

Mail Stop 3561

January 13, 2006

John A. Martell
President and Chief Executive Officer
MISCOR Group, Ltd.
1125 South Walnut Street
South Bend, Indiana 46619

Re: MISCOR Group, Ltd.
Amendment No. 1 to Form S-1
Filed December 30, 2005
File No. 333-129354

Dear Mr. Martell:

We have reviewed your amended registration statement and your response letter filed December 30, 2005, and we have the following comments. Please amend the registration statement in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Amendment No. 1 to Form S-1

Form S-1

Table of Contents

1. Please remove the two paragraphs following the table of contents, as they contain information that is not permitted on the inside cover page pursuant to Item 502 of Regulation S-K. See prior comment 10.

Risk Factors, page 10

2. Revise the new risk factor entitled "As a shareholder you will experience significant dilution..." on page 17 to quantify the dilution to shareholders assuming a maximum number of shares issuable upon exercise or conversion.

Principal and Selling Shareholders, page 18

3. We note your response to prior comment 23 and your revised disclosure on page 18 that Strasbourger and Vertical Capital are registered broker dealers and that you “agreed to issue warrants to Strasbourger and Vertical Capital Partners as partial compensation for their services, and to include the common stock issuable upon exercise of the warrants in this prospectus for resale.” These revisions indicate that you should revise the Plan of Distribution to disclose clearly that Strasbourger and Vertical Capital are underwriters with respect to the shares that they and their designees are offering for resale. Please revise accordingly or provide us with your analysis for why they are not underwriters.
4. We note your responses to prior comments 23, 24 and 25. Based on your response and revisions, revise to replace the statement that “depending on the circumstances under which they received the warrants, these selling shareholders may be deemed to be underwriters” with a clear statement that they are underwriters.

Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 39

Liquidity and Capital Resources, page 44

5. We note your revisions in response to prior comments 39 and 41. Much of this discussion is merely recitation of changes in line items. Please generally revise your Liquidity and Capital Resources discussion to provide a discussion and analysis of your liquidity and capital resources that provides more detailed historical information regarding your sources of cash and capital expenditures, clarifies the extent to which you have funded your operations from revenues and external financing and discusses your expenditures on the business activities you disclose elsewhere. Your revised analysis should help investors in this offering understand how you plan to meet your cash payment obligations, considering your disclosure that you expect your losses to continue for the foreseeable future.

Also provide your analysis of the expected impact if accounts receivable and inventories continue to increase. For example, your disclosure as currently drafted does not adequately address whether or not you expect your receivables to become increasingly unlikely to be collected and whether or not you are accumulating inventory assets in excess of expected future sales. These concerns are particularly relevant considering your expected future losses. These are only examples. Generally revise to provide your analysis of liquidity and capital resources. See Section IV of See SEC Release No. 33-8350.

Segment Information, page 48

6. We note that you did not fully respond to our previous comment 44. Specifically address in detail the terms of these contracts, revenue recognition policy and accounting literature used. In addition, your response states that you provide maintenance services on an individual call basis, however your disclosure on page 52 states that “some purchase orders provide for the performance of a single job, others provide for services to be performed for a term of one year or less.” Please clarify. Finally, please tell us why you believe these services are not material to your business.

Financial Statements

Revenue recognition, page F-9

7. We note your response to comment 49 and your disclosure that “sales revenue is recognized when all work is complete and both title and risk of loss transfer to the customer, provided that no significant obligations remain.” It is not clear whether this disclosure relates to your product sales or services revenue. Please tell us in detail your accounting policy regarding revenue recognition for each stream of revenue. Since you do not have multiple deliverables, please disclose product and service revenue recognition policy separately and in greater detail.

Note B – Acquisitions, page F-11

8. We note your response to comment 51, however we are not persuaded that you did not acquire a business. For further analysis tell us how you considered the definition of a business per EITF 98-3. Please revise or advise.
9. We note your response to comment 52, however based on our previous comment above please provide disclosure as required by paragraphs 54 and 55 of SFAS 141.

Note F – Debt, page F-13

10. We note your response to comment 57, specifically your statement that you “recorded a \$996,000 charge immediately to interest expense with the offset to Additional Paid In Capital related to the beneficial conversion feature since the \$4,000,000 outstanding amount on the revolver can be converted immediately at the option of the holder.” However, given that the revolving note is payable in August 2008 (page F-14), you should accrete the discount from the beneficial conversion feature from the date of issuance to the stated redemption date of the convertible instrument, regardless of when the earliest conversion date occurs. Refer to Issue 6 of EITF 00-27. Please revise or advise.

Note G – Equity Issuances, page F-18

11. We note your response to comment 54. However, given that you do not have the ability to determine in all circumstances whether or not you will be required to pay liquidating damages and that the amount of liquidating damages, through the issuance of common stock, is indeterminable, it appears that you should classify both warrants issued in January 2005 and warrants issued in May 2004 as liabilities per EITF 00-19. Please revise or advise.

Part II – Information not Required in Prospectus, page S-1

12. We note your response to prior comment 60. The undertakings required by new Item 512(a)(6) of Regulation S-K are not limited to offerings made in reliance on Rule 430B or Rule 430C. In your amended filing, please revise to include the new undertakings in Item 512(a)(6), which became effective on December 1, 2005. See Questions 3 through 6 in Securities Offering Reform Transition Questions and Answers, which is available on our web site at <http://www.sec.gov/divisions/corpfin/transitionfaq.htm>. See new Item 512(a)(6) of Regulation S-K, which was adopted in Securities Offering Reform, Release No. 33-8591 (July 19, 2005), which is available on our web site at <http://www.sec.gov/rules/final/33-8591fr.pdf>. In addition, and contrary to your response to our prior comment, it does not appear that you are omitting information in reliance upon Rule 430A. As a result, revise to delete the Item 512(i) undertakings and replace them with the undertakings in Item 512(a)(5)(ii) of Regulation S-K for offerings subject to Rule 430C.

Exhibit 5.1 – Legality Opinion

13. We note your response to prior comment 3. Counsel's limitation to "the internal laws of the State of Indiana and applicable federal law" is not appropriate because, for example, the Subordinated Secured Convertible Debenture in Exhibit 4.7 is governed by New York law and the legality opinion as currently drafted depends on compliance with the terms of that debenture. Please revise to remove this limitation.

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Please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a response letter with your amendment that keys your responses to our comments and provides any requested supplemental information. Please submit the response letter on EDGAR as correspondence. Detailed response letters greatly facilitate our review. Please understand that

John A. Martell, President and Chief Executive Officer
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we may have additional comments after reviewing your amendment and responses to our comments.

You may contact Inessa Berenbaum, Staff Accountant, at (202) 551-3371 or Kyle Moffatt, Accounting Branch Chief, at (202) 551-3836 if you have questions regarding comments on the financial statements and related matters. Please contact Daniel Zimmerman, Staff Attorney, at (202) 551-3367 or me at (202) 551-3810 with any other questions.

Sincerely,

Michele Anderson
Legal Branch Chief