RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Project Title: ***Auto Salvage Environmental Results Program: Improved Compliance And Performance Through Innovation***

Applicant: Rhode Island Department of Environmental Management (DEM)
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NARRATIVE WORKPLAN

This project involves development of a voluntary Environmental Results Program (ERP) for auto salvage yards.

Project Need:

The human health and environmental risks associated with auto salvage operations[1] are diverse and variable - arising from a broad array of physical, chemical, and biological hazards. Such hazards include:

- The potential for fire or explosion at improperly managed sites[2]
- The transmission of West Nile Virus[3] and/or other zoonotic diseases where yard areas serve as vector-breeding habitats

[1] The US EPA estimates that the American auto salvage industry employs some 40,000 people at 7,000 facilities, which receive more than 11 million vehicles each year (http://www.epa.gov/region1/assistance/).

[2] On 4 December 2003, for example, "tires exploded and about 25 vehicles caught fire" at Capozzi's Auto Sales and Salvage located in West Greenwich, Rhode Island when "flames tore through an automobile salvage yard, sending plumes of smoke into the air that were visible from Interstate 95" (http://www.turnto10.com).

[3] For example, seven cases of human infection by the West Nile virus were reported to the Rhode Island Department of Health in the past two years (2002-2003), with one case resulting in death on 21 November 2003 (*Rhode Island Man Dies of West Nile Virus*, The Providence Journal, 26 November 2003).

- Soil, surface water, and groundwater contamination resulting from the improper management of solid and hazardous wastes, including mercury switches; and air releases of asbestos fibers, fugitive dust, and/or volatile organic compounds.[4]

The Rhode Island auto salvage yard industry has historically been under regulated, due to agency resource limitations. Site inspections and enforcement activities have been sporadic, and limited to responding to specific complaints about facilities, and audits of major recycling operations where incidents of environmental contamination were found to occur. Response to complaints generally resulted in a single media inspection and enforcement response to the specific problem reported, rather than using a multi-media approach that allow review and response to cross-media impacts.

Many auto salvage yards are in close proximity to residential areas, and in areas that present rather unique land use conflicts. Some are found in communities where residents must rely on private wells due to the lack of public water supplies, and thus presenting critical outcomes from groundwater contamination. The proposed ERP approach to be used is unique, as it will allow DEM, for the first time, to take a comprehensive, multi-media sector-based approach to environmental compliance and pollution prevention in the auto salvage yard industry.

Brief Industry Profile:

Preliminary scoping of the sector composition and applicable statutory and regulatory requirements has already begun. It is important to be aware of the major requirements that auto salvage yards must meet, as well as being aware of the localities of the yards and beginning to set up a framework to address environmental concerns in varied community settings. The yards are found in urban, suburban, and rural communities, which have some different areas of major concern.

By state law, auto salvage yards are required to be licensed by the Rhode Island Department of Business Regulation (DBR) and comply with requirements as found in Title 42, Chapter 42-14.2 of the RI General Laws and DBR regulations. There are currently eighty-five (85) licensed auto salvage yards in twenty-six (26) Rhode Island communities. Thirteen (13) of the thirty-nine (39) communities in Rhode Island do not have auto salvage yards at all within their boundaries.

Additionally, Title 5, Chapter 5-21 of the RI General Laws allows for local control by affording communities the opportunity, by ordinance, to issue and revoke local licenses to persons establishing, operating, and maintaining auto salvage yards.

Goals & Objectives:

DEM Office of Technical & Customer Assistance's objective for this project is to reduce environmental health risks by improving regulatory efficiency and industry compliance through an Environmental Results Program that will offer a comprehensive, statewide multi-media program, particularly relating to air, water, and RCRA (solid and hazardous waste) compliance. The program will consist of three major parts:

- Certification of auto salvage yard facilities
- Statistically-based performance measurement

[4] Other examples include: lead (from battery cables, tire weights, lead-acid batteries), gasoline, transmission/brake/steering fluids, mercury-containing devices such as switches, scrap tires, used oil and antifreeze, auto fluff (cadmium, chromium, lead, polybrominated diphenyl ethers), cleaning solvents, refrigerants (Freon, R-12, R134a), and contaminated washwater/stormwater runoff.

