

Action code: AT FIRST OPPORTUNITY

**Regular dp-RTV and RTV position check of SCR installations**

SL2022-727/JSST  
August 2022

**Concerns**

Owners and operators of MAN B&W two-stroke marine diesel engines.  
Type: MC/MC-C and ME/ME-C

**Summary**

Frequent check of dp-RTV value and RTV position in HP-SCR engines

Dear Sir or Madam

It has come to our attention that there is a potential risk if the reactor throttle valve (RTV) is kept open for prolonged periods. Normally, when opening the RTV, it will pressure-equalise the SCR side compared to the engine side, and close again after 90 seconds. However, if the dp-RTV pressure (dp= differential pressure) stays above the specified opening limit, the RTV will be kept open continuously.

Early designs with smaller copper pipes connected to the dp-sensor (PDT6615) sometimes get clogged, resulting in high dp-readings (above 0.3 bar in most installations). This causes the RTV to open even though there might not be an actual pressure difference.

In order to avoid this situation, we have introduced a new alarm in the latest software. However, for the older existing versions we encourage the crew to keep an eye on the dp-RTV and RTV position regularly. If the RTV is allowed to stay open for long periods during Tier II running, there is a risk that sulphuric condensation will take place in the reactor if exhaust gas passes through the RTV and into the colder reactor.

If you have any further questions, contact OperationEmissionTechnology2S@man-es.com.

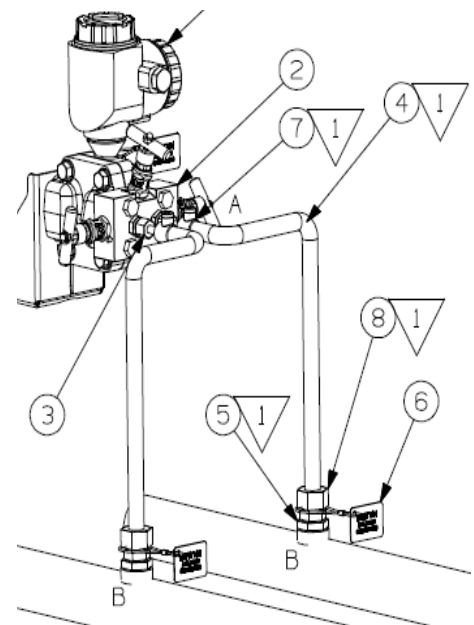
Yours faithfully



**Mikael C Jensen**  
Vice President,  
Engineering, Two-Stroke



**Stig B Jakobsen**  
Senior Manager,  
Operation, Two-Stroke



**Head office (& po. address)**  
**MAN Energy Solutions**  
Tegholmegade 41  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 30  
info-cph@man-es.com  
www.man-es.com

**PrimeServ**  
Tegholmegade 41  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 49  
PrimeServ-cph@man-es.com

**Production**  
Tegholmegade 35  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 17  
manufacturing-dk@man-es.com

**Forwarding & Receiving**  
Tegholmegade 35  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 16  
shipping-cph@man-es.com

**MAN Energy Solutions**  
Branch of MAN Energy Solutions  
SE, Germany  
CVR No.: 31611792  
Head office: Tegholmegade 41  
2450 Copenhagen SV, Denmark  
German Reg.No.: HRB 22056  
Amtsgericht Augsburg

**Software 1909-2.9 and older**

It is recommended to inspect the dp-RTV and the position of the RTV on a weekly basis. If the dp-RTV is higher than the predefined value (usually 0.2-0.3 bar at stable load when in Tier II mode), the RTV should be opened to pressure-equalise. If the pressure does not decrease and the valve does not close again within 90 seconds, dismantle the copper pipes to the dp-sensor for cleaning, and check that the sensor membrane is clean. If the problem persists, contact MAN Energy Solutions for further troubleshooting at [OperationEmissionTechnology2S@man-es.com](mailto:OperationEmissionTechnology2S@man-es.com)

If the valve is already open at the initial check, a reactor inspection is highly recommended.

