PORT OF SEATTLE MEMORANDUM

COMMISSION AGENDAItem No.7bSTAFF BRIEFINGDate of MeetingNovember 24, 2015

DATE:November 16, 2015TO:Ted Fick, Chief Executive OfficerFROM:George England, Program Leader, Aviation Project Management Group
Michael Ehl, Director, Aviation Operations
Dave Soike, Director, Aviation Facilities and Capital Programs

SUBJECT: Q3 NorthSTAR Program and North Satellite Project Briefing

SYNOPSIS

The NorthSTAR program is an outcome of Alaska Air Group's (AAG's) goal to concentrate and consolidate the operations of Alaska Airlines and Horizon Airlines at the north end terminal facilities of the Airport. The NorthSTAR program includes five renovation projects. The program, which is a collaborative effort of the Port and AAG, was initially defined in a conceptual study prepared by AAG and its consultant in 2011. Working with this conceptual study, the Port and AAG refined the scope to meet the long-term goals of both the Port and AAG. In some cases, scope and budget from other parallel capital projects have been incorporated into the NorthSTAR program to ensure compatibility of design and efficiencies of construction. The revised scope meets the Airport and AAG goals for improved traveler experience and customer service.

The North Satellite Renovations and Expansion (NSAT) project 60% design and cost estimate was submitted on June 30, 2015. 60% design review has been completed. The 60% cost estimate has been reconciled with the designer and exceeds the budget by 19%. The contractor's 60% design estimate is being validated by the Port against the Port's estimate. Value engineering is underway to reduce the cost of the increase. Port staff is working with AAG to achieve optimal phasing strategy and plan to minimize temporary relocation of gates and aircraft positions and recommended revised project budget. The 90% design for the Preliminary Work Package construction at the north end of the building in preparation for the expansion is underway.

As for other NorthSTAR projects, the Main Terminal Improvement project facility planning preliminary design is completed, concluding projected space requirements for the north security checkpoint and passenger check-in facilities exceed available space. The project is on hold pending terminal expansion recommendations from the Sustainability Airport Master Plan (SAMP). Both the Concourse C Vertical Circulation and Refurbish Baggage System projects were substantially completed during this quarter and this will be the last report for both projects.

The program is currently scheduled for completion in 2020. This briefing addresses progress on the program and each project through September 30, 2015. The briefing also includes an update on the

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North Satellite project budget and anticipated authorization for Preliminary Work Package construction and authorization to amend the contract with Hensel Phelps for additional preconstruction services.

BACKGROUND

The following is a summary of accomplishments, progress, issues, metrics and risks specific to the NorthSTAR programmatic capital project and each of the five capital construction projects:

1. CIP C800544 NorthSTAR Program Management & Controls

This umbrella project is comprised of cost estimating, cost controls, scheduling and overall management support for the five capital renovation projects within the NorthSTAR program.

Accomplishments

- Updated NorthSTAR webpage in conjunction with Port Public Affairs.
- Coordinated NorthSTAR Airside capacity impacts of airport-wide off-gate planning forecast
- Removed Concourse C/D Exterior Stairs project from the NorthSTAR program.
- AAG Program Leader changing; replacement began end of September; transition underway.

Progress

• Continued update of overall program master schedule with changes to each project schedule in design/construction

Issues

• Budget implications of AAG's decisions are being refined as part of the ongoing 60% cost estimate validation

Metrics

- Financial performance is reflected in the program budget summary (Supplement A PowerPoint) and includes:
 - Cumulative Spent against Budget Actual \$3.4M; Budget \$18.8M
 - Overall Schedule Progress Actual 40%; Planned 48%
 - Cash flow for this reporting period Actual \$168k; Planned \$238k
 - Contingency remaining Forecast \$5.2M; Budget \$0.94M (inclusive of Management Reserve)
 - Small Contractor Supplier (SCS) Participation (Program Mgmt.) Actual 18.4%; Planned 27.0%

Risks

- Communication and coordination between multiple teams, stakeholders and people
- Maintain baseline schedule agreed to by all stakeholders
- Further budget implications and schedule delays due to AAG decisions