- On-site compliance, pollution prevention and technical assistance

DEM regulatory stakeholders, industry representatives, and project partners will be recruited to assist DEM's OTCA in planning, designing, and implementing to meet the goals and objectives of the project. The principal partners in the project will include:

- Department of Environmental Management, Office of Technical & Customer Assistance
- University of Rhode Island Center for Pollution Prevention & Environmental Health
- Department of Environmental Management, Division of Agriculture
- Narragansett Bay Commission (NBC), Pollution Prevention Program
- Brown University Center for Environmental Studies

From the outset, all partners will be fully engaged in program development, including the development and review of certification workbook and checklists, consultation regarding facility audit findings, problem resolution, and industry outreach activities.

The project will target priority environmental issues, building on Rhode Island's success with the Auto Body Repair Facilities Environmental Results Program,[5]. The auto salvage yard initiative will be a multi-media, multi-agency partnership-based program with a special focus on RCRA wastes and two "priority environmental issues" identified in EPA's *Innovation Strategy* -restoration and maintenance of water quality, and the reduction in cost of wastewater infrastructure. As described above, RCRA solid and hazardous wastes generated at auto salvage yards include, for example: lead (from battery cables, tire weights, lead-acid batteries); gasoline; various vehicle fluids such as motor oil, transmission fluid, gear oil, and antifreeze; mercury switches; scrap tires; cleaning solvents, and refrigerants. The improper management of these and other wastes/recyclable materials can:

- Threaten potable water supplies (especially in rural areas that depend upon private or public wells for drinking water)
- Lead to the degradation of streams and surface waters through illegal dumping activities and non-point source runoff
- Potentially interfere with the operation of sewer conveyance systems or contribute to influent concentrations of oil, grease, and heavy metals at wastewater treatment plants.

As a project partner, the Narragansett Bay Commission (NBC) - the owner and operator of Rhode Island's two largest municipal wastewater treatment facilities servicing approximately one third of the state's population and 70% of Rhode Island's industry - will play a key role in the protection and enhancement of water quality, as well as, pollution prevention efforts directed toward reducing costs associated with wastewater management/treatment. Recently, the NBC received a $25,000 Pollution Prevention Incentives for States grant from EPA Region 1 to conduct outreach and educational activities and five pollution prevention audits of salvage yard facilities located within the borders of their district. In their proposal to Region 1, NBC engineers identified salvage yards as a priority sector, due to their potential to generate "solid waste and wastewater containing oil and grease, heavy metals such as lead and mercury, as well as other toxic and flammable hazardous wastes/materials that may be detrimental to the health and safety of the environment and surrounding communities". NBC noted concern over flows to the combined sewer system and surrounding environs due to storm water runoff.

[5] Launched in December 2002 as the first ever regulatory and assistance partnership involving state environmental and health departments, a state university, and a state vocational training institution.

Stakeholders and Public Participation:

Stakeholder involvement and participation in the process of planning, design, and implementation of the project's components is critical to its success. Stakeholders will work with the project principal partners, and will be intimately involved in planning, design, and early program initiatives such as baseline audits. Proposed stakeholders will include representatives of:

- Department of Business Regulation (1)
- DEM Division of Agriculture (1)
- Department of Health (1)
- DEM Office of Water Resources (1)
- DEM Office of Compliance & Inspection (1)
- DEM Office of Air Resources (1)
- William Davies Career & Technical High School (1)
- US EPA New England (Region 1)
- Auto Recyclers of Rhode Island (trade group)/auto salvage yard operators (6)
- Rhode Island League of Cities & Towns (1)

It is anticipated that there will be a kickoff meeting with stakeholders in the first quarter of 2005, and at least one additional meeting during this first year of the project. In subsequent years, it is anticipated that there will be three additional meetings, with topics that will include review and providing comments on draft documents. To avoid contaminating the planning and design process relating to baseline audits, industry members will not be involved in review and approval of the final baseline audit to be used.

Project Work Plan:

Following the Rhode Island Auto Body Repair Facility Environmental Results Program model, the auto salvage yard ERP will be launched as a voluntary program with participant benefits to include:

- Reduced inspection priority, ability to correct existing violations without fear of gravity-based fines/penalties under the Rhode Island Environmental Compliance Incentive Policy Act (Title 42, Chapter 42-17.8 of the RI General Laws).
- Free pollution prevention, and compliance assistance in correcting violations.
- Making an auto salvage yard better prepared for a random environmental inspection of facility operations.
- Information and education on methods of complying with environmental regulations and addressing concerns that apply to properly maintaining and operating an auto salvage yard.

