

Part 7.5

Environmental Protection & Pollution Prevention

This section is intended to assist Bidders in preparing their various responses regarding an Environmental Management Program (Contract Exhibit O) and responses to Principal Factor 1 in Part 5 of this prospectus. This section of the prospectus consists of Reclamation Concession Management Guidelines Chapter 12 and outlines the Concession Laws, Regulations and Policy portion of the Lake Berryessa Prospectus website and includes all applicable processes identified in the Draft Contract of this Prospectus that will apply to Environmental Protection and Pollution Prevention at Lake Berryessa. This is the process that is prescribed for all concession operations within Reclamation and it applies in all areas and not just at Lake Berryessa.

The full Reclamation Concession Management Guidelines can be found at the following website: <http://www.usbr.gov/recreation/publications/RCMG.pdf>.

Please do not attempt to develop an EMP utilizing this Chapter as any more than a helpful resource in conjunction with direction provided in Section 3 of the Draft Concessions Contract (PART 6 of this prospectus). It does represent 'Best Management Practices' as it relates to the subject matter.

Chapter 12 – Environmental Protection and Pollution Prevention

Introduction

The Bureau of Reclamation (Reclamation) directs, coordinates, and cooperates with concessionaires for environmental and pollution management. Concessionaires will conduct all operations to promote environmental awareness among staff, guests, and visitors; use and promote the use of environmentally sensitive products and practices; reduce consumption of resources; minimize impacts on resources; minimize the creation of waste products; and take actions to remediate, as appropriate, hazardous waste and other environmental impacts.

This guideline provides information on environmental compliance issues related to concession operations:

- Environmental laws, regulations, and Executive orders (E.O.) of relevance to Reclamation concession management.
- Concessionaire compliance with Federal and State environmental laws.
- State role in enforcement of environmental laws.
- Programs to continually improve the skills of concessionaire and Reclamation employees in pollution prevention, environmental protection, environmental law compliance, and personal liabilities through training and awareness.

Environmental Compliance

A. Environmental Laws and Regulations

Concessionaires must manage their environmental concerns, not as a special issue, but as an integrated part of daily management activities.

Concessionaires must be aware of the Federal and State environmental laws and regulations that affect their activities. Being informed will help avoid problems and unnecessary expenses.

Since 1970, a growing body of environmental laws and regulations has influenced the decisions affecting the management of Federal lands and Federal land users. See Appendix A, Environmental Laws, Regulations, and Executive Orders.

Because of the fragility and natural resource values of wetlands and floodplains and the significance of historic landscapes and facilities, impacts

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from construction activities shall be avoided, except where no reasonable alternative exists to meet the management objectives of the area. Where new facilities must be located in such areas, their design and location shall be based on scientific, engineering, and architectural studies, consideration for protection of human life, natural processes, and cultural resources; and consideration for the planned life of the facility. Existing facilities located in such areas and needing rehabilitation are subjected to the same scrutiny as those prescribed for new facilities.

1. National Environmental Policy Act

Similar to the National Historic Preservation Act, the goal of the National Environmental Policy Act (NEPA) is to ensure that decisionmakers consider the effects of proposals on resources before making decisions.

The four basic levels of NEPA compliance are:

- a. Memo to the files.
- b. Actions which, because of the minor extent of the impact, can be categorically excluded.
- c. Actions that require the preparation of an environmental assessment (EA).
- d. Actions, which, because of potentially significant effects on the human and natural environment, require the preparation of an environmental impact statement (EIS).

The three basic keys to success in the NEPA process are:

- a. Know the resources and their significance before beginning compliance.
- b. Involve all interested parties early, including the area's management team, resource professionals, local interest groups, and Native Americans.
- c. Use a multidisciplinary team (the mix of professionals gives a broader, clearer picture of effects).

Involving all the players early in the process builds trust, uses the process in the way it was intended (to seek consultation rather than rubber stamping a decision), and ensures a multidisciplinary approach to the project or plan. Working together early ensures that decisions are made using all the tools and talents available to the area, making for better decisions and the best possible options for area resources. Early involvement also helps everyone who is

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a part of the process understand how and why decisions were made and what the factors were in making the decision and, ultimately, creates fewer problems and fewer detours half-way through a project.

Reclamation NEPA requirements are based on Reclamation's NEPA Guidelines and the Council on Environmental Quality's regulations at 40 Code of Federal Regulations (CFR) 1500-1517. Areas are responsible for preparation of EAs and EISs as required by those guidelines and regulations. All project compliance documents must comply with applicable laws, regulation, and guidelines. Section 404 Clean Water Act permits, statements of findings, findings of no significant impact (FONSI), and Record of Decision (ROD) needed for projects will be prepared by the area.

2. NEPA Process

The NEPA process begins with the determination of whether a "proposed action" is subject to NEPA compliance. A proposed action is subject to NEPA if it is a Federal action. A State, local, or private action also may be subject to NEPA if it includes significant Federal involvement. This includes non-Federal actions that are regulated, licensed, permitted, or approved by Federal actions (e.g., the need for Federal permits, licenses, and other approval from a Federal agency program).

A proposed action can be categorically excluded from the EA or EIS requirements if the action does not individually or cumulatively have a significant effect on the human and natural environment. In addition, the proposed action may be excluded if the Federal agency demonstrates that there will be no significant environmental effect through procedures adopted by a Federal agency pursuant to NEPA (e.g., building a fence).

If the proposed action is not exempt from the EA or EIS requirements, the lead Federal agency must prepare the appropriate level of compliance. The EA is a concise public document that should include a brief discussion of the need for the proposal, alternatives to the proposed action, the environmental impacts of the proposed action and its alternatives, and a listing of agencies and people consulted. The EA helps to determine if an agency needs to prepare an EIS or if the agency can make a FONSI.

In the EA, the lead Federal agency must assess the proposed action for the following three impacts:

- a. Direct effects that are caused by the action and occur at the same time and place. Examples of direct effects are the elimination of original land use because of the erection of a building and a change in land use.

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- b. Indirect effects that are caused by the action but occur later. For example, an indirect effect may cause an increase in population density or growth rate which, in turn, can cause growth-induced stress effects on the air, water, and other natural systems.
- c. Cumulative effects that are caused by the action and slowly impact the environment when combined with other past, present, and reasonably foreseeable future actions. A cumulative effect is an individual action that is minor when considered solely but becomes a significant effect on the environment when occurring in conjunction with other minor actions.

After reviewing the EA, the lead Federal agency follows two courses of action. If the lead Federal agency makes a FONSI, then the agency must explain in writing why the proposed action does not have a significant impact on the human environment. If the EA highlights several human or environmental impacts that are significant in nature, the lead Federal agency must continue its review of the proposed action and develop an EIS.

3. EIS Process

The EIS process begins with the publication of a notice of intent in the *Federal Register*. The Notice of Intent must provide the proposed Federal action and all of its alternatives, the lead Federal agency's planned scoping of issues process, and a person to contact in the Federal agency for answers to questions pertaining to the EIS.

After a notice of intent is published, the lead Federal agency will begin the public scoping process to determine the scope of the issues to be addressed in the EIS. Public participation is encouraged, through public hearings, during the scoping process. Using information from scoping, the lead Federal agency prepares a draft EIS based on the identified scope of issues.

Upon completion of the draft EIS, the lead Federal agency must provide a 45-day comment period for review of the draft EIS. The lead Federal agency must submit the draft EIS to the Environmental Protection Agency (EPA) for review. All EISs are filed with the Office of Federal Activities and are announced weekly in the *Federal Register*.

The lead Federal agency is responsible for responding to all comments, including EPA's comments, and for incorporating comments into the draft EIS. The final EIS must include the lead Federal agency's response to comments.

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When the EIS is final, the lead Federal agency must file it with the Office of Federal Activities. The Office of Federal Activities publishes the receipt of all final EISs in the *Federal Register* each week.

After a minimum of 30 days, the lead Federal agency makes a decision on the proposed Federal action. To justify and explain this course of action, the lead Federal agency must publish a Record of Decision (ROD), which is made available to the public.

4. Endangered Species Act

The Endangered Species Act (ESA) has separate processes that apply to Federal agencies and to other entities.

Federal agencies are required to avoid taking any action that may jeopardize the continued existence of any species listed as threatened or endangered (listed species). As a result, when proposing an action, Federal agencies must consult with the U.S. Fish and Wildlife Service (FWS) and/or the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries), depending on the species involved. This consultation will require the lead Federal agency to evaluate the potential effects to listed species and their critical habitat. If any effect is likely, the FWS is required to either concur that the effect is minor or provide a Biological Opinion defining the effect on the species or critical habitat and recommend reasonable and prudent alternatives to avoid any effects that may jeopardize the continued existence of the species. The lead Federal agency is responsible for applying those recommendations and avoiding any action that may jeopardize the continued existence of the species.

Additionally, there is an absolute prohibition on taking (which means killing or significantly interfering with) any listed species without a permit. For Federal agencies, this permit is provided as part of the consultation process discussed above. For non-Federal entities, this permit is granted by FWS or NOAA Fisheries, depending on the species involved. The non-Federal entity must develop a Habitat Conservation Plan (HCP) to minimize effects on listed species. Once an HCP acceptable to FWS has been completed, FWS provides a permit.

The critical factors to remember for ESA compliance is that (1) it is required when listed species or critical habitat may be affected and (2) no project or proposed action may proceed until ESA compliance is completed.

B. Jurisdiction

Traditionally, Federal land managers and the resources they manage were not subject to regulation by State agencies or to close scrutiny by other Federal regulators. However, within the last three decades, this Federal-to-Federal relationship has changed, as well as the Federal-State interaction.

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The general rule with regard to Federal compliance with State laws and regulations is that, absent a specific Federal statute where Congress has mandated Federal compliance, Federal agencies are exempt from State or local regulation pursuant to the Supremacy Clause of the Constitution. *Arizona v. State of California*, 283 U.S. 423 (1933); *May v. United States*, 319 U.S. 441 (1943).

Statutes, such as the Clean Water Act, mandate compliance with State law concerning discharge, control, and abatement of water pollution. Similarly, other statutes cede jurisdiction to State regulatory agencies notwithstanding the particular jurisdiction of the Reclamation area involved.

The passage of the Federal Facilities Compliance Act in October 1992 specifically permits both the States and the EPA to bring suits against Government agencies and departments for violation of environmental statutes.

C. Liability

The growing national concern over the protection and enhancement of our country's environment is reflected in an expanding, detailed, and complex body of laws and regulations. The simple fact is that area managers and Government contractors, including concessionaires, and perhaps even planning and design personnel, can and may be held liable for their actions, or their inactions as the case may be, by Federal and State environmental regulators. Such regulators have instituted criminal prosecutions against Government contractors and against Federal employees and individual Federal facilities personnel.

Area managers and personnel must be made aware of the criminal and environmental statutes and that Federal managers, Federal employees, and concessionaires can be subject to civil fines or criminal prosecution for breaking laws they do not know about or did not know applied to them. For environmental statutes, the Federal manager or employee, or concessionaire, can also be charged and convicted because they are aware of problems, they had the capability to correct the problems, and they did not take appropriate action.

With the application of Federal requirements to Federal facilities and selected applicability of State statutes, it is increasingly important to determine when and if actions being taken fall into a regulated area to determine the potential liability of the Federal agency. In some instances, liability has extended to criminal prosecution of civilian employees for violation of Federal environmental statutes (U.S. v. Die, 912 F. 2d 741 [4th Cr., 1990]).

Applicability of potential liability in the field of hazardous and toxic materials management extends both to those who know of such actions and those who have reason to know of such problems. **As a result, Federal officials with oversight of concession operations may be held liable for actions of a**

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concessionaire who improperly handles, uses, or disposes of a hazardous material or waste. In addition to agency or corporate liability, each manager assumes a personal and even criminal liability for environmental law violations, regardless of whether they know about the law or not.

Because Federal officials and their contractors (concessionaires) are subject to State criminal prosecution for violation of environmental statutes, in the current climate of Federal versus State sovereign immunity, it is the individual Federal and concessionaire manager or employee who may become a target of “State” prosecutors for indictment simply because no other entity is amenable to suit. Since that can occur, managers must understand criminal liability is something that will not be waived for any Federal official. Moreover, if a Federal official is charged with violation of environmental statutes in the course of Federal employment, the agency, via the Department of Justice, may or may not provide representation by an attorney. Therefore, regardless of the consequences of the “targeting” of charges, it is the individual employee who personally will feel those consequences most directly, rather than the Federal Government.

Liability of the Federal official and concessionaire is complex, difficult to understand, and expanding in relevance as the Federal Government cedes enforcement powers to States. Reclamation and concession officials at all organizational levels operating on Federal land must be prepared to fulfill their stewardship responsibilities, including the responsibilities to document problems and “buck” them up to program managers and senior Reclamation managers to get them resolved, and have a clear understanding of what the consequences are if they do not meet them. Refer to Appendix D, Personal Liability of the Federal Official, provided by the Office of Personnel Management (February 1994).

D. Concession Activity Issues

Many concessionaires generate or store different hazardous materials. The most direct overview of concessionaires’ hazardous materials inventories, containments, cleanups, and followups is through managed contract compliance. Training for concessionaire and Reclamation employees in environmental law is useful in dealing with these concerns. In accordance with requirements of E.O.12873, Reclamation should seek technical assistance from the EPA.

