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imagery analysis report

Vault Components for New-Generation Submarine Reactors, USSR (S)

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APRIL 1980
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VAULT COMPONENTS FOR NEW-GENERATION SUBMARINE REACTORS, USSR (S)

1. (TSR) This report presents a continuation of the analysis of submarine reactor vault components discussed in a previous NPIC report.[1] Additional components identified since that report and believed to be associated with the reactor vault sections are also discussed.

2. (TSR) The vault base sections (Figure 1) were first observed on [redacted] on a rail line leading from a shop building west of the submarine construction hall at Komsomolsk Shipyard Amur 199 [redacted], USSR. On [redacted] the two base sections were on a rail spur adjacent to the two-bay construction hall (Figure 2), and at that time, detailed mensuration was done on the sections. The outside dimensions of these vaults are [redacted] (centerline measurements), with the [redacted] meter sides athwartships tapering to [redacted] at each end. The sections are [redacted] high above the railcar, and the border around the sections is [redacted] thick (Figure 3). The inside dimensions of the sections are [redacted] [redacted] (centerline measurements). The gridwork inside the sections slopes toward the center gridline with a slope of [redacted] per gridline; the center gridline is [redacted] above the top of the railcar.

3. (TSR) An additional component was observed on the rail line leading into the four-bay construction hall on [redacted] (Figure 4) and is probably associated with the reactor vault components. This curved, open-ended component has heavy gridwork similar to that of the vault base sections and appears to be a vault side section designed to fit around the vault base section to form part of the vaulted area for the reactor (Figure 5). The outside width of this component is [redacted] the inside width is [redacted] The length of the structural gridwork is [redacted] the maximum internal length is [redacted] and the maximum external length is [redacted] This component, together with an identical one and two flat components, would probably be needed to form a complete reactor vault.

4. (TSR) Three different internal reactor-associated components for reactor vaults have been identified at Severodvinsk Shipyard 402 [redacted] Figures 6 through 12). These components have been named for their probable position in the reactor vault as illustrated in Figure 5. The components are shown in Figures 6, 8, 9, and 11. Artist's conceptions of the components along with key dimensions are presented in Figures 7, 10, and 12. The outer dimensions of the reactor foundation plate and the upper reactor framework are nearly identical. The midsection spacer has only been observed on [redacted] but the dimensions are compatible with those of the other two pieces and fall within the accuracy statement.

5. (TSR) The only known nuclear submarine being constructed at Komsomolsk at this time is the V-III nuclear-powered submarine (SSN). Probable reactor templates for these units have previously been observed in the fabrication/open storage areas on the southeastern side of the yard. The submarine programs currently underway at Severodvinsk include D-III nuclear-powered ballistic missile submarine (SSBN), Typhoon SSBN, ALFA SSN, and a new probable nuclear-powered guided missile submarine (SSGN). The fact that these pieces do not appear to be compatible with any previously identified submarine program suggests that they are probably for new-generation reactors for one of several new classes of submarines under development, including the Typhoon SSBN and probable SSGN at Severodvinsk, and a probable new class (type undetermined) at Komsomolsk.

REFERENCES

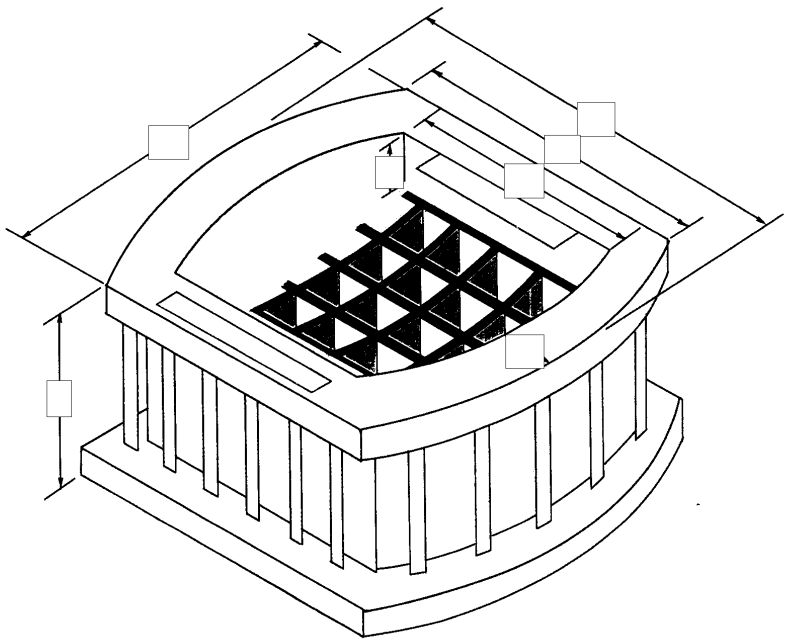
IMAGERY

(TSR) All relevant KEYHOLE imagery acquired between [redacted] was used in the preparation of this report.

