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STANDARD PRACTICE OF ATMOSPHERIC WATER MANAGEMENT PROJECTS

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Abstract

Because it is viewed increasingly for its potential to augment the supply of fresh water as well as a reliable means for mitigating certain hazardous weather conditions, the use of weather modification technologies has flourished in recent decades. Consequently, the American Society of Civil Engineers (ASCE) some 25 years ago established working groups to develop manuals and other materials to guide the professional practice of seeding clouds to alter cloud processes for the increased production of rain water and snowpack as well as protection from deleterious weather events such as hail and dense fog.

In the past four years, ASCE's Atmospheric Water Management Standards Committee has developed a set of standard practices for designing and implementing cloud-seeding projects for the purposes of: (1) precipitation enhancement, (2) hail suppression, and (3) supercooled (cold) fog dispersal. Moreover, the Committee recently completed a major revision of a manual, *Guidelines for Cloud Seeding to Augment Precipitation*, which provides technical guidance for water-resource managers and others who might become involved in the decision-making process for implementing cloud seeding operations.

The standard practice documents provide an historical overview of the evolution of technologies for augmenting rainfall and snow cover, as well as suppressing hail and dense fog. The documents also summarize current perceptions of the respective technologies. The bulk of the documents addresses the general requirements for the conduct of cloud seeding or fog dispersal operations, including a succinct description of the primary requisite atmospheric conditions that produce precipitating cloud formations and thick fog. Each document contains suggestions on steps to be taken to ensure public safety and mitigate public concerns. The important issue of how to evaluate weather modification activity is also covered in the documents.

The standard practice documents are a product of a rigorous process of drafting, reviewing, editing, and adopting materials that make up the finished publications. Letter balloting was exercised at each stage of the process, involving a diverse population of weather modification specialists with extensive knowledge and experience in the conduct of weather modification "field" operations as well as research and development of the technologies. Negative ballots were addressed by a prescribed procedure of review, rewriting, and re-balloting before the documents were submitted for review by the full membership of the Society. Ultimately, the standard and commentary are evaluated before they are submitted to the American National Standards Institute for approval as an American National Standard.

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