DEM-OTCA will also work with the Rhode Island Department of Health and DEM's Division of Agriculture regarding effective practices to eliminate West Nile Virus/mosquito breeding-grounds at auto salvage yards. Additionally, it will work with the Department of Business Regulation (which licenses salvage yard facilities) and air, water, and waste regulatory divisions within DEM to seek additional means to encourage program participation. The information that follows provides greater detail on how the goals and objectives of the project will be met.

Project Schedule with Completion Dates:

Project Completion Date	Task/Milestones
August 1, 2004	Begin project scooping and design
January 3, 2005	Complete preliminary project scoping and design
February 1, 2005	Select Stakeholder Committee members, hold initial meeting in February 2005
March 31, 2005	Finalize performance measures and project criteria with first phase stakeholders
March 31, 2005	Design survey for auto salvage operators, and mail with return by May 31, 2005
July 31, 2005	Tabulate results from Auto Salvage Operator surveys
December 31, 2005	Complete a minimum of twenty random baseline audits of auto salvage yards
June 30, 2006	Prepare and complete draft certification checklist and workbook
August 30, 2006	Final Review of draft documents by Stakeholders, approval by DEM-OTCA
November 30, 2006	Mail Certification Packages to operators
December 2006	Workshop for Auto Salvage Yard Operators
March 31, 2007	Certification checklists returned by operators
September 30, 2007	Review of Return-to-Compliance Reports, related compliance assistance
September 30, 2007	Complete twenty random follow-up audits, of participating auto salvage yards
March 31, 2008	Prepare final report with project results

Project Development:

Building upon and incorporating findings from the Narragansett Bay Commission's efforts (which have begun in 2004), staff from DEM-OTCA, the University of Rhode Island's (URI) Center for Pollution Prevention & Environmental Health, Brown University Center for Environmental Studies, and industry representatives will join to develop a comprehensive "statewide" results-driven program.

The URI Center for Pollution Prevention & Environmental Health will play a major role in data gathering, survey research (to characterize facilities and better understand local environmental problems), steering committee organization/meeting facilitation, certification workbook/checklist development, facility baseline inspections and report writing, pollution prevention and materials recycling on-site technical assistance, statistical methodology consultation, and overall program development.

The DEM Division of Agriculture will assist in providing GIS and mapping services for the project, including assistance in environmental risk assessment. Part of this process will include the identification of unlicensed auto salvage yards/storage areas, illegal in the State of Rhode Island and potentially presenting greater environmental risks due to lack of proper management practices and regulatory compliance.

The Brown University for Environmental Studies will provide assistance in conducting a baseline survey of the industry, possibly to include GIS services to assist in the project, especially pertaining to environmental risk assessment.

While not a principal partner, the Department of Business Regulation will provide database consultation, especially with identification of the universe of salvage yards, and support development of the program.

All partners in the project will be fully engaged in program development, including the development and review of the certification workbook and checklists, consultation regarding facility audit findings, problem resolution, and industry outreach activities. As with the auto body certification program, the workbook and checklists will be designed to be easy to read and understand by someone that is not technically versed in reviewing complex environmental regulatory language.

Additionally, a Resource Conservation Challenge Partnership, through EPA's Resource Conservation Challenge initiative, provides an opportunity to maximize proper management of mercury switches.

Quarterly reports for the project will be submitted to the Regional Contact at EPA Region 1.

Likely Improvement in Results from Project Implementation:

Rhode Island was the first state to adopt the Massachusetts DEP ERP model and the first to experiment with a voluntary, multi-agency (e.g., state Department of Health, a state university and a technical high school, Department of Business Regulation, and NBC) approach. Building on "lessons learned" from our ongoing Auto Body Repair Facilities ERP, while incorporating components from our exterior lead paint removal certification program for paint contractors and our underground storage tank certification program now in the planning & design stage, findings and successful components of other state initiatives, and efforts by groups such as the Northeast Waste Management Officials Association, this project is strategically positioned to benefit from past experiences and holds promise for producing quantifiable results that go well beyond what could be achieved through traditional approaches. Project design and methodology utilized in this project will be readily transferable to other states or entities undertaking similar projects in this sector.

