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EnCana Energy Efficiency

Low Bleed Level Control

Presented by:
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WellMark Mizer Low Bleed Level Control

- Selected a separator with a Cemco snap acting dump controller and a Cemco throttling dump controller

WellMark Mizer Low Bleed Level Control

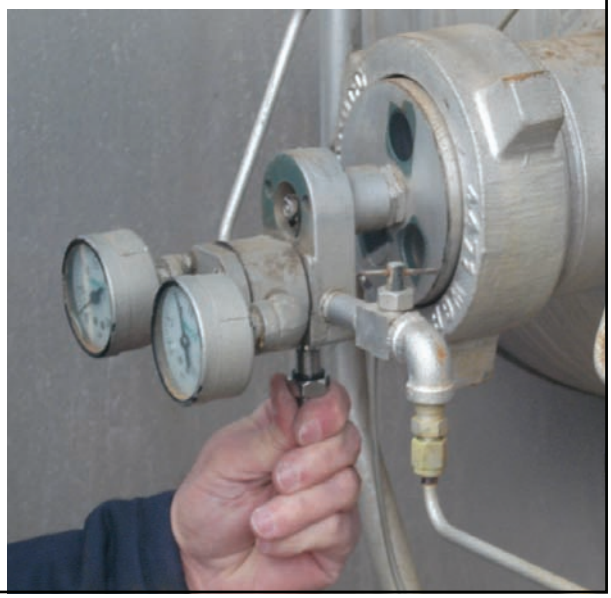
- Filmed the control with the FLIR camera

WellMark Mizer Low Bleed Level Control

- Tested and measured the gas bleed with Hi-Flow sampler

WellMark Mizer Low Bleed Level Control

- Replaced the traditional Cemco pilot valve with the Mizer pilot valve



WellMark Mizer Low Bleed Level Control

- Filmed the control with the FLIR camera after changing out the pilot valve

WellMark Mizer Low Bleed Level Control

- Tested and measured the gas bleed with Hi-Flow sampler after changing out the pilot valve

WellMark Mizer Low Bleed Level Control

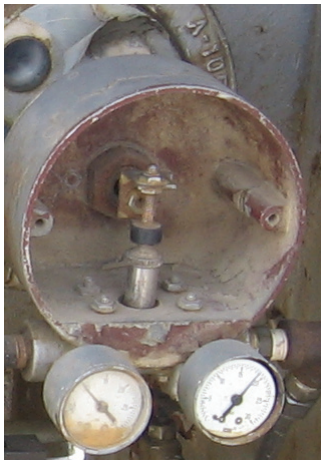
- Leak rate on traditional Cemco pilot valve for the Snap Acting valve was 7.9 liters per minute, which calculates to 147 mcf per year
- Leak rate on traditional Cemco pilot valve for the Throttle valve was 7.6 liters per minute, which calculates to 142 mcf per year

WellMark Mizer Low Bleed Level Control

- Leak rate on Mizer pilot valve for the Cemco Snap Acting valve was 0 liters per minute.
- Leak rate on Mizer pilot valve for the Cemco Throttle valve was 0 liters per minute.

WellMark Mizer Low Bleed Level Control

- Selected a separator with a InValco snap acting dump controller and a InValco throttling dump controller



WellMark Mizer Low Bleed Level Control

- Filmed the control with the FLIR camera

WellMark Mizer Low Bleed Level Control

- Tested and measured the gas bleed with Hi-Flow sampler

WellMark Mizer Low Bleed Level Control

- Leak rate on traditional InValco pilot valve for the Snap Acting valve was 5.4 liters per minute, which calculates to 100 mcf per year
- Leak rate on traditional InValco pilot valve for the Throttle valve was 10.2 liters per minute, which calculates to 190 mcf per year

WellMark Mizer Low Bleed Level Control

- Replaced the traditional InValco pilot valve with the WellMark Mizer Low Bleed pilot.

WellMark Mizer Low Bleed Level Control

- Filmed the control with the FLIR camera after changing out the pilot valve

WellMark Mizer Low Bleed Level Control

- Tested and measured the gas bleed with Hi-Flow sampler after changing out the pilot valve

WellMark Mizer Low Bleed Level Control

- Leak rate on Mizer pilot valve for the InValco Snap Acting valve was 0.8 liters per minute, which calculates to 15 mcf per year.
- Leak rate on Mizer pilot valve for the InValco Throttle valve was 0 liters per minute.

WellMark Mizer Low Bleed Level Control Results

- Changing out the Cemco snap acting pilot saved 147 mcf per year or $949 ($6.45 / mcf)
- Changing out the Cemco throttling pilot saved 142 mcf per year or $915 ($6.45 / mcf)
- Changing out the InValco snap acting pilot saved 86 mcf per year or $553 ($6.45 / mcf)
- Changing out the InValco throttling pilot saved 190 mcf per year or $1,224 ($6.45 / mcf)

Other tests

- Texsteam 5000 series methanol pump usage was 49.8 liters per minute or 924 mcf per year (365 days), or 384 mcf for a 5 month period!
- Graco heat trace pump – could not measure with the equipment that we had.
- Tested Mallard non bleed controller, 0 liters per minute.