



**The Abdus Salam
International Centre for Theoretical Physics**



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Drawing Safeguards Conclusions

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The Process of Drawing Safeguards Conclusions

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Safeguards Conclusions

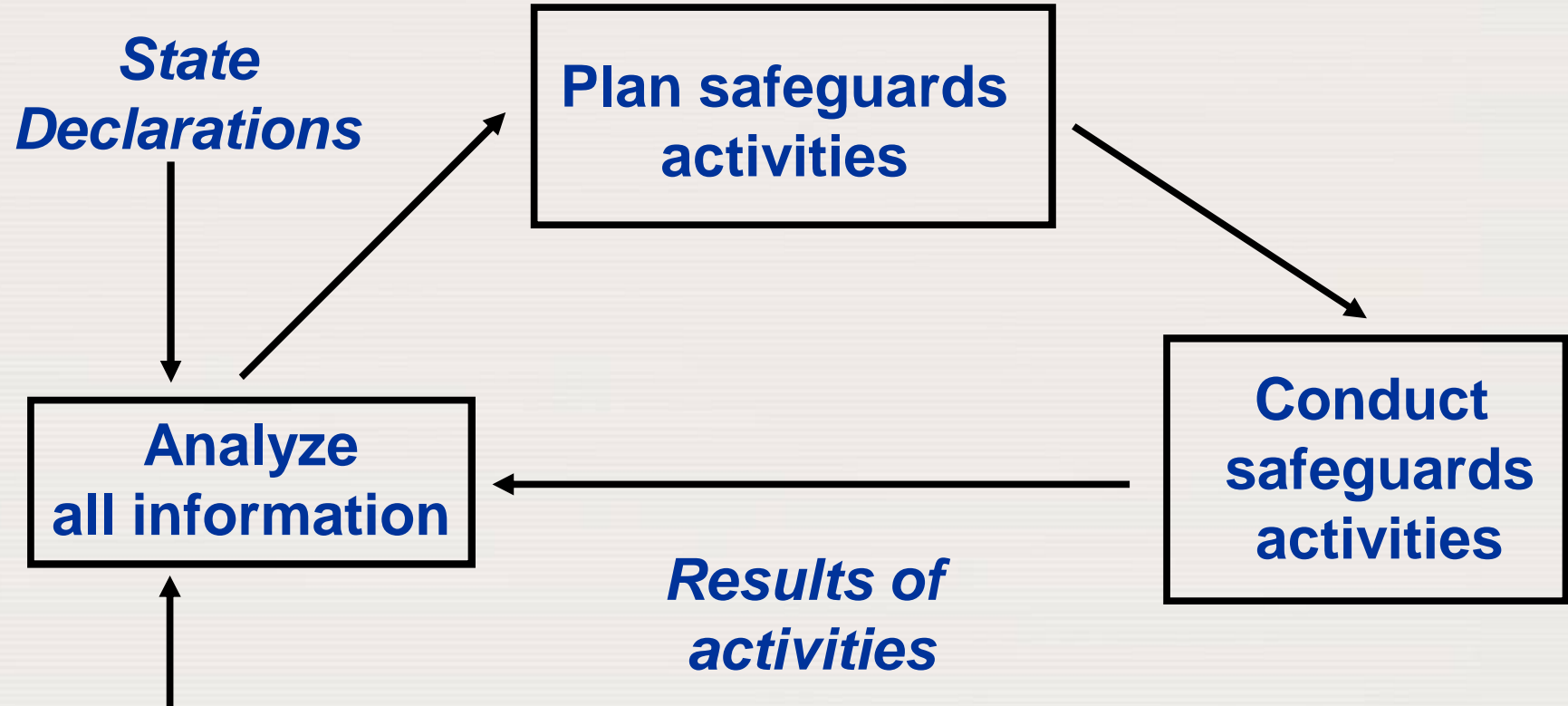
For States with safeguards agreements:

- ... the nuclear material and other items placed under safeguards remained in peaceful activities ...

For States with comprehensive safeguards agreements and additional protocols:

- ... **all** nuclear material remained in peaceful activities ...

