

## Flow measurement of V-notch weir

*'In addition to the SatVUE solution minimalising potential safety concerns, the organisation immediately obtained significant improvements to their operational procedures due to improved data visibility.'*



Typically installed in open channels, the function of a V-notch weir is to determine discharge (flow rate) from a body of water, such as a dam or stream.

The basic principle in determining the flow rate is that the discharge of water is directly related to the water depth above the crotch (bottom) of the V; this distance is called head (h).

Due to the V-notch design, even small changes in discharge cause a large change in depth allowing more accurate head measurement.

Further calculations are also factored in such as open channel flow rate and the average depth between the streambed and base of the weir crest (P).

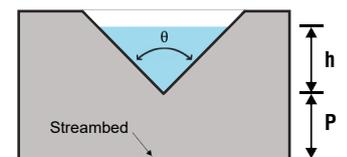
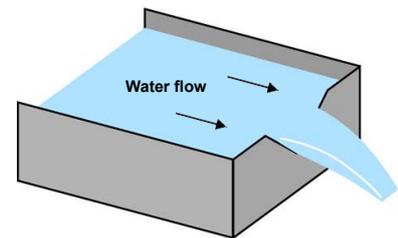
### Improving operational efficiency

A large North QLD power station were seeking ways to improve Workplace Health & Safety procedures, and operational efficiency, when it comes to V-notch weir flow monitoring on their dams.

Previously, the workers had been using boats to access V-notch weirs to manually conduct level measurements in order to calculate flow rates.

This was deemed to be an unnecessary safety risk due to potential instability when navigating small vessels to obtain manual level measurements.

It was also very cost-prohibitive due to the number of sites that had to be monitored.



V-notch Weir



## Technology that delivers - remotely!

Investigations by the power station into an automated, more cost-effective and ultimately safer method of obtaining this information lead them to the *SatVUE Smart Remote Monitoring Solution*.

By installing a SatVUE and submersible level sensor at one of the V-notch weir locations, level measurements are obtained and transmitted at hourly intervals, via satellite communications.

With the SatVUE programmed to also calculate the flow rate, this data can be viewed both 'back at base' and offsite via a remote web portal.

## Alert capabilities ensure timely response

Alarms have also been programmed into the SatVUE system enabling email alerts to be sent to site staff should any pre-determined should any thresholds be breached.

## The Result?

In addition to the SatVUE solution minimising potential safety concerns, the organisation immediately obtained significant improvements to their operational procedures due to improved data visibility.

This will ultimately result in more effective and timely responses to any issues that could potentially arise.

They are now looking to implement the SatVUE system across multiple sites that they operate from.

## The Benefits

- peace of mind that Workplace OH & S requirements are being met
- improve operational efficiency and provide greater visibility
- custody of data and minimisation of data transposition errors
- remote access from any web-enabled device
- ease of installation



*The solution is to be rolled out across a number of sites*



*Satellite communications ensure reliable remote access*

## Have other applications? Due to its flexible sensor integration the SatVUE solution is ideal for monitoring

**Water** - ground, surface, waste, irrigation, bores, tanks, turkey's nests, pipelines, channels, streams or dams for levels, quality, evaporation, flow & pressure; seawater for quality, currents & tides

**Air** - for dust, gases, temperature, humidity, pressure, solar radiation, wind speed & direction

**Soil** - for moisture & contaminants

**Oil, gas, & other fluids** - in pipelines and tanks for levels and pumps for status & control & more!



*Monitor Multiple Sites via a single Remote Web Portal*



## Sales Enquiries

+617 3361 2000  
[www.satvue.com.au](http://www.satvue.com.au)  
[info@satvue.com.au](mailto:info@satvue.com.au)