NOMINATION FORM

OPS-INFRA

H. R. LABOUNTY SAFETY AWARD PROGRAM

AGENCY: **Santa Fe Irrigation District**

Employee Nominated:

Name: **Jim Gingrich**

Job Classification: Electrical & Instrumentation Technician

Reason for Nomination: Jim Gingrich is the Electrical & Instrumentation Technician at the Santa Fe Irrigation District, R. E. Badger Filtration Plant located in Rancho Santa Fe, California.

In September 2013, the R. E. Badger Filtration Plant incurred a loss of commercial power which caused a filter control failure. This failure resulted in the uncontrolled release of 18 million gallons of water which exceeded the design capacity of the wash water basins. The overflowing water caused thousands of dollars damage to a horse farm adjacent to the District property.

Santa Fe Irrigation District conducted an incident investigation and determined that the filter Programmable Logic Controller (PLC) faulted upon loss of commercial power. The PLC controls the operation of the six filter effluent valves. The filter effluent valves are programmed to shut locally on loss of power or a PLC failure. They did. The problem was that there was 18 million gallons of water coming into the plant and there was no means to divert the water and no manual control of the effluent valves.

Mr. Gingrich determined that the filters required independent and manual controls of the effluent valves that would bypass the PLC if it were to fail. He designed and installed six new effluent valve control panels that are fully integrated into the PLC control in auto and completely isolated and independent of the PLC in manual. The design uses a potentiometer and 4-20ma Universal Signal Conditioner to control the valve.

To aid the Treatment Operators when emergency operating procedures require taking local control of the filters at the filter control room, he enhanced the visual indicators by installing new large digital displays that display effluent valve position feedback, turbidity, filter level, and loss of head. This allows the Treatment Operator the ability to view all six filters for one position when operating the filters locally in the filter control room.

The response from the treatment plant operators has been outstanding and they have voiced a sense of relief knowing that they can control the filters if the PLC were to fail in the future.

This enhancement has greatly improved the plants operational practices and reduced any further risk to equipment or property if such a failure were to occur again.

Thanks to Jim Gingrich's vast experience and innovative thinking, this project increased the Santa Fe Irrigation District, R. E. Badger Filtration Plant's emergency operations capabilities and reduced the risk

damages in the event a commercial power failure. Mr. Gingrich represents the highest engineering standards and excellence of Santa Fe Irrigation District.

Nominated by: **Rocky A. Hughes, Safety Officer**

Signature:

Date: **2/27/2014**

Reviewed by: **Cor Shaffer, Operations Manager**

General Manager: **Michael Bardin**

Date: **3/17/2014**

Please attach supporting documents and/or digital photos and E-mail to:

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140
601
0021
198


Eff. Valve Position 0-100%
14.0
Valve Control
Auto
Filter Level Feet
6.02
Turbidity 0-2.5 NTU
0.021
Loss of Head 0-14 Feet
1.98
1

From: Peter Kuchinsky
To: Terry Lofing; Lee Patton
Cc: John Haaf
Subject: RE: HR LaBounty Safety Awards - Santa Fe Irrigation - Submission #5
Date: Monday, September 15, 2014 6:07:53 PM

They have emergency power, however the problem was being able to see and control critical systems throughout the Plant with limited power. This improvement allows the operators to now track and control this operation.

Peter Kuchinsky II, CSP, CEAS I
Lead Risk Management Consultant
ACWA/JPIA
(760) 224-4322

From: Terry Lofing
Sent: Monday, September 15, 2014 10:17 AM
To: Peter Kuchinsky
Cc: John Haaf
Subject: FW: HR LaBounty Safety Awards - Santa Fe Irrigation - Submission #5

Submission is now attached.