



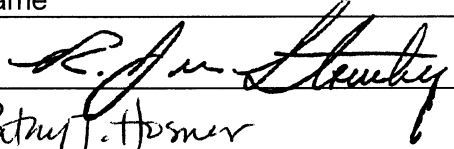
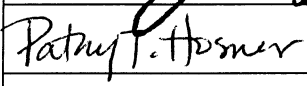
## Project Design/Development Plan (PDDP)

Controlled copy number:	
Issued to:	
Organization/Program:	

Project title:	Savannah Characterization Effort
Project number/revision:	1344/Revision 1
Project start date:	February 21, 2005
Project end date:	February 20, 2006
Client:	DOT/Maritime Administration
Contract number:	DTMA1C05013
Purchase Order number:	DTMA1C05013
Contract Type: Fixed Price <input type="checkbox"/> Time and Material <input checked="" type="checkbox"/> Other <input type="checkbox"/> (Describe Below)	

Information only

### Approved by

Name	Title	Date approved
	Nuclear Program Manager	6/10/05
	Nuclear QA Manager	6/9/05
	Senior Technical Advisor, N/S SAVANNAH	

## PDDP

Directions: Write "NA" if the item is not applicable to the project. Use additional sheets as necessary, and use page numbering consecutive with this form.

### General:

PDDP # 1344 Revision 1 (incorporates contract modifications 2 through 5)

Important to Safety: Yes  No

Distribution: Hosner, Solovey, Bowen, Stouky, Koehler, Wiegand

Purpose: Project Initiation  Scope Change  Other  (Describe Below)

### Describe Scope of Work:

The purpose of the N/S SAVANNAH Characterization effort is to assure that the ship is properly characterized. The radiological spaces will be characterized both radiologically and environmentally. The non-radiological spaces will be radiologically characterized and environmentally sampled (stored not analyzed). The characterization will be performed by sampling, lab analysis and field measurements. The sampling and measurement distribution will be representative of existing radiological and non-radiological conditions on the ship. Results of the Characterization effort will provide prospective bidders with a profile of radiological and non-radiological contaminants on the ship enabling them to develop appropriate decommissioning approaches and estimate associated costs for bidding purposes.

This preliminary characterization task is not intended to furnish a Multi-Agency Radiation Survey & Site Investigation Manual (MARSSIM) compliant termination survey that would be subjected to the rigors of a Nuclear Regulatory Commission review. Only locations and equipment that are expected to be radioactive or contain radioactive materials will be surveyed in depth to determine the extent of radioactive materials present and the type of materials. The remaining areas (principally aft of the engine room, forward of the reactor compartment and in the mid-ship house and public areas) will be surveyed less rigorously to confirm that no radioactive materials reside in those locations.

Attachment A, Project Operational and Project Specific Training Procedures, defines the unique project specific operational and training procedures needed to implement the N/S SAVANNAH characterization effort. This document also serves as the Quality Assurance Project Plan (QAPP).

The following contract modifications have been incorporated that changes the scope of work.

Contract Modification 1: Modified commercial terms and conditions and changed the contract from a single contract line item number (CLN) in Section B, to multiple CLNs. (No technical changes)

Contract Modification 2: Increased funding to cover Delay Days utilized to investigate possible sources and locations for water found in the primary system.

## PDDP

Contract Modification 3: Increased funding to further investigate the possible source and quantity of water in the RPV, primary cooling system, steam generators, and primary loop pressurization system per the following subtasks:

1. Determine the water level in the RV and piping outside the loop isolation valves.
2. Verify steam generator water status
3. Obtain bids for drilling the RV
4. Obtain sample analysis bids
5. Obtain transportation bids
6. Prepare technical documentation for adequacy for Class A shipment
7. Re-run ORIGEN-ARP (parametric study)
8. Develop a Quality Plan for Tasks 1 through 7

Contract Modification 4: Increased funding to cover equipment left onboard the N/S SAVANNAH due to internal contamination.

Contract Modification 5: Increased funding to include the installation of the permanent dehumidification air supply and HEPA filter to the Containment Vessel.

List Applicable Regulatory Requirements, Codes, and Standards:

WPI's Nuclear QA Program applies to data management and instrument calibration only.

For Contract Modifications 2, 3, 4 and 5; WPI's Nuclear QA Program applies as defined below:

1. Contract Modification 3 Task 1 – Procedures, data management and instrument calibration only
2. Contract Modification 3 Task 2 - Procedures, data management and instrument calibration only
3. Contract Modification 3 Task 3 - Procedures, data management and instrument calibration only. All drilling and ancillary support equipment design/fabrication are standard commercial grade items.
4. Contract Modification 3 Task 4 – Procurement of laboratory services only
5. Contract Modification 3 Task 5 – Procurement of Transportation services only
6. Contract Modification 3 Task 6 – Does not apply (see Note 1 below)
7. Contract Modification 3 Task 7 – Does not apply, this task is a continuation of an assessment performed under an earlier contract. The scope of the earlier assessment has been expanded. (see Note 1 below)
8. Contract Modification 3 Task 8 – Applies to the development of the PDDP
9. Contract Modifications 2, 4 and 5 – Does not apply (see Note 1 below)

Note 1: In instances where the tasks do not require execution of the Nuclear QA Plan, WPI's Corporate QA program will be followed.

List Applicable Handling, Shipping, and Storage Requirements:

Any radiological or environmental samples leaving the N/S SAVANNAH will be turned over to the Maritime Administration (MARAD) for transportation to the dock.

## PDDP

**Administrative:**

Nuclear Program Manager: Jon Stouky	Project Engineer: John Bowen	NQA Manager: Patsy Hosner
MARAD's CO: M.E. Simmons	MARAD's COTR: Erhard Koehler	

List project subcontractors, external organizations involved in the project, and corresponding contacts, and briefly describe the responsibility of each (reference may be made to applicable sections of this form).

