FISH DETERRENT SYSTEM
FIELD INSPECTION and SURVEY REPORT:
WEEK OF 5/22/2013-5/28/2013

In Accordance With The:

FISH DETERRENT PLAN

New Bedford Marine Commerce Terminal,
New Bedford South Terminal, New Bedford, MA

Prepared on behalf of:

Massachusetts Clean Energy Center
as Part of Regulatory Compliance

Prepared by:

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OPERATIONS REPORT:

REGULATORY COMPLIANCE ACTIVITIES

OR-RC-FDP-FISR01-052813

Version: _01_

Date:__5/28/13___

SDMS Doc ID 547249

Fish Deterrent System
Field Inspection and Survey Report
Week: 05-22-13 through 05-28-13
New Bedford Marine Commerce Terminal (NBMCT)

This Field Inspection and Survey Report was prepared as part of the implementation of the "Fish Deterrent Plan", which is part of "Water Quality Performance Standards" for the NBMCT (South Terminal Project) referenced in the USEPA "EPA Final Determination for the South Terminal Project" (November, 2012).

1. Introduction:

The Water Quality Standards included in the USEPA Final Determination for the South Terminal Project includes a "Fish Deterrent Plan" (FDP) that describes fish deterrent activities and fish barrier systems that the project proponent (the Commonwealth of Massachusetts) agreed to install and operate (in certain portions of the Harbor) in order to reduce the potential impact to fish (i.e. a "Fish Deterrent System," or FDS). The FDP indicates that fish deterrent activities shall be conducted during the period from January 15 through June 15 of any year if there is to be construction related to the New Bedford Marine Commerce Terminal (NBMCT) during that period in those areas. The purpose of the FDS is "to reduce the impact to fish by excluding them from a proposed area"; in this case the work areas associated with the construction of CAD Cell #3 and the area around the proposed South Terminal bulkhead extension and berthing channel at the NBMCT. The deployment and operation of the Fish Deterrent System (FDS) is to take place between January 15 and June 15 of any year within areas shallower than –5 meters MLLW if any work that could disrupt spawning or other activities associated with certain fish species is undertaken. The FDP also calls for regular weekly inspections of the system and an assessment as to the presence or absence of fish within the FDS work areas, coupled with actions that should be taken to remove fish from the FDS work areas if they are encountered (using a "Fish Startle System").

This Field Inspection Report represents the nineteenth Report associated with the installation, inspections, and maintenance of the "Fish Deterrent System" that has been deployed in New Bedford Harbor to meet the 2013 Water Quality Performance Standards in the EPA Final Determination for this Project. This nineteenth Report for the Fish Deterrent Plan activities includes:

- Field Inspection Form for the Fish Monitoring Survey undertaken during the week of May 22, through May 28, 2013; including Fish Startle Activities undertaken; and
- Field Inspection Form for the weekly inspection of the Fish Deterrent System for the week of May 22, through May 28, 2013; and
- Field Maintenance Form for activities that have been undertaken to maintain and improve the FDS system during the week of May 22, through May 28, 2013.

Form : FDS-FIF-02

Inspection Completion

Date: 5/28

Doc #: RCF-FDS-04

NBMCT
SOUTH TERMINAL CONSTRUCTION MONITORING SURVEY FORM (MSF)

APEX

Location of Inspection:

[x] CAD Cell

Work Performed:

[ ] Standard Weekly Inspection
[x] Special Inspection:

Personnel:

Jonathan Potts
David Cangarl
Erin Grenert
Scott Magilton
Ward McIntyre

Description of Inspection Work Performed Today (List any activities associated with work inspection):

All transect surveys in the CAD Cell location are performed via surface-supplied-air dive operations. The reason for this survey mode is the result of the ongoing 24 hour, 7 day a week dredging operations. This dredging activity limits underwater visibility and increases the levels of suspended and potentially contaminated sediments in the water column. The dive survey utilizes a 250-Ft long umbilical consisting of an airline, hard wired topside to diver communications and video and light members. The diver is outfitted with a KM57 dive helmet, mated to a volcanized rubber dry suit, which eliminates any possible exposure to sediment and water column contaminants. In effort to maximize underwater visibility, the dive survey operation utilize tidal flow ebb and flood cycles to enhance underwater visibility.

