Filed by: ON Semiconductor Corporation
Pursuant to Rule 425 under the Securities Act of 1933
and deemed filed pursuant to Rule 14a-12
of the Securities Exchange Act of 1934
Subject Company: AMIS Holdings, Inc.
Commission File No.: 000-50397

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, statements related to the benefits of the proposed transaction between ON Semiconductor Corporation ("ON") and AMIS Holdings, Inc. ("AMIS" or "AMI") and the future financial performance of ON. These forward-looking statements are based on information available to ON and AMIS as of the date of this release and current expectations, forecasts and assumptions and involve a number of risks and uncertainties that could cause actual results to differ materially from those anticipated by these forward-looking statements. Such risks and uncertainties include a variety of factors, some of which are beyond ON's or AMIS' control. In particular, such risks and uncertainties include difficulties encountered in integrating merged businesses; the risk that the transaction does not close, including the risk that the requisite stockholder and regulatory approvals may not be obtained; the risk that ON is not able to repay or refinance AMIS' outstanding debt prior to or concurrent with the completion of the merger transaction; the variable demand and the aggressive pricing environment for semiconductor products; dependence on each company's ability to successfully manufacture in increasing volumes on a cost-effective basis and with acceptable quality its current products; the adverse impact of competitive product announcements; revenues and operating performance, changes in overall economic conditions, the cyclical nature of the semiconductor industry, changes in demand for our products, changes in inventories at customers and distributors, technological and product development risks, availability of raw materials, competitors' actions, pricing and gross margin pressures, loss of key customers, order cancellations or reduced bookings, changes in manufacturing yields, control of costs and expenses, significant litigation, risks associated with acquisitions and dispositions, risks associated with leverage and restrictive covenants in debt agreements, risks associated with international operations, the threat or occurrence of international armed conflict and terrorist activities both in the United States and internationally, risks and costs associated with increased and new regulation of corporate governance and disclosure standards (including pursuant to Section 404 of the Sarbanes-Oxley Act of 2002), and risks involving environmental or other governmental regulation. Information concerning additional factors that could cause results to differ materially from those projected in the forward-looking statements is contained in ON's Annual Report on Form 10-K as filed with the Securities and Exchange Commission ("SEC") on February 23, 2007, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other of ON's SEC filings, and AMIS' Annual Report on Form 10-K as filed with the SEC on February 28, 2007, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other of AMIS' SEC filings. These forward-looking statements should not be relied upon as representing ON's or AMIS' views as of any subsequent date and neither undertake any obligation to update forward-looking statements to reflect events or circumstances after the date they were made.

In connection with ON's proposed acquisition of AMIS, ON has filed with the SEC a preliminary Registration Statement on Form S-4 containing a Joint Proxy Statement/Prospectus. Once finalized, the definitive Joint Proxy Statement/ Prospectus will be mailed to stockholders of ON and AMIS. INVESTORS AND SECURITY HOLDERS ARE URGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS AND OTHER DOCUMENTS FILED WITH THE SEC CAREFULLY IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION.

Investors and security holders will be able to obtain free copies of the Registration Statement and the Joint Proxy Statement/Prospectus (when available) and other documents filed with the SEC by ON and AMIS through the web site maintained by the SEC at www.sec.gov. In addition, investors and

security holders will be able to obtain free copies of the Registration Statement and the Joint Proxy Statement/Prospectus (when available) and other documents filed with the SEC from ON by directing a request to ON Semiconductor Corporation, 5005 East McDowell Road, Phoenix, AZ, 85008, Attention: Investor Relations (telephone: (602) 244-3437) or going to ON's corporate website at www.onsemi.com, or from AMIS by directing a request to AMIS Holdings, Inc., 2300 Buckskin Road Pocatello, ID, 83201, Attention: Investor Relations (telephone: 208-233-4690) or going to AMIS' corporate website at www.amis.com.

ON and AMIS, and their respective directors and executive officers, may be deemed to be participants in the solicitation of proxies in respect of the proposed transaction. Information regarding ON's directors and executive officers is contained in its annual proxy statement filed with the SEC on April 11, 2007. Information regarding AMIS' directors and executive officers is contained in AMIS' annual proxy statement filed with the SEC on May 24, 2007. Additional information regarding the interests of such potential participants will be included in the definitive Joint Proxy Statement/Prospectus and the other relevant documents filed with the SEC (when available).

Filed below are excerpts from a transcript of ON's conference call with the financial community and others regarding its fourth quarter of 2007 results and annual 2007 results. The excerpts relate to ON's proposed acquisition of AMI.

EXCERPTS FROM THE CONFERENCE CALL TRANSCRIPT —

A. PREFACE INFORMATION —

ON Semiconductor Corporation Fourth Quarter and Full Year 2007

Earnings Conference Call With the Financial Community and Others

Event Date/Time: January 31, 2008 / 4:30 PM ET

CORPORATE PARTICIPANTS

Ken Rizvi

ON Semiconductor Corporation — IR

Keith Jackson

ON Semiconductor Corporation — CEO

• Donald Colvin

ON Semiconductor Corporation —CFO

B. EXCERPTS FROM PRESENTATION PORTION —

Donald Colvin — ON Semiconductor Corporation — CFO

We also continue to be excited about our announced all-stock acquisition of AMI. We believe our customers and shareholders will benefit from this transaction and continue to proceed with integration planning meetings to assess the timing of synergy and revenue opportunities post the transaction close. From our integration planning meetings, we have identified a significant amount of synergies and believe both sets of shareholders will benefit from the overall scale and improved cash flow generation capabilities of the combined company.

C. EXCERPTS FROM QUESTION AND ANSWER PORTION –

1. Craig Berger - Friedman Billings Ramsey - Analyst

Question: What should the share count be once you close the AMIS deal?

Donald Colvin - ON Semiconductor Corporation - CFO

Answer: Just over 400 million, approximately between 405 and 410 million shares is our best estimate.

2. Kevin Cassidy - Thomas Weisel Partners - Analyst

Question: Thank you. Can you say on the Capex expectations for 2008, does that include the acquisition?

Donald Colvin - ON Semiconductor Corporation - CFO

Answer: No, we give guidance on a stand alone business, we do expect a small amount of capital expenditure from...sorry I thought you meant AMI. The ADI includes, the guidance includes any capital for ADI. I stand corrected, the \$100 to \$110 includes an allocation for a minimal capital mainly for testers and a little bit of office improvement from ADI, yes.

3. Kevin Cassidy - Thomas Weisel Partners - Analyst

Question: OK, I did ask about AMI.

Donald Colvin - ON Semiconductor Corporation - CFO

Answer: Oh, sorry. Okay AMI, no. These numbers/letters are always so close. So AMI, no, but we reckon post acquisition that \$20 to \$30 million is a reasonable amount of capital in addition to the \$100 to \$110 that I guided.

4. Craig Berger - Friedman Billings Ramsey - Analyst

Question: I just have a follow-up on the \$40 million in savings that you announced, is that related to the AMIS acquisition and did you guys say \$50M on that before?

Keith Jackson - ON Semiconductor Corporation - CEO

Answer: Yeah, so the answer is that is independent of the AMI acquisition and so the comments we made on AMI in the past are independent of that and it will add to that number.