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> Current Capital Budget: \$18,764,150 * (*Includes program management reserve) Scheduled Project Completion: August 2020

2. CIP C800556 NorthSTAR North Satellite (NSAT) Renovation & North Satellite Transit System (NSTS) Lobbies

This project is the largest within the overall program and includes the renovation of the North Satellite (NSAT) and the satellite transit system (STS) north loop stations at the Main Terminal, Concourse C, and the North Satellite. While the renovation of the STS station lobbies is relatively minor in scope, the NSAT renovation is significant and includes expansion of the NSAT to improve customer service and provide a balance of holdrooms, concessions, and circulation space to meet the overall program vision. The scope includes the removal of all regulated materials, seismic reinforcement of the NSAT, replacement of all infrastructure systems within the NSAT, expansion of the NSAT by nine structural bays to accommodate 5 additional gates, the addition of a rooftop structure for Alaska Airlines' Board Room and a destination restaurant, the rebuilding of the NSAT concourse level interior, and the renovation of non-public support spaces on the ramp and STS levels. The NSAT scope will also incorporate sustainable building elements and the data and communications infrastructure to accommodate the anticipated needs of the Port, AAG and the travelling public.

Accomplishments

- 60% design review completed. The most significant comments concern scope additions, construction phasing particularly regarding the number of available gates and dual taxilane impacts during construction, holdroom seating capacity, and window wall system.
- The 60% cost estimate has been reconciled by the Port with the designer's estimate and the contractor's 60% estimate is in the process of being reconciled. The project budget is 19% over the current budget of \$421.7M now estimated at \$501 million. Value engineering is being conducted to reduce the amount of the increase.
- 90% design submittal for the Preliminary Work Package construction was received on October 1. Preliminary Work includes modifications to the north end of the building in preparation for the building expansion.
- Submitted 60% Baggage Handling System (BHS) Expansion design for stakeholder review
- AAG has concurred in the blended holdroom/concessions layout and holdroom seating capacity design and analysis.
- AAG's NSAT Interim Boardroom construction complete.
- Completed removal of Regulated Materials Management (RMM) in preparation for Port/Hensel Phelps construction offices on STS level of NSAT.

In Progress

• Proceeding with completing 100% design submittal for the Preliminary Work construction subcontract bid package, with delivery due in late 2015. Planning to seek Commission authorization at the December 8, 2015 meeting for Preliminary Work Package construction to

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start preparatory work in early 2016. Authorization will also include approval to amend the General Contractor/Construction Manager contract with Hensel Phelps for the preliminary work construction and additional preconstruction services and to seek project specific construction audit services. Project components include preparatory work to relocate a minimal number of passenger loading bridges, aircraft positions, fuel hydrant pits and site utilities, selective demolition and construction of weatherproof building enclosures, construction of stairs and walkways to ground board aircraft, and purchase of the structural steel, vertical circulation components, major electrical and mechanical equipment, fuel hydrants and other long-lead items.

- Proceeding with 90% design for the 2-phased Base Building construction due in 1st Quarter 2016.
- The primary factors contributing to the increase in the estimate cost at 60% design are:
 - 1. Thirteen additional scope items (13) were requested to be incorporated into the design as a result of the 30% design review. Staff has noted this in prior 2014 and 15 Commission quarterly updates, with potential cost impacts to be identified at the conclusion of the 60% design phase.
 - 2. Updated strong market conditions
 - 3. Refinement of the design identified scope areas requiring modifications resulting in cost increases.
 - 4. Increased asbestos remediation effort mainly due to existing fireproofing overspray
 - 5. Reconciliation of costs with the General Contractor/Construction Manager (GC/CM) Hensel Phelps estimate reflects further unit cost adjustments and updated subcontractor pricing
 - 6. Currently forecasting a project budget range of \$470-490 million
- An extensive Value Engineering (VE) effort is being conducted to identify cost savings that could potentially reduce the increased costs by \$20 million with minimal or up to \$35 million with manageable impact on schedule and overall Port standards. Over 50 scope items were identified for review. Evaluation factors consider construction cost savings, maintenance/life cycle cost impacts, passenger experience, operational impacts, additional design fee impacts, and schedule impacts. Significant areas being evaluated are: 1) architectural/structural modifications the building structure/appearance, alternate finishes, architectural to features: 2) mechanical/electrical systems modifications including lighting controls and alternative fixtures; 3) eliminate expansion of the NSAT STS station for 4-car train capacity since further expansion of the NSAT is not planned; and 4) eliminate LEED certification requirements. The immediate focus will be on scope items that maintain the base program objectives yet have minimal or no impact on design fees or schedule followed by items that require more analysis due to modifications to Port standards and/or program objectives.
- Continuing reconciliation efforts of the Port's 60% cost estimate with the GC/CM. The GC/CM 60% cost estimate reflects subcontracting bid uncertainty in the strong construction market, unidentified risks, security and logistics concerns (new TSA checkpoint procedures). Extensive analysis of the pricing and methodology of their estimate is continuing.
- Continuing collaborative efforts with AAG to achieve optimal phasing strategy with minimal temporary relocations of gates, aircraft positions and fuel hydrants and a recommendation for a revised project budget per the Port/AAG Memorandum of Understanding (MOU). Phasing

