



# Dose Reconstruction Process Overview

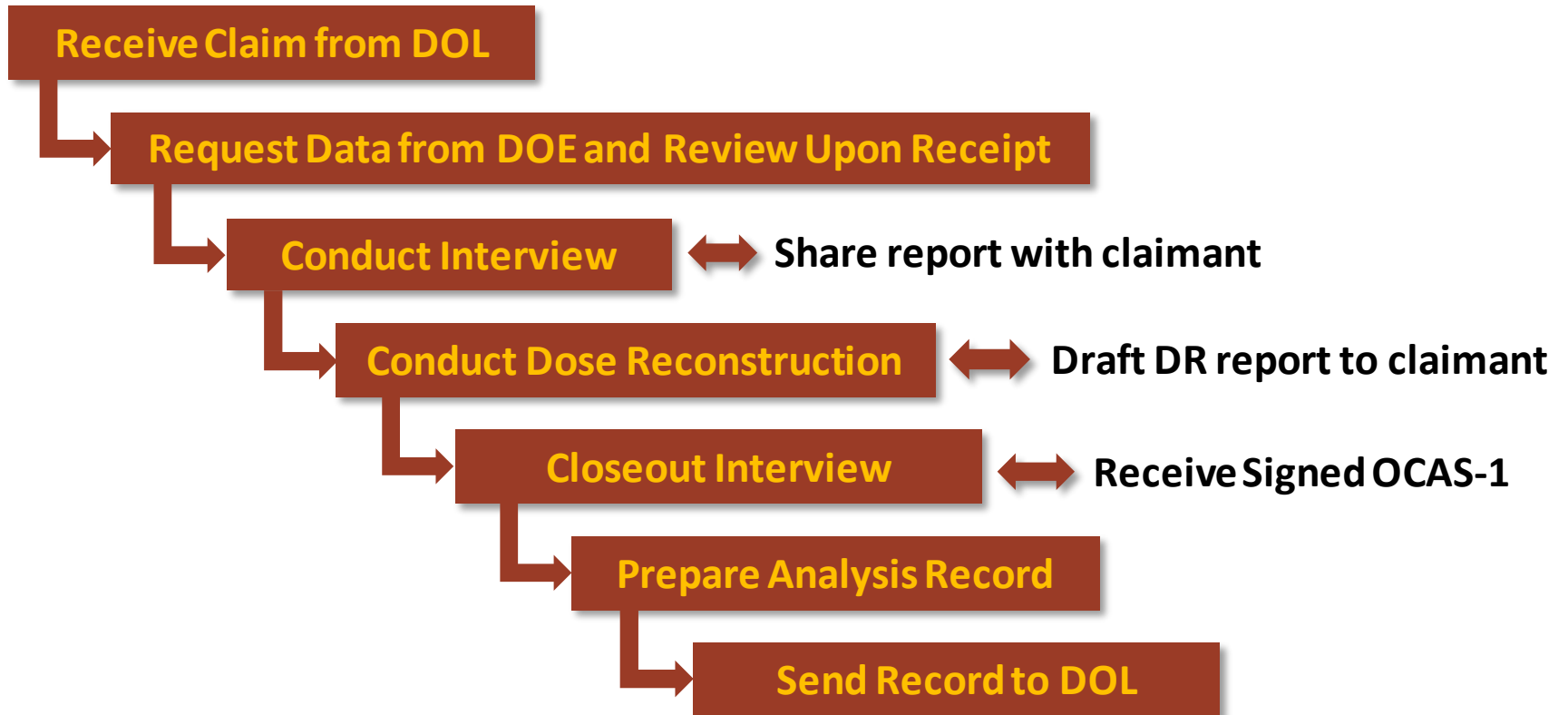
**Grady Calhoun, CHP**

**Director, Division of Compensation Analysis and Support**

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**Virtual Webinar**

# Dose Reconstruction Process

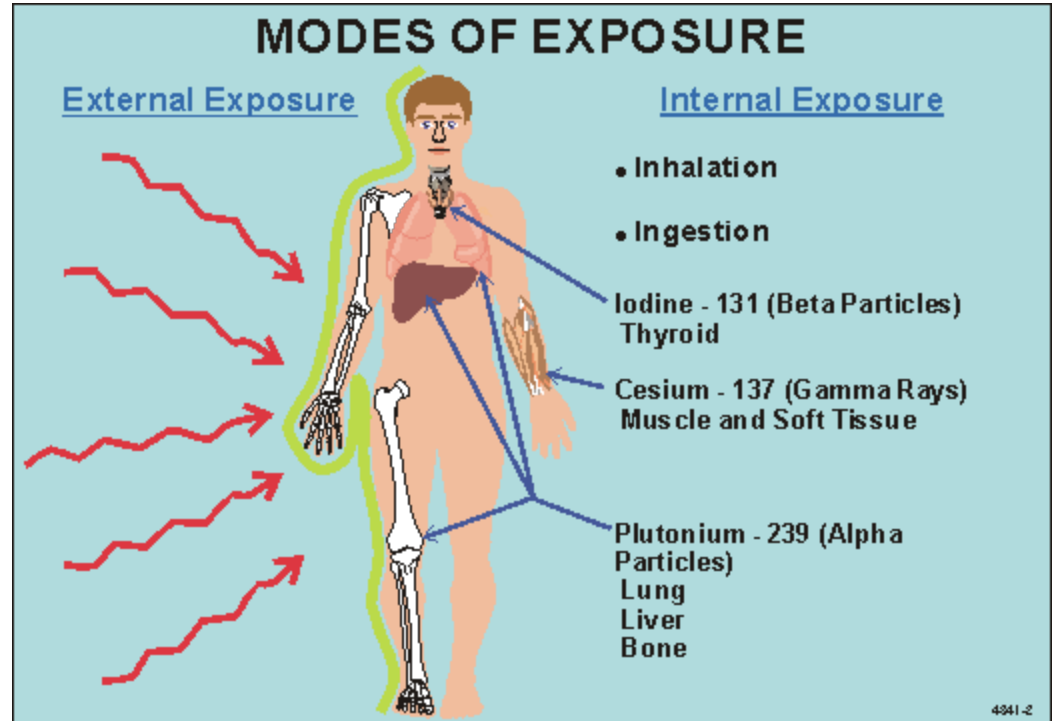


# Claimant Interview

- Voluntary interview to provide additional details
- All questions are mailed to the claimants prior to the scheduled meeting.
- We confirm the employment dates and cancer diagnoses provided by DOL
- We ask about any additional details of the type of work the EE performed:
  - What was worked with, how often, overtime?
  - What PPE was used?
  - What monitoring was performed?
  - Any involvement in radiological incidents?
- We ask about any known co-workers.
- Report is returned to interviewee to review for accuracy

# Frequently Used Terms

- **External Dose:** Dose received from radiation originating outside the body.
- **Internal Dose:** Dose received from radiation originating inside the body.



## Frequently Used Terms - continued

- **Overestimate**
- **Best Estimate**
- **Underestimate**
- **Partial Estimate**

## Factors impacting Dose Reconstructions

- **Time**
- **Claimant favorability**
- **Reasonable**
- **Special Exposure Cohort**

# Basics of Dose Reconstruction

- **Use all available worker and workplace information to reconstruct dose**
- **Evaluate all doses of record for data quality shortcomings**
- **Use recommendations established by national and international organizations**
- **Prefer to use individual monitoring data if available and of sufficient quality**

## **Basics of Dose Reconstruction - continued**

- **Use standard methods to evaluate “missed dose”**
- **Rely on use of area dosimeters, radiation surveys, and air sampling if individual data is not available**
- **If no monitoring data, then use available data on source term, etc.**