Reclamation Concession Program

A. Policies

The Department of the Interior (Interior) has recognized the need for a strong policy on pollution abatement, as called for in Office of Management and Budget Circular A-106, dated December 31, 1974, and on solid waste or

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hazardous and toxic substance management by developing 518 DM 2.4 (Department of the Interior Manual). Interior agencies must comply with all Federal waste management requirements, including required assessments, appropriate response, monitoring, recordkeeping, and reporting. However, it may call for agencies to comply with State waste management requirements as well, even though some of those requirements are quite stringent with exceptional fiscal implications. It also calls for the heads of bureaus and offices having responsibility for waste management under their jurisdiction to ensure that adequate program support in terms of budget and resources are available to comply with all Federal and State waste management requirements

It is Reclamation policy that concessionaires be required to comply with the applicable provisions of all laws, Executive orders, regulations, and policies pertaining to natural resources in Reclamation areas.

A part of natural resource management efforts is the incorporation of environmental programs and procedures into the overall concession program.

- Solid waste management decisions consider economics, the proper use of personnel and physical resources, the effect on the total environment, and other factors of sound engineering and will be in compliance with Federal, State, and local regulations regarding avoidance, amelioration, or elimination of environmental pollution.
- Activities involving hazardous and toxic materials or waste, including purchase, storage, transportation, and disposal, will comply with Federal, State, and local regulations, including, but not limited to, the Resource Conservation and Recovery Act (42 USC 6901 et seq.), the Comprehensive Environmental Response Compensation and Liability Act (42 CFR 9601 et seq.), and the Integrated Pest Management Program of Reclamation.
- Concessionaires, as federally licensed operators, will comply with the applicable provisions of all laws (Federal and State), Executive orders, regulations, and policies pertaining to natural resources in Reclamation areas, including those pertaining to environmental protection, pollution prevention, and solid and hazardous waste management.

Reclamation concession management policies for environmental protection, pollution prevention, and compliance require concessionaires to comply with the applicable provisions of all laws, regulations, and policies pertaining to natural and cultural resources in Reclamation areas. Reclamation, as well as concessionaires, is fully committed to resource stewardship and will reflect that commitment in specifying and striving to achieve source reduction and pollution prevention “goals.” To that end, all concession facilities will be

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designed, constructed, and operated, whenever feasible, in a manner that prevents or reduces pollution at the source. The operation, maintenance, and management of concession facilities and concessionaire acquisition and purchasing activities will be conducted, to the extent practicable, to promote use of environmentally preferable products, including materials and supplies with recycled content, and to avoid or minimize the quantity of toxic and hazardous chemicals and hazardous substances entering the waste stream. In addition to source reduction, the concessionaire will demonstrate a commitment that waste generated is to be recycled to the maximum extent practicable and that any wastes remaining are stored, treated, handled, transported, and disposed of in a manner protective of public health and the environment.

Concessionaires will report to Reclamation any toxic chemicals entering the waste streams from their facilities. Any unauthorized releases to the environment will be reported promptly to Reclamation and to others as required by regulation or agreement

In addition, the concessionaire will cooperate fully with area officials to improve local emergency planning, spill prevention and response, accident notification, and pollution prevention.

The concessionaire will help encourage use of clean technologies and safe, environmentally preferable products and alternatives to toxic, hazardous, and extremely hazardous substances through any means possible, including revisions to specifications and standards, the acquisition and procurement process, the testing of innovative pollution prevention technologies, and sharing information with the public concerning pollution prevention strategies that have been successful. In addition, the concessionaire is encouraged to be a full participant with Reclamation and provide necessary assistance and aid to carryout a monitoring program, or portions thereof, to ensure area resources affected by commercial activities are not impaired.

B. Integrated Pest Management

Concessionaires frequently must deal with weeds, harmful insects, mice, and other animal pests that interfere with their operations or detract from their guests' experiences. Examples of this include cockroaches in dining rooms, flies in stables, dandelions in turf, and poison ivy along a trail. Certain pest problems can be very site specific and require specialized approaches. Contact with the area concession management specialist and Integrated Pest Management (IPM) Coordinator is recommended.

Pesticides are strictly controlled and can be used only in a manner consistent with Reclamation policies and procedures and in a manner conforming to Federal and State laws and regulations. Pesticides shall be applied only by those persons who have been properly trained and who are currently certified or licensed in the particular category of pest control required for the situation

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at hand. These policy restrictions apply equally to concessionaire and Reclamation areas. Reclamation concession managers have the lead responsibility for ensuring that concessionaires comply with Reclamation pest and pesticide management policies and procedures.

Pesticides may be applied only after Reclamation approval has been received, and any application should be part of an IPM plan submitted to Reclamation. Depending on the dangers involved in the application, approval may be granted at the regional level. IPM coordinators at the area and regional office levels can provide current information on the approval procedures.

IPM is a planned program incorporating continuous monitoring, education, recordkeeping, and communication to prevent pests from causing unacceptable damage to operations, people, property or the environment. IPM uses a combination of targeted, sustainable methods such as habitat modification, biological control, cultural control, mechanical control, physical control, regulatory control, and when necessary, the judicious use of least-toxic pesticides.

IPM approaches are emphasized as a means to reduce long-term pest control costs and pesticide risk

Operational activities associated with pest management are the responsibility of the concessionaire, as is participation in Reclamation pesticide approval and use reporting processes. This includes inspecting and monitoring pest populations; implementing nonchemical management methods such as sanitation, sealing buildings, plumbing and conduit repair, mowing, and trapping; and applying pesticides.

Reclamation will make the services of the area's IPM coordinator available. This person will assist with identification of pests, recommend and approve pest-monitoring methods, obtain approvals for the use of pesticides, and provide other technical assistance.

Concessionaires should meet annually with the area concession management specialist and IPM coordinator to discuss pest management issues and to project the requirements for the use of pesticides.

C. Spill Prevention, Control, and Countermeasure Plans

The EPA's oil pollution prevention regulation establishes requirements for facilities to prevent oil spills from reaching navigable waters of the United States or adjoining shorelines. The rule applies to owners or operators of certain facilities that drill, produce, gather, store, process, refine, transfer, distribute, or consume oil. The regulation requires that all regulated facilities (including Federal facilities as specified in 40 CFR 112.1(c)) have fully prepared and implemented Spill Prevention, Control, and Countermeasure (SPCC) Plans. See appendix C.

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An SPCC Plan is a detailed, facility-specific, written description of how a facility's operations comply with the prevention guidelines in the oil pollution prevention regulation. These guidelines include measures such as secondary containment, facility drainage, dikes or barriers, sump and collection systems, retention ponds, curbing, tank corrosion protection systems, and liquid devices.

A registered professional engineer must certify each SPCC Plan. All SPCC Plans must be updated every 3 to 5 years or when affected operations are modified.

Unlike Oil Spill Contingency Plans that typically address spill cleanup measures after a spill has occurred, SPCC Plans ensure that facilities put in place containment and other countermeasures that would prevent oil spills that could reach navigable waters. Under the regulation, facilities must detail and implement spill prevention and control measures in their SPCC Plan.

A Spill Contingency Plan is required as part of the SPCC Plan if a facility is unable to provide a secondary containment. The ability to implement the SPCC must be demonstrated by having the appropriate equipment on hand and personnel trained.

In addition to the storage capacity criteria, facilities are regulated if, because of their location, they could reasonably be expected to discharge oil into navigable waters of the United States or onto adjoining shorelines.

D. Pollution Insurance

Concessionaires operating or owning activities with the potential for causing pollution or environmental damage should be required to have pollution liability insurance in accordance with the Resource Conservation and Recovery Act and for other operations as required by Federal, State, and local laws. Concessionaires should also obtain pollution liability insurance to cover corrective action and cleanup for on-site and off-site premises as required by Reclamation. The limits of liability insurance should be an amount commensurate with the potential damage that could be caused by the activity, but Federal, State, or local laws may require other limits. Where insurance is required, the concessionaire may satisfy Reclamation pollution insurance requirements by having its existing commercial general liability insurance policy include an endorsement for pollution coverage or by purchasing a separate pollution liability policy. Insurance imposed by Federal, State, or local laws, however, must be obtained in accordance with those laws.

In the past, pollution damage caused by sudden and accidental spills would have been insured by a commercial general liability insurance policy under the property damage section. Today, most commercial general liability policies exclude coverage for such accidents, but the policy can be endorsed to provide the coverage.

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Pollution insurance protects against sudden and accidental spills or runoff of hazardous material into the air, ground, or water. Pollution insurance, however, will not cover intentional acts of polluting. For example, if a tour bus is involved in an accident that causes the vehicle's fuel to seep into the ground or runoff contaminates a stream, insurance will pay for the damage caused to the environment. On the other hand, dumping batteries into a reservoir will not be covered.

Pollution insurance is a relatively new area and, therefore, nomenclature has not yet been established. Pollution insurance policies go by several names, including Environmental Impairment Liability, Pollution Legal Liability Protection, Pollution Cleanup, and Underground Storage Tank Liability Insurance. The conditions contained in pollution policies also differ considerably. EPA, in accordance with the Resource Conservation and Recovery Act, requires that underground storage tank operators have insurance (financial responsibility) to cover corrective action and cleanup for on-site and off-site premises.

It should be understood that the Resource Conservation and Recovery Act requires insurance or financial responsibility only for hazardous waste. The act affects concession operations that have underground storage tanks. There may be other operations requiring insurance under the act that would also pertain to concessions. Additionally, State and local laws may also require insurance for specific types of operations.

It is recommended that pollution insurance be required pursuant to Federal, State, or local laws or in a situation where Reclamation determines that pollution is highly likely. In the latter situation, a concerted effort should first be made to determine what precautions could be taken to prevent pollution or closing the operation.

Concession operations that could cause pollution and perhaps should require insurance include petroleum fuel storage and distribution systems, automobile service stations, marinas, repair shops, storage and use of herbicides and pesticides, and on-site dry cleaning operations. If insurance premiums are prohibitive, the use of high deductibles and out-of-pocket payments for smaller claims may make insurance for catastrophic claims affordable. Again, before requiring insurance, consideration should be given to precautions to prevent polluting, the cost effectiveness of insurance, the likelihood for polluting, and whether the material is considered hazardous under Federal, State, and local laws.

Environmental Awareness

Environmental awareness is critical to the success of environmental compliance and sustainable practice programs at Reclamation areas. An understanding of and

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appreciation for sustainability, biodiversity, and environmental ethics will result in healthier ecosystems and set the foundation for developing successful sustainable practices and help prevent environmental compliance problems from arising. Environmental awareness will require an ongoing effort to educate both visitors and employees.

As operators within Reclamation areas, concessionaires also have a role and responsibility to lead by example within their respective industries. Training of employees with day-to-day management responsibilities will increase awareness; however, orientation training is needed for employees to be able to recognize potential environmental hazards or practices that need reform.

A. Visitor Awareness, Public/Private Partnerships

Reclamation and concessionaires should actively consider ways of increasing visitor awareness of environmental concerns. This certainly can be (and is being) done through application of sustainable practices; however, direct interpretive and educational methods are available and should be considered by area and concession staff.

Heightened environmental awareness can result from cooperative area-concessionaire environmental programs, joint recognition of individuals and teams, joint publication of environmental materials, etc. Partnerships with local environmental groups and businesses not only will improve environmental efforts but will also have the potential to expand these efforts outside the area.

B. Resources Monitoring

Concession activities and associated use of area resources and Reclamation management of concessionaire operations should involve resource monitoring to ensure protection of area resources. Reclamation should assemble baseline inventory data describing resources under its stewardship and monitor those resources at regular intervals to detect or anticipate changes that may require intervention and serve as reference points for comparison with other, more altered environments.

Resource monitoring by Reclamation and concessionaires has increased dramatically over the past decade and will continue. The Comprehensive Environmental Response, Compensation, and Liability Act; the Resource Conservation and Recovery Act; NEPA; the EPA's Environmental Monitoring and Assessment Program; the Natural Resource Damage Assessment regulations promulgated under the Oil Pollution Act of 1990; etc., influence agencies to carry out research and monitoring programs that will characterize the environment and the natural, physical, and human-caused processes that will affect the environment.

Sustainable Practices

For the tourism industry, the decade of the 1990s increased attention to words such as “greening,” “sustainability,” “environmental compliance,” and “ecotourism.” These words have taken on varying definitions, meanings, and actions. These terms are grounded in the belief that we can no longer go on with our lives without addressing the environmental and cultural consequences of our personal and business actions. Beyond dealing with critical environmental compliance issues such as clean air, clean water, and toxic waste disposal, we are compelled to understand our personal and corporate relationships with environmental and cultural systems and our roles in ensuring the capability of natural and cultural systems to maintain themselves over time.

Reclamation and its concessionaires should set examples for other agencies and the hospitality industry in environmental practices. Some concessionaires are already doing this.

