

NGS POLICY 03-1995



FBN Leveling Policy

National Geodetic Survey

Approved by the Executive Steering Committee

21 December 1995

This policy has been retired and is no longer in effect

December 21, 1995

MEMORANDUM FOR: Distribution

FROM: Captain Lewis A. Lapine, NOAA
Director, National Geodetic Survey

SUBJECT: Policy of the National Geodetic Survey with Regard to Leveling to FBN Stations

POLICY: NGS should plan and implement leveling to the approximately 1,300 stations of the Federal Base Network (FBN)

An inventory of how much leveling is required for the FBN effort should be compiled as FBN stations are identified in NGSIDB. Once the inventory is completed, the sequence of leveling will be determined by factors such as:

- * criticality for geoid modeling
- * impact on other NGS operations
- * availability of cooperative resources
- * expected accuracy of existing GPS ellipsoid heights

Leveling to FBN stations will be performed by an NGS field party, or NGS may decide on a case-by-case basis to select organizations (either through cooperative agreements or contracts) that have previously demonstrated their capability to perform first- or second-order leveling.

When selecting FBN stations in the future, emphasis should be placed on choosing existing marks that have been leveled to and have NGS published first- or second-order heights.

NGS GPS field parties should have the necessary equipment and training for leveling to FBN stations. All future GPS projects will consider including leveling observations to FBN stations as part of the project or immediately following the project.

The order/class of the required leveling will be dependent on the existing order/class of the nearest tie leveling line.

Where the nearest tie leveling line is second-order, the leveling will be done to second-order, class I specifications (requires a two-mark tie) . Where the nearest tie leveling line is first-order, the leveling will be done to first-order, class II specifications (requires a three-

mark tie) except as follows: if a valid three-mark tie has not been accomplished after 5 kilometers of check leveling progress, and a valid two-mark tie has been made in the meantime, the two-mark tie will be accepted and the leveling will be completed following second-order, class I specifications.

If on a first-order spur leveling to a FBN station the forward-backward specification for first-order, class II leveling is not met, then the spur will be completed using the second-order, class I, specification, provided it has been met. In this case the height will be downgraded to second-order.

NOTE: The following policy was developed in accordance with NGS STRATEGIC GOAL 3 - FEDERAL BASE NETWORK.

Adopted: NGS Executive Steering Committee, December 13, 1995.

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