Safeguards Conclusions are based on the evaluation of all information for each State as a whole



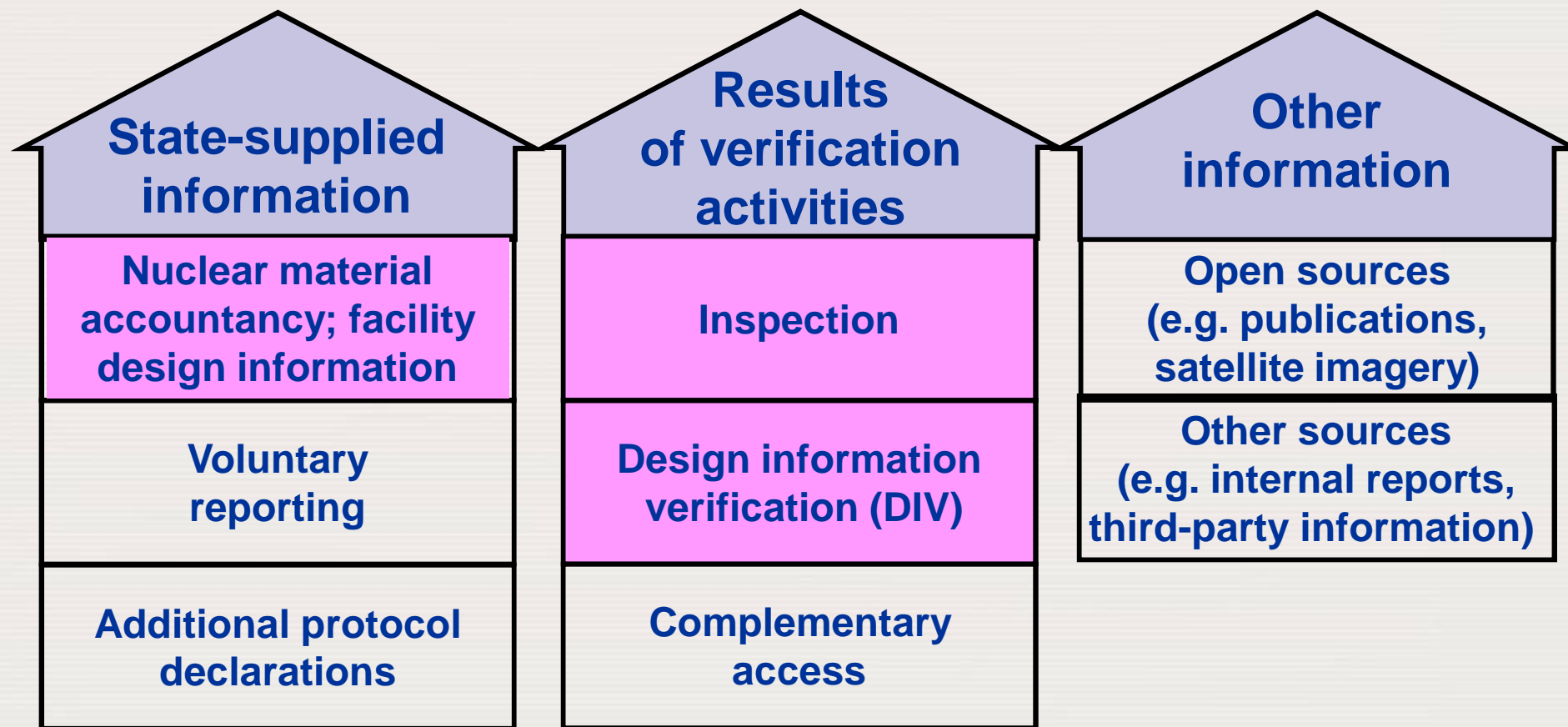
Information Driven Safeguards



For States with comprehensive safeguards agreements, the State evaluation process seeks to answer several questions:

- Is all relevant information on the State's nuclear programme consistent?**
- Is the “picture” of the State's present and planned nuclear programme complete?**
- Is there sufficient information available on which to draw a conclusion?**

