

PILGRIM NUCLEAR POWER STATION

Procedure No. 2.1.22

SCREENWASH BIOLOGICAL MONITORING PROGRAM



Stop
Think
Act
Review

REFERENCE USE

MSTP RELATED

REVISION LOG

REVISION 24	Date Originated 11/05
<u>Pages Affected</u>	<u>Description</u>
	(Revisions 22 and 23 omitted due to MERLIN revision numbering scheme.)
3-6,12	Update terminology to reflect current organization and practices.
4	Expand Purpose and Scope section to include NPDES permit. Clarify Discussion section.
4,5,8	Add definitions and revise text to clarify how sample results are evaluated to determine impingement rate, and that the impingement limit is used to determine whether a reportable impingement incident has occurred.
5,6	Delete actions or communication not required to be done.
5-7	Revise text to reflect ongoing discussion with US EPA regarding appropriate actions during fish impingement (i.e., what is required versus what is optional). Provide updated sampling, measurement, and data recording techniques.
7	Clarify that the screenwash may exceed 30 minutes.
7	Indicate that the environmental contractor will complete data in Attachment 1.
8	Add summary of appropriate steps to Corrective Action section.
10	Delete first page of OPER-34 data sheet; data available from other means (i.e., PI, EPIC, etc.). Specify position who completes the form.
12	Update pager phone number.
REVISION 21	Date Originated 1/03
<u>Pages Affected</u>	<u>Description</u>
8	Clarify MSTP Rep Task to sign off.

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1.0 PURPOSE AND SCOPE

This Procedure provides instructions for the collection and documentation of marine organisms carried onto the traveling water screens. The primary purpose is to perform impingement monitoring specified by the Station's NPDES Permit.

2.0 REFERENCES

2.1 DEVELOPMENTAL

- [1] PNPS NPDES Permit #MA0003557
- [2] PNPS 1.3.9, "Reports"

2.2 IMPLEMENTING

- [1] PNPS 2.2.94, "Seawater System"

3.0 DEFINITIONS

- [1] **Impingement Rate** - The calculated number of fish per hour caught (impinged) entrapped on the traveling screens determined from screenwash sampling. To determine the impingement rate for a "static" screenwash, the total number of fish collected (including fish that became trapped against the screens during the time they were not rotating) is divided by the sampling interval (time screenwash collection ended minus time since end of previous screenwash).

The rate of impingement is presented as if both CW (seawater) pumps (P-105 A, B) and all four screens (X-108 A, B, C, D) are in service. If conditions are different from this, then the contractor may need to perform additional calculations to correct for the actual plant configuration (e.g., if one screen is out of service, then multiply catch by 4/3 to determine corrected impingement rate).

- [2] **Impingement Limit** - When screenwash monitoring determines that the fish impingement rate (for all species combined) exceeds the impingement limit, then additional actions are required by Procedure. The impingement limit in most circumstances is < 20 fish per hour; however, there may be exceptions to this value. The environmental contractor will inform the Control Room when the impingement limit has been exceeded. This should be documented with a Condition Report.
- [3] **Impingement Incident** - A situation in which an "unusual number of fish impinged" at PNPS is known to have occurred. Typically, this is when the fish impingement limit has been exceeded. This is reportable to US EPA and Massachusetts DEP (as specified in the Station's NPDES Permit). Reporting this verbally and/or in writing to the appropriate environmental agencies is performed by PNPS's Environmental Protection group.

- [4] Wash (or "screenwash") - Rotation of the traveling screens sufficient to remove impinged organisms.

4.0 DISCUSSION

PNPS performs impingement monitoring (screenwash sampling) to determine whether there are fish or any other important marine organisms being carried onto the traveling water screens at PNPS. As part of the Marine Environmental Monitoring Program, this sampling determines the abundance of various species, and also provides insight into the tidal, seasonal, and diurnal conditions. PNPS's Environmental Protection group has selected a contractor who is responsible for performing the field work (species identification, weighing, measuring, etc.).

This Procedure provides the data necessary to compose the required routine and episodic reports to the regulators in accordance with the NPDES Permit. Occasional failure to perform the surveillance is undesirable, but does not inherently mean a regulatory requirement has been violated.

4.1 EXPLANATION OF CONTINGENCY SAMPLING PROCEDURES FOR FISH IMPINGEMENT MONITORING AT PNPS

This Procedure is designed to maximize the efficiency of sampling and, therefore, to provide the most useful and timely data. These sample times may be modified by the PNPS Environmental Protection group based on discussions with regulatory personnel. The environmental contractor may contact anyone in PNPS's Environmental Protection group to discuss conditions and determine appropriate actions.

- [1] Static Wash - The normal 30-minute screenwash collection will be completed and the number of fish per hour computed over the sampling interval since the previous wash. The 30-minute collection period will be included in the sampling interval. If the impingement limit is exceeded, the Operator will be notified to continue screen operation and an additional 1-hour sample will be taken to confirm the initial results. If this additional sample continues to show elevated impingement, the contractor will wait approximately 4 hours and then sample for one additional hour, wait approximately 4 more hours, and sample for a third (optional) 1-hour period. If the rate is still over the limit, the contractor will return approximately every 8 to 12 hours and will sample for 1 hour until the impingement rate decreases below the limit. Following each sample period, the contractor will report fish counts to the SM.

