| 37 | Standby Service Water Pumphouse 1B |
| 38 | Electrical Building #1 |
| 39 | Electrical Building #2 |
| 47 | Document Storage |
| 62 | Primary Access Point (P.A.P.) |
| 64 | Willamette - Records Mgmt./C&MS/Fitness for Duty Facility/First Aid/Access Authorization |
| 65 | Craft Lunchroom |
| 75 | Warehouse /Painters |
| 76 thru 80 | Snake River Complex (Warehouse Area) |
| 88 | Okanogan - Outage/NDE/Security/NRC |
| 100 | Vacant |
| 104 | ISFSI Switchgear |
| 105 | Saluce - ISFSI Equipment Storage |
| 106 | Dry Creek - ISFSI Office Building |



010155.2
April 2002

Attachment 11.4

NUMBER	REVISION	PAGE
EMS-01	0	78 of 101

ENERGY NORTHWEST FACILITIES LOCATIONS



Attachment 11.5

NUMBER	REVISION	PAGE
EMS-01	0	79 of 101

REGULATORY AGENCIES

- Nuclear Regulatory Commission (NRC) - As an operator of a nuclear power facility, Energy Northwest is a 10 CFR Part 50 licensee of the NRC. The focus of the NRC is public safety related to operation of the nuclear plant.

- Washington Energy Facility Site Evaluation Council (EFSEC) - EFSEC is composed of representatives of five agencies specified in Revised Code of Washington (RCW) 80.50. Its regulations are located in Title 463 of the Washington Administrative Code (WAC). Compliance oversight is provided by EFSEC staff and the staff of the Departments of Health and Ecology through contracts (or inter-agency agreements) with EFSEC. All costs are paid by Energy Northwest. Site Certification Agreements (SCAs) were developed by EFSEC and were co-signed by the Governor and Energy Northwest in the early 1970s. Issues that were not anticipated by the SCA, or that require more specificity than the SCA, are resolved through the passage of EFSEC resolutions. The SCAs provide the general conditions for plant construction and operation and, in theory, are in lieu of all other certificates, permits, and licenses that would otherwise be required by state and local agencies. In practice, the SCA does not obviate the need to acquire other permits. Compliance to SCA conditions is reviewed in quarterly meetings (audits) with the Washington Department of Ecology (WDOE) and EFSEC staff. Site restoration requirements for Nuclear Projects Nos. 1, 4, and 5 are also governed by the SCA between Energy Northwest and the State of Washington, and regulations adopted by the EFSEC. In 1999, EFSEC amended the Satsop Power SCA to remove conditions for terminated Projects 3 and 5, and only have requirements for the Satsop CT. In 2001, the SCA was amended to add Duke as a co-certificate holder.

- Federal Energy Regulatory Commission (FERC) - FERC licenses the Packwood Lake Hydroelectric Plant pursuant to the Federal Power Act and oversees operation and maintenance of the facility.

- Washington Department of Ecology (WDOE) - Most of WDOE's involvement with Energy Northwest is through its support to EFSEC in overseeing conditions of the SCAs. For non-EFSEC projects (e.g., APEL, Nine Canyon Wind Project), WDOE is involved directly in solid waste hazardous waste reporting, hazardous chemical inventory reporting (Com - Right to Know), pollution prevention planning, and wastewater issues. WDOE also drafts air permits (NOCs/PSDs) for EFSEC. WDOE is also responsible for accreditation of Energy Northwest's analytical laboratory.

- Washington Department of Health (WDOH) - Like WDOE, the WDOH is involved through its support to EFSEC. As the state-delegated agency for implementation of the Safe Drinking Water Act, WDOH is involved in permitting and oversight of public water systems at CGS and WNP-1.

Attachment 11.6

Page 1 of 2

NUMBER EMS-01	REVISION 0	PAGE 80 of 101
----------------------	-------------------	-----------------------

- U.S. Environmental Protection Agency (EPA) - Most of EPA's regulatory programs applicable to Energy Northwest activities are delegated to Washington State agencies. EPA Region X has retained authority to approve NOC/PSD air permits. Also, EPA has retained a significant role in assuring safe disposal of PCBs and in permitting hazardous waste management facilities (e.g., APEL).
- City of Richland - The City of Richland Publicly Owned Treatment Works receives and permits APEL's sanitary waste discharges. The City of Richland Municipal Landfill also receives Energy Northwest's solid waste from Richland operations.
- Benton Clean Air Authority (BCAA) - The BCAA regulates the fire suppression training facility as an air pollutant source. They also regulate asbestos and open burning.
- Benton County - Benton County issues conditional use permits (e.g., for the wind turbines).
- U.S. Forest Service - The Forest Service issues special use permits related to operations at Packwood.