Evaluation of “State as a whole” to draw Safeguards Conclusions



Comprehensive Safeguards Agreements

State-supplied information

- Nuclear material accountancy reports
- Design information

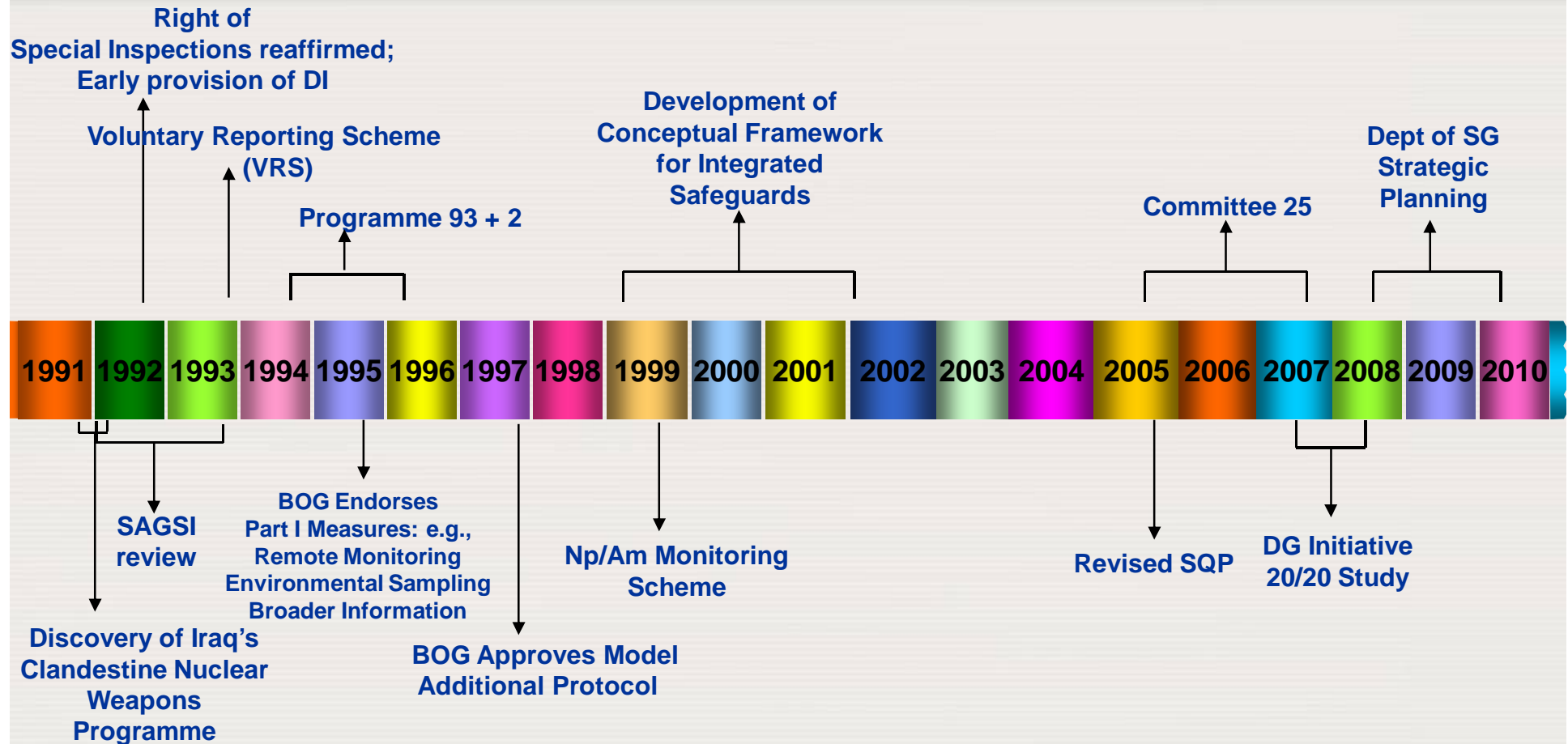
Inspection

- Comparison of operator records with State's nuclear material accountancy reports
- Verification of declared nuclear material and facilities

Limitations of Traditional Safeguards

- **Provides assurance mainly regarding the correctness of State's declaration but not completeness**
 - Assumes a State declares everything
 - Does not prevent a State from under-declaring its initial inventory
- **Focus is on declared materials at strategic points in declared facilities**
 - Only partial coverage which is not continuous
- **Does not prevent a State from building secret facilities**