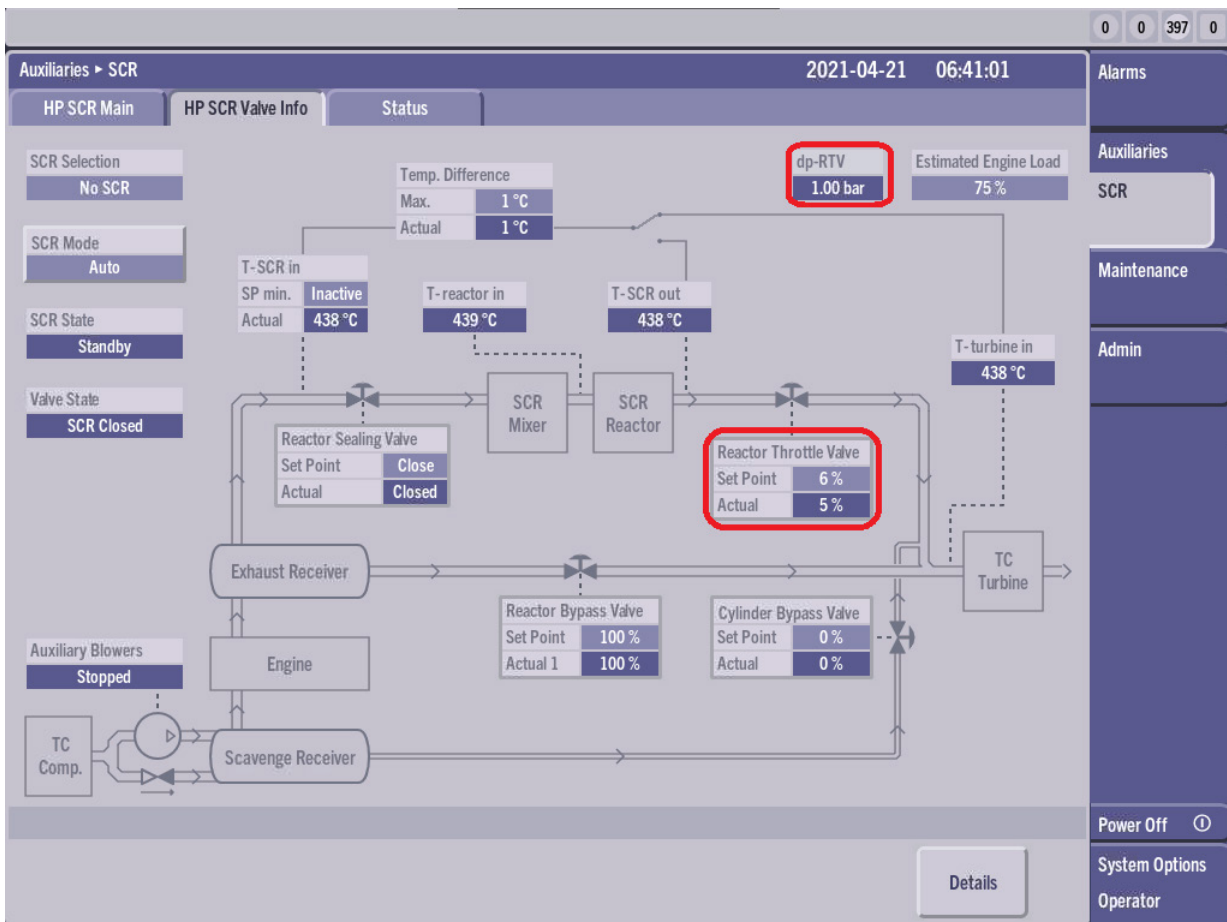


Fig. 1: dp-RTV is above specified opening value and RTV is given 6% SP open signal

**Software 2011-1.11 and newer**

If the dp-RTV is higher than 0.3 bar or below -0.3 bar while the RTV is more than 4% open, an alarm will notify the crew after a minute that something is wrong.

ID	SCRCU-HS16A
Synopsis	dp RTV deviating, RTV open
Data Tree Path	SCRCU->Supervision->HP SCR supervision->dp RTV deviating, RTV open suprv.->dp RTV deviating, RTV open
Long Description	dp-RTV deviates from zero even though RTV is open.
Cause	- dp RTV sensor failure. - RTV failure
Effect	- No immediate effect. - SCR system cannot be re-engaged.
Suggested Action	- Check dp-RTV sensor. - Check RTV.

