PSN: 43-P0232

**** CEU PROVIDENCE TRIP REPORT ****

Place(s) / Date(s) of visit:

Greens Ledge Light) 9 December 1993
Peck Ledge Light
Penfield Reef Light
Stratford Point Light

Attendance:

LT D. C. Ressel	CEU Prov.
EM1 Tarpey	ANT LIS
ET1 Doyal	ANT LIS

Purpose of visit:

1. Site visit to plan caisson repairs to Greens Ledge Light, PSN 43-P0232.

2. Biennial evals on the four lights listed above.

Description of facility:

1. Greens Ledge and Peck Ledge Lights are 'spark plug' lights, with iron/concrete/brick caissons and steel towers, sorrounded by riprap.

2. Penfield Reef is a granite house on a granite foundation surrounded by riprap.

3. Stratford Point is located ashore and is a cylindrical steel tower with a detached keeper's dwelling and fog signal building.

Discussion:

1. The SSMR for Greens Ledge Light was generated in 1980 and requested an evaluation of the banding installed on the caisson. The banding was installed due to "previous cracking" of the caisson, and the SSMR suggested that additional, new banding might be needed due to deterioration of the original bands.

2. This was my second trip to Greens Ledge this year and neither time have I felt that the caisson had any serious problem with cracking. Its condition is typical for caissons of this type, in fact Greens is in better condition than many of our caissons. The outer iron plates have corroded along the joints between plates, creating cracks in a few areas. In one location, a plate had cracked around its edges on three sides and sprung out from the surrounding plates. The gap created by this had been effectively patched in the past.

3. I did not see any need for the three bands that were installed around the caisson, nor any need for new banding. The only serious crack was in the one area described above, and it

has not worsened in all the years since it was patched. An examination of the interior of the caisson's basement area revealed only a couple minor, vertical cracks in the interior brick lining. This does not indicate any serious tendency for the caisson to crack and spread outward, the only condition the banding would prevent. These caissons typically contain 4-6 feet of concrete inside the outer iron plates, and I do not consider minor cracking like this to be unusual or indicative of serious structural deficiencies. The existing bands are heavily corroded, and look like they would've broken apart if the caisson were trying to crack and expand.

4. The primary work needed is a project to blast, seal and re-paint the caisson. The iron plates have large areas of corrosion, and the minor cracks described above (see photos). The remaining areas of the lighthouse are in satisfactory condition. The paint on the steel tower looks old, but overall it is holding up well.

5. I conducted biennial evals at all four lights listed. Evaluation reports have been filled out and forwarded along with recommended action items and several SSMRs to Rick Kasper (GRU LIS CEC). These will be forwarded to Group LIS separately by Rick Kasper.

6. While transiting in and out of Norwalk Harbor, we noticed several light towers whose concrete block foundations are deteriorating. They have some spalling and large cracks; patching all of them in one project would be fairly economical, but if not repaired they will deteriorate to the point where they'll need replacing at far greater cost.

Action recommended and action person(s):

1. Complete PSN 43-P0232 as scheduled, but reduce the scope to include only blasting, sealing, and painting of the caisson (CEU Prov).

2. Submit one SSMR to repair four concrete block foundations for lights in the Norwalk vicinity (as indicated on enclosure (2)). Include the RPFN for all four lights on the SSMR (ANT LIS).

3. Other future action items and SSMRs are included in the eval reports which will be forwarded separately.

Distribution:

CCGD1(oan, dpl)
GRU LIS
ANT LIS

Preparer signature and date

D.C. Ressel

D.C. Ressel, LT

Command Review:
(Prior to Distribution)

Expand scope to paint entire LT to paint

Command signature and date

J. A. Florin 12/27

CDR, USCG

Enclosures: (1) Photos
(2) Chart of Norwalk area