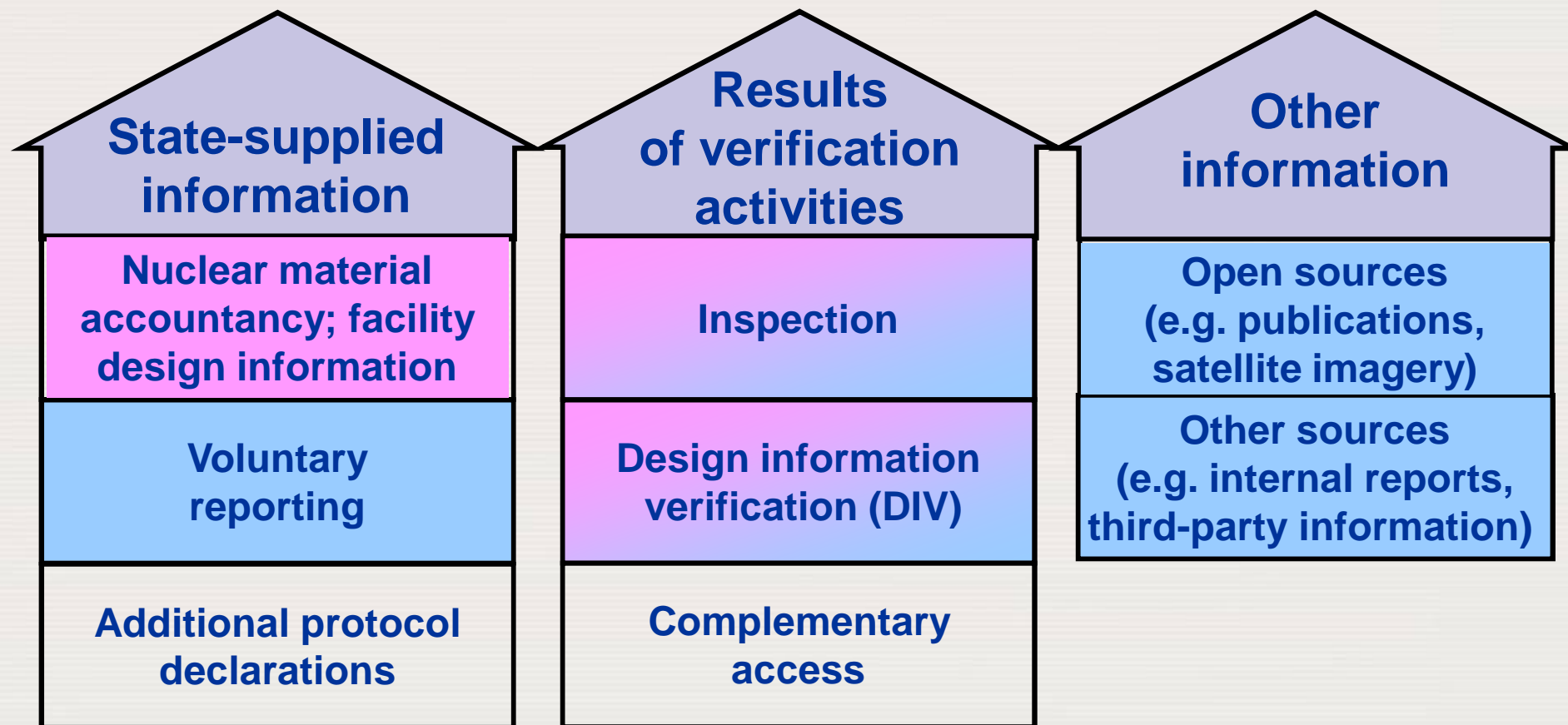
Strengthening the Safeguards System



IAEA Board of Governors March 1995

“...the safeguards system for implementing comprehensive safeguards agreements should be designed to provide for verification by the Agency of the **correctness and completeness** of States’ declarations, so that there is credible assurance of the non-diversion of nuclear material from declared activities and of the absence of undeclared nuclear activities.”