Table 1: Alarm text that will be displayed in case dp-RTV does not decrease after RTV has been open for a minute or longer

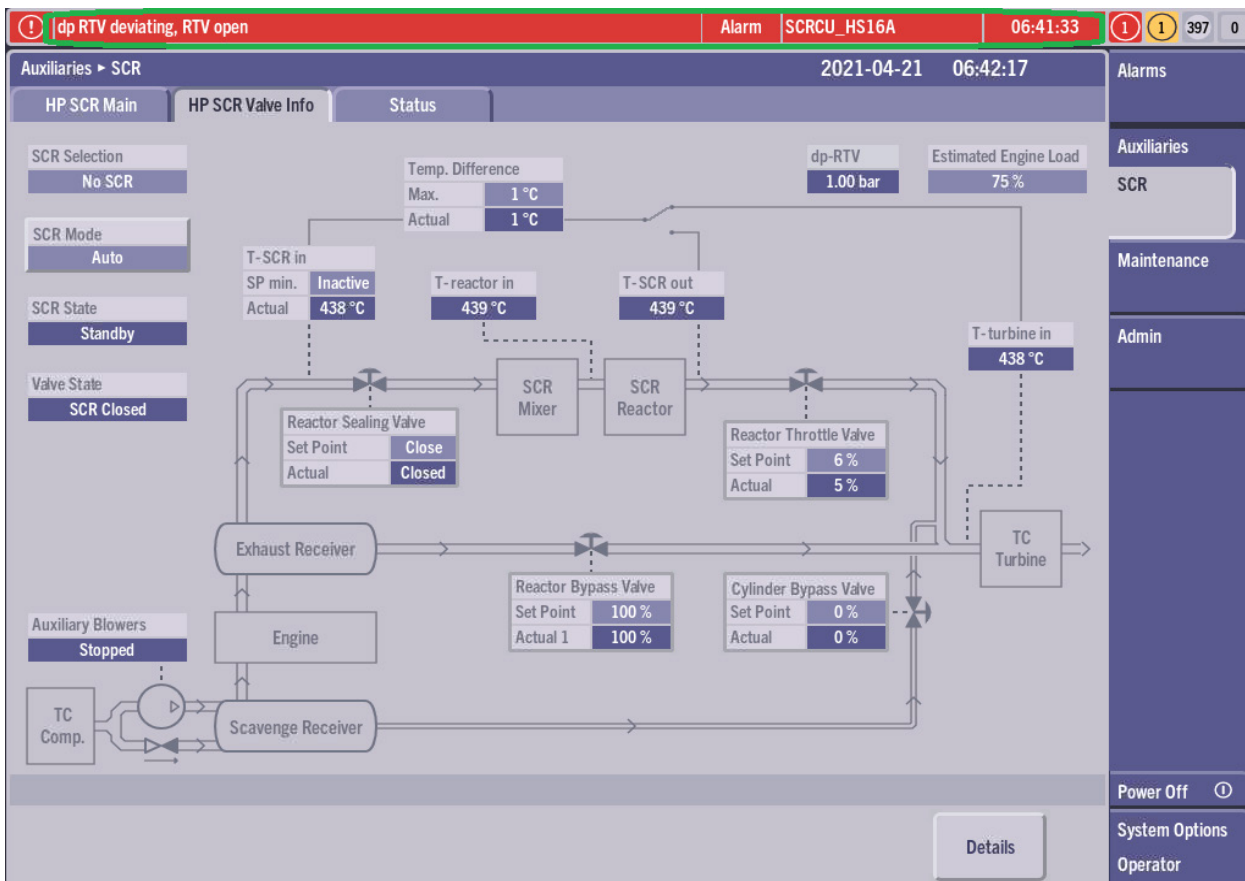


Fig. 2: In SW 2011-1.12, and later, the active alarm will be visible in case dp-RTV does not decrease after RTV been open for a minute or longer