A. Environmental Impacts

First, each concession operation (as well as each area) needs to conduct an environmental audit to assess its own impacts. The audit should deal with hazardous materials and chemicals, pesticides and herbicides, water and energy use, solid waste and recycling, waste stream management and recycling, and as many other aspects of pollution prevention as possible. This can be a self audit, using guidelines developed by various tourism and environmental organizations. This self audit can be augmented by use of local expertise from an environmental group, Reclamation office, or tourism group. Experts who do audits for a living can be used; however; this option may be expensive.

The next step is to determine how to reduce the identified impacts. Objectives include improved maintenance and operations with much lower environmental impacts and a goal of operations with no net environmental impacts or even a positive contribution to the environment.

B. Economic Impacts

Concessionaires are not required to spend enormous amounts of money to turn their concessions into “green” operations, but there is a cost. The good news is that this cost is usually recoverable. For example, a strict adherence to scheduling of routine maintenance of utility systems and vehicles not only conserves energy and contributes towards cleaner air, but also lowers long-term costs. A comprehensive recycling program for corrugated boxes and aluminum cans not only reduces the amount of waste going into a landfill, but can save hauling costs to the landfill. Implementation of an Environmental Management System (EMS) can significantly reduce compliance costs. Using water restrictors not only reduces the impact on water supply systems, but also can reduce the cost of purchasing water. Also, more and more travelers and groups are looking for tourism operations that are making environmental

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efforts. Along with helping the environment, the greening of an operation makes sense from a financial standpoint.

C. Sustainable Design and Construction

Sustainable design in human developments has come to the forefront in the last 20 years. Sustainable design is an integral part of the natural world and emphasizes that nature must be preserved and perpetuated if the human community is to sustain itself indefinitely. Sustainable design is the philosophy that human developments should exemplify the principles of conservation and encourage the application of those principles in our daily lives.

Guiding principles of sustainable design are intended to provide a basis for achieving sustainability in facility planning and design, emphasize the importance of biodiversity, and encourage responsible development decisions, particularly when related to ecotourism. This merger of sustainable development and ecotourism provides tremendous opportunities for affecting visitor perceptions of the natural and cultural world and developing conservation-oriented values.

The suggested principles to be used in the design and management of area and other visitor facilities emphasize environmental sensitivity in planning, design, construction, operation, and maintenance; the use of nontoxic materials; resource conservation; recycling; and the integration of visitors with natural and cultural settings.

Reclamation promotes the application of the principles of sustainable design in all future area design and construction activities, including concession facilities.

As the contractors who operate Government-owned facilities, concessionaires must, at a minimum, promote programs for Federal agencies, in particular Reclamation.

E.O. 13123, Energy Efficiency and Water Conservation at Federal Facilities, June 3, 1999, which supersedes E.O. 12902, March 8, 1994, requires each agency to reduce energy consumption per total square foot, relative to 1985 use, by 30 percent. Energy efficiency shall also be increased by 20 percent over 1990. The goal for realizing these achievements is the year 2005. All cost-effective water conservation projects shall also be implemented.

When an agency constructs at least five buildings in a year, it shall designate at least one building to be a showcase of advanced technologies and practices for energy efficiency, water conservation, or use of solar and other renewable energy.

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Audits and recommendations for improvement can be obtained from local utility companies or from the EPA's Green Lights Program. The Department of Energy is a lead agency in solar energy initiatives and has a list of companies providing energy conservation services. The Office of Management and Budget has guidelines that include listings of energy-efficient products and practices used in the Federal Government.

D. Sustainable Maintenance and Operations

1. Maintenance

Facility maintenance practices are critical parts of a plan to “green” a concession operation. A well-conceived and constructed facility will quickly lose its environmental effectiveness if not properly maintained. This requires the concessionaire to have a maintenance system that inventories the items to be maintained, establishes standards based on use and environmental and climatic conditions, and plans for logistical services that complement the facility's environmental objectives.

When constructing facilities, maintenance staffs must take into consideration material longevity, cycle frequency, specialized training and equipment requirements, employee health hazards, renewable resource requirements, maintenance costs, and disposal problems.

2. Operations

Each concessionaire should have an EMS that will provide direction and ideas on good environmental practices. It can include maintenance actions, utilities, specific operational activities, antipollution measures, and interpretive activities. The commitment to contractual improvement should be documented and evident.

The following are ideas of good environmental practices:

- To conserve power and electricity, ceiling fans can be used to reduce the use of air conditioners. Some operations use low-energy fluorescent fixtures in public areas, halogen bulbs in bathrooms, natural lighting where possible, solar-powered walkway lights, and insulated windows or storm windows. Solar energy systems to provide light, heat water, and provide power for appliances are available and in use by some concessions.
- Housekeepers should watch and adjust guest-controlled thermostats. Electricity saver stickers should be placed in guestrooms as reminders to shut off lights when not in use.
- Reclamation and concessionaires should explore ways to reduce the use of water and produce less wastewater in sewage systems. For example, place flow restrictors in showerheads and faucets.

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Place water savers in toilets, or install low-volume toilet flush units. Examine maintenance methods for cleaning swimming pools without extensive draining of pools. In restaurants, offer water only when requested and have a sign on the table that explains why. If not on a municipal system, consider ways of treating water that reduce the use of chemicals and energy. Instead of irrigating lawns, gardens, and recreation areas, such as golf courses, with municipally treated water (local and State ordinances permitting), consider being part of a system that uses gray water. Gray water is waste water that is treated almost to the point of human consumption but avoids the cost of full water treatment. Using gray water may be healthier for lawns, it may reduce the pressure on treatment plants, and it will reduce water costs.

- Lodging managers are using facial and toilet tissue from recycled paper. Some are using on-the-wall dispensers for bathroom amenities, such as soap and shampoo, instead of small individual bottles, or they have housekeepers collect the bottles for recycling. Rather than placing plastic shower caps and amenities that the traveler may have forgotten in the guest's bathroom, some are now offering them at the front desk. This can reduce waste as well as unnecessary packaging. Concessionaires tell guests that they may have clean towels by placing them in the tub after use, but encourage them to hang the towels back on towel racks to reduce the use of water and power. This has reduced operational costs and reduced use of natural resources, and guest acceptance has been high.
- Bed linens, wallpaper, and carpets made of nontoxic and recyclable materials are now available. Consider giving worn linens to a church or medical society rather than disposing of them.
- Use pump spray instead of aerosol bottles of cleaning agents. Concessionaires are converting to natural, nontoxic cleaning materials that not only work well, but also reduce the cost of materials substantially.
- A recycling program should be developed. Some concessionaires bale cardboard, collect glass containers, bundle newspapers, and set out recycling bins for paper and containers for use by guests. Others ask guests to place containers and papers on a table in the room for housekeepers to collect. In each case, it is helpful to have a sign or other means to indicate the importance of recycling.
- In back-country areas with rustic camps or on guided trips, biodegradable soaps should be used both for bathing and for

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cleaning kitchen items. On river trips, river companies and private parties should use systems to haul out solid human waste that are both easy to use and inexpensive. In fact, the general rule for all waste, garbage, and trash is that if you hauled it in, you must haul it out.

- Horse trip parties should be required to use grains and processed foods for their stock instead of hay, which can leave behind seeds of unwanted exotic plants. When livestock must use hay, feed certified as “weed free” must be used.
- Marina stores should only sell biodegradable products. Marinas need to carefully examine their operation and develop pollution prevention programs.

The above list offers some practical suggestions for concession operations. An increasing number of travelers seek out lodges and guide services that have a concern for the environment. Two standards for implementing an EMS are ISO14001 and CEMP. Both are available online from EPA.

E. Solid Waste Disposal and Recycling

The Solid Waste Disposal Act requires Federal agencies having jurisdiction over any real property to ensure compliance with solid waste disposal. To this end, Reclamation has initiated an Integrated Solid Waste Alternative Program that outlines five program elements in a hierarchical order (source reduction, recycling, waste combustion, landfilling, and outreach) to promote a coherent approach to an area’s solid waste problem.

Concessionaires must comply with solid waste management practices established for the area in which they operate and must otherwise cooperate with Reclamation to reduce solid waste; promote use of environmentally compatible materials; educate area visitors, employees, and residents on good waste management practices; and actively assist in implementing and promoting Reclamation’s Integrated Solid Waste Alternative Program.

Recycling is the process and technology of processing any material that might otherwise be discarded and using that material for a new product. Recycling involves collection, separation, and consolidation (i.e., baling) to buyers’ specifications; selling to markets; processing; and eventually reusing materials. Collection and separation of recyclable materials is the first step in the recycling process. If the material is not processed and returned to commerce, the material is not recycled. Recycling saves energy, natural resources, land, and water.

Aluminum and other metals, paper and cardboard, glass, plastics, tires, batteries, waste oil, and solvents are commonly recycled. Because paper

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products contribute heavily to the municipal solid waste stream, areas are recycling paper or seriously considering recycling alternatives that are available for these products.

Reclamation encourages saving energy and reducing litter through the use of recyclable containers wherever practical and has in place a program for returnable beverage containers for which a deposit is charged. Guidelines require that signs showing the beverage price, deposit amount, and where empty cans may be returned for refund be posted in a conspicuous place.

Development of consolidated recycle centers for the area and the concessionaire(s) to use may be needed to take advantage of economies of scale and to avoid duplications of land commitment for the same function. Where needed, these should be self-funding projects.

F. Transportation

Over the short term, as alternative-fueled vehicles are becoming more widely available and infrastructure to support such fleets are developed, a prudent course of action would be for both Reclamation and concessionaires to review their vehicle fleet and consider “downsizing” opportunities. The improved gas mileage will help reduce the rate at which gasoline is used within the area and, thereby, reduce the total volume required to be stored as on-hand capacity.

G. Energy Conservation

Energy conservation is the subject of E.O. 13123, Energy Efficiency and Water Conservation at Federal Facilities. The E.O. provides for Federal facility managers to reduce energy consumption in all Government-owned (including contractor-operated) facilities. (See appendix A.) A campaign put together by EPA under the heading “Green Lights,” the confluence of environmental gain and economic incentive is being highlighted and promoted. The Green Lights Program takes advantage of the tremendous potential for cost savings through improving the energy efficiency of building lighting systems. Under the Green Lights Program, EPA has produced technical guidance, including The Lighting Upgrade Manual and decision-support software to help organizations survey their existing lighting system, assess lighting options, and select the best upgrade. To contact the EPA Hotline, call customer service at (202) 775-6650 or contact them by fax at (202) 775-6680.

Many utilities are interested in working with their customers to help them realize savings. It is in the utility company’s interest to pursue this because it is cheaper to meet increasing demand through energy conservation than through development of new energy-generating sources. Utilities will often provide technical services such as lighting audits and financial incentives.

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Another source of information on energy conservation is the Association of Energy Engineers. Their address is 4025 Pleasantdale Road, Suite 420, Atlanta, GA 30340, (404) 925-9633. The Sandia National Laboratory sponsors the Photovoltaic Design Assistance Center to encourage the use of solar energy. They have been active with the U.S. Forest Service in promoting the use of solar systems at remote comfort stations and for other recreational uses. For information, call (505) 844-2154. Their address is Division 6223, Sandia National Laboratories, Albuquerque, NM 97185.

Training

Reclamation and concessionaires must commit to staff training and active programs concerning environmental protection; environmental law, liability, and compliance; pollution prevention; hazardous materials management; sustainable design and operational practices; energy and water conservation; IPM; and resources inventory and monitoring programs.

A. Types of Training

Comprehensive training programs to disseminate environmental and hazardous materials compliance information to all appropriate field personnel are critical to both Reclamation's and the concessionaires' ability to fulfill legal responsibilities and to be good stewards of Reclamation areas.

To provide a safe and healthy workplace, it is essential that Reclamation and concessionaires provide health and safety training. In addition, Reclamation and concessionaires are legally compelled to provide health and safety training.

There are two areas of legislation and regulation that apply consistently to Reclamation area and concession operations. The first deals with a staff's understanding of chemical hazards and their preparedness to recognize and defensively respond to hazardous material incidents and spills. The Occupational Safety and Health Administration (OSHA) promulgates these standards. The second area that mandates training applicable to Reclamation areas and concession operations is found in Federal hazardous waste laws and the Resource Conservation and Recovery Act.

The most widely applicable OSHA requirements in the hazardous materials arena include:

1. **Hazard Communication** (29 CFR 1910.1200). This regulation is sometimes referred to as the "Worker Right-to-Know" standard. It requires employers to educate workers to increase their understanding of chemical hazards, to teach workers how to read a Material Safety Data Sheet (MSDS), and, specifically, to notify workers as to the types of chemicals they will likely come into contact with on the job.

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2. **Hazardous Waste Site Operations and Emergency Response** (29 CFR 1910.120). This regulation requires that employees who may encounter or be part of a “first response” to a hazardous materials incident be trained in chemical hazard recognition, defensive procedures (evacuation and containment), and notification procedures. The regulation specifies two levels of training that are appropriate to area and concession operations.
3. **Hazardous Waste Generation. Under the Resource Conservation and Recovery Act** (RCRA) and regulations promulgated thereunder (40 CFR Part 262.34 [d]), the requirements for “generators” of hazardous waste (even small quantity generators) states that employers must train staff to handle and manage hazardous waste to prevent spills and other dangerous incidents. Staff who generate hazardous waste as part of their work duties need to understand the hazardous waste management practices legally applicable to the waste stream(s) handled.
4. **Lead-Based Paint Abatement.** Reclamation and concession employees may work or live in buildings that contain lead-based paint. Maintenance workers will be most likely to be working in an environment that contains lead-based paint. Lead-based paint was not phased out of use until the mid-1970s; it must be assumed that older structures contain lead-based paint until proven otherwise. Testing is a simple and inexpensive way to avoid lead exposure.