Evaluation of “State as a whole” to draw Safeguards Conclusions

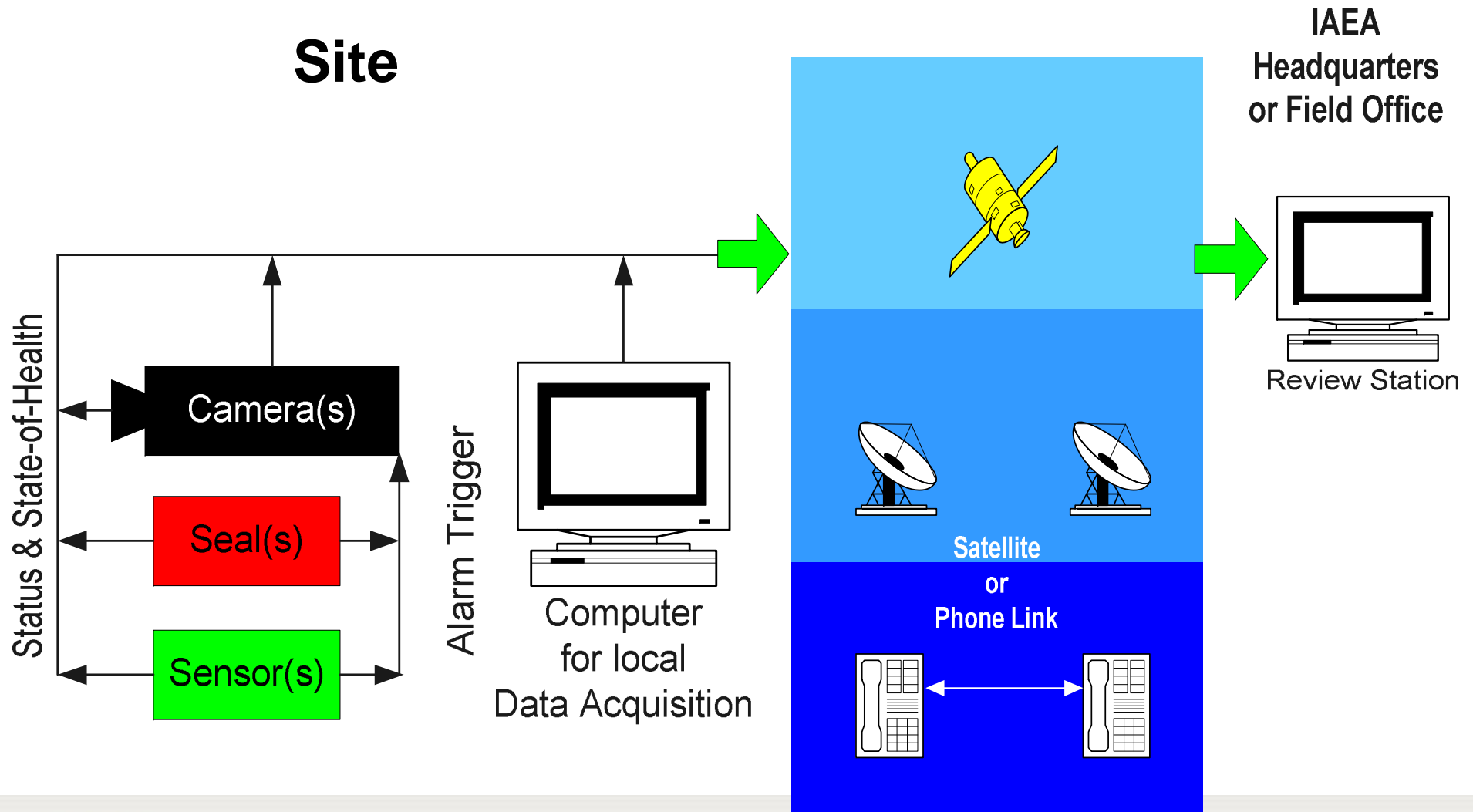


Some strengthening measures could be introduced under existing safeguards agreements

Strengthened Measures under Inspections

- **Unannounced/short-notice inspections**
- **Remote monitoring**
- **Environmental sampling**
- **Enhanced cooperation with SSACs or regional systems**

Remote Monitoring



Environmental Sampling



Environmental sampling is based on the premise that every nuclear process, no matter how leak tight, emits small amounts of process material to the environment.

For States with comprehensive safeguards agreements, the State evaluation process seeks to answer several questions:

- Is all relevant information on the State's nuclear programme consistent?
- Is the “picture” of the State's present and planned nuclear programme complete?
- Is there sufficient information available on which to draw a conclusion?

Under comprehensive safeguards agreements alone, there is insufficient information and access to answer these questions.

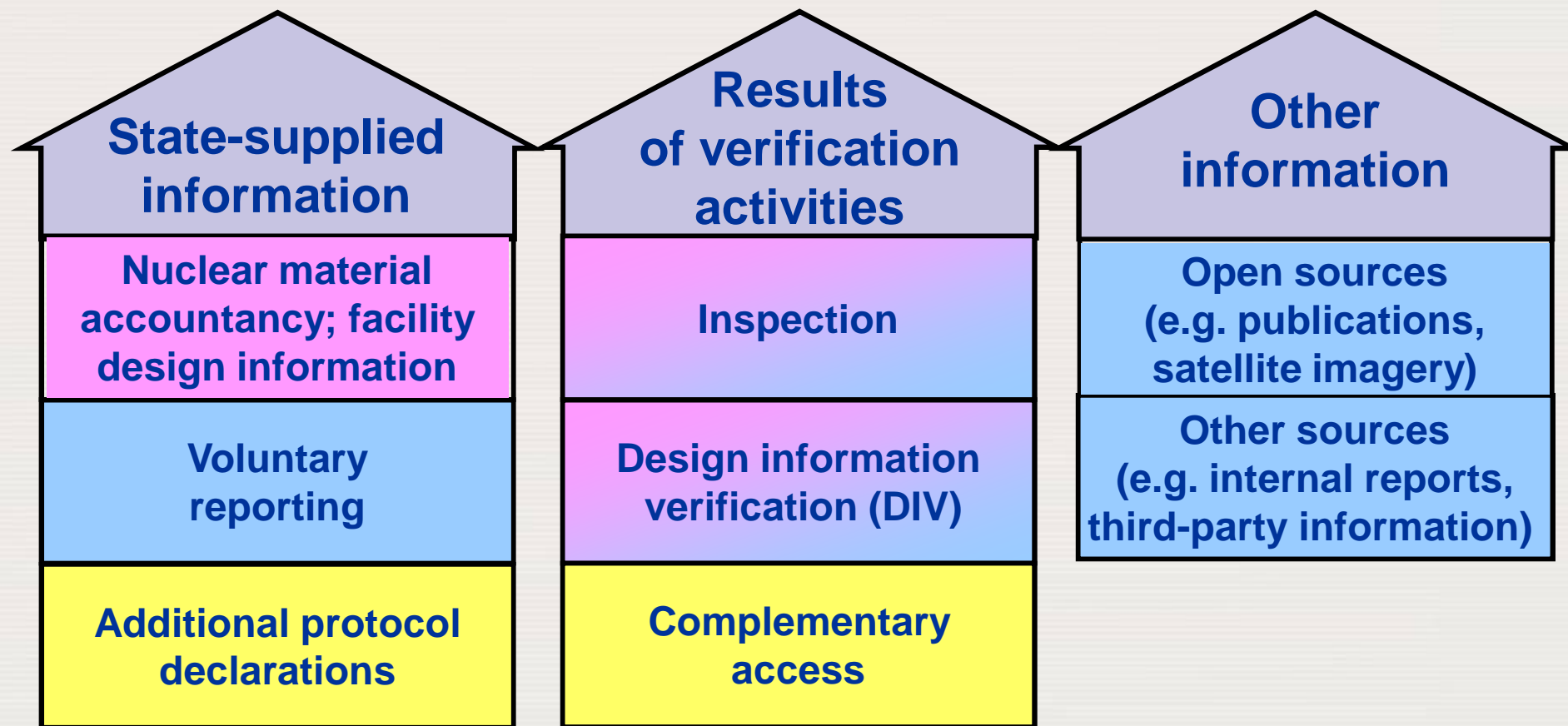
Measures Contained in the Additional Protocol

- Information about, and inspector access to, all aspects of a State's nuclear fuel cycle
 - *From mines to nuclear waste* -
- Information on, and short-notice inspector access to, all buildings on a nuclear site
- Information about, and inspector access to, other locations where nuclear material for non-nuclear uses is present
- Information about, and mechanisms for inspector access to, fuel cycle-related R & D

Measures Contained in the Additional Protocol

- **Information on the manufacture and export of specified equipment and non-nuclear materials**
 - mechanisms for inspector access to manufacturing and import locations
- **Collection of environmental samples beyond declared locations**
- **Administrative arrangements**
 - **Multi-entry Visas**
 - **Inspector designation**
 - **Access to communication means**

Evaluation of “State as a whole” to draw Safeguards Conclusions



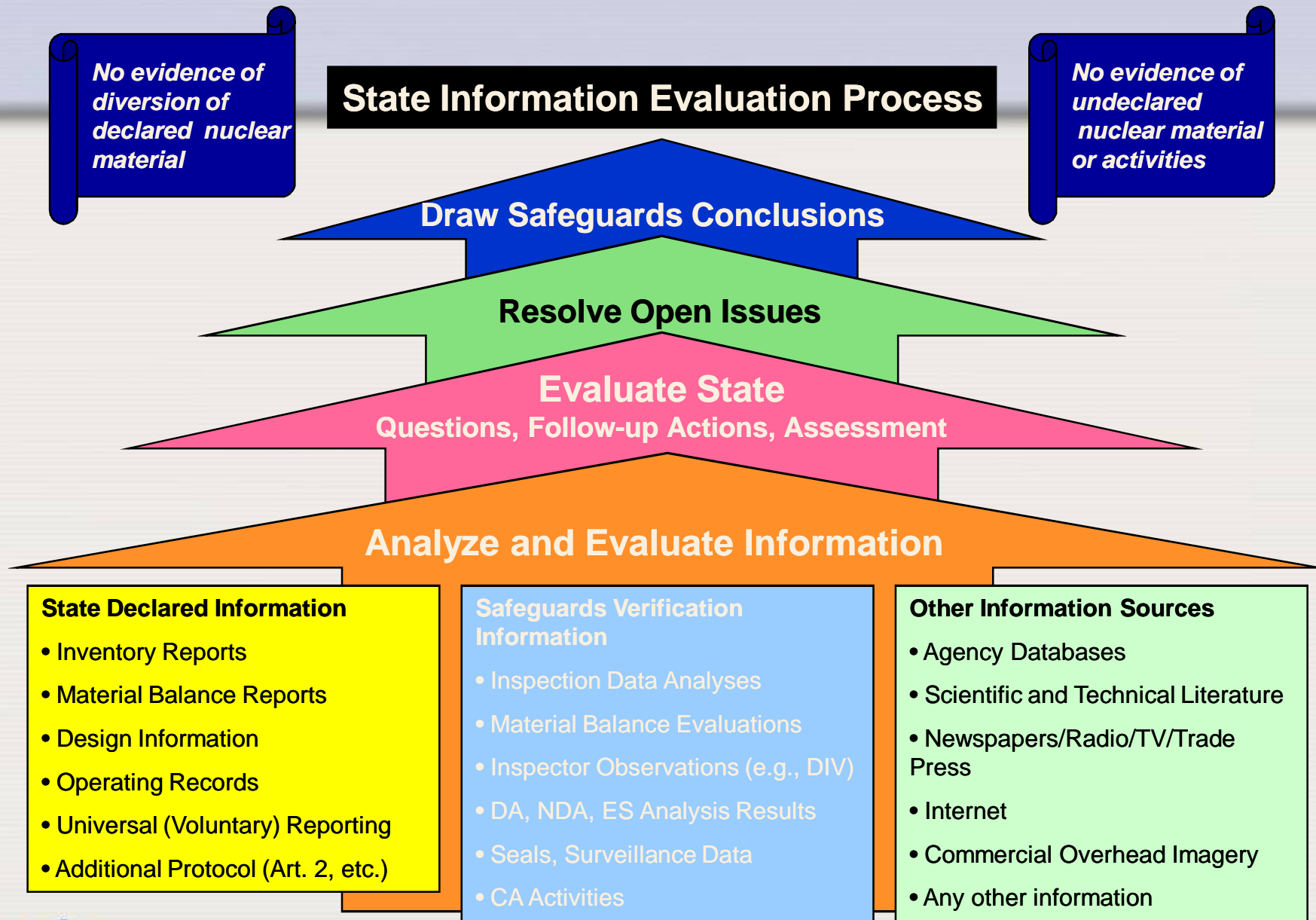
Under an additional protocol the Agency has more extensive information and access

State Evaluation

- **Provides picture of a State's nuclear and nuclear-related activities**
 - Involves comparison and assessment of all information available
 - Considers all plausible acquisition paths
 - Identifies issues requiring follow up
- **Documented in annual State Evaluation Report**
- **Forms basis for Safeguards conclusions**

State Level Approach to Safeguards

- Holistic approach involving a comprehensive State evaluation to provide a picture of a State's nuclear and nuclear-related activities
- ***Information driven*** – use of all information regarding a State's nuclear programme and related activities to focus safeguards activities in the field and at HQ
- ***Differentiation without discrimination*** – common safeguards objectives met while taking State-specific factors into account



Conclusion and Outlook

- Drawing the broader conclusion that **all** nuclear material has been placed under safeguards requires the additional information and access under the additional protocol.
- Ensuring that this conclusion is credible requires a rigorous State evaluation process.
- Elements of the State-level concept and information driven safeguards will be further developed or refined in light of implementation experience, further evaluation, and available technology.
- The safeguards system will continue to evolve to respond to new challenges and circumstances.