Unless a tidal change occurs at mid-day, the surveys are performed over a two day period. Day one of the two day survey period utilizes an outgoing tide and surveys the northern portion of the CAD Cell, day two of the survey utilizes an incoming tide and surveys the southern portion of the CAD Cell. Utilizing the tide cycles in this manner enhances the underwater visibility of the dive operations by flushing the suspended sediments away from the underwater dive surveyor. The average range of underwater visibility is from 3 inches to 3 feet.

CAD Cell #3 Area Tasks Completed:

Monitoring Survey: Yes / No, Sonar: Yes / No, Video: Yes / No

Results of Inspection:

1. Flat Fish Observations:

[x] None Encountered
[ ] Flat Fish Encountered (please note # below)

0 Number of Individuals
0 Number of Schools (3 or more fish)

2. Fin Fish Observations:

[ ] None Encountered
[x] Fin Fish Encountered (please note # below)

10 Number of Individuals
0 Number of Schools (3 or more fish)

3. CAD CELL #3 Observed Fish Locations:

Northwestern & Southeastern Cell Locations

4. Survey Notes:

The ability to make an exact count of individual fish viewed during the survey was hampered due to the poor visibility in the Cad Cell. Individual fish scatter away from the underwater surveyor and the only sign of possible fish in the vicinity, is the remaining suspended sediment trail, left behind by a startled fish. However, ten positive juvenile fin fish sitings were observed. The survey team was unable to determine the specie due to the limited visibility.

Recommendations

☐ Recs. to Improve Survey Methodology:
(Description)

☐ Recs. to Improve Service System:
(Description)

☐ Recs. to Improve General System Performance:
(Description)

☐ Other (Description)

Form : FDS-FIF-03 Date: ___5/28/13_____ Doc #: RCF-FDS-03	**NBMCT** **SOUTH TERMINAL CONSTRUCTION FIELD INSPECTION FORM (FIF)**	APEX

Location of Inspection:

- ☒ CAD Cell
- ☐ S. Terminal Area
- ☐ Other

Work Performed:

- ☒ Weekly Inspection Silt Barrier
- ☒ Weekly Inspection Fish Weir
- ☐ Special Inspection:

Personnel:

Josh Ray
Chris Stillman
Kaios Ryan

Description of Inspection Work Performed Today (List any activities associated with work inspection):

Completed field inspection of South Terminal and CAD Cell #3 exclusion area's fish weir and silt barrier using a pole mounted underwater camera with a remote display on board the survey vessel. The survey vessel navigated along the length of fish deterrent system looking for damages to anchor lines, silt barrier brackets, and silt barrier sewn grommets. The vessel navigated along the fish weir as inspectors looked for anchor tears, tightness (which affects weir height), and bottom chain/weir separation. The fish deterrent curtain has one damaged section at the north east corner of the CAD Cell #3 fish exclusion area.

Tasks Completed:

CAD Cell #3 Area

- **Weir Inspection** ☒
- **Silt Barrier Inspection** ☒

South Terminal Area

- **Offline** ☒
- **Silt Barrier Inspection** ☐

Silt Barrier and Weir Inspection:

CAD Cell #3 Area

Section#	G	S	L	C	A	W	D	Section#	G	S	L	C	A	W	D
1	☒	☐	☐	☐	☐	☐	☐	14	☒	☐	☐	☐	☐	☐	☐
2	☒	☐	☐	☐	☐	☐	☐	15	☒	☐	☐	☐	☐	☐	☐
3	☒	☐	☐	☐	☐	☐	☐	16	☐	☐	☐	☒	☐	☐	☐
4	☒	☐	☐	☐	☐	☐	☐	17	☒	☐	☐	☐	☐	☐	☐
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9	☒	☐	☐	☐	☐	☐	☐	22	☒	☐	☐	☐	☐	☐	☐
10	☒	☐	☐	☐	☐	☐	☐	23	☒	☐	☐	☐	☐	☐	☐
11	☒	☐	☐	☐	☐	☐	☐	24	☒	☐	☐	☐	☐	☐	☐
12	☒	☐	☐	☐	☐	☐	☐	25	☒	☐	☐	☐	☐	☐	☐
13	☒	☐	☐	☐	☐	☐	☐	26	☒	☐	☐	☐	☐	☐	☐