The Congress directed EPA to develop a national program to ensure that individuals engaged in lead-based paint activities are properly trained and certified, that training program providers are accredited, and that firms engaged in such activities are certified.

5. **Asbestos Inspection.** Asbestos is commonly found as an insulation and fire protection material in older structures. It is considered a hazardous substance and is regulated in a number of ways. Under the Clean Air Act, it is considered an air pollutant, regulated under the National Emissions Standards for Hazardous Air Pollutants (40 CFR, Part 61, subpart M). The National Emissions Standards for Hazardous Air Pollutants program requires the EPA to be provided advance notice of any project to renovate or demolish a building containing asbestos.

Individuals involved in asbestos inspection and management must be accredited through an approved Asbestos Hazard Emergency Response Act (40 CFR 763) training program. OSHA has two sets of regulations that pertain to asbestos: 29 CFR Part 1910.1001 (establishes worker protection standards) and 29 CFR

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1926.58 (establishes worker protection standards and standards for construction and demolition in asbestos-containing structures).

It is critical that Reclamation and concessionaires provide maintenance managers with a clear understanding of these laws and requirements because they are complex, asbestos is prevalent in our structures, the penalties for violations are significant, and the health outcome for mismanagement of asbestos can be severe (cancer).

B. Protection of Resources

Continuing with the types and reasons for environmental and hazardous materials training, resource protection is one of the core missions of Reclamation. Under this heading, training in two areas would benefit both Reclamation and concessionaire staffs in the protection and enhancement of area resources. The first area relates to spill contingency management in the context of health and safety regulations. The second resource protection initiative requiring training support is hazardous waste site identification.

- 1. Spill Contingency Management Preparedness.** The training effort in advanced spill contingency management needs to be focused and proportional to the risk at individual areas. For those areas with unique vulnerabilities (i.e., areas with marina operations, coastal areas near shipping channels, and areas with major highways or pipeline rights-of-way), advanced spill management is needed. However, staffs should not be trained as Incident Commanders for these plausible major incidents. Under the National Response Plan and the National Contingency Plan (40 CFR, Part 300), this is not the area office's role. Area office staff need to be trained in their role in responding to these incidents because of Reclamation's significant role as a Federal Natural Resource Trustee and because of its subordinate role in incident management relative to the primary Federal response agencies of EPA and the Coast Guard. Staff should be prepared to assist these lead agencies with aspects of these events for which Reclamation may be best qualified, such as resource vulnerability assessments, resource recovery, and press relations.
- 2. Hazardous Waste Site Inventories.** Staffs need to be prepared to identify and document areas of potential hazardous waste contamination within areas. Many "hazardous waste sites" have been created from historic activities. These areas of contamination may have been caused unintentionally by area or concessionaire operations (i.e., through maintenance operations, fuel storage and distribution, or firing range operations). The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), compels Federal land managers to report potential waste sites to EPA and State regulatory agencies. After these sites are identified, they are evaluated through the development of a Preliminary Assessment and Site

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Inspection for ranking according to the Hazard Ranking System (part of the National Contingency Plan, 40 CFR, Part 300). Area personnel do not need to become CERCLA experts. Service Center and Washington staffs will follow up with the more complex site evaluation and investigation processes. Personnel at these levels will need advanced training.

C. Reduction of Liabilities

There are at least five areas in which Reclamation and concessionaires can effect training and actions that will reduce environmental and hazardous materials liabilities. Training staff to take these actions, where appropriate, can help realize cost savings, avert environmental damage, and preclude any civil or criminal violations of law.

- 1. Circumstances and Consequences of Civil and Criminal Violations of Environmental Laws.** Managers and employees need to be made aware of the specific civil and criminal liabilities associated with the environmental laws that apply. Violating environmental laws can involve fines and imprisonment. Knowledge of the civil and criminal liabilities can provide a tremendous amount of incentive to take these laws seriously.
- 2. Concessionaire Compliance.** As the “property owner,” regulators look to Reclamation as ultimately responsible for the environmental compliance activities allowed to take place within areas. Reclamation can even be held liable for activities that occur without the express consent of an area manager (e.g., illegal dumping). Reclamation concessions management personnel and hazardous materials coordinators need to be trained to monitor concessionaires and other permitted operators for compliance.
- 3. Oversight of Hazardous Waste Contractors.** Reclamation incurs unnecessary expenses by hiring contractors to perform hazardous waste disposal and remedial actions and allows them to work without sufficient oversight. This oversight includes general waste disposal actions, underground tank removals, site investigation, and other hazardous waste remedial actions. As this type of work is undertaken, a knowledgeable Reclamation representative must be present to ensure that the Government is paying for only necessary expenses and that the work is undertaken in a manner that minimizes future liability.
- 4. Hazardous Materials Management and Waste Minimization.** Environmental liabilities are reduced to the extent that the amounts of waste generated are reduced. This is the message carried in E.O. 12573, Federal Acquisition, Recycling, and Waste Prevention, which calls for switching to low toxicity, environmentally preferable products and devising low-waste processes. Significant hazardous

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waste minimization in areas can be achieved through actions as simple as inventory control and conformance with IPM policies and pesticide use approval procedures. Much of the hazardous waste Reclamation disposes of includes hazardous materials that have exceeded their shelf life because of overstocking or salvaging already aging materials from Federal surplus sources. The key to making these practices, no matter how simple, a regular part of standard operating procedures is training. Area personnel need to be exposed to the multitude of waste minimization techniques (inventory control, centralized procurement, product substitution, etc.) to determine which practices might be applicable to their operations.

- 5. Land Acquisition and Property Transfer Surveys.** According to current convention in the realty industry, no property is transferred until it is surveyed for environmental liabilities. By Secretarial Order 3127, the Interior requires all bureaus to survey land for hazardous substances before acquisition, through purchase, donation, or inter-agency transfer. This policy is designed to identify and evaluate any areas of environmental concern on a property before acquisition. This process should be applied to concessionaire facilities at contract expiration to ensure that Reclamation does not “inherit” liabilities created by the concessionaire.

Appendix A

Environmental Laws, Regulations, and Executive Orders

This appendix addresses primary laws, regulations, and Executive orders. Managers must understand how each law affects the organization's operations and must take the necessary steps to fully comply with the associated obligations. This appendix identifies some of the major elements of laws and flags certain responsibilities of the area manager. The material presented here is by no means complete; it is only an overview.

Clean Air Act, as Amended

The Clean Air Act (CAA) is set out in six titles: Title I—Air Pollution Prevention and Control, Title II—Emission Standards for Mobile Sources, Title III—General Provisions, Title IV—Acid Deposition Control, Title V—Permits, and Title VI—Stratospheric Ozone Protection. Federal CAA regulations are set forth at 40 CFR Parts 50-99. The CAA statute is found at 42 U.S.C. Section 7401 et seq.

Since 1967, the CAA has evolved from a set of principles to guide States in controlling sources of air pollution to a series of detailed control requirements that the Federal Government implements and the States administer.

The purposes of the CAA are to prevent and control air pollution, to initiate and accelerate research and development, and to provide technical and financial assistance to State and local governments in connection with the development and execution of air pollution programs. The act establishes requirements for areas failing to attain National Ambient Air Quality Standards (NAAQS). It provides for prevention of significant deterioration of areas where air is cleaner than required by NAAQS.

The CAA has historically regulated air pollution sources through three primary programs: (1) ambient air quality regulations of new and existing sources through emission limits contained in State implementation plans; (2) more stringent control technology and permitting requirements of new sources, and (3) specific pollution problems, including hazardous air pollution and visibility impairment.

The 1990 amendments to the CAA not only modified these three programs, but also addressed new air pollutants and added a fourth category—a Comprehensive Operating Permit Program. The Comprehensive Operating Permit Program helps to establish, in one place, all CAA requirements that apply to a given stationary source of air emissions.

Civil penalties for a violation can be up to \$25,000 per day per violation. Criminal penalties for an offense can be up to \$50,000 per day per violation

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and/or up to 2 years in jail. Criminal violations causing or knowing endangerment to human life can be punished with a fine up to \$250,000 per violation and/or 15 years in jail.

Federal facility responsibilities under the CAA include:

- Obtaining necessary permits.
- Maintaining emissions within permitted levels.
- Complying with State Implementation Plan requirements.
- Managing facilities with asbestos-containing material and removing asbestos-containing material in conformance with the Air Toxics Program.
- Ensuring that all chlorofluorocarbon recovery and recycling equipment is certified to EPA standards and that venting prohibitions are maintained.
- Ensuring that all chlorofluorocarbon technicians attend EPA-certified training courses.
- Complying with applicable Federal controls on mobile sources and their fuel.
- Developing Risk Management Plans, when required.
- Maintaining all required records and documentation.
- Managing facility construction and modification.

Comprehensive Environmental Response, Compensation, and Liability Act

Regulations addressing environmental cleanup and response are in 40 CFR Parts 300-311, 355, and 373.

CERCLA, also known as the Superfund, was enacted in 1980 and amended in 1986. CERCLA's areas of major emphasis are cleanup of inactive hazardous waste sites and the liability for cleanup costs on arrangers and transporters of hazardous substances and on current or former owners of facilities where hazardous substances were disposed. CERCLA gives the President of the United States authority to clean up these sites under what may be generically called its "removal" or "remedial" provisions. CERCLA's implementing regulations, the National Oil and Hazardous Substances Pollution Contingency Plan, detail the procedures and standards that must be followed in remediating these sites. For

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more information on the National Oil and Hazardous Substances Pollution Contingency Plan, see E.O. 12580.

CERCLA identifies the classes of parties liable for the cost of responding to releases of hazardous substances. In addition, CERCLA contains provisions specifying when releases of hazardous substances must be reported and the procedures to be followed for the cleanup of Federal installations. E.O. 12580, Superfund Implementation, delegates the President's CERCLA authorities to the heads of various Federal agencies. E.O. 12580 delegates most response authorities to the EPA and the U.S. Coast Guard. However, authority to address releases at Federal facilities is generally delegated to the head of the Federal agency with jurisdiction over the Federal facility. The E.O. requires agencies to assume certain duties, such as participating on national or regional response teams and providing opportunity for public comment before a remedial action plan is adopted.

The purposes of CERCLA are to provide funding and authority for agencies to respond to hazardous substance spills and to remediate wastes sites.

Civil penalties for violation can be up to \$25,000 per day per violation for specified provisions of the act. Civil liability can include the costs of cleaning up a waste site. Damage to natural resources can be assessed for up to \$50 million.

For criminal violations, fines up to \$250,000 or prison terms of up to 3 years or both can be imposed for failing to notify appropriate agencies of a hazardous substance spill or for falsely reporting a spill. Subsequent violations can result in up to 5 years in jail.

Federal facility responsibilities under CERCLA include:

Hazardous Substance Release

- Manage hazardous substances properly to avoid spills and releases.
- Report hazardous substance releases to the National Response Center.
- Establish necessary contracts, cooperative agreements, or interagency agreements to conduct cleanup activities.

Cleanup Activities

- Conduct site investigations, assessments, and cleanup actions.
- Perform required community relations activities throughout the cleanup process.

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- Implement operation and maintenance activities.
- Negotiate and maintain cleanup schedules in conformance with interagency agreements.
- Conduct 5-year reviews of remedial actions.
- Maintain institutional controls, such as land and water use restrictions.

Property Transfer and Disposal

- Identify “uncontaminated” property with concurrence of EPA or the State, as appropriate.
- Provide notification to States of certain leases.
- Provide notice of storage, release, or disposal of hazardous substances as required by 40 CFR Part 373.
- Warrant that all necessary remedial action has been taken.
- Warrant that the United States will conduct any response or corrective action found necessary after the date of sale or transfer.
- Retain access rights to the property for purposes of conducting required response action or corrective action.

Department of Transportation Act of 1966

This act is Public Law (P.L.) 89-670, 80 Stat. 931, 49 U.S.C. Section 303. It restricts the use of parklands for federally supported highways and other projects requiring Department of Transportation approval. Section 4(f) of this law mandates that no project that requires use of land from public parks, recreation areas, or wildlife or waterfowl refuges of National, State, or local significance will be approved unless there is no feasible or prudent alternative and all possible planning is done to minimize the harm to such an area.

Emergency Planning and Community Right-to-Know Act

This statute can be found at 42 U.S.C. Section 11001 et seq. The implementing regulations are found in 40 CFR Parts 302, 355, 370, and 372.

The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act, was enacted on October 17, 1986. EPCRA requires States to establish a process for developing local Chemical Emergency Preparedness Programs and to receive and

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disseminate information on hazardous chemicals present at facilities within local communities.

Federal facilities are responsible for notifying the State Emergency Response Commission if a facility is producing, using, or storing any extremely hazardous substances in amounts equal to or greater than the established threshold planning quantity.

Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, requires Executive Branch agencies with facilities meeting the EPCRA definition of “facility” to comply with all provisions of EPCRA.

Endangered Species Act Of 1973, Amended in 1979, 1982, and 1988

The Endangered Species Act (ESA) provides a framework for the protection of endangered and threatened species. It requires Federal agencies to ensure that any action authorized, funded, or carried out does not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modifications of critical habitat. Section 7 requires all Federal agencies to consult with Interior and to

. . .ensure that any action authorized, funded or carried out by such agency(ies) . . .not likely to jeopardize the continued existence or destruction or adverse modification of habitat of such species which is . . .critical.

Under ESA, all Federal agencies must also use their authorities, as appropriate, to promote the recovery of listed species. In addition, the ESA prohibits all persons, including Federal agencies, from harming or killing (“taking”) individuals of a listed animal species without authorization.

While Federal agencies must consult with the U.S. Fish and Wildlife Service or National Marine Fisheries Service when their activities may affect listed species, projects cannot be stopped unilaterally by the U.S. Fish and Wildlife Service or National Marine Fisheries Service. However, for any anticipated “take,” applicable measures to minimize the take developed in the consultation must be followed.

Energy Policy Act Of 1992

The Energy Policy Act includes a wide variety of energy mandates that are intended to enhance United States energy security, reduce energy-related environmental effects, and encourage long- term economic growth. Major provisions establish important new energy efficiency standards, allow greater competition in electricity generation, establish new licensing procedures for nuclear plants and waste repositories, and provide tax incentives for domestic energy production and conservation.

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Federal Facility Compliance Act of 1992

This act provides that all Federal agencies and employees are subject to all Federal, State, and local solid and hazardous waste laws.

The act expressly waives any immunity applicable to the United States. At all levels of Government, Federal facilities are subject to the same enforcement standards as private individuals. All penalties that can be used at the Federal, State, or local level against a private party can be used against a Federal facility.

The act explicitly extends the waiver to include injunctive relief, administrative order, civil or administrative penalty or fine, and any reasonable service charge. Federal, State, or local regulatory agencies can impose reasonable service charges on Federal facilities to handle permits, reviews, and inspections.

Federal, State, and local regulatory agencies may take action under this statute. Federal employees are subject to criminal penalties for violation of Federal and State hazardous and solid waste laws.

Federal Insecticide, Fungicide, and Rodenticide Act

The statute can be found at 7 U.S.C. 21 136 et seq. Federal pesticide regulations are set forth in 40 CFR Parts 150-189.

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) regulates the sale and use of pesticides in the United States. FIFRA, as it was originally enacted in 1947, required that pesticides distributed in interstate commerce be registered with the U.S. Department of Agriculture and established a rudimentary set of labeling provisions. The Federal Environmental Pesticide Control Act amended FIFRA in 1972. In 1970, with the formation of EPA, responsibility for administering FIFRA transferred from the U.S. Department of Agriculture to EPA.

FIFRA's enforcement efforts focus on the distribution and use (which includes disposal) of pesticides.

The prime duty of the user is to comply with all use instructions on the pesticide label or accompanying labeling. Failure to follow label directions is dangerous and illegal.

A pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest and any nitrogen stabilizer substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

The Congress enacted amendments to FIFRA in 1975, 1978, 1980, 1988, and 1996. Elements of FIFRA are implemented by regulations for registration and re-registration of pesticides, pesticide usage, removal of unsafe pesticides from the

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market, administrative and judicial reviews, protection of workers, and exports and imports.

Federal facility responsibilities under FIFRA include:

- Properly following labeling instructions.
- Ensuring that applicators are properly trained and, where necessary, certified to use restricted-use pesticides and are using appropriate personal protective equipment.
- Properly managing pesticide storage facilities.
- Disposing of pesticide residues and waste in accordance with required and recommended procedures.
- Maintaining records of pesticide applications.

Federal Water Pollution Control Act (Commonly Referred To As The Clean Water Act)

Regulations addressing clean water are found at 40 CFR Parts 100-136, 140, 230-233, 401-471, and 501-503. This statute can be found at 33 U.S.C. Section 1251 *et seq.*

The major sections of the Clean Water Act (CWA) are Effluent Limitations (Section 301); Water Quality Related Effluent Limitations (Section 302); Water Quality Standards (Section 303); Toxic and Pretreatment Effluent Standards (Section 307); Records, Reports, and Inspections (Section 308); Enforcement (Section 309); Oil and Pollution Control (Section 313); Non-Point Source Management Programs (Section 319); State Certification of Federal Licenses or Permits (Section 401); National Pollutant Discharge Elimination System Programs (Section 402); Ocean Discharge Criteria (Section 403); Permits for Dredged or Fill Material (Section 404); and Disposal or Use of Sewage Sludge (Section 405).

Regulations of interest to Federal facilities include the National Pollutant Discharge Elimination System Programs; Toxic Pollutant Effluent Standards; Water Quality Standards; Secondary Treatment; Great Lakes Requirements; Permits for Dredged or Fill Material; General Provisions for Effluent Guidelines and Standards; General Pretreatment Regulations; and the SPCC Plans.

CWA is the primary Federal statute regulating the protection, restoration, and maintenance of the “chemical, physical, and biological integrity of the Nation’s waters.” CWA was enacted in 1972 in response to nationwide water pollution issues and was amended in 1977 and 1987. Section 311 of CWA was amended by the Oil Pollution Act of 1990, which has its own separate regulation and

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enforcement scheme. CWA established national programs for the prevention, reduction, and elimination of pollution in navigable water and groundwater. It establishes effluent limitation for new and existing industrial discharge into United States waters. CWA authorizes States to substitute their own water quality management plans developed under section 208 of the act for Federal controls. It provides an enforcement procedure for water pollution abatement. It requires conformance to permit required under section 404 for actions that may result in discharge of dredged or fill material into a tributary, wetland, or associated water source for a navigable river. It also setup a water quality standards program and required permits for discharge and treatment of waste water and storm water.

CWA principal objectives are to:

- Prohibit discharges of pollutants into United States navigable waters, except in compliance with a permit.
- Achieve an interim goal of protecting water quality that, whenever attainable, provides for the protection and propagation of shellfish, fish, and wildlife, and provides for recreation in and on the water.

To achieve its objectives, CWA authorizes the EPA and the States to regulate, implement, and enforce compliance with guidelines and standards to control the direct and indirect discharge of pollutants into United States waters.

Civil penalties for a violation can be up to \$25,000 per day of noncompliance, plus the cost of restoring or replacing damaged natural resources. A criminal penalty for a first offense is \$2,500 to \$50,000 per day per violation or imprisonment of up to 6 years or both. Violators who know that they are placing someone in imminent danger of death or serious bodily injury can be fined up to \$250,000 or imprisoned for up to 15 years or both.

Federal facility responsibilities under CWA include:

- Obtaining a National Pollutant Discharge Elimination System permit and managing direct discharges in compliance with permit conditions.
- Managing discharges to a publicly owned treatment works in accordance with established Federal, State, and local pretreatment standards.
- Managing domestic treatment works in accordance with sludge requirements.
- Applying for section 404 dredge and fill permits for construction and development projects.
- Monitoring, recording, and reporting pollutant effluent concentrations.

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- Developing, implementing, and maintaining storm water Pollution Prevention Plans and obtaining necessary permits.
- Developing Spill Prevention, Control, and Countermeasure Plans.

Hazardous Materials Transportation Act of 1974, Amended in 1994

This act regulates the labeling, packaging, emergency response, and spill reporting provisions for hazardous materials in transit and stipulates that shippers must certify that they are in compliance with Department of Transportation regulations. When EPA-regulated hazardous wastes are shipped, they must be accompanied by a manifest.

Marine Mammal Protection Act of 1972

The Marine Mammal Protection Act (MMPA) prohibits the “taking” and import of marine mammals and marine products by people and vessels under United States jurisdiction, unless a specific permit for taking is granted by the Federal Government. Unless for research purposes, permits will not be granted for species designated as “depleted.” Coastal indigenous Alaskans are exempted from the requirements of MMPA. The Departments of Commerce and the Interior are responsible for administering MMPA.

Marine Protection, Research, and Sanctuaries Act Of 1972

This act, commonly known as the Ocean Dumping Act, establishes policy to regulate ocean dumping and to prevent or strictly limit ocean dumping of any material that would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities. Titles I and II of this act deal with ocean dumping and have little relation to most Reclamation activities. Title III allows designation of proposed marine sanctuaries in the region as well as the desirability of establishing marine sanctuaries where appropriate. Section 103 authorizes the Corps of Engineers to issue permits for the transportation of dredged material for the purpose of dumping into ocean waters.

National Environmental Policy Act Of 1969

P.L. 91-190, 42 U.S.C. Section 4321 et seq.

The NEPA statute is P.L. 91-190, found at 42 U.S.C. Section 4321 et seq. NEPA regulations are set forth in 40 CFR Parts 1500-1508.

NEPA is the basic national charter for environmental protection. It establishes policy, sets goals, and provides a means for carrying out the policy. It contains an “action-forcing” provision to ensure that Federal agencies act according to the letter and spirit of the law. The act requires a systematic analysis of major Federal actions that considers all reasonable alternatives, as well as an analysis of short-term and long-term, irretrievable and irreversible, and unavoidable impacts. It also establishes the Council on Environmental Quality (CEQ).

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Since its enactment on January 1, 1970, NEPA has ensured that Federal agency decisionmaking takes environmental factors into consideration. NEPA is generally only applicable to Federal agencies and Federal actions; however, State, local, and private entities need to comply with NEPA when they are involved in Federal actions. For example, State, local, and private actions that involve Federal funding or permits may trigger NEPA requirements.

NEPA was enacted to (1) encourage harmony between people and the environment, (2) promote efforts to prevent or eliminate damage to the environment, and (3) enrich the understanding of ecological systems and natural resources.

NEPA is divided into two titles: Title I – Congressional Declaration of National Environmental Policy and Title II – Council on Environmental Quality. Under NEPA Title I, section 102, Federal agencies are required to incorporate environmental considerations into planning and decisionmaking through a systematic interdisciplinary approach. Section 102 requires Federal agencies to prepare detailed statements assessing the environmental impact of, and alternatives to, major Federal actions that may significantly affect the environment. These detailed statements are referred to as EISs. NEPA's effectiveness has been attributed to the EIS requirement.

Under Title II, the CEQ was established to oversee the administration of NEPA and to ensure that Federal agencies comply with NEPA requirements. In 1978, the CEQ developed regulations implementing NEPA that are binding on all Federal agencies. These regulations cover the procedural requirements of NEPA and the preparation of an EIS.

The CEQ has several responsibilities in overseeing the administration of NEPA, including:

- Developing regulations and other guidance to assist Federal agencies with NEPA compliance.
- Resolving lead agency disputes during the EIS process.
- Providing Federal agencies with training and advice to encourage NEPA compliance.
- Mediating disputes between Federal agencies regarding environmental policy.

Although the CEQ is responsible for developing the regulations for preparing an EIS, EPA is responsible for reviewing all EISs for environmental quality and for filing all EISs in the *Federal Register*.

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Federal facility responsibilities under NEPA include:

- Evaluating all Federal actions to determine applicability of NEPA, including submitting categorical exclusion or finding of no significant impact documentation to denote where actions are not significant, as appropriate.
- Preparing environmental assessments and EISs.
- Developing and submitting a ROD to address the EIS findings and provide project alternatives and mitigation measures.
- Submitting plans to State or local agencies.
- Ensuring public participation in the NEPA process.

National Historic Preservation Act of 1966, Amended 1992

The National Historic Preservation Act (NHPA) preserves, for public use, historic and cultural sites of national significance by establishing an advisory council to help the Government administer the NHPA, the *National Register of Historic Places*, and the National Trust for Historic Preservation. The National Trust for Historic Preservation has authority to receive and administer donated funds and historic properties. Federal authority can be delegated to State Historic Preservation Officers. Agencies are required to appoint an agency preservation officer, preserve all historic properties they own or control, notify Interior of projects that will cause the loss of significant historic materials, and request preservation assistance from Interior.

Noise Control Act Of 1972, Amended in 1978

The Noise Control Act (NCA) requires EPA to establish noise emission standards for products that are major noise sources (e.g., construction equipment, transportation devices, motors, engines, and electrical or electronic equipment). Stationary sources on Federal facilities are subject to Federal, State, and local noise ordinances, unless the President of the United States grants an exception. NCA was amended by the Quiet Communities Act of 1978.

Occupational Safety and Health Administration, Hazard Communication Standards

Federal law guarantees the rights of employees to know about the chemical hazards present in their workplace. These rights are protected by a national standard created by the Occupational Safety and Health Administration (OSHA) called the Hazard Communication Standard. OSHA developed the Hazard Communication Standard in response to the growing number of organizations using hazardous chemicals. Exposure to hazardous chemicals can cause serious health problems and pose potentially dangerous situations in the workplace. It is important to understand that hazard communication does not apply to hazardous wastes, but rather to hazardous products or raw materials.

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Employees right-to-know begins by requiring chemical manufacturers to assess the hazards posed by the substances they produce. Manufacturers must supply this hazard information to their purchasers by including a MSDS with each substance sold. The MSDS must have the identity of all hazardous chemicals included in the product, along with the physical and chemical characteristics and health hazards posed by the chemicals.

