

**From:** Keith.McGregor@CH2M.com  
**Sent:** Tuesday, July 13, 2010 5:37 PM  
**To:** Brenda Cabral  
**Cc:** Madhav Patil; b.buchynsky@dgc-us.com; Jerry.Salamy@CH2M.com; c.curry@dgc-us.com; g.normoyle@dgc-us.com  
**Subject:** RE: Total Circuit Breakers and SF6 Usages  
 Good Afternoon Brenda,

Please see attached email response from Mariposa Energy's design engineer. Based on the best information available at this time, the switch gear will be hermetically sealed. As defined in the ARB guidance cited below, it is assumed that hermetically sealed switch gear is designed to be gas-tight and sealed for life. Therefore, because the circuit breaker will be sealed and Mariposa Energy will not be storing SF6 onsite for recharging the circuit breaker, the SF6 leakage rate is expected to be negligible. However, in order to conservatively estimate an annual emission rate, Mariposa Energy proposes an annual leakage rate of 0.1 percent per year based on the attached EPA technical paper "SF6 Leak Rates from High Voltage Circuit Breakers – U.S. EPA Investigates Potential Greenhouse Gas Emissions Source".

Please let me know if you have any additional questions regarding SF6 emissions.

Thank you,

*Keith McGregor*  
 Associate Project Manager  
 CH2MHILL  
 2485 Natomas Park Drive Suite 600  
 Sacramento, CA 95833  
 Direct: (916) 286-0221  
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**From:** Brenda Cabral [mailto:BCabral@baaqmd.gov]  
**Sent:** Wednesday, July 07, 2010 11:26 AM  
**To:** McGregor, Keith/SAC  
**Cc:** Madhav Patil  
**Subject:** FW: Total Circuit Breakers and SF6 Usages

-----Original Message-----

**From:** Brenda Cabral  
**Sent:** Wednesday, July 07, 2010 11:13 AM  
**To:** 'Keith.McGregor@CH2M.com'  
**Cc:** Madhav Patil; 'Jerry.Salamy@CH2M.com'; 'Doug.Urry@CH2M.com'; 'b.buchynsky@dgc-us.com'  
**Subject:** RE: Total Circuit Breakers and SF6 Usages

Keith: What is the expected SF6 leakage rate? You probably know that there is a proposed ARB regulation for SF6 leakage at:

<http://www.arb.ca.gov/regact/2010/sf6elec/appa.pdf>

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-----Original Message-----

**From:** Madhav Patil  
**Sent:** Wednesday, July 07, 2010 11:07 AM  
**To:** Brenda Cabral  
**Subject:** FW: Total Circuit Breakers and SF6 Usages

Hi Brenda,

Mariposa Energy has replied regarding SF6 usages and the total breakers. Attached is the e-mail from Keith

Madhav

-----Original Message-----

**From:** Keith.McGregor@CH2M.com [mailto:Keith.McGregor@CH2M.com]  
**Sent:** Wednesday, July 07, 2010 9:46 AM  
**To:** Madhav Patil  
**Cc:** Jerry.Salamy@CH2M.com; Doug.Urry@CH2M.com; b.buchynsky@dgc-us.com  
**Subject:** MEP: Total Circuit Breakers and SF6 Usage

Good Morning Madhav,

Mariposa Energy has confirmed that there is only one gas filled breaker for this project and that the amount of SF6 in the breaker model referenced for the conceptual design is 150 lbs when fully charged. All of the lower voltage breakers are vacuum breakers.

Let me know if you have any additional questions regarding the GHG emissions.

Thank you,

*Keith McGregor*  
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