Possible solid and hazardous wastes, or sources of air and water pollution found at auto salvage yards to be addressed in the project include:

- Air Bags
- Air Emissions
- Antifreeze
- Asbestos
- Auto Body Wastes
- Auto Fluff
- Brake Fluid
- Brake & Carburetor Cleaners
- Catalytic Converters
- Contaminated Soil
- Fuel (Gasoline and Diesel)
- Fuel Filters
- Gear Oil
- Lead Acid Batteries
- Lead Parts (ie. Wheel weights)
- Mercury Switches
- Miscellaneous Aerosol Spray Cans
- Parts Washer Solvent
- Refrigerants
- Scrap Metal
- Storage Tanks (both AST & UST)
- Sump Sludge
- Transmission Filters
- Transmission Fluid
- Used Absorbents
- Windshield Washer Fluid
- Used Oil & Used Oil Filters

Environmental Business Practice Indicators:

Environmental Business Practice Indicators (EBPI's) provide a snapshot as to both compliance status and overall environmental performance of facilities and the sector as a whole. EBPIs will be selected to assess improvements (relative to baseline conditions) in industry performance in air, water, RCRA compliance as well as pollution prevention and reduction in West Nile Virus mosquito breeding-ground habitats.

Each of the proposed EBPI's listed below represents a key performance concern, and indicates a degree of performance for the larger sets of questions that will be part of the certification checklist. Proposed EBPI's for this sector in this project are:

- √ Average annual generation rate of hazardous waste in gallons, over the most recent twelve month period
- √ Proper removal and management of RCRA solid and hazardous wastes generated at auto salvage yard from vehicles processed
- √ Hazardous waste containers managed to prevent releases
- √ Job specific training provided to yard employees on proper management of solid and hazardous waste, and handling emergency procedures
- √ Container labeling as applicable for satellite accumulation or ninety (90) day storage area
- √ Written contingency plan
- √ Standing water as a result of auto salvage yard operation
- √ Storm water runoff issues present as a result or product of auto salvage yard operation

The proposed list of EBPI's is subject to modification, based on discussion, findings, and action in the first phase stakeholder process. Any changes will be provided in an amendment to the Project Work Plan.

Performance Measurements, Environmental Outcomes:

The project will be used to determine if implementation of the ERP, with its certification by auto salvage yard operators, provides better environmental compliance with air, water, and waste regulations than the existing regulatory enforcement framework. Thus, it will produce an environmental improvement by reducing the amount of wastes and pollutants described above being introduced into the environment. Specific performance measures will be developed and adopted through the stakeholder process. A fundamental part of the process will be the compilation of pre-certification data gained through the baseline audits.

. Just before this statewide project is formally launched, industry baseline conditions will be assessed using a comprehensive multi-media compliance and pollution prevention certification checklist. Checklist questions will be developed in consultation with regulatory divisions, represented as first phase stakeholders, and will address all relevant air, water, solid and hazardous waste regulatory requirements, as well as assess pollution prevention opportunities. The actual number of facilities to be targeted for baseline audits will be statistically determined and locations randomly selected.

Performance measures will be developed as necessary and used through the project period Any changes will be provided in an amendment to the Project Work Plan. Proposed performance measures for the project at this time include:

- Number of auto salvage yards participating in this voluntary initiative.
- Implementation of an industry-wide survey
- Development of effective EBPI's for the project.
- Development of Workbook, Checklist, fact sheets, brochure
- Results of post certification analysis, especially improvements in comparison of baseline vs. post-certification compliance
- Number of informational requests about the project from auto salvage yard operators, municipal officials or agencies, press contacts, environmental or trade organizations
- Number of requests for compliance assistance from participants
- Compare general amounts of wastes recycled or disposed by major waste type for the sector using Uniform Hazardous Waste Manifest data, by surveying facilities included in the baseline survey, and the facilities included in random follow-up audits.

Among expected intermediate and longer term outcomes of the project include:

- Increased awareness and knowledge by auto salvage yards operators of environmental regulatory requirements and compliance and management issues as a result of project documents that are easy to read and understand, workshops, and compliance assistance provided through the project.
- Improvements in environmental performance as indicated through tracking EBPI's identified for the project.
- Improvements in identifying sources of contamination and working to minimize sources and impacts of it, through an environmental risk assessment component in the project.
  - A key component in this assessment is the identification of auto salvage yards located in areas with the availability of public water and wastewater treatment systems, or using private systems due to a lack of availability of public systems.
- Information and "lessons learned" in the project will be applied to future iterations of the workbook, checklist, and overall program structure.
- Increasing improvements in environmental performance over time as the industry gains experience working with DEM-OTCA, and by using self-educational tools commonly and successfully employed in Environmental Results Programs.
  - It is anticipated that voluntary self-certification will be conducted every two years, and that performance measurement statistics will track all future progress.