G= Good S=Split Seam L=Lifted From Bottom C=Cut / Ripped A=Anchor Lost W=Weir Misaligned / Damaged D=Anchor Dragged

South Terminal Area

Section#	O	S	L	C	A	W	D	Section#	O	S	L	C	A	W	D
1	☒	☐	☐	☐	☐	☐	☐	14	☒	☐	☐	☐	☐	☐	☐
2	☒	☐	☐	☐	☐	☐	☐	15	☒	☐	☐	☐	☐	☐	☐
3	☒	☐	☐	☐	☐	☐	☐	16	☒	☐	☐	☐	☐	☐	☐
4	☒	☐	☐	☐	☐	☐	☐	17	☒	☐	☐	☐	☐	☐	☐
5	☒	☐	☐	☐	☐	☐	☐	18	☒	☐	☐	☐	☐	☐	☐
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12	☒	☐	☐	☐	☐	☐	☐								
13	☒	☐	☐	☐	☐	☐	☐								

O= Offline S=Split Seam L=Lifted From Bottom C=Cut / Ripped A=Anchor Lost
W=Weir Misaligned / Damaged D=Anchor Dragged

Recommendations

☐ Recs. to Improve Survey Methodology **(CAD Cell / South Terminal** [circle one/both] **):**
(Description)

☐ Recs. to Improve Service / System **(CAD Cell / South Terminal** [circle one/both] **):**
(Description)

☐ Recs. to Improve General System Performance **(CAD Cell / South Terminal** [circle one/both] **):**
(Description)

None

☒ Other
(Description)_____South_Terminal_bubble_curtain_has_been_taken_offline.___
_____
_____
_____
_____

Form : FDS-FMF-01

Date:
____5/28/2013____

Doc #: RCF-FDS-02

NBMCT
SOUTH TERMINAL CONSTRUCTION FIELD MAINTENANCE FORM (FMF)

APEX

Location of Maintenance:

☒ CAD Cell
☐ S. Terminal Area
☐ Other

Work Performed:

☐ Silt Barrier Maintenance
☐ Fish Weir Maintenance:
☐ Bubble Curtain Maintenance:

Personnel:
Cashman/Weeks NB

Description of Maintenance Work Performed During this Maintenance Period (List any activities associated with maintenance).

One section of fish deterrent curtain was removed and replaced..

Tasks Completed:

CAD Cell #3 Area
- **Weir Realignment / Maintenance** ☐
- **Silt Barrier Realignment/ Maintenance** ☒
- **Anchor Alignment / Maintenance** ☐

South Terminal Area
- **Weir Realignment / Maintenance** ☐
- **Silt Barrier Realignment/ Maintenance** ☐
- **Anchor Alignment / Maintenance** ☐
- **Bubble Curtain Maintenance** ☐

Summary of Maintenance Performed (Cad Cell #3 Area):
___ On 5/28/13, at the north east corner of the CAD Cell #3 Fish exclusion area one section of curtain was damaged. The section was replaced with a new section.

Summary of Maintenance Performed (South Terminal Area):
___ No maintenance completed.

Silt Barrier and Weir Maintenance:

CAD Cell #3 Area

Section#	S	B	R	A	W	P	Section#	S	B	R	A	W	P
1	☐	☐	☐	☐	☐	☐	14	☐	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐	☐	15	☐	☐	☐	☐	☐	☐
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12	☐	☐	☐	☐	☐	☐	25	☐	☐	☐	☐	☐	☐
13	☐	☐	☐	☐	☐	☐	26	☐	☐	☐	☐	☐	☐

S=Seam Laced B=Ballast Added/Corrected R=Repaired/Replaced A=Anchor Added W=Weir Repaired / Realigned P=Dragged Anchor Placed in Correct Location

South Terminal Area

Section#	O	B	R	A	W	P	Section#	O	B	R	A	W	P
1	☒	☐	☐	☐	☐	☐	14	☒	☐	☐	☐	☐	☐
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