

PROCEDURE COVER SHEET

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|--|--------------------------------|---|
| PENNSYLVANIA POWER & LIGHT CO.<br>SUSQUEHANNA STEAM ELECTRIC STATION |                                | SC-68-001<br>Revision 0.<br>Page 1 of 5 |
| SOLID WASTE SAMPLE TEST SOLIDIFICATION<br>AND EVALUATION             |                                |   |
| Effective Date <u>7-27-82</u>  | Expiration Date <u>7-27-84</u> |   |
| Revised Expiration Date _____  |                                |   |

|   |                     |
|---|---------------------|
| Prepared by <u>Louise K. Vrank</u>                                      | Date <u>7-9-82</u>  |
| Reviewed by <u>Raymond Dohler</u>                                       | Date <u>7-9-82</u>  |
| PORC Review Required Yes ( <input checked="" type="checkbox"/> ) No ( ) |                     |
| Approved by <u>[Signature]</u>  | Date <u>7/9/82</u>  |
| Section Head  |                     |
| PORC Meeting Number <u>82-102</u>                                       | Date <u>7-22-82</u> |
| <u>[Signature]</u>  | Date <u>7-26-82</u> |
| Superintendent of Plant   |                     |

## 1.0 PURPOSE

The purpose of this procedure is to verify the solidification of at least one representative test specimen from at least every tenth batch of each type of wet radioactive waste to be solidified.

## 2.0 REFERENCES

- 2.1 Technical Specification 4.11.3.2
- 2.2 AD-QA-311 Solid Waste Process Control
- 2.3 AD-QA-422 Surveillance Testing Program

## 3.0 SPECIAL TOOLS/EQUIPMENT

### 3.1 Required Chemistry Test Equipment:

None

### 3.2 Additional Tools and Equipment:

- 3.2.1 Electric mixer with disposable mixing blades
- 3.2.2 1000 ml disposable plastic beakers
- 3.2.3 Balance - top loading
- 3.2.4 Portland Type II Cement
- 3.2.5 Liquid sodium silicate, Philadelphia Quartz Co. Type N

## 4.0 PRECAUTIONS

- 4.1 Assure that plant safety, radiation safety and radioactive materials handling guidelines are observed.
- 4.2 Do not rinse any cement or sodium silicate down any drain.

## 5.0 PREREQUISITES/LIMITATIONS

A sample from the waste mixing tank whose contents are to be solidified has been collected according to Procedure CH-TP-023.

## 6.0 PROCEDURE

NOTE: Those steps of this procedure designated by an asterisk (\*) immediately to the left of the step number requires entry(ies) to be recorded on the Data Form.

- \* 6.1 Record sample identification, sample number, sample date and time any reason for the test solidification.
- 6.2 Place a 200 ml sample of the waste to be solidified in a disposable beaker.
- 6.3 Weigh out 210 grams of cement and 19.1 grams of aqueous sodium silicate into separate containers.
- 6.4 Begin mixing waste sample slowly with the electric mixer.
- 6.5 Slowly add the cement over a period of about 30 seconds.
- 6.6 Mix for approximately 30 seconds after all the cement is added.
- 6.7 Mix for another 5 seconds while adding the sodium silicate.
- 6.8 Allow sample to set for four hours.
- \* 6.9 After the four hour set time, evaluate the sample for the following:
  - 6.9.1 Absence of Free Water - No drainable liquid remaining on the sample before unmolding or observed after unmolding.
  - 6.9.2 Free-standing monolith - Sample holds its shape after unmolding and resists penetration when tapped by the rounded end of a glass stirring rod (a small mark on shiny spot is acceptable).
- \* 6.10 If both conditions in 6.9 are answered YES, indicate Satisfactory completion of the surveillance. If one or both conditions in 6.9 were answered NO or if the procedure could not be completed indicate Unsatisfactory completion under ACCEPTABLE CRITERIA and immediately notify Shift Supervision.

## 7.0 RECORDS

- 7.1 When the surveillance is complete the responsible individual should forward the SURVEILLANCE AUTHORIZATION coversheet and data form to the CHEMISTRY FOREMAN who will initiate the review process in accordance with the surveillance program.

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7.2 Upon completion of the review process the completed record shall be stored by the DCC.



SOLID RADWASTE TEST SOLIDIFICATION  
DATA SHEET

ACCEPTANCE CRITERIA

INITIAL

- No free water
- Free-standing monolith SAT/UNSAT

Date of performance \_\_\_\_\_

REQUIRED ACTION (Acceptance Criteria not met)

Notify Shift Supervision that SC-68-001 has been failed.

Shift Supervision has verified that  
the following ACTION STATEMENTS  
are in effect as applicable:

Applicable

- 4.11.3.2.a
- 4.11.3.2.b

YES/NO  
YES/NO

Remarks:

PROCEDURAL STEPS COMPLETED

6.1 Waste Mixing Tank A or B

Sample Number \_\_\_\_\_ Date/Time \_\_\_\_\_/\_\_\_\_\_

Reason for performing surveillance:

Once every-tenth batch \_\_\_\_\_

Other \_\_\_\_\_

6.9 Absence of free water YES/NO

Free standing monolith YES/NO

HOLD - QC Verification

\_\_\_\_\_/\_\_\_\_\_  
Verified By Date