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options that consider passenger experience, aircraft gate, and operational impacts continue to be refined.

- Proceeding with the 90% design of the base building for early 2016 submittal.
- Evaluating various project delivery alternatives in consideration of increased budget, schedule impacts, potential procurement issues, and AAG concurrence. Alternatives are:
 - 1. Current Schedule: Undertake collaborative effort to proceed with current expansion/design project scope and optimizing the phasing solution with AAG to obtain concurrence.

Pros: Maintains Port's programmatic objectives including addition of necessary gates, improved NSAT customer services and operations, increased non-airline revenues, etc. Also achieves Port functional and design objectives. Savings will be achieved by value engineering and potentially via optimizing construction phasing. Developing mutually advantageous solution with AAG allows concurrence with reduced risk of impacting airline/airport relationships.

Cons: Project over current \$421 million budget (19% which equates to \$501 million). Project budget is greater than 10% above the approved MII, requiring airline MII vote or use of SLOA management reserve funds. Working on AAG concurrence but proceeding without AAG could risk damage to airline/airport relationships.

2. Defer project budget and Preliminary Work Package authorization until January 2016.

Pros: Provides additional time to further reconcile the full project and preliminary work package budget cost estimates before seeking authorization, and provides time for AAG concurrence if not already obtained.

Con: Delays construction start 6-8 weeks at an estimated cost of \$3 - \$4 million.

3. Redesign NSAT project to existing budget.

Pro: Maintain existing budget.

Cons: Requires significant elimination or reduction of core project scope items. Will not achieve project objectives/quality/passenger experience goals, all operational and business goals, nor LEED Certification. Redesign delay estimated at 12 months and \$15 - \$20 million. Total scope reduction may still not result in budget savings needed to maintain budget.

4. Convert to Design/Bid/Build (DBB) procurement.

Pros: Assumes the Port and the GC/CM cannot reach agreement on the cost of the project. Will open bidding process to allow for more competitive pricing. Impact of delay may be offset by favorable (lower) DBB bid result and potentially more local involvement/interest.

Cons: Schedule and cost (escalation and added construction management support) impact estimate a 6-8 month delay for rebid and procurement process, adding \$10 - \$20 million in delay cost. Loss of opportunity to speed project by doing early work. DBB process could result in higher bids due to contractor bidding risk and unpredictable market conditions. Higher risk of change orders.

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Issues

- Resolution of the increased 60% cost estimate project budget. Aggressively pursuing value engineering to reduce cost increase, obtain AAG concurrence per the Port/AAG MOU, and provide appropriate justification for Commission consideration to increase budget.
- An airline Majority-In-Interest (MII) vote is required with a project budget increase greater than 10% of the approved \$399 million, or the Port can consider use of the Signatory Lease and Operating Agreement (SLOA) management reserve funds.
- Current forecasted construction completion date is Q3, 2020 based on the delay in completion of the 60% design and addressing AAG concerns/decisions. Procurement strategy for long-lead procurement items is being developed to minimize potential for additional delays.
- Final definition and agreement required of AAG "betterments" (cost sharing items), including budget quantification.

