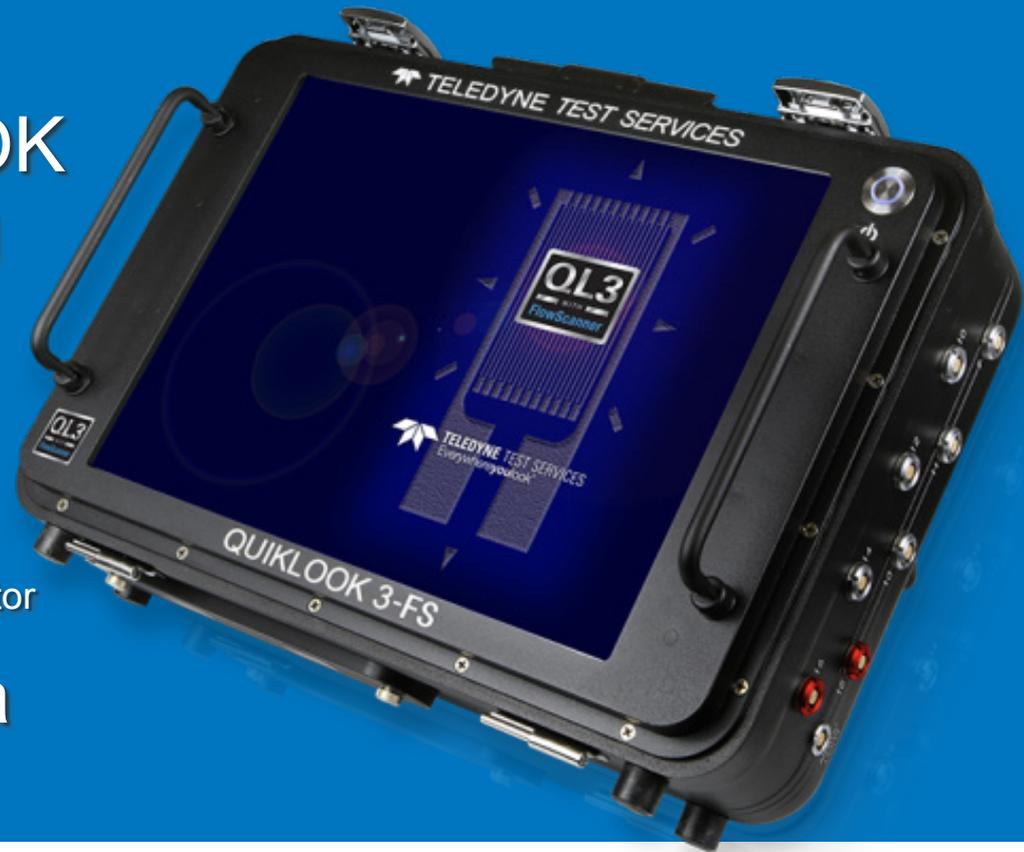


# Ninth Annual QUIKLOOK Users Group Meeting

Marion, MA  
August 19 & 20th, 2015

Presented by:  
Joe Santangelo – Marketing & Technical Director

## MOVs & AOVs in Asia



**TELEDYNE TEST SERVICES**  
Everywhereyoulook™

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多谢合作

景星酒店

2013-2-26

## Warm Notice

Dear Guest:

Welcome to our Star Hotel, please obey the Chinese rules during your staying in our hotel. Do not take drugs and go whoring.

Thank you for your co-operation

Star Hotel

2013-2-26

二〃注意

尊敬するお客様:

拜啓! 二〃滞在いただきまして、どうもありがとうございます

- 12 Plants under construction
- All Westinghouse AP1000 (Advanced Passive)
- 50% less safety related valves
- 80% less piping
- 85% less cable
- Haiyang Site 6 reactors
- Sanmen Site 6 reactors
- About 16,000 megawatts total

- Westinghouse did a technology transfer to the Chinese for AP1000
- Signed contract with Westinghouse
- Cannot market the AP1000 outside of China
- Scaled up the AP1000 to AP1400
- Marketing AP1400 outside of China

Performing setup sheets for MOV testing

Just beginning using Midas

Testing has been slow

Not many diagnostic systems at plant

All valves have been tested with Quiklook  
at manufacturer



Haiyang is a few months behind  
Sanmen

No MOVs valves have been  
tested

AOVs are getting close to be  
tested



- China has 26 operating plants
- 25 plants are under construction
- 13 of these are EPR-1000
- Plans to triple nuclear capacity by 2030
- Testing Valves is a hard sell
  - There are no requirements
  - No design basis criteria

## 4 – EPR-1000 Plants

Unit 1 ready for start-up  
October 2015

Tested AOVs with  
Flowscanner

No MOV testing



Valve techs very eager to learn about valve diagnostics

Very advanced training facilities



## Spectacular Nuclear Site

9 – ERP Plants



- 4 Nuclear Sites
  - Chinshan – 2 GE 640 Megawatt BWR - 4
  - Kousheng – 2 GE 985 Megawatt BWR - 6
  - Maanshan – 2 Westinghouse 950 PWR
  - Lungmen – 2 GE 1,350 Megawatt ABWR
  
- MOV Programs
  - All 4 sites have an MOV Program
    - Chinshan, Maanshan and Kousheng MOV Program developed by Teledyne
    - Lungmen MOV Program by others
  
- AOV Program
  - Only Lungmen has an AOV Program
  - Program developed by Teledyne
  - All AOVs tested by Teledyne

- Chinshan Nuclear Plant
  - Unit 1 shut down, Unit 2 operational
  - Unit 1 shutdown may be permanent
  - Has GL 89-10 Program
  - No AOV Program
  
- Kousheng Nuclear Plant
  - Unit 1 & 2 are operating
  - Has GL 89-10 Program
  - No AOV Program
  
- Maanshan Nuclear Plant
  - Unit 1 & 2 are operating
  - Has GL 89-10 Program
  - No AOV Program
  
- Lungmen Nuclear Plant
  - Unit 1 & 2
  - Cancelled – Political Climate
  - Has GL 89-10 Program
  - Has AOV Program



Lungmen – Unit 1 - 100% Complete  
Unit 2 - 95%

## Chinshan Nuclear Plant – Same as Fukushima



Kousheng Nuclear Plant



Maanshan Nuclear Plant



What is it ??????



# Paris France!!!!



# Any Questions?

## THANK YOU



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