Under the Hazard Communication Standard requirement, each Reclamation area must create a written program, which identifies, among other things, the hazardous chemicals found on-site and the methods to be used to communicate these hazards to employees. Each area must comply with standards for labeling containers of hazardous substances. Each area must also maintain MSDSs at convenient places in the facility for easy access by all employees involved in working with hazardous materials.

The Hazard Communication Standard is a performance-oriented rule. Almost all of the requirements are stated in terms of objectives to be achieved rather than methods or means an employer needs to use to achieve those objectives. For example, areas may educate their employees in any manner they see fit, as long as the employees are informed of the necessary information. There is no mandated way to train employees, but they must demonstrate the appropriate work habits whenever working with hazardous chemicals. This usually entails wearing protective clothing, safely handling chemicals, and knowing the appropriate response actions for accidental releases or spills.

OSHA also has specific container and other safety regulations that are similar to EPA's RCRA regulations for wastes. These regulations prohibit open containers of flammable substances.

Responsibilities under the Hazard Communication Standard include:

- Request MSDSs with every product. Do not accept any product sample without an accompanying MSDS.
- Review MSDSs and understand what chemicals are being brought into the area and what health and safety problems they may pose.
- Make sure all containers of hazardous materials are labeled and the MSDS can be found easily in an emergency.
- Organize all MSDSs by work area and make them available to all employees; post for easy visibility and access.
- Develop a Hazard Communication Training Plan as part of the area's Chemical Hazard Communication Program (employees right-to-know).

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- Establish a hazard communication training session for all employees who handle hazardous wastes.
- Keep records of when each employee is trained and exactly what the training context was.
- Keep all records for at least 5 years.

Resource Conservation and Recovery Act

RCRA can be found at 42 U.S.C. Section 6901 et seq. and in 40 CFR Parts 240-282.

Subtitle A	General Provisions
Subtitle B	Authorities
Subtitle C	Hazardous Waste Management
Subtitle D	State or Regional Solid Waste Plans
Subtitle F	Federal Responsibilities
Subtitle G	Miscellaneous Provisions
Subtitle I	Underground Storage Tanks

RCRA provides “start-to-finish” control of solid and hazardous waste by establishing management requirements on generators and transporters of hazardous waste and on owners and operators of hazardous waste treatment, storage, and disposal facilities. The Hazardous and Solid Waste Amendments and the Federal Facility Compliance Act (FFCA) have amended RCRA. RCRA applies mainly to active facilities, although through section 7003, it can address the serious problem of abandoned and inactive facilities.

Subtitle C of RCRA was enacted in 1976, replacing the Solid Waste Disposal Act and the Resource Recovery Act. Subtitle C (RCRA Section 3001-3023) establishes the national hazardous waste management program. This includes the identification and listing of hazardous wastes; standards applicable to generators and transporters and to owners and operators of hazardous waste treatment, storage, and disposal facilities; and provisions for permitting, inspections, and enforcement. Most States have been authorized to implement some or all of RCRA Subtitle C program.

In 1984, the Congress enacted the Hazardous and Solid Waste Amendment, which among other things, added Subtitle I to RCRA. Subtitle I was enacted to address leaking underground storage tanks and requires EPA to establish standards for tanks installed both before and after passage of the new requirements. These standards cover underground storage tank design, operation, cleanup, administration, and closure. RCRA underground storage tank provisions can be found at 42 U.S.C. Section 6991 et seq. and in 40 CFR Parts 240-242.

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In 1992, FFCA was passed to clarify that Federal agencies must comply with solid and hazardous waste management requirements and that Federal agencies are subject to enforcement provisions of RCRA. Federal facilities were subject to RCRA provisions before the 1992 amendment, but FFCA clarified that Federal facilities are subject to penalties and EPA administrative enforcement orders. The Congress intended FFCA to confirm the Federal Government's obligation to comply with all solid and hazardous waste provisions at all sites and to ensure Federal facility compliance with all Federal, State, interstate, and local solid and hazardous waste requirements.

In achieving this goal, FFCA has three major impacts: (1) the expanded waiver of sovereign immunity of the Federal Government with respect to all Federal, State, interstate, and local enforcement; (2) new management and reporting requirements with respect to mixed waste; and (3) identification of circumstances under which conventional and chemical military munitions are and are not considered to be a waste for regulatory purposes under RCRA.

The FFCA grants explicit authority to EPA to use enforcement authorities provided in RCRA against any department, agency, or instrumentality of the executive, legislative, or judicial branch of the Federal Government that is in violation of RCRA.

Some principal effects of FFCA are to subject Federal agencies to RCRA civil penalties and confirm that Federal employees are personally liable for RCRA criminal violations.

Civil penalties can be up to \$25,000 per day per violation. Criminal penalties can be up to \$50,000 per day or 2 years in jail or both. Violations causing a "knowing endangerment of human life" can be punishable by a fine of up to \$250,000 or a 15-year sentence or both.

Federal facility responsibilities under RCRA include:

- Identifying, characterizing, and labeling hazardous waste.
- Obtaining an EPA identification number (identification numbers are required for all handlers, including generators, transporters, and burners or blenders and for treatment, storage, and disposal facilities).
- Managing and taking inventory of hazardous waste to determine generator status.
- Complying with all permit conditions.
- Manifesting hazardous waste for off-site disposal and filing exception reports.

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- Completing land disposal restriction notification and certification.
- Ensuring that off-site treatment, recycling, and disposal procedures meet land disposal restrictions.
- Shipping waste to approved treatment, storage, and disposal facilities within time limits mandated by the generator requirements.
- Maintaining required records and documentation.
- Developing a program to minimize waste generation.
- Reimbursing EPA and its agents for inspection costs.
- Cooperating during RCRA inspections.
- Submitting to EPA a mixed waste inventory capacity report.
- Submitting treatment capacity and technology plans.
- Submitting yearly progress reports on compliance with mixed waste requirements.
- Notifying EPA of intended exports of hazardous waste and filing an annual report summarizing exports of hazardous waste during the previous calendar year.
- Registering underground storage tanks with the appropriate State authority.
- Ensuring proper installation of tanks to meet new tank standards.
- Performing release detection on most types of tanks, either annually or with the aid of automatic equipment.
- Responding to spills and leaks, including proper notification.
- Performing corrective actions (cleanups) where releases have occurred.
- Properly closing tanks to avoid future site issues.
- Complying with all applicable Federal, State, and local laws and regulations concerning the construction of new underground storage tanks.

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Hazardous waste generators fall under three categories:

1. Conditionally Exempt Small Quantity Generators generate no more than 220 pounds (half of a 55-gallon drum) of solid hazardous waste and no more than 2.2 pounds of acutely hazardous waste in any month during the reporting year (40 CFR Parts 262 through 266, 268 and 270) (Handbook for Hazardous Waste Management, Reclamation, 1998).
2. Small Quantity Generators generate more than 220 and less than 2,200 pounds of solid hazardous waste and no more than or 2.2 pounds of acutely hazardous waste in any month during the reporting year (40 CFR 265, Subpart I) (Handbook for Hazardous Waste Management, Reclamation, 1998).
3. Large Quantity Generators generate at least 2,200 pounds of solid hazardous waste or more than 2.2 pounds of acutely hazardous waste in any month during the reporting year (40 CFR 265, Subpart J) (Handbook for Hazardous Waste Management, Reclamation, 1998).

The number of RCRA requirements with which generators must comply depends on their generator status. Generator status may vary with State regulations.

State and local laws may supplement the Federal RCRA requirements. Since 1992, with the passage of FFCA, any local and State hazardous waste laws and regulations apply to Reclamation, because the Congress expressly waived sovereign immunity in this area. This waiver did not address local and State laws and regulations pertaining to hazardous materials (the handling and storage of product materials). However, by E.O. 12856, Federal facilities are required to comply with the Emergency Planning and Community Right-to-Know Act and are “encouraged” to comply with these local versions of “community right-to-know” laws. The distinction between the congressional waiver and the E.O. mandate is important relative to the ability of the State and local regulatory agencies to assess fees against the Federal Government for these programs and their ability to take enforcement actions (including fines and penalties). This discussion is not relevant to the application of these laws to concessionaires because Federal sovereign immunity does not extend to their operation even though it occurs on Federal land. Therefore, concessionaires are required to comply fully with RCRA. There is no congressional waiver of sovereign immunity for State and local health and safety requirements.

Rivers and Harbors Act Of 1899

This act establishes Army Corps of Engineers (Corps) regulatory authority over United States navigable waters. It establishes permit requirements for the construction of bridges, causeways, dams, or dikes within or over navigable waters of the United States. The Transportation Secretary regulates bridge and causeway construction and the Corps reviews dam and dike permits. Section 10

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requires a Corps permit for construction of any “obstruction of navigable waters” of the United States, and for any excavation, fill, or other modification to navigable waters. Section 13 requires a Corps permit for discharge of refuse of any kind (except liquid from sewers or urban runoff) from land or vessel into the navigable waters of the United States or into their tributaries. Similarly, discharge of refuse is prohibited upon the banks of navigable waters or their tributaries where the refuse could be washed into the water.

Safe Drinking Water Act

The statute can be found at 42 U.S.C. Section 300f et seq. Regulations addressing the Safe Drinking Water Act (SDWA) are found in 40 CFR Parts 141-149.

SDWA was enacted in 1974 because safe drinking water is essential to public health. SDWA has been amended five times since it was originally enacted. The latest reauthorization took place in August 1996. SDWA directs EPA to set goals for the level of contaminants in drinking water and establishes standards requiring water supply system operators to come as close as possible to meeting those goals by using the best available technology that is economically and technologically feasible.

SDWA directs EPA to develop (1) national primary drinking water regulations that incorporate maximum contaminant level goals and maximum containment levels or treatment techniques and (2) underground injection control regulations to protect underground sources of drinking water. SDWA also authorizes sole-source aquifer demonstration projects and sets forth procedures for establishing State well head protection area programs.

SDWA protects public drinking water systems from harmful contaminants and underground sources of drinking water from improper underground injection.

Its principal objectives are to:

- Protect human health and ensure the aesthetic quality of drinking water.
- Protect underground sources of drinking water.
- Establish programs to protect sole-source aquifer and well head protection areas.

Federal facility responsibilities under SDWA include:

- Complying with all primary drinking water regulations and applicable underground injection control requirements.
- Notifying people served by a public water system if the system fails to meet primary drinking water standards.

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- Ensuring that only lead-free pipes are used in either the installation or repair of a public water system.
- Consulting with any State, municipal, or local government if that area is preparing a management plan to participate in the sole-source Aquifer Demonstration Program.
- Complying with all State program requirements.
- Ensuring an adequate supply of chemicals for treatment of water.
- Complying with EPA inspections.

Solid Waste Disposal Act

The act, P.L. 89-272, requires Federal agencies having jurisdiction over any real property to ensure compliance with solid waste disposal.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) can be found at 15 U.S.C. Section 2601 et seq. TSCA regulations are codified in 40 CFR Parts 700-799, with Part 745 detailing lead hazard reduction regulations and Part 761 detailing management requirements for polychlorinated biphenyls (PCBs). Part 761 provides the definition of storage, disposal, cleanup policy, exemptions, general recordkeeping, and reporting requirements for PCBs.

The TSCA was enacted in 1976 to regulate commerce and protect human health and the environment by requiring testing of and establishing use restriction on certain potentially hazardous chemicals.

The TSCA contains four titles:

Title I (Section 6) – Control of Toxic Substances – EPA banned the manufacture (production and importation) of PCBs and promulgated rules on PCB disposal and marking. Additional rules were developed on inspections, storage, and use of transformers. In addition to PCBs, more than 60,000 chemical substances are subject to Title I requirements.

Title II – Asbestos Hazard Emergency Response – requires inspection of schools for all suspected asbestos-containing building materials and development of management plans and requires that people performing certain asbestos-related activities be trained and accredited.

Title III – Indoor Radon Abatement – establishes the national long-term goal of having indoor radon levels equal to or less than radon levels in ambient outside air.

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Title IV – Lead Exposure Reduction – EPA-promulgated rules governing training, accreditation, and certification requirements for individuals engaged in lead-based paint activities. Regulations also set work practice standards for lead-based paint activities to ensure that they are performed effectively, reliably, and safely.

Civil penalties can be up to \$25,000 per day per violation. Criminal penalties can be up to \$25,000 for each day of violations or a jail sentence of up to 1 year or both.

Federal facility responsibilities under TSCA include:

- Marking and labeling of certain PCBs and PCB-containing equipment.
- Properly storing, packaging, importing, and disposing of PCBs and PCB-containing equipment.
- Preparing and maintaining annual document logs for facilities managing over 45 kilograms (99.4 pounds) of PCBs, one or more PCB transformers, or 50 or more PCB high- or low-voltage capacitors.
- Preparing and maintaining PCB disposal manifests, certificates of destruction, and exception reports.
- Complying with minimum training standards for personnel engaged in asbestos abatement activities as established in the Model Accreditation Plan.
- Conducting an inventory and assessment of asbestos-containing material at the facility.
- Properly handling, storing, transporting, and disposing of asbestos.
- Conducting lead abatement projects using properly trained and certified contractors in conformance with documented methodologies appropriate to lead-based paint activities.
- Conducting proper training and licensing before performing lead-related activities.
- Measuring radon levels within buildings and mitigating unsafe exposure.
- Maintaining records and documentation.
- Providing disclosure at time of sale or lease of residential properties built before 1978.