Metrics

- Financial performance is reflected in the program budget summary (attachment A) and includes:
 - Cumulative Spent against Budget Actual \$19.1M; Budget \$415.8M
 - o Overall Schedule Progress Actual 4%; Planned 8%
 - Cash flow for this reporting period Actual \$3.8M; Planned \$5.1M
 - Contingency remaining Forecast \$35.6M; Budget \$40.7M
 - o SCS Participation (Design) Actual 1.0%; Planned 3.3%
 - Apprenticeship Utilization Actual 0% *; Goal 15%
 * No information available yet too early to report

Risks

- Resolution of new project budget in a manner that appropriately addresses increased costs, value engineering cost reduction efforts, schedule impacts, and programmatic objectives.
- Resolution of a final construction phasing plan that minimizes impacts to AAG's level of service and maintains consistency, balanced against viable operating gates, operating effectiveness, schedule impacts and construction costs.
- Delayed AAG concurrence for construction phasing and project budget will impact the design schedule and subsequent early construction packages.
- Final reconciliation of the 60% cost estimate with the GC/CM assuming the GC/CM costs remain unreasonably high, and whether to pursue the alternative to switch to a design/bid/build procurement process.
- Impact of the aggressive construction market on cost and availability of materials and work force.

Current Capital Budget:	\$415,812,944
Estimated Expense Budget:	\$5,800,000
Scheduled Project Completion:	August 2020

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3. CIP C800547 NorthSTAR Concourse C Vertical Circulation

This project, which includes work being constructed and coordinated by Port and Alaska Airlines contractors, provides new vertical circulation cores for improved vertical circulation between the concourse and the ground levels for Alaska Airlines/Horizon Air customers at three locations on Concourse C: Gates C2, C10, and C16. This work provides covered, non-temperature controlled sloped walkways with elevator(s) between concourse and ground levels. The vertical circulation cores consist of a light roof structure with glazed side panels to protect passengers from the weather and new door openings from the concourse to the vertical circulation cores. This project has improved passenger circulation to the aircraft from concourse to ground level on Concourse C for Horizon Air passengers.

Accomplishments

- The remaining C2 and C10 elevators opened in July and August. Substantial completion for the project was issued on August 13.
- Excellent construction management effort by Port and AAG teams. No flight delays and minimal customer complaints during construction.
- The Port is adding overhangs above the concourse entry/exit doors to the walkways to provide added protection from the weather for passengers.
- Installation of thirty-eight (38) remaining electric GSE (eGSE) chargers, at Gates C10 through C16, is complete and chargers are now in use.

In Progress

- Construction project in closeout.
- Design initiated for overhangs above doors.

Issues

• None

Metrics

- Financial performance is reflected in the program budget summary (attachment A)
- Projected savings to be transferred to NorthSTAR program management reserve.
- Based on the final construction plans, the following metrics will reflect the performance during construction:
 - 1. Cumulative Spent against Budget Actual \$14.7M; Budget \$16.7M
 - 2. Overall Schedule Progress Actual 100%; Planned 100%
 - 3. Number of delayed outbound bags Actual 0; Planned 0
 - 4. Number of delayed outbound flights Actual 0; Planned 0
 - 5. Number of safety hazard report incidences Actual 0; Planned 0
 - 6. Number of customer complaints received Actual 0/mo.; Planned <5/mo.
 - 7. Construction Change Orders Processed Actual 47; Planned 0
 - 8. Contingency Remaining Forecast \$0.8M; Budget \$2.0M
 - 9. SCS Participation (Design) Actual 29.6%; Planned 33.4%

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10. SCS Participation (Construction) - Actual 20.8%; Planned 6.0%11. Apprenticeship Utilization – Actual 16.3%; Goal 15%

Risks

• None

Current Capital Budget:	\$16,777,350
Estimated Expense Budget:	\$1,233,500
Scheduled Project Completion:	August 2015

4. CIP C800545 NorthSTAR Main Terminal Improvements

The Main Terminal scope begins at the departure drop-off curb and ends at the Main Terminal north STS station. Although the least defined element of the NorthSTAR program, the project will reconfigure the north end of the ticket lobby, the existing airline ticket office and ticket counters, and the north checkpoint. This project will focus on the efficient movement and processing of AAG, cruise, and other customers through improvements to the building circulation, wayfinding, technology infrastructure, checkpoint reconfiguration, and anticipated changes in the way AAG processes arriving passengers.