Attachment 11.6
Page 2 of 2

NUMBER	REVISION	PAGE
EMS-01	0	81 of 101

ENVIRONMENTAL RECORDS

NOTE: This Appendix lists key environmental records, but it may not be all inclusive.

GENERAL ENVIRONMENTAL RECORDS (APPLY TO BOTH NUCLEAR AND NON-NUCLEAR RECORDS)
Environmental Management System (EMS) Description
EMS Project Management Plans
Environmental Budget and expense records
EMS-related GIHs and implementing procedures
Environmental Stewardship Policy
Significant environmental aspects, and records of analysis
Environmental Impact Statements, Environmental Assessments, and Environmental Evaluations
SEPA Documentation
Applicable Regulatory Requirements
Environmental Objectives and Targets
Information to track performance, relevant operational controls, and conformance with Energy Northwest’s Environmental Objectives and Targets
Environmental Roles and Responsibilities
Management Review Documentation, including agenda, minutes, participants, decisions made.
Decision on Communicating Environmental Aspects to external parties (found in GIH-8.2.2 Environmental Management System Communications)
Internal Communications on environmental issues
Environmental communication from external parties, e.g., correspondence related to external requests on environmental issues, public involvement documents and records.
Communications with contractor/supplier related to environmental requirements
Environmental Program Documentation, including environmental program, plans, and procedures,
Environmental Audits/Assessments/Reviews Program Documentation, including audit schedules, checklists, results
Nonconformance, Corrective Action, and Preventive Action plans and results

Attachment 11.7

NUMBER	REVISION	PAGE
EMS-01	0	82 of 101

Emergency Response drills and tests
Environmental Training and Qualification records, including training course lesson plans, course materials, and attendance records.
Regulatory Inspection Reports (EPA/Department of Ecology/NRC/EFSEC, etc.)
Regulatory Noncompliance Notices or Enforcement Actions
Pollution Prevention Program documentation
Pollution prevention and waste minimization plans, implementation records, and reports
Regulatory Programs Instructions
Regulatory Permits, including permits for NPDES, Air, Liquid Effluents, and Dangerous Wastes
Annual Environmental Operating Report
Annual Community Right to Know Reports (TRI/SARA)
Transporter Security Plan Review
DANGEROUS WASTE RECORDS
Waste Designation Records, including on-site and off-site laboratory analytical test results that support dangerous waste designation, treatment and disposal.
Analytical laboratory certifications and supporting documents
Monitoring equipment inspection, calibration and maintenance records
Notification of Dangerous Waste Activity (Form 2)
Dangerous Waste Annual Report
Recycling of Dangerous Wastes Records
Dangerous Waste Storage Inspection Reports, including Annual Fire Inspection, Weekly 90-Day Dangerous Waste Accumulation Area Inspection Checklist, and Monthly Hazardous Waste Satellite Accumulation Area Inspection Checklist
Hazardous Waste Transfer Log
Waste Analysis Plan (WAP)
Uniform Hazardous Waste Manifests (including Land Disposal Restriction Certifications and supporting records) and Manifest Exception Reports
TSDF Certificate of Disposal

Attachment 11.7

NUMBER	REVISION	PAGE
EMS-01	0	83 of 101

Reports of spills or releases of dangerous wastes, fires, explosions, and remediation
Universal waste shipment records
Landfill groundwater monitoring reports
Dangerous Waste Facility closure, post-closure plans and closure cost estimates
Treatability Study Records
Environmental Monitoring Sampling Plan and Reports
Dangerous Waste Facility Operating Records
TRAINING RECORDS
Dangerous Waste Personnel Training Attendance Records
Listing of Individuals Involved in the Management of Dangerous Waste
Environmental Training and Qualification records composed of training course lesson plans (including training plans for 90-Day and Permitted Dangerous Waste Facilities), course materials, and attendance records.
EMERGENCY AND CONTINGENCY RECORDS
Emergency and Contingency Plans for 90-Day and Permitted Dangerous Waste Facilities
LIQUID WASTE RECORDS
NPDES outfall records/Compliance Data Sheets/Discharge monitoring reports
Liquid Effluent Determination/Reports
Permit applications and supporting documentation
Sanitary waste treatment facility discharge records
AIR EMISSION RECORDS
Air monitoring records
Emissions reports
RECORDS THAT APPLY TO NON-NUCLEAR ACTIVITIES ONLY
Pesticide application records
Pesticide applicator Certification
Refrigerant (CFC/HCFC) Inventory and Disposition Records

Attachment 11.7

NUMBER	REVISION	PAGE
EMS-01	0	84 of 101

PCB records (manifests, certificates of disposals, Annual PCB Document Log, inspection records, cleanup records, information on each PCB item disposed of)

RECORDS THAT APPLY ONLY TO NUCLEAR ACTIVITIES

Radioactive material release records

Rad Waste logbook, radwaste generation, accumulation, storage, shipment and disposal records

Radiological Environmental Monitoring Program Records

Annual Radiation Effluent Report

Attachment 11.7

NUMBER EMS-01	REVISION 0	PAGE 85 of 101
------------------	---------------	-------------------

EMS MODEL

Index of Elements

1. General Criteria, Environmental Stewardship, and Integration
2. Environmental Policy
3. Environmental Aspects and Impacts
4. Environmental Requirements and Voluntary Commitments
5. Objectives, Targets, and Environmental Management Programs
6. Structure and Responsibility
7. Training, Awareness and Competence
8. Communication
9. EMS Documentation
10. Document Control
11. Records
12. Operational Control
13. Emergency Planning, Preparedness and Response
14. Monitoring and Measurement
15. Nonconformance and Corrective and Preventive Action
16. Compliance Assurance
17. Internal EMS Audit
18. Management Review

Key Definitions

Attachment 11.8
Page 1 of 16

NUMBER EMS-01	REVISION 0	PAGE 86 of 101
----------------------	-------------------	-----------------------

DISCUSSION

Energy Northwest has implemented a corporate environmental management system (EMS). An EMS ensures that environmental issues are systematically identified, controlled, and monitored. Moreover, an EMS provides mechanisms for responding to changing environmental conditions or requirements and reporting on environmental performance, helps build confidence with stakeholders, and reinforces continual improvement. The ultimate desired result of an effectively designed, implemented, and continually improving EMS is improved environmental performance.

Energy Northwest's EMS is based on the Composite Model contained in this attachment. The Composite EMS Model conforms primarily to the requirements of ISO 14001, and secondarily to the principles in the International Chamber of Commerce Business Charter for Sustainable Development. It also captures the strongest elements of other EMS models (e.g., employee involvement) that: 1) are not adequately addressed by the ISO 14001 standard and the ICC Charter and 2) are compatible and appropriate for Energy Northwest's goals and activities.

In this document, each element that makes up the composite model is identified as to its source (e.g., ISO 14001 requirement). All ISO 14001 requirements are included in this model as required elements. Language that is taken from the current version of ISO 14001 standard is in **bold text**.

In some cases, ISO 14001 language has been modified to make it easier to read. For example, in ISO 14001, the standard repeats "activities, products, and services" in numerous locations. In this model, the term "activities" is defined to include these items.

The terms "shall," "should" and "may" are used in this model as follows:

- shall - required because either it is in the ISO 14001 standard, or is considered essential to implementation of an ISO 14001 EMS;
- should - a management expectation. Management approval would generally be expected for deviation. Equivalent to a voluntary commitment.
- may - suggested. Non-mandatory and optional.

Other key definitions are at the end of the model. This model may be revised on occasion, for instance when the ISO 14001 standard is revised.

Attachment 11.8

Page 2 of 16

NUMBER	REVISION	PAGE
EMS-01	0	87 of 101

ENVIRONMENTAL MANAGEMENT SYSTEM (COMPOSITE MODEL)

NOTES:

- 1) Key definitions are included at the end of this document.
- 2) The source of the language included in this model is listed in parentheses after each section. The designations are as follows:
 - ISO = International Organization of Standardization 14001
 - CEMP = EPA Code of Environmental Management Principles
 - ICC = International Chamber of Commerce Business Charter for Sustainable Development
 - CEC = Commission of Environmental Cooperation Guidance Document
 - RC = International Council of Chemical Associations Responsible Care Program
 - MSWG = Multi-State Working Group
 - Z = Recommendation from Battelle, Pacific Northwest National Laboratory

1. GENERAL CRITERIA, ENVIRONMENTAL STEWARDSHIP, AND INTEGRATION

The organization:

- should recognize environmental management as a corporate priority and strive to facilitate a culture of environmental stewardship; (ICC, CEMP)
- **shall establish**, institutionalize, and **maintain an environmental management system (EMS)** that includes policies, programs, and practices for conducting activities in an environmentally responsible manner; (ICC, CEMP, ISO, Z); and
- should fully integrate the EMS into all its activities, including overall decision-making and planning (e.g., investments, capital improvements, product and process design, training programs, and maintenance activities). (ICC, CEC, Z)

The organization may also promote adoption of sound environmental principles by contractors (including suppliers, contractors, distributors and onsite service providers) acting on behalf of the organization, by encouraging, where appropriate, improvements in their practices and adoption of comparable environmental stewardship principles. (ICC, CEC, RC, ISO)

2. ENVIRONMENTAL POLICY

After considering environmental requirements and stakeholder expectations and concerns, **top management shall define the organization's environmental policy and ensure that it:** (CEMP, Z, ISO)

- **is appropriate to the nature, scale, and environmental impacts of the organization's activities;** (ISO)

NUMBER	REVISION	PAGE
EMS-01	0	88 of 101

- **includes a commitment to:**
 - o achieve and maintain **compliance with environmental requirements**; (ISO)
 - o conform to other **voluntary commitments to which the organization subscribes**; (ISO)
 - o conduct operations in an environmentally responsible manner, including managing and reducing environmental impacts/risks; (ICC, CEC, Z)
 - o **prevent pollution**; (RC, CERES, Ecology, ISO, Z)
 - o share information, as appropriate, with employees, the public, and stakeholders on the organization's policy, EMS, and environmental performance; (CEC) and
 - o **continually improve**. (ISO)
- **provides the framework for setting and reviewing environmental objectives and targets**; (ISO)
- is documented, implemented, **maintained, and clearly communicated to all employees**; and (ISO, CEC)
- **is available to the public**. (ISO)

The Chief Operating Office (CEO) should sign the environmental policy. Other members of top management may also sign the environmental policy as a visible sign of senior management commitment to the policy. (RC)

3. ENVIRONMENTAL ASPECTS AND IMPACTS

The organization shall establish and maintain (a) procedure(s) to identify the environmental aspects of its activities, taking into account planned, new, or modified activities that **it can control and those which it can influence**. The procedure(s) shall also describe the criteria or method the organization uses to determine those aspects that have or **can have significant impacts on the environment** (i.e., significant environmental aspects). (ISO and revisions, RC, ICC)

The organization shall ensure that the aspects related to these significant impacts are considered in setting its environmental objectives, and in developing, implementing, and maintaining its EMS. (ISO and revisions)

The organization shall document this information on environmental aspects and keep it up-to-date. (ISO)

NUMBER	REVISION	PAGE
EMS-01	0	89 of 101

4. ENVIRONMENTAL REQUIREMENTS AND VOLUNTARY COMMITMENTS

With regard to **environmental requirements, and other voluntary commitments, the organization:**

- shall establish and maintain a procedure to monitor and identify, determine applicability, and have access to those requirements/commitments that are related to the organization's environmental aspects; (ISO, CEMP, CEC, RC)
- should, where possible, anticipate changes including new requirements that may apply as a result of changes in activities; (CEC, Z)
- should incorporate them, or changes to them, into the EMS; and (CEC, ISO revisions)
- should have a process(s) to implement them. (RC, CEC)

5. OBJECTIVES, TARGETS, AND ENVIRONMENTAL MANAGEMENT PROGRAMS

The organization shall establish and maintain documented environmental objectives and targets at each relevant function and level within the organization. (ISO, Z) The objectives and targets shall be consistent with the environmental policy, including the commitments to pollution prevention, compliance, communication, and continual improvement. (ISO, RC)

When establishing and reviewing its objectives, the organization shall consider environmental requirements and voluntary commitments; its significant environmental aspects; technological options; financial, operational and business requirements; and the views of stakeholders. (ISO, RC, CEMP, Z)

The organization shall establish and maintain programs for achieving its objectives and targets. These environmental management programs shall include: (ISO)

- designation of responsibility and accountability for achieving objectives and targets at each relevant function; and (ISO, RC)
- an action plan that includes measurable milestones and the means and timeframe by which they are to be achieved. (ISO, CEC, Ecology)

If a project relates to new developments or new activities, program(s) shall be amended where relevant to ensure that environmental management applies to such activities. (ISO)

NOTE: Objectives and programs that support environmental stewardship may include:

- Developing, designing, and operating facilities and conducting activities, taking into consideration efficient use of energy and materials, sustainable use of resources, minimization of adverse environmental impact and waste generation, and the safe and responsible disposal of wastes. (ICC)

NUMBER	REVISION	PAGE
EMS-01	0	90 of 101

- Identifying and implementing opportunities for reducing hazardous substance use and hazardous waste generation. (Ecology)
- Identifying and adopting improvements in the EMS that allow the organization to identify, evaluate, and implement pollution prevention opportunities in the future. (Ecology)

6. STRUCTURE AND RESPONSIBILITY

Roles, responsibilities and authorities shall be defined, documented, and communicated in order to facilitate effective environmental management. (ISO) The organization may establish clearly defined employee performance standards that include environmental issues, as appropriate; and recognize and reward exceptional environmental performance. (CEMP)

Management:

- should seek to instill the attitude that all employees are responsible for implementing the EMS and improving environmental performance; (CEMP)
- should have a system in place for the identification of needs and allocation of resources to implement the environmental policy; and (RC)
- should commit and **shall provide**, or assure the availability of, **resources essential to the implementation and control of the EMS** (including achievement of objectives and targets, and implementation of environmental management programs.) **Resources include human resources** (i.e., the availability and assignment of sufficient personnel), **specialized skills, and technology, and allocation of financial resources.** (ISO, CEMP, RC, CEC)

Top management shall appoint a specific management representative who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for: (ISO)

- **ensuring that EMS requirements are established, implemented, and maintained in accordance with ISO 14001;** and (ISO)
- **reporting on the performance of the EMS to top management for review and as a basis for improvement of the EMS.** (ISO)

NUMBER	REVISION	PAGE
EMS-01	0	91 of 101

7. TRAINING, AWARENESS, AND COMPETENCE

The organization shall:

- educate and train employees to conduct their activities in an environmentally responsible manner; (ICC)
- **identify training needs;** (ISO)
- **require that all personnel whose work may create a significant impact upon the environment or result in noncompliance have received appropriate training** to carry out the environmental responsibilities of their positions. (CEMP, MSWG, ISO) The training program should include task specific skills; and (RC)
- **establish and maintain procedures to make persons working for the organization or on its behalf aware of:** (ISO)
 - o **the importance of conformance with the environmental policy** (including the importance of compliance), **procedures, and the requirements of the EMS;** (ISO)
 - o environmental requirements associated with their tasks; (RC, Z)
 - o **their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the EMS, including emergency preparedness and response requirements;** (ISO, MSWG)
 - o **the significant environmental aspects and impacts, actual or potential, of their work activities;** (ISO)
 - o **the environmental benefits of improved personal performance; and** (ISO, CEMP)
 - o **the potential consequences of departure from specified operating procedures.** (ISO)

Personnel performing tasks which can cause significant environmental impacts or which can result in noncompliance shall be competent on the basis of appropriate education, training, skills, and/or experience. (ISO, MSWG)

The organization should also have a program to provide appropriate guidance, information, and provide training or require it as a prerequisite, to contractors and leaseholders on the risks associated with the work they will be performing. In addition, it should have a program/process for receiving information from suppliers on goods and services that the organization will use. (RC, CEC).

NUMBER	REVISION	PAGE
EMS-01	0	92 of 101

8. COMMUNICATION

With regard to its environmental aspects and EMS, the organization shall establish and maintain procedures for: (ISO)

- **internal communication between the various levels and functions of the organization.** (ISO) This may include how environmental requirements and environmental performance will be communicated; and (CEC)
- **receiving, documenting, and responding to relevant communication from external interested parties** (ISO), including concerns regarding environmental performance and compliance. (CEC, ICC)

The organization also:

- **shall communicate relevant procedures and environmental requirements** to persons working on behalf of the organization (e.g., employees, **contractors**) and **suppliers**; (ISO, CEC)
- **shall consider processes for external communication on its significant environmental aspects, and record its decision.** (ISO)
- should fully inform top management about pertinent environmental issues. (CERES)

In order to foster openness and dialogue with stakeholders, the organization:

- should, at intervals it deems appropriate, prepare an environmental statement, report, or other communication that is available to stakeholders. (ICC, MSWG, RC). The statement should be presented in a clear and comprehensible manner and may include:
 - o the organization’s significant environmental aspects;
 - o its targets and objectives relative to significant environmental aspects;
 - o the organization’s environmental requirements;
 - o its environmental performance;
 - o progress relative to its significant environmental aspects, and its targets and objectives (including environmental leadership); and (CEC, RC)
 - o numerical data, where applicable. (MSWG)
 - o should encourage employee feedback on pollution prevention and other means to reduce environmental impact; (RC, CEMP, Z)
 - o may assess employee and community concerns about the organization’s activities; and anticipate, where possible, and respond to, their concerns about the potential environmental hazards and impacts of activities; (ICC, Z)
 - o may periodically seek advice and counsel through dialogue with persons in communities near its facilities; (CERES)
 - o may involve stakeholders in the development of its EMS; (MSWG)
 - o may encourage employee involvement in development and implementation of the EMS. (RC, CEMP)