Water Resources Planning Act of 1965 And the Water Resource Council's Principles and Standards

This act states a national policy “to encourage the conservation, development, and utilization of water and related land resources on a comprehensive and coordinated basis by the Federal Government, States, localities, and private enterprises with the cooperation of all affected Federal agencies, States, local governments, individual, corporations, business enterprises, and others concerned.” It establishes the Water Resources Council, with responsibility for assessing the adequacy of water supplies, studying the administration of water resources, and developing principles, standards, and procedures for Federal participants in the preparation of comprehensive regional or river basin plans. The act establishes the framework for Federal and State cooperation through a series of river basin commissions. The Water Resource Council's Principles and Standards for Planning for Water and Related Land Resources have been revised to achieve national economic development and environmental quality objectives.

Executive Orders

The President of the United States uses his powers to direct specific actions through Executive orders. Several such orders affect environmental management at Federal facilities, including those orders listed below.

Executive Order 11752—Prevention, Control, and Abatement of Environmental Pollution at Federal Facilities.

Executive Order 11988—Floodplain Management.

This E.O. requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. It directs all Federal agencies to avoid, if possible, development and other activities in the 100- year (or base) floodplain. Existing structures or facilities in such areas needing rehabilitation, restoration, or replacement will be subject to the same scrutiny as new facilities or structures. In the case of historic structures, this scrutiny will be but one factor in determining their preservation. Highly significant and irreplaceable records, historic objects, structures, or other cultural resources may not be located in the 500-year floodplain. In addition, structures such as clinics, hazardous materials storage facilities, major fuel storage facilities, and 40,000-gallon- per-day or larger sewage treatment facilities will not be build within the 500-year floodplain.

Executive Order 11990—Protection of Wetlands.

This E.O. requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

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Interior issued guidelines in 520 DM on June 20, 1979, to implement E.O.s 11988 and 11990.

Executive Order 12843—Procurement Requirements and Policies for Federal Agencies for Ozone Depleting Substances (April 21, 1993).

Executive Order 12844—Federal Use of Alternative Fueled Vehicles (April 21, 1993).

Executive Order 12845—Purchasing Energy Efficient Computer Equipment (April 21, 1993).

Executive Order 12856—Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements (August 3, 1993)

Executive Order 12873—Federal Acquisition, Recycling, and Waste Prevention (October 20, 1993).

This E.O. requires both individual areas and concessionaires to reduce waste generation directly and, through a program of thoughtful procurement, to further reduce waste and, where feasible, to encourage recycling businesses by using their products. The EPA is charged with identifying sources and leading this program.

Executive Order 12898—Federal Actions to Address Environmental Justice.

Executive Order 13123—Energy Efficiency and Water Conservation at Federal Facilities (June 3, 1999).

This E.O. provides for Federal facility managers to reduce energy consumption by 30 percent by the year 2005 based on energy consumption per-gross-square-foot of building area and a base year of 1985. The reduction mandate also applies to all Government-owned, contractor-operated facilities. Each agency is responsible for developing an implementation program to ensure this goal is met. Energy and water surveys must be conducted on all Federal facilities within 18 months of the date of the order. The surveys will be used to establish priorities for conducting comprehensive facility audits. The E.O. also promotes the use of innovative financing mechanisms, such as “shared energy savings contracts,” to augment appropriations. Under a shared energy savings contract, the contractor incurs the cost of implementing the energy savings measures (including the audit, project design, and acquisition and installation of new equipment) in exchange for a share of the energy cost savings directly resulting from the implementation of such measures. The Department of Energy is directed to prepare a model solicitation and implementation guide for innovative funding mechanisms for use by other Federal agencies.

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Executive Order 12969—Federal Acquisition and Community Right-to-Know (August 8, 1995).

Executive Order 13148—Greening the Government through Leadership in Environmental Management.

Executive Order 13101—Greening the Government through Waste Prevention, Recycling, and Federal Acquisition.

Appendix B

Concessions Review Program

The Concessions Review Program will evaluate concessionaire compliance with the Environmental Management Standards included in this section. Along with this general standard, and to provide the input necessary to prepare the annual environmental rating, checklists should be developed for specific operations.

General Standards

Pollution Prevention and Environmental Protection

The goal of environmental compliance and programs is to minimize all impacts to air, land, and water ecosystems. Reclamation and its concessionaires must conduct all business as responsible stewards of the environment to ensure unimpaired enjoyment by future generations. Particular attention is directed to compliance with environmental laws, those in effect and others as they are promulgated. The standards are separated into two levels of importance in measuring threats to human health and the environment, liability, and visitor experience: critical and important.

1. Hazardous wastes are properly identified and managed. (Critical)
2. An oil and hazardous substance spill contingency plan is in place; all employees are trained in first response procedures; Reclamation and appropriate regulatory authorities are notified of any spill or release of a hazardous substance. (Critical)
3. A hazardous waste minimization strategy is in place, reporting requirements are met, and progress is being made toward reduction goals. (Important)
4. Areas of contamination caused by or attributable to the concessionaire are cleaned up to the satisfaction of Reclamation and regulatory authorities. (Critical)
5. Hazardous materials inventories and use records are maintained and provided to Reclamation. Hazardous materials are stored and handled in a manner that minimizes the potential for spill or release. (Critical)
6. A solid waste minimization strategy is in place, waste generation information is provided to Reclamation, and progress is being made toward waste reduction goals. (Important)

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7. An affirmative Procurement Program is in place to ensure that, where available, products containing recycled material, or that are environmentally preferable, are preferentially acquired. (Important)
8. Concessionaires will conserve energy and improve energy efficiency of operations. Every effort will be made to use environmentally safe and sustainable energy sources. The program to reduce overall energy consumption by 30 percent from base-year levels is documented and actively pursued. (Important)
9. Concessionaires follow the goals and objectives of the area's water conservation program. (Important)
10. Prior written approval of Reclamation supports implementation of any pesticide, herbicide, or vector control action. (Critical)
11. Sight, sound, and odor impacts to the environment and visitor experience are avoided when possible. (Important)
12. Care is exercised to avoid introduction of non-native biota, except as approved by the area manager. (Critical)
13. Concessionaires conduct recurring training for staff concerning the critical importance of pollution prevention and spill report procedures, emergency incident and spill response, water and energy conservation, and the concessionaire's role in stewardship of area lands and waters. Training of employees in emergency and spill response includes field exercises done in coordination with Reclamation. (Critical)
14. An employee incentive system is in place to reward employees for innovative or exemplary contributions toward prevention of pollution and to allocate some of the savings gained in energy and water conservation programs to staff members who produce those gains. (Important)
15. Planning and design for facilities are coordinated with the area manager, including application of sustainable design principles and Reclamation reviews and approvals. This may also include procedures imposed by Federal, State, county, or municipal regulations (e.g., NEPA, Historic Preservation Act [section 106], fire and safety, and building codes). (Critical)
16. Required environmental protection and pollution prevention facilities are in place or are in the process of being acquired, designed, or constructed with due diligence. Construction activities are conducted

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in a manner that prevents or minimizes pollutant emissions or discharges and protects public health and the environment. (Critical)

In addition to the forgoing standards, area managers may formulate and add elements to these standards to address conditions of local concern, such as those that may be limited to grease traps, hydraulic fluid lines, exotic seeds in animal feed, vector control, or laundry facilities.

A narrative section should accompany the above ratings. When the concessionaire exceeds standards, additional credit should be noted in the narrative.

It is recognized that several of these standards are technical, requiring knowledge and skills beyond the normal training provided to concession specialists. To implement these specific standards, training and the development of support materials must be provided to area personnel.

APPENDIX C

Guidelines For the Preparation and Implementation of SPCC Plans

[Code of Federal Regulations]

[Title 40, Volume 14, Parts 87 to 135]

[Revised as of July 1, 1999]

From the U.S. Government Printing Office via GPO Access

[CITE: **40 CFR 112.7**]

Part 112—Oil Pollution Prevention—Table of Contents

Sec. 112.7 Guidelines for the preparation and implementation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan.

SPCC Plan shall be a carefully thought-out plan, prepared in accordance with good engineering practices. It shall have the full approval of management at a level with authority to commit the necessary resources. If the plan calls for additional facilities, procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs and the details of installation and operational startup should be explained separately. The complete SPCC Plan shall follow the sequence outlined below and include a discussion of the facility's conformance with the appropriate guidelines listed:

- (a) A facility that has experienced one or more spill events within 12 months before the effective date of this part should include a written description of each spill, the corrective action taken, and the plans for preventing another spill.
- (b) Where experience indicates a reasonable potential for equipment failure (such as a tank overflow, rupture, or leakage), the plan should include a prediction of the direction, rate of flow, and the total quantity of oil that could be discharged from the facility as a result of each major type of failure.
- (c) Appropriate containment or diversionary structures or equipment to prevent discharged oil from reaching a navigable water course should be provided. One of the following preventive systems or its equivalent should be used as a minimum:
 - (1) Onshore facilities:
 - (i) Dikes, berms, or retaining walls sufficiently impervious to contain spilled oil.

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- (ii) Curbing.
 - (iii) Culverting, gutters, or other drainage systems.
 - (iv) Weirs, booms, or other barriers.
 - (v) Spill diversion ponds.
 - (vi) Retention ponds.
 - (vii) Sorbent materials.

- (2) Offshore facilities:
 - (i) Curbing or drip pans.
 - (ii) Sumps and collection systems.

- (d) When it is determined that the installation of structures or equipment listed in section 112.7(c) to prevent oil discharged from any onshore or offshore facility from reaching the navigable waters is not practicable, the owner or operator should clearly demonstrate such impracticability and provide the following:
 - (1) A strong Oil Spill Contingency Plan that follows the provision of 40 CFR part 109.
 - (2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any harmful quantity of oil discharged.

- (e) In addition to the minimal prevention standards listed under section 112.7(c), sections of the plan should include a complete discussion of conformance with the following applicable guidelines and other effective spill prevention and containment procedures (or, if more stringent, with State rules, regulations, and guidelines):
 - (1) Facility drainage, onshore (excluding production facilities):
 - (i) Drainage from diked storage areas should be restrained by valves or other positive means to prevent a spill or other excessive leakage of oil into the drainage system or the effluent treatment system except where plant systems are designed to handle such leakage. Diked areas may be emptied by pumps or ejectors; however, to be sure no oil will be discharged into a water source such as a river or reservoir or into the groundwater, these should be manually activated and the condition of the accumulation should be examined before starting.
 - (ii) Flapper-type drain valves should not be used to drain diked areas. Valves used for the drainage of diked areas should,

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as far as practical, be of manual, open-and-closed design. When plant drainage drains directly into water courses and not into wastewater treatment plants, retained storm water should be inspected as provided in paragraphs (e)(2)(iii) (B), (C), and (D) of this section.

- (iii) Plant drainage systems from undiked areas should, if possible, flow into ponds, lagoons, or catchment basins that are designed to retain oil or return it to the facility. Catchment basins should not be located in areas subject to periodic flooding.
 - (iv) If plant drainage is not engineered as above, the ditches should be equipped with a diversion system that could, in the event of an uncontrolled spill, return the discharged oil to the plant.
 - (v) Where drainage waters are treated in more than one treatment unit, natural hydraulic flow should be used. If pump transfer is needed, two “lift” pumps should be provided, and at least one of the pumps should be permanently installed when such treatment is continuous. In any event, regardless of the techniques used, facility drainage systems should be adequately engineered to prevent oil from reaching navigable waters in the event of equipment failure or human error at the facility.
- (2) Bulk storage tanks, onshore (excluding production facilities).
- (i) No tank should be used for the storage of oil unless it is compatible with the material stored and the conditions of storage, such as pressure and temperature.
 - (ii) All bulk storage tank installations should be constructed so that a secondary means of containment is provided for the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation. Diked areas should be sufficiently impervious to contain spilled oil. Dikes, containment curbs, and pits are commonly employed for this purpose, but they may not always be appropriate. An alternative system could consist of a complete drainage trench enclosure arranged so that a spill could terminate and be safely confined in an in-plant catchment basin or holding pond.