Accomplishments

- Analysis found future passenger projections result in insufficient space in the north terminal to accommodate projected security checkpoint and ticket lobby passenger check-in/ circulation requirements, requiring terminal expansion.
- Final report issued in September.

In Progress

• Project on hold pending terminal expansion recommendations from Sustainability Airport Master Plan.

Issues

• Coordination with upcoming Sustainable Airport Master Plan terminal expansion recommendations

Metrics

• TBD

Risks

• Developing final scope that minimizes investment anticipating the Sustainable Airport Master Plan and AAG's changing ticketing operations

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Current Capital Budget:\$29,200,000Scheduled Project Completion:TBD

5. CIP C800555 NorthSTAR Refurbish Baggage System

This project refurbished the existing baggage systems in support of AAG operations on the NSAT and Concourse D. The work extends the service life of part of the C92 baggage systems, the C88 North Satellite systems, and the C88 tunnel systems. Some of the processing and transit times may be decreased but capacity will not be increased.

The project sped up the tunnel conveyors and replaced aging conveyor belts, motors, drives, and controls of the existing tunnel and North Satellite systems as required improving reliability and full functionality.

Accomplishments

- C88 and C92 conveyor system contract work is complete, commissioned, and operating.
- Completed C92 Automated Bag Tag Reader (ATR) replacements and C92 doghouse.

In Progress

• Follow up work to coordinate with other projects that occurred at end of this project include demolish 2 ATR's on C92, conveyor access to be provided for C92 doghouse, and additional power turn replacements on C92. This work will be completed by Port Construction Services.

Issues

• None.

Metrics

- Financial performance is reflected in the program budget summary (attachment A)
- Based on the final construction plans the following metrics will reflect the performance during construction:
 - 1. Cumulative Spent against Budget Actual \$17.1M; Budget \$19.4M
 - 2. Overall Schedule Progress Actual 100%; Planned 100%
 - 3. Number of system shutdowns Actual 9; Planned 10
 - 4. Number of operational impacts Actual 5; Planned 0
 - 5. Number of unplanned system downtime periods exceeding 15 minutes Actual 0; Planned 0
 - 6. Number of construction change orders processed Actual 57; Planned 0
 - 7. Contingency remaining Forecast \$0M; Budget \$1.3M
 - 8. SCS Participation (Design) Actual 12.7%; Planned 14.3%
 - 9. SCS Participation (Construction) Actual 5.2%; Planned 5.0%
 - 10. Apprenticeship Utilization Actual 18.3%; Goal 15%

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Risks

- Budget risk as project was notified by contractor of a potential claim. Evaluating the level of this risk.
- Schedule has no float remaining; however performance to date has met each schedule interim deadline.

Current Capital Budget:	\$19,362,500
Estimated Expense Budget:	\$640,000
Scheduled Project Completion:	September 2015

6. CIP C800554 NorthSTAR Concourse C & D Exterior Stairs

This project, to add exterior stairs to Concourse C and D gate lobbies to enable the aft loading and unloading of aircraft at locations identified by AAG, has been deleted from the NorthSTAR program per AAG's request. This was a prospective "status 1" project, and therefore was not included in the capital budget and plan of finance

Accomplishments

• Received signed decision worksheet from AAG deleting this project. The program budget has been adjusted

In Progress

• Project deleted

Estimated Budget: \$21,400,000

ATTACHMENTS TO THIS BRIEFING

• Attachment A - Quarterly Commission Update PowerPoint

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

North Sea-Tac Airport Renovations (NorthSTAR) (CIP #C800544)

- July 14, 2015 NorthSTAR Program status update
- April 28, 2015 NorthSTAR Program status update
- January 27, 2015 NorthSTAR Program status update
- October 28, 2014 NorthSTAR Program status update.
- August 19, 2014 NorthSTAR Program status update.
- May 27, 2014 NorthSTAR Program status update.
- January 14, 2014 NorthSTAR Program status update.
- September 24, 2013 NorthSTAR Program status update.
- June 25, 2013 –NorthSTAR Program status update.
- April 9, 2013 The Commission authorized the Chief Executive Officer to enter into a project labor agreement covering the NorthSTAR program's five major construction projects.