If the impingement rate obtained in the initial extra 1-hour sample does not exceed the limit, then the Environmental Protection group may be informed during regular business hours that an extra sample was warranted by this Procedure.

- [2] Continuous Wash - The normal sampling interval under these conditions is 1 hour. The Operator and SM will be notified immediately if the impingement rate exceeds the limit. The contractor will advise the SM to leave the screens running until further notice and sample approximately 4 hours later, then wait another 4 hours (optional), and sample again. If the rate is still over the limit, the contractor will sample for 1 hour every 8 to 12 hours until impingement rates return to normal or until alternate instructions are given by the Environmental Protection group. In the absence of other directives, the contractor will inform the SM of the impingement rate following each sampling period. Once the impingement rate decreases below the limit, the SM will be advised that continuous operation is not required for fish impingement concerns.

5.0 SPECIAL TOOLS AND EQUIPMENT

None

6.0 PRECAUTIONS AND LIMITATIONS

- [1] It is the responsibility of the contractor to ensure that the net (basket) is in position when required for sampling associated with scheduled screenwashes, and to inform the Control Room whenever the fish impingement limit has been exceeded.
- [2] Unscheduled or continuous screenwashes may be performed as needed to maintain normal plant operating conditions.
- [3] It is the responsibility of the Environmental Protection group to address any NPDES Permit reportability requirements resulting from this Procedure.

7.0 PREREQUISITES

None

8.0 PROCEDURE

8.1 SCHEDULED SCREENWASHES

- [1] **PERFORM** screenwashes each day for a minimum of 30 minutes (an asterisk denotes that the contractor will be present before starting of screenwash). **IF** possible, screens should be operated in slow speed to obtain consistent conditions for evaluation.

Wash #1	Monday	0030 hours
Wash #2	Monday	0830 hours *
Wash #3	Wednesday	0830 hours
Wash #4	Wednesday	1630 hours *
Wash #5	Friday	1630 hours
Wash #6	Saturday	0030 hours *

- (a) Screenwashes will be a minimum of 30 minutes; longer at contractor's or watch supervision's request.
- [2] **IDENTIFY, COUNT, MEASURE, AND WEIGH** any fish (crabs, shrimp, etc.) collected by the contractor.
- (a) **MEASURE** to nearest millimeter (total length).
- (b) **WEIGH**, to the nearest gram, invertebrates and selected finfish.

NOTE

When more than 20 individuals of a given species are observed, only 20 need be measured and weighed. To enhance survival, live fish need not be weighed.

- (c) **RECORD** maximum, minimum, average length, and average weight of each species collected. To enhance survival, live fish need not be weighed.
- (d) **RECORD** date and time of net (basket) setting and removal (including reason, if net not set), sea conditions, weather conditions, as well as general comments on any unusual circumstances occurring during the sampling period.
- [3] The environmental contractor (designee) will record the (Attachment 1) data as required. This data will be entered into a computer database to be available as needed.
- [4] The PNPS Environmental Protection group will obtain the relevant data to prepare the necessary reports.
- [5] **PERFORM** operation of the screenwash sluiceway and low pressure screenwash spray in accordance with PNPS 2.2.94.

8.2 UNSCHEDULED SCREENWASHES

- [1] **PERFORM** unscheduled screenwashes as required to maintain plant availability.
- [2] **PERFORM** operation of the screenwash sluiceway and low pressure screenwash spray in accordance with PNPS 2.2.94.

8.3 CONTINUOUS SCREENWASHES

- [1] **PERFORM** continuous screenwashes as required to maintain plant availability and when requested by the impingement contractor because of unusually large numbers of fish being caught on the traveling screens.
- [2] **PERFORM** operation of the screenwash sluiceway and low pressure screenwash spray in accordance with PNPS 2.2.94.

9.0 ACCEPTANCE CRITERIA

Procedure performed as written with no discrepancies which would invalidate the activity.

10.0 CORRECTIVE ACTION

If the impingement limit is exceeded, then a Condition Report shall be submitted and the directions in Section 4.1 should be followed. If warranted by special circumstances, optional actions may be implemented (as agreed to by the SM and the Environmental Protection group).