## **Basics of Dose Reconstruction - continued**

**When individual dose monitoring results are not available doses can be estimated using:**

- **Co-exposure Models**
- **Surrogate Data**
- **Source-term modeling**



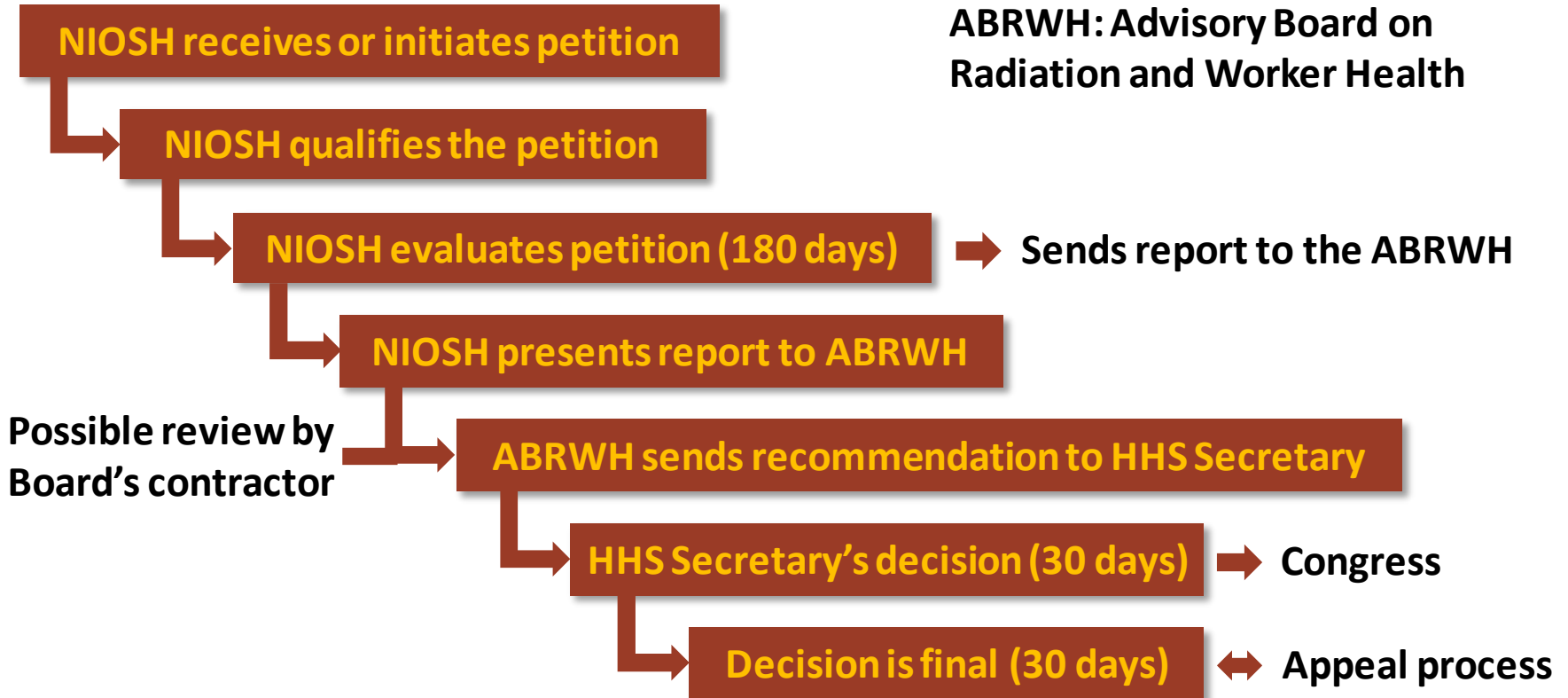
# Claimant Favorable Approach

**When a choice must be made between different approaches and there is no information about which approach is most technically accurate, NIOSH chooses the approach resulting in the highest probability of causation.**

Some examples include:

- Conservative Dose Conversion Factors
- Addition of potential missed dose
- Solubility class of radionuclide for internal dosimetry
- Aged Pu with Am buildup
- Upper 99<sup>th</sup> percentile of credibility limit to determine Probability of Causation.

# Special Exposure Cohort Petitioning Process



# Advice, Assistance and Questions

The NIOSH SEC Petition Counselor and the NIOSH EEOICPA Ombudsman provide advice and assistance to petitioners and prospective petitioners.

## **SEC Petition Counselor**

Josh Kinman

[jkinman@cdc.gov](mailto:jkinman@cdc.gov)

513-533-6831

## **Ombudsman to NIOSH**

Denise Brock

[CKO7@cdc.gov](mailto:CKO7@cdc.gov)

1-877-222-7570

DCAS Phone: 513-533-6825

Email: [dcas@cdc.gov](mailto:dcas@cdc.gov)

Website: [cdc.gov/niosh/ocas](http://cdc.gov/niosh/ocas)