

CPVEC

ADEC CPVEC preliminary request for supplemental information RCL CEL SRE Report

Subject: SRE Report 1 14 2009 RCL CEL

Contact: Rich Pruitt RCL CEL

Reference: Information RCL CEL SRE Annual Report 1 14 2009

Vessels: RCL CEL Fleet

Prepared by: Albert Faure.

Date: January 27, 2009.

To: Rich Pruitt

Dear Mr. Pruitt:

With reference to your annual SRE Report sent to us on January 14, 2009 (SRER), please find the preliminary list with questions.

ADEC CPVEC is pleased to see the efforts RCL CEL put in the SRE reporting and associated evaluation of the systems.

In case of questions, please contact me or Ed White.

Kind Regards,

Albert Faure
CPVEC Program Engineer

Attachment: *Preliminary Questions ADEC RCL CEL SRE Report 1 14 09*

Preliminary Questions

General: This review includes the review of RCL CEL SRE report submitted to ADEC CPVEC on 1 14 2009 (SRER).

ADEC used as reference document the approved SRE of August 19, 2008 (approved SRE) (on file ADEC CPVEC).

- The SRER mentioned that that RCCL CEL (RCL) focus is on the Serenade of the Seas because this vessel will discharge in Alaska waters. ADEC likes to remind RCL that all the vessels that are operating under the General Permit are submit to the permit conditions that include the SRE reporting requirements and inclusion of these vessels in the SRER and future reporting. RCL needs to provide / include for all the permitted vessels specific strategies / operations (if applicable).
- Page 6: “after we know we can better determine...” - Provide in your response the response sheet from the vendors as per January 14, 2009. Also provide a time line and planning when RCL completes this item.
- Page 6: ADEC understands there is large number of potential products; provide in your response the product inventory list and RCL steps taken to date what was done in 2008 and RCL plans for the 2009 season. The response should also include the carpet cleaners, which RCL identified in the Aug 2008 SRE plan.
- Page 7: Source water evaluation: Provide in your response the actions taken in 2008, and RCL strategies, like bunker strategies, tank dedication, etc.
- Page 7: RCL consulted their engineering department. Provide the responses from this action.
- Page 9: includes an impressive overview of piping replacement on the vessels. Provide in your responses for each vessel:
 - Why was all this plumbing replaced on these vessels?
 - Does the replacement include fittings, valves, pumps, impellers etc?
 - Was the root cause identified why the piping needed to be replaced after a few years of use?
 - What materials were used (replacements)
 - Was this corrosion related triggered replacement? Are corrosion controls on board?
 - In the SRER verbiage was included “replace as necessary”, how is the “necessary replacement: determined? How is RCL systematically finding “trouble spots” in the plumbing systems? What causes the troubles? (e.g. the medium, chemical use, materials, galvanic corrosion? Just to name a few)
 - Time line and plan of attack to identify the caused / evaluation plan to be included in detail.
- RCL includes a description of the on board produced potable water. Provide characterization of the “home made” potable water for each vessel. Technical water appears to be used as well more information regarding this water is needed and its use on each vessel.

Form: 2008QuSRE11409

Y:\Projects\Adec\Science Advisory Panel\Vessel Source Reduction Plans\New RCL CEL\1 27 09 ADEC RCL CEL Preliminary Questions SRE 1 14 2009 Rev 0.doc

- Page 11: “A forecast for potable water sourcing for 2009” is being developed by the ships. Provide in your response for each vessel this forecast plan. We understand that this may not be completed, provide the forecast as per January 26, 2009.
- Page 7: 2008-2009 winter season will used to include evaluating the Technical water and HVAC water. Provide in your response for each vessel:
 - Actions taken in 2008 season and to date;
 - Is on board sampling identification performed on these streams? If sampling results are obtained provide results.
 - RCL plan for the 2009 season time line and “plan of attack”. ADEC understood that RCL will provide this evaluation by March 31, 2009, however ADEC requests to see an overview of the actions taken to date.
- Tanks, Tank coatings, warm water heaters etc, Are these part of the equipment evaluated?
- RCL SRE identified that potable waters may be “corrosive” aggressive what are the characteristics of the potable water produced on board? What are the characteristics of the technical waters?
- RCL includes water production per day, what is (per vessel) waste-water volume production per day?
- RCL included in the SRER an extensive description of Ammonia removal controls and metal controls, however this useful information is not brought in “correlation” with the vessels. Provide detailed information for each vessel:
 - What actions has RCL taken to date regarding the Ammonia control / reduction? This may include Vendor recommendations, additives etc.
 - What actions RCL took to date regarding the metal controls / reduction and related installation upgrade/update evaluations. This may include vendor recommendations, additives, add on controls etc.
- Page 17: RCL includes verbiage about a pilot study in the Spring of 2009 of certain technologies. Provide information regarding the Vendor discussed technologies.
- “RCL looks forward to obtain any information from the workshop”. Provide a preliminary time line and action plan in case RCL identifies a promising control technology for the vessels, and how RCL would follow up on such technology.

The goal is that the Department has all the relevant SRE reporting information regarding on file for future reference.

We are looking forward to RCL CEL’s response.