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ORP Chemical ALARA Initiative, Part I:
Basic Drivers
Assessment Criteria
Conceptual Practices
Rich joined ORP in November 2008, as a the ORP Senior Industrial Hygienist. He is responsible for oversight of industrial hygiene and related occupational health programs at Tank Farms, 222-S Analytical Laboratory and the Waste Treatment Plant. Before joining ORP, he was the IH contractor to the NASA White Sands Test Facility in New Mexico and prior to that, spent five years with the Los Alamos National Laboratory, supporting waste management ops, and later the US Secret Service and Centers for Disease Control as the team lead for the Biological Emergency Support Team, in conjunction with collateral HAZMAT response duties. Richard has practiced Industrial Hygiene and Safety for over 30 years. His early experience was gained as an IH tech at the Climax Mine, than moving on to coordinate an occupational lung disease outreach program through the National Asthma Center in Denver/ US Public Health Service. He then moved on to managing the Rocky Mountain Regional H&S programs for Envirosphere (EBASCO) and Dames & Moore. He left to pursue private business and ran a health and safety consulting firm for about 10 years out of Denver. As owner/operator, he managed a staff of 17 personnel and had an opportunity to provide training and consultation to over 700 companies and institutions throughout the U.S., Iraq, Kuwait, Indonesia, Taiwan and Germany. He earned his B.S., in Community Health, University of Northern Colorado, and M.S., in Environmental Science, at the University of Colorado-Denver. However, he is not a Broncos fan. Rich has also picked up some ancillary training and former certifications in Pulmonary Technology (National Jewish), Pulmonary Function Testing (NIOSH), and Emergency Medicine Technology (State of Alaska). He currently holds certifications in industrial hygiene (ABIH), safety (BCSP), and mine safety training (MSHA). He has also acquired his certification as a DOE qualified industrial hygienist.
What is driving this effort?

**Work environment:** broad spectrum of trace chemical vapors at tank farms, manifested by odors, occasional symptoms, and operational impacts.

**Basic ACGIH requirement:** “Exposures to carcinogens must be kept to a minimum.”
Not a unique challenge:
Shuaiba, Kuwait, only US Military Port on Persian Gulf
**ORP Goals**

- Minimize *Abnormal Operating Events* associated with reported suspect odors and sub clinical affects,

- Increase Worker and Public Confidence in the Safety of our Operations, &

- Reduce the overall chemical exposure of the workforce as an added margin of safety, recognizing more is to be learned about all chemical toxicants.
ORP Actions

- Multi phase IH assessments
- Integrated Project Team participants, tasked to improve characterization & reduction of exposures at TF and WTP.
- ORP request to NIOSH to review of mixed chemical toxicology/safety.
- ORP facilitating Occupational Medicine Benchmarking study
1) Verify sound IH techniques and data integrity. (Baseline)

2) Monitor level of effort in assessing new technologies and modifications to existing resources. (optimize resources)

3) Confirm ISM in planning & pre/post job briefs: creative exchange/application of sound ideas? (Incentivize participation)

1) Review IH data, reported symptoms and AOP events. (track and trend results)
Conclusions

- ORP works with its contractors to explore innovative means of reducing chemical exposures in operations, construction and engineering design.
- Chemical ALARA is primarily the pragmatic application of ideas and resources.
- There are metrics for evaluating progress.
- Integrated Safety Management is an ideal process for this effort.