The organization may also consider sharing knowledge and lessons learned with other nuclear utilities. (RC, ICC)

NUMBER	REVISION	PAGE
EMS-01	0	93 of 101

9. EMS DOCUMENTATION

EMS documentation shall include:

- the documented environmental policy, objectives and targets; (ISO, CEC)
- a description of the **main elements** of the EMS, and their **interaction and reference to related documentation**; (ISO)
- documents required by ISO 14001; (ISO)
- documents determined by the organization to be necessary to ensure the effective planning, operation and control of processes that relate to its significant environmental aspects; (Z) and
- records required by ISO 14001. (ISO and revisions)

10. DOCUMENT CONTROL

Documents **required** by an EMS and by **ISO 14001 shall be controlled**. (ISO, CEC) A **procedure(s) shall be established and maintained** to define the controls needed to: (ISO, CEC)

- **Approve documents for adequacy** prior to issue; (ISO)
- **Review, update as necessary and re-approve documents**; (ISO)
- Ensure that changes and the current **revision date** and status of documents are identified; (ISO)
- Ensure that **relevant versions of applicable documents are available** at points of use; (ISO)
- Ensure that documents remain **legible and readily identifiable**; (ISO)
- Manage documents of external origin determined by the organization to be necessary for the planning and operation of the EMS; and (Z)
- **Prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose**. (ISO and revisions)

Records are a special type of document and shall be controlled according to the requirements given below (see Records). (ISO revisions)

11. RECORDS

The organization shall establish and maintain procedures to define controls needed for the identification, storage, protection, retrieval, retention, and disposition of environmental records. (ISO)

Environmental records shall be and remain legible, identifiable and traceable. (ISO and revisions)

Records shall be maintained as appropriate to the system and to the organization, to demonstrate conformity to the requirements of ISO 14001. (ISO)

NUMBER	REVISION	PAGE
EMS-01	0	94 of 101

12. OPERATIONAL CONTROL

The organization shall identify those activities that are associated with the identified significant environmental aspects and compliance with environmental requirements, consistent with its policy, objectives and targets. (ISO, MSWG)

The organization shall plan these activities in order to ensure that they are carried out under specified conditions by: (ISO, MSWG)

- **establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the environmental policy and the objectives and targets. (ISO)** This may include engineering and operational controls to detect and prevent unplanned releases to the environment and minimize human error, and other precautionary approaches to prevent environmental degradation such as pollution prevention; (RC, ISO, ICC)
- **stipulating operating criteria in the procedures; (ISO)**
- **enabling personnel to perform their functions consistent with policies and environmental requirements; and (CEMP)**
- **establishing and maintaining procedures related to the identifiable significant environmental aspects of goods and services used by the organization. (ISO)**

13. EMERGENCY PLANNING, PREPAREDNESS, AND RESPONSE

The organization shall establish and maintain (a) procedure(s) to identify potential emergency situations and potential accidents that can have (an) environmental impact(s), and how it will respond to them. (ISO)

The organization should coordinate emergency planning, preparedness, and response with emergency services, relevant authorities, and the local community, as appropriate. (ICC, CEMP, RC)

The organization **shall respond** to actual emergency situations and accidents, and prevent or mitigate associated environmental impacts. (ISO)

The organization shall periodically test such procedures where practicable. (ISO)

The organization shall periodically review and revise, where necessary, its emergency preparedness and response procedures, in particular after the occurrence of accidents or emergency situations. (ISO)

NUMBER	REVISION	PAGE
EMS-01	0	95 of 101

14. MONITORING AND MEASUREMENT

The organization shall establish and maintain (a) procedure(s) to monitor and measure, on a regular basis, the key characteristics of its activities that can have a significant impact on the environment. This shall include recording information to track performance, relevant operational controls and conformance with the organization's environmental objectives and targets. (ISO)

The procedure may describe the organization's system for periodically gathering, analyzing, managing, and recording information to track, assess, and determine trends on environmental performance, applicable operational controls, and conformance with the organization's environmental objectives and targets, and identify areas for improvement (including areas where performance is or is likely to become substandard). (CEMP, RC)

The organization shall calibrate and maintain monitoring and measurement equipment, and shall retain associated records. (ISO)

15. NONCONFORMANCE AND CORRECTIVE AND PREVENTIVE ACTION

The organization shall establish and maintain (a) procedure(s) for dealing with nonconformances and associated preventive and corrective actions (e.g., for incidents such as equipment malfunction, operator error, and accidental release of hazardous substances that could cause an adverse environmental impact.) (CEC, ISO and revisions)

The procedure shall address: (ISO, CEC, CERES)

- detecting and **investigating nonconformance** or situations that could lead to nonconformances; (Note: This should include evaluating the cause of nonconformances and the need to take corrective or preventive action);
- **defining responsibility and authority for handling and investigating nonconformances;**
- **promptly initiating and completing corrective action to mitigate any adverse environmental impacts caused, and taking preventive action to eliminate the cause of actual nonconformances in order to prevent recurrence; and**
- reporting nonconformance (internally, and as required, externally.)

