

State of California  
Regional Water Quality Control Board  
San Diego Region

**REVISED**  
EXECUTIVE OFFICER SUMMARY REPORT  
(December 12, 2007)

ITEM: 10

SUBJECT: NPDES Permit Revision: SeaWorld San Diego. The Regional Board will consider amending SeaWorld's existing NPDES permit to establish waste discharge requirements for discharges of waste from SeaWorld's aerial fireworks displays to Mission Bay, San Diego. (Tentative Addendum No. 1 to Order No. 2005-0091, NPDES No. CA0107336) (Michelle Mata)

PURPOSE: Tentative Addendum No. 1 to Order No R9-2005-0091 NPDES No. CA0107336 would, if adopted, amend Order No. R9-2005-0091 for SeaWorld San Diego to establish waste discharge and monitoring requirements for their aerial fireworks displays over Mission Bay.

PUBLIC NOTICE: A Public Notice of this agenda item was published in the San Diego Union Tribune on November 8, 2007, for the Board Meeting scheduled for December 12, 2007. Copies of the tentative Addendum No. 1 were mailed out on November 2, 2007 to SeaWorld and to all known interested parties and agencies. The tentative Addendum was made available for public review via the Regional Board web page on November 5, 2007.

DISCUSSION: On October 23, 2007, SeaWorld San Diego submitted a Report of Waste Discharge (RWD), prepared by Brown and Caldwell, for an Amendment to Order No. R9-2005-0091, NPDES Permit No. CA0107336 for the discharge of wastes from SeaWorld's aerial fireworks displays over Mission Bay.

Fireworks displays have been a part of SeaWorld entertainment since 1968. From 1968 to 1985, fireworks were used for special events. In 1985, the frequency of fireworks displays increased to nightly from mid-June through Labor Day, and since 1997, the schedule has expanded to include three additional weekends starting Memorial Day weekend. Fireworks displays are also

conducted for special events, private parties and celebrations. The SeaWorld Master Plan Update, which was approved by the Coastal Commission in 2001, allows up to 150 shows per year. Currently the park averages between 110 and 120 shows per year.

The average fireworks show lasts 5 to 6 minutes and dispenses approximately 250 shells; special events, such as the 4th of July and New Year's Eve, may dispense between 1,000 and 1,750 shells. Fireworks are launched from a barge moored in the Pacific passage Zone of Mission Bay, between Fiesta Island and the SeaWorld shorelines. SeaWorld subcontracts the logistics of fireworks, operations, transportation, setup, ignition and cleanup to Fireworks America, a licensed pyrotechnics company based in Lakeside, CA.

There have been concerns over the possible environmental effects of fireworks displays on sediment and water quality. Constituents of concern include aluminum, magnesium, strontium, barium, sodium, potassium, iron, copper, sulfate, nitrate and perchlorate. These fireworks constituents have a potential to adversely impact and/or contribute to degradation of water and sediment quality within Mission Bay. In addition, debris from unexploded shells as well as paper, cardboard, wires and fuses from exploded shells can also adversely impact the quality within Mission Bay. The area affected by these debris can vary depending on wind speed and direction, size of the shells, height of the explosion, and other environmental and anthropogenic factors.

SeaWorld conducted annual fireworks related monitoring of sediment and water quality parameters between 2001-2006 as part of a Coastal Commission permit requirement. The final monitoring report prepared for SeaWorld, by Science Applications International Corporation, concluded that there were no significant spatial or temporal patterns in concentrations of critical metals in sea water or sediments in Mission Bay. It was also concluded that there is no indication of fireworks residue accumulation in the water or sediment of Mission Bay.

If adopted, Addendum No. 1 would establish waste discharge requirements (WDRs) for discharges of waste from SeaWorld's aerial fireworks displays to Mission Bay,

San Diego. The WDRs include monitoring of water quality, sediment and benthic infauna for fireworks related constituents.

Comments have been received from SeaWorld San Diego **and Ms. Ariadna Wall**. ~~A written Responses to Comments document and an Errata sheet will be included in the Supplemental Agenda Package.~~ **A written Responses to Comments document and an Errata Sheet have been prepared and provided to interested parties by email and through regular mail in a letter dated December 7, 2007. The Responses to Comments documents and Errata Sheet are included in this supplemental mailing.**

KEY ISSUE:

1. Although the tentative Addendum includes a monitoring and reporting program designed to assess the potential adverse effects of fireworks related constituents on water quality, sediment and benthic infauna, the monitoring requirements may need to be revised after review of the data submitted to ensure that the program is adequate.
2. It is uncertain whether the current BMP's are sufficient in reducing impacts of fireworks related debris on water quality, sediment and benthic infauna. The BMP's will be reviewed periodically to evaluate their effectiveness and to determine if additional measures or changes to the current measures are needed.

LEGAL CONCERNS:

None.

SUPPORTING DOCUMENTS:

1. Map
2. Transmittal letter for Tentative Addendum No. 1 to Order No. R9-2005-0091, NPDES No. CA0107336.
3. Tentative Addendum No. 1 No. R9-2005-0091, NPDES No. CA 0107336.
4. Order No. R9-2005-0091, NPDES No. CA0107336
5. Comment letter from SeaWorld San Diego dated November 28, 2007. **(Color copies of the maps submitted with these comments are available upon request or on the Regional Board website)**
6. **Comments from Ms. Ariadna Wall dated December 4,**

**2007**

**7. Regional Board Transmittal Letter and Response to Comments Document dated December 7, 2007.**

**8. Errata Sheet**

SIGNIFICANT  
CHANGES:

The tentative Addendum would establish requirements for the SeaWorld aerial fireworks which were previously not regulated by the Regional Board.

COMPLIANCE  
RECORD:

N/A – The discharge of fireworks wastes from SeaWorld has not previously been regulated by the Regional Board and, therefore, no compliance record has been established.

RECOMMENDATION(S): Adoption of Tentative Addendum No. 1 to Order No. 2005-0091, NPDES No. CA 0107336 is recommended.