Subcontractor/External Organization Name	Contact Name	Responsibility
ERM	Franco Godoy	Provide environmental characterization support
MARAD – JRRF	Fred Hoffmann Erhard Koehler	1. Transportation and support during the characterization effort 2. Provide government owned radiological detection and equipment as needed to support the characterization effort 3. As the Licensee Holder, MARAD is responsible for the Health Physics Program 4. Provide Marine Chemist services
Duratek Instrument Calibration Services	Tom Scott	Provide calibrated radiological detection equipment
Bigge Crane and Rigging	Jim O'Callaghan	Provide a preliminary reactor vessel rigging assessment
Mega-Tech Services	Martha Stouky	Provide non-calibrated, commercial grade equipment and tooling
General Engineering Laboratories, LLC	Jake Crook	Provide lab analyses on samples, as required
Aerosol Monitoring & Analysis, Inc.	Robert Schoennagel	Provide lead analyses for coatings
Phase Separation Services	Franco Godoy	Provide lab analyses for ERM

## PDDP

<b>Technical:</b>			
List project deliverables and the organization(s) responsible for preparing, reviewing, and approving the documents.			
Project Deliverable	Preparer	Reviewer	Approver
Milestone & Project Schedule	John Bowen	Jon Stouky	Erhard Koehler (MARAD)
Characterization Plan	Rich Ranellone	John Bowen	Jon Stouky
Characterization Report	Bob Pennock Rich Ranellone Keith Welsh ERM	John Bowen Patsy Hosner	Jon Stouky
Preliminary RV Rigging Assessment	Bigge	John Bowen	Jon Stouky
Updated Health Physics Manual	Bob Pennock Rich Ranellone	John Bowen Patsy Hosner	Jon Stouky
N/S SAVANNAH Reactor Vessel and Internals Metal Sample Removal Specification	John Bowen	Jon Stouky	Jon Stouky
N/S SAVANNAH Reactor Vessel and Internals Metal Sample Analysis Specification	John Bowen	Jon Stouky	Jon Stouky
N/S SAVANNAH Reactor Vessel and Internals Metal Sample Transportation Specification	John Bowen	Jon Stouky	Jon Stouky
Letter report providing purchase recommendations for drilling vendor, lab and carrier	John Bowen	Jon Stouky	Jon Stouky
Provide a report describing the results of the lab testing and probabilities of a Class A shipment	John Bowen	Jon Stouky	Jon Stouky

### PDDP

Project-Specific Inspection Procedures Required:      Yes       No

Inspection Description	Organization Preparing Procedure	Organization Reviewing Procedure	Organization Approving Procedure	Organization Performing Procedure

Project-specific test procedures required      Yes       No

Test Description	Organization Preparing Procedure	Organization Reviewing Procedure	Organization Approving Procedure	Organization Performing Procedure

**PDDP**

Design inputs and the organization providing each design input.	
Design Input	Organization Providing Design Input
NA	

## PDDP

### Quality Assurance

WPI's NQA-1 program (applies to data management and instrument calibration only and contract modifications 2 through 5 as described above in the section entitled "Applicable Regulatory Requirements, Codes, and Standards" and the following procedures apply):

- NQA 1.2, Quality Assurance Program
- NQA 1.4, Procurement Document Control
- NQA 1.5, Instructions, Procedures, and Drawings
- NQA 1.7, Control of Purchased Material, Equipment, and Services
- NQA 1.12, Control of Measuring and Test Equipment
- NQA 1.15, Nonconforming Materials, Parts or Components
- NQA 1.16, Corrective Action
- NQA 1.17, Quality Assurance Records
- NQA 1.18, Audits

Note: In instances where the tasks do not require execution of the Nuclear QA Plan, WPI's Corporate QA program will be followed.

### Applications

WPI client procedures or specifications addressing quality-related activities: NA

Project-specific quality procedures required:    Yes     No

Nuclear Quality Procedure Description	Organization Preparing Procedure	Organization Reviewing Procedure	Organization Approving Procedure



PDDP  
Attachment A  
Project Operational and Project Specific Training Procedures

		Preparer	Reviewer	Approver
NSS-100	Radiation Worker Training	Bob Pennock	John Bowen	Jon Stouky
NSS-110	Dosimetry Issue	Bob Pennock	John Bowen	Jon Stouky
NSS-130	Contamination Control	Bob Pennock	John Bowen	Jon Stouky
NSS-140	Radiation Surveys And Sampling	Bob Pennock	John Bowen	Jon Stouky
NSS-150	Radioactive Airborne Sampling	Bob Pennock	John Bowen	Jon Stouky
NSS-160	Managing Respirators	Bob Pennock	John Bowen	Jon Stouky
NSS-200	Shipboard Radwaste Management	Bob Pennock	John Bowen	Jon Stouky
NSS-300	Data and Record Management	Rich Ranellone	John Bowen	Jon Stouky
NSS.101	Radiation Training Program for the Characterization Effort	John Bowen	Bob Pennock	Jon Stouky
NSS-PRO-010	NS SAVANNAH Special Initial Containment Entry Procedure	Jon Stouky	John Bowen	Bob Pennock MARAD MARAD RSO
NSS-PRO-020	N/S SAVANNAH Primary System Water Level Determination Procedure	John Bowen	Jon Stouky	Jon Stouky MARAD

Project Operational and Project Specific Training Procedures will be controlled by the project. Once approved and after distribution has been performed, the original Project Operational and Project Specific Training Procedure(s) will be forwarded to Quality Assurance for project record retention.