Any action taken to identify, correct, mitigate or eliminate the causes or effects of actual and potential nonconformances shall be appropriate to the magnitude of problems and the environmental impact encountered. (ISO and revisions)

The organization shall review the actions taken and implement and record procedural changes resulting from preventive and corrective action. (ISO and revisions)

The organization should have a system to track key corrective and preventive actions to closure. (CEC)

NUMBER	REVISION	PAGE
EMS-01	0	96 of 101

16. COMPLIANCE ASSURANCE (EVALUATION OF COMPLIANCE)

The organization should have a program to proactively identify and resolve potential compliance problems. (ICC, CEMP).

The organization shall establish and maintain a documented procedure for periodically evaluating compliance with applicable legal environmental requirements. (ISO proposed revisions)

The organization should also monitor the performance of its contractors with regard to environmental requirements, and applicable requirements of the EMS. (RC, Z)

17. INTERNAL ENVIRONMENTAL MANAGEMENT SYSTEM AUDIT

The organization shall ensure that internal EMS audits are conducted at planned intervals in order to: (ISO, Ecology)

- **determine whether the EMS:**
 - o **conforms to planned arrangements for environmental management including the requirements of ISO 14001; and**
 - o **has been properly implemented and maintained;**
- **provide information on the results of audits to management; and**
- **make appropriate adjustments to objectives and targets as changing conditions warrant.** (ISO, Ecology)

NOTE: The audit may be either third party or internal. The periodic assessment may include an assessment of the entire EMS. However, annual assessment should be conducted that, at a minimum, addresses the elements contained in the EMS Alternative to Pollution Prevention Planning, February 1997 (i.e., pollution prevention, objectives and targets, responsibilities and resources, and training) in order to determine whether each of these elements is continuing to operate within the EMS. (Ecology)

The audit program shall be planned, established and maintained by the organization, taking into consideration the environmental importance of the activity concerned and the results of previous audits. (ISO and revisions)

The audit procedure shall be established and maintained, and include the following:

- **audit criteria, scope, frequency and methods; and**
- **responsibilities and requirements for planning and conducting audits, and for reporting results.** (ISO)

Selection of auditors and conduct of audits should ensure objectivity and the impartiality of the audit process. (ISO revisions)

NUMBER	REVISION	PAGE
EMS-01	0	97 of 101

18. MANAGEMENT REVIEW

The organization's top management shall, at intervals that it determines, review the EMS to ensure its continuing suitability, adequacy and effectiveness. (ISO)

The management review process shall ensure that the necessary information is collected to allow management to carry out this evaluation. (ISO)

The management review shall address the possible need for changes to policy, objectives and other elements of the EMS, in light of EMS audit results, changing circumstances; and the commitment to continual improvement. (ISO)

The management review may also address:

- internal and external audit results; (Z)
- results from any benchmarking conducted to compare its environmental operations and EMS with other organizations and management standards, where appropriate; (CEMP, RC)
- stakeholder expectations; (RC) the adequacy of resources assigned to EMS programs; and
- (RC) performance against objectives and compliance requirements. (RC)

This review shall be documented. (ISO)

NUMBER EMS-01	REVISION 0	PAGE 98 of 101
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KEY DEFINITIONS

Activities - Operations and functions of all organizational units. Includes projects, products and services. (CEC, ICC, Z) Includes maintenance, design and operation of facilities, decommissioning, and leaving a site. (ICC, Z)

Benchmarking - Comparing one organization to others, particularly those recognized as effectively employing best management practices or processes, in order to benefit from the experience of peak performers, and to improve processes or organizational practices. (CEMP, Z)

Compliance - Conforming to relevant and applicable environmental requirements.