11.0 ACCEPTANCE VERIFICATION AND SIGNOFF

- [1] Acceptance Criteria of Section 9.0: MET NOT MET

On-Shift SRO	Date

- [2] If Acceptance Criteria were met, sign off the appropriate MSTP Rep Task:

- Monday at 0030 hours Rep Task S000035
- Monday at 0830 hours Rep Task S000040
- Wednesday at 0830 hours Rep Task S000045
- Wednesday at 1630 hours Rep Task S000050
- Friday at 1630 hours Rep Task S000055
- Saturday at 0030 hours Rep Task S000060

Initials

12.0 ATTACHMENTS

ATTACHMENT 1 - OPER-34

ATTACHMENT 2 - SCREENWASH BIOLOGICAL MONITORING SAMPLING SCHEDULE

ATTACHMENT 3 - TELEPHONE LIST

OPER 34

PILGRIM SCREENWASH BIOLOGICAL MONITORING PROGRAM
(Typical, actual form may vary)

Weather _____ Sea Conditions _____ Time _____
Time Net Set _____ Removed _____
Reason Not Set _____
Screens _____ Continuous Wash _____ to _____ hrs
Static Before Wash _____

Species
Name

	L	W	L	W	L	W	L	W	L	W	L	W	L	W
Max L/W														
Min L/W														
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total
Catch

Mean L/W

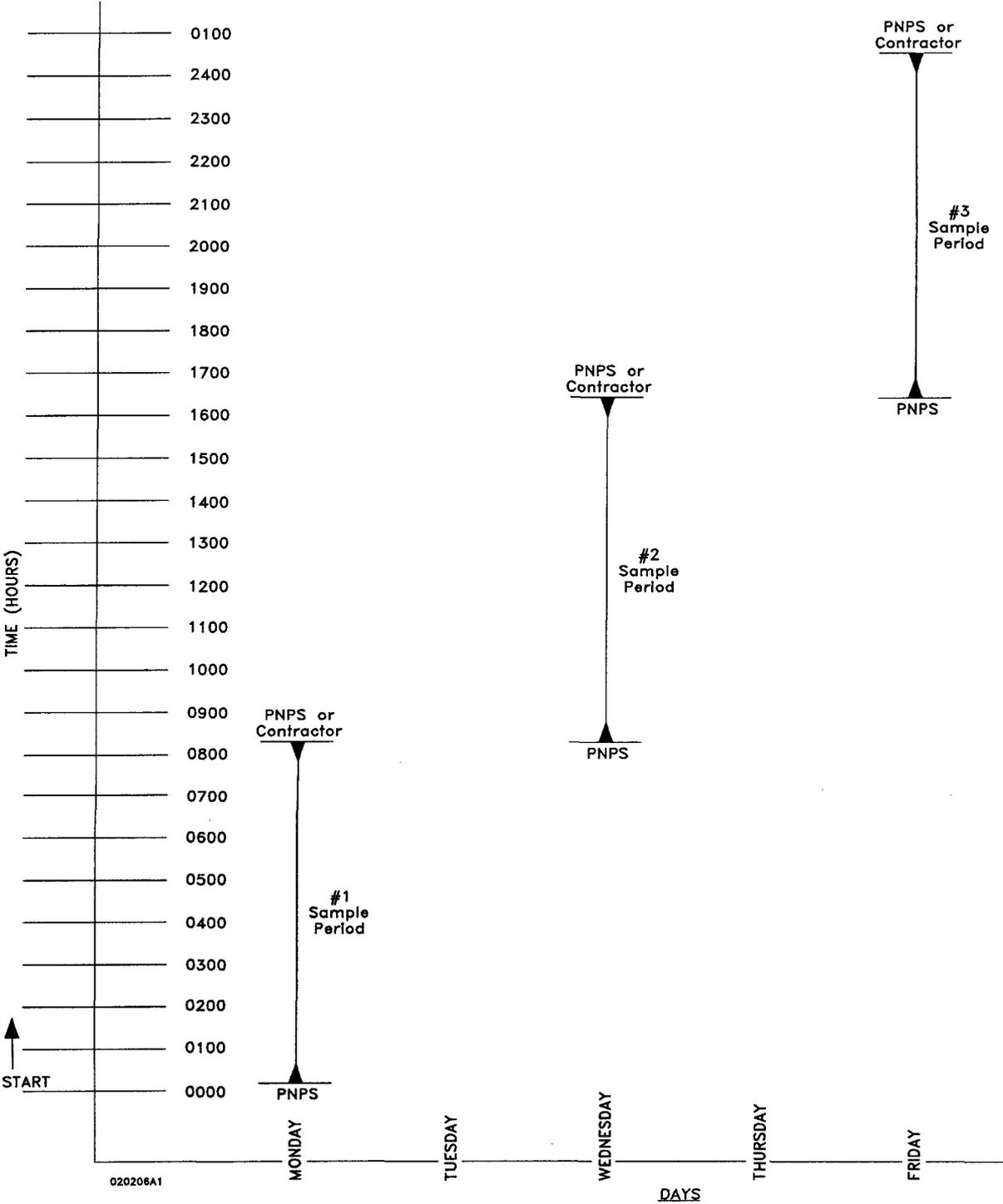
Comments:

L = Length (mm)
W = Weight (gm)

Completed by _____ (OPER-34) Date _____
Environmental Contractor (designee)

SCREENWASH BIOLOGICAL MONITORING SAMPLING SCHEDULE

NOTE: _____ Indicates Screenwashes by PNPS



020206A1

TELEPHONE LIST

1. Environmental Specialist

Joe Egan

Business: 1-508-830-8915

Pager: 1-877-332-3467

Home: 1-781-749-1150

2. Environmental Protection Superintendent

Jay Scheffer

Business: 1-508-830-8323

Pager: 1-800-318-6019

Home: 1-508-224-5216