DOCUMENT

1. NPIC. [redacted] IAR-A087/79, *First Identification of Submarine Probable Reactor Vault Components, USSR (TSR)*, Nov 79 (TOP SECRET [redacted]

(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [redacted]



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DIMENSIONS IN METERS

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FIGURE 3. ARTIST'S CONCEPTION OF VAULT BASE SECTION WITH DIMENSIONS

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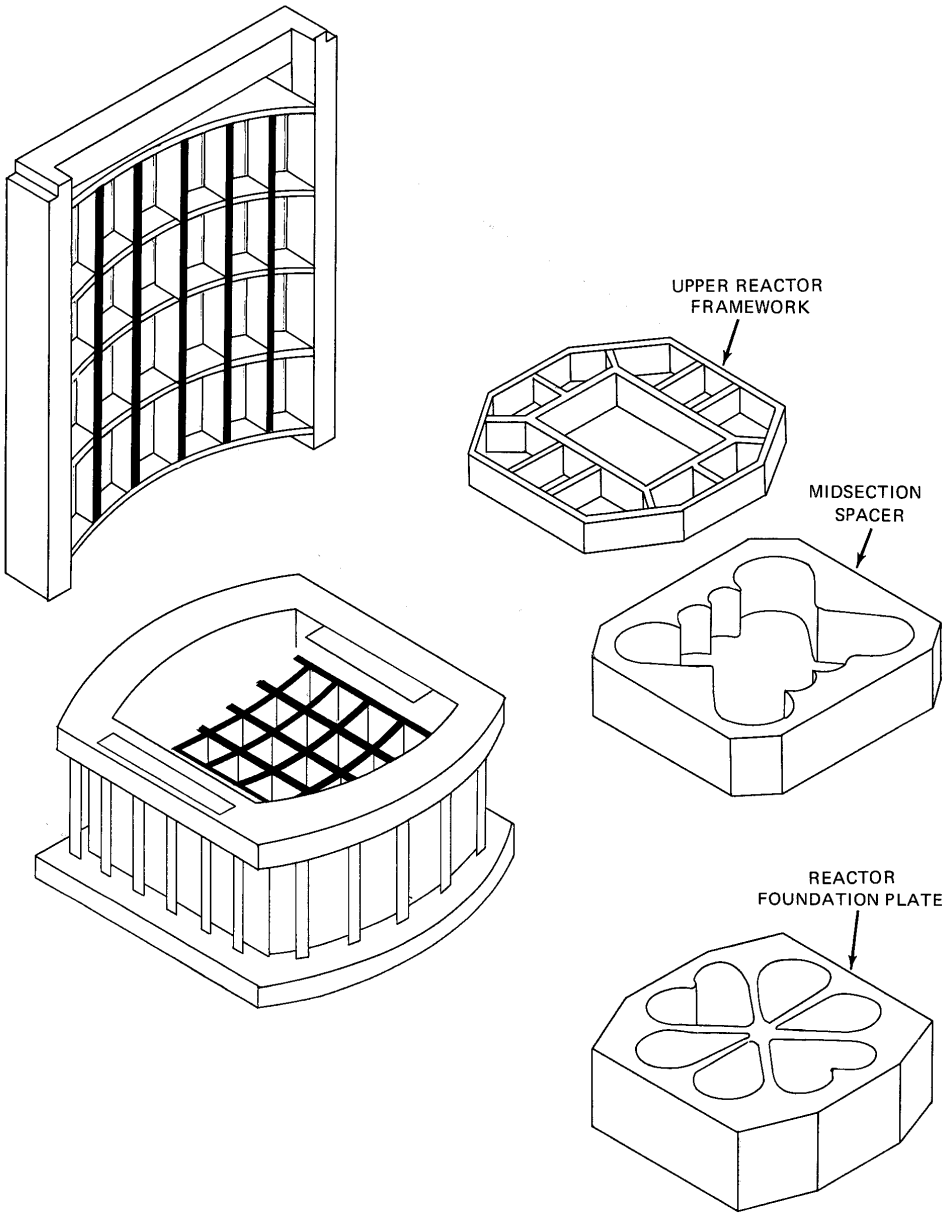

FIGURE 5. ARTIST'S CONCEPTION OF REACTOR VAULT AND INTERNAL COMPONENT PLACEMENT

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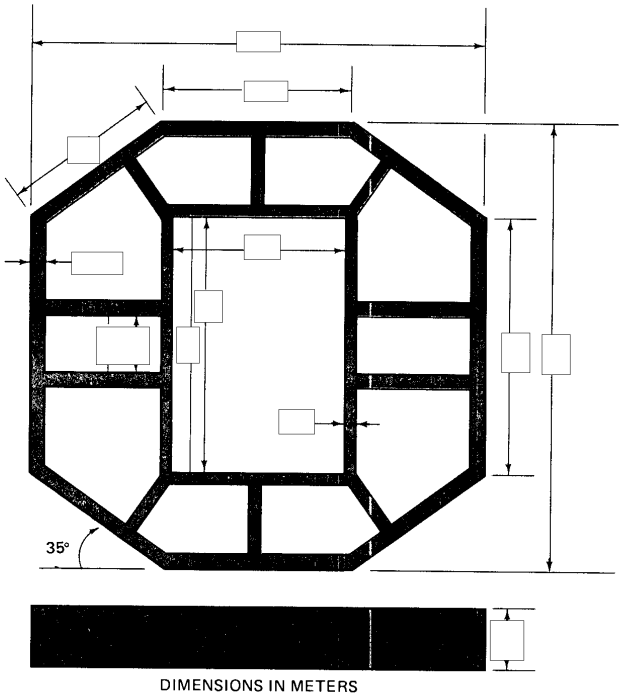

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DIMENSIONS IN METERS

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FIGURE 7. ARTIST'S CONCEPTION OF UPPER REACTOR FRAMEWORK WITH DIMENSIONS

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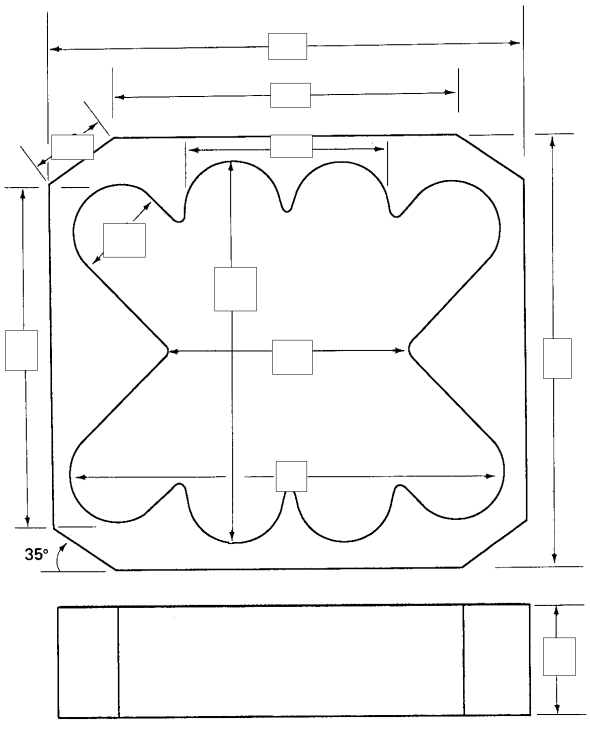

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DIMENSIONS IN METERS

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FIGURE 10. ARTIST'S CONCEPTION OF MIDSECTION SPACER WITH DIMENSIONS

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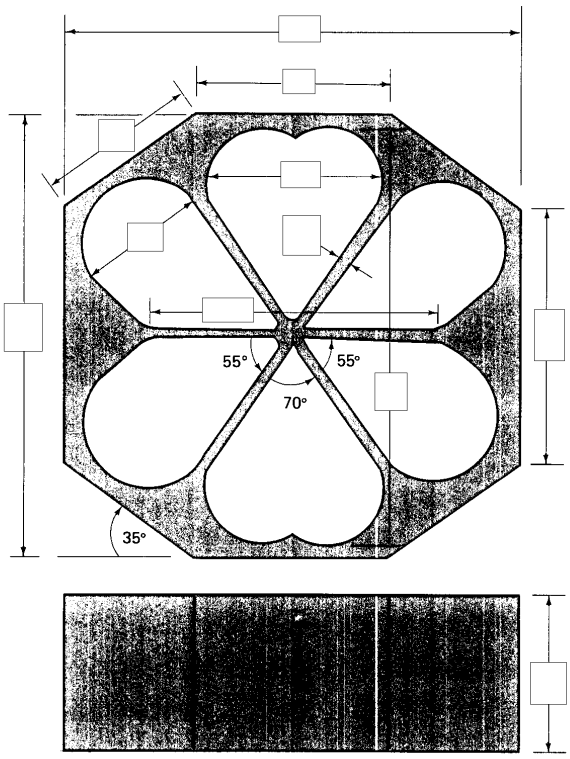

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DIMENSIONS IN METERS

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FIGURE 12. ARTIST'S CONCEPTION OF REACTOR FOUNDATION PLATE WITH DIMENSIONS

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