Continual improvement - Process of enhancing the EMS to achieve improvements in overall environmental performance in line with the organization's environmental policy. (ISO) (Note: It is assumed that as the organization continually improves its EMS, environmental performance will improve as a result. However, the definition applies strictly to operation of the EMS, and does not automatically apply to environmental performance.) It includes continually improving policies, programs, and processes; taking into account environmental requirements (as a starting point), technical developments, scientific understanding, consumer needs, and community expectations. (ICC, Z) For example, continual improvement includes adoption and implementation of policies and procedures associated with the ongoing identification, evaluation (both technical and economic), and implementation of pollution prevention opportunities in decisions with environmental consequences. (Ecology) The process of continual improvement need not take place in all areas of activity simultaneously. (ISO)

Each relevant function and level - Refers to parts of the organization or staff whose jobs involve activities with a potential to impact the environment. (Ecology)

Environment - Surroundings in which an organization operates; including air, water, land, flora, fauna, other natural resources, habitat, humans, and their interrelation (i.e., the ecosystem). (ISO, Z)

Environmental aspect - Element of an organization's activities that can interact with the environment. (ISO) A significant environmental aspect is one that has or can have a significant environmental impact.

Environmental impact - Any change to the environment, (including resource use), whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services. (ISO, Z) Environmental impacts may be past, present, or potential (in the future). (Z) Environmental impacts may have local, transboundary, or global significance. (ICC)

Environmental management program - An action plan for achieving the organization's environmental objectives and targets, including identification of who has responsibility, other resource needs, tactical steps describing how it will be done, and a defined schedule.

Attachment 11.8

NUMBER EMS-01	REVISION 0	PAGE 99 of 101
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Environmental Management System (EMS) - The part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining environmental management. (ISO)

Environmental policy - A statement establishing environmental commitments, goals, priorities, and attitudes. It incorporates the organizations' mission, vision, and core values with respect to the environment. (CEMP, Z)

Environmental requirements - Local, state, and federal statutes, laws, or legislation; regulations; permits; and enforceable agreements that the organization is subject to and must comply with. (Z, CEC).

Environmental stewardship - Recognizing the life-cycle impacts of activities on the environment and adopting environmentally responsible practices that not only eliminate or reduce negative environmental impacts, but also sustain and develop natural resources and the natural world for present and future generations. (CEMP, Z) Environmental stewardship is part of sustainable development, which also involves social and economic responsibility. (Z)

May - Suggested. Non-mandatory and optional.

Nonconformance - Non-fulfillment of a requirement.

Objective - A goal towards which an endeavor is directed. (Webster's Dictionary). Notes: Objectives can be determined by systematically analyzing current environmental efforts, enhancing good programs, and strengthening areas that need improvement. (CEMP)

Organization - All organizational units included within the defined scope of the EMS.

Pollution Prevention - Use of processes, practices, materials, or products that avoid, reduce, or control pollution. In order of preference, options may include:

- source reduction, and resource and energy conservation (e.g., redesign of products or processes to reduce hazardous substances at the source, efficient use of resources, and material substitution);
- reuse and recycling; and
- treatment and control mechanisms (see Waste Management Hierarchy). (MSWG, CEMP, CERES, Z, Ecology) Note: Some definitions of pollution prevention do not include pollution control/end of the pipe treatment. (Ecology)

NOTES: Aggressive pollution prevention strategies are central to maintaining compliance, improving environmental performance, reducing risks, and controlling costs. (CEMP) Pollution prevention should be the preferred approach to pollution management. (Ecology)

NUMBER	REVISION	PAGE
EMS-01	0	100 of 101

Risk - A factor, course, or element involving uncertain danger; hazard. (Webster's Dictionary) Shall. Required either because it is in the ISO 14001 standard, or is considered essential to implementation of an ISO 14001 EMS. (Z)

Should - A management expectation. Management approval would be expected for deviation. Equivalent to a voluntary commitment. (Z)

Sustainable Development - Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Stakeholders - Internal and external interested parties. Includes employees, the Board of Directors, the public, regulatory agencies and authorities, and environmental groups.

Target - A specific task associated with achieving an objective. Targets should be quantified where practicable, and measurable. (ISO, Z).

Top management - Top management includes the senior manager(s) ultimately responsible for the environmental performance of the organization. It typically includes the Chief Executive Officer, Chief Operating Officer, and senior managers responsible for operations that have significant environmental aspects. It also typically includes senior managers responsible for the organizational units responsible for the functions within the EMS (even if they do not report directly to the CEO). (Z)

(Other) Voluntary Commitments (referred to as "other requirements" in ISO 14001) - Environmental principles or industry norms that an organization may choose to adopt or subscribe to. Voluntary commitments or undertakings go beyond compliance, and may relate to regulated and/or non-regulated areas. (CEMP) For example, they could include the ICC Charter for Sustainable Development, voluntary agreements, etc. Indicated by the use of the term "should." (Z)

NUMBER EMS-01	REVISION 0	PAGE 101 of 101
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