The proposed list of performance measures and outcomes is subject to modification, based on discussion, findings, and action in the first phase stakeholder process., and will include development of a logic model. Any changes will be provided in an amendment to the Project Work Plan and the Quality Assurance Project Plan (QAPP).

Quantifiable Improvements:

Using the ERP approach, statistically based performance measurements in pollution prevention and air, water, and RCRA compliance will be analyzed, both pre and post program implementation. OTCA's goal is to reduce threats posed by physical, chemical and biological hazards to the greatest extent possible with participation by 75% of licensed auto salvage yards, and a 25-50% measurable improvement in environmental business practice indicators during the first years of implementation.

Administrative Efficiency and Program Costs:

Major improvements in administrative efficiency naturally occur as a result of implementing the ERP model. Though program start-up activities for environmental agencies are resource intensive, once implemented and fully operational, environmental and administrative benefits of sector-wide certification programs typically far outweigh up-front costs.

One example is that only a representative number of yards, not every facility, will need to be inspected for regulatory compliance - statistical analyses are conducted to infer compliance rates across the entire industry sector. Additionally, DEM has never had sufficient resources to inspect every facility, and when inspections have occurred they traditionally did not include the identification of pollution prevention opportunities and were generally not multi-media in nature. For these facilities, at which focused inspections were conducted, missed opportunities for environmental improvement almost certainly occurred. By taking a comprehensive, multi-media sector-based approach, agency staff can spend more of time on priority sectors/facilities and unlicensed operations.

Costs/Efficiency Improvements for Regulated Entities:

Costs associated with the improper management of waste materials or being in noncompliance can be significant. Further, hiring consultants to develop environmental compliance programs can also present a financial burden, especially for small companies. By participating in the program, members of the regulated community can take advantage of an opportunity to come into compliance with all applicable air, water, solid and hazardous waste requirements, while at the same time receiving free on-site or telephone consultation compliance assistance support.

Participants will also benefit from plain-English guidance documents (brochure, certification workbook, checklist, and fact sheets) and pollution prevention/compliance assistance. Though regulated entities may incur some initial costs in terms of facility upgrades to come into compliance with existing regulations, the long-term savings, gains in efficiency, and benefits to the environment, should be significant.

Involvement of Interested Parties

By actively involving participants in the stakeholder process with expertise in a wide variety of disciplines, it is expected that overall communication between members in various disciplines will be greatly enhanced over the current situation. The process will use a multi-media approach, with an overall common goal for all: improving overall environmental regulatory compliance and management practices of auto salvage yards in Rhode Island. It will emphasize maximizing expertise of members with active involvement in planning and design, preparation of documents, and implementation.

In the second phase of the stakeholder process, auto salvage yard operators and at least one representative from the League of Cities & Towns will be brought in and involved. This will allow those entities, as well as the other stakeholder members, to review and make comments on project documents, as well as implementation strategy. A goal of involving a League representative is to be able to better educate local governmental officials and improve communication about applicable environmental regulations as well as employing the best management practices possible in operating these facilities.

Transferring Innovation:

Documentation and Information Availability

Methods to document project outcomes include analytic and descriptive statistics, as well as qualitative measures of general program performance. As data become available, program and industry progress reports will be developed and posted on a dedicated DEM-ERP web site available to the public.

Potential for Widespread Application

As ERP gains momentum in Rhode Island, DEM expects that the ERP approach, or some variation on the model, will gain broad acceptance not only as a model for the "next generation" of environmental protection at the state level, but also at the municipal and local levels. In addition, based on Rhode Island's experience as the first agency to include a state health department and worker health provisions (i.e., OSHA compliance) in its ERP, we believe that this expanded approach holds great promise in the human health arena.

Promotion of Organizational Change

Building on past successes, application of the ERP model to this industry sector will help to further institutionalize the concept as a new "way of doing business" into DEM's infrastructure and strategic planning process. By involving media program representatives in the planning and implementation functions of the program, staff "buy-in" is likely to generate broad and lasting support for future similar efforts.

Consultation and Mentoring

DEM has already begun to assist other states (e.g., hosting a one-day meeting/field visit with personnel from the State of Delaware, participation in conference calls, and national and regional meetings, providing documents and assistance to other states as requested) in their efforts to develop an ERP program for auto body shops. Throughout this project and beyond, DEM will continue to make all ERP materials available, and assist states as requested.

Key Project Personnel:

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