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- March 26, 2013 NorthSTAR Program status update.
- June 26, 2012 The Commission received a briefing on the status of the Airline Realignment Program and budget restructuring in association with the NorthSTAR Program.
- April 4, 2012 Authorizations for the North Sea-Tac Airport Renovations program for: 1) preliminary project funding; 2) execution of consulting contracts for design/construction support services and project management services; and 3) use of Port crews and consultants to conduct regulated materials management surveys and field support services for preliminary project planning tasks.

North Satellite Renovation & North Satellite Transit Station Lobbies (CIP #C800556)

- March 28, 2015 The Commission authorized three NSAT related items:
 - Expand the baggage handling system increasing the project scope for \$14,400,000 and \$1,954,000 to complete the design.
 - Entering into a developer agreement with Puget Sound Energy and \$200,000 in reimbursement for the design and construction of underground gas infrastructure.
 - o \$5,300,000 to
 - Prepare four locations to accommodate temporary passenger loading bridges, to construct temporary construction offices.
 - To complete construction of a Satellite Transit System (STS) North loop Dynamic Display system.
 - \$600,000 in expense funds for regulated materials management for AAG's tenant improvement project.
 - Approval to use Port crew labor and small works contractors to complete early project work.
- August 5, 2014 The Commission authorized expansion of the NSAT, \$191,323,143 budget increase, \$15,717,800 to complete the design, execute amendments to existing consulting contracts; execute future consulting contracts and use of and to advertise for General Contractor/Construction Manager (GC/CM) alternative public works contractor.
- July 22, 2014 NSAT Expansion Briefing
- April 16, 2014 Seattle-Tacoma International Airport Capital Program Briefing
- January 14, 2014 NSAT expansion briefing.
- May 28, 2013, Commission authorized the execution of separate service agreements for Construction Management Services and Commissioning Services, of approximate values of \$10 million and \$1.5 million.
- December 11, 2012 The Commission was briefed on the Vertical Conveyance Modernization Project Aero Phases 1 and 2 and the possibility of adding the specified elevators and escalators to the NorthSTAR program.
- July 24, 2012 Commission authorized \$32,000,000 for the design of the NorthSTAR NSAT Renovation and NSTS Lobbies project.
- April 10, 2012 The Commission authorized the execution of consultant contracts for design and construction support services; program management services; and the completion of site surveys for regulated materials management, in the amount of \$1,200,000.

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NorthSTAR Concourse C Vertical Circulation Project (CIP #C800547)

- October 22, 2013 Commission authorized \$16,145,000 for advertising for bids, executing a major construction contract, executing a tenant reimbursement agreement with Alaska Air Group, using Port crews to provide construction services for the Concourse C Vertical Circulation.
- November 6, 2012 Commission authorized the design for the 1:20 sloped walkways and elevator(s) at Gates C2, C10-12, and C14 on Concourse C.

NorthSTAR North Main Terminal Improvements Project (CIP #C800545)

• December 3, 2013 – Commission authorized \$1,500,000 for preliminary engineering up to 30% design.

North Satellite Refurbish Baggage System Project (CIP#C800555)

- September 24, 2013 The Commission authorized staff to: (1) advertise, award, and execute a major public works contract for the construction of the North Satellite Refurbish Baggage System Project; and (2) authorize the use of Port crews.
- July12, 2013 The Commission was notified of 1 added scope item and 2 scope items moved into the scope previously identified as suggested scope.
- November 6, 2012 The Commission authorized staff to prepare design documents and use Port crews to support site investigation needed to develop the contract documents, in the amount of \$3,760,000.