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- (iii) Bypassing the in-plant treatment system and draining rainwater from the diked area into a storm drain or an effluent discharge that empties into an open water course, lake, or pond may be acceptable if:
 - (A) The bypass valve is normally sealed closed.
 - (B) Inspection of the run-off rain water ensures compliance with applicable water quality standards and will not cause a harmful discharge as defined in 40 CFR part 110.
 - (C) The bypass valve is opened and resealed following drainage under responsible supervision.
 - (D) Adequate records are kept of such events.
- (iv) Buried metallic storage tanks represent a potential for undetected spills. A new buried installation should be protected from corrosion by coatings, cathodic protection, or other effective methods compatible with local soil conditions. Such buried tanks should at least be subjected to regular pressure testing.
- (v) Partially buried metallic tanks for the storage of oil should be avoided unless the buried section of the shell is adequately coated. Partial burial in damp earth can cause rapid corrosion of metallic surfaces, especially at the earth/air interface.
- (vi) Aboveground tanks should be subject to periodic integrity testing, taking into account tank design (floating roof, etc.) and using such techniques as hydrostatic testing, visual inspection, or a system of nondestructive shell thickness testing. Comparison records should be kept, where appropriate, and tank supports and foundations should be included in these inspections. In addition, the outside of the tank should frequently be observed by operating personnel for signs of deterioration, leaks that might cause a spill, or accumulation of oil inside diked areas.
- (vii) To control leakage through defective internal heating coils, the following factors should be considered and applied, as appropriate:

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- (A) The steam return or exhaust lines from internal heating coils that discharge into an open water course should be monitored for contamination or passed through a settling tank, skimmer, or other separation or retention system.
 - (B) The feasibility of installing an external heating system should also be considered.
- (viii) New and old tank installations should, as far as practical, be fail- safe engineered or updated into a fail-safe engineered installation to avoid spills. Liquid level sensing devices should be regularly tested to ensure proper operation. Consideration should be given to providing one or more of the following devices:
- High liquid level alarms with an audible or visual signal at a constantly manned operation or surveillance station; in smaller plants, an audible air vent may suffice.
 - High-liquid-level pump cutoff devices set to stop flow at a predetermined tank content level, depending on the size and complexity of the facility.
 - Direct audible or code signal communication between the tank gauge and the pumping station.
 - A fast response system for determining the liquid level of each bulk storage tank such as digital computers, telepulse, or direct vision gauges or their equivalent.
- (ix) Where plant effluents are discharged into navigable waters, disposal facilities should be observed frequently enough to detect possible system upsets that could cause an oil spill.
- (x) Visible oil leaks that result in a sufficiently large loss of oil from tank seams, gaskets, rivets, and bolts to cause the accumulation of oil in diked areas should be promptly corrected.

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- (xi) Mobile or portable oil storage tanks (onshore) should be positioned or located so as to prevent spilled oil from reaching navigable waters. A secondary means of containment, such as dikes or catchment basins, should be furnished for the largest single compartment or tank. These facilities should be located where they will not be subject to periodic flooding or washout.
- (3) Facility transfer operations, pumping, and in-plant process, onshore (excluding production facilities).
- (i) Buried pipes should have a protective wrapping and coating and should be cathodically protected if soil conditions warrant. If a section of buried line is exposed for any reason, it should be carefully examined for deterioration. If corrosion damage is found, additional examination and corrective action should be taken as indicated by the magnitude of the damage. An alternative would be the use of exposed pipe corridors or galleries.
 - (ii) When a pipeline is not in service or is in standby service for an extended time, the terminal connection at the transfer point should be capped or blank-flanged and marked as to origin of the contents and the date the connection was capped.
 - (iii) Pipe supports should be properly designed to minimize abrasion and corrosion and allow for expansion and contraction.
 - (iv) All aboveground valves and pipelines should be subjected to regular examinations by operating personnel. During these examinations, the general condition of items such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locked valves, and metal surfaces should be assessed. In addition, periodic pressure testing may be warranted for pipes in areas where facility drainage is such that a failure might lead to a spill.
 - (v) Vehicle operators granted entry into the facility should be warned verbally or by appropriate signs to be sure that the vehicle does not endanger aboveground piping.

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- (4) Facility tank car and tank truck loading and unloading rack (onshore).
- (i) Tank car and tank truck loading and unloading procedures should meet the minimum requirements and regulations established by the Department of Transportation.
 - (ii) Where rack area drainage does not flow into a catchment basin or treatment facility designed to handle spills, a quick drainage system should be used for tank truck loading and unloading areas. The containment system should be designed to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded in the plant.
 - (iii) An interlocked warning light, a physical barrier system, or warning signs should be provided in loading and unloading areas to prevent vehicles from departing before flexible or fixed transfer lines are completely disconnected.
 - (iv) Before any tank car or tank truck is filled or departs the lowermost drain, all outlets of such vehicles should be closely examined for leakage and, if necessary, tightened, adjusted, or replaced to prevent liquid leakage while in transit.
- (5) Oil production facilities (onshore).
- (i) An onshore production facility may include wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary nontransportation-related equipment and facilities in a single geographical oil or gas field that is managed by a single operator.
 - (ii) Oil production facility drainage (onshore).
 - (A) At tank batteries and central treating stations where an accidental discharge of oil would have a reasonable possibility of reaching navigable waters, the dikes or equivalent required under section 112.7(c)(1) should have drains closed and sealed at all times except when rainwater is being drained. Before draining, the diked area should be inspected as provided in paragraphs (e)(2)(iii) (B), (C), and (D) of this section. Accumulated oil on the rainwater should be picked up and returned to

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storage or disposed of in accordance with approved methods.

- (B) Field drainage ditches, road ditches, oil traps, and sumps or skimmers, if such exist, should be inspected at regularly scheduled intervals for accumulation of oil that may have escaped from small leaks. Any such accumulations should be removed.
- (iii) Oil production facility bulk storage tanks (onshore).
- (A) No tank should be used for oil storage unless it is compatible with the material stored and the conditions of storage.
 - (B) All tank battery and central treating plant installations should be provided with a secondary means of containment for the entire contents of the largest single tank, if feasible, or alternate systems such as those outlined in section 112.7(c)(1). Drainage from undiked areas should be safely confined in a catchment basin or holding pond.
 - (C) All tanks containing oil should be visually examined by a competent person for condition and need for maintenance on a scheduled periodic basis. Such examination should include the foundation and supports of tanks that are above the surface of the ground.
 - (D) New and old tank battery installations should, as far as practical, be fail-safe engineered or updated into a fail-safe engineered installation to prevent spills. Consideration should be given to one or more of the following:
 - Adequate tank capacity to ensure that a tank will not overflow should a pumper/gauger be delayed in making his regular rounds.
 - Overflow equalizing lines between tanks so that a full tank can overflow to an adjacent tank.

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- Adequate vacuum protection to prevent tank collapse during a pipeline run.
 - High-level sensors to generate and transmit an alarm signal to the computer where facilities are a part of a computer production control system.
- (iv) Facility transfer operations, oil production facility (onshore).
- (A) All aboveground valves and pipelines should be examined on a scheduled basis for general condition of items such as flange joints, valve glands and bodies, drip pans, pipeline supports, pumping well polish rod stuffing boxes, and bleeder and gauge valves.
- (B) Salt water (oil field brine) disposal facilities should be examined often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets that could cause an oil discharge.
- Production facilities should have a program of flowline maintenance to prevent spills from this source. The program should include periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate, for the individual facility.

(6) Oil drilling and workover facilities (onshore).

- (i) Mobile drilling or workover equipment should be positioned or located so as to prevent spilled oil from reaching navigable waters.
- (ii) Depending on the location, catchment basins or diversion structures may be necessary to intercept and contain spills of fuel, crude oil, or oily drilling fluids.
- (iii) Before drilling below any casing string or during workover operations, a blowout prevention (BOP) assembly and well control system should be installed that is capable of controlling any well head pressure that is expected to be encountered while that BOP assembly is on the well.

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Casing and BOP installations should be in accordance with State regulatory agency requirements.

- (7) Oil drilling, production, or workover facilities (offshore).
- (i) An oil drilling, production, or workover facility (offshore) includes all drilling or workover equipment, wells, flowlines, gathering lines, platforms, and auxiliary nontransportation-related equipment and facilities in a single geographical oil or gas field that is managed by a single operator.
 - (ii) Oil drainage collection equipment should be used to prevent and control small oil spills around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and allied equipment. Drains on the facility should be controlled and directed toward a central collection sump or equivalent collection system sufficient to prevent discharges of oil into the navigable waters of the United States. Where drains and sumps are not practicable, oil contained in collection equipment should be removed as often as necessary to prevent overflow.
 - (iii) For facilities employing a sump system, sump and drains should be of adequate size, and a spare pump or equivalent method should be available to remove liquid from the sump and ensure that oil does not escape. A regularly scheduled preventive maintenance inspection and testing program should be employed to ensure reliable operation of the liquid removal system and pump startup device. Redundant automatic sump pumps and control devices may be required on some installations.
 - (iv) In areas where separators and treaters are equipped with dump valves in which the predominant mode of failure is in the closed position and pollution risk is high, the facility should be specially equipped to prevent the escape of oil. This could be accomplished by extending the flare line to a diked area if the separator is near shore, equipping it with (1) a high-liquid-level sensor that will automatically shut-in wells producing to the separator, (2) parallel redundant dump valves, or (3) other feasible alternatives to prevent oil discharges.

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- (v) Atmospheric storage or surge tanks should be equipped with high- liquid-level sensing devices or other acceptable alternatives to prevent oil discharges.
- (vi) Pressure tanks should be equipped with (1) high- and low- pressure sensing devices to activate an alarm or to control the flow of oil or (2) other acceptable alternatives to prevent oil discharges.
- (vii) Tanks should be equipped with suitable corrosion protection.
- (viii) A written procedure for inspecting and testing pollution prevention equipment and systems should be prepared and maintained at the facility. Such procedures should be included as part of the SPCC Plan.
- (ix) Pollution prevention equipment and systems at the facility should be tested and inspected by the owner or operator on a scheduled periodic basis commensurate with the complexity, conditions, and circumstances of the facility or as directed by specific regulations.
- (x) Surface and subsurface well shut-in valves and devices in use at the facility should be sufficiently described to determine the method of activation or control (e.g., pressure differential, change in fluid or flow conditions, combination of pressure and flow, or manual or remote control mechanisms). Detailed records for each well, while not necessarily part of the plan, should be kept by the owner or operator.
- (xi) Before drilling below any casing string and during workover operations, a BOP assembly and well control system should be installed that is capable of controlling any wellhead pressure that is expected to be encountered while that BOP assembly is on the well. Casing and BOP installations should be in accordance with State regulatory agency requirements.
- (xii) Extraordinary well control measures should be provided in case of emergency conditions, including fire, loss of control, and other abnormal conditions. The degree of control system redundancy should vary with hazard exposure and probable consequences of failure. It is recommended that surface shut-in systems have redundant

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or “fail close” valving. Subsurface safety valves may not be needed in producing wells that will not flow, but should be installed as required by applicable State regulations.

- (xiii) To ensure that there will be no misunderstanding of joint and separate duties and obligations to perform work in a safe and pollution free manner, written instructions should be prepared by the owner or operator for contractors and subcontractors to follow whenever contract activities include servicing a well or system appurtenant to a well or pressure vessel. Such instructions and procedures should be maintained at the offshore production facility. Under certain circumstances and conditions, such contractor activities may require the presence at the facility of an authorized representative of the owner or operator who would intervene when necessary to prevent a spill event.
 - (xiv) All manifolds (headers) should be equipped with check valves on individual flowlines.
 - (xv) If the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves associated with that individual flowline, the flowline should be equipped with a high-pressure sensing device and shut-in valve at the well head unless provided with a pressure relief system to prevent over pressuring.
 - (xvi) All pipelines appurtenant to the facility should be protected from corrosion. Possible techniques for protection are protective coatings or cathodic protection.
 - (xvii) Sub-marine pipelines appurtenant to the facility should be adequately protected against environmental stresses and activities such as fishing operations.
 - (xviii) Sub-marine pipelines appurtenant to the facility should be in good operating condition at all times and inspected on a scheduled periodic basis for failures. Such inspections should be documented and the records maintained at the facility.
- (8) Inspections and records. Inspections required by this part should be in accordance with written procedures developed for the facility by the owner or operator. These written procedures and a record of the inspections, signed by the appropriate supervisor or

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inspector, should be made part of the SPCC Plan and maintained for 3 years.

(9) Security (excluding oil production facilities).

- (i) All plants handling, processing, and storing oil should be fully fenced, and entrance gates should be locked or guarded or both when the plant is not in production or is unattended.
- (ii) The master flow and drain valves and any other valves that will permit direct outward flow of the tank's content to the surface should be securely locked in the closed position when in nonoperating or standby status.
- (iii) The starter control on all oil pumps should be locked in the "off" position or located at a site accessible only to authorized personnel when the pumps are in a nonoperating or standby status.
- (iv) The loading and unloading connections of oil pipelines should be securely capped or blank-flanged when not in service or when in standby service for an extended time. This security practice should also apply to pipelines that are emptied of liquid content either by draining or by inert gas pressure.
- (v) Facility lighting should be commensurate with the type and location of the facility. Consideration should be given to:
 - Discovery of spills occurring during hours of darkness both by operating personnel and by nonoperating personnel (the general public, local police, etc.).
 - Prevention of spills that occur through acts of vandalism

(10) Personnel training and spill prevention procedures.

- (i) Owners or operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharges of oil. Owners and operators are responsible for instructing their personnel in applicable pollution control laws, rules, and regulations.

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- (ii) Each applicable facility should have a designated person who is accountable for oil spill prevention and who reports to line management.
- (iii) Owners or operators should schedule and conduct spill prevention briefings for their operating personnel at intervals frequent enough to ensure adequate understanding of the SPCC Plan for that facility. Such briefings should highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures.