

## National Drinking Water Advisory Council Water Security Working Group

### April 18–20, 2005 Meeting Summary

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The Water Security Working Group (WSWG) of the National Drinking Water Advisory Council (NDWAC) held its fifth and final in-person meeting in Washington, D.C., April 18–20, 2005. Dr. Rebecca Head, one of the WSWG co-chairs, opened the meeting at 1:30 PM EDT on April 18, 2005. The meeting ended at 12:00 PM EDT on April 20, 2005. Marc Santora, the designated federal officer for the WSWG for the Environmental Protection Agency (EPA), was present. WSWG members Paul Bennett and Nick Catrantzos were unable to attend the meeting. Some WSWG members were able to attend some, but not all, of the meeting. David Binning, one of the WSWG co-chairs, Gregg Grunenfelder, and Bud Schardein were unable to attend on April 18. Mr. Binning, Doug Anderton, Dr. Head, and Diane VanDe Hei were unable to attend on April 20.

Federal partners present were David Travers from EPA, Dr. Richard Gelting from the Centers for Disease Control and Prevention, John Laws from the Department of Homeland Security, and Maj. Tim Mukoda from the Department of Defense. (Dr. Gelting was unable to be present on April 20.) Jasper Welsch from the Mississippi Department of Emergency Management was present as an identified outside expert to the WSWG. The meeting was facilitated by Rob Greenwood and Elizabeth McManus from Ross & Associates Environmental Consulting, Ltd. (Ross & Associates), the support contractor for the WSWG.

The mission of the WSWG is to provide findings to the NDWAC that:

- (1) identify, compile, and characterize best security practices and policies for drinking water and wastewater utilities, and provide an approach for considering and adopting these practices and policies at a utility level;
- (2) consider mechanisms to provide recognition and incentives that facilitate a broad and receptive response among the water sector to implement these best security practices and policies, and make recommendations as appropriate; and
- (3) consider mechanisms to measure the extent of implementation of these best security practices and policies, identify the impediments to their implementation, and make recommendations as appropriate.

The objective for the April WSWG meeting was to finalize findings for presentation to the NDWAC at the Spring/Summer NDWAC meeting, tentatively scheduled for early June.

This document provides a summary of key areas of WSWG discussion, tentative areas of agreement, and next steps. The summary is organized by key discussion topic area and synthesizes conversations that occurred throughout the three days. The meeting agenda and non-draft meeting materials are available through the WSWG website at <http://www.epa.gov/safewater/ndwac/council.html>. The WSWG meeting was open to the public.

A draft of this document was distributed to the members of the Working Group for comment, no comments were received.

## Issues Discussed and Changes Made

Based on review and comment on previous drafts of WSWG findings and the results of a WSWG conference call on April 7, 2005, the WSWG began the April meeting with approximately fifteen issues to consider and resolve. The WSWG considered each of these issues carefully and reached the following agreements about revisions to findings. Page numbers refer to the draft findings dated March 21, 2005, which the WSWG worked from at the April meeting. Please note that in resolution, some issues, such as verification and comparability, were combined into a single set of bullet points.

### *In General*

- Incorporate editorial comments received from WSWG members and others.
- Carry out a thorough proofread and formatting of the document.

### *Lists of Principles (pps 20 and 28)*

- The two lists of principles are different and make different points; both will remain in the draft.
- The principles on pages 20-21 are ideas that informed and underlay WSWG deliberations and substantive findings on security.
- The principles on page 28 are ideas that the WSWG recommends utility owners/operators use as the basis for developing utility-specific active and effective security programs.
- To reduce confusion between the two lists:
  - Rename the “principles” that informed WSWG deliberations “common interests” (pps 20-21). Make conforming changes to similar lists of “principles” in the introduction to the incentives and measures chapters (pps 37 and 50).
  - Expand name of page 28 list to “Principles Supporting Active and Effective Security Programs.”
  - Use text boxes to “define” lists. For example, a text box near the “common interests” list would say “Common Interests informed WSWG deliberations are created the basis for WSWG agreement on substantive findings on security.” A text box near the “principles for active and effective security programs” would say “Principles of active and effective security programs should be used by utility owners/operators to guide identification of utility-specific security tactics and approaches.”

### *Formatting, Graphics, Presentation*

- Increase readability and understandability of the draft by significantly increasing formatting.
- Use text boxes (as above in discussion of principles), color, and font size to break up text and draw readers’ attentions to key points.
- Use a formatting mechanism to highlight recommendation text.
- Hyperlink text for website version. Avoid formatting that makes web reading difficult.
- Relentless editorial proofread to reduce duplication and excess words.
- Add more detail to executive summary, especially around measures.
- Ensure document can be printed by black/white printers and will copy and be readable in black/white.

### *Multibarrier Approach / Security Layering (p 34)*

- Separate discussion of multibarrier from discussion of security layering.
- Add a better definition/description of the multibarrier approach. Include the idea that multibarrier approaches are about water quality and ensuring continuing ability to deliver water services.
- Reduce jargon in multibarrier discussion.
- Move multibarrier discussion to introduction of the report.

- Add better definition/description of security layering as distinct from multibarrier approaches.
- Move the discussion of security layering to the text on recommendation 5 (program features) and describe the program features as working together to create layers of security.

*Recommendation 10 (on establishing clear expectations as an incentive) (p 39)*

- Eliminate as a stand-alone recommendation and use substantive text in other places.
- Move text “Establishing clear expectations is, on its own, a powerful motivator for utilities. It creates an industry benchmark that utilities recognize and establishes a potential basis against which decision makers within utility organizations, oversight agencies, financial and insurance markets, peers, customers, and the public can evaluate progress. It is important to continue to emphasize clear expectations for outcomes of active and effective security programs—to create a yardstick against which utilities can measure themselves and to establish expectations about performance industry wide” to the introduction section for the incentives chapter.
- Move text “because the WSWG is made up of many stakeholders, these expectations are endorsed by a wide range of interested parties, including small and large utilities, public health advocates and regulators, first responders, and environmental and public health interest organizations” to the introduction section of the entire report.
- Reiterate the idea of clear standards establishing an industry benchmark and providing an incentive to action in the introduction text to the chapter on measures.

*Background Checks (p 74)*

- Add additional points to existing text as follows:
  - “The degree and rigor of background checks can be tailored to the type of function supported by the employee and the circumstances of the individual utility. For example, front office clerical staff with no access to facility operations may receive a lower level of screening than those with direct operation access. Furthermore, existing first hand knowledge of an individual’s background, which may often be readily available in small community settings, may act as an effective screening method.”
  - “Adjusting the degree and rigor of employee background checks can help address potential utility concerns related to cost and delays.”
  - “The WSWG also believes it is important to note that background checks must be viewed as one tool in an overall, multi-faceted security approach. The WSWG believes background checks do represent sound business practice and can act to deter ill intentioned individuals from attempting to establish employment. At the same time, the Group believes utilities must recognize that the practice may not be sufficient to deter or identify a determined, sophisticated, and systematic attempt to infiltrate the organization where individuals with passable backgrounds are more likely to be used.”

*Principle of Transparency (p 29)*

- Idea of “transparency” (although not the word!) remains part of the principles.
- Explain that transparency creates an understanding of the rationale for the overall security management approach.
- Purpose is to create awareness of security as an issue in the community and an understanding that the utility is paying attention to security.
- Not an invitation to share security tactics or tactical details or invite external parties into the utility’s internal security decision making activities.
- Look at existing language in features on communication (feature 12) and partnerships (feature 13) for ideas.
- Potential substitute text: “Develop security programs in a manner that clearly communicates the need (e.g., description of threats and/or consequences the utility must manage for so the basis of program directions can be understood; and, encourage individual utilities to

communicate with their customers and communities to create a basic understanding of the reasons for a security program and the utility's overall management approach to security so the approach is understood and supported by utility staff, partners, customers, and the public."

#### *Incentives for Inherently Safer Design Practices (pps 42-45)*

- Add discussion of technical assistance/support for utility efforts to move towards inherently safer design practices to discussion of recommendations 13 and 14 in the incentives section.
- Look at existing literature to develop more complete description of what is meant by "inherently safer design practices." Include idea of needing to balance numerous factors when making technology/design choices, but moving towards inherently safer choices in the context of that balancing. Potential text: "The choice of which technology or design to use will involve consideration of a number of factors including utility-specific circumstances, risks, security and other utility priorities, resources, and which options offer the most inherent safety or robust performance. In this context moving towards inherently safer technologies and designs is desirable as a way to reduce the potential harmful consequences of a successful attack on a utility, natural disaster, or other event."

#### *Regulation (p 48)*

- Add more specific reference to mission statement/charter of the WSWG being focused on findings for voluntary programs.
- Alter line 17, page 48 to read "outlines and expectations of utility programs, but acknowledges the importance of providing significant flexibility for individual utilities..."
- Delete the sentences on page 49.
- Look to incorporate some of NRWA's comments on one-size-does-not-fit-all into discussion of same topic earlier in the document as needed.

#### *Verification/Comparability/National Aggregate Measures*

- Combine discussions of verification and comparability into the discussion of national aggregate measures (p 57)
- Add statement that, like implementation of active and effective security programs to begin with, participation in any measurement effort is voluntary. Recognize that there may be a number of factors that might prompt utilities to participate in a voluntary measurement effort, including:
  - Credible voluntary measurement efforts increase overall credibility of the sector.
  - Participation in a defined measurement effort to evaluate security needs and progress will assist building support for security efforts and funding by demonstrating need.
- Recognize two dimensions associated with national aggregate measures:
  - The substantive basis for measurement; and
  - The measurement process.
- Substantive basis is linked primarily to the fourteen features of active and effective security programs, and WSWG findings on security program scope and principles.
  - Group identified three potential national aggregate measures.
  - The first two measures—amount and degree of implementation of the fourteen features, and progress addressing high security priorities based on vulnerability assessments measures—anticipate that all utilities will develop active and effective security programs and can be supported voluntarily by data that all utilities with active and effective security programs will have.
  - The third measure is drawn from currently available CAA Section 112(r) data, and is focused on, but not limited to (see further articulation of this measure below), the potentially affected residential population inside the off-site consequence analysis area

- of a potential hazardous substance release. Because smaller utilities tend not to use quantities of hazardous substances that trigger 112(r) reporting, the WSWG anticipates that this measure would be used primarily by medium and large utilities.
- WSWG foresees the potential for a phased approach to developing a measurement process.
    - First phase (where we are now) measures are based on utility-specific self assessment.
    - Because of concerns about limitations of the self-assessment model and the potential for this model to overstate sector progress, the water sector and EPA work with other interested stakeholders to explore and evaluate additional voluntary options available to complement self assessment with other assessment methods.
    - The purpose of any enhanced assessment effort would be to provide individual utilities with an improved sense of their individual progress on developing and maintaining an active and effective security program as well as establish a more robust basis for supporting the national aggregate measures.
    - The WSWG believes this exploration can help to address concerns that reporting on strictly a self assessment basis may lack credibility among certain key constituencies and could be prone to overstate sector progress. Potentially this could lead in the future to the sector and EPA understanding progress in a more refined way through the number of utilities reporting on a self assessment basis and the number reporting on a more independent basis.
    - The Group generated a series of ideas of potential assessment methods for consideration, including: NRW peer technical assistance model, independent 3<sup>rd</sup> party verification models, addressing security as part of utility capacity demonstrations, and/or the use of “blind” or other survey techniques.
    - In this context, the WSWG carefully considered and specifically decided that strict comparability between individual utility program tactics is neither necessary nor desirable given the variation in utility-specific circumstances and operating conditions and the corresponding variation in utility-specific security tactics and approaches. This decision is consistent with the Group’s early agreement that “one size does not fit all” and recognition that utilities will develop specific security program approaches and tactics appropriate to individual utility circumstances and operating conditions.
    - At the same time, the Group acknowledges that as part of exploring measurement methods that might complement self-assessment, there may naturally be some exploration of issues of inconsistency in how utilities identify threats, assess risks, and prioritize improvements leading to inappropriate variability in security programs otherwise highly similar utilities adopt. In this context, the WSWG believed it worthy of further consideration by the water sector and EPA in the context of exploring additional assessment methods to explore the means by which undesirable variability could be detected within the sector and a means developed to assist utilities achieve a more desirable level of consistency.
    - As part of this exploration, EPA and stakeholders should remain attentive to the need to tailor any future voluntary assessment approach to the distinct needs of different members of the sector. For example the difference status of wastewater and drinking water utilities with respect to the requirement to conduct vulnerability assessments and the difference between drinking water utilities above and below the 3,300 customer threshold established by the Bioterrorism Act may require the need for specific tailoring.

*Extent & Degree of Implementation of the 14 Features (p 58)*

- Revise to clarify use of self-assessment to determine extent and degree of implementation during the first phase of measurement. Page 58/14: “These self-assessments provide for a national aggregate measure that gives an indication of the degree of implementation of each of the fourteen features...”

- Keep on a feature-by-feature basis; do not roll up into an assessment of performance that combines all the features.
- Clarify rejection of the binary (y/n) approach in favor of the “stop light” approach for this measure with use of binary measures associated with individual features in Appendix A and Appendix C.

*High Security Priorities (p 59)*

- Link definition/identification of “high priority security actions” to the results of a VA process and VA-defined high risks.
- Link to feature 3 (on VAs) and more fully describe the attributes of a “good” VA in feature 3, based on EPA guidance.
- Avoid tying or limiting to specific VA methodologies.

*112(r) (p 60)*

- Clarify how 112(r) incorporates consideration of chlorine container size and containment systems into calculation of the size of the vulnerability zone.
- Check caveats to make sure they adequately emphasize that utilities do not control the number of people who live in the vulnerability zone—their actions are limited to those that could affect the size of the vulnerability zone.
- Discuss some of the legitimate reasons that a utility might choose to continue to use gaseous chlorine, including its efficacy as a treatment method for contamination by a wide range of constituents and continued responsibility of utilities to reliably deliver clean water and have some form of chlorine residual in the distributed water supply.
- Add idea of AWWA suggested measure of number/percentage of facilities that have converted from gaseous chlorine to another form of chlorine as a supplemental (not a replacement) measure.

*Text on Types of Measures in Feature 14 (p 94)*

- Keep text as is.

**Formal Concurrence Process**

The WSWG reviewed the process for final concurrence and reiterated their agreement that concurrence means that one can support or live with all the findings in the report and one believes the report fairly and accurately describes WSWG deliberations. At the conclusion of the April meeting, the WSWG anticipated that they would be able to reach full concurrence on all their findings. If this should not come about, the Group understands that in areas of non-concurrence the WSWG report will describe the range of views held by WSWG members. The WSWG understands that formal, written concurrence (or non-concurrence as applicable) must be documented for each member. This will be done through a formal review/concurrence worksheet. Worksheets will be provided to each member with the final concurrence package.

**Reporting of WSWG Findings to the NDWAC**

The WSWG discussed in some detail the protocol for providing their findings to the NDWAC. In general, the Group was very interested in preserving their consensus findings and recommendation as a “stand alone” document.

The WSWG discussed the NDWAC’s role and were comfortable with the understanding that the NDWAC has full discretion to make revisions to the WSWG’s findings; however, because the WSWG anticipates consensus findings, many members were concerned that should the NDWAC, in its deliberations, choose to amend WSWG findings, that it be clear that such

changes flowed from NDWAC deliberations and were not reviewed by the WSWG. Members were concerned that they not be described as concurring with something (i.e., NDWAC changes or additions to the WSWG report) that they did not have an opportunity to review and deliberate on.

WSWG members who also serve on the NDWAC expressed understanding of these concerns, but reiterated that the NDWAC had full discretion in determining what to do with the WSWG findings. WSWG members who also serve on the NDWAC explained that, in general, it is the NDWAC's practice to make clear any changes it may make to working group documents, that this is not required by the NDWAC process.

At conclusion, WSWG members agreed to try to express some of their concerns in a cover memo that will transmit their findings to the NDWAC.

### **Remarks of Cynthia Dougherty, Director EPA Office of Ground Water and Drinking Water**

In the afternoon of April 19, 2005, Cynthia Dougherty addressed the WSWG. Ms. Dougherty is director of the EPA Office of Ground Water and Drinking Water. Ms. Dougherty began by thanking WSWG members for their service and work. She emphasized EPA's interest in all areas of the WSWG deliberations, but especially in the importance of WSWG findings on measures of active and effective security programs. Ms. Dougherty remained at the WSWG meeting and participated, as a Federal partner, in WSWG deliberations for the remainder of the afternoon.

### **Presentations to the WSWG**

The WSWG did not consider any presentations during the April WSWG meeting.

### **Public Comment**

No members of the public chose to offer comment at the April WSWG meeting.

### **Schedule for Completion of WSWG Deliberations**

The WSWG briefly reviewed a proposed schedule for completion of deliberations, as follows.

- Concurrence package to WSWG for final concurrence review Friday, April 29, to include:
  - Final draft revised report (unformatted)
  - Sample/example formatted pages for review
  - Draft transmittal memo
  - Draft NDWAC PowerPoint presentation
  - Concurrence and signature worksheet
- One week turnaround for WSWG comments/concurrence. Due Friday, May 6.
- Friday, May 6 through Friday, May 13 (one week)—final resolution of any issues and final changes, with re-checkins to confirm concurrence if substantive changes.
- Monday, May 16 and Tuesday, May 17—final formatting and production.
- Wednesday, May 18—final WSWG report to NDWAC
- June 1–3—NDWAC Meeting.

## **Meeting Wrap-Up and Next Steps**

WSWG members closed the meeting by expressing their appreciation of one another and their joint effort. The April meeting was the final meeting of the WSWG. The WSWG will not meet again in person or by conference call. Final concurrence and other wrap up of the WSWG process will be carried out by phone and email as described in the “schedule” section, above.

## **Closed Session**

During the April, 2005, meeting the WSWG found no issues which they believed needed to be heard in closed session, and no closed sessions were held.

## **Attachments**

### *Meeting Materials—Non-Draft Documents*

- Attachment A: Meeting Agenda
- Attachment B: NDWAC Working Group Ground Rules
- Attachment C: WSWG Project Plan
- Attachment D: March 21, 2005 WSWG Draft Findings

### *Meeting Attendance and Participation*

- Attachment E: WSWG Roster and Contact List
- Attachment F: List of Others in Attendance